Closing Military Bases: National Disaster or National Opportunity?

Brooke Danielle Wortham

University of Pennsylvania

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CLOSING MILITARY BASES: NATIONAL DISASTER OR NATIONAL OPPORTUNITY?

Brooke Danielle Wortham

A THESIS

in

Historic Preservation

Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment of the Requirements for the Degree of

MASTER OF SCIENCE

1994

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INTRODUCTION

The ascendance of Mikhail Gorbachev as head of the Soviet Union in 1985 signaled not only the beginning of internal change for his country, but also an irreversible shift towards a new world order. An immediate result of the thawing of the Cold War has been the substantial down-sizing of the U.S. military, one part of which has been and will be the deactivation and closure of U.S. military installations both within and without the United States. In 1988, the Secretary of Defense's Commission on Base Realignment and Closure began to determine those American installations no longer deemed necessary.

The collective impact that these base closures will have on their local communities is staggering. And without thoughtful planning for the reuse of these installations, the residual long-term impact could be devastating.

Concern for the economics of base conversion is evident. Concern for the preservation, however, may not be so transparent.

A thesis analyzing the reuse of military bases belongs under the rubric of preservation for three reasons. First, these military installations are not anomalous constructions on the American built environment, but reflective of the culture which it serves to protect. Their design is derivative of the shared American environment. Thus the resulting architecture and landscape of the military base is archetypal of the common American experience. Second, many of these military bases, both in function and development, are artifacts of the Cold War. The Cold War has ineffably and ineluctably affected American culture and its shared system of beliefs. And it is precisely because the Cold War is of recent history that these bases should be approached with the guiding principles of preservation in mind while they are still intact and
their memory can be maintained. Finally, the planned reuse of these military bases should respect the military artifacts existing there, whether it is in the form of total restoration or through an integrated planning and adaptive reuse approach which considers both the historic environment as well as the contemporary one.

This thesis, while catalyzed by recent events surrounding defense conversion, has been researched and written under a guiding principle that the disasters and opportunities occurring today in America can be best scrutinized by placing them in a larger and historical context. The writing of this thesis was also directed by the existing literature on the subject of military installations and their conversion. The result is a paper which attempts to synthesize information, which does not currently exist, in a comprehensive format (whether published or unpublished) integrating military socio-cultural history with the realities of the current conversion. As a result, this paper has been divided into four main parts.

Part I serves to articulate the history of the cultural relationship between civil and military American society with particular attention paid to their social relationships and the design of the military built environment. Part I also introduces the idea that recent history should be respected as having the same value as "ancient" history in the integration of military artifacts into the American heritage. With the historical foundation being laid in Part I, Part II elucidates the elements surrounding the current military-civilian situation: namely, the closing of numerous military installations. Part II includes a comprehensive explanation (one which does not currently exist in the available published and unpublished literature because of the dispersal of the numerous agencies involved in base closure) of the current conversion.
process, the planning issues which will aid in the process, and the manner in which communities have and should respond to the acquisition of these resources. Part II is meant to be read in tandem with Part IV which presents the appendices containing statistical information on defense conversion and the impact on regional communities. These appendices were constructed by the author through the gathering, extraction and assimilation of data from a plethora of sources in order to provide a guide which foregrounds regional community impact, in the belief that it is with an integrated communal and regional effort that reuse of military facilities will be successful. Part III of this paper addresses the two modes which should guide this reuse, namely, through the principles of preservation and placemaking. The disciplines of preservation and placemaking deserve description in this paper because of the existing tensions between the elements which simultaneously create and disintegrate the American culture. The American military is a microcosm of the American ethos — the mobile and ephemeral nature of the American community is only emulated and amplified in the military society — and as such, its artifacts are in danger of being lost from their rightful place in the American heritage. Mihaly Csikszentmihalyi remarks:

In a stable culture, where relationships continue uninterrupted from cradle to grave, there may not be a need to secure one's position in the web of kinship through material symbols. But in our mobile American society things play an important role in reminding us of who we are with respect to whom we belong.¹

These military bases, through their conversion, provide the ideal opportunity to strengthen the American heritage through the preservation of their

artifacts and the integration of their environment into the larger American landscape. This thesis was written with the belief that in order to contribute to, strengthen and preserve the American heritage, the past, present and future of the military and its artifacts must be understood.
PART I: BACKGROUND

THE CULTURAL RELATIONSHIP BETWEEN THE MILITARY AND AMERICAN SOCIETY

Anthropologist Clifford Geertz declares that, “Culture is public because meaning is.”2 His assertion is founded upon a definition of culture that is not peculiar to this particular ethnologist, but shared by many people in various disciplines. Geertz says:

As interworked systems of construable signs... culture is not a power, something to which social events, behaviors, institutions, or processes can be casually attributed; it is a context, something within which they can be intelligibly — that is, thickly — described.3

Would those who study “the object” agree? Robert Blair St. George believes:

The study of material life reminds us that culture does not reside in books, in buildings, or in political parties. Culture exists in the human mind, a bundle of values in tension, interlocking and closed in transformation but open to perception and novelty, internalizing contexts and suiting performance to situation. Culture as lived cannot be reduced to its artifact. ...They [artifacts] can only be given new life when they are interpreted as related parts of a larger puzzle. Read socially, artifacts are the glue that [hold] American culture together.4

Geertz says that when an ethnographer makes explicit internalized contexts and suitable performance she demonstrates what is significant in human culture, it is not the description of the event itself, but the meaning of the event...the glue binding that particular humanity.

Why include, and make prominent, this articulation of culture in a work on military installations? This paper, as it declares on the title page, is written

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3 Clifford Geertz, p. 14.
in partial fulfillment of the requirements for a graduate degree in historic preservation. People in this discipline, and its allied fields (architecture, landscape architecture, planning), are inherently concerned with the thing or things which are the artifacts of our culture. As impassioned as we are about the built environment, we wish to transmit this love for these artifacts to those around us. It is said so often, we say it often, and yet do we stop to think about what it is we are saying when we talk about these valued artifacts of our culture. What is it that we do when we must turn to the Supreme Court in order to “protect” Grand Central Station in New York City or when local citizens fight against the demolition of the Receiving Tomb in Grove Cemetery in Framingham, Massachusetts? What is our goal? To save the object? Do we become so absorbed by the thing that we forget that it is not the thing in itself, but what it represents to that community or group of people that identify with, know, and use the thing. It is the assimilation of these objects into our life, the ones we accept and the ones we reject, that is important because it is so easily done, we do it almost unknowingly. This assimilation of artifacts (and of meaning) into our culture is not static, but dynamic. As we adapt to and change our environment, so do the objects we create, or have created, transform their meanings and significance. Mihaly Csikszentmihalyi states: “Every artifact is the product of human intentionality, but that intentionality itself is conditioned by the existence of previous objects.”5 He adds that the dependence on objects serves not only physical and material ends, but also mental and emotional ones: “Most of the things we make these days do not make life better in any material sense, but instead serve to stabilize and order

5 Mihaly Csikszentmihalyi, p. 21.
The artifact is a means with which humans can facilitate the ordering of the mind and the describing of context (in other words, how they create and define culture).

Culture defined begins this paper because it is an idea which should permeate the rest of this discourse on the closing of military facilities. I would like it, as well as the object (i.e. the military installation), to be what is significant. I also emphasize culture because this paper is, in part, about what makes us Americans and about which artifacts contribute to this definition. Are military facilities such artifacts? Or, are they, in fact, unique in and apart from the American experience? These questions (rhetorical or not) are based on an experience in a Historic Preservation Studio which focused on the Philadelphia Naval Shipyard. At the beginning of the semester, the graduate students visited the facility. The repeating refrain uttered by many of these students was how different this place was. Later in the semester, an interdisciplinary group of professors again had their own recurring refrain which questioned whether there really was anything of "historic value" on the base. This paper is also a response to those two ideas.

A military installation is not different from American culture, it is of American culture, because the military community is of, not outside of, American society. And while George Washington or Norman Schwartzkopf may not have yelled charge from every base's grassy knoll (or slept in the officers' quarters), these places do have value. Value because they are of the common shared context from which part of American culture can be thickly described.

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6 Mihaly Csikszentmihalyi, p. 22.
Secretary of Defense Les Aspin has said, "The cultural resources managed by the Department of Defense reflect the whole history of the nation's people. Through these tangible resources, we achieve an understanding of those who lived before us and an appreciation for the heritage we defend for the future." The United States military, its people and its objects, typifies American culture, but it also exists to serve and protect that culture. It is an unusual position to be declared defender, participant and creator of a culture. Perhaps that is what each of us does every day, but without the pomp, the circumstance, and the arsenal. The point is that military facilities should not be seen as mere munitions factories run by the arbiters of war. They are cultural resources and communities which affect and influence the surrounding community. As the military and civilian communities change, so does their relationship, but the essence of their symbiosis does not; for one cannot exist without the other in this particular American culture at this particular time. While the effect of one base on one community may seem trivial, the Department of Defense is landlord to millions of acres of land, millions of square feet of cultural resource and hundreds of thousands of civilian and military employees: all of which are American. The self declared mission of the Department of Defense is the defense of the United States to include its people, land and heritage.

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Since World War II, the interdependency between the civilian and military communities has intensified. The military has indelibly shaped multiple facets of American life: the economy, the Civil Rights movement, civil unrest, foreign policy, substantial funding for universities, and the education of millions of non high school graduates.\(^9\) In his Farewell Address to the Nation, President Dwight D. Eisenhower said:

>Our military organization today bears little relation to that known by any of my predecessors in peacetime, or indeed by the fighting men of World War II and Korea. ...This conjunction of an immense military establishment and a large arms industry is new in the American experience. The total influence — economic, political, even spiritual — is to be felt in every city, every State house, every office of the Federal government.\(^{10}\)

Eisenhower was right when he said that the military of the time (the Cold War) was not like that of past times of peace, but that is because America was not the same country as before, nor will she ever be again. Because, just as Eisenhower and the nation (civilian and military) were inextricably caught in the grip of the Cold War, America on the brink of the twenty-first century has left behind the Cold War as an empty hand.

Indigenous Peoples

The United States of America may have been conceived out of ideas of democracy, liberty, freedom, and the frontier but it was born out of military action. Today’s military installations, however, contain a history even greater and deeper than that of colonial America. The ancient, indigenous Americans had their own landscapes where they lived, worshipped, hunted, and died — creating their own culture. Some of the sites of present military bases were

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previously the homes of these ancient Americans. These archaeological sites can provide valuable information about the socio-cultural and economic systems of these cultures. They can do so because of the autonomous nature of past and present military facilities and also, because of the great extent of land owned by the military and the U.S. government. These indigenous sites have been protected by the military from the incursion of development and agricultural production which might have otherwise destroyed them. In this way military bases have unintentionally protected the culture of those Americans who went before them.

Colonization

European colonization of North America began in the sixteenth century. Those who came — the French in 1564, the Spanish in 1565, the British in 1607, the Dutch in 1614, and the Swedish in 1638 — established their own forts and outposts in this brave new world. Many of these buildings are still extant on Department of Defense owned land.

Early symbols of the military presence which still dot the American landscape are the lighthouses built in the colonies in the early 1700s. The Lighthouse service built these facilities throughout the early years of the nation and the Coast Guard eventually became the stewards of these still surviving symbols of the perceived need not only to guide seafaring citizens to their homes and trading ports but also to aid in the protection and defense of these colonial communities. These lighthouses also presaged the metamorphosis of the New World from a string of loosely associated provincial communities into a unified socio-economic and political entity. Lighthouses

11 The Legacy program is currently working to document these sites.
and the early fortifications were the first structures built in the colonies that did not fall under community control. The structure and influence of power, which had heretofore been under the purview of independent communities, would eventually change into a national and Federal power structure flowing from the top down. These lighthouses symbolized the initial intrusions into parochial American culture, which could catalyze a revolution — a revolution which would unite these scattered colonies into a polity with national institutions.

After the Revolution, Congress disbanded the Navy and substantially reduced the Army's strength. Nevertheless, by 1798 Congress reestablished the Navy and created the Marine Corps due to fears of American involvement in the escalating conflict between France and England. Congress purchased six shipyards on the East Coast by 1802 and more shipyards would be acquired along the Gulf Coast, Mississippi River and the Pacific Coast as the American ethos of Manifest Destiny pushed West. The main mission of the Navy at the start of the nineteenth century was the production of ships, while the Army was charged with defending the nation against foreign adversaries and reinforcing the Federal claim to the frontier. Both the Navy's and Army's facilities reflected their purposes, but also the growing national consciousness of a group of people called Americans. The acquisition of huge tracts of land, like the Louisiana Purchase in 1803, imbued Americans with a new sense as a national polity, of being a part of something larger than a scattered assortment of parochial colonies. Once Americans were able to let go of their

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Old World patrimony they eagerly embraced their growing self-defined ego. Part of this self-definition manifested itself in the desire for physical improvements (perhaps in part to connect and communicate with their fellow Americans) and the military played a big part in the defense and construction abilities for much of the future American physical design. James Madison had presaged this desire in 1787 in his writings in the *Federalist Papers*. In *Federalist 14*, he argued that republican government would not fail because of the enormity of the new nation, but that “intercourse throughout the union will be daily facilitated by new improvements.” Good roads, safe waterways and ports, and the facilitation of communication were the foundation of a successful, strong, and unified nation, and the military ensured that these were possible.

**Manifest Destiny**

Although the nascent nation held suspicions about maintaining a standing Army, the War of 1812 and the desire for national expansion cemented the military’s position as a prominent and indispensable national institution. The frontier posts and a shifting population moved West, making it difficult to tell who was leading and who was following. Some of these early frontier forts became the future locations of major American cities.16 The exploration and mapping of these lands, acquired through the Louisiana Purchase and the Annexation of Texas or through lands forcibly taken from the Native Americans, was often accomplished by Army engineers and spawned the sites for future forts. Major civilian trails (like the Oregon trail) to the Pacific Ocean were patrolled and “policed” by those stationed at the

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15 John Stilgoe, p. 107.
16 For example, Ft. Dearborn became Chicago and Fort Snelling became Minneapolis.
frontier forts. The predecessors to the U.S. Cavalry were formed in response to these outposts perceived need for a mobile "armed" presence which could cover the grand expanses of new territory. Despite the vast amount of land it served to protect, the Army remained relatively small during this period of expansion, numbering only fifteen thousand in 1855, an increase of five thousand from just fifteen years previous.

**Industrial Revolution**

The foundation for "Modern" America can be found during the Industrial Revolution, the military is no exception. The Army grew as exponentially as did the Northern industrial cities, bursting from a force of sixteen thousand to one million during the Civil War. And like the factories and industries, the military too changed its facilities and training under the impetus of modern technology to include the creation of permanent posts and advanced education. Nevertheless, the massive debt incurred from the Civil War dampened the rapid growth of the military for the next twenty years. During this period, however, the War Department (the future Department of Defense) broadened its mission as Congress charged it with the protection of Yellowstone in 1872. Twenty years later, Congressional authority would make the War Department the stewards of Civil War battlefields and sites, providing the military with an active and transparent role in protecting the nation's cultural patrimony.

By the 1880s, whites making the journey West outnumbered the indigenous peoples. While the Federal government accomplished the wholesale placement of many Native Americans on Reservations, many of the frontiersmen and women were no longer making the arduous trek along the Oregon trail in wagon trains but began traveling across the West by
locomotive. This negated the previous perceived threat and need of the existing small dispersed forces on the Western frontier. The implementation of the railroad meant that the remote areas of the United States would no longer be untouched by humans (specifically colonial Americans), and thus internal protection (namely against the Indians) was no longer a major concern.

The Army adapted their mission accordingly and in the decade preceding and following the turn of the century they began to consolidate their bases and to build with more permanent materials based on Quartermaster Corps standardized plans. The Navy’s modernization consisted of creating a bigger and better (steel) fleet and updating shore facilities to service this larger fleet. Just as the United States was being radically transformed from Jeffersonian Agraria into domination by urban industrial meccas, such changes were too reflected in military facilities. The early use of standardized interchangeable parts occurred at armories; a newer and better smokeless gunpowder was developed by the Navy; the switch was made to steam powered ships; the Army operated the first weather services; proving grounds were created to develop and test advancing technology in artillery; and the eventual substitution was made of steel for iron.17 One of the most powerful weddings of technological development and the military mission was catalyzed with the genesis of modern aviation (with the Wright brothers themselves demonstrating their aircraft to the Army in 1908).18 In addition to the upgrading of tools, the structure of the military also changed to reflect

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R. Wortham — Page 14
America’s new growing institutions of professionalization and specialization. Educational facilities blossomed in all military branches during the 1880s.\textsuperscript{19}

\textbf{International Expansion}

By the twentieth century, America was a nation ready to awaken from its introspective slumber and make its initial and substantial forays into the international political realm. This successful turn outward, which would eventually make America into a leading world power (if not the leading world power by the middle and end of the century as some would argue), was aided not only by the economic prowess garnered through industrialization and rapacious capitalism (at least on the part of the robber barons) but also by America’s use of their potential military strength. America’s fledgling Navy, which was ranked below those operated by small countries like Turkey and Greece in the 1880s, would be hailed as the “Great White Fleet” under the watch of President Theodore Roosevelt by 1907.\textsuperscript{20} An expanded fleet, however, needed refueling stations and ports around the world if it was to be an international power, and thus began a relationship between American foreign policy and perceived military needs in which the boundaries between the two were indistinguishable like a Moebius strip. Naval facilities were, thus, established in Hawaii, Guam and Alaska; and, the Marines began to be used as expeditionary forces on foreign soil.

\textsuperscript{19} Legacy Resource Management Program, “Cultural Resources in the Department of Defense,” p. 23. For example, the School for Infantry and Calvary established at Ft. Leavenworth, KS in 1881 and The Naval War College established at Newport, Rhode Island in 1884.

World War II And The Cold War

With the onset of World War II, American industry turned from peacetime to wartime production. Such massive efforts at mobilization and transformation into wartime products and the availability of vast resources perhaps ensured victory for the Allies by the Americans; but, it also ensured America's place as the supreme player in world politics for the next fifty years. Demobilization in 1945 not only brought the men home, but also brought the new superpower into a Cold War which would not thaw for over forty years. The Cold War pulled even tighter the inextricable link between twentieth century America and its twentieth century military. Cultural soundbytes of the Cold War are also a laundry list laced with the military presence—NATO, Warsaw Pact, The Iron Curtain, The Berlin Airlift and The Berlin Wall, Bomb Shelters, Red Scare, Korean War, Space Race, Cuban Missile Crisis, Vietnam War, The Peace Corps, Star Wars. The Cold War broke all the known rules of combat, it knew no boundaries and it defied traditional concepts of land, sea and air combat. It also made the killers and victims indistinguishable, because the psychology of the Cold War set up the premise that the United States or the Soviet Union would escalate to physical encounters (not their military forces but the countries themselves). The build up of the nuclear arsenal and related missile defense systems was staggering, inconceivable to the previous generation let alone to those who would have participated in the American conflict occurring one hundred years previous, the Civil War. The Cold War battlefield, which did not

21 Amy Worden and Elizabeth Calvit, "Preserving the Legacy of the Cold War" CRM (Vol. 16, No.6, 1993): p. 28.

B. Wortham — Page 16
distinguish between soldiers and civilians, also created a new type of military force and installation.\textsuperscript{22}

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**The Future**

General Gordon R. Sullivan, Chief of Staff of the United States Army asserts:

If there is a single thread of continuity that runs through history, it is that the end of one era inevitably generates an entirely new security environment. The precise nature of this environment only becomes discernible over time. As at the end of World War II, the United States now stands at a crucial juncture in its history. America’s military forces are being reduced and restructured to protect the nation against diffuse threats whose characteristics are not yet fully defined.\textsuperscript{23}

While Sullivan predicts a different, as of yet, undefined threat for America’s future, its war technologies and military force will also be different from that of the Cold War. As America eagerly (and literally) jumped on the train to an industrial based Modernism in the twentieth century, some predict that the information superhighway will be the path to the twenty-first century. As America’s industrial age technologies — the wireless telephone, the standardization of parts and production, the internal combustion engine, the atomic bomb — transformed both the popular culture and the institution created to protect that culture, so too will the microchip and cyberspace bring a (as of yet unknown and perhaps incomprehensible) revolution and transformation of American culture and its methods and institutions of

\textsuperscript{22} Worden and Calvit, p. 30 and Jane Carolan’s Historic American Engineering Record Documentation for NIKE Missile Battery PR-79, June 1993, pp. 4-10; Horst de la Croix notes, “For the first time in history, entire populations [became] expendable as the offense...overwhelmed the defense after ten thousand years of fluctuating contest,” *Military Considerations in City Planning: Fortifications* (New York: George Braziller, 1972): p. 57.

warfare. What will remain is the human element, and man's fundamental imperative to act as a social animal.

__MILITARY BUILT ENVIRONMENT HISTORY__

As long as there has been humanity, there has been strife and the accoutrements that accompany warfare. The fortification of human communities begins with primitive man. A nomadic hunter and gatherer, Paleolithic man required individualized and transient defenses to protect his cave dwellings from hostile intruders, be they animals or other humans. The first progenitor of contemporary fortifications came with the evolution of Neolithic man whose social economy centered around settlement and agriculture, thus necessitating more permanent defense structures. Despite the import of these early works, in Western culture it is the ancient Greeks and Romans who provide the most revered, clear and tangible examples. Defense was a crucial programmatic element integrated in the design of Greek cities. Ancient Romans took a direct approach by building walled cities throughout the Roman Empire. By the rise of Byzantium, the fortification of

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cities (in the form of massive doubled walls, high towers and deep moats) was almost an art form that surrounded centers of civilization and culture such as Constantinople. Nevertheless, these tried and true methods of Western fortifications would begin to crumble, literally, through the advancement of the development of gunpowder and cannons in the fourteenth and fifteenth centuries. Thus, the Renaissance military engineer had to not only protect his culture from threat, but also had to contend with advancing technology and artillery. And as the Age of Reason and Enlightenment would influence all aspects of Western civilization — commerce, religion, science, literature — it would also influence the design of defense as it would evolve from a craft to a research based engineering and technology.

Although these epochs are the ancient antecedents to early American culture, it is those who lived in Europe during the seventeenth century who would perhaps have the most profound affect on the American society to come. These are the people who would populate the New World, become the future colonists. With them they brought the Age of Reason and the Enlightenment paradigms that would appeal to the rational and practical American ethos. It is a Frenchman who would significantly impact the design and structure of the American military (not inappropriate since the French would also participate in the liberation from our English oppressor, design our capital city, and give us our icon of freedom — the Statue of Liberty). Sebastien Le Prestre Vauban profoundly influenced the art of defense both in theory and practice during the seventeenth century.27 He founded the French corps of engineers in 1690, which would not only affect the European military landscape, but also the

27 Willard Robinson, pp. 11-12; Horst de la Croix, p. 53; Martin H. Brice, pp. 119-121; and Quentin Hughes, pp. 130-133. De la Croix notes that Vauban rebuilt 160 French fortifications as the official military architect for Louis XIV.
American as many of these men would serve in the colonies as well as on the Continent. This early French influence in American defense would continue through to the nineteenth century when the Army, in 1802, would establish its own academy at West Point and utilize a system patterned after the French school established 112 years earlier.

The Colonial Period

Europeans flocked to the New World for a multitude of reasons — political or religious freedom, to gain land or engage in trade. Their varied motivations and their different backgrounds led to internal conflicts. In addition, an entire civilization already occupied this New World and conflicts would arise between the colonists and indigenous peoples. Thus, the need for defense and fortification was obligatory from the first step Europeans took in the New World. Much of the physical and political geography of the New World determined the defense systems created. This intense competition between nations led to the development of a fort system designed to limit the expansion of other nations. Forts were placed on waterways to control harbors, at the confluence of rivers and on large lakes to control internal transportation. Forts were also established at major internal "highways". By maintaining a relatively minimum number of fortifications at these strategic positions, the colonizing nations were able to control large amounts of land. However, unlike their homeland which was subject to internal attack, very few American cities were walled; and those that were included a minimal number of coastal towns located in strategic positions. Setting the conflict with the Indians aside (and eventually it would put aside as they were systematically conquered and beaten down), America's primary vulnerability lay not in a land based attack, as in Europe, but along its waterways because of the country's long coast lines.
and major rivers which penetrated into the center. Thus, it was recognized
that the only way to conquer this land was to conquer and control it harbors
and waterways and the system of fortification grew around this premise (not
only for the colonizing countries, but also for the colonial Americans). As
competition intensified among these nations, the skills of military engineers
were sought and thus brought to the New World in large numbers from their
native countries. Nevertheless, these early fortifications were small and
mainly constructed out of less durable materials such as earth and wood. Lack
of money and the need for expedient construction dictated their form and
longevity (or lack thereof). Not until the French and Indian War would the
Spanish, French and English build more permanent and larger works of
masonry; and, it would be another century before America saw the creation of
a large system of permanent fortifications built.

A New Nation

The first defensive works authorized by Congress in 1794 were
constructed without the guiding influence of a master plan. Although the
Secretary of War issued instructions as to the general form of the new
fortifications, local engineers were responsible for the specific plans and
construction, thus leading to little overall, national design consistency. The
forts were located, instinctively, at locations of past conflict with no
consideration given to their relationship to each other, and were constructed
cheaply and impermanently. History and geography dictated that these early
American forts emphasize protection of the seacoast communities, as that is
where the major colonizing European conflicts had occurred and the physical

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28 The specific legislation occurred in an Act passed on March 20, 1794 by Congress due
to their fears of being drawn into European conflicts after the French Revolution,
according to Emanuel Raymond Lewis, p. 21.

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shape of the nation also compelled Congress to favor such defenses. In fact, coastal fortifications would remain at the forefront of American defenses up to World War II not only because of the geographical requirements of protecting the nation’s long coast line, but also because most of the country’s historical threats came across the seas outside of the North American hemisphere.

From 1798 to 1818 Congress attempted to improve this laggard system of defense with the construction of a second phase of more permanent fortifications. Nevertheless, the construction of defense still lacked an overall guiding vision and the forts were poorly coordinated, if coordination was thought of as a necessity at all. Many of the port fortifications built in this period were located too close to the cities that they were designed to protect; an enemy may not be intercepted before they reached the boundaries of the city with its fortifications located so nearby. It should be noted, however, that this sizable effort at bolstering fortification construction was the first to be undertaken by engineers of American birth and training. Nevertheless, it took the British, in the War of 1812, to demonstrate to the Americans how inadequate and poorly planned their fortifications were. This war had a profound impact on how Americans perceived their defense system. A fortification system was supposed to prevent war on their own homeland, and it had failed miserably against the British. During the peacetime that followed, a massive defense build up occurred as Congress turned to the French in 1816 in a plea for help from their noted corps of engineers.

29 Emanuel Raymond Lewis, p. 3.
30 Emanuel Raymond Lewis, p. 4.
31 Congress began drafting legislation for a second system of fortifications in November 1807, namely because of a perceived threat (which would be realized) from Great Britain; Emanuel Raymond Lewis, p 25.
32 Willard Robinson, p. 85.
Beginning in 1817, the next round of fortifications was planned wholistically and integrally. The absence of such planning had been the failing of the first two attempts. It also aimed to be a permanent system of defense for the nation. The forts planned for construction were classified into three groupings of relative importance which also dictated when they were built as funding was appropriated. The rate of their construction depended on the fiscal and political climate of the region in which the fort was to be built and in the nation as a whole. Since these forts were intended to be permanent they were, in turn, costly. The mission of forts placed in the first group concerned itself with Naval incursions. It included forts protecting commercial hubs and harbors, Naval arsenals and protection from an enemy sea assault. Forts belonging in the second grouping protected cities that were defined as “secondary”. The final class of forts was to complete the defense system but did not protect the vital organs of the nation.

The need for the construction of military quarters, especially at these permanent fortifications, led to the building of small numbers of housing between 1790 and 1860. These early quarters reflected wide variety in size and architectural style employed. But a type commonly emulated was a group of attached houses with a porch spanning the facade.

33 Emanuel Raymond Lewis argues that the first two rounds were haphazard in nature because they were initiated under the duress of impending conflict and uncertainty for the nation’s future which was not conducive for the master planning which occurred during the relatively tranquil period in which the third system was initiated, pp. 36-37.
34 Willard Robinson describes this classification into three groups on p. 88.

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While the permanent system arose on the Atlantic and Gulf coasts as the protectors of incursions by water, the defense system on the Western Frontier looked like a different landscape. The nature of engagements between the Army, sent there to protect settlers, and the native populations were different from the perceived coastal threats on the Eastern seaboard. Consequently, the defense systems in these two regions were different. The Indians’ form of warfare constantly changed to accommodate the changing settlement patterns along the Western frontier. Military engineers constructing forts in the West had to adapt to the climate, available construction materials, and the nature of the hostilities incurred from the local tribes. Unlike the permanent system which was undergoing standardization from its previous forms, the Western frontier defied the applicability of a universal approach in defense design. Nevertheless, the development of fortifications on the frontier can be classified into three stages. Occurring from 1804 to 1845, the first stage consisted of the construction and maintenance of a line of forts in advance of white settlement in the West in order to provide an “impregnable” barrier between the Indians and the pioneers. Immediately prior to the Mexican War, the Western military frontier would consist of twelve permanent posts and eleven forts, out of a total of fifty-six military posts extant in the United States in 1845. The annexation of Texas, the settlement of Oregon and the acquisition of territory as spoils of the Mexican War would precipitate the next phase of frontier fortifications. The expansion of the national territory and its rapid settlement made it impossible to create a buffer between frontiersmen and the Indians, with most of the Indian conflicts in the West occurring

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during the period, especially from 1868 to 1880. Consequently from 1846 to the 1880s, the military policy changed to that of control of the Indians and the facilitation of white settlement and communication, which was accomplished by establishing posts along the major overland routes.\textsuperscript{38} It was also during the early part of this period that the Army was used in the exploration of the West in terms of discovering new traversable land and water travel routes. In fact, the Army's examination and mapping of potential transcontinental railway routes (as well as routes from present day Washington State to Baja California) was one of the forces which led to the final change in Western defense systems. The consolidation of the reservation system, the invention of the telegraph and the rise of the almighty railroad invalidated the need for Western posts as protectors of the transportation of and communication between the pioneers.\textsuperscript{39} Posts which had served in remote regions and as supply centers were no longer a necessity. Thus it became feasible to design large, standardized permanent posts similar to those constructed in the East and which concentrated troops in areas served by rail transport.

