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THE CRITERIA FOR AND EFFECTS OF BASE CLOSURES

by

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The Criteria for and Effects of Base Closures

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ABSTRACT

This study examines available information on base closures. A determination is made as to the criteria for and the effects of these closures. The criteria developed include costs to the federal government, local economic impact, political impact, environmental impact and the impact on defense readiness. There were few detailed data available on the criterion of costs to the federal government. The majority of the information came from GAO evaluations of DOD proposals to close or realign bases. There were more data available on the criterion of local economic impact, the majority of these data coming from the Office of Economic Adjustment. Some data were available on the remaining criteria, but they were mostly based on personal opinions. The analysis attempts to draw lessons from past base closures to assist in the assessment of future closure decisions. However, the limited data provided little conclusive evidence to support the criteria for decision making.

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I. INTRODUCTION

A. BACKGROUND

The annual cost of operating over 5000 U.S. military installations is over $30 billion. Like other government agencies, the Department of Defense is having to meet its commitments in a time of tightening budgets. In terms of real dollars, the budget for the Department of Defense has been declining from 1984 through 1988. It is clear that the Department of Defense must find ways to make its dollars go further. These financial restrictions are always taken into account when determining the operating requirements of military bases. [Ref. 1]

One of the proposed solutions to the the defense budget constraints has been the closure or realignment of some military installations. Realignment of a military installation means to take some function of one installation and transfer it to another installation. Realignment can either be the consolidation of two similar functions carried out in different locations or the relocation of a particular function to a location where it can be accomplished at a lesser cost.

The issue of base closure is very complex and politically volatile. There would appear to be widespread belief that base closures are necessary if the Department of

Defense is to operate within current budgetary constraints. The problem seems to be just how to achieve these closures.

The Department of Defense has the following base facilities:

- 5400 separate properties.
- 26 million acres of land.
- 2.2 million military personnel.
- 1.7 million guard and reserves.
- 1.4 million civilians.

The size of these bases and properties range from as small as a half-acre to installations that cover over three million acres. The original investment cost of these properties is estimated at $66 billion. [Ref. 1]

The current cost of the physical assets of the Defense Department's installations is now estimated at $450 billion. The majority of these structures were built in the 1940's and 1950's in response to World War II and the Korean Conflict. Many were constructed to be temporary and, yet, the majority of them are still in use after over 40 years. The age of these structures is only part of the problem. The composition of the Armed Forces has changed dramatically. There is an all volunteer force with an increased emphasis on women and the military family. The number of dependents under military care has doubled in the last 20 years, and there are five times as many women in uniform. [Ref. 2]

The topic of base closure is not a new one. During the Kennedy and Johnson administrations, more than 450 realignment and closure actions were initiated. These actions resulted in an annual savings of more than one billion dollars. During the Nixon and Ford administrations, more than 2700 realignment and closure actions were undertaken. These actions included the closing and disposal of 80 military installations, with a cost savings annually of over four billion dollars.

B. OBJECTIVES

The purpose of this thesis is to determine the criteria for closing or realigning military installations. It will examine the proposals for previous base closures and the effects of base closures and will demonstrate the various criteria used by different groups in arguing whether or not a base should be closed.

The thesis will address these questions:

- What factors does DOD consider in deciding whether to close or realign a base?
- Who opposes base closures? What factors do they consider in arguing against them?
- What evidence is available from previous base closures to support or refute reasons for closing or for retaining bases?

C. SCOPE

This thesis will explore all aspects of the base closure problem, including the direct as well as indirect effects of

a closure. It will also look at what effect the closure of a base has upon the local community. There will also be an examination of the different services within the Defense department to see if each service has its own criteria, or if there is a consensus. This examination begins in the next chapter with a review of literature the author feels is important to the topic of base closure. The review will be formed around possible criteria for base closures.

D. METHODOLOGY

The main objective during the research portion of the thesis was to gather together enough information so that the majority of the criteria used, either currently or on previous base closures, could be covered. There was a heavy reliance on the Defense Logistics Studies Information Exchange at the United States Army Logistics Management College, Fort Lee, Virginia; upon Mr. James G. Abbee, the Director of Communications for the Defense Secretary's Commission on Base Realignment and Closure; upon Mr. Wallace Bishop of the Office of Economic Assistance; and on the Dudley Knox library at the Naval Postgraduate School for the majority of the information. Other sources of information included the President's Private Sector Survey on Cost Control, commonly known at the Grace Commission report, Report on the Office of the Secretary of Defense [Ref. 3]; the Congressional Budget Office/General Accounting Office analysis of the Grace Commission's major proposals for cost

control [Ref. 4]; and the Department of Defense's Summary of Completed Military Base Economic Adjustment Projects. [Ref. 5] The remainder of the material used as an information base consisted of approximately 75 articles from periodicals.

E. DEFINITIONS

The following is a list of terms used throughout this thesis and are explained here so that any confusion can be avoided.

The term "appropriate Committees of Congress" means the Committees on Armed Services of the Senate and the House of Representatives.

The term "Commission on Base Realignment and Closure" means the commission established by the Secretary of Defense in the charter signed by the Secretary on May 3, 1988.

The term "charter establishing such Commission" means the charter referred to in the above definition.

The term "military installation" means any activity under the jurisdiction of the Secretary of a military department.

The term "realignment" includes any action which both reduces and relocates functions and civilian personnel positions of a military installation.

The term "Secretary" refers to the Secretary of Defense.

The term "United States" includes the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam,

the Virgin Islands, American Samoa, and any other commonwealth, territory, or possession of the United States. [Ref. 6]

F. OUTLINE

The remainder of this thesis will consist of a review of the literature, an analysis of the information gathered, and the author's conclusions and summary.

The literature review is organized around what the author feels are the key criteria for base closure. The review starts with costs to the government and includes not only costs to the Department of Defense but costs to other federal agencies as well. This criterion, costs to the federal government, covers costs, cost savings and cost estimation. The second criterion examined is local economic impact. There will be an examination of data which indicate that the impact upon the local community is quite severe and of others which suggest that the effect is not so severe. The remaining criteria are political and environmental impacts and the impact on defense readiness. Collection of data on the impact on defense readiness and the political impact was difficult. There is not a lot of "hard" data available. It is all opinion with not much in the way of support.

The analysis chapter will consist of an examination of historical data on past base closures and information about proposed closures and realignments to find evidence relevant

to the criteria. The summary will consist of a comparison of the different criteria used with historical data on past base closures. There will also be a review of new criteria that might be used in the future.

II. LITERATURE REVIEW

A. PURPOSE

The purpose of this chapter is to explore some of the important studies and papers on base closures. The major focus of this literature review is to present reasons for and against the closure of military installations and to show why the topic of base closures has generated so much concern. From this review the author will develop the criteria used for decisions regarding base closures. The claims of different organizations involved with base closures will then be compared with independent studies so it can be determined whether there is an actual basis for the claims. In Chapter III, the results of this literature review will be combined with basic economic principles, and an analysis done to determine the merit of each criteria.

B. SCOPE OF THE REVIEW

The literature research began with a preliminary bibliographic search of the Defense Technical Information Center, the Defense Logistics Studies Information Exchange, and the Dudley Knox Library at the Naval Postgraduate School. These searches indicated that publication of primary data and analytical material was sparse. Because of the lack of data on the criteria for base closure, other sources of information were investigated. Significantly

more information was found in discussion with representatives of government agencies actually involved with base closures, such as Mr. Jim Abbee, Director of Communications for the Defense Secretary's Commission on Base Realignment and Closure, and Mr. Wallace Bishop, Jr., Senior Project Manager, President's Economic Adjustment Committee, Office of Economic Adjustment.

The literature presented numerous criteria being used by different organizations involved with base closures or realignments either to support or oppose base closures. Using this information, it was determined what criteria are used to justify a base closure. Historical data show the effects of previous base closures. From the minutes of appropriate congressional hearings, the House [Ref. 7] as well as the Senate [Ref. 8], the Base Closure and Realignment Subcommittee, [Ref. 9] and the Subcommittee on Military Construction [Ref. 10], the actual criteria being used to close bases were determined. A final source of information were meetings involving congressional committees and service secretaries, because base closure was a topic constantly under discussion.

C. ORGANIZATION OF THE REVIEW

The analysis of the literature in this review will be presented under the criteria of cost to the federal government, local economic impact, environmental impact, political impact and impact on military readiness. The

criterion of cost to the federal government will cover a major portion of this chapter. Included under this topic are cost savings, one-time closing costs and related costs of closing a military installation. Along with determining the nature of the relevant costs, one must also determine the amounts of these costs--a problem of cost estimation.

The first portion of this literature review will provide a background on the Defense Secretary's Commission on Base Realignment and Closure. [Ref. 1] The hearings of this commission contain some information on all of the different criteria. Background on the President's Private Sector Survey on Cost Controls [Ref. 3], as well as the Congressional Budget Office/General Accounting Office analysis of the Grace Commissions recommendations [Ref. 4], will be presented in the "cost to the government" section of this thesis. Background on the Department of Defense's Summary of Completed Military Base Economic Adjustment Projects; 25 Years of Civilian Reuse, [Ref. 5] will be found in the "local economic impact" section.

1. Defense Secretary's Commission on Base Realignment and Closure

On 3 May 1988, the Secretary of Defense, Frank Carlucci, established the Defense Secretary's Commission on Base Realignment and Closure. The commission included persons who have broad experience in both government and in national defense (see Appendix B). Their job is to study

the issues surrounding the realignment and closure of military installations within the United States. [Ref. 1]

The function of the commission was to determine the best means for identifying bases to be closed or realigned. It was also to determine how to improve federal government incentive programs designed to help overcome the sometimes adverse effect of base closures on the local economy. These programs include public works and technical assistance grants from the Commerce Department, Job Training and Assistance grants from the Department of Labor, and Urban Development Action and Community Development Block Grants from the Department of Housing and Urban Development. [Ref. 11] The following are some of the criteria the Office of the Secretary of Defense thought would prove helpful to the commission in its search for bases to close:

- The current and future mission requirements and the impact on operational readiness of the military departments concerned.
- The availability and condition of land and facilities at both the existing and potential receiving locations.
- The potential to accommodate contingency, mobilization, and future force requirements at receiving locations.
- The cost and manpower implications.
- The extent and timing of potential cost savings, including whether the total cost savings realized from the closure or realignment of the base will exceed the amount expended to close or realign the base by the end of the 6-year period beginning with the date of completion of the closure or realignment of the base.
- The economic impact on the community in which the base to be closed or realigned is located.

- The community support at the receiving locations.
- The environmental impact.
- The implementation process involved.

The information gathered by the commission is to be reported to the Secretary of Defense, along with recommendations, no later than 31 December, 1988. [Ref. 1]

D. COSTS TO THE GOVERNMENT

1. The President's Private Sector Survey on Cost Controls

On 30 June 1982, by executive order number 12369, President Reagan established the President's Private Sector Survey on Cost Control (PPSSCC) and named J. Peter Grace as chairman. The job of this group was to identify any opportunities for increased efficiency and reduced costs that could be had by legislative or executive methods. It was made up of 161 chief executive officers from some of the largest corporations in the world. Overall, it is reported that more than 2000 individuals took part in some portions of the PPSSCC. The work done by the PPSSCC was privately financed at a cost of more than $74 million. [Ref. 1]

The PPSSCC was organized into 36 different groups. Of these 36 groups, 22 were assigned to study specific departments and agencies within the federal government. The remaining 14 groups were assigned to study facets of the government that cut across all departments. These facets include data processing, personnel, and procurement policy.

Each group then produced its own separate report. In addition to the original 36 reports, another 11 reports on selected issues were prepared by the office management staff at PPSSCC. The 47 reports contained 2478 specific cost cutting recommendations covering 784 different issues. The final edition of the PPSSCC report was published in two volumes, with a combined length of 650 pages. The report was presented to the President on 16 January, 1984. [Ref. 3]

2. GAO/CBO Analysis of PPSSCC Recommendations

The Congressional Budget Office (CBO) and the General Accounting Office (GAO) reviewed 396 of the President's Private Sector Survey on Cost Controls' (PPSSCC) recommendations. This review included almost 90% of all the savings recommended by the PPSSCC. To the best of their ability, the CBO and GAO estimated the impact of the PPSSCC proposals on the CBO's baseline budget projections for the fiscal years of 1985 through 1988. An analysis was made and the results published in February of 1984. [Ref. 4]

The CBO and GAO analyzed whether the PPSSCC recommendations could be implemented administratively or whether they would require legislation. The analysis also included the overall reasonableness of each recommendation. Because of the complexity of many of the recommendations, the GAO review and analysis was quite specific.

3. Defense Secretary's Commission on Base Realignment and Closure

One of the people to speak before this Commission was Stephen Moore, Grover Hermann Fellow in federal budgetary affairs at the Heritage Foundation. Mr. Moore proposed that the only costs to consider in the closure of a military installation were costs to the government. He specifically stated that local economic impact should not be considered. Mr. Moore went on to list other criteria, or changes to current policy for base closure. [Ref. 1]

4. Cost Savings

Another one of the speakers before the Defense Secretary's Commission on Base Realignment and Closure was Fred Thompson, Professor of Public Management at Willamette University. Professor Thompson spoke of the waste that is present in the current military base structure. He stated that the bases were "highly wasteful" and the waste came from a "failure to allocate property held by the military to higher valued, non-military uses and not from excess operating costs." [Ref. 1] The waste that he spoke of was the opportunity cost of not putting the land that the base sits on to better use, as well as the excess operating costs. He said, however, that the operating costs of a base were minimal compared to the opportunity cost. Professor Thompson said that the emphasis in choosing bases to be closed should be on the alternative potential private uses of the facilities. He stated that, once it had been

determined that some bases were going to be closed, part of the decision as to which bases to select should be based on the reuse of the property. He suggested that, if one base would be more desirable to private sector companies than another base, then this should be a primary consideration in the closure decision. Professor Thompson argued that an evaluation of the possible reuse of the property should be done, just as economic or environmental impact studies are done. [Ref. 1]

The Grace Commission recommended that the Department of Defense close unnecessary bases, consolidate activities providing support for bases that were in the same area, and consolidate major equipment maintenance facilities. Specifically, it recommended that:

- The President should appoint an independent commission to study realignment or have the Department of Defense designate all bases as candidates for closure and begin appropriate studies. The PPSSCC estimated that closing some unnecessary bases could save as much as $2.7 billion.

- The Department of Defense should make participation in the existing Defense Retail Inter-service Support (DRIS) program mandatory. This would increase base consolidations.

- The Department of Defense should establish a time-table for consolidating depot level maintenance facilities, based on a uniform cost accounting system for all of its facilities. [Ref. 3]

Base support operations include such services as fire protection, housing management and maintenance, finance and accounting, refuse collection, civilian personnel management, building and road maintenance, and security.

