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FINAL REPORT
(Background Study)

12

POTENTIAL IMPACTS RELATED TO THE
PROPOSED STRATEGIC AIR COMMAND REALIGNMENTS

Institutional Characteristics
Transportation
Civilian Community Utilities
Land Use

For

Kincheloe AFB, Michigan
Wurtsmith AFB, Michigan

[Handwritten signature]

To

HQ USAF/Deputy Chief of Staff
for Programs and Resources
Director of Engineering and Services
Environmental Planning Division
Washington, D.C. 20330

December 17, 1976

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(Background Study)

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PROPOSED STRATEGIC AIR COMMAND REALIGNMENTS.

Institutional Characteristics
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① Final report

⑪ 17 Dec 76

⑫ 46p. To

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Director of Engineering and Services
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Washington, D.C. 20330

December 17, 1976

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PREFACE

This report was developed as one of a number of background studies for use by the United States Air Force in preparing Final Environmental Impact Statements on proposed Defense realignment actions at several Air Force installations. This study identifies and evaluates potential impacts on selected community/regional characteristics resulting from closure of Kincheloe AFB or Wurtsmith AFB, Michigan.

This study was prepared by the Economics and Management Science Division of Midwest Research Institute. Project participants included Ms. Margaret Thomas and Mr. Robert Gustafson, Project Leaders; Dr. Cynthia Tinberg, Ms. Mary Kies, and Mr. Marvin Luttrell. The study was under the general direction of Mr. Bruce W. Macy, Director, Economics and Management Science Division and Manager, Regional Economics Section.

We are most appreciative of the thoughtful contributions provided by many individuals in various governmental agencies at the local, regional, and state level as well as numerous community spokespersons for local interests. Air Force Base Information Offices assisted the study team generously in data collection efforts. The considerate cooperation of the coordinating firm of Hammer, Siler, George Associates is also gratefully acknowledged.

Approved for:

MIDWEST RESEARCH INSTITUTE

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I. INTRODUCTION

A. Scope of Work

This report was prepared to assist the United States Air Force in developing a socioeconomic evaluation of possible environmental effects resulting from proposed realignment actions involving several Air Force bases. This research effort required a review of TAB A-1 Environmental Narratives, evaluation of additional baseline data provided by the Air Force, and generation of primary data from state, regional and local community sources. The result is an evaluation of potential impacts on specific elements within the current socioeconomic setting. The scope of this study encompasses the following possible impact areas (format similar to that in Air Force TAB A-1 Environmental Narrative):

- 4.3 Institutional Characteristics
 - 4.3.1 Government
 - 4.3.1.1 Structure
 - 4.3.1.1.1 Local Government
 - 4.3.1.1.2 Other Jurisdictions
 - 4.3.1.1.3 Relationship of Local Community
 - 4.3.1.1.4 Federal Regions
 - 4.3.1.1.5 Designation in Special Federal Area
 - 4.3.1.2 Planning Function
 - 4.3.1.2.1 Administrative
 - 4.3.1.2.2 Legislative
 - 4.3.1.2.3 Legal
 - 4.3.2 Decision Process
 - 4.3.2.1 Key Interested Parties
 - 4.3.2.2 Significant Influence
- 4.4 Activity Systems and Plans
 - 4.4.1 Transportation
 - 4.4.1.1 General
 - 4.4.1.2 Off-Base
 - 4.4.1.2.1 Air Transportation
 - 4.4.1.2.2 Rail Transportation
 - 4.4.1.2.3 Highways
 - 4.4.1.2.4 Rapid Transit
 - 4.4.1.2.5 Trends
 - 4.4.1.3 On-Base
 - 4.4.1.3.1 Interface with Community
 - 4.4.1.3.2 Internal Circulation
 - 4.4.2 Utilities
 - 4.4.2.1 Civilian Community Utilities
 - 4.4.3 Land Use
 - 4.4.3.1 Existing Land Use

- 4.4.3.1.1 Summary of Existing Land Use in the Region of Influence
- 4.4.3.1.2 Summary of Existing Land Use in the Communities/Counties
Within the Region of Influence
- 4.4.3.2 Land Ownership and Value
- 4.4.3.3 Future Land Use
- 4.4.3.3.1 Adjacent Area Land Use Analysis (Future)
- 4.4.3.4 Anticipated Encroachment Evaluation
- 4.4.3.4.1 Existing Conditions Within the AICUZ ^{1/}
- 4.4.3.4.2 Future Conditions Within the AICUZ
- 4.4.3.5 Summary of On-Base Land and Facilities
- 4.4.3.5.1 Primary Installation
- 4.4.3.5.2 Cost
- 4.4.3.6 On-Base Facilities
- 4.4.3.6.1 Mission Facilities
- 4.4.3.6.2 Personnel Facilities

The scope of this study concerns only the potential impacts of alternative Air Force actions upon the above-mentioned elements. The extensive characterization of land use, community utilities, transportation, and governmental structures and functions as they exist in the present setting is not included in this assessment. Where preliminary analysis revealed there was no potential for significant impact on one of the aforementioned parameters, no further analysis was conducted. Similarly, some parameters were shown to be irrelevant to the data needs of the Draft EIS and were therefore eliminated.