The Army's Corps of Engineers standardization of its defense system East of the Mississippi extended into the civilian realm as well.\textsuperscript{40} The nineteenth century military engineers use of standardized forms and creation of massive projects at a huge scale also permeated into the civilian culture.\textsuperscript{41} Their creations were outside of the local and community traditions, but they also proved to be the links (in the form of lighthouses, canals, bridges, highways

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{38}] Robert Frazer, p. xiv.
\item[\textsuperscript{39}] Robert Frazer, p. xvi.
\item[\textsuperscript{40}] The Army Corps of Engineers was established in 1802.
\item[\textsuperscript{41}] John Stilgoe, p. 128.
\end{itemize}
\end{footnotesize}
and turnpikes) between these provincial communities establishing regional and national access and identities.

The Civil War And The Creation Of A Modern Nation

The permanent system of fortifications, catalyzed by the War of 1812 and built with the intention of protecting the nation from foreign intrusion, was not attacked by foreign powers; instead, these forts were the targets of the Americans themselves during the Civil War. The Civil War precipitated a reevaluation of the fortification system which resulted in the use of different construction materials, new functional arrangements, and a rethinking of the purpose and capabilities of permanent fortifications. Design driven by the functional requirements of the military was pushed even further to the foreground, especially as the services underwent further refinement in their mission at the end of the nineteenth and throughout the twentieth centuries. Despite this reevaluation, the Industrial Revolution would mean that fortifications were always one step behind the technology of the arsenal. Railways, steamships, new systems of complex weaponry, and the introduction of an acute awareness of time all made demands on facilities which with each new invention kept them almost constantly outdated. Many of these historic forts were not abandoned because they could not keep up with modernization, but attempted to accommodate themselves to modern warfare, functioning until the end of World War II.

During the second half of the nineteenth century, the Army grew dramatically in numbers and reified its definition as a land-based service (an expansive country needed an equally expansive land-based force). Thus, the

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42 Willard Robinson, p. 131.
43 Martin Brice, p. 154.
Army engaged in the largest numbers of residential construction during the
century following the Civil War. It is during this period, with a military focus
on more social and civic types of structures at their facilities, that the
distinction between military and civilian architecture becomes even more
blurred and ambiguous as much of the widespread construction of housing and
other amenities necessary for military family life was indistinguishable from
those erected by private firms.\textsuperscript{44} The housing type propagated by the Army
during this period and into the present was the duplex. The traditional design
of the Army fort (which would also be seen in the Air Force and Navy
installations in both the East and the West) focused on a parade ground
surrounded by officers’ quarters, administration buildings and enlisted
barracks.

The Army’s mission expanded dramatically in the West during this time
period. This need for rapid and economical expansion in combination with the
ideology being spread throughout the country by the Industrial Revolution,
led to the standardization of plans for building types by the Army’s
Quartermaster Corps (standardization of construction by Quartermaster Corps
began in 1866).\textsuperscript{45} These buildings could then be built on any post and any
place in the United States. The designs, however, were adapted to regional
building materials and, in some cases, popular architectural motifs were
applied to the standard designs.

As the nation grew prosperous and into the Gilded Age, the military’s
coffers also increased. Events such as the Spanish-American War, the
inauguration of the Panama Canal and an increasing awareness and

\textsuperscript{44} Martin Brice, p. 175 and Legacy Resource Management Program, “Historic Military
Quarters Handbook,” p. 3.
involvement in external affairs precipitated the growth of the Navy (the "Great White Fleet") and the consolidation of the Army into massive regional forces. Military construction in the 1880s and 1890s reflected a more sophisticated architectural design from mass produced standardization. At major facilities, architects were used to plan installations and design administrative and residential buildings. These architects introduced and added to the elements of popular architectural styles found in these facilities. Nevertheless, by the turn of the century the Army reverted to its use of Quartermaster Corps standardized plans to control escalating design and construction costs. The Navy and the Marines, however, would continue to contract civilian architects for the design and construction of facilities into the twentieth century.

The Navy performed its mission by housing its personnel on ships, therefore its land based construction mainly consisted of ship building and repair facilities, with housing being reserved for the senior personnel. Widespread construction of housing for Naval personnel and their families did not begin until after World War II. The Marine Corps are a sea-based service created to complement the Navy. Sizable construction of Marine Corps facilities did not occur until they made the transition from expeditionary forces to the Fleet Marine Force during the twentieth century.

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46 Page 5 of the Legacy Program Resource Management publication on housing notes that here were exceptions to the Army's use of standardization. The Army War College constructed in 1903 at Ft. McNair was designed by McKim, Mead, and White; the expansion of the U.S. Military Academy at West Point from 1903-1914 was performed by Cram, Goodhue, and Ferguson; the Navy, as noted above, continued to use architects into the twentieth c, for example commissioning Ernest Flagg in 1899 to redesign the U.S. Naval Academy at Annapolis with a Beaux Art approach.

The Coast Guard is an official part of the Department of Transportation and is the oldest Maritime service operating in the country. The Coast Guard has inherited various agencies created throughout the country’s history to include the lighthouse service which means that this service is now the steward for a historic collection of lighthouse towers and keeper’s quarters.

**The Twentieth Century**

Popular architectural taste would be adopted at both Army and Navy facilities (whether by adapting Quartermaster Corps design or through the use of civilian contract architects) into the twentieth century in the form of Colonial Revival and Beaux Art in the East and Spanish Colonial in the West. Construction would be halted during World War I as resources and efforts were used not only to protect our nation from becoming entangled in the conflict, but, eventually, also to aid in victory. A nation-wide phenomenon that would occur after this conflict, and its successor World War II, would be the shortage of housing. The Army began mass construction of housing to alleviate the problem during the late 1920s and expanded the program to provide jobs during the Depression. Part of this program included the construction of housing to complement the construction of the Army’s airfields and airplane production. Housing on these airfield installations (the future Air Force Bases) used not only the popular Colonial Revival, but also the Tudor Revival and French Eclectic styles. The Air Force would not be established until 1947; the first marriage between the military and aviation originated with the Army Air Corps (created in 1907 under the official title as the Aeronautical Division of the Signal Corps).

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All services expanded rapidly during the first half of the twentieth century precipitating the need for more family housing and community support facilities. Single family detached housing remained the bastion for the upper echelon of officers, while multifamily, attached dwellings were used for lower ranking officers and enlisted quarters. Designs and planning used in the civilian landscape — like the “Garden City” planning and the development of “Suburbia” — would enter the gates of military facilities and be applied there as well. Despite their need for control of economy and planning through standardization, most installations did reflect regional stylistic traditions, using local building materials and adapting to local climatic conditions.

The Cold War

The end of World War II saw America at its most prosperous since the Gilded Age. The return of GI's spurred the construction sectors of the economy as massive amounts of housing were built to make up for the shortage following the war. The need for new homes reflected the growth of families and the beginning of the baby boom. Babies were not the only thing booming, the automobile driven middle class was on the road to prosperity (roads that were made possible by Eisenhower with the 1956 Interstate Highway Act, ensuring the construction of a vast new highway system, a system hailed as one of the largest public works undertaken in the history of man next to the pyramids. It was a system in part justified in terms of national security in order to facilitate the transport of troops easily and facilely across the vast expanses of the nation). The economic boom was in part financed by the preceding War, but mostly financed by the Cold War to come.49 The Cold War

defied conventional defense tactics and policy; it was a war imbued by ideology. The result was the rapid and intense rise of the military-industrial complex which heavily influenced and determined national policy as well as the cultural landscape of America. In many instances, the distinction between military and civilian design in the Cold War was obliterated as both sectors of the nation began to employ fences and walls topped with barbed wire, bomb shelters, windows made of armored glass or blocked by steel shutters, hidden cameras, electronic detectors, metal detectors, computer and electronic controlled access, and the proliferation of guards in their design and construction.\footnote{Martin Brice, p. 176.} Military installations (as well as defense-dependent related contracting) became research and development and production centers for nuclear weapons technology (both in terms of an offensive and defensive arsenal). It is at these sites where millions of military personnel and their families worked and lived; many functioning as autonomous communities without need to have contact or dependence on the outside world at all. The traditional system of permanent fortifications that had flourished during the nineteenth century, particularly the original coastal defense system, was no longer valid. The American coast no longer needed the existing protection from battleships when aircraft and missiles could attack Naval cruisers with far more ease and alacrity than land based guns.\footnote{Martin Brice, p. 175.} The goal of the 1950s American military was to establish a nationwide defense system to protect against Soviet IBMs (intercontinental ballistic missiles). This early system first took form under the name of the NIKE air defense system.\footnote{Jane Carolan, p. 8.} The cornerstone of the defense system was the use of SAMs (surface-to-air missiles) which were
placed in strategic positions to include surrounding major urban centers and significant military installations like Air Force Bases and arsenals. The NIKE system was just one of many systems constructed by the Army Corps of Engineers. The Corps of Engineers abandoned its original nineteenth century role as designers and builders of fortifications, roads and bridges after 1940 when all defense design and construction (under the purview of Quarter Master Corps until World War II) for both the Army and Air Force became its primary responsibility. In 1941 the COE would become the managers of all Army construction, maintenance, and real estate and, in the years to come, would be the designers and housers of an incalculable nuclear arsenal and air defense systems like NIKE.

WHY ARTIFACTS OF RECENT HISTORY SHOULD BE WORTHY OF CULTURAL RESOURCE MANAGEMENT ATTENTION WHILE STILL INTACT

Senator Daniel K. Inouye of Hawaii said, “I believe that the essence of what we are as a nation resides in the wealth of our natural and cultural resources. To diminish the latter is surely to diminish the former.” A few people might dispute this sentiment; but, it is the ambiguities of the boundaries and definitions of this idea that many people would contend. What is significant or important from our history is not easily defined. Our history

53 Jane Carolan, p. 10. Historically, the Quartermaster Corps constructed the arsenal and those structures which facilitates its production, use and protection while the Corps of Engineers (founded in 1802) built the actual fortifications and transportation routes. The rapid expansion and mobilization of the military during World War strained the capabilities of the Quartermaster Corps leading to the transfer of their responsibilities to the COE in 1940.

changes as each generation revises it from its own point of view. This is not to say that it is an impossible or moot argument, because there are natural and cultural resources that, no one would argue, do represent the essence of our nation: the Statue of Liberty, the Grand Canyon, the Empire State Building, Hollywood, Mt. Vernon, Yellowstone National Park, the White House, to name but a few. The gray areas come in when one speaks of regional cultural icons (the Boston Garden or a Frank Furness bank) or of artifacts of the recent past. It is, then, the ambiguities inherent in proclaiming what is emblematic of one’s own culture in one’s own generation or lifetime that is relevant to this study.

The Cold War has ineffably and ineluctably affected American culture and its shared system of beliefs. It has changed the political, cultural, economic, psychological and physical landscape both within and without of the United States. It would be hard to dispute that this era holds significance in modern American and World history (perhaps even more so if it proves to be the final act of the “Modern” epoch). What can and will be contended is the selection of which artifacts most appropriately symbolize and communicate the experience of this period. What also can, and most likely will happen, is that the consideration of significance will not produce any tangible resolutions for at least fifty and more likely one hundred years when the palpable manifestations of this period will no longer be here to add to the continuum of our heritage.

The Federal government recently made steps forward in recognizing the value of the cultural resources of the recent past. Under the 1991 Appropriations Act, Congress established the Legacy Resource Management
Program. The program's objectives include the inventory, protection and conservation of physical and natural resources owned by the Department of Defense. A spin off from this legislation and program has been the creation, in September 1991, of the Cold War History Study which intends to examine Cold War historic sites and related artifacts, with the ultimate goal being a proposal of stewardship for this aspect of our culture. The other goal of the Cold War History Study is to promote the incorporation of current cultural resource planning into military base management (in fact, this legislation spurred the New England District Corps of Engineers to begin a study of the thirty-six NIKE sites located within their region). Some of the difficulties encountered in a study of Cold War cultural resources includes the factor of time. Most of the sites are ineligible to be placed on the National Register of Historic Places because they do not meet the criteria, which stipulates that the site or structure be at least fifty years of age. As a currently used tool for cultural resource management, the National Register does not serve as an adequate method for the evaluation of Cold War artifacts, not only because these objects are not old enough, but also because many of them defy the traditional typological categories of classification. Cold War structures are often mobile, modular and inflatable. How can current cultural resource management tools (like the National Register) deal with artifacts like the White Alice communication system built by the Alaska District of the Corps of Engineers? White Alice is a series of transmitting and receiving antennae integrated into the Alaskan landscape which allows communication between remote areas within Alaska as well as serving as one of the early warning systems for the

55 Amy Worden and Elizabeth Calvit, p. 28.
56 Descriptive words used by Amy Worden and Elizabeth Cavit on p. 29.
United States which defies traditional classification methodologies of cultural management.\textsuperscript{57}

Part of the ramifications of these nation-wide base closures are not only economic, but also cultural. There is no mandate or imperative to prevent the abolishment of the military legacy (part of the American legacy) from the American landscape.

\textsuperscript{57} Amy Worden and Elizabeth Cavat, p. 29.
PART II: MILITARY BASE CONVERSIONS

BASE CLOSURES PRIOR TO THE 1980S

Since the announcement in 1988 by the Secretary of Defense of mass military base closures, political figures and their constituencies, the communities affected, have bemoaned what appears to be the catastrophic effect these closings will have on the socio-economic fabric of their communities. Such a cacophony of disapproval has made this action appear to be new. In fact, installations have been closed as long as we have had a standing military. And more recently, and related, mass closing of installations occurred in the 1960s and 70s, the first major post-World War II drawdown. If American military facilities have been closing almost since they were built, what has the history of their reuse been? The first known reuse occurred in 1823 with the sale of Castle Clinton, a masonry artillery battery, to the City of New York for recreational reuse. This, however, was not the end of Castle Clinton’s life after the military, but just the beginning, as by 1896 it would have been reused five times serving as the city’s first major concert hall, its first immigration station and as an aquarium. What Castle Clinton illustrates is that this is not a new phenomenon, nor an unsolvable one. Nevertheless, the circumstances surrounding today’s massive defense drawdown are more akin to the installation closures during the 1960s and 70s than to this nineteenth century adaptive reuse. The situation is more complex today due to the sheer numbers of sites, structures and people involved. At present, the Department

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59 In 1950 Castle Clinton would be declared a National Monument, Emanuel Raymond Lewis, p. 34.
of Defense is landlord to more than twenty-four million acres of resources which provide employment for more than 3.2 million people and are inclusive of a myriad of situations from NIKE sites to Proving Grounds to bases with thousands of people and structures.\(^{60}\)

During the Kennedy administration, Secretary of Defense, Robert McNamara, oversaw a similar situation. After studying the build up of the modern American military arsenal, McNamara determined that many of these installations were plethoric to the current military mission and the country would be better served if they were converted to civilian use. McNamara's decision to close and/or realign 954 military installations and eliminate 220,000 military and civilian employees would have major repercussions on those local economies.\(^{61}\) Therefore, McNamara set up a superstructure in 1961 to facilitate these conversion activities in the form of the Office of Economic Adjustment (OEA) and the President's Economic Adjustment Committee (EAC) — groups that still exist today and are facilitating the current round of base closures. The closures that McNamara set into motion went unquestioned until 1977 when Congress passed several laws which were hoped to be obstructions to future base closing. These impediments included a mandate that Congressional approval for any closure, affecting more than three hundred Department of Defense civilian employees, be obtained as well as a requirement that DOD must comply with the National Environmental Policy Act (NEPA) for all base closures.\(^{62}\) These Congressional handicaps, however, would only last a decade.

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\(^{60}\) William Bolger, p. 42.


\(^{62}\) Betty Lall, p. 25.
During the Reagan administration, the budget deficit would exponentially spiral the country into a deep black hole. Thus, when the Secretary of Defense suggested in 1988 that a Base Closure Commission be appointed, Congress did not resist (Public Law 100-526). This first Commission met from May until December in 1988, and submitted a report recommending the closure of eighty-six military facilities which the Defense Secretary approved. Congress had to accept or reject the findings without quarreling over individual properties because the law establishing the Commission also farsightedly, mandated that Congress either approval or reject its recommendations in sum.63


THE BASE CLOSURE PROCESS

In 1988 the Department of Defense sustained 871 military sites within the Continental United States (CONUS) and an additional 395 outside of American borders (OCONUS).64 These numbers, however, represented a declining, not a growing force — with the end strength of the military services to be thirty percent less than force size in 1988. For instance, by 1995 the Army will have six fewer active divisions than in 1988 — a reduction from eighteen to twelve. Unlike the Navy and Air Force, over half of the Army’s

63 Department of the Army, “The Army Drawdown — Base Realignment and Closures” (Interoffice information paper, no date) and Department of the Army, “Base Closures and Realignments” (Information Paper, June 30, 1993).
64 Betty Lall, p. 23.
reductions will occur OCONUS (seventeen percent of a thirty-one percent total decline). The defense budget itself will decline by more than forty percent from 1985 to 1997, thus base closure will lag behind the overall reductions in defense. The realignments and closure in 1988 would number eight-six, twenty-four of which would have a significant impact on communities. In 1991, thirty-one major military installations were recommended for closure. These two closure rounds combined will reduce the CONUS base structure by nine percent. In 1993, Secretary of Defense Les Aspin recommended forty-three major military installations be closed and/or realigned. This recommendation also included the closure or realignment of 122 smaller military installations. The 1988, 1991, and 1993 closures combined are expected to result in an annual savings of $5.6 billion. In 1995, the final round mandated under the 1990 Base Realignment and Closure Act (BRAC), will undoubted increase these numbers substantially. The government, however, has attempted to make the process as free from political influence as possible with the institution of BRAC.

**BRAC AIMS ACTIONS AND CRITERIA**

The BRAC process works as a system of checks and balances (or, perhaps, some would argue a rubber stamp) all based upon accordance with the military mission of the twenty-first century. The Secretary of Defense submits a list of installations to be closed and/or realigned to the Base Closure and Realignment Commission (this list itself is generated by each military Department after internal reviews of their mission and the closure criteria). The Commission assesses if the recommendations are in accord with the established criteria. It does so through public hearings, visitation to the
affected sites, and consideration of the presentation of information made by Congressional members and their constituents. The Commission can make changes to the list, but must provide a rationale, again in accordance with the criteria. The original or changed list will then be submitted to the President, who must either accept or reject the list in sum. If the President accepts the recommendations, then they proceed to Congress, who also cannot amend the list, only approve or disapprove it. If Congress does not disapprove it within forty-five days, the list becomes law.

The Defense Base Closure and Realignment Act of 1990 mandated the BRAC process described in the preceding paragraph. It also stipulated that the three rounds of closures — BRAC 91, BRAC 93, and BRAC 95 — would abide by the following selection criteria:

1. The current and future mission requirements and the impact on operation readiness of DOD’s total force.
2. The availability and condition of land and facilities at both the existing and potential receiving locations.
3. The ability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.
4. The cost and manpower implications.
5. The extent and timing of potential cost savings, including number of years, beginning with the date of completion of the closure or realignment, for the savings to exceed the costs.
6. The economic impact on communities.
7. The ability of both the existing and potential receiving communities’ infrastructure to support forces, missions and personnel.
8. The environmental impact.

These eight criterion are not all weighted equally. Priority is given to the first four stipulations which pertain to the current and future military mission. Once the military presence is gone, however, it is the last three criteria which will contribute to the recovery and vitality of the present-day and future community in terms of the restoration, reuse and/or redevelopment of the facility.

The preparation of an Environmental Impact Statement (EIS) by the military service involved is also required for all installations identified for closure under the Base Realignment and Closure Act. The EIS considers the impacts of closure, reuse, the alternatives to reuse, and methods of mitigation to alleviate or remove adverse environmental or socioeconomic consequences.

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**SUPPORT SYSTEMS ESTABLISHED TO FACILITATE CLOSING AND REUSE**

As aforementioned, since the initiation of base closings by McNamara in the 1960s, the potential traumatic effects of conversion have been recognized and support systems have been established to aid communities through the process. In the lead of assistance is the Office of Economic Adjustment, established in 1961 to help communities resolve problems caused by DOD objectives (namely the drawdown).65 In 1970 the OEA established the President’s Economic Adjustment Committee (EAC) which consisted of twenty-three Federal agencies organized to maintain and/or restore community stability. The EAC’s objectives included: to aid in the coordination and implementation of adjustment strategies; the replacement of lost jobs through

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65 Interview with Wallace Bishop on February 9, 1994.
new economic development activities; placement and retraining of affected workers; and the joining of available Federal, state and local resources with the private sector. The EAC's efforts have resulted in help for over four hundred communities in thirty-two years with the creation of an average 1.5 civilian jobs for every single civilian job lost through base conversion, thus establishing them as a major player in the conversion process.

The conversions of the 1970s also catalyzed the formation of a private sector group called NAIID (National Association of Installation Developers). Formed in 1978, NAIID's core membership consists of the communities that may be or are affected by base closures and realignments. The organization serves as a forum for these communities to garner technical advice and empirical observations from others who have already experienced the conversion process. NAIID's stated mission indicates that the group was "organized for the purpose of developing the best means to convert former government lands and buildings to employment-generating public and private use, and to provide for an exchange of relevant information to maintain productive civil use of such properties."66 NAIID has lobbied the Clinton administration vigorously to streamline the BRAC process. Part of this lobbying effort resulted in the proposal of a twelve point program which they wished the Clinton administration would act upon. Included in their twelve point program were: to strengthen and restore the key coordination role of the OEA that it held in the 1960s and 70s; property transfer policy disputes among military department disposal agencies and domestic agencies should be resolved immediately through the EAC rather than allowed to fester unresolved; the DOD should foster a community-oriented disposal attitude; using creative real estate

marketing techniques rather than one Federal property act disposal approach imposed on all communities; early job replacement and interim civilian use lease procedures should be expedited; attention should be given by DOD and EPA to the “parcelization” of uncontaminated parcels at former bases for early transfer to communities; DOD should permit credit sales of surplus base property to the communities; homeless screening procedure should be changed; and infrastructure for civilian reuse should be improved.67 NAID proposed their twelve point program in 1993 decrying the lack of resolution for major properties involved in the 1988 and 1991 BRAC lists. They believed that the current BRAC system left little hope for early recovery for the affected communities.

The same year that NAID made its twelve point proposal, President Bill Clinton announced, on July 2, 1993, a five point program designed to give top priority to early reuse by communities of military installations’ valuable assets. Under the five point plan, $5 billion will be made available through 1998 to communities in the form of $2.8 billion in economic development and transition assistance and $2.2 billion for environmental cleanup. The five points of Clinton’s plan are:

1. Job centered property disposal that puts economic development first.
2. Easy access to transition and redevelopment help for workers and communities.
3. Fast track cleanup that removes needless delays while protecting human health and the environment.
4. Transition coordinators at major bases slated for closure to work with communities to cut Federal red tape and free the base for rapid, productive reuse.

5. Larger economic development planning grants to base closure communities.68

Seven days after President Clinton announced his five point program, the Department of Defense announced the creation of the DOD Base Closure Transition Office and the transition coordinators were assigned to work with the individual communities, quickly bringing one of the five points to fruition.

SURPLUS PROPERTY

GENERAL REGULATIONS AND PROCEDURES GOVERNING TRANSFER OF OWNERSHIP

The Federal Property and Administrative Services Act of 1949 and the Base Closure Acts of 1988 and 1990 (Public Laws 100-526 and 101-510) are the three pieces of legislation governing the transfer of ownership of closing military bases to other Federal agencies, local municipalities and/or the private sector.69 The difference between these regulations is slight. The former has applied to all Federal real estate disposal since 1949, while the latter changes the agency responsible for acting as the “realtor” for disposing of military installations from the General Services Administration to the Secretary of Defense.

The Federal Property and Administrative Services Act of 1949 authorizes the General Services Administration (GSA) to dispose of unneeded Federal real


69 This section drives from a compendium of sources on surplus property to include: Federal Property management Regulations, Lisa McCann's notes from the National Park Service Surplus Property Workshop, and four documents listed in the bibliography from the National Park Service, Mid-Atlantic Regional Office concerning surplus property.
property. This property receives two classifications: excess and surplus. Excess real property is property transferred from one Federal agency that no longer needs it to another Federal agency which does. Surplus property is any excess property that is no longer needed by any Federal agency. State and local municipalities can acquire surplus property (often at no cost) for a variety of purposes: park and recreation, education, historic monuments, health and human services, public airports, wildlife conservation, and public highways. If the surplus property is not transferred to state or local governments under these programs, then it becomes available to the general public. Since the Reagan administration, the GSA has been under a mandate to obtain the highest profit possible for the sale of Federal property, preferably the full market value (see § 101-47.301-1).

The following conditions are required for disposal:

1. Real estate must be excess to a Federal agency's (in this case military) requirements.

2. Real estate must be surplus to Federal needs.

3. The applicability of transfer of the real estate under the McKinney Act for use by the homeless must be determined.

4. Potential conveyance to state and local governments either by public benefit conveyance or negotiation may occur.

5. Sale to the general public through auction, sealed bids, negotiation, or broker may occur.\(^\text{70}\)

\(^\text{70}\) The elements of this process are outlined in the brochure published by the General Services Administration entitled "Disposal of Surplus Real Property" as well as from the literature accompanying the Department of the Army's "Real Estate Base Alignment and Closure Presentation to Surplus Property Workshops for Historic Monuments" held in Washington, D.C. on April 9, 1993.
The 1988 Base Closure Bill requires adherence to the following procedure for the transfer of ownership of closing military installations:

1. The General Services Administration shall delegate to the Secretary of Defense:
   a. The authority to utilize excess property.
   b. The authority to dispose of surplus property.
   c. The authority to determine availability of excess or surplus property for wildlife conservation purposes.

2. The Secretary of Defense must comply all regulations governing excess and surplus property under the Federal Property and Administrative Services Act of 1949.
   a. The Secretary of Defense has no authority to prescribe general policies and methods to utilize excess property or dispose of surplus property.

3. The Secretary of Defense will redelegate these authorities to the secretaries of the military departments.

4. The secretaries of the military departments must:
   a. Consult with state and local governments on potential use of the property
   b. Provide community assistance planning.

5. Funds from the sale must be deposited into the Base Closure Account. Property transferred under the public benefit programs can facilitate the preservation of the built environment. Surplus Federal property that is eligible for or on the National Register of Historic Places may be conveyed to state and local governments at no cost for historic monument purposes.71 State

71 Federal Property and Administrative Services Act of 1949, section 203 (K) (3).
and local governments must apply for historic monument designation by submitting use, architectural, and financial plans. These applications are reviewed by the National Park Service which considers the suitability of the property as a historic monument and the compatibility of the proposed use. The National Park Service also reviews any plans for rehabilitation and restoration of the property. After conveyance, the National Park Service becomes the agency responsible for ensuring that the applicant complies with the terms and conditions of the conveyance.

Transferring military base properties under this program is amicable to preservation planning purposes for the following reasons:

1. The conveyance occurs at no cost.

2. Restoration is not required. The use plan, however, must be reasonably specific (i.e. elaborating beyond the intention to “preserve the building”), and rehabilitation must meet the Secretary of the Interior’s Standards for Rehabilitation.

3. Unlike other programs which must continue their use in perpetuity or else the property reverts back to the government (e.g. land transferred under the education program must be used for education in perpetuity, land transferred under park and recreation program must be used for park and recreation purposes in perpetuity), property transferred under the Historic Monuments program need not only be used as a monument but can also be used for other purposes. In addition, these other purposes are allowed to change over time.
4. Adaptive reuse is permissible. The use plan may include lease of the property for rehabilitation by a private developer or lease of portions of the property to specific tenants.

5. Excess income (income in excess of maintenance and operational costs) may be earned on the property, but it must be placed into a local fund for historic preservation purposes.

An example of transferal of military property for public benefit and private development occurred at the Charlestown Naval Yard in Boston, Massachusetts, which was transferred in the late 1970s as both excess and surplus property. The map on the following page illustrates under which programs the Naval Yard transfer occurred. The National Park Service obtained the excess property for use as a National Historical Park. The rest of the Naval Yard (to the East of the National Historical Park) was transferred as surplus property. Two of the parcels were transferred to Boston under the Historic Monument program (the parcel to the North) and the Park and Recreation program (the parcel immediately East of the National Historical Park). The remaining parcel (the Southeast portion of the Naval Yard) was sold to the general public to the Boston Redevelopment Authority which purchased it for approximately one and a half million dollars.

FOR THE MILITARY

Understanding the surplus property mechanism is crucial for the communities affected by base closure. Reuse plans made without such an

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72 Information on Charlestown Naval Yard from obtained through familiarity with NPS files on the Charlestown Naval Yard through an internship with Lisa McCann in charge of surplus property program for the Mid-Atlantic Regional Office of the National Park Service.
Illustration VI: Site Plan Illustrating the Surplus Property Transfer at the Charlestown Naval Yard produced by the Boston Redevelopment Authority in 1977.
understanding can lead to frustrations and missed opportunities. Issues peculiar to disposal of surplus military property include interim civilian use (as mentioned in the NAID twelve point proposal). If the community and the base are able to work out an interim lease program it is subject to restrictive conditions which include a lease not in excess of one year (although the lease can be renewed); the lease must be revocable on 30 days notice; and the interim use cannot interfere with, delay or retard the property disposal process. Another factor crucial to the reuse process is the involvement of the private sector. Private businesses, however, cannot negotiate with the Federal government for property, they can only acquire property through sealed bid or auction, which does not ensure success in acquisition. If the private sector and municipal redevelopment organizations work together, the private presence in the conversion process can be ensured. Redevelopment organizations are recognized as "governmental agencies" and thus can negotiate directly with the military to acquire property. Redevelopment organizations can then lease the property to private business with an option to buy later, thus securing control over the reuse plan and outcome (Federal property disposal regulations do not allow redevelopment authorities to sell property from for a period of three to five years after initial acquisition). The passing of the Fiscal Year 1994 Defense Authorization Act (aka. the Pryor Amendment) has initiated change into the overall BRAC process. Sector 2905 of this Act deals specifically with the disposal of military property and until

regulations are written to implement this section the following interim guidance will be used:

STEP ONE: The First Step of the interim mechanism for the disposal of surplus military property consolidates the original First and Second Steps. These steps in the process are the offering of the property to other DOD agencies and the offering of the property to other Federal agencies. If no requirements are discovered during this part of the screening, the property is determined to be surplus to the Federal Government and military department moves on to the next step.