There are 50 such functions in the administrative and logistical support areas and 25 in the supply and maintenance areas. Since most of these functions are standard across the services, there is a potential for cost savings to the extent that they are consolidated in geographical areas with several military facilities. Such consolidation can reduce duplication in staffing and facilities. In 1973, the Department of Defense initiated the DRIS program to provide base commanders with a mechanism for determining where base support operations could be consolidated in order to reduce costs and increase efficiency. The savings from the consolidation of base support operations are estimated to be $100-$500 million annually. This estimate is derived from testimony by the General Accounting Office on 22 June 1982 before the Legislation and National Security Subcommittee of the House Government Operations Committee. [Ref. 3]

In the Department of Defense system, maintenance is generally performed at the organization, intermediate, and depot levels. The organizational and intermediate levels perform maintenance on specific weapons systems. The depot level performs heavy maintenance on a variety of systems such as jet engines, missile guidance systems, and tank engines. Depot level maintenance facilities require extensive capital investment in fixed facilities, specialized tools and complex test equipment. The

Department of Defense has 29 depot level maintenance facilities. Fiscal year 1983 expenditures for all Defense Department depot level maintenance are estimated at $12.4 billion. The estimated savings from consolidation of the depot level maintenance functions is $50 million annually. The consolidation of some maintenance facilities should result in a one time cash gain of $300-$400 million due to the reduced need for some specialized maintenance equipment. [Ref. 3]

The PPSSCC qualified its report by stating that estimates, like those above, were of a planning nature and not of budget quality. Further qualification stated that these savings were representative of the first three years of implementation of the recommendations, not three specific fiscal years. The three year PPSSCC projections of cost savings and revenue increases were based on an annual inflation rate of 10% and an average interest rate of 10%. [Ref. 4]

The GAO-CBO review found that the potential deficit reduction from implementing the recommendations would be much smaller then the amount projected by the PPSSCC. The GAO-CBO and PPSSCC estimates are not fully comparable. The GAO-CBO estimates were calculated in federal budget accounting terms, and the PPSSCC estimates were planning figures. [Ref. 4] The difference between these two figures is the amount of research done to come up with them. The

federal budget accounting terms used by the GAO-CBO analysis were more specific. The GAO-CBO went through the PPSSCC recommendations and estimated, line item by line item, a more precise cost or savings. The PPSSCC planning figures were just estimates.

Cost savings can also be realized in the maintenance of base facilities and future construction on a base once it has been decided to close it. If the operations of that base are being terminated, there will be additional savings. However, if the operations are being transferred, this saving will not be realized. The report by the U.S. Air Force on Kincheloe Air Force Base and the report by the U.S. Army on New Cumberland Army Repair Depot also show one-time cost savings associated with base closure. These one-time cost savings were for scheduled construction projects that had not yet been started. The Air Force report shows a one time cost savings of almost $9.3 million. [Ref. 12] The Army report shows a one time cost savings of almost $12.9 million. [Ref. 13] The reason for the decision to close the Watertown Arsenal was stated to be that the arsenal was primarily involved in manufacturing items that could be procured competitively from private industry at less cost. [Ref. 14]

5. <u>One-Time Closing Costs</u>

Another aspect of cost as a criterion for base closure is that of one-time closing costs. What need to be

examined are the total closing costs and the total costs of moving the base operations. Some examples of these costs are seen in the reports done on Kincheloe Air Force Base, Watertown Arsenal and New Cumberland Army Repair Depot. Included in the one-time cost estimations of closing these installations were such things as retirement of military and civilian personnel, transportation of supplies and equipment, movement of civilian and military personnel, contract termination and caretaker costs. [Ref. 15] These costs will be presented and discussed further in the next chapter. Other costs include the construction or repair of buildings or roads prior to the turn-over of the base to the local community and the installation of services at the base to which all the personnel and equipment are being transferred. [Ref. 12]

6. Related Costs

The related costs are the costs to other federal agencies which occur as a consequence of a base closure. It is here that conflict arises between the Department of Defense and the General Accounting Office. The estimates done by the Department of Defense exclude such items as the increase in unemployment compensation or food stamps which occurs as a result of a base closure. In the case of the closing of Kincheloe Air Force Base, the General Accounting Office estimate was greater then the DOD estimate by more than $2.5 million. They also estimated a cost increase in

food stamps for the local community of $186,000. [Ref. 12] The General Accounting Office did a similar evaluation on the Army's proposal to close the New Cumberland Repair Depot. In this case they estimated a cost in unemployment compensation of over $1.5 million, a cost that the Army did not include in its cost analysis. [Ref. 13]

Another item that needs to be included in the calculation of cost to the federal government is grants to selected communities in which bases were closed. In past base closures, these grants came from such agencies as the Economic Development Administration, the Area Redevelopment Administration and the Manpower Retraining Programs. Another source of grants could have come as Federal Impact Assistance. However, this was mostly in the form of aid to the local school district. In a special report prepared by the Department of Commerce, a total of $18,813,000 was paid to 16 communities in loans and grants, from the Economic Development and Area Development Administration. [Ref. 16]

7. Cost Estimation

The final aspect of cost as a criterion for base closure is the problem of reliable estimation of the actual costs of and savings from a closure or realignment. An example of the confusion that can arise over the calculation of these costs and savings is seen in the proposed closing of the New Cumberland Repair Depot. The following is a

comparison of the Army and GAO estimates of the savings in payroll expense from the proposed closure:

Army Computations

	Number of positions	Average staffing costs	Gross annual savings
Civilian function:			
Maintenance	782	$23,131	$18,088,821
Supply support	106	15,945	1,690,170
Base operations	100	15,010	1,501,000
TOTAL CIVILIAN	988		21,279,991
Military:	15		266,689
TOTAL CIVILIAN AND MILITARY:	1,003		$21,546,689

GAO COMPUTATIONS

Civilian function:			
Maintenance	689	$26,562	$18,301,621
Supply Support	94	16,919	1,590,386
Base operations	85	27,899	2,370,574
TOTAL CIVILIAN	868		22,262,581
Military:	15		300,240
TOTAL CIVILIAN AND MILITARY:	883		$22,562,821

Part of the reason for the difference in the gross annual savings figures is that the General Accounting Office estimates included the costs of personnel benefits and proposed wage increases. Another part of the difference is that the Army used an inflation rate of 13% while the General Accounting Office used a rate of 10%. [Ref. 13]

8. Summary

From the readings of the proposals by the different services for base closure or realignment, it can be seen that cost calculation is a difficult task. What appears

important to one group in the calculation of costs is not important or pertinent to another group. However, the list of proposed criteria that the Secretary of Defense submitted to the Commission on Base Realignment and Closure show that cost is an important consideration.

The PPSSCC made numerous recommendations as to how the Department of Defense could reduce its yearly expenditures. The reason that the PPSSCC proposed closing military installations was strictly to reduce the national deficit. The majority of these recommendations were administrative in nature. However, some of these recommendations would require a change of policy. The PPSSCC saw that the Department of Defense will have to operate under ever tightening budgets. One way that it saw of easing or meeting these budget constraints was to close some unneeded or otherwise obsolete bases.

The conclusion of the analysis done by the GAO-CBO on the PPSSCC's recommendations is that the PPSSCC figures are bloated and that the actual realizable benefit is considerably less. The importance of the analysis of the PPSSCC recommendations is that not only does it show that cost is a criterion for base closure, but it also shows the conflict over the estimation of those costs. Not only is there a conflict over costs to close a military installation, but there is also a great deal more conflict over the costs saved by closing an installation. In this particular

case, the PPSSCC has estimated total cost savings of $2.7 billion. The GAO-CBO analysis did not give a specific amount that could be saved from base closures because it said the number and actual names of the bases would have to be disclosed. GAO-CBO did state, however, that using the information given by the PPSSCC recommendation, they thought the figure would be slightly lower. Even though the PPSSCC savings figures are somewhat bloated, it is none the less a very helpful report, because it points out that there are savings to be had. [Ref. 4]

E. LOCAL ECONOMIC IMPACT

1. The Department of Defense's Summary of Completed Military Base Economic Adjustment Projects

The Department of Defense's Summary of Completed Military Base Economic Adjustment Projects; 25 years of Civilian Reuse gives a brief overview of the President's Economic Adjustment Committee and states the purpose behind economic adjustment assistance. The nature of this assistance is help in planning a strategy to alleviate the serious economic and social impact that results from a major defense realignment. This strategy includes planning long-term regional development objectives such as the following:

- Diversifying the economy away from a few dominant industries.
- Encouraging a balanced growth in the area's economy, including commercial and service sector jobs.

- Providing employment opportunities for the region's unemployed and under-employed persons and for young high school and college graduates.
- Bolstering the local tax base.
- Helping existing industries to expand. [Ref. 17]

To provide some idea of the spectrum of the people involved with the President's Economic Adjustment Committee, the member organizations are listed below.

- Department of Defense.
- Department of Agriculture.
- Department of Commerce.
- Department of Education.
- Department of Energy.
- Department of Health and Human Services.
- Department of Housing and Urban Development.
- Department of the Interior.
- Department of Justice.
- Department of Labor.
- Department of Transportation.
- Council of Economic Advisors.
- Office of Management and Budget.
- Arms Control and Disarmament Agency.
- Environmental Protection Agency.
- General Services Administration.
- Small Business Administration.
- Office of Personnel Management. [Ref. 5]

This Committee works with local, state and federal agency representatives to develop and implement plans of action to generate new jobs and new job opportunities. The role of the Committee is to "help communities help themselves." It must be pointed out, however, that it is the job of the community to revitalize these former bases. [Ref. 5]

This publication then goes on to list some of the new uses of closed military installations. Included in this document are seven articles which tell of the "good" uses for old bases. These uses include 12 four year colleges, 33 post-secondary vocational technical schools and community colleges, 75 industrial parks, and 42 municipal or general aviation airports. There are also two case studies of bases which were closed and then taken over by the local government with great economic benefits as a result. This document also contains data from the closure of 100 military installations. It lists the name of the base, the state it was located in, the number of jobs lost when the base was closed, and the number of new jobs created by the arrival of private industry. [Ref. 5]

Examination of the Department of Defense's Summary of Completed Military Base Economic Adjustment Projects; 25 Years of Civilian Reuse shows that, in some cases, the effect upon the community is quite substantial. This summary shows that in 22% of the instances of base closure, the number of jobs lost exceeded the number of jobs created.

What follows are cases which show the severity of impact that the closing of a military installation can have upon the local community. In the case of Brookley Air Force Base the losses included 1,070 military personnel and 12,300 civilian personnel. The closure of Craig Air Force Base in Selma Alabama saw the loss of 1863 military and 547 civilian personnel. [Ref. 5]

2. Craig Air Force Base

Craig Air Force Base had an annual military and civilian payroll of $32,292,690 in 1975. During that year 2095 officers and enlisted personnel were stationed at the base. There were also 547 civil service workers and about 370 non-civil service workers stationed or employed at the base. One measure of the relative economic effect of Craig Air Force Base is seen in a comparison of the Craig payroll of over $32 million to the county's estimated annual payroll of only $28 million in manufacturing. It was estimated that, if Craig were closed, the military personnel would be transferred to other installations along with some of the civil service employees. Other civil service personnel would remain in the area due to family commitments or other reasons. It was estimated that 50% of these remaining personnel would enter the ranks of the unemployed. The 370 non-civil service employees would immediately be out of work and would become unemployed. The county unemployment rate of 11% would jump to an estimated 37%. [Ref. 18]

In 1975, Craig Air Force Base procured about $9.2 million in contract services and materials, with an estimated 38% of this being furnished by suppliers and contractors in Dallas county. It was presumed that this $3.49 million would not be spent there, with a consequent substantial loss to local businesses. Each of these firms would in turn have to cut back production by laying off workers, thus adding to the already swollen ranks of the unemployed. [Ref. 18]

3. Kincheloe Air Force Base

Examining the proposed closure of Kincheloe, some of the same effects upon the community are found as were found with the proposed closure of Craig. Kincheloe Air Force Base was located in Chippewa County, Michigan. An Air Force report stated that 10,280 of Chippewa County's 35,300 residents were military and civilian employees or dependents. Neighboring MacKinac county had 130 Kincheloe employees or dependents in its 10,150 population. [Ref. 12]

The same impacts of the base closure that would happen in Dallas and Selma Counties when Craig Air Force Base closed were predicted to happen when Kincheloe Air Force Base closed. It was estimated that the unemployment rate would go up by almost 10%, and that the housing vacancy rate would increase by as much as 30%. It was also estimated that the values of real estate would drop by 50%, with a total cost for unemployment and food stamp

compensation as well as aid to the school district of almost $5.4 dollars. [Ref. 12]

4. Watertown Arsenal

A final example of the local economic impact concerns the closing of the Watertown Arsenal. An examination by the General Accounting Office verified that the items being produced at Watertown had previously been procured from private industry. Although they were unable to determine whether the cost of any future procurement of these items would be more or less than the cost to produce them at Watertown, past experience had shown that generally the cost of items procured had decreased when competitive procurement exists. The same kind of problems from the closure of this installation could be expected as with the other bases. The Army estimated that it would be able to integrate the 2306 civilian workers into other local federal facilities. However, at the time of this closure, two of the largest of these facilities, the Springfield Arsenal and the Portsmouth Navy Yard, were laying off workers. Another large employer of federal employees, the Boston Naval Shipyard, was also facing possible closure. [Ref. 14]

5. Data Contrary to the Adverse Effect on the Local Community

Contrary to the data from these proposed base closures, other articles suggest that the effect of the military presence on the local community is not as great. The Department of Defense's Summary of Completed Military

Base Economic Adjustment Project; 25 Years of Civilian Reuse shows that in 77% of the base closures the number of jobs created was greater than the number lost. [Ref. 5] A report by John E. Lynch, which examined the effect of 24 base closures upon the local retail sales, was studied. This report showed that in only seven cases did the sales volume fall. [Ref. 16] Another study by The Advisory Commission on Intergovernmental Relations, which was completed in 1976, found that military commissaries ranked ninth among top food store chains in the United States in sales volume. This study also showed that the exchange facilities ranked seventh among department and variety store chains. [Ref. 19] One of the explanations for this could be the fact that purchases of goods and services by the military and their dependents are for the most part concentrated on the base itself. It is estimated that from one-third to one-half of their total purchases are made on post. [Ref. 20]

In a report by the Boise-Cascade center for community development before the U.S. Congress, House Select Committee on Small Business it was determined that the revenues generated by a military installation were "not nearly comparable to what would be received from a similar private employer." [Ref. 21] Whereas a private employer would generate a greater benefit to the community than any cost it would cause, the Boise-Cascade report stated that

military installations generate a benefit of only 69 cents for every dollar they cost the community. [Ref. 21] The majority of the benefit to the local community from private industry is through increased local tax revenues. Military installations have a tax exempt status and, thus, do not generate as much benefit as private industry. For example, no property tax is paid on base housing and no sales tax is collected at the commissary and exchange.

Examination of the total number of new housing units added to the inventory by the Department of Defense shows an increase of 6800 for 1987. [Ref. 22] At the same time the Defense Manpower Data Center shows a decline in total Department of Defense manpower from 2,163,578 to 2,137,415. [Ref. 23] These two facts indicate that the effect of the military upon the local housing market is decreasing.

Testimony before the Defense Secretary's Commission on Base Realignment and Closure on the issue of the socioeconomic impacts associated with base realignment and closure emphasized the need for the government to get involved. The testimony spoke of the need to schedule meetings between local officials and the concerned government agencies as soon as possible. There was also an emphasis on the knowledge of the office of Economic Assistance and the role it has played in past closures. [Ref. 1] Examples of just how communities have recovered can be found in Communities in Transition [Ref. 24] and

Civilian Reuse of Radar Stations [Ref. 25]. Both of these publications are put out by the President's Economic Adjustment Committee. In the Communities in Transition publication, there are profiles of 20 communities that were affected by base closures and the extent to which they have recovered. [Ref. 24] The other publications tells of the reuse of 29 closed radar installations. It gives a breakdown of the location, general description of the station and a general description of the region in which the station is located. It also tells to what new use the land has been put, the effects upon the economy and the future plans for land. [Ref. 25]

Another aspect of the local economic impact is the federally funded assistance that is available to the local community if a base is to be closed. Many non-DOD federal agency programs aid affected employees and communities if a DOD installation is closed. Some programs help communities organize, plan and carry out projects to benefit displaced workers, affected businesses and other community interests. Other programs provide, direct individual aid. The President's Economic Adjustment Committee, for example, helps communities receive this federal assistance and coordinates with the agencies to assure that aid is received promptly and is applied effectively. Examples of this aid are:

- Establishing a local development organization.
- Developing a regional development plan to attract private investment.
- Training unemployed people to fill existing or new jobs.
- Converting DOD facilities for civilian use.
- Providing loans to build and equip plants for new industry. [Ref. 11]

6. Summary

A review of past base closures and proposed closures shows that there can be cases in which there is a substantial economic effect upon the community. The same report that tells of these adverse effects also tells that a majority of the communities recovered. Other reports tell not only of the extent to which the communities have recovered but also the manner in which they have surpassed old employment figures. These reports talk about unemployment being down and bank deposits, real estate values and the community tax base being up.

From reading of past base closures, it also can be seen that, to ease the impact on the local community of a major defense program change, economic adjustment assistance is available. This type of assistance is not only for base closures, but for major realignments as well. Not only must the removal of the troops from the base be considered, but the adding of these same troops to a new community must receive similar consideration. The impact of such moves of Defense Department personnel is always taken into

consideration. Whenever possible, steps are taken to minimize this impact. If it is determined that this impact will be of a great consequence upon the community, the Department of Defense will take all steps possible to reduce the problem to a manageable size. The Economic Assistance Program was created for just this purpose.

F. ENVIRONMENTAL IMPACT

The Defense Secretary's Commission on Base Realignment and Closure held a hearing on the environmental issues involved with closing a military installation. The majority of the testimony at the commission's hearings concerned the compliance with or relaxation of the National Environmental Policy Act (NEPA). Environmental groups, such as The Sierra Club, National Wildlife Federation and the Environmental Law Institute, advocate total adherence to NEPA, while the Department of Defense, as well as the different service secretaries, would like to waive its requirements. Specifically, what is being addressed here is that the environmentalists want the Department of Defense to clean up all hazardous waste prior to the closure of a base. The Department of Defense wants to be released from the requirements of NEPA, because it is the primary stumbling block that Congress has put before them to keep them from closing a base. The Department of Defense contends that it can "enjoy a significant cost savings" [Ref. 26] by placing the base in a inactive status. It could then use this

savings as part of the clean-up cost. The environmentalists fear that, once the base is closed, the clean-up of the hazardous waste on the base will become a low priority. They fear that it will take longer for the Department of Defense to go in and clean up the waste, and the effect of the waste on the environment will only worsen. The current fear is that, if left alone, the waste will leach into the surrounding ground water and the contamination will spread. [Ref. 1]

G. POLITICAL IMPACT

The criterion of the political impact associated with the closure or realignment of a military installation is closely tied to that of the local economic impact. A member of Congress gets elected by garnering the majority of the votes during elections held in his or her district or state. The way they remain in office is to insure that they maintain a greater percentage of "satisfied" voters then their opposition during each election. In the case of base closures or realignments, a "satisfied" or happy voter is one with a job. We have seen from previous data that base closures without exception involve job loss. As a consequence, members of Congress who have military installations in their districts or states, are not favorable towards base closures.

The extent that some Congressional members go to in order to block even the remotest possibility that an

installation in their state or district will be closed is quite evident. First, Congress tried to abolish the Defense Secretary's Commission on Base Realignment and Closure. It was said that the formation of such a Commission would be an abdication of its duties. When that didn't work, Congress tried to expand the size of the Commission in an attempt to "stack" it with anti-base closure people. The reason for this was to insure that each member of Congress had representation from their part of the country. Congress also tried to delay the report date of the Commission. Finally, Congress tried to expand the scope of the Commission to include foreign bases, in view of the fact that the money spent on overseas bases was much greater than that spent in the United States. By reading the minutes in which the formation of the Commission was proposed one can see the extent to which efforts to close military installations were blocked, and some of the hurdles the Commission had to overcome. [Ref. 8] This aspect of base closures will be further examined in the next chapter.

H. IMPACT ON MILITARY READINESS

The Defense Secretary's Commission on Base Realignment and Closure held a hearing on how the services were organized, their missions and their base structure. During this hearing testimony was given by the different service representatives as to how they had conducted base closures and realignments in the past. The different service

representatives explained the different service structures and the base structures associated with them. Each representative told of the different missions that they are responsible for and of the current requirements that have been made upon them. [Ref. 1] In his statement before this Commission Mr. Stephen Moore spoke of using strictly a national defense criterion for the closure of military installations. He suggested the primary concern of the military and the associated base structure was to support the national defense. He stated that the utility of a military base should be measured purely on the basis of its military application. He believed that to do otherwise was to invite pork barrel politics. He also recommended that, because of the General Services Administration's poor record in disposing of federal property, closed bases should be sold by the Department of Defense. [Ref. 1]

Without a doubt the chief base closure criterion used by the Department of Defense is the needs of national defense. Every service representative appearing before the Defense Secretary's Commission on Base Realignment and Closure used national defense as its basis for requesting that a base remain open or to be closed in the DOD's best interest. They spoke of "meeting the threat" and being able to carry out their different "missions." In his statement before the Commission, the Honorable James McGovern, Under Secretary of the Air Force, outlined that "mission" is the primary

concern for the basing criteria of the Air Force. [Ref. 1] In its evaluation of the Watertown Arsenal, the Army stated that it could no longer justify its continued operation because the material it produced could be obtained from private industry at a lower cost. Hence, the Watertown Arsenal was no longer necessary to the needs of the national defense. [Ref. 14] The Army felt that it could also realign the activities from Fort Douglas to Fort Carson and not affect the readiness of the reserve units which it serviced. [Ref. 15] The Air Force did the same thing when it closed Kincheloe Air Force Base. The Air Force felt that, with the reduced tensions of the times and the scaling back after the Vietnam war, Kincheloe was no longer necessary to the national defense. [Ref. 12] Some recent base closures have been the consequence of advancing technology. The job of many of the Defense Early Warning (DEW) stations was replaced by just such advances.

1. Summary

The major criterion that the Department of Defense uses for the closure of a military installation is based on the needs of the national defense. Advances in technology are allowing for the development of smaller and more accurate defense systems. The bulk of the base closures that took place in the 1960's and 1970's was a direct effect of the end of the war in Vietnam. The Department of Defense evaluated the capacity of its base structure and made

closures and realignments on the basis of its perceived needs in the support of national strategy.

I. SUMMARY OF LITERATURE REVIEW

Each of the documents examined in this chapter presents a different aspect of the same problem. Some are pro-base closure and some are anti-base closure. In this chapter, however, the author is not concerned with what position someone might take on the issue of base closure. What the author is interested in doing is developing the criteria for base closure.

It is clear that cost to the federal government is a major criterion of base closure. Not only does one have to consider direct costs but also related costs, such as grants from the Commerce or Labor departments to help establish private industry in the community. These costs show up in the proposals that the Department of Defense submits on realignments as well as closures. These same costs were then evaluated by the General Accounting Office. The recommendations of the President's Private Sector Survey on Cost Control and the subsequent analysis of these recommendations by the General Accounting Office/ Congressional Budget Office show that the federal government has costs it can cut.

The need for these cuts was echoed by the different service representatives before the Defense Secretary's Commission on Base Realignment and Closure. They told of

operating the bases under ever tightening budget constraints. The closure or realignment of some military installations is made easier because the Department of Defense finds them unnecessary to the national defense. In the proposals submitted by the Department of Defense, the primary criterion is the requirements of the national defense.

Another important criterion is the economic effect upon the local community. This criterion is closely tied to the criterion of political impact. Politicians rely on their constituents for their continued political careers. They cannot hope to keep their jobs if they do not oppose the loss of jobs for the voters in their district or state. The same cost savings that the government can realize by closing military installations directly impact the local community. The Summary of Completed Military Base Economic Adjustment Projects; 25 years of Civilian Reuse gives 100 examples of base closures. It gives the numbers of jobs lost and gained, and gives a list of the new industries that have been set up. The case studies of Kincheloe and Craig Air Force Bases, the New Cumberland Repair Depot and Fort Douglas show the effect upon the community can be quite adverse. However, other documents such as Local Economic Development After Military Base Closures by John Lynch and The Community Impact of Military Installations by Darwin Daicoff dispute the severity of the effect. The publication

Communities in Transition also shows that the communities can recover.

One other criterion is that of the environmental impact of a base closure. Environmental groups do not want the requirements of the National Environmental Protection Act to be relaxed. The Department of Defense wants these requirements eased so that it can close the bases and begin to realize some savings. DOD states that clean up will take place after the bases are closed and some savings realized.

III. ANALYSIS

A. COST TO THE FEDERAL GOVERNMENT

This portion of the analysis is divided into discussions of one-time costs, recurring costs, one-time cost savings and recurring cost savings to the Federal Government. It also addresses some of the problems of estimating these costs. The analysis of one-time costs is further divided into one-time costs to the Department of Defense and one-time costs to other Federal agencies.

1. One-Time Costs

One-time costs are exactly what they appear to be. They are costs which are incurred only once during the closure of a base. They are divided into two parts.

a. One-Time DOD Costs

The following are costs which are incurred directly by the Department of Defense in the closing or realignment of an installation:

- Military and civilian transfer costs.
- Construction and caretaker costs.
- Contract termination.
- Recruiting and training new personnel.
- Equipment removal and reinstallation.
- Packing, crating and unpacking.
- Transportation of equipment.

Some of the more obvious one-time costs of a base closure include equipment removal and reinstallation, packing, crating and unpacking, the transportation of equipment and the transfer of military and civilian personnel. There are no detailed data available on the cost breakdown of the removal and reinstallation of equipment, packing, crating and unpacking or the transportation of equipment for most of the proposed base closures. However, in the proposed closure of Kincheloe Air Force Base, the Air Force used an initial cost per pound of $.77 for the transportation of 275,000 pounds of material. The Air Force revised this estimate to $.12 per pound when the GAO requested the material transportation costs on the basis of estimated weight of vehicles and equipment at the base. This revised weight estimate was 14.1 million pounds. The original Air Force estimates excluded a majority of the equipment and vehicles which needed to be transported to other locations. Although there do seem to be some cases in which the total weights to be transferred differ, final costs were, for the most part, the same in both the service and the GAO estimates.

Other costs which must be considered during the closure of a base are costs of base support. One of these costs is contract termination. The cost of contract termination can be found by doing an analysis of the termination clauses in the current contracts administered by

the base. In the case of Kincheloe Air Force Base, these contracts included natural gas, aviation fuel, and construction. The total contract termination cost for Kincheloe was $981,000. Other services which need to be terminated are such things as garbage removal, electricity and sewage removal. These costs are closely related to the recurring cost savings of ceasing base operations. The cost savings of ending base support costs are initially offset by the one-time cost of terminating these services.

The costs to recruit and train new personnel is another area of disagreement between the services and the GAO. In the realignment of support operations for the Army's CH-47 from New Cumberland, Pennsylvania to Corpus Christi, Texas, the Army estimated that it would need 233 additional people at Corpus Christi, while the GAO estimated there would be a need for 293 additional people. The Army estimated it would need $188,200 to recruit and train these people, while GAO estimate was $286,350. This is a per person recruiting and training cost of $808 for the Army and $977 for the GAO.

The cost of recruitment and training are important aspects of any base closure or realignment in which some of the functions of one base will be transferred to another. These costs are directly related to the proportion of the operations and the number of personnel from the former base that are transferred. The number of

additional personnel required to supplement the personnel transferred will require some training and there will be some cost to find these people.

One of the major portions of the one-time costs of the closure of an installation is the cost of transferring both military and civilian personnel. It does not matter if the military position is being terminated or moved to another installation. The government is still liable for the cost of a final move. For terminating military personnel, this move is from their current location to their home of record or a location of lesser distance than their home of record. The following are examples of costs for proposed base closures

(1) Military Personnel Transfer Costs.

	Estimated Total Costs	Estimated Per Person Cost
KINCHELOE AIR FORCE BASE [Ref. 11]		
- Air Force Estimate	$2,896,000	$1284
- GAO Estimate	$2,935,000	$1296
FORT DOUGLAS [Ref. 13]		
- Army Estimate	$47,800	$298
- GAO Estimate	$46,300	$289
LORING AIR FORCE BASE [Ref. 32]		
- Air Force Estimate	$3,480,990	$1314
- GAO Estimate	$3,665,125	$1383

(2) Civilian Personnel Transfer Costs.

	Estimated Total Costs	Estimated Per Person Cost
KINCHELOE AIR FORCE BASE [Ref. 11]		
- Air Force Estimate	$158,000	$389
- GAO Estimate	$387,000	$801
FORT DOUGLAS [Ref. 13]		
- Army & GAO Estimates	$264,800	$2878
LORING AIR FORCE BASE [Ref. 32]		
- Air Force & GAO Estimates	$800,000	$2105
NEW CUMBERLAND ARMY DEPOT [Ref. 12]		
- Army Estimate	$1,003,656	$1156
- GAO Estimate	998,024	$1010

These estimated per person costs for the transfer of military and civilian personnel were based on the proposed transfer costs and the number of military and civilian personnel at the base. These six estimates for the military personnel transfer costs have a weighted average cost of $1311 per person. In terms of percentage of military personnel reduced in force, Kincheloe reduced their command by 51%, Fort Douglas by 4%, and Loring reduced by 49%. These proposed closures averaged out to a 35% reduction in force. The weighted average per person civilian transfer cost is $1126. The average percent of the civilian work force reduced in the proposed closure of Kincheloe and Loring Air Force bases and of Fort Douglas was 62%.