STEP TWO: The second step requires a requesting local redevelopment authority to follow up initial written interest with a firm proposal on the future use of the property. This step must be completed by May 1, 1994 for BRAC 88, 91 and 93 installations. This step diverges from previous protocol by emphasizing communities needs and reuse plans over potential homeless assistance purposes.

STEP THREE: Any property not claimed under Steps one and two are offered for homeless assistance purposes (aka. the McKinney Homeless Act). Property not claimed for homeless assistance purposes will be available to the community.

STEP FOUR: During this step the local redevelopment authority is apprised of the remaining available portion of the installation. The authority has one year to express interest in any property not previous claimed. This step again has jumped the previous protocol by moving ahead of the process of obtaining property for public benefit.

75 Department of the Army, “Army Base Closure Redevelopment Authority Opportunity to Express Interest” (Fact Sheet, February 8, 1994).
STEP FIVE: Any remaining surplus property is screened with state and local governments for public benefit purposes.

STEP SIX: Any remaining surplus property is offered for sale to the general public.

While these changes may seem laden in bureaucratic minutia, they are significant for the direction of reuse and development of closing military bases, in combination with the rest of the Pryor Amendment.
THE PRYOR AMENDMENT AND RECENT CHANGES IN BRAC

The thrust of the Pryor Amendment/1994 Defense Authorization Act is to facilitate the conversion process, by emphasizing the importance of community recovery (and NAID proudly asserts that much of the 1994 Act assimilates its twelve point program announced the previous year). A crucial element of the Pryor Amendment includes investing the Secretary of Defense with the authority to transfer real and personal property to local redevelopment authorities at less than fair market value or at no cost in order to enhance economic development. Personal property will now also be inventoried at closing facilities and the Department of Defense will work with the local reuse group to identify items needed to support the reuse plan. Personal property identified for use in a redevelopment plan will not be removed from the site unless it is operationally required by a military unit, is uniquely military in character, is required to meet spare parts or stock requirements, or fulfills a priority need of another Federal agency. The disposal process, as detailed above, will be expedited and the McKinney Act process simplified. Interim-use lease at less than fair market value are also authorized under this law. The 1949 Federal Property Act was amended to include port facilities for conveyance for public benefit to public agencies through the Secretary of Transportation. Another major element of this amendment includes the appropriation of $69 million from Congress for community planning assistance with the stipulation that not less than twenty-five percent and no more than fifty percent of the funds must be allocated to communities with “catastrophic or multiple” closures.

RELEVANT PLANNING ISSUES

It is inevitable that local, regional, and even the national marketplace are going to feel the reverberations from the huge numbers of base closures initiated in 1988. These socio-economic tremors have been compounded by a national recession beginning around the time of the first round of closings. And as much as local newspapers and communities cry out in desperation of their seemingly hopeless situation, these soon-to-be defunct military installations offer a cornucopia of resources for the majority of communities being affected. The initially unrecognized benefits include: a diversity of extant resources from schools to day care centers to housing to stores to industrial structures to infrastructure and utilities; an often highly skilled, soon-to-be-surplus, labor force; exhaustive records of the installation which detail the costs, maintenance, and facilities available; inventories of personal property; engineering records; the potential for varied forms of transportation to include air fields and deep water ports; and required environmental remediation. Organizations (from NAID to firms hired to assess and plan for the viability for reuse) stress the need for communities to immediately establish local reuse agencies and for these agencies to actively market the resources “their” base has to offer. NAID offers a publication which is a highly polished advertising venue for converting or already converted bases. In this advertising publication communities package the reuse of these bases by “selling” everything from the access to multiple forms of transportation, to an economy cheaper than the national average, to a family-values, community oriented way of life.

The emphasis on the market approach in dealing with the cultural resources available on military bases is not new. The various agencies born
out of the base closures initiated by McNamara in the 1960s have provided communities with planning guides in order to facilitate the integration of these installations into their community with a heavy slant on the side of economics. This predilection to view the problem in economic terms is not a misguided bias, but a response to the number one concern of the communities and the most tangible result of the closures. A group called the Business Executives for National Security (BENS) has made it their primary concern to investigate the economic affects of the defense drawdown. Their analysis notes that both the public and private sectors have resisted the reality of the defense drawdown for years, only postponing the inevitable dislocation. They blame Washington for a laissez faire attitude toward defense conversion which was propagated during the 1980s and which trickled down to the communities lack of concern for future planning for the inevitable drawdown. They cite that despite Washington's lack of effort in aiding the transition from "words to plowshares", the defense budget has been reduced by thirty-two percent since Fiscal Year 1985 and will incur an additional twenty-five percent reduction by Fiscal Year 1997. They do acknowledge that the Clinton Administration has initiated the first belated Washingtonian attempt at addressing the problem with the enactment of his five point program as well as the creation of the Technology Reinvestment Project (TRP).

The TRP differs from previous defense research and development programs in that it encourages dual use production — the development of products that can be used by both the military and civilian sectors — through the collaboration between government, business, academia, and non-profit

78 A more detailed account of TRP can be found in Erik Pages report, p 3-4.
organizations. Programs like TRP are significant not only for defense-dependent industries (and their communities) but also have ramifications in the conversion of military installations in that many of these new programs are providing for the future users of these present Department of Defense extant resources. Dual-use has in fact become a buzz word among those who aid in or are affected by the conversion of military bases. It has become a means of circumventing the tedious property transferal process which can often send the death nail into the communities recovery coffin. A dual use contract permits the private sector to use extant military facilities and equipment that are underutilized by the branch themselves for commercial production while the military still occupies the installation.79 The fees paid by the civilian companies are used by the government to offset the maintenance and operational costs of the facility. In the past, the dual-use concept was primary used by civilian defense-contracts (for example, Raytheon contracted the use of part of an Army Ammunitions Plant for the manufacture of the Maverick missile).80 The difference today is that dual-use contracts are accessible to companies with dual-use or only civilian purposed products. Dual use contracts reduce the operating costs of companies, thereby allowing small companies to grow and large companies to pay for exactly what they need without having to provide these often costly services for themselves (to include utilities, infrastructure, and existing warehouses, machinery and office space). The establishment of these private-public ventures facilitate the conversion process for the community in a positive manner because it establishes that the

79 A more detailed assessment of dual use at military bases can be found in NAID's "Military Makeovers," p. 33.
community will be a vital center for social and commercial interaction after
the military unit has pulled out completely.

But before a community can initiate a dual-use contracts program they
have to begin with a reuse plan. Briefly summarized, these plans consist of a
survey and inventory of the buildings, infrastructure, and other resources
available on the facility. The strengths and weakness of the base's resources
are assessed as to their viability in a reuse plan. These studies are meaningless,
however, if they are not placed into the regional and local contexts. The goals
and realities of community growth and change have to be integrated into
proposed reuses of the base, otherwise the plan will be mere fantasy and the
base will remain vacant (e.g. although a plethora of Air Force facilities with
air fields are being closed not every community can support conversion of the
military air field into a civilian one). While this schematic representation of
how reuse planning should be accomplished sounds easy, it is complex and
fraught with many, and often unforeseen and/or conflicting variables.

The daunting size of many of these closing facilities has often paralyzed
local reuse efforts because the scale of the problem seems unmanageable.
Firms that have been successful in acquiring contracts to help local reuse
agencies and in facilitating relatively successful short term reuse (and still
being cognizant of long-term ramifications) have taken advantage of the
growing use of computers in planning and design. One such firm, The Onyx
Group, used computer technologies to aid in the planning of the reuse of Chase
Field Naval Air Station in Beeville, Texas.\textsuperscript{81} The installations resources were all
digitized into a data base (to include all structures, their date of construction,
massing, materials, existing use and potential reuse, structural system,

\textsuperscript{81} Interview with Phillip Rush, President of the Onyx Group on February 23, 1994.

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foundation, roof, facade, support systems, lighting, etc.). This computerized graphic inventory enhanced the ability for The Onyx Group and the local reuse agency in Beeville to explore the potential transformability and opportunities the base held in a manageable and coherent manner.

COMMUNITY RESPONSE

Governmental, military, and private agencies agree that all communities will have an initial adverse reaction to the closing of a military facility within their community. They also agree that those communities who do not move on after the initial shock are doomed to an arduous and often unsuccessful reuse of the resources left behind by the military. Keith Cunningham, a member of BENS, has studied numerous communities and their management or mismanagement with conversion and has come up with what he believes to be the "Ten Commandments" for thriving reuse:

1. Defend within the system.

What Cunningham means is that communities wanting to protest the closure should do so within the mechanisms set up by the Base Closure and Realignment Commission. And if they do protest, they should also engage in planning at the same time so they are not unprepared if they fail.

Cunningham has two examples for this rule: 1. Anniston, Alabama which used public hearings before the BRAC Commission to keep the base open; 2. The Philadelphia Naval Yard's potential reuse and redevelopment is being

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82 Keith Cunningham notes that of the 31 base closures recommended in 1991, 20 were formally opposed by the local communities in "24 Case Studies," p. 1.
hampered by fighting the closure all the way to the Supreme Court, which he believes will surely fail and only hurt Philadelphia and the Delaware Valley in the long run.\textsuperscript{85}

2. Start reuse planning the moment the closure becomes final. Studies of communities affected by base closures show that those who organize early excel in the potential for economic success of the reuse process. One example is England Air Force Base in Alexandria, Louisiana which appeared on the 1991 BRAC list and already had new companies reusing the facility by 1992.\textsuperscript{86} Business and local leaders had begun preparing for possible closure of the facility a year before England Air Force Base appeared on the BRAC list, even while a “SAVE the BASE” committee unsuccessfully lobbied against the closure. The guiding principle which helped them to quickly cut through military bureaucracy was political unity with regard to a reuse plan. The result has been an increase in housing prices, job growth and sales-tax revenues in the community since 1991.

3. Final regional consensus.

Communities will face initial internal strife over reuse plans, but those communities who resolve their arguments and provide a united front are those that receive more and better support for their plans. Appearing on the BRAC 91 list, Eaker Air Force Base in Arkansas quickly closed in December 1992 because the surrounding communities worked together to facilitate the process.\textsuperscript{87} The nearby towns of Blytheville and Gosnell quickly formed the


Blytheville-Gosnell Development Authority (B-GDA) to create and implement reuse plans. The B-GDA minimized differences and emphasized consensus in establishing a reuse plan that includes a municipal airport, a fire-fighting training academy, and a retirement community. Because of their ability to provide an overall guiding vision for the future of these resources and their place in the community, B-GDA has become the sole caretaker of the base property since transferal.

4. Empower a local authority.

As aforementioned, communities should set their objectives for reuse and then organize a reuse agency to facilitate and implement the plan. The local government and private businesses in the region around Wurtsmith Air Force Base (near Oscoda, Michigan) quickly formed the Wurtsmith Economic Adjustment Commission in order to facilitate the closure of the BRAC 91 base by June 1993.88 The Commission directed the community against plans to develop a civilian airport because assessment of the regional economy showed no such need. Instead, the development of a retirement community from the large stock of extant housing was the guiding vision.

5. Anticipate the unexpected.

Like all major projects, things happen which are not predictable.

6. Plan for the whole base.

Do not focus on one particular use at the expense of another. Also integrate the use of land by groups outside the community, e.g. the Federal Government, or public benefit conveyances, into the overall plan. Competing uses will only hurt the community. Army officers in the Pentagon’s BRAC

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88 Keith Cunningham, “Base Closure and Reuse: 24 Case Studies,” pp. 80-81 and Cunningham’s “Military Base Closures not Catastrophes.”
office note that often it is a mistake for the community to obtain control over
the entire parcel because their local-regional economy cannot self-support
such a conversion effort. These BRAC officers urge communities to not
assume responsibility for the entire site, but instead explore and encourage
transferal to other Federal agencies or for public benefit conveyance. Again,
the conversion of the Charlestown Naval Yard is exemplar as it was parcelled
up into three sections: two for public benefit conveyance and one to the
Boston Redevelopment Authority. The integrated parcelling out of land at the
Charlestown Naval Yard has maximized the facility’s resources by creating
public access to the waterfront, emphasizing the Yard’s heritage with the
preservation of historic structures and ships, and encouraging mixed use
redevelopment to include biomedical research facilities, 1,200 housing units,
and tourist attractions.

7. Develop both long-term and short-term strategies.

Like most good planning, base conversion need to account not only for
immediate community recovery, but also for the future integration of the base
into the civilian realm.

8. Develop achievable, not necessarily obvious, redevelopment plans.

Here it can be reiterated that not every current air field is a future
airport. Supply and demand and the community’s existing resources have to be
considered. For example, Dallas city officials are considering many
redevelopment options for the conversion of the Dallas Naval Air Station, to

89 Interviews with Army Public Affairs officer Major Bill Buckner and Army BRAC
officers Col. John St. Louis, LTC Ed Gonyea, and LTC Bill Adams on February 10,
1994 at the Pentagon.
80 Interview with Lisa McCann, Architectural Historian for the National Park Service,
Mid-Atlantic Region and in charge of the region’s Historic Monument Surplus
Property Transfers on September 24, 1993 and Ralph Memolo “Charlestown Navy

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include: a race track, an animal shelter, a bus maintenance center, a police auto pound, and a state or Federal prison.91

9. Learn from the experience of others.

This is the mission that NAID has established for itself, hoping to stop every community from re-inventing the wheel in the conversion process. Members of the Army BRAC office at the Pentagon warn, however, that reuse patterns that were successful at one installation should not be copy-catted under the belief that what worked there will work here. They stress that while networking can help communities learn about the process, they need also to be aware that their situation is particular to their locale.

10. Lobby for assistance, not opposition.

Again, the sooner the reality of conversion is accepted, the sooner Federal aid will be available for planning reuse options.

STATISTICAL INFORMATION ON PREVIOUS BASE CLOSURES AND THE STATE OF THEIR COMMUNITIES

The initial BRAC rounds from 1988 to 1993 have made available for reuse over 100 million square feet of building space and about 300,000 acres of developable land as well as produced a surplus labor force of 200,000 civilian employees.92 Wallace B. Bishop, a senior project manager for base conversions at the Office of Economic Adjustment, says these numbers do not mean that the type of conversion is too complex to predict because the essence or character of the military facility often dictates the form of its reuse.93 After twenty

93 Interview with Wallace Bishop on February 9, 1994.
years of experience with the adaptive reuse of military installations, Bishop says that the following military building types are most often reused in the following manner:

- **Administrative:** business offices, educational classrooms, administrative or government offices.
- **Airfields:** commercial or general aviation airports, aircraft rehabilitation and maintenance centers, aviation flight and mechanic training facilities.
- **Enlisted Quarters:** school or training dormitories, health care facilities, housing.
- **Public Works Facilities:** auto-truck maintenance, light industry.
- **Recreation Facilities:** parks and gyms.
- **Schools:** K-12 schools, college, vo-tech schools.
- **Warehouses:** warehouse and distribution, light industry.

Bishop says despite the uproar over the massive impact that these closures will have, that reuse it usually a straight-forward venture when it comes to the buildings and their uses, it is usually the people involved that create the complexities. Although most conversions conform to their building types, Bishop does acknowledge anecdotally that new and creative uses are possible at these bases. He cites as examples a former parachute loft in Nebraska now being used for pipe organ production; earth-covered ammunition bunkers in Kansas now used as a municipal Zoo support facility and animal quarantine station; and a building where B-52 bombers were washed in Washington now utilized by a company growing mushrooms in its basement. He feels that there are no limits to what can happen at these bases except the limits we place upon ourselves.
The Appendices of this paper contain statistical information gathered with regard to the defense drawdown and its impact on communities. For general information, bases appearing on closure recommendations since 1988 are listed as well as their expected conversion date (see Appendix A). These dates are important because the case studies performed by the OEA and Keith Cunningham of BENS and others show that those communities with a more rapid turn around see their plans supported and implemented as well as incurring better financial success. The other trend to be noted by this listing, as well as observed by the Army BRAC Office located in the Pentagon, is that on the average bases appearing on the 1991 list are having a more rapid conversion transferal process than those announced in 1988. In part this is due to the efforts to streamline the BRAC process and make it more community friendly; it also reflects a greater dissemination of information and knowledge about the process and that the procedure is not as devastating as perceived during the initial shock. In fact, many communities end up better off financially than they were before.\(^{94}\) It may also take into account that the

\(^{94}\) Peter Southwood, p. 192 and Office of Economic Adjustment, “Civilian Reuse of Former Military Bases: 1961-1993” (Report, September 1993): p. 4 and see also Appendices E-1 to E-52 which contain specific information concerning bases adaptively reused since the 1960s and before the BRAC rounds initiated in 1988. Under these state listings thirty-four bases gained jobs after conversion. It should be noted that the gain is the difference between the total of original military and civilian employees versus current civilian employees. This distinction is noteworthy because the military employees of many bases do not contribute substantial financial funds to the community at large, particularly if the base is completely self-sufficient in the amenities it is able to offer. In other words, it is not the loss of military personnel that affects the fiscal state of surrounding communities as much as it is the loss of civilian jobs; thus, converted bases which have fewer jobs today than when the facility was a military operation should be scrutinized to see if the current job numbers are comparable to or greater than the original civilian job opportunities, while only marginally factoring in the loss of military jobs. The thirty-four bases listed which showed an increase in job opportunities in Appendix E had a combined original job total of 36,450 and a current job total of 89,910, for an overall gain of 53,460 new jobs.
1988 round did not contain the active memory of the 1960s and 70s closings while the 1990s listings have had time to learn from their 1980s predecessor and become conscious of the closings in the 1960s and 1970s.

Appendix B outlines the break down of the major land uses of 107 already converted bases since the 1960s, and the land use redevelopment plans of twenty-four bases appearing on BRAC lists since 1988. Of the 107 already converted bases the top four land uses by a considerable margin are: sixty-eight percent have industrial uses, forty-nine percent are used for educational purposes, forty-six percent are used for aviation, and thirty-seven percent of bases are used for office space. The top four redevelopment plans for the twenty-four bases yet to convert are: sixty-seven percent want continued Federal ownership, sixty-seven percent want aviation related uses, forty-six percent want continued Department of Defense ownership, and forty-six percent are planning for industrial development. Slightly more than one-fifth of these twenty-four communities still had no reuse plan.

Six related types of information comprise Appendix C: 1. the number of defense-dependent jobs by state in fiscal year 1990; 2. a ranking of the states by the total number of defense-dependent jobs; 3. a ranking of the states by their total Department of Defense Payroll; 4. a ranking of the states by the amount of defense spending in the state; 5. a ranking of the states by their vulnerability to economic damage from defense cuts; and, 6. a ranking of the states by the actual economic impact by defense cuts. This information is meant to be read in concert in order to glean which states will be able to easily adjust and aid local municipalities incurring conversion, and which regions will be hardest hit.
The ten states with the largest number of defense-dependent jobs are: California, Texas, Virginia, Massachusetts, New York, Florida, Missouri, Maryland, Ohio, and New Jersey. The ten states with the largest Department of Defense payroll are: California, Virginia, Texas, Florida, Georgia, North Carolina, Washington, Maryland, South Carolina, and Pennsylvania. The ten states with the largest amount of defense spending are: California, Virginia, Texas, Florida, Massachusetts, New York, Maryland, Missouri, Ohio, and New Jersey. The ten states most vulnerable if major cuts occur there are: Puerto Rico, Virginia, District of Columbia, Mississippi, Massachusetts, Missouri, Alaska, Maine, Alabama, and Arizona. The ten states that will feel the greatest economic impact from defense cuts made in the early 1990s are: Missouri, Texas, Arizona, New Hampshire, Vermont, New York, Massachusetts, Ohio, Maryland, and California. The significance of these lists lies in the ability of a region to aid and support their converting military bases. Those regions with great dependence on contracting defense industries are going to have a slow recovery period of converting and reusing bases if those defense-contracts are also part of the drawdown. Although no state appears on all six or even five of the lists, six appear on four: California, Texas, Virginia, Massachusetts, Missouri, and Maryland. Three states appear on three of the top ten lists: New York, Florida, and Ohio. It is these nine states that will have to plan their military to civilian conversion more meticulously, creatively, and ardently than other states because they are incurring the most wholistic impacts. So how do states like Alabama, Alaska, the District of Columbia, Maine, Mississippi, Puerto Rico end up on the top ten list of states vulnerable to defense cuts, but no where else. These rankings also take into account the fiscal health of the state as a whole (not just their defense dependence). The unemployment rate,
the population, the per capita income, the amount of money spent by defense contractors and bases all work together to make a region more or less vulnerable. It should also be noted that the seven states that will be least affected by defense cuts (even if a base closing impacts a local community) are: Wyoming, South Dakota and North Dakota appearing at the bottom of five lists and Vermont, Montana, Idaho, and West Virginia appearing at the bottom of four lists. Out of the top ten states listed in Appendix D (which shows the estimated number of private sector jobs lost due to the drawdown through 1997), six correspond to the nine recurring states on the other top ten lists. In order to prevent the further abstraction of these lists, Appendix E provides a compilation of information for every state to include the numbers behind their rankings, their unemployment rate and rate change, their per capita income, population, top five defense contractors in 1990, statistics on the top ten sites in the region that received the most money form the Department of Defense in 1990 (it should be noted that many of these are not military installations), the states net loss or gain of jobs derived from the BRAC 93 list, and a listing of bases previously converted in the state and their statistics.

While most of this information provides a crucial insight into the fiscal ramifications of base closures, the physical consequences (with regard to preservation and place) must also be considered.
PART III: PRESERVATION AND PLACEMAKING

PRESERVATION

While the majority of the dialogue on base closures and conversion (be it newspaper articles, the Department of Defense, or related conversion agencies' literature) is concerned with the economic repercussions (as well it should be because fiscal ramifications are relevant tangible and quantifiable elements in this cause and effect system), the physical consequences also merit discussion. The preceding two parts of this paper have attempted to elucidate part of the history of the social and physical development of the military in the United States. This has been done in the belief that the military and its artifacts have a value greater than the economic and security benefits the armed forces bring to the nation. Parts I and II exist to provide part of the thick description of the American culture in which the military exists. Part III connects this context to a preservation framework in order to articulate why the concern for closing bases should not only focus on our economic survival and future, but also the maintenance and concern for our military heritage and environment, and its place in the American habitat of the present and future. And, while the issue of preserving the American fabric may not always be transparent, it is clear that these military bases belong in the discussion.

IN GENERAL

Although the history of preservation begins in the mid-nineteenth century with the efforts of private citizens to save Mt. Vernon and the Hermitage, the preservation movement is still relatively young, becoming part
of the public sector only after World War II. As preservation has moved from the private sector to a combined public-private venture, the attitudes about what should be preserved have also changed, some would say even broadened. The earliest preservation efforts were patriotic, to venerate those who had had a hand in the creation of the country. They were also carried out by private citizens in the upper reaches of American society. The scope of concern among preservationists would widen to include buildings with aesthetic and architectural merit during the twentieth century. The initial focus, however, among both the patriots and the aesthetes consisted of buildings set apart from the every day life; they were monuments to people or beauty or both. By the mid-twentieth century and continuing through to today, preservation has attempted to become an integral part of daily life — be it commercial, recreational, residential — in communities, not enshrined or set apart on an honorific pedestal from them. In growing numbers groups, interested in structures other than conventionally defined historic monuments and high-style buildings, have entered the preservation arena in order to impress upon others the importance artifacts have in the cultivation of our culture in a continuum larger than the moment. Industrial structures have started to become of increasing interest to preservation-minded groups,

95 Such examples include the chartering of the National Trust for Historic Preservation by Congress in 1949; the establishment of the National Historic Landmarks Program by the National Park Service in 1960; the passing of Public Law 89-665 — The National Historic Preservation Act; the establishment of the Historic American Engineering Record by the Department of the Interior in 1969; the passing of Public Law 91-190 — The National Environmental Policy Act. This governmental participation continues in preservation up to the present day.

96 This abbreviated history of preservation is taken from the following sources: William Murtagh's Keeping Time: The History and Theory of Preservation in America; Charles B. Hosmer, Jr.'s, Presence of the Past: A History of the Preservation Movement in the United States before Williamsburg and Preservation Comes of Age: From Williamsburg to the National Trust, 1926-1949.
such as those promoting the establishment of Industrial Heritage Corridors.97 The difficulties these groups face is not only in convincing people of the value of the industrial artifacts, but also in whether it is financially possible and prudent to restore and/or adaptively reuse them:

Considering the enormity of southwestern Pennsylvania's steel-making, coal-extracting, and transportation complex, preservation here is, oddly, a race against time. The relentless wrecking ball has patiently eaten away at mills and foundries so vast they were once described in terms of football fields, even miles. This is no ordinary preservation task. "Adaptive reuse" seems a feeble term when applied to these haunting and desolate, often mangled steel structures, let alone of the vast landscapes of which they are a part. Pennsylvania, however, has been the most successful state in marshaling Federal and local resources to interpret these areas as industrial-heritage corridors, which seek to protect cultural, natural, and recreational resources of national significance that extend over a wide area. The heritage corridor concept exemplifies a significant, if not fully realized, shift toward regional conservation and planning, one that looks beyond individual artifacts or districts to an entire area's special sense of place.98

In the form of adaptive reuse, preservation remains not only a method of maintaining our physical and cultural heritage, but also as way of maintaining economic viability: one need only to mention the words Quincy Market to see that preservation has a viable place in development and economic gain.99 Nevertheless, the industrial heritage corridors demand creative approaches to the possible reuses that are not as obvious or financially viable as that of Quincy Market. The physicality of the military

97 Nora Richter Greer and James S. Russell, "Preservation's Vast New Horizons," Architectural Record (February 1994): pp. 24-27. The first Industrial Heritage Corridor was established by Congress in 1984 covering 150 miles southeast of Chicago. The only three other designated national heritage corridors are: the Blackstone River Valley in Massachusetts and Rhode Island, the Delaware and Lehigh Canal in eastern Pennsylvania, and the American Industrial Heritage Area in Pittsburgh.

98 Nora Richter Greer and James S. Russell, p. 24

installations and the viability of their preservation are similar to that of these industrial-heritage corridors, in terms of the monumental use of structures and space for "mundane" and practical uses which may be too costly to preserve and difficult to adaptively reuse within the conventional preservation criteria. Military bases, and the attention to their preservation initiated by the Legacy Program, therefore fall into the latter category of rethinking preservation patterns and of broadening the scope of preservation and reuse. These facilities should fall under an extended rubric of preservation not only because they add to and aid in the interpretation of a vital concern (defense) of our culture, but also because the reuse of the existing building stock on these installations provides the easiest and soundest means for communities to adjust to the shock of base closing and to implement economic recovery.100

Despite preservation's physical and economic successes, it still fights the battle for acceptance as a legitimate discipline of concern. It must fight this conflict, because its very premise goes against the grain of American thought. Americans have many tendencies: some of which include the predilection for that which is practical, utilitarian, ephemeral, new, better, and bigger. There is no room for the reverence of "ancient" artifacts in such an ethos; nor, is it easy to convince a nation prosperous enough to throw away and make anew, over and over at will, that this should not always have been done or be done to everything in the name of cultural heritage. Books are not and should not be the sole bastion for the explication of history and cultural heritage. Steven Lubar and W. David Kingery argue that:

100 Interview with Phillip Rush.
We are surrounded by things and we are surrounded by history. But too seldom do we use the artifacts that make up our environment to understand the past. Too seldom do we try to read objects as we read books — to understand the people and times that created them, used them and discarded them.\textsuperscript{101}

By neglecting all but a narrow class of artifacts, those with writing on them, historians have missed opportunities. Artifacts are remnants of the environment of earlier periods, a portion of the historical experience available for direct observation.\textsuperscript{102}

Preservation is founded upon this belief that an understanding of the identity and heritage of Americans can be found through the maintenance, restoration and reuse of the historic built environment (artifacts of an architectural, engineering and landscape nature). But preservation meets resistance from the very heritage which it wishes to sustain: the American struggle between its love, reverence and embracement of nature, culture and history and the means and desire to manipulate and destroy extant American land and resources in search of something newer and better.\textsuperscript{103}

Aside from encountering external resistance toward the aims of preservation, preservationists also face their own internal tensions over the propriety of restoration and adaptive reuse. The preservation of American artifacts (in this case in the form of structures and buildings), if they are read as an integral component of elucidating and maintaining an American culture, is complex. While the artifacts are not only representative of a specific period in American history and of the American society that created them, they also are reflective of their place in the changing and transforming American history, culture, and society. As people are incapable of existing in a

\textsuperscript{101} Steven Lubar and W. David Kingery, p. viii.
\textsuperscript{102} Steven Lubar and W. David Kingery, p. ix.
\textsuperscript{103} This tension is explicated in Chapter 10, Part III “The Machine, the Garden and Paradise” in Joel Garreau, \textit{Edge City: Life on the Frontier} (New York: Doubleday, 1988).
vacuum that can resist the dynamic effects of time, neither can the material
culture that they create remain static. If we do exist in a constant state of flux,
is it futile to save that which has come before us? Do these artifacts provide
meaning in a mutable society? Those in academia who are concerned with the
disciplines of history, culture, and the built environment and the
thousands of Americans allied with the fields of conservation and preservation
would say that certain artifacts are one of the stabilizers in a civilization
which allow society to change and transform and yet continue without a
disintegration into the meaningless and atomized.

Because American civilization was also born out of revolution and
military action, it will only continue to transform in a coherent manner if the
artifacts of the military heritage also are preserved and survive as meaningful
descriptors of the culture. These military artifacts, however, should be
maintained with the duality of purpose that responsible preservation
implements. That is that all objects cannot be frozen in time, nor should they,
but also, that not all objects should adapt to the cultural continuum so that
their original intentions and significance are obliterated. Some of these
military facilities should be saved and restored as descriptors of a specific
point and time in the American historical-cultural landscape from
colonization to the Cold War (and some actually have). But some of these

104 Those concerned would include (but are not limited to) anthropologist Clifford Geertz
and his peers, the folklorists, art historians and American studies contributors to
Robert Blair St. George's book, and the essayists contributing to Steven Lubar and
W. David Kingery's book.