Another aspect of one-time DOD costs is that of caretaker costs. The following is a list of costs from GAO evaluations of DOD proposals of base closures:

	NUMBER OF ACRES	CARETAKER COSTS	COST PER ACRE
Fort Douglas	119	$288,733	$2,426.33
Kincheloe AFB	6200	$5,118,000	$825.48
Fort Dix	31,110	$1,921,333	$61.75

The caretaker costs for these three bases and the acreage for Fort Douglas and Kincheloe AFB came from the GAO evaluations of DOD proposals to close or realign these bases. The information on the acreage of Fort Dix came from a DOD publication of all the military installations within the United States and its territories. [Ref. 27] These calculations show a decreasing caretaker cost per acre as the size of the facility increases. Once again, the lack of detailed data prevented further calculations, such as caretaker cost per building or the number of caretakers per building or per acre of property. These data were available on the proposed closure of Kincheloe Air Force Base and the numbers calculated were one caretaker per 19.31 acres and one caretaker for every three buildings. Another calculation made using these data was that there was a proposed cost of almost $24,000 per year per caretaker involved.

There is some correlation between the recurring savings and the caretaker costs of a base closure.

The larger a military installation, the larger the caretaker cost. However, the larger the installation, the larger the base operations and the larger the recurring cost savings from its closure.

There is very little analysis that can be done on the one-time costs to the Department of Defense. This is due to a lack of detailed data. The data that the author was able to obtain were very generalized data from GAO evaluations of DOD proposals to close or realign bases.

b. One-Time Costs to Other Federal Agencies

There are also one-time costs to other government agencies which are affected by a base closure. These government agencies include the Departments of Labor, Commerce and Health Education and Welfare.

(1) Grants. Another aspect of the cost to the government that needs to be included in the calculation of base closure costs is that of economic grants. The state or community can receive funds from federal agencies to help it recover from a base closure. In a special report the U.S. Department of Labor, Manpower Administration, documented the distribution of grants for manpower retraining. This document shows that $18,827,400 was distributed to 19 communities, involving some 11,264 persons. [Ref. 16] The cost of this program per community is $990,915 with a cost of over $1,600 per person involved. Fort Smith, Arkansas received a total of $2,221,400 in loans and grants from

three different federal agencies. When the Army closed the Burlington Army Ammunition Plant; Burlington City, New Jersey received $5.8 million in grants from the Department of Commerce. [Ref. 28] In an examination of nine communities affected by base closures, a total of $26,158,400 was distributed in the form of loans or grants by the Departments of Commerce, Labor and Health Education and Welfare.[1] Although it may be difficult to estimate the cost to the government of grants from federal agencies for future base closures, it must be considered in the closure costs of a military installation. [Ref. 16]

2. Recurring Costs

The annual costs of a base closure are determined by numerous factors. The increased housing allowance payments resulting from removing available quarters from the DOD inventory and the costs of providing support for any remaining personnel are two examples. The analysis of recurring costs is further divided into DOD and non-DOD recurring costs.

a. Recurring Costs to DOD

The costs of the personnel remaining in a geographic region where a base closure has taken place are often incurred by those people who will now have to go to

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[1]These communities are Fort Smith, Arkansas, Springfield, Massachusetts, Rome, New York, Middletown, Pennsylvania, Greenville, South Carolina, Greenville, Mississippi, Reno, Nevada, Waco, Texas, and Moses Lake, Washington.

the private sector for services which were provided by the base. These costs include increased CHAMPUS costs, costs of gas and lubricants due to greater distance which must be driven from the new base, and military personnel support. The increase in CHAMPUS costs comes about as a consequence of closing the hospital on a military installation. The closure of such a hospital will make it necessary for retired personnel to seek medical attention from the private sector. This will cause an increase in CHAMPUS costs paid to these private sector medical facilities to cover the needs of DOD retirees.

These increased CHAMPUS costs along with increased BAQ, VHA and subsistence allowances will occur for active duty personnel who must remain in the area after a base closure. In the case of Kincheloe Air Force Base, the closure of the hospital and the elimination of available base housing could cause an increase in the aforementioned costs and allowances for the personnel who have to remain and operate the radar station. These costs are called personnel support costs. For the closure of Kincheloe Air Force Base, the Air Force used a cost of $950.00 per person to determine the personnel support costs. [Ref. 12] These increased costs tend to offset the recurring cost savings of shutting down the operations at the base. These recurring cost savings will be discussed later.

The increased cost in gas and lubricants is an example of recurring costs associated with the proposed closure of Fort Douglas. The maintenance facility at Fort Douglas does routine maintenance at National Guard installations in the surrounding area. Shifting this operation to Fort Carson will cause an increase in the usage of gas and oil due to the fact that Fort Carson is further away from these National Guard installations. The Army estimated an increase of $12,000 per year for additional gas and lubricants as a recurring cost of the proposed realignment from Fort Douglas to Fort Carson.

b. Non-DOD recurring costs

Another recurring cost, which is pecular to the closure of an installation which has some potential historical interest, is that of maintaining the old military installation as a national historic site. This was one of the proposed costs of closing Fort Douglas. The GAO estimated an annual cost of $500,000, while the Department of the Interior's cost estimate was $400,000. [Ref. 15] It would appear that another recurring cost is that of caretaker status. The readings suggest the military services are responsible for the initial caretaker costs. However, after the initial 18 months, the facility is in the hands of the GSA and it is responsible for caretaker costs if the property has not been sold. [Ref. 12]

3. One-Time Cost Savings

One-time cost savings, or cost avoidances, are strictly a function of construction projects that were planned but will be cancelled if the base is closed. These construction projects must have the funds already allocated, yet construction not started. The proposal to close Fort Dix had an Army estimated cost avoidance of $20.2 million. [Ref. 29] The Air Force estimated the cost avoidance for Kincheloe and Loring Air Force Bases at $9.2 million [Ref. 12] and $26.6 million [Ref. 27], respectively.

4. Recurring Cost Savings

The amount of recurring cost savings is dependent upon the size of the installation. The more civilian or military jobs terminated, the greater the savings. The key to the realization of these savings is the actual reduction of end-strength numbers. If the personnel are transferred from one base to another there are no actual savings. In the calculation of the cost of closing of Loring Air Force Base, the GAO used the wages of officers, enlisted and civilians. The costs were $25,024 for officers, $10,709 for enlisted and $17,004 for civilians. These are annual costs per person. [Ref. 27] The Army used an enlisted cost of $11,372 in the proposed closure of Fort Dix [Ref. 29] and $18,028 for the civilian cost in the closure of New Cumberland Army Depot. [Ref. 13]

Other costs to be included in the calculation of recurring cost savings include housing and base operation and maintenance, contractor support, and communication. The savings in housing operation cost from the proposed closure of Fort Douglas was $191,000, or $2,894 per house. [Ref. 15] Kincheloe Air Force Base had 375 houses on the post at the time of the closure. The savings per house of the proposed closure was $3,624. [Ref. 12] There were also recurring savings of $368,000 in communication fees that GAO estimated in the proposed closure of Kincheloe. These savings would come about from the decreased usage of telephone lines and communication networks.

As discussed in the section on recurring costs, the offsets to the recurring savings of base operations are the increased costs of personnel support. The removal of available housing increases BAQ and VHA costs, and the loss of medical and dental facilities increases CHAMPUS costs. Offsetting the recurring cost savings of leased communication lines is the one time cost to disconnect this service and any contract termination costs.

5. Cost Estimation

Cost estimation is a major issue in using cost to the government as a criterion for base closures. In the 10 October 1979 review by GAO of the Army's proposal to close Fort Douglas, there were numerous instances where the GAO and Army costs did not agree.

Examples of these disagreements include when the GAO used the rate/rank of the actual personnel occupying base housing to calculate BAQ savings, while the Army used a standard rate/rank of "lower grade personnel." [Ref. 15] The Army totaled the square footage of office space and storage space at Fort Douglas and used this to determine the cost of leasing at the new location. The Army then applied a cost of $5 per square foot of storage space. The GAO found that the Army's total square footage included the Navy and Marine Corps Reserve Center, which was to remain at Fort Douglas. The GAO also found that the Army needed to apply a cost of $2 per square foot of warehouse storage space and $8 per square foot of storage space of less than 500 square feet, leased jointly with office space. The Army included in their proposed cost of leasing space enough parking spaces for all personnel to be transferred. GAO officials stated that the government pays for parking of government owned vehicles only, so it deleted that cost. [Ref. 15]

The GAO review of the Air Force's proposal to close Kincheloe Air Force Base found similar errors in cost estimation. These errors included a duplication in savings of $508,000 from the family housing operation, as these were already included in estimated personnel cost savings. The Air Force estimated a savings of 100 miles per day by closing Kincheloe and removing it from the air delivery route. The actual savings was 50 miles. The Air Force

underestimated the communications cost savings by not taking into account savings from leased phone lines and the transfer of communication equipment to other bases. The GAO included the loss of temporary part-time positions as a cost savings while the Air Force did not. [Ref. 12]

These differences in cost estimation between the different services and GAO occurred in other evaluations that the author used in the research for this thesis. These differences can be seen in the section on one-time DOD costs in this chapter. The tables of military and civilian personnel transfer costs clearly show this difference in cost estimation. Other areas in which difference in cost estimation occurred were in the calculation of recruitment and training costs and in caretaker costs. Any cost estimation which involves personnel is one for which there can be a difference in total cost. This occurs in the majority of cases examined by the author because the military branch and GAO cannot agree on the total number of personnel involved in the closure or realignment.

The following is a table of the proposed cost and savings estimates for the closure or realignment of five military installations:

	DOD ESTIMATE		GAO ESTIMATE	
MILITARY BASE	ONE TIME COST	ANNUAL SAVINGS	ONE TIME COST	ANNUAL SAVINGS
Fort Dix	53.31	16.25	72.47	15.84
Loring A.F.B.	8.70	26.70	8.90	25.70
Fort Douglas	2.56	.79	2.65	.58
Kincheloe A.F.B.	11.34	22.17	27.90	27.95
New Cumberland Army Depot	5.82		6.58	

These estimates are in millions of dollars. The service's cost estimates were less than the GAO cost estimates in all five of the cases examined. The service's savings estimates were more than the GAO savings estimates in three out of four of the cases examined. The differences between the service's and GAO's estimates of the cost of a base closure range from $90,000 to $19.16 million. The differences, however, between three of the five estimates were less than $800,000. The reason for the large difference in the Air Force's and GAO's estimates of the proposed closure of Kincheloe was because GAO included caretaker costs and costs associated with unemployment and food stamp compensation and the Air Force did not. The reason for the large difference in the estimation of cost for the proposed closure of Fort Dix was because the Army included a one time cost avoidance of $20.25 million in construction projects. GAO did not include these costs because the Army had not received final authorization for the expenditure of the funds for the projects.

There were data available on the one-time cost avoidances for Fort Dix, Loring AFB and Kincheloe AFB. However, in the case of Fort Dix and Loring AFB, the GAO did not feel these costs were warranted because the funding for them had not been approved. These bases had a DOD estimated total one-time cost avoidance of $56.1 million. The GAO, however, only recognized a $9.043 million one-time cost avoidance for Kincheloe AFB.

6. Payback Period

The proposed costs for the closure of the different bases examined by the author range from $73.6 million for Fort Dix to $2.6 million for Fort Douglas. The payback period (the time it would take to recover the one-time cost of closing a base) ranged from over six years to less than one. The average time to recover one-time costs of a base closure for both the DOD and GAO was estimated for four base closures[2] at 4.1 years. All of these payback periods fall within the guidelines established by the Department of Defense, which is seven to ten years [Ref. 27]. The majority of these periods also meet the Secretary of Defense recommended six year time frame for a payback period [Ref. 1]. These payback periods include a Department of Defense standard interest rate of 10%. [Ref. 30]

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[2]These four bases were Forts Dix and Douglas and Kincheloe and Loring Air Force Bases.

7. Summary

As discussed previously in this section, there is a considerable lack of detailed data available on costs of a base closure. The GAO evaluations of the DOD proposals to close or realign bases provide some data. These are only the totals, however, they do not provide the information on how the totals were arrived at. There is more information available from federal agencies other than the Department of Defense. This information is usually more detailed information. However, this information is only a small portion of the overall costs to the Government.

A critical factor as far as costs to the government is concerned is the problem of cost estimation. Examination of the studies of base realignments and closures clearly shows that the different services have difficulty estimating all the costs of a base closure. It would appear that they estimate only those costs which directly affect the Department of Defense. The Department of Defense consistently underestimated the costs and over-estimated cost savings.

B. LOCAL ECONOMIC IMPACT

Perhaps the most publicized aspect of a base closure is the impact that it has on the local community and its economy. This impact includes, primarily, the effects upon unemployment and retail sales. This section will include an

analysis of how communities affected by base closures have recovered and grown.

1. Impact on Unemployment

Two major economic effects of a base closure are the layoff of the civilian work force and the transfer of the military personnel. The data presented below on the increase in unemployment clearly show that there is an effect upon the community. The Summary of Completed Military Base Economic Adjustment Projects lists 100 cases of base closure. In the closure of these 100 bases, a total of 93,424 civilian jobs were lost. That's an average of 934 people per closure. The average is not that significant because the actual number of job losses ranged from 0 to 12,300. The figures from the Summary of Completed Military Base Economic Adjustment Projects on new civilian jobs shows that there were 138,138 new jobs created to offset the 93,424 lost. This results in a ratio of more than 1.48 jobs created to jobs lost. The number of jobs created was greater than the number of jobs lost in 72% of the closures cited in this publication. In these closures there were 116,159 jobs created and 39,626 lost. This gives a ratio of 2.93 jobs created to those lost. The closure of Brookley Air Force Base in Mobile, Alabama and Olmsted Air Force Base in Harrisburg, Pennsylvania account for 22,350 of the lost jobs. This is almost 25% of the lost jobs in only 2% of the base closures. Removing these two bases from the survey

drops the average number of jobs lost to almost 800. However, in 28% of these cases, the jobs lost outnumbered the jobs created. There was a loss in these cases of 53,798 jobs compared to the 21,979 jobs created. This results in a ratio of over 2.45 jobs lost to jobs created. [Ref. 5] The following are some statistics on the increase in unemployment for cities where base closures took place: [Ref. 31]

City/State	Unemployment Increase After Base Closure
Sault Ste. Marie, Michigan	10.4%
Saltville, Virginia	19.5%
Selma, Alabama	21.7%
Houma, Louisiana	5.4%
Mobile, Alabama	7.3%
Duluth, Minnesota	1.0%
Orlando, Florida	4.0%

The data for unemployment increases for Sault Ste. Marie, Michigan and Selma, Alabama were estimates. The Sault Ste. Marie, Michigan estimate came from the GAO's review of an Air Force proposal, and the Selma, Alabama estimate came from a document on the closure of Craig Air Force Base published by the people of Selma and Dallas counties. The unemployment increase for Saltville, Virginia came from the publication Communities in Transition. [Ref. 24] The data for the unemployment increases for the remainder of the cities came from decreases in employment reported in the U.S. Department of Labor's Employment and Earnings for the years that the military installation in the affected city closed. [Ref. 31]

2. Impact on Retail Sales

Table 1 is a list of the 24 communities mentioned in the article by John Lynch in which the effect of a base closure on retail sales was measured. [Ref. 16] From the data presented in the article by John Lynch, it can be seen that the closure of a military installation affected the retail sales of the local community less than 30 percent of the time. Of the seven communities which saw a drop in retail sales, five had an increase in sales the first year after the closure. Of the 22 cities in which there were data available for the first year after the closure, 86% showed an increase in retail sales over that of the year before closure. This information, combined with the report from the U.S. Advisory Commission on Intergovernmental Relations [Ref. 19] and the analysis done by Darwin Daicoff [Ref. 20], suggests that a major portion of military payroll is spent within the base itself, and not entirely in the local community.

3. Other Economic Effects

There are other economic effects which can be directly attributed to the transfer of military personnel. Figures concerning the proposed closure of Craig Air Force Base are as follows:

- The base personnel raised $35,000 in pledges for the local combined federal campaign.
- The local hospitals estimated 20% of their business came from the base.

TABLE 1

RETAIL SALES IN MILLIONS

Community	Year before closure	Year of closure	1st year after closure	2nd year after closure
COMMUNITIES WHICH HAD A DECREASE IN RETAIL SALES				
Lake Charles, LA	143.9	141.0	149.1	154.7
Presque Isle, ME	22.8	19.4	20.3	21.3
Salina, KS	90.2	89.2	94.3	99.2
Greencove Springs, FL	14.1	12.8	13.2	14.7
Reno, NV	240.0	239.4	238.0	
Roswell, NM	71.2	70.0	78.1	
Edgemont, SD	11.9	10.8		
COMMUNITIES WHICH HAD AN INCREASE IN RETAIL SALES				
Mobile, AL	$440.0	$458.6	$477.2	$482.6
Fort Smith, AR	177.9	178.4	186.5	198.6
Macon, GA	196.3	220.2	235.9	306.3
Decatur, IL	161.8	161.8	177.5	195.1
Springfield, MA	847.8	860.6		
Greenville, MS	115.6	132.0	137.0	144.4
Lincoln, NE	238.3	240.4	255.2	247.8
Sidney, NE	22.4	23.9	25.2	25.9
Rome, NY	441.2	462.2	490.7	504.6
Port Clinton, OH	41.0	44.9	46.4	49.0
Toledo, OH	721.4	731.4	780.9	836.4
Harrisburg, PA	706.1	747.6	792.3	
York, PA	392.8	393.5	437.7	467.5
Greenville, SC	243.9	250.6	294.5	318.9
Harlingen, TX	151.0	154.3	161.9	167.9
Waco, TX	194.7	211.7	220.0	248.8
Moss Lake, WA	67.9	72.2	82.1	

- An estimated 260 homes and apartments would be vacated.
- The loss of $100,000 in federal impact funds.
- An average $80,000 annual loss in tuition paid to the local state community college. [Ref. 18]

This is an additional economic burden of over $200,000 which was put on the community.

4. Recovery of the Local Community

The 100 former bases in the Summary of Completed Military Base Economic Adjustment Projects are now the location of 12 four-year colleges and 33 post-secondary vocational technical schools or community colleges. Forty-two of the bases are now Municipal or General Aviation airports. Seventy-five former bases are the sites of industrial and office parks. [Ref. 5] Another study issued by the President's Economic Adjustment Committee, titled The Civilian Use of Radar Stations, shows that the number of jobs created outnumber the jobs lost in greater than 50% of the closures, while only 14% of the facilities were found to have no economic value. [Ref. 25] The following are examples of how communities have recovered:

- Saltville, Virginia--Five years after the closure of Air Force Plant #80, unemployment has dropped from a high of 25% to 9% and retail sales are up 64%.

- Benicia, California--Ten years after the closure of the Benicia Military Arsenal property values have increased 9 1/4 times. Tax revenues are up by more than 700%, the job ratio is 1.29 jobs created to jobs lost, and the building occupancy rate is at 95%.

- Edison, New Jersey--Ten years after the closure of Raritan Arsenal, the installation now houses Middlesex County College, which enrolls 8000 full-time and 10,000 part-time students, and employs three times as many people as the arsenal did. [Ref. 24]

- Hanna City, Illinois--The state began operations of a youth center almost immediately after this radar station closed. The youth center employs approximately 100 people, providing many more jobs than the Air Force did. Included in this job figure is most of the maintenance staff that worked for the Air Force. [Ref. 25]

It often takes two or three years for a community to recover from the loss of a military installation. [Ref. 5] However, this is dependent on the actions of the local community. Prompt action by the local community can insure a shorter turnover time between the military and private industry. [Ref. 11] The community of Mineral Wells, Texas recovered in just seven months, and the community of Greenville, South Carolina recovered in just four months. In both cases, the involvement and quick response of the community leaders was the cause of such short recovery times. [Ref. 24]

5. Growth of the Local Community

The same closures discussed in the previous section, also show a average annual employment growth of 3.0%, compared with a national average employment growth of 4.0% over approximatly the same period. Specific examples of closures such as Mineral Wells and Laredo, Texas show an average annual employment growth of 14% and 40% respectively. These average employment increases are for the years 1973 to 1977. During this same time the state of Texas experienced an average employment increase of only 4.5%. [Ref. 32] Other examples are shown in the table on the following page:

CITY/STATE	YEAR CLOSED	YEAR RECOVERED	STATE EMPLOYMENT INCREASE	FORMER MILITARY BASE EMPLOYMENT INCREASE
Benicia, CA	1964	1974	40%	30%
Edison, NJ	1964	1974	23%	284%
Brunswick, GA	1974	1977	5%	2172%
Sanford, FL	1968	1977	51%	100%
York, PA	1964	1975	17%	69%
Greenville, SC	1963	1974	61%	433%
Lewiston, MT	1971	1975	16%	3600%

The figures for the state employment increases came from the Office of Economic Adjustment's Communities in Transition. [Ref. 24] The figures for the former military base employment increase came from the Department of Labor's Employment and Earnings [Ref. 31]. The dates for these data were the dates between the year closed and the year recovered.

6. Summary

The effect of a base closure upon the local community is undeniable. The increase in the unemployment statistics for the cities and states listed in this section demonstrates this impact. The closure of the 100 bases listed in the Summary of Completed Military Base Economic Adjustment Projects all had some effect on the local community. These bases averaged 934 job losses per closure. Job losses directly affect other parts of the community. If workers who lose their jobs are transferred or move to find other jobs, the housing market is affected. Also affected is the retail sales of the local merchants and the local tax

base. The transfer of the military personnel and their dependents compounds the adversity of these effects. More houses are vacated, the local merchants lose more sales, and less sales means less sales tax collected.

It is not, however, impossible for the community to recover. The case studies in Communities in Transition show that the sooner the community gets involved with converting the base to private industry, the less will be the impact upon the community. Greenville, South Carolina was on the way to recovery four months after the closing of Donaldson Air Force Base [Ref. 24]. The Summary of Completed Military Base Economic Adjustment Projects shows that overall, base closures have been good for the community. A total of 165,618 new jobs replaced the 93,424 jobs lost [Ref. 5]. This recovery is due in part to the fact that the effect of a military installation upon the local community is not as great as some might think. John Lynch's article clearly shows that retail sales were affected in less that 30% of the base closures [Ref. 16]. This article supports Darwin Daicoff's estimation that as much as 50% of the military payroll is spent on base [Ref. 20]. These factors, combined with the help that is available from the Office of Economic Adjustment and other federal agencies, ease the impact of a base closure upon the local community.

C. POLITICAL IMPACT

The political impact of a base closure often leads to the loss of a job for a congressman. Since there were no hard data to prove that a member of Congress lost his or her job specifically because of a base closure, no analysis was possible. Appendix C gives a breakdown by state of the number of military installations in the United States.

D. ENVIRONMENTAL IMPACT

Testimony before the Defense Secretary's Commission on Base Realignment and Closure by different environmental groups shows that there is genuine concern about hazardous waste left behind after military installations close. The major concern is the contamination of drinking water. The environmental groups want to prevent the contamination of ground water, aquifers and wells. They contend that, if the hazardous waste is not cleaned up prior to the closure, it will be allowed to sit and the chances of further contamination are increased. None of the groups that spoke before the commission offered any data to support this claim. The Office of the Secretary of Defense, as well as the different service representatives, testified that the DOD will clean up the waste, but it wants to close the bases first. Once cost savings are realized, DOD would agree to clean up the hazardous waste. Examination of all applicable laws shows the Department of Defense is liable for clean up. [Ref. 26] There is also a program called Superfund

Amendment and Reauthorization Act (SARA) [Ref. 33] that cleans up contamination found after a base closure.

The author called three of the bases listed in the Summary of Completed Military Base Economic Adjustment; 25 Years of Civilian Reuse to find out if hazardous waste was found after a base closure. The data that the author found indicated that, in one case, hazardous waste was found and that not all of the waste had been cleaned up by DOD.

E. IMPACT ON DEFENSE READINESS

The same lack of hard data that limits the analysis of the criterion of cost to the government again restricts the discussion of national defense as a criterion. The testimony before the Defense Secretary's Commission on Base Realignment and Closure by the representatives of the Department of Defense is unanimous. National defense is the primary concern to the DOD in a base closure. Vice Admiral J.A. Baldwin, Director for Strategic Plans and Policy, Joint Chiefs of Staff, spoke of the importance of bases to the strategic support of national defense. Admiral Baldwin was followed by the Secretaries of the Army and of the Navy, the Under Secretary of the Air Force, and a host of other top echelon officials from the different services. The theme of all their testimony was the same. The critical consideration in the closure of a base is its part in the defense of the United States. This theme was echoed by Professor Thompson is his testimony about privatization of military

installations. He stated that the role the base plays in the support of national defense takes consideration of the benefits of privatization. The Army presented support for the national defense in its proposal to close the Watertown arsenal. It stated that, since the items produced by the arsenal could be obtained at lesser cost from the private sector, it could no longer justify the arsenal's existence. This same lack of justification was the reason for the proposed realignment of New Cumberland Army Depot. The Army had excess capacity in support of its CH-47 helicopter program. It decided to reduce unnecessary support and overhead costs and saw that it could do so, without affecting national defense.

F. SUMMARY OF ANALYSIS

There is a considerable lack of historical data available on the topic of base closures. There is a marginal amount of data available on bases prior to their closure. However, data on the costs of a completed base closure are almost non-existent. As intuitively obvious or pleasing as the aspect of political impact of a closure might be, it is almost, if not, impossible to prove. This same problem exists with respect to the impact on national defense. Information on national defense as a criterion came from base closure proposals and testimony before the Defense Secretary's Commission on Base Realignment and Closure. Hence, the data for national defense, as a

criterion, are just testimony. The testimony before the Defense Secretary's Commission by environment groups provided no data to support their claims that DOD will allow hazardous waste to remain once a base is closed. Data collected by the author show that in one case, hazardous waste was found after the base was closed. The Department of Defense contends that it will clean up the waste, but that it would like to realize some savings first. It also contends that, even if NEPA is relaxed, there are other laws that will insure that it cleans up the waste.

The greatest amount of data that were available were on the impact on the local community. Unemployment statistics, growth rates, and the list of 100 base closures were very informative. The publications, Communities in Transition and Civilian Reuse of Radar Stations, clearly show that communities can and do recover. This information clearly shows the extent to which a closure impacts the local community. The only hard data on costs to the government came from costs to non-DOD agencies. These were data on loans and grants to help the community recover from the closure. The only other information consisted of estimates. These estimates came mostly from DOD proposals for closure or realignment. GAO reports on these proposals clearly illustrate the difficulty in estimating costs and the fact that costs to other government agencies should be

considered, not just those impacting the Department of Defense.

IV. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

Conclusions from the information available on costs to the Federal Government as a criterion for base closures are very limited. This is due to the fact that there is very little detailed information available. One conclusion which becomes obvious from the readings is that the costs which the Department of Defense considers applicable to the closure of a base are only a portion of the total costs to the Federal government. Other agencies incur costs as a consequence of base closures. It can also be concluded that the cost to close military installations can be recovered in the time limits prescribed by the Department of Defense. A final conclusion which can be drawn is that a major issue in the determination of cost to the government is cost estimation. Elimination of the disagreements over how to estimate costs would greatly reduce the discrepancies between DOD and GAO estimates.

Conclusions drawn from the information available on local economic impact as a criterion are more numerous due to the more detailed information available. It is clear that the effect on retail sales is not as great as one might imagine. It is also clear that the number of jobs gained is greater than those lost.

There are no conclusions which can be drawn regarding the impact on defense readiness and the political impact of a base closure. The information gathered by the author on these two criteria are strictly opinions and cannot be substantiated as fact. The same can be said about the information concerning the environmental impact of a base closure. Neither the Department of Defense nor the environmental groups who testified before the Defense Secretary's Commission on Base Realignment and Closure provided any information to support their claims. The author did find one instance to support the claims of the environmental groups.

B. RECOMMENDATIONS

One change in practice that would facilitate subsequent base closure analyses is to retain more detailed records on future closures of military installations. Another recommendation is to give more consideration to Professor Fred Thompson's idea of the privatization of military installations. [Ref. 1] If it comes down to the choice of closing one base or another, and one base would be preferred by the private sector because of its location or facilities, then that base should be chosen. This choice would lessen the effect upon the local community by reducing the time it takes to change over from a military to a private economic base. Also, if the location of one base is preferred by private interests to another, that could increase the price

that the government would receive for the property, thus reducing the cost of closure. A final recommendation is that there be more coordination between the Department of Defense and the GAO in the calculation of the costs involved in a base closure. It would appear that many of the discrepancies in cost estimation can be eliminated with better sharing of the sources of these costs.