105 Several current guidebooks do list military bases as places of historic value for
visiting. The most comprehensive of these is the twelve volume series published by
the Smithsonian Institution. These books all share the same primary title: *Smithsonian Guide to Historic America*, and with varying authors writing about the
different regions, all of these books are listed in the bibliography in their
entirety. If the search for historic military America is limited to those bearing the
name "fort" (which will primarily dictate army facilities), this twelve volume set
installations should be adaptively reused as extant resources which can contribute to both economic and cultural stability in their very transformation. And while it should be recognized that new development will contribute to the cultural richness of the site (for new construction is also an artifact worthy of incorporation in the American heritage) as it has in the conversion of the Charlestown Naval Yard, it should not be the only means of converting military bases, lest their significance in the American cultural and psychological landscape be obliterated and forgotten. Nevertheless, the decision to save, restore and/or reuse military and civilian building stock often rests not on the historic significance or aesthetic integrity (although these reasons can coexist within a decision, or even be “found” to exist after the decision is made) of the structure, but may also reside in the powerful emotional reactions they elicit. But the problem most preservationists face is that emotions (in this rational and pragmatic society) do not make convincing arguments, rather, they often appear as histrionics, especially, if the argument is over development, profit and progress.

In this very brief discourse it is easy to see how preservation is fraught with ambiguities and subjectivities, and its detractors thrive by exposing this Achilles Heel. Preservation, however, does not need to carry the stigma of

lists a total of 297 historic forts to visit. The breakdown of their location is as follows: forty-nine in the Great Lakes States, thirty-eight in the Deep South, thirty-six in the Mid-Atlantic States, thirty-one in the Plains States, twenty-seven in the Rocky Mountain States, twenty-six in the Pacific States, twenty-two in Texas and the Arkansas River Valley, nineteen in the Carolinas and the Appalachian States, fifteen in the Deserts States, fifteen in Virginia and the Capitol Region, eleven in Northern New England, and eight in Southern New England. These forts range in their formalized management of historic sites from National Parks and National Monuments to sites run by local municipalities to those still run by the military. Nearly ninety-nine percent of the sites derive their importance from the time period between colonization and the Revolutionary War through the Civil War. A lack of but a few twentieth century sites are listed.

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being in tension with progress and creativity, so integral to the American ethos. Historic preservation should not carry the disapprobation of rules and regulations that restrict, confine and suffocate the development of the built environment. It should cultivate in all a desire to know the object, so that change draws from an understanding of and respect for the evolution of the artifacts and the culture which created them. Through proper implementation, preservation can be a tool which incorporates American change and growth toward the future and yet still retains a meaningful sense of continuity of place and identity. It is a great American luxury to be able to afford to tear down the past. But can we afford the consequences of this luxury? The built environment is an organism much like humans. We start out as infants, and grow through childhood and adolescence into adulthood, where we continue to grow physically, mentally, and emotionally. Each and everyone of us carry with us the breadth and wealth of our total experience from infancy to adulthood. We carry our own sense of identity which does change and does grow, and yet does not violate who we think we are. When we intervene in the built environment, we must be as true to that environment in understanding where it has been and where it might go as we are true to an understanding of ourselves.

The editors of the book Changing Places have also employed the metaphor of humanity, but they do so to illuminate the nature of our culture. They say:

Maturity in a culture, as in an individual, requires that we act to become something new, and at the same time, not reject what we have been: to continually integrate creation with memory.106

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If we do not make a concerted effort to integrate our built environment to reflect a continuum of our past, present, and future, how can we respect ourselves as a people. While no one, even preservationists, would argue that it is rational or pragmatic to save everything — to remember everything — it is also irrational and irresponsible to save nothing — remember nothing of who we are as a people. Yet there are those who would argue that our current, and often impatient, society is in jeopardy of following the latter course of cultural amnesia.

IN TERMS OF MILITARY BASES

As mentioned in Part I, Congress legislated the creation of The Legacy Program to aid in the sustenance of the memory of the military contribution to the American consciousness. This program advocates cultural resource management planning at installations. They have called for installations to develop Historic Preservation Plans (HPP) and/or Cultural Resource Management Plans (CRMP) to ensure congruity between the military mission and the protection of historic-cultural resources. Whether such plans are merely good intentions or will find actualization will only be proven with time. But, at the least, the Army has expanded its mission to include an awareness of cultural resources and the environment it occupies in its self-defining rhetoric for their place in twenty-first century America. The third Goal of the Army manual entitled "Installations: A Strategy for the twenty-first century" states:


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Goal 3: Achieve total integration of environmental stewardship into installation operations.

Measure of Success: This goal is met as the Army moves beyond compliance and restoration to be a leader in preservation and conservation of the environment. Full integration occurs when everyone on the installation automatically includes environmental impact considerations in their planning and activity execution.

Rationale: Environmental issues are a top concern for the Army. This issue impacts directly on readiness and reduces our flexibility to apportion scarce resources. Statues and regulations will become more complex and will complicate environmental compliance for installations. The Army must directly address the overlapping regulations and statues, provide clear and stable funding and guidance, and improve awareness training for everyone. The environmental ethic must be part of all operations, training, and personnel actions because compliance will continue to impact our training, land acquisitions, and use of facilities. Conservation and preservation focus on long term natural resource use and resource protection.108

The Army has always taken pride in its image as a leader in social change and reform in this country (e.g. racial integration, mass educational opportunities). Will the military again be an institution in the forefront of bringing America into a state of cultural and environmental consciousness that academics have been alerting the public to since the 1960s? Regardless, the American military and its symbolic artifacts do deserve to be incorporated into regional cultural resource planning so that they can add to the interpretation of the local, regional and national cultural systems. And while it should be acknowledged that “people will neither hold the same interpretations of history nor will they share the same combinations of meaning,”109 what is important is that these artifacts survive in order to facilitate the search for meaning, whether it is one of consensual or individual interpretation. Thus Parts I and II have offered up a broad synoptic view of military social and cultural history, not with the purpose of dictating

the “official” version of the armed forces historical role but, instead, to show that they have had and will have an integral part in the stabilization of the national psyche which should be recognized and remembered so that it will continue to add to the rich and varied interpretations of American culture.

These military facilities, however, not only serve a role in illuminating the American past, but they also have the potential to be used in the future of American placemaking through their conversion.

PLACEMAKING

Emile Durkheim wrote in 1915:

All known religious beliefs, whether simple or complex, present one common characteristic: they presuppose a classification of all the things, real and ideal, of which men think, into two classes or opposed groups, generally designated by two distinct terms which are translated well enough profane and sacred. This division of the world into two domains, the one containing all that is sacred, the other all that is profane, is the distinctive trait of religious thought; the beliefs, myths, dogmas and legends are either representations or systems of representations which express the nature of sacred things, the virtues and powers which are attributed to them, or their relations with each other and with profane things.110

If someone asked our own contemporaries, or even those of them who believe most firmly in the existence of the soul, how they represented it, the replies that he would receive would not have much more coherence and precision. This is because we are dealing with a very complex notion, into which a multitude of badly analyzed impressions enter, whose elaboration has been carried on for centuries, though men have had no clear consciousness of it.111

Although Durkheim wrote these thoughts in the anthropologist Bible on religion, they apply to late twentieth century humanity’s crisis of the environment. The Enlightenment and the Age of Reason promoted the


111 Emile Durkheim, p. 241.
rationalization and scientification of thought. These paradigms seized thought in all of the Western world, but Americans particularly imbibed scientific reasoning and progress. And as they did, part of the religious fervor held by those who founded this nation slowly ebbed away. Today, our country’s ardent belief in the separation of Church and State has brought us to a state of moral crisis, as some believe we have become a spiritually bereft nation. Religion is not a common ground among the American people in their entirety, but the elements of the religious life which Durkheim articulates, have moved into our secular and material culture, so that today we speak of the cultural realm with a lexicon once only reserved for the spiritual realm. And, as the language of the sacred and the profane can be used to describe the American culture, so too can it be used to describe the built environment. Philosopher Mircea Eliade offers descriptions of the meanings associated with sacred and profane places. Profane space has amorphous meaning in which people have fragmented life experiences, whereas sacred space is identified as places with distinct spiritual meaning amidst chaos.112 Geographer Brian Robinson adds to this definition by claiming that to be sacred, places require that a communal notion of good beyond the individual experiences of the space exist.113 This crisis of place was first articulated in the 1960s by urbanologist Jane Jacobs and Peter Blake,114 and thirty years later the spiritual crisis of place would again be bemoaned by such writers as Tony Hiss, Michael Hough, Joel Garreau and

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114 In their respective works: *The Death and Life of Great American Cities* and *God’s Own Junkyard: The Planned Deterioration of America’s Landscape.*

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James Howard Kunstler. What dismays all of these people is the growing profanity in the American-scape. They see the last fifty years of the built environment as soulless and as compounding the diminishment of the spirit of the American culture.

Blake begins his book with a cynical anecdote that describes the irreverent state of our culture:

The national purpose of the United States, from the very beginning, has been to let everyone make as much money as he possible can. If they found oil under St. Patrick's Cathedral, they would put a derrick smack in the center of the nave, and nobody would give the matter a second thought.

While this story is hyperbolic it does reflect the veracity of some elements of Americanness — namely the pursuit of capitalism, freedom, life, liberty and happiness which have inextricably been intertwined — that are among the tenets which built this country, which make this country peculiarly American, and which cannot be ignored or dismissed as vulgar and without social conscience. But these writers and academicians assert that the rhetoric of freedom has also been the implement of the destruction of the very culture upon which freedom is based; and, that the danger of freedom is that it can compromise the very culture that it constructed. Blake believes that the words of Senator Robert S. Kerr of Oklahoma in 1958 only confirm that the freedom to destroy oneself can take precedent over the freedom to protect:

In the name of culture, in the name of esthetics, whatever that is it will be a grave day in this country when we reach so high an 'ass-

115 In their respective works: The Experience of Place; A completely new way of looking at and dealing with our radically changing cities and countryside, Out of Place; Restoring Identity to the Regional Landscape, Edge City; Life on the New Frontier, and The Geography of Nowhere: The Rise and Decline of America's Man-Made Landscape.

thetic' [sic] pinnacle that men are will and able... to deprive citizens of their vested rights... What kind of culture [is this]?... It is the kind of culture one can find in Russia. It is the kind of culture Hitler went down the drain trying to implement in Germany...117

This is the kind of culture that has promoted and incorporated the ideas of progress and change, ideas which Garreau believes have ironically begun to destroy the culture that pays homage to them. Joel Garreau speculates:

Maybe deep down we see the problems as the Change denying — even attacking — the specialness of our lives. We see it attacking the very individuality and individualism that we have been building this stuff to achieve in the first place. Each piece of the new world we build caters to our dreams of freedom. But right now, the totality does not make us feel like individuals. It makes us feel like strangers. Strangers in our own land. We look around and recognize nothing. It is all changing so fast, we cannot find our own place in the universe. Not even our old house or favorite hangout. It alienates us. Sometime we barely recognize ourselves. Now that would be a contradiction in our souls.118

Jacobs and Kunstler believe that it is Modernism which tore the American fabric asunder (in combination with notions of progress, capitalism, the making of a quick and dirty profit, high mobility, zeal for the new and invented, and what Kunstler calls our "Bible-drunk sense of history"). What Modernism did differently than other ideological shifts in Western and American aesthetic paradigms is to completely and unequivocally reject that which had preceded.119 Modernism was the bastion of technology, invention and progress, without recollection of the architectural past. But Kunstler says that it was more than the architectural past, it was the cultural and human past that Modernism also summarily rejected and which cut Modern American culture adrift without the tools or knowledge to anchor themselves again.

117 Peter Blake, p. 10.
118 Joel Garreau, p. 413
Kunstler believes that the crisis of the human habitat that Modernism wrought came with a high price that few Americans understand consciously but that many subconsciously experience daily:

The least understood cost — although probably the most keenly felt — has been the sacrifice of a sense of place: the idea that people and things exist in some sort of continuity, that we belong to the world physically and chronologically, and that we know where we are.120

What all of these writers are looking for is this “sense of place” and when that is achieved they believe that we will again have an American civilization. Kunstler, Blake, and Garreau identify the tools of destruction of the American civilization as: the automobile (or specifically the great proliferation of cars as an inextricable part of our society in combination with poor planning for their physical place in our culture); the lack of transmission of the knowledge and skills which previously planned and constructed a sense of place, in other words, the loss of the collective memory of the cityscape, townscape, and landscape which did not alienate or atomize us from ourselves and each other; the separation and homogeneity of uses from each other (e.g. different areas for residential, commercial, park and recreation) and the misapplication of single-use zoning as a tool for the management of the built environment (which with its inception in the 1920s sought to protect property values in “better” residential neighborhoods).

Kunstler feels that our primary physical connections that we understand are the car, the telephone, the television and the computer, none of which again make good places. As he laments:

The road is now like television, violent and tawdry. The landscape it runs through is littered with cartoon buildings and commercial messages. We whiz by them at 55 miles an hour and forget them, because

120 James Howard Kunstler, p. 118.
one convenience store looks like the next. They do not celebrate anything beyond their mechanistic ability to sell merchandise. We don't want to remember them. We did not savor the approach and we were not rewarded upon reaching the destination, and it will be the same next time, and every time. There is little sense of having arrived anywhere, because every place looks no place in particular.121

**HOW TO MAKE GOOD PLACES?**

If the assessment that the American landscape has become profane is correct, then how do we make the journey from no-place to some place? Jacobs was the first to offer a methodology for reversing the place destroying elements in the cities. She urges a return to an empirical understanding of what does and does not work in the city. She rejects all previous twentieth century city planning dogmas — the City Beautiful, the Garden City, the Radiant City movements — and pleads for designers to abandon any preconceived notions they have about the city and relearn. She feels designers should use a common sense approach, they should examine the city, learn its form, and apply this knowledge to future interventions. She observes the streets and sidewalks from a perspective of the ordinary; she wants to observe real life instead of the intellectual fantasy propagated by those who came before her during the first half of the century. Disdaining the intellectualization of the city, Jacobs bemoans that her predecessors have looked to almost anything but the trial and error of cities themselves.

Contemporaneously with Jacobs idea, the Italians arrived at an integration of preservation and planning in their approach to the built environment.122 Their methodology is driven by typological analysis in

121 James Howard Kunstler, p. 131.
122 This integrated approach to intervention in Italian urbanism was first articulated in written form by Pier Luigi Cervellati, *La Nuova Cultura Delle Città* (Milano: Edizioni scientifiche e tecniche Mondadori, 1977).
which there is: no division between disciplines (in other words design, planning and preservation are treated as one inseparable entity); no separation of historic and “modern” building stock — all building stock is given equal importance in the intervention in the site in order to not give preference to individual predilections which may either devalue the historic or contemporary development; no distinction between physical and social issues — the built environment is viewed as a human habitat which must not forsake people for design; and public participation is a necessity because successful alteration of the environment can only occur in concert with the transformation of the people who inhabit that environment. The result is a masterplan for the town, city or regional landscape that addresses the continuity of the place and the people who live there in a morphological manner. This use of typology and morphology as a tool in guiding changes in the built environment began to be used by Italian planners like Pier Luigi Cervellati, Leonardo Benevolo, and Carlo Cesari in the 1960s when unrestrained development began to erode the historic urban fabric. From the Middle Ages onward until the beginnings of Modernism, a continuity in the urban morphology of the Italian city had shaped the regional identities and embraced a shared sense of place. The radical changes in technology, construction and the perception of the past in the twentieth century began to radically transform this continuity and obscure any sense of self in the people


124 Typology as used in this planning discourse is defined as a systematic classification or study of types. Types: a kind, class or group having distinguishing characteristics in common. Morphology: the form and structure, as of an organism, considered as a whole; the study of the form or structure of anything. Typological analysis: analytic tool for the understanding of the morphology through a study of type; another way of knowing the object. These definitions were given by Jeanne Marie Teutonico.

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and places of the regions affected. Italian planners turn to typological analysis in order to engage in lettura: the process of reading the city in order to restore its continuity. Typologies allow planners to understand the continuum of transformation in the built environment as if it is an organism in order to discover the limits of transformability that would render that organism unidentifiable and unintelligible and non-viable. Their goal is to allow change without losing a sense of place.

Others, who believe that we need to change the manner in which we plan and design in order to create meaningful places, include Christopher Alexander, who offered his vision in his 1977 book *A Pattern Language*. Alexander and his colleagues believe that the first crucial step is for people to view their material culture (streets, buildings, parks, etc.) as not isolated objects, but elements that belong to ordered relationships and connections that have a greater meaning. In other words, the sum of the whole is greater than the individual parts. But what Alexander does is offer the manner in which to arrive at the summation of parts. He, like Jacobs, attempts to uncover the empirical relationship between objects, but he also attempts to articulate the patterns and rules that govern them. If we follow these patterns, he believes, we will create a sense of place with wholeness and meaning. Alexander, unlike others in the design and preservation profession, believes that aesthetics is not a subjective argument that is moot because of the relativity of perception and opinion.

Alexander thinks it is possible to establish that one kind of place will be a good place, and another a sterile, inhumane one, as a matter of fact. ...He thinks it is possible to re-establish qualitative comparisons on a basis of yes or no, good or bad, beautiful or ugly — beyond opinion.125

125 Joel Garreau, p. 325.
The husband and wife team of Andres Duany and Elizabeth Plater-Zyberk have added their own 1980s-90s version to the "good placemaking" debate under the name of Traditional Neighborhood Development with the planning of towns such as Seaside, Florida. The area which Duany and Plater-Zyberk have explored in order to return to what they believe "worked" in nineteenth century small town America (as well as other older European towns) is the reformulation of zoning laws. As they researched these places which they believe respect human scale, integration of different land uses, a continuity of scale and massing of buildings and their relationship to one another, and the complex needs of human culture, they discovered that such urban designing was not permissible under present day zoning laws. Today, their version of good planning is against the law.126 Plater-Zyberk says:

In general, most zoning codes are proscriptive. They just try to prevent things from happening without offering a vision of how things should be. Our codes are prescriptive. We want the streets to feel and act a certain way. Our codes are primarily related to how private property defines public space.127

Hough notes that the reason we have gotten away from the traditional neighborhood developments which Duany and Plater-Zyberk wish to recreate is because the elements which once defined what was peculiar about a place (the response to the climate, available building materials, local building methods and craftsmanship) have been obliterated by the triumph of progress

126 It should also be noted that their version of good planning has its detractors who claim that: 1. these projects emphasize visual style over planning substance; 2. their focus on large-scale suburban proposals will justify the propagation of sprawl; 3. they have not tackled fundamental metropolitan development issues; and, 4. these projects have taken meager steps in ameliorating America's economic and social divisions. Todd Bressi, "Planning the American Dream," The New Urbanism: Toward an Architecture of Community by Peter Katz (New York: McGraw Hill, Inc., 1994): pp. xli-xlili.

127 James Howard Kunstler, p. 259.
and technology which have overcome the traditional obstacles posed by nature and the limits of pre-industrial society. He believes that “the question of regional character has become a question of choice and, therefore, of design rather than of necessity.” And yet, if one believes Jacobs, Blake, Garreau, Kunstler, Hiss and Hough himself we have chosen to obliterate any sense of identity we previous cherished. Is the pull of progress and technological innovations so exclusive and so strong as to destroy any humanistic and cultural needs that we also have? Hiss believes that in this process of destruction we have become more aware of the integral relationship between our built environment and our very humanity. He says:

Ever-accelerating changes in most people’s day to day circumstances are helping us and prodding us, sometime forcing us, to learn that our ordinary surroundings, built and natural alike, have an immediate and a continuing effect on the way we feel and act, and on our health and intelligence. These places have an impact on our sense of self, our sense of safety, the kind of work we get done, the ways we interact with other people, even our ability to function as citizens in a democracy. In short, the places where we spend our time affect the people we are and can become.

These people who have concerned themselves with placemaking and the sense of place are not all as optimistic as Hiss. Some have exposed what they believe to be degenerating forces at work while the Jane Jacobs, Duany and Plater-Zyberks, and Alexanders swim upstream against a rising tide and growing current of no-place. All are working in some way or another to raise the awareness of the American people that they are destroying themselves, their soul. That they are mired in vulgarity; and if all becomes profane than nothing is sacred. Science fiction writers like William Gibson offer a version of the future that is no better:

...William Gibson, in Neuromancer, introduces us to the American space of The Sprawl by mapping the cyberspace of the computer onto the physical space of the city. And what else, we might ask, is the American city of today but a gigantic boundless metroscope... that stretches all along the Eastern seaboard from Boston to Atlanta? Its appearance seems to simulate a complex switchboard of plug-in zones and edge-cities connected through an elaborate network of highways, telephones, computer banks, fiber optic cable lines, television and radio outlets. There is an intentional conflation of the physical and electronic city in Gibson’s science fiction accounts, acknowledging that a gap exists between what we can visualize and the invisible city constituted in and through its fields of information circulation. Furthermore, there is acknowledgment that the radically decentered non-place of the metroscope, just like the matrices of cyberspace, defies an imaginable or totalizable form through its very dispersal.

If Gibson is able to presage the future with veracity then we will continue to create and live in a soulless and profane no-place.

THE MILITARY BASE AND A SENSE OF PLACE

The National Register Guide to Historic Battlefields begins with the following quote made by a tour guide at the National Military Park in Gettysburg as he or she stood on Cemetery Ridge: “Through those motels and fried-chicken stands, Pickett’s men charged. The first line faltered in the Burger King parking lot and regrouped next to the Tastee Freeze.” This anecdote is comic but it is also pathetic in that it appears to confirm Gibson’s futuristic cultural vision that Americans are fated to live in a desecrated Sprawl.

If Americans are heading toward such a national disaster (as the “placemakers” would have us believe), then these closing military bases offer two opportunities to facilitate the return to identity and meaning and the


resurrection of an environment built on hallowed grounds. First, if these places are not to suffer the bastardization of the landscape, some of them and their irreplaceable cultural resources must be preserved, and all of them, to some extent, must be adaptively reused. If we wait fifty to one hundred years to value them then they will be gone. If a landscape is a way in which "we organize and see our world" then the military base is one such crucial landscape. Nevertheless, as mentioned earlier, to save everything is as impractical and detrimental as to save nothing. If we do not recognize the symbolic merit of military landscapes then we will lose and destabilize part of the American identity. The American armed forces exist to protect not only the American polity, but also the physical, psychological and cultural components of the nation. By not protecting military artifacts, Americans only do a disservice to themselves by increasing the vulnerability of their physicality, psyche and culture. The closing and conversion of military installations must be viewed as an issue greater than mere economic stability, and it should be acknowledged that something of our cultural permanence is also at stake. Conversion is an opportunity for military artifacts to be openly incorporated into the American cultural heritage and identity.

The second part these closing military facilities have to play in our changing environment is to use them to employ some of the placemaking methodologies. These installations have a unique position in that they are not governed by current zoning laws. They are a pre-existing fabric that in many cases constitutes a small city or town. Instead of blindly applying current zoning legislation, which is not guided by a placemaking vision but by the rubrics of nuisance and profit, to these sites as they come into civilian hands, these closing military bases present fertile ground to apply some of the
insights, especially as regards zoning, gained by Duany and Plater-Zyberk and others. These sites are places which already employ mixed land uses, are built at human scale, and are reflective of regional building materials and modes of design to varying extents. More significantly (in terms of the pleas of the placemakers), these places embrace notions of a communal good because they are built by and for a community — in this case the military community. If it is the fragmentation, even atomization, of the American people that is being reflected in the proliferation of profane places, then the American culture need use and consolidate these military bases into civil life in order to begin to restore and revive the American community. This can only be accomplished, though, by respecting the morphology of the military facilities that have created and continued a tightly-knit military community. Instead of bringing in bulldozers and wrecking balls and constructing more Kentucky Fried Chickens, these extant structures can serve as economic resources as well as a morphology of place that can be used, changed and transformed, based on typological analysis, to provide a continuum of American identity and community.

132 It should be mentioned that the military bases do present authentic fabric, while Duany and Plater-Zyberk et al simulate authenticity in their community recreations.
PART IV: APPENDICES

INFORMATION RELEVANT TO APPENDICES A-D

APPENDIX A: MAJOR BASE CLOSURES AND THEIR COMPLETION DATES


APPENDIX B: BREAK DOWN OF 107 CONVERTED BASES INTO LAND USE AND REDEVELOPMENT PLANS OF 24 BASES SINCE 1988

In Appendix B, information from three sources — Keith Cunningham’s "Base Closure and Reuse: 24 Case Studies;" the Defense Conversion Commission’s “Adjusting to the Drawdown;” and, the Office of Economic Adjustment’s “Civilian Reuse of Former Military Bases: 1961-1993” — was extracted and compiled and then analyzed as to the land use implemented or desired. These numbers and percentages are, therefore, the results of the author’s efforts to find patterns in the ways in which military facilities had been and will be reused.

APPENDICES C-1 THROUGH C-6: VARIOUS RANKINGS BY STATE

The sources for all six of these appendices were the Department of Defense Atlas FY 1990 and Betty Lall’s Building a Peace Economy. Appendix C-1 mirrors a similar use of this information as seen in Building a Peace

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Economy, p. 54. Appendices C-2 through C-6 represent the author's ranking of states based on data provided in the two sources and partially reiterated in this paper in Appendix E.

APPENDIX D: STATES WITH THE LARGEST ESTIMATED NUMBER OF PRIVATE SECTOR JOB LOSSES DUE TO THE DEFENSE DRAWDOWN, 1991 TO 1997

This list is similar in form and content to information provided on the Defense Conversion Commission's "Adjusting to the Drawdown," p. 41.
APPENDIX A: MAJOR BASE CLOSURES AND THEIR COMPLETION DATES

BRAC 93 — MAJOR BASE CLOSURES

Army:
Vint Hill Farms, VA

Navy:
Naval Station Mobile, Al.
Marc Island Naval Shipyard, Vallejo, CA
Marine Corps Air Station, El Toro, CA
Naval Air Station, Alameda, CA
Naval Aviation Depot, Alameda, CA
Naval Hospital Oakland, CA
Naval Station Treasure Island, San Francisco, CA
Naval Training Center, San Diego, CA
Naval Air Station Cecil Field, FL
Naval Aviation Depot Pensacola, FL
Naval Supply Center Pensacola, FL
Naval Training Center Orlando, FL
Naval Hospital Orlando, FL
Naval Air Station Barbers Point, HI
Naval Air Station Glenview, IL
Naval Station Staten Island, NY
Charleston Naval Shipyard, SC
Naval Station Charleston, SC
Naval Air Station Dallas, TX
Naval Aviation Depot Norfolk, VA

Air Force:
K.I. Sawyer AFB, MI
Newark AFB, OH
Gentile Air Force Station, OH
O'Hare International Airport Air Force Reserve Station, IL
Plattsburgh AFB, NY

BRAC 1991 — MAJOR BASE CLOSURES and COMPLETION DATES AS OF JULY 1993

Army:
Fort Ord, CA Sep 95
Sacramento Army Depot, CA Sep 95
Fort Benjamin Harrison, IN Sep 96
Fort Devens, MA Sep 95
Woodbridge Laboratory, VA Sep 94

Navy:
MCAS Tustin, CA Jul 97
NAS Moffet Field, CA Jul 94
NAVSTA Long Beach, CA Oct 96

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NAVSTA Treasure Island
Hunters Pt. Annex, CA
NAVSTA, Philadelphia, PA
NSY Philadelphia, PA
CBC Davisville, RI
NAS Chase Field, TX
NAVSTA Puget Sound, WA
ICSTF San Diego, CA
NESEC San Diego, CA
NESEC Vallejo, CA
NSSA Los Angeles, CA
NOSC Det Kanehoe, HI
NWEF Albuquerque, NM
NMWEA Yorktown, VA

Air Force:
Eaker AFB, AR  Closed 15 Dec 92
Williams AFB, AZ  Sep 93
Castle AFB, CA  Sep 95
Lowry AFB, CO  Sept 94
Grissom AFB, IN  Sept 94
England AFB, LA  Closed 15 Dec 92
Loring AFB, ME  Sep 94
Wurtsmith AFB, MI  Closed 30 Jun 93
Richards-Gebaur AFB, MO  Sep 94
Rickenbacker AFB, OH  Sep 94
Myrtle Beach AFB, SC  Closed 31 Mar 93
Bergstrom AFB, TX  Sep 93
Carswell AFB TX  Sep 93

1988 COMMISSION — MAJOR BASE CLOSURES AND COMPLETIONS DATES AS OF JULY 1993

Army:
Stand Alone Family Housing Area, 53  93 (49 closed)
Alabama Ammunition Plant, AL  Closed Jan 92
Coosa River Annex, AL  Closed Jan 92
Navajo Depot Activity, AZ  Sep 93
Hamilton Army Airfield, CA  Sep 94
Presidio of San Francisco, CA  Sep 94
Bennett ANG, CO  Closed
Cape St. George, FL  Closed Feb 88
Kapalama Military Reservation Phase III, HI  Sep 93
Fort Sheridan, IL  Closed Jun 93
Indiana Ammunition Plant, IN  Mar 95
Jefferson Proving Ground, IN  Sep 95
Lexington Army Depot, KY  Sep 94
New Orleans Military Ocean Terminal, LA  Mar 94
Army Material Technology Laboratory, MA  Sep 95
Former NIKE Site,  

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<table>
<thead>
<tr>
<th>Location</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen Proving Ground, MD</td>
<td>Closed 91</td>
</tr>
<tr>
<td>USARC Gaithersburg, MD</td>
<td>Closed</td>
</tr>
<tr>
<td>Pontiac Storage Facility, MI</td>
<td>Closed Jul 91</td>
</tr>
<tr>
<td>Nike Kansas City 30, MO</td>
<td>Closed Feb 88</td>
</tr>
<tr>
<td>Fort Wingate Ammunition Storage Depot, NM</td>
<td>Closed Jan 93</td>
</tr>
<tr>
<td>Tacony Warehouse, PA</td>
<td>Closed Sep 92</td>
</tr>
<tr>
<td>Fort Douglas, UT</td>
<td>Closed Nov 91</td>
</tr>
<tr>
<td>Cameron Station, VA</td>
<td>Sep 95</td>
</tr>
<tr>
<td>Defense Mapping Agency, Herndon, VA</td>
<td>Sep 94</td>
</tr>
<tr>
<td>Navy:</td>
<td></td>
</tr>
<tr>
<td>Naval Station Lake Charles, LA</td>
<td>Never Opened</td>
</tr>
<tr>
<td>Naval Station New York, NY (Brooklyn)</td>
<td>Closed Jul 93</td>
</tr>
<tr>
<td>Naval Hospital Philadelphia, PA</td>
<td>Sep 94</td>
</tr>
<tr>
<td>Naval Station Galveston, TX</td>
<td>Never opened</td>
</tr>
<tr>
<td>Naval Station Puget Sound, WA</td>
<td>Oct 95</td>
</tr>
<tr>
<td>Air Force:</td>
<td></td>
</tr>
<tr>
<td>George AFB, CA</td>
<td>Closed 15 Dec 92</td>
</tr>
<tr>
<td>Mather AFB, CA</td>
<td>Sep 93</td>
</tr>
<tr>
<td>Norton AFB, CA</td>
<td>Mar 94</td>
</tr>
<tr>
<td>Chanute AFB, IL</td>
<td>Sep 93</td>
</tr>
<tr>
<td>Pease AFB, NH</td>
<td>Closed 31 Mar 91</td>
</tr>
</tbody>
</table>