APPENDIX A

Summary of Completed Military Base Economic Adjustment Projects 1961-1986

April-May 1986

Community & Facility	Year of Impact / Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	New Civilian Jobs: Direct Off Base Jobs	Major Firms/ Activities	College Vo Tech Students	Land Use	Community Contact
Coden, Alabama Dauphin Island Air Force Station	1971 1972	26 (112)	33	33		University of South Alabama (Marine Environmental Science Consortium)	167(C) 264(S)	E	Dr George F Crozier, Director, Marine Environmental Science Consortium, PO Box 386, Dauphin Island, Alabama 36528 (205) 861 3707
Mobile, Alabama Brookley AFB and Mobile Air Material Area	1965 69 1969	12,300 (10,070)	3,500	3,500		Teledyne Continental Motors International Paper, International Systems, University of South Alabama, Municipal Airport	1,000(C)[a]	A,C,E,F Ho I,O PR,S	Dan DuPont, Manager, Mobile Aerospace Industrial Complex, Mobile, Alabama 36615 (205) 438 7554
Mobile, Alabama Theodore Army Terminal[d]	1965 1965	14 (-)	1,300	1,300		Degussa Alabama Inc., Kerr McGee Union Carbide Ideal Basic Industries Mobile Paint Mfg. Co. Kay Fries Chemicals, Taylor Wharton		I	Jay Garner, Mobile Alabama Chamber of Commerce, PO Box 2187, Mobile, Alabama 36652 (205) 433 6951
Selma, Alabama Craig Air Force Base	1977 1976	547 (1,863)	420	420		Beech Aircraft, Beech Aero Spares Services Inc. Polymer Metals, American Candy Co. Alabama State Trooper Academy, George Wallace Community College Municipal Airport	500(C)[a] 500(T)	A,Ag,C,E, Ho I,M PR,S	Hugh Allen, Executive Director, Craig Field Airport & Industrial Authority PO Box 1431 Selma, Alabama 36701 (205) 874 7419
Thomasville, Alabama Thomasville Air Force Station	1970 1971	18 (110)	175	175		Thomasville Adult Adjustment Center		H	Dr Parker Edwards, Director Thomasville Adult Adjustment Center PO Box 780 Thomasville, Alabama 36784 (205) 636 5421
Kenai, Alaska Weathervane Air Force Station	1972 1974	63 (380)	452	452		Kenai Native Association Inc., Windwood Correction Center Kenaitze Indian Tribe, Elderly Housing Center		E,F,Ho	Willa Konte, Comptroller Kenai Native Association, PO Box 121, Kenai, Alaska 99611 (907) 283 4851
Benicia, California Benicia Arsenal	1964 1965	2,321 (32)	5,510	5,510		Exxon, Sperry Mgt. Systems, Huntway Refinery, Ace Hardware, Huntway Refinery, Toyota Nissan Ford Mazda Honda		Co,Ho,I,O	Dale R. Stringfellow, Managing Partner, Stringfellow Property Ltd., Benicia, California 94510 (707) 745 6561
Los Angeles, California Fort MacArthur[d]	1974 1975	1,306 (750)	1,350[f]	720		Los Angeles Unified School District, Los Angeles Harbor Dept. Hotel - Commercial - Marina Complex, San Pedro - Wilmington Skill Center	600(S)	C,E,I M,O	Dr. Richard Belman, Director San Pedro - Wilmington Skill Center, 920 W. 36th Street San Pedro, California 90731 (213) 831 0795
Malibu, California[d] Nike Site 78	1974 1974	- (142)	40	40		Los Angeles County Fire & Paramedic Center		M,P	Deputy Chief James Haggenmiller, Los Angeles County Fire Department, PO Box 3009, Terminal Annex, Los Angeles, California 90051 (213) 267 2481
Palmdale, California[d] Nike Site 04	1974 1976	- (142)	100	100		Los Angeles County Fire Center & Correctional Facility		E,M,P	Deputy Chief James Haggenmiller, Los Angeles County Fire Department, PO Box 3009, Terminal Annex, Los Angeles, California 90051 (213) 267 2481

Community & Facility	Year of Impact / Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	New Civilian Jobs: Direct Off Base Jobs+	Major Firms/ Activities	College Vo Tech Students	Land Use	Community Contact
Rancho Palos Verdes, California[d] Nike Site 55	1974 1974	- (91)	70	-		City and School Offices, City of Rancho Palos Verdes		E,M,P	Donald Gulurzy, City Manager, City of Rancho Palos Verdes, 31244 Palos Verdes Drive West, Rancho Palos Verdes, California 90274 (213) 377 0360
San Francisco, California Hunters Point Naval Shipyard	1973 75 1976	4 650 (1,951)	1,500	1,500		Triple A Machine Shop, Inc., University of California, Department of the Navy Underwater Explosive Testing Lab		I,E,F	Clifford P LeGette, General Manager, Triple A Machine Shop, Hunters Point Shipyard San Francisco, California 94124 (415) 822 2222
Torrance, California Torrance Annex Long Beach Naval Supply Center	1973 1974	50 ( )	60	-		City of Torrance Park Facilities		P	Gene Barnett Director Recreation Department, City of Torrance, 3031 Torrance Boulevard Torrance California 90503 (213) 328 5310
Ventura County, California Oxnard Air Force Base	1970 1976	293 (1,215)	1,020	800		Ventura County Community College Intersystems, George Bannister Community, US Navy, Oxnard High School District, Camillo Airport Ventura County Offices	2,100 Cr 800 C 2,000 Cr	A,C,E F,I,M O	James G. O'Neil, Airports Administrator, Ventura County, 229 Durley Avenue Camarillo, California 93010 (805) 384 4202
Colorado Springs, Colorado Ent Air Force Base	1971 1976 80	*	310	310		United States Olympic Committee Hqts USOC Olympic Training Center, Hqts National Governing Bodies for 16 Sports		O,R	Ronald Rowan, General Counsel United States Olympic Committee, 1750 East Boulder Street Colorado Springs, Colorado 80909 (303) 632 5551
Green Cove Springs, Florida Atlantic Fleet Site	1962 1964	374 (1,781)	650	650		Kelsey Hayes, Kustom Kart, Marine Fabricators, Sun State Marine, Hope Corguard Pegasus Technologies, Great Lakes Dredge & Dock		I,Ho	Ed Stewart, Manager, Clay County Port Inc. PO Box 477 Green Cove Springs, Florida 32043 (904) 284 3676
Key West, Florida Trumbo Annex	1973 1986*	568 (2,357)	300	300		Fort Taylor State Park Florida Marine Institute, Boat Building & Sheet Metal Companies, Monroe County Mental Health Center	100 Cr	C,E,F H,Hi,Ho I,O,S	Steve McDaniel, Executive Director, Key West Redevelopment Agency, PO Box 1KW Key West, Florida 33040 (305) 296 5401
Orlando, Florida Mcoy Air Force Base	1974 1979	395 (2,812)	3,049	2,249		Dawson Research, Arvida Corp., United Parcel, Emery Air Freight, Federal Express Florida Southern College Municipal Airport	600 Cr	A,C,E F,P,R W	Stephen J. Cooke, Director of Properties, Greater Orlando Aviation Authority, PO Box 620008, Orlando, Florida 32862 (305) 876 2949
Sanford, Florida Sanford Naval Air Station	1968 1969	230 (640)	1,500	1,430		Cobra Boats, Davis Mechanical Hardie Irrigation, Scotty's, Florida Gas Training Center Municipal Airport	975 Ti	A,E,I	J.S. "Red" Cleveland, Director Sanford Airport Authority, Sanford, Florida 32771 (305) 322 7771
Albany, Georgia Albany Naval Air Station	1974 1978	3419 (3,217)	2,000	2,000		Miller Brewery, Kroger Peanut Butter, Job Corps	1,200(T)	C,E,F, H,I,P	C. Lamar Clifton, Executive Director Albany Chamber of Commerce, PO Box 308, Albany, Georgia 31702 (912) 883 6930
Brunswick, Georgia Glynco Naval Air Station	1974 1976	344 (1,628)	1,200	1,200		Federal Law Enforcement Training Center, General Electric, Glynco Machine & Tool, Map Intermezzanal, Municipal Airport	1,350(T)	A,E,F, Ho,I,M	Gordon Davis, Vice President/ General Manager Glynco - McBride Jet Park, 500 Connole Street, Brunswick, Georgia 31520 (912) 268 8500

Community & Facility	Year of Impact / Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	New Civilian Jobs: Direct Off Base Jobs+	Major Firms' Activities	College VoTech Students	Land Use	Community Contact
Decatur, Illinois Decatur Army Signal Depot	1962 1963	1,310 (27)	1,440	1,440		Firestone Tire & Rubber		I	Leslie T Allen, City Manager, City Hall, Decatur Illinois 62525 (217) 424 2700
Forest Park, Illinois Forest Park Naval Ordnance Plant	1971 1973	1,600 (6)	3,015	3,015		Regional Shopping Mall U.S. Postal Service Bulk Mail Center		C,F	Marlene Ouandt, Village Clerk, Forest Park, Illinois 60130 (312) 366 7323
Columbus, Indiana Bakalar Air Force Base	1970 1972	318 (61)	520	520		Cummins Engine, Indiana Univ and Purdue University, Columbus Precision Rhodes Aviation Municipal Airport	1,200(C)	A,C,E, H,I	Wendell Ross, Manager, Columbus Bakalar Airport Columbus, Indiana 47201 (812) 376 2519
Terre Haute, Indiana Defense Industrial Plant Equipment Center	1968 1967	253 ( )	800	800		Fort Harris Industrial Park Ivy Hill Co. Numerical Concepts Eldred Company		I	Mark Blade, Assistant Director of Redevelopment, City Hall Room 301 Terre Haute, Indiana 47807 (812) 232 0016
Salina, Kansas Schilling Air Force Base	1965 1966	326 (4,710)	3,900	3,400		Beech Aircraft, Rockel Mfg., Tom's Pizza Inc., AiW Electronics Kansas Technical Institute Salina VoTech. Ins. Company Municipal Airport	482(C) 410(S)	A,Ar,C,E I,H,Ho,I R,S	Tim Rogers, Executive Vice President, Saline Airport Authority, Salina, Kansas 67401 (913) 827 3914
Topeka, Kansas Forbes Air Force Base	1973 1975	415 (3,799)	2,500	1,600		Lario Enterprises, Helliflight Topeka Waste Systems Macmillan Publishers, National Guard, State Health Department Municipal Airport	40(T)	A,C,E,H, I,M,O,R, S	Jane Davis, Comptroller, Topeka Air Industrial Park, PO Box 19052, Topeka, Kansas 66619 (913) 862 2xx.
Houma, Louisiana Houma Air Force Station	1972 1974	18 (112)	180[A]	180		Terrebonne Parish VoTech Vocational Rehabilitation Center Woodlawn Center for Retarded Children	870(S)	A,C,E H	Mel Mallory, Airport Manager, Houma-Terrebonne Airport Commission, PO Box 1080, Houma, Louisiana 70361 (504) 872 4646
Lake Charles, Louisiana Chennault Air Force Base	1963 1964	252 (3,053)	1,100	1,100		Fisher Mfg., TH; Helicopters Sowella Tech. of McNeese State University, Calcasieu Parish Vocational Technical School	400(C) 360(S)	E,H,I, P	Ernest Broussard, Director, City Hall, PO Box 1178, Lake Charles, Louisiana 70602 (318) 491 1301
New Iberia, Louisiana New Iberia Naval Air Station	1965 1966	85 (1,025)	1,220	1,220		Air Logistics Inc. University of S.W. Louisiana *Hathaway Drill Co. Carborundum* Lofland Bros., Otis Engr. Corp. N.I. McCullough Co., T.H. Green Research Institute, Gulf Air Transport Inc., Municipal Airport	1,500(C) 90(S)	A,C,E H,I,M, R,S	Rock Casserre, Director, Iberia Airport Authority, New Iberia, Louisiana 70560 (318) 365 2302
Bangor, Maine Dow Air Force Base	1968 1982	342 (4,579)	2,470	2,240		General Electric, Amtec Electronics, Hots Bar Habor *Airlines, U.S. Air Force,* University of Maine, State Department of Human Services, Municipal Airport	600(C)	A,E,F, Ho,I,M, R,S	Edward G. McKeon, Director of Development, City of Bangor, Bangor, Maine 04401 (207) 947 0341
Charleston, Maine Charleston Air Force Station	1979 1981	23 (169)	58	58		State of Maine Minimum Security Prison and Training Facility	98(T)	E,S	Jeffrey Merrill, Director, Charleston Minimum Security Prison, Charleston, Maine 04422 (207) 285 3161
Presque Isle, Maine Presque Isle Air Force Base	1961 1962	768 (1,259)	1,100	1,100	275	Aroostook Shoe Co., Indian Head Plywood, Milliken Ioninson, International Paper Co., Burrell's Press Clipping, Northern Maine Vocational Technical Institute, Municipal Airport	560(C)[B]	A,E,I, M,S	Larry E. Clark, Executive Director, Presque Isle Industrial Council PO Box 831, Presque Isle, Maine 04769 (207) 764 4485

Community & Facility	Year of Impact Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs Total Jobs On Base	New Jobs On Base	Direct Off Base Jobs +	Major Firms/ Activities	College Vo Tech Students	Land Use	Community Contact
Baltimore, Maryland Fort Holabird	1973 1977	2,805 (1,335)	1,507	1,507		Holabird Industrial Park (23 Businesses) Universal Foods, Thrashers Furniture, Clean Air Inc., PPG, McCarthy Hicks, McCormick, Coil Metal Co., John D. Lucas Painting Co.		I P	Bernard L. Berkowitz, President, Baltimore Economic Development Corporation, Suite 2400, 36 South Charles Street, Baltimore, Maryland 21201 (301) 837 9305
Boston, Massachusetts Boston Army Base	1961 1983	[illegible]	700	700		Boston Design Center, Corona Curtain, Leslie Fay, Bay State Bindery, Center House, Contempo Mall, Hub Mall		C I O	Marilyn Schwartz Lloyd, Director, Economic Development and Industrial Corp. of Boston, 38 Chauncy Street, 9th Floor, Boston, Massachusetts 02111 (617) 725 3342
Boston, Massachusetts Boston Shipyard, Charlestown	1974 1976	5,552 (553)	3,015[b]	2,953		Boston Redevelopment Authority, [illegible] Boston National Historic Park, USS Constitution Museum Foundation, Sail Magazine, Commercial Office, Residential Complex[b]		C F H [illegible] M O P S	James English, Shipyard Project Coordinator, Boston Redevelopment Authority, City Hall, Boston, Massachusetts 02201 (617) 722 [illegible]
Boston, Massachusetts Boston Shipyard, South Boston	[illegible]	[illegible]	1,800	1,800		Boston Marine Industrial Park, [illegible], Clothing, General Ship, [illegible] Engineering Co., Boston Technical Center	300[illegible]	E I	Marilyn Swartz Lloyd, Director, Economic Development and Industrial Corp. of Boston, 38 Chauncy Street, 9th Floor, Boston, Massachusetts 02111 (617) 725 3342
Chelsea, Massachusetts [illegible] Naval Hospital	1974 1975	325 (47[illegible])	130	130		Boston Architectural Team, Hayward Marine Documents, DMC Energy Inc., First New England Consortium, Admiral's Hill Development[f] Marina		C H Ho O P	Robert Luongo, Director, Community Development, City Hall, Chelsea, Massachusetts 02150 (617) 889 0700
Chicopee, Massachusetts Westover Air Force Base	1974 1977	+150[m] (4,014)	1,280	1,280		Massachusetts Municipal Electric Co., Quabbin Industries, ALAVEL Industries, North Atlantic Millwork, S.S. Pierce, Standard Mfg.		A I M O [illegible]	Alan W. Blair, President, Westover Metropolitan Development Corp., 391 [illegible] Avenue, Chicopee, Massachusetts 01022 (413) 593 [illegible]
Springfield, Massachusetts Springfield Armory	1968 [illegible]	2,400 (72)	3,300	3,250		Digital Equipment Corp., Smith & Wesson, Hano Business Forms, Springfield Technical Community College, Springfield Armory National Historical Site	3,500 C	E H I P	Marc Hanks, Director, Planning & Research, Springfield Chamber of Commerce, [illegible] Suite 600, Springfield, Massachusetts 01115 (413) 787 1555
Watertown, Massachusetts Watertown Arsenal	19[illegible] [illegible]	2,306 (17)	1,260[f]	1,260		Arsenal Mall[p], Lifeline Systems Inc., Harvard Medical School Offices & Outpatient Center		C H Ho O P	Michael Matt, Executive Director, Watertown Redevelopment Authority, 319 Arlington St., Watertown, Massachusetts 02172 (617) 923 1929
Sault Ste. Marie, Michigan Kincheloe Air Force Base	1977 1976	737 (3,074)	990	990	365	Kinross Correctional Facility, Olofson Fabrication Service Inc., Kinross Mfg. Corp., Forestply Industries, Eclipse Inc., K Mart*, Son Plastics*, Hoover Universal*, Municipal Airport		A C [illegible] Ho I M P	William L. Laubernds, President, Chippewa County Economic Development Corp., Kincheloe, Michigan 49788 (906) 495 5631
Baudette, Minnesota Baudette Air Force Station	1979 1981	30 (170)	20	20		Rapid River Grain & Seed Co.		Ho I	David Swenson, First National Bank, Baudette, Minnesota 56622 (218) 634 1254
Duluth, Minnesota Duluth Air Force Base	1982 1984	446 (1,040)	690[q]	650		Duluth Prison Camp, Louis Bay Hocking Equipment, National Resource Research Institute, National Guard, St. Louis County		A E H I M R S	Joe Grinder, Manager, Duluth Airport Authority, Duluth, Minnesota 55811 (218) 727 2968

Community & Facility	Year of Impact / Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	Direct Off Base Jobs	Major Firms/ Activities	College Voc-Tech Students	Land Use	Community Contact
Wadena, Minnesota Wadena Air Force Station	1971 1973	15 (130)	20	20		Ball Hill Recovery Center		H	Audrey Schmudte, Executive Director, Wadena Multi-County Health Center, Wadena, Minnesota 54682 (218) 631-3610
Greenville, Mississippi Greenville Air Force Base	1965 1966	242 (2,048)	325	325		Allied Enterprises Boeing Aircraft Southern Fasteners Municipal Airport		A,C,F,H Ho,I,M	Wayne Downing, Airport Director, Greenville International Airport, Greenville, Mississippi 38701 (601) 334-3123
Kansas City, Missouri Richards - Gebaur Air Force Base	1977 1985[F]	1,500 (2,400)	327	290		Lear Siegler, Belton Tool Machine, Calvary Bible College, Municipal Airport	365(D)	A,C,I, E	Wayne Seiters, Airport Manager Richards - Gebaur Airport Kansas City, Missouri 64032 (816) 322-0201
Neosho, Missouri [illegible] Air Force Missile	1970 1968,75	1,200 [illegible]	2,035	2,345	820	Teledyne Lane Boy Chair Co., Crossler Ind., Decorator Ware, Moark Production, Crowder College, Tyson Foods,* Talbot Wire* Municipal Airport	2300(D)	A,E,I, M,P,S	Gib Garrow, Executive Vice President, Neosho Chamber of Commerce, Neosho, Missouri 64850 (417) 451-1[illegible]
Conrad, Montana Air Base, Missile Site	1972 1975	153 (29)	36	36	18	Cascade Coach Intercontinental Truck Body Horace Lodge* Tiber Water Authority		Ag,I	Darrel Brown, Treasurer Pondera County Economic Development Corporation Conrad, Montana 59425 (406) 278-7[illegible]
Glasgow, Montana Glasgow Air Force Base	1968[C] 1975	309 (3,500)	70	70		American Indian Juvenile Treatment Center Valley Industrial Park, General Aviation Airport		A,Ag,H Ho	Ruben G. Clark, Manager Valley Industrial Park, PO Box 4635, Glasgow, Montana 59231 (406) 5[illegible]-3740
Lewistown, Montana Lewistown Air Force Station	1973 1974	21 (163)	3	3					William Spoja Former County Attorney Lewistown, Montana 5[illegible] (406) 5[illegible]
Hastings, Nebraska Hastings Naval Ammunition Depot	1966 1967	242 (90)	1650	1050		Hastings Industries, TL Irrigation, Eldo Industries, Animal Research Center, Hastings Rural Good Samaritan Retirement Center, Central Nebraska Technical College, Hastings Energy Center	3,000(D)	Ag,C,E H,P	Dee Hausler Chamber of Commerce, PO Box 1934 Hastings, Nebraska 68901 (402) 463-4[illegible]
Lincoln, Nebraska Lincoln Air Force Base	1966 1966	396 (6,36[illegible]	2,000	2,000		Goodyear Tire, Brunswick Corp., Tri-Con Ind., Bauer Candy, Daniels Midwest, Municipal Airport		A,C,F,Ho, I,M,P,R, S	Wayne Anderson, Executive Director, Lincoln Airport Authority, PO Box [illegible], Lincoln, Nebraska 68501 (402) 435-[illegible]
Omaha, Nebraska Fort Crook	1975 1976	49 (56)	76	76		Metropolitan Technical Community College	2,680(D)	E	Dr. Milan Dady, Vice President, Metropolitan Technical Community College, PL, Box [illegible], Omaha, Nebraska 68[illegible] (402) 449-8400
Sidney, Nebraska Sidney Army Depot	1967 1967	585 (2[illegible]	627	627		Sidney Warehousing Activities, Western Nebraska Technical College, Glover Group, Cabela's Mail Order, Ethanol Plant	300(D)	Ag,E I,S	Gary Pearson, Chamber of Commerce, Sidney, Nebraska 69162 (308) 254-5851
Reno, Nevada Stead Air Force Base	1966 1969	519 (2,133)	560	580		J.C. Penny Dist. Center, Precision Roll Products, University of Nevada Desert Research Institute, Municipal Airport	2,000(E)	A,E,Ho, I,M	Robert Esperance, Associate Director of Airports, Washoe County Airport Authority, PO Box 12490, Reno, Nevada 89510 (702) 785-2575

Community & Facility	Year of Impact / Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	Direct Off Base Jobs+	Major Firms/ Activities	College Vo Tech Students	Land Use	Community Contact
Manchester, New Hampshire Grenier Air Force Base	1966 1966 75	138 (320)	4,500	3,200		Sanders Associates, Onsgrin Industries, Summit Packaging Armtec Industries, National Gypsum Cutter & Co, Computervision, Municipal Airport		A,C,I, O,R	Jane Hills, Business Development Representative, Greater Manchester Development Corp, 889 Elm Street, Manchester, New Hampshire 03101 (603) 624 6505
Burlington, New Jersey Burlington Army Ammunition Plant	1973 1977	520 (10)	400	400		Duplex Resource Equity Developers, Mothers Kitchens Inc Atlas Warehousing, Joint Burlington Economic Development Corp		O,I	Mayor Herman Costello City Hall Burlington, New Jersey 08016 (609) 386 0700
Edison, New Jersey Camp Kilmer	1963 1965	578 (426)	3,800	3,800		Livingston College Campus of Rutgers University, Kaiser Aluminum, Reston, American Can Spaulding, Motel Inns Joint Corps, Middlesex County Vo-tech School, Ingersoll Co Postal Service Mail Sorting Center	3500(C)[a] 1050(S) 400(H)	C,E,F I,O	John A. Delesandro, Business Administrator, Edison Township 312 Municipal Blvd, Edison, New Jersey 08817 (201) 287 0500
Edison, New Jersey Raritan Arsenal	1964 1964 65	2,610 (8)	13,100	13,100		RCA, American Hospital Supply, R.H. Macy, Singer, H.F. Guenther, Nestle, USA Depot, Commercial Car, United Parcel Service, Lloyd Electronics, Grant Liquor, Michelin Tires, Rusch Co, Ramada and Howard Johns, Middlesex County Community College	4088(C)	C,E,F I,O	Peter Cook, Managing Principal, Summit Associates, Inc, Raritan Plaza II, Raritan Center, Edison, New Jersey 08818 (201) 225 2900
Lumberton, New Jersey[d] New Lisbon	1974 1976	94	75	41		Lumberton Township Municipal Offices, Midway School for Learning Disabilities		E,M	Patricia Goldy, Clerk Lumberton Township PO Box 1800 Lumberton, New Jersey 08048 (609) 267 3217
Roswell, New Mexico Walker Air Force Base	197 1967	379 (4,962)	2,770	2,770		Transportation Mfg Corp, Levi Strauss, CHS Medical Center, Eastern New Mexico University	1,400(C)	A,C,E,H I,O,T	Ralph McIntire, President, Roswell Chamber of Commerce, PO Box 70 Roswell, New Mexico 88201 (505) 623 5695
Newburgh, New York Stewart Air Force Base	1969 197	1,011 (2,700)	525[b]	525		Air Express International, Emery Air Freight, USDA Animal Import Center, New York Dept of Transportation, Air National Guard, General Aviation Airport		A,I, P,S	William Doyle, Deputy Commissioner of Transportation, Stewart International Airport, PO Box 6LL, Newburgh, New York 12550 (914) 564 2100
New York City, New York Army Motion Picture Center	1970 1972	388 (64)	300[c]	300		American Museum of the Movie Image[c], Kaufman Astoria Studios		C,E,H,	Nancy Graham, Assistant to the President, American Museum of the Movie Industry, 34-01 35th Street, Astoria, New York 11106 (718) 784 4520
New York City, New York Brooklyn Army Terminal	1978 1981	336 (540)	1,750[e]	1,750		Printing Center[e], New York Rag Car Co, SAMCO Inc		I	Ken Lung, Senior Development Manager, New York City Public Development Corp, 161 William Street, New York City, New York 10038 (212) 619 5000
New York City, New York St Albans Naval Hospital	1974 1974	386 (517)	715	715		Veterans Administration Hospital, Naval Hospital Park		H,P	Solomon Goodrich, Executive Director, Southern Queens Park Association Inc, 119th Avenue & Merrick Blvd, Jamaica, New York 11434 (718) 526 5530

Community & Facility	Year of Impact / Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	New Civilian Jobs: Direct Off Base Jobs +	Major Firms/ Activities	College Vo/Tech Students	Land Use	Community Contact
Schnectady, New York Schnectady Army Depot	1966 1967	484 (15)	600	600		General Electric Reuten Inc., State of New York		I,O S	Grant Thompson, Senior Vice President, Northeastern Industrial Park Inc., PO Box 98, Guilderland Center New York 12085 (518) 8615555
Voorhesville, New York Voorhesville General Depot	1966 1967	1,000 (20)	2,300	2,300		Scott Paper Proctor & Gamble Chrysler Car Distribution Agway Feeds State of New York		C,I,S	Grant Thompson, Senior Vice President, Northeastern Industrial Park Inc. PO Box 98 Guilderland Center, New York 12085 (518) 861 5555
Watertown, New York Watertown Air Force Station	1979 1961	24 (114)	382	382		Watertown Correction Facility		S	Edward F. Reynolds Superintendent Watertown Correction Facility Watertown, New York 13601 (315) 782-7490
Wilmington, North Carolina Air Force Intercept Squadron New Hanover County Airport	1976 1976	4 (96)	48	5		Piedmont Airlines Clyde Analytical Industries Air Wilmington Inc., Air National Guard, County Airport		A,C,I,R	Rudolph C. Shackelford, Jr. Airport Manager, New Hanover County Airport, Route 6, Box 49 Wilmington, North Carolina 28405 (919) 343-3971
Bellefontaine, Ohio Bellefontaine Air Force Station	1969 1970	27 (136)	120	120		Ohio Hi Point Joint Vocational School	2,000(C) 50% (S)	E	Dr. John Kitchenman Superintendent, Ohio Hi Point Joint Vocational School, 6594 St. Rt. 540, Bellefontaine, Ohio 43311 (513) 599-6395
Columbus, Ohio Rickenbacker Air Force Base	1978 1984	380 (1,200)	925	925		Flying Tigers Air Freight Meisner Electric, Lockheed Air National Guard Army Reserve, General Aviation Airport		A,C,I, M,R	Eric Waldron, Executive Director Rickenbacker Port Authority 50 S. High Street Columbus, Ohio 43215 (614) 461-9645
Port Clinton, Ohio Erie Army Depot	1966 1967	1,885 (35)	1,000	1,000		Uni-Royal, AIM Packaging Ares Inc, USCO Dist. Services Inc., Scandura, Oak Harbor Tool & Die, Superior Mfg.		I	Jeff Crosby, Manager Erie Industrial Park Port Clinton, Ohio 43452 (419) 734-4251
Toledo, Ohio Toledo Airport	1963 1965	1,654 (--)	3,900	3,200		Toledo Mold, Temp Glass International Exchange Jones River Corp. Michael J. Owens Junior College Penta County Vocational School	4,570(C) 1,400(S)	E,I	Susan Wolk, President Airport Hwy, Box 351 Toledo, Ohio 43612 (419) 666-3022
Wilmington, Ohio Clinton County Air Force Base	1971 1973	613 (66)	2,000	2,000	125	Ferro Washington Inc., Airborne Express, Roy R. Roth Corp., UNISETS, Ltd. Trucks Inc., International Paper, Laurel Oaks Vocational School, General Aviation Airport, Foreign Trade Zone	500(C) 800(S)	A,E,I, O	Robert Olinger Executive Director Community Improvement Corp., 252 State Route 134 North Wilmington, Ohio 45177 (513) 382-7335
Burns Flat, Oklahoma Clinton Sherman Air Force Base	1969,70 1970	381 (1,700)	400	400		Wagner Electric, Elco Metal Products, Halliburton Services Jamesville Products, Western Oklahoma Vocational Technical Center, Municipal Airport	450(C)	A,Ag,C, E,I,M	Jim Reiter, Chief Executive Officer, Midwestern Oklahoma Development Authority, PO Box 545, Burns Flat, Oklahoma 73624 (405) 562-3111
Corvallis, Oregon Adair Air Force Station	1969 1973	180 (864)	130	105		Oregon South West Washington Laborers Training Trust, Oregon Fish & Wildlife Service, Santiam High School Adair Village Housing	150(S) 45(T)	E,F, H,O,S	Donald Owen, Director of Training, Oregon South West Washington Laborers Training Trust, Route 5, Box 325A, Corvallis, Oregon 97330 (503) 745-5513