**BRAC III OCONUS CLOSURES INCLUDED THE FOLLOWING NUMBER OF SITES TO BE CLOSED IN THESE COUNTRIES:**

<table>
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<tr>
<th>Country</th>
<th>Number</th>
</tr>
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<tbody>
<tr>
<td>Germany</td>
<td>492</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5</td>
</tr>
<tr>
<td>Belgium</td>
<td>1</td>
</tr>
<tr>
<td>Greece</td>
<td>4 (all Sites)</td>
</tr>
<tr>
<td>France</td>
<td>21 (all Sites)</td>
</tr>
<tr>
<td>Turkey</td>
<td>6 (all Sites)</td>
</tr>
<tr>
<td>U.K.</td>
<td>5</td>
</tr>
<tr>
<td>Italy</td>
<td>4</td>
</tr>
<tr>
<td>Korea</td>
<td>29</td>
</tr>
</tbody>
</table>

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APPENDIX B: BREAK DOWN OF 107 CONVERTED BASES INTO LAND USE AND REDEVELOPMENT PLANS OF 24 BASES SINCE 1988

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic Training Complex</td>
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<td>0.9%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>3</td>
<td>2.8%</td>
</tr>
<tr>
<td>Aviation</td>
<td>49</td>
<td>45.8%</td>
</tr>
<tr>
<td>Commercial</td>
<td>8</td>
<td>7.5%</td>
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<tr>
<td>Conservation</td>
<td>2</td>
<td>1.9%</td>
</tr>
<tr>
<td>Correctional</td>
<td>12</td>
<td>11.2%</td>
</tr>
<tr>
<td>Deep Water Port</td>
<td>1</td>
<td>0.9%</td>
</tr>
<tr>
<td>Education</td>
<td>52</td>
<td>48.6%</td>
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<tr>
<td>Health</td>
<td>12</td>
<td>11.2%</td>
</tr>
<tr>
<td>Industrial</td>
<td>73</td>
<td>68.2%</td>
</tr>
<tr>
<td>Marina</td>
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<td>2.8%</td>
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<tr>
<td>Municipal</td>
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<td>11.2%</td>
</tr>
<tr>
<td>Museum</td>
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<tr>
<td>Office</td>
<td>40</td>
<td>37.4%</td>
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<tr>
<td>Recreation</td>
<td>25</td>
<td>23.4%</td>
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<tr>
<td>Religious</td>
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<td>1.9%</td>
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<tr>
<td>Residential</td>
<td>26</td>
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</tr>
<tr>
<td>Transportation</td>
<td>11</td>
<td>10.3%</td>
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REDEVELOPMENT PLANS OF 24 BASES SINCE 1988

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
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<tr>
<td>Federal ownership</td>
<td>16</td>
<td>66.7%</td>
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<tr>
<td>Department of Defense ownership</td>
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<td>45.8%</td>
</tr>
<tr>
<td>Aviation</td>
<td>16</td>
<td>66.7%</td>
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<td>No Public Plan</td>
<td>5</td>
<td>20.8%</td>
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<tr>
<td>Education</td>
<td>8</td>
<td>33.3%</td>
</tr>
<tr>
<td>Industrial Development</td>
<td>11</td>
<td>45.8%</td>
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<tr>
<td>Retirement Community</td>
<td>4</td>
<td>16.7%</td>
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<tr>
<td>Park and Recreation</td>
<td>6</td>
<td>25.0%</td>
</tr>
<tr>
<td>Housing</td>
<td>6</td>
<td>25.0%</td>
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## APPENDIX C-1: DEFENSE JOBS IN 1990 AND DD1 RANK BY STATE

<table>
<thead>
<tr>
<th>State</th>
<th>Base Personnel</th>
<th>Contractor Personnel</th>
<th>Defense-Dependent Jobs</th>
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</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>44,502</td>
<td>49,223</td>
<td>192,000</td>
</tr>
<tr>
<td>Alaska</td>
<td>27,348</td>
<td>11,210</td>
<td>64,000</td>
</tr>
<tr>
<td>Arizona</td>
<td>33,709</td>
<td>86,372</td>
<td>262,000</td>
</tr>
<tr>
<td>Arkansas</td>
<td>13,786</td>
<td>7,966</td>
<td>39,000</td>
</tr>
<tr>
<td>California</td>
<td>292,955</td>
<td>566,734</td>
<td>1,842,000</td>
</tr>
<tr>
<td>Colorado</td>
<td>46,031</td>
<td>83,588</td>
<td>272,000</td>
</tr>
<tr>
<td>Connecticut</td>
<td>12,171</td>
<td>107,727</td>
<td>287,000</td>
</tr>
<tr>
<td>Delaware</td>
<td>6,282</td>
<td>2,433</td>
<td>15,000</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>31,185</td>
<td>43,025</td>
<td>155,000</td>
</tr>
<tr>
<td>Florida</td>
<td>108,165</td>
<td>123,946</td>
<td>459,000</td>
</tr>
<tr>
<td>Georgia</td>
<td>83,020</td>
<td>46,025</td>
<td>238,000</td>
</tr>
<tr>
<td>Hawaii</td>
<td>59,793</td>
<td>13,002</td>
<td>116,000</td>
</tr>
<tr>
<td>Idaho</td>
<td>6,119</td>
<td>1,064</td>
<td>11,000</td>
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<tr>
<td>Illinois</td>
<td>56,512</td>
<td>34,011</td>
<td>166,000</td>
</tr>
<tr>
<td>Indiana</td>
<td>20,158</td>
<td>43,065</td>
<td>141,000</td>
</tr>
<tr>
<td>Iowa</td>
<td>2,068</td>
<td>12,547</td>
<td>35,000</td>
</tr>
<tr>
<td>Kansas</td>
<td>27,758</td>
<td>23,441</td>
<td>96,000</td>
</tr>
<tr>
<td>Kentucky</td>
<td>43,289</td>
<td>11,161</td>
<td>88,000</td>
</tr>
<tr>
<td>Louisiana</td>
<td>33,259</td>
<td>41,323</td>
<td>149,000</td>
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<tr>
<td>Maine</td>
<td>15,709</td>
<td>21,421</td>
<td>79,000</td>
</tr>
<tr>
<td>Maryland</td>
<td>76,383</td>
<td>111,277</td>
<td>396,000</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>20,711</td>
<td>207,405</td>
<td>551,000</td>
</tr>
<tr>
<td>Michigan</td>
<td>19,350</td>
<td>34,541</td>
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<tr>
<td>Minnesota</td>
<td>3,921</td>
<td>44,430</td>
<td>118,000</td>
</tr>
<tr>
<td>Mississippi</td>
<td>24,750</td>
<td>36,298</td>
<td>127,000</td>
</tr>
<tr>
<td>Missouri</td>
<td>34,964</td>
<td>154,023</td>
<td>439,000</td>
</tr>
<tr>
<td>Montana</td>
<td>5,640</td>
<td>1,748</td>
<td>12,000</td>
</tr>
<tr>
<td>Nebraska</td>
<td>16,869</td>
<td>6,135</td>
<td>38,000</td>
</tr>
<tr>
<td>Nevada</td>
<td>11,384</td>
<td>4,641</td>
<td>27,000</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>3,839</td>
<td>9,930</td>
<td>30,000</td>
</tr>
<tr>
<td>New Jersey</td>
<td>42,895</td>
<td>93,188</td>
<td>301,000</td>
</tr>
<tr>
<td>New Mexico</td>
<td>24,597</td>
<td>17,059</td>
<td>78,000</td>
</tr>
<tr>
<td>New York</td>
<td>47,466</td>
<td>173,600</td>
<td>502,000</td>
</tr>
<tr>
<td>North Carolina</td>
<td>85,865</td>
<td>30,859</td>
<td>190,000</td>
</tr>
<tr>
<td>North Dakota</td>
<td>11,932</td>
<td>2,521</td>
<td>22,000</td>
</tr>
<tr>
<td>Ohio</td>
<td>46,310</td>
<td>111,325</td>
<td>355,000</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>49,620</td>
<td>15,791</td>
<td>113,000</td>
</tr>
<tr>
<td>Oregon</td>
<td>3,958</td>
<td>9,275</td>
<td>30,000</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>57,771</td>
<td>71,993</td>
<td>280,000</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>5,794</td>
<td>11,631</td>
<td>38,000</td>
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<tr>
<td>Rhode Island</td>
<td>8,281</td>
<td>14,094</td>
<td>48,000</td>
</tr>
<tr>
<td>South Carolina</td>
<td>57,228</td>
<td>17,745</td>
<td>125,000</td>
</tr>
<tr>
<td>South Dakota</td>
<td>8,044</td>
<td>904</td>
<td>13,000</td>
</tr>
<tr>
<td>Tennessee</td>
<td>16,593</td>
<td>30,242</td>
<td>100,000</td>
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_R. Wortham — Page 102_
<table>
<thead>
<tr>
<th>State</th>
<th>1972</th>
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<th>1974</th>
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<tr>
<td>Texas</td>
<td>171,835</td>
<td>231,949</td>
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<tr>
<td>Utah</td>
<td>27,103</td>
<td>23,207</td>
<td>103,000</td>
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<tr>
<td>Vermont</td>
<td>790</td>
<td>1,906</td>
<td>6,000</td>
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<tr>
<td>Virginia</td>
<td>197,673</td>
<td>201,138</td>
<td>805,000</td>
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<tr>
<td>Washington</td>
<td>84,671</td>
<td>62,257</td>
<td>251,000</td>
</tr>
<tr>
<td>West Virginia</td>
<td>2,307</td>
<td>5,719</td>
<td>18,000</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>4,358</td>
<td>23,762</td>
<td>67,000</td>
</tr>
<tr>
<td>Wyoming</td>
<td>4,718</td>
<td>1,600</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,121,439</strong></td>
<td><strong>3,091,479</strong></td>
<td><strong>10,837,000</strong></td>
</tr>
</tbody>
</table>
APPENDIX C-2: STATES RANKED BY TOTAL NUMBER OF DEFENSE DEPENDENT JOBS

1. California
2. Texas
3. Virginia
4. Massachusetts
5. New York
6. Florida
7. Missouri
8. Maryland
9. Ohio
10. New Jersey
11. Connecticut
12. Pennsylvania
13. Colorado
14. Arizona
15. Washington
16. Georgia
17. Alabama
18. North Carolina
19. Illinois
20. District of Columbia
21. Louisiana
22. Indiana
23. Mississippi
24. South Carolina
25. Minnesota
26. Hawaii, Michigan
27. Oklahoma
28. Utah
29. Tennessee
30. Kansas
31. Kentucky
32. Maine
33. New Mexico
34. Wisconsin
35. Alaska
36. Rhode Island
37. Arkansas
38. Nebraska, Puerto Rico
39. Iowa
40. New Hampshire, Oregon
41. Nevada
42. North Dakota
43. West Virginia
44. Delaware
45. South Dakota
46. Montana
47. Idaho
51. Wyoming
52. Vermont
APPENDIX C-3: STATES RANKED BY TOTAL DOD PAYROLL

1. California
2. Virginia
3. Texas
4. Florida
5. Georgia
6. North Carolina
7. Washington
8. Maryland
9. South Carolina
10. Pennsylvania
11. Ohio
12. Hawaii
13. Alabama
15. Colorado
16. Oklahoma
17. New York
18. New Jersey
19. Arizona
20. Louisiana
21. Kentucky
22. Missouri
23. District of Columbia
24. Mississippi
25. Utah
26. Kansas
27. Indiana
28. Massachusetts
29. New Mexico
30. Tennessee
31. Alaska
32. Michigan
33. Arkansas
34. Maine
35. Connecticut
36. Nebraska
37. Nevada
38. Oklahoma
39. Wisconsin
40. Rhode Island
41. Minnesota
42. North Dakota
43. Idaho
44. Delaware
45. New Hampshire
46. South Dakota
47. Puerto Rico
48. Montana
49. Iowa
50. West Virginia
51. Wyoming
52. Vermont
APPENDIX C-4: STATES RANKED BY TOTAL AMOUNT OF DEFENSE SPENDING

1. California
2. Virginia
3. Texas
4. Florida
5. Massachusetts
6. New York
7. Maryland
8. Missouri
9. Ohio
10. New Jersey
11. Washington
12. Pennsylvania
13. Colorado
14. Connecticut
15. Arizona
16. Georgia
17. North Carolina
18. Alabama
19. Illinois
20. South Carolina
21. Louisiana
22. District of Columbia
23. Indiana
24. Hawaii
25. Mississippi
26. Oklahoma
27. Michigan
28. Tennessee
29. Minnesota
30. Utah
31. Kansas
32. Kentucky
33. New Mexico
34. Maine
35. Wisconsin
36. Alaska
37. Arkansas
38. Rhode Island
39. Nebraska
40. Oklahoma
41. Nevada
42. Puerto Rico
43. Iowa
44. New Hampshire
45. North Dakota
46. West Virginia
47. Delaware
48. Idaho
49. South Dakota
50. Montana
51. Wyoming
52. Vermont
APPENDIX C-5: STATES RANKED BY THEIR VULNERABILITY TO POTENTIAL DEFENSE CUTS

1. Puerto Rico
2. Virginia
3. District of Columbia
4. Mississippi
5. Massachusetts
6. Missouri
7. Alaska
8. Maine
9. Alabama
10. Arizona
11. Maryland
12. New Mexico
13. Rhode Island
14. Colorado
15. Hawaii
16. Texas
17. California
18. Florida
19. West Virginia
20. Connecticut
21. South Carolina
22. Utah
23. Washington
24. Oklahoma
25. Arkansas
26. Louisiana
27. Georgia
28. Michigan
29. New Hampshire
30. Ohio
31. Kentucky
32. Montana
33. Kansas
34. New Jersey
35. Indiana
36. Pennsylvania
37. Delaware
38. Tennessee
39. Idaho
40. North Carolina
41. Nevada
42. New York
43. Illinois
44. North Dakota
45. Vermont
46. Oklahoma
47. Minnesota
48. Wyoming
49. Wisconsin
50. South Dakota
51. Iowa
52. Nebraska
APPENDIX C-6: STATES RANKED BY THE IMPACT OF THE ACTUAL COMING DEFENSE CUTS

1. Missouri
2. Texas
3. Arizona
4. New Hampshire
5. Vermont
6. New York
7. Massachusetts
8. Ohio
9. Maryland
10. California
11. Michigan
12. Arkansas
13. Indiana
14. Connecticut
15. Illinois
16. Colorado
17. Tennessee
18. New Mexico
19. Maine
20. Pennsylvania
21. Kentucky
22. Minnesota
23. New Jersey
24. Louisiana
25. Alabama
26. Nevada
27. Florida
28. Utah
29. South Carolina
30. Washington
31. Iowa
32. Rhode Island
33. Georgia
34. Oklahoma
35. Oklahoma
36. Virginia
37. Mississippi
38. Wisconsin
39. North Carolina
40. Delaware
41. District of Columbia
42. Alaska
43. Puerto Rico
44. West Virginia
45. Kansas
46. North Dakota
47. Hawaii
48. Montana
49. Idaho, Nebraska, South Dakota, Wyoming
APPENDIX D: STATES WITH THE LARGEST ESTIMATED NUMBER OF PRIVATE SECTOR JOB LOSSES DUE TO THE DEFENSE DRAWDOWN, 1991 TO 1997

<table>
<thead>
<tr>
<th>State</th>
<th>Jobs Lost (Thousands)</th>
<th>Jobs Lost as a % of Total Jobs Nationwide</th>
<th>Cumulative % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>178</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>New York</td>
<td>62</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>Texas</td>
<td>56</td>
<td>6</td>
<td>31</td>
</tr>
<tr>
<td>Virginia</td>
<td>47</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>46</td>
<td>5</td>
<td>41</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>38</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>Ohio</td>
<td>38</td>
<td>4</td>
<td>49</td>
</tr>
<tr>
<td>Florida</td>
<td>38</td>
<td>4</td>
<td>53</td>
</tr>
<tr>
<td>Connecticut</td>
<td>37</td>
<td>4</td>
<td>57</td>
</tr>
<tr>
<td>New Jersey</td>
<td>30</td>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>Total for Top 10</td>
<td>570</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Total Job Losses</td>
<td>958</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendices E-1 through E-52 were constructed by the author to be used as a means of garnering information in terms of the regional impact of base closures and defense conversion, and also as a means of comparing regions to each other. Therefore each state in the United States, and including Washington, D.C. and Puerto Rico, is profiled in Appendix E with whatever information could be found relevant to the military drawdown. The sources for this information include the following: Betty Lall’s *Building a Peace Economy, Opportunities and Problems of Past-Cold War Defense Cuts*, pp. 102-294; Department of Defense, “Base Closure Status Report,” Internal Report, June 28, 1993; and the Office of Economic Adjustment’s “Civilian Reuse of Former Military Bases: 1961-1993.”

The information contained in these state profiles only concerns itself with the defense contract drawdown and military base closures; no information in here concerning installation realignments was assimilated. As each state’s situation is “unique,” each state profile contains varying degrees of information dependent upon the military presence in the region. Appendix E-1: Alabama illustrates the wide range of information that can be found in state profiles. The profile starts with statistical information concerning amounts of defense spending, defense contracts, defense jobs, vulnerability to defense cuts, the state’s unemployment rates, per capita income and population. Information is also provided which lists the top five Department of Defense contractors in the state, and the top ten defense-dependent sites (for the latter only specific statistical information is provided for military installations). If the state will be affected by BRAC 93 closures, as Alabama will,
a list detailing the number of military and civilian jobs lost through closure is listed with the overall state net loss or gain given (a state can gain jobs if realignments outnumber closures). The state profile ends with a list of bases previously adaptively reused by giving the name of the facility, the conversion years (from announcement of base closure to end of military tenure), the number of military and civilian jobs lost and the number of new jobs created, the major firms and groups active on the site today, and the breakdown of the new activities and development into land use.
APPENDIX E-1: ALABAMA

Total amount of defense spending: $3.8 billion, Rank 18
Total DOD payroll: $1.9 billion, Rank 13
Total amount of prime contracts: $1.9 billion, Rank 16
Overall trend in prime contracts: 5.0%, Rank 44
Vulnerability to defense cuts: Rank 9
Economic impact of coming defense cuts: Rank 25
Defense Dependent Jobs: 192,000, Rank 17
Change in Defense Dependent Jobs in 1990: 17.1%, Rank 46
1991 Unemployment Rate: 7.3%, Rank 13
1991 Unemployment Rate Change: 0.4%, Rank 35
Per Capita Income: $14,826, Rank 45
Population: 4,041,000, Rank 22

Top Five 1990 DOD Contractors and Revenues:
Teledyne $230.9 million
Boeing 219.9
General Electric 171.5
DynCorp 86.1
Nichols Research 64.2

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Huntsville:
2. Fort Rucker: 69, 97, $512.6 million, $343.6 million, $169 million, 12,000
3. Redstone Arsenal: 107, 93, $370.2 million, $292.7 million, $77.5 million, 11,800
4. Montgomery
5. Mobile
6. Fort McClellan: 197, 154, $175.6 million, $145.8 million, $29.9 million, 5,600
7. Anniston
8. Gunter AFB: 276, 283, $93.2 million, $67.6 million, $25.7 million, 2,300
9. Birmingham
10. Tuscaloosa
BRAC 93 JOBS IMPACTS:

<table>
<thead>
<tr>
<th></th>
<th>loss</th>
<th>mil / civ</th>
<th>gain</th>
<th>mil / civ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ft. McClellan</td>
<td>6,017</td>
<td>2,074</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Naval Station Mobile</td>
<td>524</td>
<td>126</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NRC Gadsden</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NRC Montgomery</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>6,559</td>
<td>3,446</td>
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<tr>
<td>State's Net Gain/Loss</td>
<td>6,485</td>
<td>2,642</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BASE ADAPTIVE REUSE STATISTICS:

1. Brookley AFB and Mobile Air Material Area in Mobile, 1965-1969
   12,300 civilian jobs lost
   1,070 military jobs lost
   3,500 jobs created
   Mobile Downtown Airport, Teledyne-Continental Motors, International Paper, University of South Alabama, Mobile Airport Authority
   Aviation, Education, Industrial

2. Theodore Army Terminal in Mobile, 1965
   14 civilian jobs lost
   0 military jobs lost
   1,550 jobs created

   18 civilian jobs lost
   110 military jobs lost
   208 jobs created
   Thomasville Mental Health Rehabilitation Center Health

   26 civilian jobs lost
   112 military jobs lost
   55 jobs created
   Marine Environmental Science Consortium Education

   547 civilian jobs lost
   1,863 military jobs lost
   580 jobs created
   Craig Field Airport, Superwood Inc., TriTech Services, Beech Aero Spares Services Inc., American Candy Co., Alabama Criminal Justice Training Center, Wallace Community College Selma, Rockabye Inc., Westbrook Textiles, Quality

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Computers, Department of Corrections (guard training), Bama Bud, Royal Vending, Elementary School, Head Start, Craig Golf Course Aviation, Education, Industrial, Recreation, Residential
APPENDIX E-2: ALASKA

Total amount of defense spending: $1.3 billion, Rank 36
Total DOD payroll: $0.9 billion, Rank 31
Total amount of prime contracts: $0.4 billion, Rank 38
Overall trend in prime contracts: -20.5%, Rank 19
Vulnerability to defense cuts: Rank 7
Economic impact of coming defense cuts: Rank 42
Defense Dependent Jobs: 64,000, Rank 36
Change in Defense Dependent Jobs in 1990: -11.1%, Rank 13
1991 Unemployment Rate: 7.0%, Rank 18
1991 Unemployment Rate Change: -0.1%, Rank 40
Per Capita Income: $21,761, Rank 7
Population 550,000

Top Five 1990 DOD Contractors and Revenues:
Mapco S94.1 million
ITT 51.8
Piquniq 16.3
General Electric 16.3
Halliburton 15.3

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Elmendorf AFB: 134, 143, $300.4 million, $243.3 million, $57.1 million, 7,800
2. Ft. Richardson: 162, 167, $229.3 million, $202 million, $27.3 million, 5,100
3. Ft. Wainwright: 220, 152, $141.7 million, $103.8 million, $38 million, 4,700
4. Eielson AFB: 236, 238, $129.7 million, $111.3 million, $18.5 million, 4,000
5. Anchorage
6. North Pole
7. Clear MSLEW
8. Adak Station: 324, 321, $53.6 million, $50 million, $3.6 million, 2,200
9. Shemya AFB: 380, 362, $30.5 million, $15.2 million, $15.4 million, 600
10. Ft. Greely: 398, not ranked, $24.5 million, $19.5 million, $5 million, 900

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BASE ADAPTIVE REUSE STATISTICS:

   63 civilian jobs lost
   380 military jobs lost
   85 jobs created
Kenai Native Association Inc., Wildwood Correction Center, Elderly Housing Center, FAA Radar Facility Correctional, Office, Residential
Total amount of defense spending: $4.9 billion, Rank 15
Total DOD payroll: $1.5 billion, Rank 19
Total amount of prime contracts: $3.4 billion, Rank 12
Overall trend in prime contracts: -4.7%, Rank 39
Vulnerability to defense cuts: Rank 10
Economic Impact of Coming Defense Cuts: Rank 25
Defense Dependent Jobs: 262,000, Rank 14
Change in Defense Dependent Jobs in 1990: 9.6%, Rank 43
1991 Unemployment Rate: 4.5%, Rank 48
1991 Unemployment Rate Change: -0.7% Rank 48
Per Capita Income: $16,297, Rank 35
Population: 3,665,000, Rank 25

Top Five DOD Contractors and Revenues:
McDonnell Douglas $1,435.7 million
General Motors 860.9
Motorola 337.9
Allied Signal 157.2
McDonnell Douglas/Bell Heli. JV 103.6

Top Ten DOD Sites:
[site, 1990 rank out of 501 states, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Mesa
2. Tucson
3. Sierra Vista
4. Scottsdale
5. Phoenix
6. Davis Monthan AFB: 180, 199, $198.4 million, $181.7 million, $16.7 million, 6,500
7. Luke AFB: 183, 195, $192.5 million, $167.1 million, $25.4 million, 6,500
8. Yuma Proving Ground: 194, 182, $176.7 million, $130.2 million, $46.4 million, 5,100
9. Tempe
10. Williams AFB: 250, 233, $114.7 million, $77.9 million, $36.8 million, 2,400
APPENDIX E-4: ARKANSAS

Total amount of defense spending: $1.0 billion, Rank 37
Total DOD payroll: $0.7 billion, Rank 33
Total amount of prime contracts: $0.3 billion, Rank 42
Overall trend in prime contracts: -61.8%, Rank 1
Vulnerability to defense cuts: Rank 25
Economic impact of coming defense cuts: Rank 12
Defense Dependent Jobs: 39,000, Rank 38
Change in Defense Dependent Jobs in 1990: -11.4%, Rank 12
1991 Unemployment Rate: 7.5%, Rank 9
1991 Unemployment Rate Change: -0.4%, Rank 42
Per Capita Income: $14,218, Rank 48
Population: 2,351,000, Rank 34

Top Five 1990 DOD Contractors and Revenues:
Asea Brown Boveri $33.8 million
General Dynamics 26.4
Munro 21.2
Tyson Foods 19.0
Willard Company 15.6

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Jacksonville
2. Pine Bluff
3. Blytheville
4. Little Rock
5. Fort Smith: 388, 408, $27.4 million, $14 million, $13.3 million, 300
6. Camden
7. North Little Rock
8. Wynne
9. Fort Chaffee: 416, 402, $18.9 million, $7.7 million, $11.2 million, 600
10. East Camden
BRAC 93 JOB IMPACTS:

<table>
<thead>
<tr>
<th></th>
<th>loss</th>
<th>mil / civ</th>
<th>gain</th>
<th>mil / civ</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCR Fayetteville</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NRC Ft. Smith</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Total</td>
<td>14</td>
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</tr>
<tr>
<td>State's Net Gain/Loss</td>
<td>14</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Total amount of defense spending: $35.9 billion, Rank 1
Total DOD payroll: $13.6 billion, Rank 1
Total amount of prime contracts: $22.3 billion, Rank 1
Overall trend in prime contracts: -18.1%, Rank 24
Vulnerability to defense cuts: Rank 17
Economic impact of coming defense cuts: Rank 10
Defense Dependent Jobs: 1,842,000, Rank 1
Change in Defense Dependent Jobs in 1990: -8.2%, Rank 20
1991 Unemployment Rate: 7.4% Rank 10
1991 Unemployment Rate Change: 2.3%, Rank 10
Per Capita Income: $20,795, Rank 8
Population: 29,760,000, Rank 1

Top Five DOD Contractors and Revenues:
Lockheed $2,464.2 million
GM-Hughes 2,143.2
McDonnell Douglas 1,787.6
Rockwell 1,523.6
Gencorp 1,132.2

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. San Diego
2. Los Angeles
3. Sunnyvale
4. Long Beach
5. Sacramento
6. El Segundo
7. Fullerton
8. Azusa
9. Camp Pendleton: 41, 36, $826.6 million, $671.8 million, $154.8 million, 21,600
10. Anaheim
BRAC 93 JOB IMPACTS:

<table>
<thead>
<tr>
<th>Location</th>
<th>Loss</th>
<th>Gain</th>
</tr>
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<tr>
<td>Defense Depot Oakland</td>
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<tr>
<td>NARDAC San Francisco</td>
<td>10</td>
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<td>NAWC WD China Lake</td>
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<td>FASCO Port Hueneme</td>
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<td>MCAS El Toro</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>NAWC WD Point Mugu</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RPC McClellan AFB</td>
<td>0</td>
<td>0</td>
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<tr>
<td>NCCOSC San Diego</td>
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<tr>
<td>NCTS San Diego</td>
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<tr>
<td>RASC Camp Pendleton</td>
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</tr>
<tr>
<td>NSC San Diego</td>
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<td>0</td>
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<tr>
<td>Mare Island Naval Shipyard</td>
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<tr>
<td>MCAS El Toro</td>
<td>5,689</td>
<td>0</td>
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<tr>
<td>Naval Air Station Alameda</td>
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<td>Naval Civil Engineering Lab</td>
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<td>Naval Public Works Ctr. San Fran.</td>
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<td>Naval Aviation Depot Alameda</td>
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<td>Naval Hospital Oakland</td>
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<td>Naval Station Treasure Island</td>
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<td>Naval Supply Center Oakland</td>
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<tr>
<td>Naval Training Center San Diego</td>
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<tr>
<td>Naval Reserve Ctr. Pacific Grove</td>
<td>6</td>
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</tr>
</tbody>
</table>

Total: 28,373 | 17,156 | 0 | 0

State’s Net Gain-Loss: 16,560 | 15,187 | 0 | 0

BASE ADAPTIVE REUSE STATISTICS:

1. Benicia Arsenal in Benicia, 1964-1965
   2,321 civilian jobs lost
   32 military jobs lost
   7,000 jobs created
   Industrial, Office, Deep Water Port

   293 civilian jobs lost
   1,215 military jobs lost
   2000 jobs created
   Camarillo Airport, Ventura County Community College, George Bannister Co., U.S. Navy, Oxnard High School District, County government offices, Church, U.S. Border Patrol, Pleasant Valley Parks
   Aviation, Education, Office, Religious
50 civilian jobs lost
0 military jobs lost
6 jobs created
City of Torrance recreation facilities
Recreation

4. Fort MacArthur in Los Angeles, 1974-1975
1,306 civilian jobs lost
750 military jobs lost
40 jobs created
San Pedro-Wilmington Skill Center, Marine Mammal Care Center, Point Fermin Camp
Education, Recreation

5. NIKE Site 78 in Malibu, 1974
0 civilian jobs lost
142 military jobs lost
40 jobs created
Los Angeles County Fire and Paramedic Center
Health

6. NIKE Site 04 in Palmdale, 1974-1976
0 civilian jobs lost
142 military jobs lost
100 jobs created
Los Angeles County Fire Center and Correctional Facility
Correctional

7. NIKE Site 55 in Rancho Palos Verdes, 1974
0 civilian jobs lost
91 military jobs lost
35 jobs created
Municipal offices, Dimension Cable studios, municipal parks, Coast Guard antennas
Office, Recreation
APPLENDIX E-6: COLORADO

Total amount of defense spending: $5.1 billion, Rank 13
Total DOD payroll: $1.8 billion, Rank 15
Total amount of prime contracts: $3.3 billion, Rank 13
Overall trend in prime contracts: 9.0%, Rank 46
Vulnerability to defense cuts: Rank 14
Economic impact of coming defense cuts: Rank 16
Defense Dependent Jobs: 272,000, Rank 13
Change in Defense Dependent Jobs in 1990: 1.9%, Rank 37
1991 Unemployment Rate: 5.4%, Rank 39
1991 Unemployment Rate Change: -1.2%, Rank 51
Per Capita Income: $18,794, Rank 17
Population: 3,294,000, Rank 26

Top Five 1990 DOD Contractors and Revenues:
Martin Marietta $2,156.6 million
Litton 209.1
IBM 137.7
Ford 113.4
Flightsafety International 41.0

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Denver
2. Colorado Springs
3. Fort Carson: 86, 67, $453.8 million, $401.8 million, $52 million, 13,300
4. Aurora
5. Air Force Academy: 186, 191, $187.6 million, $150.8 million, $36.8 million, 8,700
6. Boulder
7. Englewood
8. Lakewood
9. Littleton
10. Pueblo
BRAC 93 JOB IMPACT:

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<td>State's Net Gain-Loss</td>
<td>263</td>
<td>146</td>
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</table>

BASE ADAPTIVE REUSE STATISTICS:

   0 civilian jobs lost
   0 military jobs lost
   579 jobs created
   United States Olympic Committee Headquarters, USOC & Olympic Training Center Headquarters, National Governing Bodies for 16 Olympic Sports
   Athletic, Training, Complex, Office, Residential
APPENDIX E-7: CONNECTICUT

Total amount of defense spending: $4.9 billion, Rank 14
Total DOD payroll: $0.6 billion, Rank 35
Total amount of prime contracts: $4.3 billion, Rank 10
Overall trend in prime contracts: -24.1%, Rank 23
Vulnerability to defense cuts: Rank 20
Economic impact of coming defense cuts: Rank 14
Defense Dependent Jobs: 287,000, Rank 11
Change in Defense Dependent Jobs in 1990: -31.3%, Rank 2
1991 Unemployment Rate: 5.2%, Rank 42
1991 Unemployment Rate Change: 2.1%, Rank 11
Per Capita Income: $25,358, Rank 1
Population: 3,287,000, Rank 27

Top Five DOD Contractors and Revenues:
United Technologies $1,976.9 million
General Dynamics 1,130.1
Textron 470.1
Kaman 116.5
Analysis & Tech 47.3

Top Ten DOD Sites:
1. Groton
2. Stratford
3. E. Hartford
4. Stratford AEP
5. New London
6. Bloomfield
7. Windsor Locks
8. Danbury
9. Norwalk
10. Bridgeport

BRAC 93 JOB IMPACT:

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<th>gain mil / civ</th>
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APPENDIX E-8: DISTRICT OF COLUMBIA

Total amount of defense spending: $2.8 billion, Rank 22
Total DOD payroll: $1.1 billion, Rank 23
Total amount of prime contracts: $1.7 billion, Rank 20
Overall trend in prime contracts: 19.8%, Rank 50
Vulnerability to defense cuts: Rank 3
Economic impact of coming defense cuts: Rank 41
Defense Dependent Jobs: 155,000, Rank 20
Change in Defense Dependent Jobs in 1990: 19.2%, Rank 48
1991 Unemployment Rate: 7%, Rank 18
1991 Unemployment Rate Change: 1.8% Rank 16
Per Capita Income: $24,181, Rank 3
Population: 607,000, Rank 49

Top Five DOD Contractors and Revenues:
U.S. Dept. of Energy $349.3 million
AT&T 302.4
CSX 225.5
International Shipbuilding 140.5
Shore Management 42.9

BRAC 93 JOB IMPACT:

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APPENDIX E-9: DELAWARE

Total amount of defense spending: $0.3 billion, Rank 47
Total DOD payroll: $0.2 billion, Rank 44
Total amount of prime contracts: $0.1 billion, Rank 47
Overall trend in prime contracts: -56.4%, Rank 2
Vulnerability to defense cuts: Rank 37
Economic impact of coming defense cuts: Rank 40
Defense Dependent Jobs: 15,000, Rank 47
Change in Defense Dependent Jobs in 1990: -25%, Rank 3
1991 Unemployment Rate: 7.4%, Rank 10
1991 Unemployment Rate Change: 4.4%, Rank 3
Per Capita Income: $20,039, Rank 12
Population: 666,000, Rank 47

Top Five DOD Contractors and Revenues:
Whitemarsh Investment $11.4 million
Du Pont 9.2
Noramco 7.1
Caesar School District 5.6
J&K Distributors 4.9

Top Ten DOD Sites:
1. Dover
2. Wilmington
3. New Castle
4. Newark
5. Camden
6. Delaware River Pier
7. Frederica
8. Smyrna
9. Wyoming
10. Newport
APPENDIX E-10: FLORIDA

Total amount of defense spending: $10.6 billion, Rank 4
Total DOD payroll: $5.7 billion, Rank 4
Total amount of prime contracts: $4.9 billion, Rank 7
Overall trend in prime contracts: -24.3%, Rank 22
Vulnerability to defense cuts: Rank 18
Economic impact of coming defense cuts: Rank 27
Defense Dependent Jobs: 459,000, Rank 6
Change in Defense Dependent Jobs in 1990: 2.5%, Rank 38
1991 Unemployment Rate: 6.6%, Rank 23
1991 Unemployment Rate Change: 1.5%, Rank 20
Per Capita Income: $18,586, Rank 20
Population: 12,938,000, Rank 4

Top Five DOD Contractors and Revenues:
Martin Marietta $985.3 million
United Technologies 790.8
Olin 227.2
Honeywell 172.0
Harris 111.8

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Orlando
2. Jacksonville
3. West Palm Beach
4. Pensacola
5. Eglin AFB: 73, 82, $501.1 million, $373.7 million, $127.4 million, 13,500
6. Tampa
7. St. Petersburg
8. Cape Canaveral: 131, 145, $305.5 million, $15.2 million, $290.3 million, 0
9. Clearwater
10. Miami
## BRAC 93 JOB IMPACT

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<td>NAS Key West</td>
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**Total**

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**State Net Gain-Loss**

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## BASE ADAPTIVE REUSE STATISTICS:

1. **Atlantic Fleet Site in Green Cove Springs, 1962-1964**
   - 324 civilian jobs lost
   - 1,281 military jobs lost
   - 700 jobs created
   - Kelsey-Hayes, Kustom Karr, Sun State Marine, Price Brothers, Composite Pipe, Willis Barge, Pegasus Technologies, Great Lakes Dredge and Dock, Swecom, Cuban Caribbean Shipping
   - Industrial

2. **Sanford Naval Air Station in Sanford, 1968-1969**
   - 230 civilian jobs lost
   - 646 military jobs lost
   - 1,600 jobs created
   - Central Florida Regional Airport, Jett-Aire, Seminole County Sheriff Department, Kramer Lumber, Vertical Aviation Technologies, Orlando Blade Technologies, C.F. Avionics, Cloudkiss Beverages, Hardie Irrigation, Scottys, Florida Gas Training Center, Codisco, Comair Aviation Academy, Gator Dock and Marine
   - Aviation, Correctional, Education, Industrial

3. **Truman Annex in Key West, 1973-1986**
   - 568 civilian jobs lost
   - 3,356 military jobs lost
   - 50 jobs created
   - Office, Marina, Residential

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4. McCoy Air Force Base in Orlando, 1974-1975
395 civilian jobs lost
2,812 military jobs lost
10,500 jobs created
Orlando International Airport, Greater Orlando Aviation Authority, Foreign Trade Zone, U.S. Postal Service, Walt Disney World, Miami Aircraft Support, National RAC Inc., Hillair, Florida Southern College, Signature Flight Support Aviation, Education, Industrial
APPENDIX E-11: GEORGIA

Total amount of defense spending: $4.9 billion, Rank 16
Total DOD payroll: $3.1 billion, Rank 5
Total amount of prime contracts: $1.8 billion, Rank 17
Overall trend in prime contracts: -53.6%, Rank 3
Vulnerability to defense cuts: Rank 27
Economic Impact of coming defense cuts: Rank 33
Defense Dependent Jobs: 238,000, Rank 16
Change in Defense Dependent Jobs in 1990: -12.2%, Rank 11
1991 Unemployment Rate: 5.2%, Rank 42
1991 Unemployment Rate Change: -0.4%, Rank 42
Per Capita Income: $16,944, Rank 31
Population: 6,478,000, Rank 11

Top Five DOD Contractors and Revenues:
Lockheed $688.0 million
General Motors 214.6
Rockwell 153.9
Georgia Tech Research 43.8
Johnson Controls 39.3

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Marietta
2. Robins AFB: 61, 60, $613.7 million, $543.7 million, $69.9 million, 18,700
3. Atlanta
4. Ft. Benning: 83, 57, $468.2 million, $405.2 million, $63 million, 22,500
5. Ft. Gordon: 126, 80, $316.8 million, $244.6 million, $72.2 million, 10,000
6. La Grange
7. Ft. Stewart: 185, 76, $190.4 million, $153.4 million, $37 million, 6,600
8. Duluth
9. Savannah
10. Kings Bay
BRAC 93 JOB IMPACT

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<td>RPC Warner-Robins AFB</td>
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<td>Naval Reserve Center Macon</td>
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BASE ADAPTIVE REUSE STATISTICS:

1. Albany Naval Air Station in Albany, 1974-1978
   341 civilian jobs lost
   3,217 military jobs lost
   2,100 jobs created
   Miller Brewing, Tara Foods, Job Corps Center, Navy Hospital
   Education, Health, Industrial

2. Glynco Naval Air Station in Brunswick, 1974-1976
   344 civilian jobs lost
   1,828 military jobs lost
   2,700 jobs created
   Brunswick-Glynco Jetport, Insteel Construction, Map International, Sossner
   Tap & Tool, Federal Law Enforcement Training, Air Force Reserves, ABC Home
   Health Print Shop, Coastal Machining Co., Stanbaugh Aviation, Brunswick Job
   Corps Center, Georgia Air National Guard, Coastal Golf Care Services, Danny
   Herman Trucking, U.S. Customs, Rockwell International, Randy Parr
   Construction Co.
   Aviation, Education, Industrial, Transportation
APPENDIX E-12: HAWAII

Total amount of defense spending: $2.5 billion, Rank 24
Total DOD payroll: $2 billion, Rank 12
Total amount of prime contracts: $0.5 billion, Rank 35
Overall trend in prime contracts: -0.2%, Rank 40
Vulnerability to defense cuts: Rank 15
Economic impact of coming defense cuts: Rank 47
Defense Dependent Jobs: 116,000, Rank 26
Change in Defense Dependent Jobs in 1990: -8.7%, Rank 19
1991 Unemployment Rate: 2.3%, Rank 52
1991 Unemployment Rate Change: -0.4%, Rank 42
Per Capita Income: $20,254, Rank 11
Population: 1,108,000, Rank 42

Top Five DOD Contractors and Revenues:
Broken Hill Proprietar>' $59.1 million
GTE 53.4
Frederick/Nova Joint Venture 28.8
Computer Sciences 28.7
Hawaiian Electric 16.2

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Pearl Harbor: 48, 49, $764 million, $702.7 million, $61.3 million, 17,500
2. Schofield
3. Hickam AFB: 144, 146, $272.9 million, $225 million, $47.9 million, 7,700
4. Honolulu
5. Kaneohe
6. Barbers Point
7. Wahiawa
8. Wheeler AFB: 357, 331, $38.3 million, $34.3 million, $4 million, 1,300
9. Aiea
10. Camp H.M. Smith
## BRAC 93 Job Impact

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<tr>
<td>NSC Pearl Harbor</td>
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<td>0</td>
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<tr>
<td>Naval Air Station Barbers Point</td>
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APPENDIX E-13: IDAHO

Total amount of defense spending: $0.3 billion, Rank 48
Total DOD payroll: $0.3 billion, Rank 43
Total amount of prime contracts: $0.04 billion, Rank 51
Overall trend in prime contracts: -49.2%, Rank 4
Vulnerability to defense cuts: Rank 39
Economic impact of coming defense cuts: Rank 49
Defense Dependent Jobs: 11,000, Rank 50
Change in Defense Dependent Jobs in 1990: -21.4%, Rank 5
1991 Unemployment Rate: 6.6%, Rank 23
1991 Unemployment Rate Change: 1.6%, Rank 19
Per Capita Income: $15,160, Rank 41
Population: 1,007,000, Rank 43

Top Five DOD Contractors and Revenues:
Morgan & Oswood $6.0 million
Basic American 3.5
Scientech 3.4
Heinz 2.9
Empire Airlines 2.8

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Mountain Home AFB: 268, 265, $101.5 million, $89.1 million, $12.4 million, 3,800
2. Boise
3. Idaho Falls
4. Moscow
5. Blackfoot
6. Coeur d'Alene
7. Pocatello
8. Lewiston
9. Nampa
10. Caldwell
Total amount of defense spending: $3.2 billion, Rank 19
Total DOD payroll: $1.9 billion, Rank 14
Total amount of prime contracts: $1.3 billion, Rank 24
Overall trend in prime contracts: -37.4%, Rank 8
Vulnerability to defense cuts: Rank 43
Economic impact of coming defense cuts: Rank 15
Defense Dependent Jobs: 166,000 Rank 19
Change in Defense Dependent Jobs in 1990: 0.6%, Rank 36
1991 Unemployment Rate: 6.5%, Rank 25
1991 Unemployment Rate Change: 0.8%, Rank 29
Per Capita Income: $20,303, Rank 10
Population: 11,431,000, Rank 6

Top Five DOD Contractors and Revenues:
Northrop $156.3 million
Hughes Research Institute 68.7
Honeywell 60.6
Olin 59.4
Sundstrand 46.1

Top Ten DOD Sites:

1. North Chicago
2. Scott AFB: 99, 115, $391.4 million, $354.1 million, $37.3 million, 10,100
3. Rock Island: 122, 142, $323.2 million, $273.3 million, $50 million, 8,200
4. Chicago
5. Rolling Meadows
6. Rantoul
7. Highland Park
8. Joliet AAF: 302, 288, $74.8 million, 0, $74.8 million, 0
9. Rockford
10. Alton
BRAC 93 JOB IMPACT

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BASE ADAPTIVE REUSE STATISTICS:

1. Decatur Army Signal Depot in Decatur, 1962-1963
   1,310 civilian jobs lost
   27 military jobs lost
   1,274 jobs created
   Bridgestone/Firestone Inc.
   Industrial

2. Forest Park Naval Ordnance Plant in Forest Park, 1971-1973
   1,600 civilian jobs lost
   6 military jobs lost
   2,400 jobs created
   Regional Shopping Mall, U.S. Postal Service Bulk Mail Center, Postal Bag Repair
   Industrial, Retail

   1,035 civilian jobs lost
   2,133 military jobs lost
   60 jobs created
   Caradoco, Inc.
   Industrial
APPENDIX I: INDIANA

Total amount of defense spending: $2.7 billion, Rank 23
Total DOD payroll: $1 billion, Rank 27
Total amount of prime contracts: $1.7 billion, Rank 19
Overall trend in prime contracts: -31.6%, Rank 15
Vulnerability to defense cuts: Rank 35
Economic impact of coming defense cuts: Rank 13
Defense Dependent Jobs: 141,000, Rank 22
Change in Defense Dependent Jobs in 1990: -6.6%, Rank 24
1991 Unemployment Rate: 5.9%, Rank 31
1991 Unemployment Rate Change: 1.7%, Rank 17
Per Capita Income: $16,864, Rank 32
Population: 5,544,000, Rank 14

Top Five DOD Contractors and Revenues:
General Motors $400.7 million
LTV 297.6
Philips 205.5
Imperial Chemical 79.2
Cummins 66.5

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Indianapolis
2. Mishawaka
3. Fort Wayne: 153, 85, $258.5 million, $28.5 million, $229.9 million, 500
4. Crane
5. South Bend
6. Grissom AFB: 286, 264, $85.6 million, $74.8 million, $10.8 million, 3,200
7. Indiana AAF: 294, 293, $79.2 million, 0, $79.2 million, 0
8. Columbus
9. Garrett
10. Evansville
BRAC 93 JOB IMPACT

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BASE ADAPTIVE REUSE STATISTICS:

   253 civilian jobs lost
   0 military jobs lost
   1,600 jobs created

2. Bakalar Air Force Base in Columbus, 1970-1972
   318 civilian jobs lost
   61 military jobs lost
   525 jobs created
   Columbus Airport, Top of the Line Plastics, Cummins Engine, Indiana/Purdue University Community College, Indiana Vo-Tech, Rhoades Aviation, Flambeau, R&R Woods, Columbus Enterprise Development Center, Sacoma Plastics, Trailer Corporation, Pyramid Plastics
   Aviation, Education, Office, Industrial

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APPENDIX E-16: IOWA

Total amount of defense spending: $0.7 billion, Rank 43
Total DOD payroll: $0.2 billion, Rank 49
Total amount of prime contracts: $0.5 billion, Rank 36
Overall trend in prime contracts: -25.9%, Rank 20
Vulnerability to defense cuts: Rank 51
Economic impact of coming defense cuts: Rank 31
Defense Dependent Jobs: 35,000, Rank 41
Change in Defense Dependent Jobs in 1990: 12.9% Rank 44
1991 Unemployment Rate: 4.7%, Rank 45
1991 Unemployment Rate Change: 0.6%, Rank 32
Per Capita Income: $17,244, Rank 27
Population: 2,777,000, Rank 31

Top Five DOD Contractors and Revenues:
Rockwell $230.9 million
Duchossois Enterprises 91.0
De Mason 35.0
Pirelli 23.3
John Deere 14.2

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Cedar Rapids
2. Waterloo
3. Des Moines
4. Iowa AAP: 362, 303, $36.7 million, 0, $36.7 million, 0
5. Davenport
6. Dubuque
7. Sioux City
8. Johnston
9. Waverly
10. Camp Dodge: 459, 453, $7.6 million, $7.3 million, $0.3 million, 300
APPENDIX I-17: KANSAS

Total amount of defense spending: $1.9 billion, Rank 31
Total DOD payroll: $1 billion, Rank 26
Total amount of prime contracts: $0.9 billion, Rank 28
Overall trend in prime contracts: -33.3%, Rank 14
Vulnerability to defense cuts: RAnk 33
Economic impact of coming defense cuts: Rank 45
Defense Dependent Jobs: 96,000, Rank 31
Change in Defense Dependent Jobs in 1990: -10.3%, Rank 14
1991 Unemployment Rate: 4.7%, Rank 45
1991 Unemployment Rate Change: 1.0%, Rank 26
Per Capita Income: $17,986, Rank 22
Population: 2,478,000, Rank 33

Top Five DOD Contractors and Revenues:
Boeing $340.7 million
McDonnel Douglas 150.7
Hercules 54.3
Raytheon 53.8
Day & Zimmermann 32.1

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Wichita
2. Ft. Riley: 93, 69, $432.8 million, $392.8 million, $40 million, 15,700
3. Ft. Leavenworth: 179, 168, $199.7 million, $150.6 million, $49.1 million, 6,000
4. McDonnell AFB: 241, 260, $121.5 million, $109.9 million, $11.6 million, 4,200
5. Sunflower AAF: 322, 334, $55.5 million, 0, $55.5 million, 0
6. Liberal
7. Overland Park
8. Kansas AAF: 376, no rank, $32.1 million, 0, $32.1 million, 0
9. Leavenworth
10. Topeka
BRAC 93 JOB IMPACT:

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<th>gain</th>
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<td>State's Loss-Gain</td>
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BASE ADAPTIVE REUSE STATISTICS:

   326 civilian jobs lost
   4,710 military jobs lost
   4,256 jobs created
   Salina Airport, Kansas State Salina Aeronautical Center, Beech Aircraft Corp.,
   Tony's Pizza Inc., Kansas State University-Salina, Salina Area Vo-Tech, SP
   Plastics, Scientific Engineering, Kansas Highway Patrol, Kansas Army National
   Guard, KASA Controls, Mid-Kansas Trucking, Schwan's Enterprises, Dynamold,
   Wheat State Carriers, Harbin Construction
   Aviation, Education, Industrial, Office, Transportation

   416 civilian jobs lost
   3,739 military jobs lost
   1,600 jobs created
   Metropolitan Topeka Airport, Topeka Air Industrial Park, Kansas Army
   National Guard, Kansas Air National Guard, State Department of Corrections,
   State Department of Health, Lario Enterprises
   Aviation, Correctional, Industrial, Office, Residential
Total amount of defense spending: $1.6 billion, Rank 32
Total DOD payroll: $1.2 billion, Rank 21
Total amount of prime contracts: $0.4 billion, Rank 39
Overall trend in prime contracts: -14.4%, Rank 28
Vulnerability to defense cuts: Rank 31
Economic impact of coming defense cuts: Rank 21
Defense Dependent Jobs: 88,000, Rank 32
Change in Defense Dependent Jobs in 1990: -6.4%, Rank 26
1991 Unemployment Rate: 7.3%, Rank 13
1991 Unemployment Rate Change: 0.8% Rank 29
Per Capita Income: $14,929, Rank 44
Population: 3,685,000, Rank 24

Top Five DOD Contractors and Revenues:

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<thead>
<tr>
<th>Contractor</th>
<th>Revenues</th>
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<td>E Systems</td>
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<td>Keco Industries</td>
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<tr>
<td>Freeway Truck Sales</td>
<td>17.9</td>
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<tr>
<td>U.S. Department Justice</td>
<td>17.7</td>
</tr>
<tr>
<td>Grasseto &amp; Incisa USA</td>
<td>12.2</td>
</tr>
</tbody>
</table>

Top Ten DOD Sites:

1. Ft. Campbell: 78, 53, $488 million, $452.8 million, $35.2 million, 20,400
2. Ft. Knox: 112, 59, $349.5 million, $278.2 million, $71.3 million, 15,900
3. Lexington
4. Louisville
5. Florence
6. Richmond
7. Radcliff
8. Frankfort
9. Elizabethtown
10. Harlan
Total amount of defense spending: $2.8 billion, Rank 21
Total DOD payroll: $1.2 billion, Rank 20
Total amount of prime contracts: $1.6 billion, Rank 21
Overall trend in prime contracts: -13.1%, Rank 30
Vulnerability to defense cuts: Rank 26
Economic impact of coming defense cuts: Rank 24
Defense Dependent Jobs: 149,000, Rank 21
Change in Defense Dependent Jobs in 1990: -5.1%, Rank 29
1991 Unemployment Rate: 6.3%, Rank 26
1991 Unemployment Rate Change: -2.3%, Rank 52
Per Capita Income: $14,931, Rank 46
Population: 4,220,000, Rank 21

Top Five DOD Contractors and Revenues:
Avondale Industries $468.8 million
Textron 214.6
Bollinger Shipyard 166.8
Thiokol 126.3
Exxon 107.7

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. New Orleans
2. Ft. Polk: 114, 77, $347.2 million, $331.3 million, $16 million, 15,000
3. Bossier City
4. Lockport
5. Baton Rouge
6. Lake Charles
7. Louisiana AAP: 222, 267, $138.8 million, 0, $138.8 million, 0
8. Shreveport
9. England AFB: 283, 275, $86.2 million, $79.7 million, $6.5 million, 3,500
10. Harvey
BRAC 93 JOB IMPACT:

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<th>Location</th>
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<td>NRF Alexandria</td>
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<td>NRC Monroe</td>
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<td><strong>Total</strong></td>
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State's Net Loss-Gain: 73 / 867

BASE ADAPTIVE REUSE STATISTICS:

   252 civilian jobs lost
   3,030 military jobs lost
   2,700 jobs created
   Chennault Industrial Airpark, Fisher Manufacturing, Sowella Technical Institute, Saia Trucking, Chennault Investors, Chennault Rental, Municipal Golf Course, Calcasieu Bus Maintenance, PHI Helicopter, Atlantic & Pacific Aviation, Grumman Corp., All Purpose Roofing, local recreation facilities
   Aviation, Education, Industrial, Office, Recreation, Residential, Transportation

2. New Iberia Naval Air Station in New Iberia, 1965-1966
   85 civilian jobs lost
   1,025 military jobs lost
   1,500 jobs created
   Aviation, Education, Industrial, Office

3. Houma Air Force Station in Houma, 1972
   18 civilian jobs lost
   112 military jobs lost
   1,400 jobs created
   Aviation, Education, Industrial, Office, Transportation

   700 civilian jobs lost
   3,000 military jobs lost
   638 jobs created
   J.B. Hunt, Caretaker Services, Airfield construction activities
   Aviation, Office, Transportation
APPENDIX E-20: MAINE

Total amount of defense spending: $1.5 billion, Rank 34
Total DOD payroll: $0.7 billion, Rank 34
Total amount of prime contracts: $0.8 billion, Rank 30
Overall trend in prime contracts: -8.6%, Rank 36
Vulnerability to defense cuts: Rank 8
Economic impact of coming defense cuts: Rank 19
Defense Dependent Jobs: 79,000, Rank 33
Change in Defense Dependent Jobs in 1990: 58%, Rank 51
1991 Unemployment Rate: 8.5%, Rank 4
1991 Unemployment Rate Change: 3.9%, Rank 4
Per Capita Income: $17,200, Rank 29
Population: 1,228,000, Rank 39

Top Five DOD Contractors and Revenues:
Bath Holding $733.9 million
Duchossois 41.7
Fiber Materials 8.8
Maine Public Service 3.4
Asea Brown Boveri 3.2

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Bath
2. Kittery
3. Brunswick
4. Loring AFB: 273, 247, $97.9 million, $97.3 million, $15.4 million, 3,600
5. Saco
6. Bangor
7. Portland
8. Biddleford
9. Augusta
10. Brunswick NAS: 467, 272, $6.3 million, 0, $6.3 million, 1,600
BRAC 93 JOB IMPACT:

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<th>civ</th>
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</table>

BASE ADAPTIVE REUSE STATISTICS:

268 civilian jobs lost
1,259 military jobs lost
874 jobs created
Aviation, Education, Industrial, Residential

2. Dow Air Force Base in Bangor, 1968
342 civilian jobs lost
5,479 military jobs lost
2,500 jobs created
Bangor International Airport, General Electric, University of Maine, State Department of Human Services, Air National Guard, Army National Guard, Fleet Bank, Irving Oil Co., Bangor Savings Bank, University of Maine System Chancellor’s Office, Federal Express, FAA, Northwest Airline Maintenance, Morrison Custom Management, Cablevision, Hotel Aviation, Education, Industrial, Office, Residential

23 civilian jobs lost
169 military jobs lost
96 jobs created
Charleston Correctional Facility
Correctional

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APPENDIX E-21: MARYLAND

Total amount of defense spending: $7.2 billion, Rank 7
Total DOD payroll: $2.8 billion, Rank 8
Total amount of prime contracts: $4.4 billion, Rank 9
Overall trend in prime contracts: -17.1%, Rank 25
Vulnerability to defense cuts: Rank 11
Economic Impact of Coming Defense Cuts: Rank 9
Defense Dependent Jobs: 396,000, Rank 8
Change in Defense Dependent Jobs: 4.8%, Rank 41
1991 Unemployment Rate: 5.6%, Rank 37
1991 Unemployment Rate Change: 2%, Rank 13
Per Capita Income: $21,864, Rank 6
Population: 4,781,000, Rank 19

Top Five DOD Contractors and Revenues:
Westinghouse $1,284.3 million
Johns Hopkins Univ. 374.8
Allied Signal 198.1
Martin Marietta 186.5
IBM 179.4

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Baltimore
2. Bethesda
3. Aberdeen: 92, 74, $435.6 million, $308.9 million, $126.7 million, 11,600
4. Laurel
5. Andrews AFB: 115, 120, $345.4 million, $297.1 million, $48.2 million, 9,200
6. Annapolis: 119, 121, $333.4 million, $202.8 million, $130.6 million, 8,700
7. Patuxent River: 123, 140, $322.9 million, $204.6 million, $118.4 million, 6,200
8. Cockeysville
9. Ft. Meade: 141, 110, $279.9 million, $251.2 million, $28.7 million, 9,300
10. Silver Spring
BRAC 93 JOB IMPACT:

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<td>NESEC St. Inigoes</td>
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<td>NSWC Annapolis</td>
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State's Net Loss-Gain: 1463 / 1268

BASE ADAPTIVE REUSE STATISTICS:

1. Fort Holabird in Baltimore, 1973-1977
2,805 civilian jobs lost
1,335 military jobs lost
1,870 jobs created

Total amount of defense spending: $9.1 billion, Rank 5
Total DOD payroll: $0.9 billion, Rank 28
Total amount of prime contracts: $8.2 billion, Rank 3
Overall trend in prime contracts: -15.4%, Rank 26
Vulnerability to defense cuts: Rank 5
Economic impact of coming defense cuts: Rank 7
Defense Dependent Jobs: 551,000, Rank 4
Change in Defense Dependent Jobs in 1990: -9.8%, Rank 16
1991 Unemployment Rate: 8.3%, Rank 5
1991 Unemployment Rate Change: 4.6%, Rank 1
Per Capita Income: $22,642, Rank 4
Population: 6,016,000, Rank 13

Top Five DOD Contractors and Revenues:
- Ratheon: $3,026.5 million
- General Electric: 1,407.1
- GTE: 1,052.4
- MIT: 460.1
- Mitre: 407.4

Top Ten DOD Sites:
1. Taunton
2. Lynn
3. Wayland
4. Bedford
5. Andover
6. Lexington
7. Pittsfield
8. Lowell
9. Marlborough
10. Cambridge
BRAC 93 JOB IMPACT:

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<tr>
<th>Location</th>
<th>Loss</th>
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<th>Gain</th>
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<td>Naval Reserve Ctr. New Bedford</td>
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<tr>
<td>Naval Reserve Ctr. Pittsfield</td>
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<td><strong>Total</strong></td>
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State's Net Loss-Gain: 669 / 182

BASE ADAPTIVE REUSE STATISTICS:

   2,306 civilian jobs lost
   17 military jobs lost
   1,360 jobs created
   Arsenal Mall, Lifeline Systems Inc., Arsenal Condominiums, Arsenal Apartments, Harvard Community Health Plan, Arsenal Park
   Health, Industrial, Recreation, Residential, Retail

   2,400 civilian jobs lost
   20 military jobs lost
   3,000 jobs created
   Springboard Technology Corporation, Smith and Wesson, Hano Business Forms, Springfield Technical Community College, Springfield Armory national Historical Site
   Education, Industrial, Recreation

   Job statistic included with Shipyard
   Educational, Industrial, Office

4. Boston Shipyard in Charlestown, 1974-1979
   5,552 civilian jobs lost
   553 military jobs lost
   3,500 jobs created
   Health, Industrial, Marina, Office, Recreation, Residential
5. Chelsea Naval Hospital in Chelsea, 1974-1979
326 civilian jobs lost
462 military jobs lost
130 jobs created
Boston Architectural Team, DMC Energy Inc., First New England Consortium,
Admiral's Hill Development, Marina
Commercial, Office, Recreation, Residential

4,014 military jobs lost
2,691 jobs created
Cove Management Inc., Gretag Imaging, Heritage Bank for Savings Operations
Center, IMO Industries Inc., Kraft, Ludlow Technical Papers, Sundor Brands
Inc., Sweeney Transportation, United Liquors West, City Stamp Works Inc.,
Kleeberg Sheet Metal, Mass. Municipal Wholesale Electric Co., Rehabilitation
Institute of Western Massachusetts, Avery-Dennison, Golf Course
Industrial, Office, Recreation
APPENDIX E-23: MICHIGAN

Total amount of defense spending: $2.2 billion, Rank 27
Total DOD payroll: $0.8 billion, Rank 32
Total amount of prime contracts: $1.4 billion, Rank 23
Overall trend in prime contracts: -34.4%, Rank 11
Vulnerability to defense cuts: Rank 28
Economic impact of coming defense cuts: Rank 11
Defense Dependent Jobs: 116,000, Rank 26
Change in Defense Dependent Jobs in 1990: -1.7%, Rank 32
1991 Unemployment Rate: 9.7%, Rank 2
1991 Unemployment Rate Change: 3.5%, Rank 6
Per Capita Income: $18,346, Rank 21
Population: 9,295,000, Rank 8

Top Five DOD Contractors and Revenues:
General Dynamics $ 553.4 million
Smiths Industries 60.7
Oldenburg Group 27.1
Textron 26.7
A.V. Technology 25.8

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Sterling Heights
2. Warren
3. Troy
4. Grand Rapids
5. Sawyer AFB: 270, 263, $98 million, $84.3 million, $13.7 million, 3,700
6. Wurtsmith AFB: 278, 268, $91.5 million, $78.3 million, $13.2 million, 3,500
7. Battle Creek
8. Selfridge
9. Detroit
10. Ann Arbor
BRAC 93 JOB IMPACT:

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<td>K.I. Sawyer AFB</td>
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<td>Naval Air Facility Detriot</td>
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BASE ADAPTIVE REUSE STATISTICS:

   737 civilian jobs lost
   3,074 military jobs lost
   2,300 jobs created
   Chippewa County International Airport, Five different correctional facilities,
   Olofson Fabrication Services Inc., Eclipse Inc., American Kinross Corp.,
   Forestply Industries, American Fabricators, Phoenix Accu-Drive, Woodside
   residential development
   Aviation, Correctional, Industrial, Residential

   705 civilian jobs lost
   2,903 military jobs lost
   106 jobs created
   American International Airways, Oscoda Plastics, Pathway to Learning
   Aviation, Education, Industrial
Total amount of defense spending: $2.1 billion, Rank 29
Total DOD payroll: $0.4 billion, Rank 41
Total amount of prime contracts: $1.7 billion, Rank 18
Overall trend in prime contracts: -35.1%, Rank 10
Vulnerability to defense cuts: Rank 47
Economic impact of coming defense cuts: Rank 22
Defense Dependent Jobs: 118,000, Rank 25
Change in Defense Dependent Jobs in 1990: -5.6%, Rank 28
1991 Unemployment Rate: 5%, Rank 44
1991 Unemployment Rate Change: 0.1%, Rank 37
Per Capita Income: $18,346, Rank 21
Population: 4,375,000, Rank 20

Top Five DOD Contractors and Revenues:
Honeywell $830.8 million
Unisys 231.2
FMC 201.7
Control Data 186.0
Grand Metropolitan 20.8

Top Ten DOD Sites
1. Minneapolis
2. St. Paul
3. Hopkins
4. Brooklyn Park
5. New Brighton
6. Minnetonka
7. Twin Cities
8 Eagan
9. Duluth
10. Taconite

BRAC 93 JOB IMPACT:

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<tr>
<th></th>
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<td>State’s Net Loss-Gain</td>
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BASE ADAPTIVE REUSE STATISTICS:

   15 civilian jobs lost
   130 military jobs lost
   22 jobs created
   Bell Hill Recovery Center
   Health

   30 civilian jobs lost
   100 military jobs lost
   25 jobs created
   Rapid River Grain & Seed Inc., Rio Corporation, Hudson Bay Spruce Co., Bosch Corporation
   Industrial, Residential

3. Duluth Air Force Base in Duluth, 1982-1984
   446 civilian jobs lost
   1,040 military jobs lost
   148 jobs created
   Duluth International Airport, Duluth Federal Prison Camp, Plating Specialists, Firelite Grills, Air National Guard, Natural Resources Research Institute, University of Minnesota, Aspenwood Industrial, Residential
APPENDIX E-25: MISSISSIPPI

Total amount of defense spending: $2.5 billion, Rank 25
Total DOD payroll: $1.1 billion, Rank 24
Total amount of prime contracts: $1.4 billion, Rank 22
Overall trend in prime contracts: -12.8%, Rank 31
Vulnerability to defense cuts: Rank 4
Economic impact of coming defense cuts: Rank 37
Defense Dependent Jobs: 127,000, Rank 23
Change in Defense Dependent Jobs: 3.3%, Rank 40
1991 Unemployment Rate: 7.9%, Rank 7
1991 Unemployment Rate Change: 0.3%, Rank 36
Per Capita Income: $12,735, Rank 51
Populations: 2,573,000, Rank 32

Top Five DOD Contractors and Revenues:
Litton Industries $911.2 million
Raytheon 112.3
Avondale 72.7
Gumman 40.2
De Mason 31.4

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Pascagoula
2. Biloxi
3. Gulfport: 171, 192, $214 million, $133.2 million, $80.8 million, 1,700
4. Vicksburg
5. Bay St. Louis: 256, 313, $108.1 million, $63 million, $45.1 million, 1,600
6. Madison
7. Columbus AFB: 291, 296, $82.5 million, $51.7 million, $30.8 million, 2,100
8. Meridian
9. Jackson
10. Picayune
BRAC 93 JOB IMPACT:

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<th>Location</th>
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<td>State's Net Loss-Gain</td>
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BASE ADAPTIVE REUSE STATISTICS:

   - 242 civilian jobs lost
   - 2,048 military jobs lost
   - 325 jobs created

Greenville Municipal Airport, Drug and Alcohol Center, Washington Issaguena community Action Agency, Southern Fasteners, AGAC, Head Start Schools, Jake's Recon, General Aviation Services

Aviation, Education, Industrial, Office, Residential
APPENDIX E-26: MISSOURI

Total amount of defense spending: $7.2 billion, Rank 8
Total DOD payroll: $1.1 billion, Rank 22
Total amount of prime contracts: $6.1 billion, Rank 6
Overall trend in prime contracts: -9.0%, Rank 34
Vulnerability to defense cuts: Rank 6
Economic impact of coming defense cuts: Rank 1
Defense Dependent Jobs: 439,000, Rank 7
Change in Defense Dependent Jobs in 1990: -8.0%, Rank 21
1991 Unemployment Rate: 6.0%, Rank 30
1991 Unemployment Rate Change: 0.9%, Rank 27
Per Capita Income: $17,497, Rank 24
Population: 5,117,000, Rank 15

Top Five DOD Contractors and Revenues:
McDonnel Douglas $4,635.3 million
McDonnell/General Dynamic JV 555.0
Olin 170.3
Emerson 123.0
Light Helicopter Turbine Engine 49.1

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. St. Louis
2. Ft. Leonard Wood: 128, 81, $307.9 million, $ 257.7 million, $50.2 million, 12,500
3. Lake City
4. Kansas City
5. Whiteman AFB: 243, 205, $117.8 million, $79.6 million, $38.1 million, 3,600
6. St. Charles
7. West Plaines
8. Olivette
9. Springfield
10. Jefferson City
BRAC 93 JOB IMPACT:

<table>
<thead>
<tr>
<th></th>
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State’s Net Loss-Gain 5670 150

BASE ADAPTIVE REUSE STATISTICS:

   1,200 civilian jobs lost
   0 military jobs lost
   3,500 jobs created
   Airport Neosho, Lazy Boy Chair Co., Talbot Wire, Crowder Industry, Moark Production, Sunbeam Leisure Products, Crowder College, Nursing Home, Church, Longwell Museum, Sabreliner Aviation, Education, Health, Industrial, Museum, Religious

   1,500 civilian jobs lost
   2,400 military jobs lost
   475 jobs created
APPENDIX F-27: MONTANA

Total amount of defense spending: $0.3 billion, Rank 50
Total DOD payroll: $0.2 billion, Rank 48
Total amount of prime contracts: $0.07 billion, Rank 44
Overall trend in prime contracts: -33.8%, Rank 12
Vulnerability to defense cuts: Rank 32
Economic impact of coming defense cuts: Rank 48
Defense Dependent Jobs: 12,000, Rank 49
Change in Defense Dependent Jobs in 1990: -7.7%, Rank 22
1991 Unemployment Rate: 6.7%, Rank 22
1991 Unemployment Rate Change: 0.9%, Rank 27
Per Capita Income: $15,110, Rank 42
Population: 799,000, Rank 45

Top Five DOD Contractors and Revenues:
A&S Tribal Industries $12.6 million
Montana Refining 11.2
Brinderson 5.6
Turner Engineering 3.7
Slish Ktnai Tribes 2.8

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Malmstrom AFB: 231, 228, $133.4 million, $106.6 million, $26.8 million, 4,600
2. Great Falls
3. Helena
4. Poplar
5. Billings
6. Missoula
7. Bozeman
8. Ft. Peck: 483, not rated, $4.5 million, $1 million, $3.5 million, 40
9. Stevensville
10. Butte
BRAC 93 JOB IMPACT:

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<td><strong>State’s Net Loss-Gain</strong></td>
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BASE ADAPTIVE REUSE STATISTICS:

   309 civilian jobs lost
   3,500 military jobs lost
   55 jobs created
   Montana Aviation Research Company, St. Marie Montana Military Retirement Community

2. Lewistown Air Force Station in Lewistown, 1971-1974
   27 civilian jobs lost
   163 military jobs lost
   no jobs created

3. Anti-Ballistic Missile Site in Conrad, 1972-1975
   153 civilian jobs lost
   20 military job lost
   50 jobs created
   Cascade Campers Ltd., Intercontinental Truck Body, MK Distributing, Tiber Water Authority
   Industrial, Office
APPENDIX E-28: NEBRASKA

Total amount of defense spending: $0.9 billion, Rank 39
Total DOD payroll: $0.7 billion, Rank 36
Total amount of prime contracts: $0.2 billion, Rank 43
Overall trend in prime contracts: -15.3%, Rank 27
Vulnerability to defense cuts: Rank 52
Economic impact of coming defense cuts: Rank 49
Defense Dependent Jobs: 38,000, Rank 39
Change in Defense Dependent Jobs in 1990: -2.6%, Rank 30
1991 Unemployment Rate: 2.4%, Rank 51
1991 Unemployment Rate Change: -0.6%, Rank 47
Per Capita Income: $17,221, Rank 28
Population: 1,578,000, Rank 37

Top Five DOD Contractors and Revenues:
Aksarben Foods $30.2 million
Unisys 20.4
Harris 19.8
Sterling Software 16.7
Omega Group 11.9

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Offutt AFB: 71, 87, $505.6 million, $398.6 million, $106.9 million, 13,800
2. Omaha
3. Bellevue
4. Lincoln
5. Emerson
6. Gering
7. Hastings
8. Dakota City
9. Grand Island
10. Columbus
BASE ADAPTIVE REUSE STATISTICS:

1. Hastings Naval Ammunition Depot in Hastings, 1966
   240 civilian jobs lost
   10 military jobs lost
   1,150 jobs created
   Hastings Industries, TI, Irrigation, Animal Research Center, Hastings Pork,
   Good Samaritan Retirement Center, Central Nebraska Community College,
   Hastings Energy Center
   Agriculture, Education, health, Industrial

2. Lincoln Air Force Base in Lincoln, 1966
   396 civilian jobs lost
   6,383 military jobs lost
   4,000 jobs created
   Goodyear Tire, Brunswick Corp., Tri Con Industries, Land and Sky Inc.,
   Yasufuku Inc., Heinke Technology, Boomers Printers, Nebraska Litho,
   Valentino’s Inc., Department of Corrections minimum Security, Municipal
   Airport, Duncun Aviation, Burlington Northern Railroad, American Sleep
   Research, GT Exhausts, Bio Nebraska Inc., Golf Course, Brown’s Best Foods,
   Rosens, Lincoln Organ
   Aviation, Correctional, Health, Industrial, Office, Recreation, Transportation

   585 civilian jobs lost
   2 military jobs lost
   850 jobs created
   Western Nebraska Community College, Glover Group, Cabela’s Mail Order,
   Scoular Grain Co.
   Education, Industrial

4. Fort Omaha in Omaha, 1975-1976
   49 civilian jobs lost
   56 military jobs lost
   270 jobs created
   Metropolitan Community College
   Education
APPENDIX E-29: NEVADA

Total amount of defense spending: $0.7 billion, Rank 41
Total DOD payroll: $0.5 billion, Rank 37
Total amount of prime contracts: $0.2 billion, Rank 45
Overall trend in prime contracts: -29.2%, Rank 17
Vulnerability to defense cuts: Rank 41
Economic impact of coming defense cuts: Rank 26
Defense Dependent Jobs: 27,000, Rank 44
Change in Defense Dependent Jobs in 1990: -12.9%, Rank 10
1991 Unemployment Rate: 5.9%, Rank 31
1991 Unemployment Rate Change: 1.1%, Rank 24
Per Capita Income: $19,416, Rank 14
Population: 1,202,000, Rank 40

Top Five DOD Contractors and Revenues:

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<th>Contractor</th>
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<td>Ford</td>
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<td>Day &amp; Zimm./Basil JV</td>
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<td>Worldcorp</td>
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<td>Lockheed</td>
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<td>Day &amp; Zimmerman</td>
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Top Ten DOD Sites:

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<th>1990 Rank</th>
<th>1989 Rank</th>
<th>Total DOD Revenues</th>
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<th>DOD Prime Contracts</th>
<th>Personnel</th>
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<td>Nellis AFB</td>
<td>125</td>
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<td>$318.4 million</td>
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BRAC 93 JOB IMPACT:

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<td>State's Net Loss-Gain</td>
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BASE ADAPTIVE REUSE STATISTICS:

   - 519 civilian jobs lost
   - 2,133 military jobs lost
   - 3,000 jobs created

Reno Stead Airport, Sierra Sage Golf Course, Job Corps Center, JC Penny Distribution Center, Precision Roll Products, University of Nevada Research Institute, R.R. Donnelly & Sons, Daimler Benz/Freight Liner, Hidden Valley Ranch Foods Products, B-Line, American Hotel Register, Plexco-Spirolite, Michelin Tire, Kirsch Aviation, Education, Industrial, Recreation
APPENDIX E-30: NEW HAMPSHIRE

Total amount of defense spending: $0.7 billion, Rank 44
Total DOD payroll: $0.3 billion, Rank 45
Total amount of prime contracts: $0.4 billion, Rank 40
Overall trend in prime contracts: -25.0%, Rank 21
Vulnerability to defense cuts: Rank 29
Economic impact of coming defense cuts: Rank 4
Defense Dependent Jobs: 30,000, Rank 42
Change in Defense Dependent Jobs in 1990: -23.1%, Rank 4
1991 Unemployment Rate: 7.1%, Rank 16
1991 Unemployment Rate Change: 3.9%, Rank 4
Per Capita Income: $20,789, Rank 9
Population: 1,109,000, Rank 41

Top Five DOD Contractors and Revenues:
Lockheed $168.5 million
Sequa 31.9
Tricil Environmental 29.3
Sanders/General Electric JV 24.9
Sanders/AEL JV 20.9

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Nashua
2. Pease AFB: 259, 254, $107.6 million, $89.3 million, $18.3 million, 2,400
3. Portsmouth
4. Merrimack
5. Hudson
6. Manchester
7. Salem
8. Dover
9. Concord
10. Bedford
BRAC 93 JOB IMPACT:  

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BASE ADAPTIVE REUSE STATISTICS:

   138 civilian jobs lost  
   320 military jobs lost  
   2,200 jobs created  
   Manchester Airport, Sanders Associates, Freudenberg North America, Summit Packaging, Armtec Industries  
   Aviation, Industrial

   1,169 civilian jobs lost  
   3,697 military jobs lost  
   1,406 jobs created  
   Pease International Airport, U.S. Department of State — VISA/Passport Center, Celltech, Business Express, Parker Ryan, Stanley Assoc., Atlantic Coast Air, U.S. Navy, Pease Development Authority, New Hampshire National Guard, Golf Course, Wildlife Refuge  
   Aviation, Conservation, Office, Recreation

B. Wortham — Page 175
APPENDIX 1-31: NEW JERSEY

Total amount of defense spending: $5.4 billion, Rank 10
Total DOD payroll: $1.7 billion, Rank 18
Total amount of prime contracts: $3.7 billion, Rank 11
Overall trend in prime contracts: 1.0%, Rank 41
Vulnerability to defense cuts: Rank 34
Economic impact of coming defense cuts: Rank 23
Defense Dependent Jobs: 301,000, Rank 10
Change in Defense Dependent Jobs n 1990: 6.0% Rank 42
1991 Unemployment Rate: 6.1%, Rank 29
1991 Unemployment Rate Change: 2.6%, Rank 9
Per Capita Income: $24,968, Rank 2
Population: 7,730,000, Rank 9

Top Five DOD Contractors and Revenues:
General Electric $826.5 million
ITT 419.7
General Electric PLC 134.0
Astronautics 130.2
Allied Signal 119.5

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Moorestown
2. Nutley
3. Oceanport
4. Fort Dix: 142, 99, $277.3 million, $247.3 million, $30 million, 9,500
5. Picatinny Arsenal: 156, 166, $249.5 million, $203.1 million, $46.4 million, 5,200
6. Madison
7. Little Falls
8. McGuire AFB: 199, 198, $172.5 million, $153.4 million, $19.1 million, 6,300
9. Princeton
10. Wayne

B. Wortham — Page 176
BRAC 93 JOB IMPACT:

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State’s Net Loss-Gain 3657 2907

BASE ADAPTIVE REUSE STATISTICS:

578 civilian jobs lost
426 military jobs lost
3,800 jobs created
Middlesex County Job Corps Center, Rutgers University, Livingston College,
Piscataway Vo Tech School, Sutton Kilmer Industrial Park, Middlesex County Vo
Tech School, Continental Can, Spaulding, American Leather Products,
Childcraft, Lightolier Co.
Education, Industrial

2. Raritan Arsenal in Edison, 1964-1965
2,610 civilian jobs lost
8 military jobs lost
13,100 jobs created
RCA, RH Macy, BF Goodrich, Nestle, GSA Depot, United Parcel Service, Grant
Liquor, Michelin Tires, Hotels, Middlesex Community College
Education, Industrial, Office

520 civilian jobs lost
10 military jobs lost
400 jobs created
Canon USA, Uniscore, Robyn Merideth Inc., Duplifax, Mothers Kitchens Inc.
Industrial, Office

4. NIKE Site 25 in Lumberton, 1974-1976
94 civilian jobs lost
0 military jobs lost
75 jobs created
Lumberton Township Municipal Offices, Midway School for Learning
Disabilities, Lumberton Board of Education
Education, Office
APPENDIX E-32: NEW MEXICO

Total amount of defense spending: $1.6 billion, Rank 33
Total DOD payroll: $0.9 billion, Rank 29
Total amount of prime contracts: $0.7 billion, Rank 32
Overall trend in prime contracts: 3.5%, Rank 42
Vulnerability to defense cuts: Rank 12
Economic impact of coming defense cuts: Rank 18
Defense Dependent Jobs: 78,000, Rank 34
Change in Defense Dependent Jobs in 1990: 2.6%, Rank 39
1991 Unemployment Rate: 7.6%, Rank 8
1991 Unemployment Rate Change: 0.6%, Rank 32
Per Capita Income: $14,228, Rank 47
Population: 1,515,000, Rank 38

Top Five DOD Contractors and Revenues:
Dyncorp $88.3 million
Honeywell 81.0
General Electric 28.9
Ford 27.4
State of New Mexico 25.0

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Albuquerque
2. White Sands
3. Kirtland AFB: 139, 125, $285 million, $203.8 million, $81.1 million, 6,900
4. Holloman AFB: 175, 190, $209.6 million, $150.7 million, $58.9 million, 5,800
5. Cannon AFB: 232, 269, $131.4 million, $94 million, $37.4 million, 4,500
6. Alamogordo
7. Las Cruces
8. Sante Fe
9. Sandia
10. Gallup
BASE ADAPTIVE REUSE STATISTICS:

1. Walker Air Force Base in Roswell, 1967
   379 civilian jobs lost
   4,900 military jobs lost
   3,800 jobs created
Roswell Industrial Air Center, Job Corps Center, Transportation Manufacturing Corporation, Christmas By Kreb's Co., Eastern New Mexico University, Longhorn Manufacturing Corporation, Army National Guard, American Seating, Aero-tech, renown Aviation, New Mexico Highway Training, International Products, Japan Airlines Training Center, Great SW Aviation, Collective Elegancy Aviation, Education, Industrial
Total amount of defense spending: $8.6 billion, Rank 6
Total DOD payroll: $1.8 billion, Rank 17
Total amount of prime contracts: $6.8 billion, Rank 5
Overall trend in prime contracts: -36.1%, Rank 9
Vulnerability to defense cuts: Rank 42
Economic impact of coming defense cuts: Rank 6
Defense Dependent Jobs: 502,000, Rank 5
Change in Defense Dependent Jobs in 1990: -0.2%, Rank 33
1991 Unemployment Rate: 7.3%, Rank 13
1991 Unemployment Rate Change: 1.7%, Rank 17
Per Capita Income: $21,975, Rank 5
Population: 17,990,000, Rank 2

Top Five DOD Contractors and Revenues:
Grumman $2,491.9 million
General Electric 985.3
Unisys 478.0
IBM 449.3
International Marine Carriers 190.9

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Bethpage
2. New York
3. Syracuse
4. Great Neck
5. Oswego
6. Ft. Drum: 127, 114, $316.8 million, $290 million, $26.8 million, 11,300
7. Schenectady
8. West Point: 152, 144, $258.6 million, $231.7 million, $26.9 million, 8,500
9. Rome
10. Mineola
BRAC 93 JOB IMPACT:

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BASE ADAPTIVE REUSE STATISTICS:

484 civilian jobs lost
15 military jobs lost
600 jobs created
Industrial, Office

1,000 civilian jobs lost
20 military jobs lost
300 jobs created
Scott Paper, Proctor & Gamble, Chrysler Car Distribution, Agway Feeds, State of New York, CP Rail, Honda, Distribution Unlimited Inc.
Industrial, Transportation

1,011 civilian jobs lost
2,700 military jobs lost
1,800 jobs created
Stewart International Airport, Anheuser-Busch, Atlantic Coast Maintenance, US Postal Service Regional Mail Facility, USDA Animal Import Center, New York Department of Transportation, Air National Guard, Army Reserve, Marines, Airborne Express, Federal Express
Aviation, Industrial, Office

4. Army Pictorial Center in New York City, 1970-1972
388 civilian jobs lost
64 military jobs lost
1,150 jobs created
American Museum of the Moving Image, Kaufman Astoria Studios, Lifetime Television, Equitable Bag, WSAN Radio Station, Master Sound Astoria Studios Commercial, Museum, Office
5. St. Albans Naval Hospital in New York City, 1974
386 civilian jobs lost
517 military jobs lost
1,000 jobs created
Veterans Administration Hospital, Roy Wilkins Park
Health, Recreation

336 civilian jobs lost
54 military jobs lost
3,000 jobs created
Salomon Brothers, Smith Barney, US Balloon, Complete Mailing Services, Decor
Home Fashion, FAMCO Inc.
Industries, Office

24 civilian jobs lost
114 military jobs lost
410 jobs created
Watertown Correctional Facility
Correctional
APPENDIX 1-34: NORTH CAROLINA

Total amount of defense spending: $4.2 billion, Rank 17
Total DOD payroll: $3 billion, Rank 6
Total amount of prime contracts: $1.2 billion, Rank 25
Overall trend in prime contracts: -12.0%, Rank 32
Vulnerability to defense cuts: Rank 40
Economic impact of coming defense cuts: Rank 39
Defense Dependent Jobs: 190,000, Rank 18
Change in Defense Dependent Jobs in 1990: -10.0%, Rank 15
1991 Unemployment Rate: 5.6%, Rank 37
1991 Unemployment Rate change: 1.5%, Rank 20
Per Capita Income: $16,203, Rank 36
Population: 6,629,000, Rank 10

Top Five DOD Contractors and Revenues:
AT&T $491.5 million
KKR Associates 30.0
Hoechst 27.1
Car Power & Light 27.0
Exide Eletronics 26.5

Top Ten DOD Sites:

1. Ft. Bragg: 34, 20, $924.7 million, $830 million, $94.7 million, 36,300
2. Camp Lejeune: 52, 47, $724.9 million, $688.5 million, $36.5 million, 20,300
3. Greensboro
4. Cherry Point: 106, 103, $377.4 million, $330.2 million, $47.3 million, 12,000
5. Jacksonville
6. Fayetteville
7. S. Johnson AFB: 230, 227, $134.4 million, $119.9 million, $14.5 million, 5,200
8. Pope AFB: 257, not ranked, $107.8 million, $102.3 million, $5.5 million, 4,100
9. Raleigh
10. Burlington
BRAC 93 JOB IMPACT:

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<th>gain</th>
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<td>State's Net loss-Gain</td>
<td></td>
<td></td>
<td>3882</td>
<td>1571</td>
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</table>

BASE ADAPTIVE REUSE STATISTICS:

   4 civilian jobs lost
   96 military jobs lost
   400 jobs created
New Hanover International Airport, US Air, Applied Analytical Industries, Air
Wilmington Inc., Signa Tech Inc., North Carolina Army National Guard,
National Weather Service, DHL, Aeronautic Inc., Airborne Express
Aviation, Industrial
APPENDIX E-35: NORTH DAKOTA

Total amount of defense spending: $0.4 billion, Rank 45
Total DOD payroll: $0.3 billion, Rank 42
Total amount of prime contracts: $0.1 billion, Rank 46
Overall trend in prime contracts: -43.6%, Rank 6
Vulnerability to defense cuts: Rank 44
Economic impact of coming defense cuts: Rank 46
Defense Dependent Jobs: 22,000, Rank 45
Change in Defense Dependent Jobs in 1990: -8.8%, Rank 18
1991 Unemployment Rate: 3.7%, Rank 49
1991 Unemployment Rate Change: -0.5%, Rank 45
Per Capita Income: $15,255, Rank 40
Population: 639,000, Rank 48

Top Five DOD Contractors and Revenues:
Turtle Management       $24.4 million
Black & Decker           5.2
Devils Lake Sioux Tribe  4.9
Nodak Rural Electric    4.4
Dakota Tribal Industries 4.3

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Minot AFB: 217, 221, $145.1 million, $124.1 million, $21.1 million, 5,700
2. Grand Forks AFB: 226, 220, $137.9 million, $117.7 million, $20.2 million, 5,300
3. Fargo
4. Belcourt
5. Bismarck
6. Ft. Totten
7. Grand Forks
8. Minot
9. Cavalier
10. Jamestown
BRAC 93 JOB IMPACT:

State's Net Loss-Gain

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<tr>
<th>loss</th>
<th>mil / civ</th>
<th>gain</th>
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<tr>
<td></td>
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<td>13</td>
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APPENDIX E-36: OHIO

Total amount of defense spending: $6.4 billion, Rank 9
Total DOD payroll: $2 billion, Rank 11
Total amount of prime contracts: $4.4 billion, Rank 8
Overall trend in prime contracts: -13.3%, Rank 29
Vulnerability to defense cuts: Rank 30
Economic impact of coming defense cuts: Rank 8
Defense Dependent Jobs: 355,000, Rank 9
Change in Defense Dependent Jobs in 1990: -14.0%, Rank 8
1991 Unemployment Rate: 7.1%, Rank 16
1991 Unemployment Rate Change: 2.1%, Rank 11
Per capita Income: $17,473, Rank 25
Population: 10,847,000, Rank 7

Top Five DOD Contractors and Revenues:
General Electric $1,490.1 million
General Dynamics 444.1
CFM International 318.6
Westinghouse 276.6
Loral 173.1

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Cincinnati
2. Wright Patterson AFB: 21, 27, $1,225.6 million, $905 million, $320.7 million, 26,000
3. Cleveland
4. Dayton
5. Akron
6. Lima Tank Center
7. Columbus
8. Lima
9. Whitehall
10. Newark
### BRAC 93 JOB IMPACT:

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<tr>
<th>Location</th>
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<td>NRCREC REG 5 Ravenna</td>
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<td>136</td>
<td>1,392</td>
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### BASE ADAPTIVE REUSE STATISTICS:

1. Rossford Arsenal in Toledo, 1963-1965
   - 1,654 civilian jobs lost
   - 52 military jobs lost
   - 4,000 jobs created
   - Ampoint, Toledo Mold, Temp Glass, Glass Tech Inc., Ace Hardware Distribution Center, JC Baxter Tube Co., Toyota Redistribution Center, Commercial Aluminum Cookware, Michael J. Owens Technical College, Penta County Vocational School Education, Industrial