Community & Facility	Year of Impact / Year of Acquisition	Civilian Jobs Lost (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	New Civilian Jobs: Direct Off Base Jobs+	Major Firms/ Activities	College Vo Tech Students	Land Use	Community Contact
Harrisburg, Pennsylvania Olmsted AFB and Middletown Air Material Area	1965 68 1968	10,050 (1,250)	4,060	3,600		Fruehauf, Pennsylvania State University Capitol Campus, Municipal Airport, National Guard	2,640(C)	A,F,Ho,I, Pk,S	Matthew M. Douglas, Executive Vice President Harrisburg Area Chamber of Commerce 114 Walnut Street Harrisburg, Pennsylvania 17101 (717) 232 4121
Lancaster, Pennsylvania Marietta Air Force Station	1967 1968	750 (-)	636	636		Armstrong World Co.		I	David W. Lauback, Director of Real Estate, Armstrong World Co., Lancaster, Pennsylvania 17603 (717) 397 0611
Philadelphia, Pennsylvania Frankford Arsenal	1977 1983	3,400 (17)	600	600		Philadelphia Biologics, Abbey Automotive, Sharon Foods		C,I,P	Mark Hankin, President, Hankin Management Co., PO Box 26767 Elkins Park, Pennsylvania 19117 (215) 635 1500
Phoenixville, Pennsylvania Valley Forge Army Hospital	1973 74 1976	845 (546)	142	94		Valley Forge Christian College, Local School and Park Activities	500(C) 70 S	E	Dorothy Panoc, Executive Director, Valley Forge Use Study Committee, PO Box 29, Phoenixville, Pennsylvania 19460 (215) 933 3070
York, Pennsylvania York Naval Ordnance Plant	1964 1964	1,292 (13)	1,160	1,160		Harley Davidson Motor Company Inc		I	Frank Castor, Director of Personnel, Harley Davidson Motor Co. Inc. York, Pennsylvania 17401 (717) 846 1177
Aguadilla, Puerto Rico Ramey A. Force Base	1973 (-)	709 (3,896)	1,207	210	1,443	American Hospital Supply, University of Puerto Rico, Job Corps, US Coast Guard, Digital Equipment*, Avon Products*, Hewlett Packard*, Municipal Airport	1000+C	A,E,F, H,Ho,I, M,R,S	Dr. Leonard Shapiro, Director, Service Industries Special Projects, Puerto Rico Economic Development Authority, 355 Roosevelt Avenue, Hato Rey, Puerto Rico 00918 (809) 753 6855
Vieques, Puerto Rico Camp Garcia	1979 1980	70 (133)	*	-	366	Espernaza Resort*, Duralite Corp.*, Vieques Graphics*, South Bronx Greenhouse*, Sparatec Inc.*		Ag,I	Luis Herrero, Executive Director, Vieques Economic Development Corp., Box 1328, Vieques, Puerto Rico 00765 (809) 741 8490
Newport, Rhode Island Naval Base	1974 1978	464 (11,069)	900	900	1,558	Derecktor Shipyard, Bend Inc., Hughes Aircraft*, Avco Corp.*, Syscon*, Metaughn Research*, Raytheon*, NCA Services Co.*		I,P	Louis A. Fazzano, Executive Director, Rhode Island Department of Economic Development, Gilbane Building, 7 Jackson Walkway, Providence, RI 02903 (401) 277 2601
North Kingstown, Rhode Island Quonset Point Naval Air Station	1974 1978 80	4,500 (6,211)	7,000	7,000		Electric Boat Co., Newport Offshore, Amerotech Corp., Cowa Plastics, IMS Inc., General Aviation Airport		A,C,F, I,P,R, S	Alfred Santaniello, Associate Director, Property Management and Development, Rhode Island Port Authority, 7 Belver Avenue, North Kingstown, Rhode Island 02852 (401) 277 3134
Greenville, South Carolina Donaldson Air Force Base	1963 1964	672 (4,100)	3,500	3,500	2,380	Woolworth Distribution Center, Union Carbide, 3 M Company, Norwich Pharmacal, Michelin,* Donaldson Area Vocational Education Center, General Aviation Airport, Lockheed Aero Center, General Electric	600(C)	A,E,I, P	Charles L. Sanders, General Manager, Donaldson Center, Greenville, South Carolina 29605 (803) 277 3152

Community & Facility	Year of Impact: Year of Acquisition	Civilian Jobs Lost: (Military Transfers)	New Civilian Jobs: Total Jobs On Base	New Civilian Jobs: New Jobs On Base	New Civilian Jobs: Direct Off Base Jobs+	Major Firms/ Activities	College Vo Tech Students	Land Use	Community Contact
Edgemont, South Dakota Black Hills Army Depot	1967 1968	512 (12)	8**	8		Hog Raising		Ag,Ho	Matthew Brown, former Mayor, Box 629, Edgemont, South Dakota 57735 (605) 662 7720
Smyrna, Tennessee Sewart Air force Base	1969 1971	470 (4,050)	2,418	2,418		Cumberland Mfg., Square D Co., Better Built Aluminum, Comprehensive Rehabilitation Center, Municipal Airport	160(C)	A,E, H,I, M	Clay Franklin, Smyrna Airport Authority, Smyrna, Tennessee 37167 (615) 459 2651
Amarillo, Texas Amarillo Air Force Base	1968 1969	1,511 (5,560)	1,030	1,030		Bell Helicopter, Levi Strauss, Tasco Engineering, Century Aircraft, Texas State Technical Institute, Municipal Airport	1,200(C)	A,Ag,C, E,I	Bill Wilson, Airport Manger, Amarillo International Airport 10811 Airport Blvd., Amarillo, Texas 79111 (806) 335 1671
Big Spring, Texas Webb Air Force Base	1977 1978	909 (2,204)	490	450		Fraser Industries, A&M Electric, Fiber Flex, Bureau of Prisons, Halliburton Training Facility, Western Container, Southwest College for the Deaf, Municipal Airport	150(C) 740(T)	A,E,H, I	Harold Boyd, Manager, Big Spring Airport & Industrial [illegible] Box 391, Big Spring, Texas 79720 (915) 263 1386
Harlingen, Texas Harlingen Air Force Base	1962 1963 64	720 (3,100)	1,000	1,000		Levi Strauss, Texas Steel Marine Military Academy, Texas State Technical Institute, Confederate Air Force, Municipal Airport	2,000(C) 500(Si)	A,C, E,F, I,M	David Allee, President, Chamber of Commerce, PO Box 189, Harlingen, Texas 78550 (512) 423 5440
Laredo, Texas Laredo Air Force Base	1973 1975	700 (1,998)	1,615	1,100		Sanchez O'Brien Co., Webb County, K Mart, Tracor Raffcor, Municipal Airport, Laredo City Offices		A,C,E, Ho,I,O, PS	Jose Flores, Assistant Airport Director, Laredo International Airport, Laredo, Texas 78041 (512) 722 4933
Mineral Wells, Texas Fort Wolters	1974 1975 77	1,219 (692)	1,300	1,300		TRW, Flo Drill, Western Co., HRM Industries, NL Industries, Dews Co. Elec. Equipment, Weatherford College, General Aviation Airport	250(C)	A,C,E, Ho,I	Sam Phe[illegible]s, City Manager, PO Box 339, Mineral Wells, Texas 76067 (817) 325 7861
San Marcos, Texas Camp Gary	1963 1965	30 (1)	720	720		Gary Job Corps Center, Municipal Airport	2,200(T)	A,E	Albert Perkins, Director, Job Corps Center, Box 967, San Marcos, Texas 78666 (512) 396 6561
Sherman Dennison, Texas Perrin Air Force Base	1971 1972	600 (1930)	495	450		Texas Instruments, Teledyne Continental, Hitchcock Industries, Cessna Aircraft, Grayson County College, Municipal Airport	200(C)	A,E,H, I,M,S	Doyle Dobbins, General Manager, Grayson County Airport 5100 Airport Drive, Dennison, Texas 75020 (214) 786 2904
Sweetwater, Texas Sweetwater Air Force Station	1971 1971	25 (100)	130	130		Texas State Technical Institute	600(C)	E	Dr Donald May, Dean, Instructional Studies, Texas State Technical Institute, Sweetwater Texas 79556 (915) 235 8441
Waco, Texas James Connally Air Force Base	1966 1966	833 (2,980)	1,500	1,500		Elsinore Arrow Space Services, Inc., Electro Space, Texas State Technical Institute General Aviation Airport	4,475(C)	A,E,I, O,S	Monica Faulkenberry Director of Public Information, Texas State Technical Institute, Waco, Texas 76703 (817) 799 3611
Moses Lake, Washington Larsen Air force Base	1966 1966	38 (3,947)	825	825		Northwest Airlines, Japan Airlines, Boeing, Sundstrand, Big Bend Community College, Municipal Airport	1,200(C)*	A,Ag,C, E,F,Ho, I	David Bailey, Manager, Port of Moses Lake, Grant County Airport, Moses Lake Washington 98837 (509) 762 5351

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Madison, Wisconsin Truax Field	1968 1968	378 (2,658)	2,150	1,500		Hazelton Laboratories, Badger Sheet Steel, Durrant Engineers, Wisconsin Higher Education Corp., Madison Area Technical College, Municipal Airport	8000(C)[a]	A,C,E, I,S	Charles Peterson, Business Manager, Dane County Regional Airport, Madison, Wisconsin 53704 (608) 246 3385
Total Civilians		93,424	138,138	127,889	7,330		53,744(C) 7,864(S) 8,110(T)		
Total Military		(137,823)							

APPENDIX B

DEFENSE SECRETARY'S COMMISSION ON BASE REALIGNMENT AND CLOSURE

Honorable Jack Edwards - Co-Chairman
* Born - Birmingham, Alabama
* Education - JD, University of Alabama
* Career Highlights - Former Congressman
  - Partner, Hand, Arendall, Bedsoke, Graves & Johnston

Honorable Abraham A. Ribicoff - Co-Chairman
* Born - New Britain, Connecticut
* Education - JD, University of Chicago
* Career Highlights - Former Congressman
  - Former Governor of Connecticut
  - Former Secretary of Health, Education and Welfare
  - Former Senator
  - Special Counsel, Kaye, Scholer, Fierman, Hays & Handler

Mr. Louis Cabot
* Born - Boston, Massachusetts
* Education - MBA - Harvard University
* Career Highlights - Chairman of the Board, Cabot Corporation
  - Chairman of the Board, The Brookings Institution

Honorable W. Graham Claytor, Jr
* Born - Roanoke, Virginia
* Education - JD, Harvard Law School
* Career Highlights - Former Secretary of the Navy
  - Former Deputy Secretary of Defense
  - Chairman of the Board & President, National Railroad Passenger Corporation

Mr. Donald F. Craib, Jr
* Born - Seattle, Washington
* Education - BS, UCLA
* Career Highlights - Former Chairman and CEO, Allstate Insurance

Honorable Martin R. Hoffman
* Born - Stockbridge, Massachusetts
* Education - LLB, University of Virginia
* Career Highlights - Former Defense General Counsel
  - Former Secretary of the Army
  - Managing Partner, Gardner, Carton & Douglas

General Bryce Poe II, USAF (Ret)
* Born - Wichita, Kansas
* Education - Colorado School of Mines and University of Kansas
  - BS, U. S. Military Academy
* Career Highlights - Former Vice Commander-in-Chief, U.S. Air Force Europe
  - Former Commander, Air Force Logistics Command

General Donn A. Starry, USA (Ret)
* Born - New York, New York
* Education - BS, U.S. Military Academy
* Career Highlights - Former Commanding General, U.S. Army Training and Doctrine Command
  - Former Commander-in-Chief, U.S. Readiness Command
  - Executive Vice President, Ford Aerospace & Communications

Honorable Russell E. Train
* Born - Jamestown, Rhode Island
* Education - JD, Columbia University
* areer Highlights - First Chairman, Council on Environmental Quality
  - Former Administrator, Environmental Protection Agency
  - Former President, World Wildlife Fund
  - Chairman of the Board, World Wildlife Fund and The Conservation Foundation

Honorable Thomas F. Eagleton

* Born - St. Louis, Missouri
* Education - BA, Amherst College, LL.B, Harvard Law School
* Career Highlights - Circuit Attorney of St. Louis, 1957-1961
  - Attorney General of Missouri, 1961-1965
  - Lieutenant Govenor of Missouri, 1965-1969
  - U.S. Senator from Missouri, 1969-1987
  - Currently a University Professor of Public Affairs, Washington University in St. Louis, Missouri
  - Member of the law firm Thompson and Mitchell

Vice Admiral William H. Rowden, USN (RET)

* Born - Woodsville, New Hampshire
* Education - BS, U.S. Naval Academy, 1952
* Career Highlights - Commander, Sixth Fleet
  - Commander, Military Sealift Command
  - Commander, Naval Sea Systems Command
  - Graduate of Armed Forces Staff College
  - Designated Material Professional

James C. Smith

* Born - Memphis, Tennessee
* Education - Doctor of Engineering, Texas A&M
* Career Highlights - Currently President of the Infrastructure Group
  - Member of the Army Science Board
  - Senior Vice President/Director of Defense Project Development 1985-1986
  - Selected to manage the annual Department of Defense Military Construction Bill 1974-1985

APPENDIX C

BREAKDOWN OF MILITARY INSTALLATIONS BY STATE AND BRANCH OF SERVICE

DEPARTMENT OF DEFENSE
SUMMARY OF NUMBER OF INSTALLATIONS
United States

State/Country	Army	Navy	Air Force	Marine Corps	Defense Agencies	Total
ALABAMA	18	8	9	0	0	35
ALASKA	11	3	33	0	0	47
ARIZONA	5	1	13	1	0	20
ARKANSAS	2	0	4	0	0	6
CALIFORNIA	13	49	34	8	1	105
COLORADO	4	0	9	0	0	13
CONNECTICUT	1	2	2	0	0	5
DELAWARE	0	0	3	0	0	3
DIST OF COLUMBIA	2	5	2	1	0	10
FLORIDA	6	12	20	0	1	53
GEORGIA	8	3	9	1	0	21
HAWAII	15	19	10	2	1	47
IDAHO	0	0	4	0	0	4
ILLINOIS	6	4	5	0	0	15
INDIANA	5	3	3	0	0	11
IOWA	2	0	3	0	0	5
KANSAS	4	0	3	0	1	8
KENTUCKY	4	1	2	0	0	7
LOUISIANA	2	2	7	0	0	11
MAINE	0	4	4	0	1	9
MARYLAND	8	13	5	0	1	27
MASSACHUSETTS	5	3	14	0	0	22
MICHIGAN	4	0	7	0	0	11
MINNESOTA	1	1	3	0	0	5
MISSISSIPPI	2	5	6	0	0	13
MISSOURI	4	0	7	0	1	12
MONTANA	2	0	3	0	0	5
NEBRASKA	2	0	5	0	0	7
NEVADA	2	2	8	0	0	12
NEW HAMPSHIRE	1	1	2	0	0	4
NEW JERSEY	8	3	4	0	0	15
NEW MEXICO	3	1	5	0	0	9
NEW YORK	8	7	21	0	0	36
NORTH CAROLINA	2	2	7	7	0	18
NORTH DAKOTA	0	0	8	0	0	8
OHIO	3	2	12	0	2	19
OKLAHOMA	3	0	10	0	0	13
OREGON	1	2	2	0	0	5
PENNSYLVANIA	7	7	7	0	1	22
RHODE ISLAND	0	5	3	0	0	8

DEPARTMENT OF DEFENSE
SUMMARY OF NUMBER OF INSTALLATIONS
United States

State/Country	Army	Navy	Air Force	Marine Corps	Defense Agencies	Total
SOUTH CAROLINA	1	8	7	2	1	19
SOUTH DAKOTA	0	0	2	0	0	2
TENNESSEE	3	3	6	0	1	13
TEXAS	10	11	24	0	0	45
UTAH	4	1	7	0	1	13
VERMONT	2	0	1	0	0	3
VIRGINIA	13	18	2	3	1	37
WASHINGTON	3	11	8	0	0	22
WEST VIRGINIA	0	0	2	0	0	2
WISCONSIN	2	0	4	0	0	6
WYOMING	0	0	3	0	0	3
TOTAL United States	206	242	384	25	14	871

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