2. Erie Ordnance Depot in Port Clinton, 1966-1967
   - 1,885 civilian jobs lost
   - 35 military jobs lost
   - 1,400 jobs created

   - 27 civilian jobs lost
   - 136 military jobs lost
   - 115 jobs created
   - Ohio Hi-Point Joint Vocational School Education

4. Clinton County Air Force Base in Wilmington, 1971-1973
   - 613 civilian jobs lost
   - 66 military jobs lost
   - 6,000 jobs created
5. Rickenbacker Air Force Base in Columbus, 1978-1984
380 civilian jobs lost
1,700 military jobs lost
2,282 jobs created
Rickenbacker International Airport, Federal Express, Lockheed, Aviation Technologies, Siemans, Rickenbacker Aviation Center, Hy-tek Material Handling Inc., Ohio Distribution Warehousing, Navy and Army Reserves, Army Guard, Air National Guard, Golf Course Aviation, Industrial, Office, Recreation
APPENDIX E: OKLAHOMA

Total amount of defense spending: $2.4 billion, Rank 26
Total DOD payroll: $1.8 billion, Rank 16
Total amount of prime contracts: $0.6 billion, Rank 33
Overall trend in prime contracts: -8.0%, Rank 37
Vulnerability to defense cuts: Rank 24
Economic impact of coming defense cuts: Rank 35
Defense Dependent Jobs: 113,000, Rank 28
Change in Defense Dependent Jobs: -6.6%, Rank 24
1991 Unemployment Rate: 6.2%, Rank 28
1991 Unemployment Rate Change: 0.5%, Rank 34
Per Capita Income: $15,444, Rank 39
Population: 3,146,000, Rank 29

Top Five DOD Contractors and Revenues:
McDonnel Douglas $72.9 million
Barrett Refining 72.4
Northrop 58.7
Blount 48.4
Centex 42.5

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD
prime contracts, personnel]
1. Oklahoma City
2. Ft. Sill: 66, 66, $579.5 million, $486.1 million, $93.3 million, 17,000
3. Tulsa
4. Altus AFB: 261, 258, $106.5 million, $99.4 million, $7.1 million, 3,800
5. Vance AFB: 284, 287, $86 million, $40.5 million, $45.6 million, 1,400
6. Norman
7. Thomas
8. Lawton
9. Midwest City
10. Stillwater
BRAC 93 JOB IMPACT:

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<th></th>
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<td>State's Net Loss-Gain</td>
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<td>16</td>
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<td></td>
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BASE ADAPTIVE REUSE STATISTICS:

   381 civilian jobs lost
   1,700 military jobs lost
   400 jobs created

Clinton-Sherman Municipal Airport, Haliburton Services, Jamesville Products, Western Oklahoma Vocational Center, Western Fabricators Co., Alltel Telephone Co., Southwestern Oklahoma Development Authority, Cleek Aviation, Lear Seigler, Housing
Aviation, Education, Industrial, Office, Residential
APPENDIX E-38: OREGON

Total amount of defense spending: $0.8 billion, Rank 40
Total DOD payroll: $0.4 billion, Rank 38
Total amount of prime contracts: $0.4 billion, Rank 41
Overall trend in prime contracts: 14.6%, Rank 48
Vulnerability to defense cuts: Rank 46
Economic impact of coming defense cuts: Rank 34
Defense Dependent Jobs: 30,000, Rank 42
Change in Defense Dependent Jobs in 1990: 66.7%, Rank 52
1991 Unemployment Rate: 5.9%, Rank 31
1991 Unemployment Rate Change: 0.0%, Rank 38
Per Capita Income: $17,156, Rank 30
Population: 2,842,000, Rank 30

Top Five DOD Contractors and Revenues:
- Forstmann Little: $47.6 million
- Daimler-Benz: 32.6
- Kiewit & Johnson JV: 27.0
- STC Submarine Systems: 21.4

Top Ten DOD Sites:
1. Portland
2. Grants Pass
3. Beaverton
4. Cascade Locks
5. Salem
6. McMinnville
7. Albany
8. Clackamas
9. Astoria
10. Eugene
BASE ADAPTIVE REUSE STATISTICS:

   180 Civilian jobs lost
   864 military jobs lost
   100 jobs created

Oregon, SW Washington, Utah & Southern Idaho Laborers Training Trust,
Oregon Fisher & Wildlife Services, E.E. Wilson Wildlife Area, Santiam Christian
High School, Heritage Elementary School, Adair Village Housing, Williamette
Carpenters' Training
Education, Office, Residential, Conservation
APPENDIX E-39: PENNSYLVANIA

Total amount of defense spending: $5.3 billion, Rank 12
Total DOD payroll: $2.4 billion, Rank 10
Total amount of prime contracts: $2.9 billion, Rank 14
Overall trend in prime contracts: -33.7%, Rank 13
Vulnerability to defense cuts: Rank 36
Economic impact of coming defense cuts: Rank 20
Defense Dependent Jobs: 280,000, Rank 12
Change in Defense Dependent Jobs in 1990: -2.4%, Rank 31

1991 Unemployment Rate: 6.8%, Rank 21
1991 Unemployment Rate Change: 2.8%, Rank 8
Per Capita Income: $18,672, Rank 19
Population: 11,882,000, Rank 5

Top Five DOD Contractors and Revenues:
Westinghouse $432.4 million
Boeing 372.7
General Electric 240.5
Harsco 141.4
Boeing/Sikorsky JV 103.9

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD
prime contracts, personnel]

1. Philadelphia (Navy): 15, 17, $1,699.4 million, $893.4 million, $806 million,
   25,600
2. West Mifflin
3. Mechanicsburg (Navy) 158, 148, $245.8 million, $227.4 million, $18.3 million,
   7,100
4. Pittsburgh
5. York
6. Wilkins Township
7. Letterkenny
8. N. Cumberland (Army) 244, not ranked, $117.2 million, $98 million, $19.3
    million, 3,600
9. Warminster
10. Annville

BRAC 93 JOB IMPACT:

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<td>0</td>
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<td>HPC Philadelphia</td>
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State’s Net Loss-Gain 4,894 303

BASE ADAPTIVE REUSE STATISTICS:

1. York Naval Ordnance Plant in York, 1964
   1,092 civilian jobs lost
   13 military jobs lost
   2,000 jobs created
   Harley Davidson Inc.
   Industrial

   10,050 civilian jobs lost
   1,250 military jobs lost
   2,800 jobs created
   Harrisburg International Airport, Penn State University-Capital Campus, Penn State Department of Transportation, National Guard, Chloé Textiles
   Aviation, Education, Industrial

   750 civilian jobs lost
   0 military jobs lost
   525 jobs created
   Armstrong World Industries Inc.
   Industrial

4. Valley Forge Army Hospital in Phoenixville, 1973-1978
   845 civilian jobs lost
   546 military jobs lost
   50 jobs created
   Valley Forge Christian College
   Education
3,400 civilian jobs lost
17 military jobs lost
800 jobs created
APPENDIX E-40: PUERTO RICO

Total amount of defense spending: $0.7 billion, Rank 42
Total DOD payroll: $0.2 billion, Rank 47
Total amount of prime contracts: $0.5 billion, Rank 37
Overall trend in prime contracts: 27.5%, Rank 51
Vulnerability to defense cuts: Rank 1
Economic impact of coming defense cuts: Rank 43
Defense Dependent Jobs: 38,000, Rank 39
Change in Defense Dependent Jobs in 1990: 40.7%, Rank 50
1991 Unemployment Rate: 16%, Rank 1
1991 Unemployment Rate Change: 2%, Rank 13
Per Capita Income: $5,591, Rank 52
Population: 3,286,000, Rank 28

Top Five DOD Contractors and Revenues:
Peerless Petrochemicals $68.2 million
Propper International 48.5
Sun Company 39.0
General Electric 38.2
Dillingham Construction 32.8

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Roosevelt Roads (Navy): 227, not ranked, $135.7 million, $26.2 million, $109.5 million, 2,100
2. Mayaguez
3. Guayanilla
4. Ponce
5. Ft. Buchanan: 355, not ranked, $39 million, $32.6 million, $6.3 million, 1,000
6. Yabucoa
7. San Lorenzo
8. San Juan
9. Ceiva
10. Santa label

B. Wortham — Page 197
BASE ADAPTIVE REUSE STATISTICS:

   709 civilian jobs lost
   3,866 military jobs lost
   1,124 jobs created

Luis Munozmarin Aeropuerto, Dupont Pharmaceutical Telefonica Hispanoamericana, Tradewinds Caribbean Air Services, Western Aviation, University of Puerto Rico, Municipal Airport, Interamerican University, Federal Express, Public Golf Courses and Tennis Courts, Sugar Shack Inc. Aviation, Education, Industrial, Recreation
APPENDIX E-41: RHODE ISLAND

Total amount of defense spending: $1.0 billion, Rank 38
Total DOD payroll: $0.4 billion, Rank 40
Total amount of prime contracts: $0.6 billion, Rank 34
Overall trend in prime contracts: 4.5%, Rank 43
Vulnerability to defense cuts: Rank 13
Economic impact of coming defense cuts: Rank 32
Defense Dependent Jobs: 48,000, Rank 37
Change in Defense Dependent Jobs in 1990: 17.1%, Rank 46
1991 Unemployment Rate: 8.2%, Rank 6
1991 Unemployment Rate Change: 4.5%, Rank 2
Per Capita Income: $18,841, Rank 16
Population: 1,003,000, Rank 44

Top Five DOD Contractors and Revenues:
Raytheon $340.0 million
Robert Derecktor 21.3
McLaughlin Research 16.5
Mine Safety Applications 15.3
Technology Applications 14.6

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Portsmouth
2. Newport (Navy): 118, 118, $336.4 million, $290.3 million, $46 million, 30
3. Middletown
4. Providence
5. Naval Und. Sys.: 412, 394, $20.2 million, 0, $20.2 million, 0
6. Warwick
7. Esmond
8. North Kings
9. Davisville (Navy) 465, 462, $6.7 million, $6.7 million, $0.01 million, 200
10. Pawtucket

B. Wortham — Page 199
BRAC 93 JOB IMPACT:

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<td>State’s Net Loss-Gain</td>
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<td>806</td>
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BASE ADAPTIVE REUSE STATISTICS:

1. Newport Naval Base in Newport, 1974-1978
   - 484 civilian jobs lost
   - 11,069 military jobs lost
   - 2,350 jobs created
   East Passage Yachting Center, Ted Hood Enterprises, Syscon, McLaughlin Research, Raytheon, Aquidneck Management, Aquidneck Data Commercial, Office, Industrial, Marina

2. Quonset Point Naval Air Station in North Kingstown, 1974-1980
   - 4,500 civilian jobs lost
   - 6,211 military jobs lost
   - 5,250 jobs created
Appendix E-42: South Carolina

Total amount of defense spending: $3.1 billion, Rank 20
Total DOD payroll: $2.4 billion, Rank 9
Total amount of prime contracts: $0.7 billion, Rank 31
Overall trend in prime contracts: 10.1%, Rank 47
Vulnerability to defense cuts: Rank 21
Economic impact of coming defense cuts: Rank 29
Defense Dependent Jobs: 125,000, Rank 24
Change in Defense Dependent Jobs in 1990: 0.0%, Rank 34
1991 Unemployment Rate: 5.7%, Rank 35
1991 Unemployment Rate Change: 1.4%, Rank 22
Per Capita Income: $15,099, Rank 43
Population: 3,987,000, Rank 23

Top Five DOD Contractors and Revenues:

Unaka                          $80.5 million
FN Manufacturing               44.7
Blue Cross/Blue Shield        42.6
Fluor                          27.2
State of S. Carolina          21.0

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Charleston (Navy): 24, 28, $1,121.8 million, $1,025.1 million, $96.7 million, 20,000
2. Fort Jackson: 137, 90, $286.9 million, $250.4 million, $36.5 million, 9,500
3. Columbia
4. Shaw AFB: 182, 206, $193 million, $150.8 million, $42.3 million, 6,200
5. Charleston AFB: 211, 235, $156.1 million, $125.2 million, $30.9 million, 5,100
7. Parris Island (Navy): 269, 185, $100.3 million, $91.7 million, $8.6 million, 7,200
8. Myrtle Beach AFB: 274, 278, $94 million, $86.4 million, $7.6 million, 3,700
9. Mullins
10. N. Charleston

B. Wortham — Page 201
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<td>NSC Charleston</td>
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State’s Net Loss-Gain: 8,332 9,111

**BASE ADAPTIVE REUSE STATISTICS:**

1. Donaldson Air Force Base in Greenville, 1963-1964
   - 672 civilian jobs lost
   - 4,100 military jobs lost
   - 3,915 jobs created
   - Donaldson Industrial Airport, Golf Course, Woolworth Distribution Center, 3M Company, Donaldson Area Vocational Education Center, Lockheed Aero Center, General Electric, Proctor & Gamble Inc., Amoco, Auto Zone Inc., Aviation, Education, Industrial, Recreation

2. Myrtle Beach Air Force Base in Myrtle Beach, 1991-1993
   - 925 civilian jobs lost
   - 3,350 military jobs lost
   - 128 jobs created
   - Myrtle Beach Jetport, Air Force Pharmacy, FAA, Horry County Aviation Department, Air Base Reuse Commission offices, Air Force Base Disposal Agency, Myrtle Beach Jetport
   - Aviation, Office
APPENDIX E-43: SOUTH DAKOTA

Total amount of defense spending: $0.3 billion, Rank 49
Total DOD payroll: $0.3 billion, Rank 46
Total amount of prime contracts: $0.04 billion, Rank 52
Overall trend in prime contracts: -44.4%, Rank 5
Vulnerability to defense cuts: Rank 50
Economic impact of coming defense cuts: Rank 49
Defense Dependent Jobs: 13,000, Rank 48
Change in Defense Dependent Jobs in 1990: -13.3%, Rank 9
1991 Unemployment Rate: 3.4%, Rank 50
1991 Unemployment Rate Change: -0.5%, Rank 45
Per Capita Income: $15,872, Rank 37
Population: 696,000, Rank 46

Top Five DOD Contractors and Revenues:
Raven Industries $2.7 million
Technical Ordnance 2.5
Farmers Union Co-op 2.0
Dunn & Sons Maintenance 1.7
MDU Resources 1.6

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Ellsworth AFB: 188, 187, $186.3 million, $170.9 million, $15.4 million, 7,100
2. Rapid City
3. Sioux Falls
4. Pierre
5. Brookings
6. Mitchell
7. Clear Lake
8. Pickstown
9. Bell Fourche
10. McLaughlin
BRAC 93 JOB IMPACT:

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<th>loss mil / civ</th>
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<td>State’s Net Loss-Gain</td>
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</table>

BASE ADAPTIVE REUSE STATISTICS:

   512 civilian jobs lost
   12 military jobs lost
   3 jobs created
Grazing land for private ranchers
Agriculture
APPENDIX E-44: TENNESSEE

Total amount of defense spending: $2.1 billion, Rank 28
Total DOD payroll: $0.9 billion, Rank 30
Total amount of prime contracts: $1.2 billion, Rank 26
Overall trend in prime contracts: 8.7%, Rank 45
Vulnerability to defense cuts: Rank 38
Economic impact of coming defense cuts: Rank 17
Defense Dependent Jobs: 100,000, Rank 30
Change in Defense Dependent Jobs in 1990: 0.0%, Rank 34
1991 Unemployment Rate: 5.7%, Rank 35
1991 Unemployment Rate Change: 0.7%, Rank 31
Per Capita Income: $15,798, Rank 38
Population: 4,877,000, Rank 17

Top Five DOD Contractors and Revenues:
Federal Express et al $253.5 million
Schneider Holdings 110.8
Martin Marietta 105.7
Ebasco-Newberg JV 85.6
Eastman Kodak 74.2

Top Ten DOD Sites:

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<tr>
<th>Site</th>
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BASE ADAPTIVE REUSE STATISTICS:

   - 470 civilian jobs lost
   - 4,050 military jobs lost
   - 2,752 jobs created

Aviation, Industrial, Office, Recreation, Residential
APPENDIX E:45: TEXAS

Total amount of defense spending: $15.8 billion, Rank 3
Total DOD payroll: $6.7 billion, Rank 3
Total amount of prime contracts: $9.1 billion, Rank 2
Overall trend in prime contracts: -5.1%, Rank 38
Vulnerability to defense cuts: Rank 16
Economic impact of coming defense cuts: Rank 2
Defense Dependent Jobs: 822,000, Rank 2
Change in Defense Dependent Jobs in 1990: -6.2%, Rank 27
1991 Unemployment Rate: 6.9%, Rank 20
1991 Unemployment Rate Change: -0.1%, Rank 40
Per Capita Income: $16,759, Rank 33
Population: 16,987,000, Rank 3

Top Five DOD Contractors and Revenues:
General Dynamics $2,940.2 million
LTV 855.8
Texas Instruments 674.5
Textron 258.2
Rockwell 248.9

Top Ten DOD Sites:
[sit, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Forth Worth
2. San Antonio
3. Fort Hood: 31, 21, $971.6 million, $839.3 million, $132.4 million, 37,400
4. Dallas
5. Grand Prairie
6. Houston
7. Corpus Christie (Navy): 77, 79, $493.2 million, $264.9 million, $228.3 million, 7,600
8. Lewisville
9. Fort Bliss: 104, 61, $380 million, $341.8 million, $38.2 million, 14,700
10. Richardson

B. Wortham — Page 207
BRAC 93 JOB IMPACT:

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Total: 1,484 284

State's Net Loss-Gain: 915 790

BASE ADAPTIVE REUSE STATISTICS:

   720 civilian jobs lost
   3,100 military jobs lost
   2,350 jobs created
   Valley International Airport, Levi Strauss, Texas Steel, General Dynamics,
   Marine Military Academy, Texas State Technical College
   Education, Industrial

   30 civilian jobs lost
   1 military job lost
   775 jobs created
   San Marcos Municipal Airport, Gary Jobs Corps Center, Berry Aviation
   Aviation, Education

3. James Connally Air Force Base in Waco, 1966
   833 civilian jobs lost
   2,980 military jobs lost
   2,000 jobs created
   Texas State Technical College Waco Airport, Texas State Technical College,
   Chrysler Technologies
   Aviation, Education

   1,511 civilian jobs lost
   5,560 military jobs lost
   974 jobs created
   Amarillo International Airport, Hughes Aviation, Levi Strauss, Tasco
   Engineering, Texas State Technical College
   Aviation, Education, Industrial
600 civilian jobs lost
1,930 military jobs lost
400 jobs created
Grayson County Airport, Greater Texoma Utility Authority, Grayson County College, County and State government offices, Denison Industries, Airport, International Airlines Support Group, Perrin Estates, Golf Course
Aviation, Education, Industrial, Office, Recreation, Residential

25 civilian jobs lost
100 military jobs lost
140 jobs created
Texas State Technical College
Education

700 civilian jobs lost
1,998 military jobs lost
2,800 jobs created
Laredo International Airport, HEB Food Stores, Restaurants, Sanchez O'Brien Co., K-Mart, South Texas Private Industry Council, Combust Engineering, Laredo City offices, Commerce Bank, RG Berry, Daniel Radiator Corp., Lux Products, Golf Course, Laredo Municipal Housing Authority
Aviation, Golf Course, Laredo Municipal Housing Authority
Aviation, Industrial, Office, Recreation, Residential, Retail

8. Fort Wolters in Mineral Wells, 1974-1977
1,219 civilian jobs lost
692 military jobs lost
1,638 jobs created
Aviation, Correctional, Education, Industrial, Recreation

909 civilian jobs lost
2,204 military jobs lost
575 jobs created
McMahon/Wrinkle Airpark, Fraser Industries, IBI, Federal Bureau of Prisons, Western Container, Southwest College for the Deaf, Senior Citizen Center, Bob's Custom Woodworking, American Limestone, Strickland & Knight, Ryder Industries, Avantech, Harmony Drilling Co., Freecom, Fiber Flex Housing, Golf Course
Aviation, Correctional, Education, Industrial, Recreation, Residential, Transportation
914 civilian jobs lost
733 military jobs lost
1,100 jobs created
Pro Star Aircraft Inc., General Shelters, Proco, Rental Housing Units, Flight Training School, Correctional facilities under construction
Aviation, Correctional, Industrial, Residential

1,000 civilian jobs lost
5,000 military jobs lost
0 jobs created
Golf Course
Recreation
APPENDIX E-46: UTAH

Total amount of defense spending: $1.9 billion, Rank 30
Total DOD payroll: $1 billion, Rank 25
Total amount of prime contracts: $0.9 billion, Rank 29
Overall trend in prime contracts: -30.5%, Rank 16
Vulnerability to defense cuts: Rank 22
Economic impact of coming defense cuts: Rank 28
Defense Dependent Jobs: 103,000, Rank 29
Change in Defense Dependent Jobs in 1990: -7.2%, Rank 23
1991 Unemployment Rate: 4.6%, Rank 47
1991 Unemployment Rate Change: -1.1%, Rank 50
Per Capita Income: $14,083, Rank 49
Population: 1,723,000, Rank 36

Top Five DOD Contractors and Revenues:
Thiokol $159.4 million
Hercules 110.7
Amoco 75.1
Facilities Sys. Eng. 74.1
Unisys 72.0

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Hill AFB: 62, 64, $608.6 million, $530.5 million, $78.2 million, 18,400
2. Salt Lake City
3. Tooele
4. Brigham City
5. Ogden
6. Magna
7. Logan
8. Murray
9. Dugway
10. Woods Cross
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State’s Net Loss-Gain 30 2,289
APPENDIX E-47: VERMONT

Total amount of defense spending: $0.2 billion, Rank 52

Total DOD payroll: $0.1 billion, Rank 52

Total amount of prime contracts: $0.1 billion, Rank 48

Overall trend in prime contracts: -40.4%, Rank 7

Vulnerability to defense cuts: Rank 45

Economic impact of coming defense cuts: Rank 5

Defense Dependent Jobs: 6,000, Rank 52

Change in Defense Dependent Jobs in 1990: -50.0%, Rank 1

1991 Unemployment Rate: 7.4%, Rank 10

1991 Unemployment Rate Change: 3.4%, Rank 7

Per Capita Income: $17,436, Rank 26

Population: 563,000, Rank 50

Top Five DOD Contractors and Revenues:
General Electric $49.9 million
Hercules 10.6
Arrowsmith Shelburne 2.9
Norwich University 2.0
Faribank Scales 1.0

Top Ten DOD Sites:
1. Burlington
2. Vergennes
3. Colchester
4. Nothfield
5. Shelburne
6. Winooski
7. Jericho
8. Rutland
9. Essex Junction
10. Bennington
APPENDIX E-48: VIRGINIA

Total amount of defense spending: $17.5 billion, Rank 2
Total DOD payroll: $9.6 billion, Rank 2
Total amount of prime contracts: $7.9 billion, Rank 4
Overall trend in prime contracts: -8.7%, Rank 35
Vulnerability to defense cuts: Rank 2
Economic impact of coming defense cuts: Rank 36
Defense Dependent Jobs: 805,000, Rank 3
Change in Defense Dependent Jobs in 1990: 14.0%, Rank 45
1991 Unemployment Rate: 5.4%, Rank 39
1991 Unemployment Rate Change: 1.9%, Rank 15
Per Capita Income: $19,746, Rank 13
Population: 6,187,000, Rank 12

Top Five DOD Contractors and Revenues:
Tenneco $2,389.4 million
IBM 446.2
General Motors 239.5
Unisys 237.0
Hercules 209.5

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Newport News
2. Norfolk (Navy): 6, 7, $2,741.3 million, $2,236.1 million, $505.2 million, 34,000
3. Arlington (Army): 7, 10, $2,525.3 million, $1,938.5 million, $586.8 million, 44,700
4. Virginia beach (Navy): 27, 34, $1,059.6 million, $880 million, $179.6 million, 14,000
5. Alexandria
6. Portsmouth (Navy): 59, 62, $644.9 million, $530.6 million, $114.3 million, 17,900
7. McLean
8. Hampton
9. Manassas
10. Ft. Belvior: 95, 108, $418.1 million, $308.2 million, $109.9 million, 9,300
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Total amount of defense spending: $5.3 billion, Rank 11
Total DOD payroll: $2.9 billion, Rank 7
Total amount of prime contracts: $2.4 billion, Rank 15
Overall trend in prime contracts: -29.1%, Rank 18
Vulnerability to defense cuts: Rank 23
Economic impact of coming defense cuts: Rank 30
Defense Dependent Jobs: 251,000, Rank 15
Change in Defense Dependent Jobs in 1990: -15.2%, Rank 6
1991 Unemployment Rate: 6.3%, Rank 26
1991 Unemployment Rate Change: 0.0%, Rank 38
Per Capita Income: $18,858 Rank 15
Population: 4,867,000, Rank 18

Top Five DOD Contractors and Revenues:
Boeing $1,246.9 million
Arco 389.9
Alcoa 100.4
Honeywell 55.3
Hewlett Packard 28.6

Top Ten DOD Sites:
[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]
1. Seattle
2. Bremerton
3. Fort Lewis: 75, 48, $496.2 million, $433.2 million, $63 million, 19,200
4. Ferndale
5. Kent
6. Whidbey Island (Navy): 165, 165, $223.6 million, $208.4 million, $15.2 million, 4,200
7. Bangor
8. McChord AFB: 208, 212, $162.9 million, $132.4 million, $30.5 million, 5,000
9. Fairchild AFB: 228, 213, $135.2 million, $116.1 million, $19.1 million, 5,000
10. Tacoma
BRAC 93 JOB IMPACT:

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State's Net Loss-Gain 5,120 473

BASE ADAPTIVE REUSE STATISTICS:

1. Larsen Air Force Base in Moses Lake, 1966
   38 civilian jobs lost
   3,947 military jobs lost
   750 civilian jobs created

Grant County Airport, Japan Airlines, Alaska Airlines, Boeing, Takata, Sundstrand, Data Control, Big Bend Community College, Columbia Basin Job Corps Center, Moses Lake Industries, Sonico Inc., McCourt Air Base Training Facility, Grant County Housing Authority

Aviation, Education, Industrial, Residential
Total amount of defense spending: $0.4 billion, Rank 46
Total DOD payroll: $0.2 billion, Rank 50
Total amount of prime contracts: $0.2 billion, Rank 44
Overall trend in prime contracts: 35.0%, Rank 52
Vulnerability to defense cuts: Rank 19
Economic impact of coming defense cuts: Rank 44
Defense Dependent Jobs: 18,000, Rank 46
Change in Defense Dependent Jobs in 1990: 20%, Rank 49
1991 Unemployment Rate: 9.7%, Rank 2
1991 Unemployment Rate Change: 1.1%, Rank 24
Per Capita Income: $13,747, Rank 50
Population: 1,793,000, Rank 35

Top Five DOD Contractors and Revenues:
Phoenix Petroleum $76.9 million
Groves 44.0
Hercules 33.4
Newberg 11.2
OHM 4.9

Top Ten DOD Sites:
1. St. Marys
2. Gallipolis
3. Rocket Center
4. Huntington
5. Martinsburg
6. Charleston
7. Point Pleasant
8. Williamson
9. Morgantown
10. Parkersburg
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APPENDIX E-51: WISCONSIN

Total amount of defense spending: $1.3 billion, Rank 35
Total DOD payroll: $0.4 billion, Rank 39
Total amount of prime contracts: $0.9 billion, Rank 27
Overall trend in prime contracts: -11.5%, Rank 33
Vulnerability to defense cuts: Rank 49
Economic impact of coming defense cuts: Rank 38
Defense Dependent Jobs: 67,000, Rank 35
Change in Defense Dependent Jobs in 1990: -14.1%, Rank 7
1991 Unemployment Rate: 5.8%, Rank 34
1991 Unemployment Rate Change: 1.4%, Rank 22
Per Capita Income: $17,503, Rank 23
Population: 4,892,000, Rank 16

Top Five DOD Contractors and Revenues:
Oshkosh Truck $259.0 million
Peterson Builders 211.3
Astra Holdings 53.0
Trak International 46.3
Wisconsin Physicians Ins. 36.9

Top Ten DOD Sites:

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Oshkosh
2. Sturgeon Bay
3. Fort McCoy: 223, 250, $1 38.6 million, $113.6 million, $25 million, 1,400
4. Milwaukee
5. Madison
6. Ft. Washington
7. Janesville
8. Waukesha
9. Appleton
10. La Crosse
The text on this page is not legible due to the quality of the image. It appears to be a page from a document, possibly containing text or a diagram, but the details are not discernible.
BASE ADAPTIVE REUSE STATISTICS:

1. Truax Field in Madison, 1968
   378 civilian jobs lost
   2,658 military jobs lost
   4,500 jobs created
Dane County Regional Airport, Great Lakes Higher Education, Air National Guard, Army National Guard, American Family Insurance, Hazelton Laboratories, Omni Press, Venetian Marble, Madison Area Technical College Aviation, Education, Industrial, Office
APPENDIX E-52: WYOMING

Total amount of defense spending: $0.2 billion, Rank 51
Total DOD payroll: $0.2 billion, Rank 51
Total amount of prime contracts: $0.06 billion, Rank 51
Overall trend in prime contracts: 19.7%, Rank 49
Vulnerability to defense cuts: Rank 48
Economic impact of coming defense cuts: Rank 49
Defense Dependent Jobs: 10,000, Rank 51
Change in Defense Dependent Jobs in 1990: -9.1%, Rank 17
1991 Unemployment Rate: 5.3%, Rank 41
1991 Unemployment Rate Change: -0.8%, Rank 49
Per Capita Income: $16,398, Rank 34
Population: 454,000, Rank 52

Top Five DOD Contractors and Revenues:
Hermes Consolidated $25.1 million
Frontier Oil 10.4
Sinclair Oil 10.1
Bowman 2.8
Growling Bear 1.1

Top 10 Sites

[site, 1990 rank out of 501 sites, 1989 rank, total DOD revenues, DOD payroll, DOD prime contracts, personnel]

1. Warren AFB: 249, 241, $114.9 million, $100.5 million, $14.4 million, 4,200
2. Cheyenne
3. Newcastle
4. Casper
5. Laramie
6. Sheridan
7. Powell
8. Kleenburn
9. Green River
10. Wheatland
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**The Military and Defense Dependence:**