B. Alternative Actions

The United States Air Force, in an effort to reduce overhead and support costs while maintaining strategic and other Air Force mission capability, has evaluated all active Air Force installations currently supporting SAC aircraft operations for possible reduction or closure. As a result, the following action alternatives are under consideration by the Air Force:

1. Inactivate the 449th Bombardment Wing and its supporting organizations and close Kincheloe Air Force Base, Michigan; eliminate current Kincheloe manpower authorizations of 3,074 military and 737 civilian FTE positions;^{2/} relocate 16 B-52H aircraft.

2. Close Wurtsmith Air Force Base, Michigan and relocate assigned 16 B-52H and 16 KC-135 aircraft; eliminate current Wurtsmith manpower authorizations of 3,103 military and 736 civilian FTE positions.

^{1/} Air Installation Compatible Use Zone.

^{2/} Adjusted manpower figures used in text for population and housing supplied by Hammer, Siler, George Associates, 1140 Connecticut Avenue, N.W., Washington, D.C.

C. Research Approach

The methodology employed by the research team in developing the 15 June 1976 draft report included the following components:

1. The primary data sources for this preliminary report were the TAB A-1 Environmental Narratives and information prepared by the base information offices on the interrelationship of each base to the impact area. At the request of the Air Force, data sources did not include local citizens or public officials. Preliminary assessments presented in this preliminary report were developed without contact or communications between the research team and the impacted communities. General information on the impact areas was obtained from state and regional public agencies.

2. Available information was evaluated and impacts from proposed Air Force realignment actions were assessed for effects on the following parameters:

- Governmental institutions
- Transportation
- Civilian community utilities
- Land use

3. Possible impacts upon the above four elements were examined in terms of the following considerations.

- Comparative analyses of impacts of viable alternatives
- Relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity
- Irreversible and irretrievable commitments of resources
- Unavoidable adverse impacts and mitigation possibilities
- Unresolved issues

4. A report detailing the results of the assessment study was prepared for use by SAC Headquarters in developing the Draft Environmental Impact Statement.

The accompanying report is a correction and refinement of the 15 June 1976 draft assessment based on additional data sources summarized below.

1. Public hearings at Wurtsmith, Michigan and Sault Ste. Marie, Michigan, were held on November 8-9 and November 15-16, respectively. A member of the project team attended the public hearing for Kincheloe AFB to record presentations appropriate to the four impact categories. In addition, summary reports on prehearing meetings for both bases and hearings for Wurtsmith AFB were furnished by SAC Headquarters.
2. Transcripts of the testimony presented at both public hearings were received and examined for information relevant to the four impact parameters. Annotated transcripts were also received from the consulting firm of Hammer, Siler, George Associates for use in defining areas of response appropriate to MRI's scope of work.
3. Where additional data needs were indicated from prehearing meetings or public hearings, the project team relied primarily on telephone contacts with local community representatives to refine or confirm impact assessments. Individuals who participated in public hearings or the interests they represented were contacted directly whenever possible. Records were made of all telephone communications for reference use.
4. Data on total population and total household losses were provided by Hammer, Siler, George Associates for use in assessing impacts on civilian community utilities.

Insofar as possible, qualitative and quantitative statements of impacts on the four study parameters were confirmed through communication with knowledgeable local community representatives; additional data provided for one base were also developed for the second base. Impact analyses are as comprehensive and comparable for the two impact areas as available time and data permitted.

II. IMPACT ANALYSIS

A. Closure of Kincheloe Air Force Base

1. INSTITUTIONAL CHARACTERISTICS (AFERN 4.3)

Present forms of government and jurisdictional boundaries of the City of Sault Ste. Marie, area townships, and Chippewa County are not likely to be altered as a result of closure of Kincheloe AFB. However, impacts on public finance, community and municipal services, and public schools (discussed in AFERN categories 4.2.3, 4.3.5, and 4.3.3, respectively) will be significant. The economic, cultural, and social losses that the City of Sault Ste. Marie and small area communities sustain will necessitate substantial united community effort to overcome; new public or quasi-public institutions may emerge as mechanisms for economic recovery strategies or increased commercial and industrial development in the impact area.

Additional government services will be needed to help civilian personnel currently employed at the base who will be unemployed if the base is closed. Military retirees living in the area may also be forced to rely more heavily on civilian community services. At the same time, financial resources for government operations will be severely strained. Fewer people will have to bear the burden of maintaining services which were planned for use by greater numbers of people. Some skilled labor previously involved in governmental operations will leave the area. A complete summary of the second jobs of base employees, their spouses, and their dependents is not available but it is estimated that these jobs contribute substantially to the number of trained employees for governmental operations and community services. Examples of the present involvement of base personnel and their families is shown in Table 1.

Formal and informal cooperative agreements between the base and surrounding communities now provide fire protection, recreation benefits and other services. There is likely to be a significant transition period during which local governmental units cannot provide services comparable to those available prior to the closure of the base.

The presence of Kincheloe AFB and its broad-based influence in the region has contributed a unifying force among local communities. It is anticipated that the Eastern Upper Peninsula Regional Planning and Development Commission would emerge as a key agency in efforts to unite the area in economic recovery strategies if the base were closed. Future planning programs of this agency will be significantly affected by changes in area population and the socioeconomic stresses accompanying base closure, as planning has been largely influenced in the past by the presence of Kincheloe AFB and the needs of its personnel and their dependents.

TABLE 1

SECOND JOBS OF KINCHELOE AIR FORCE BASE EMPLOYEES
AND EMPLOYMENT OF SPOUSES AND DEPENDENTS OF EMPLOYEES

Treasurer, Bay Mills Indian Community	Deputy Clerk, Kinross Township
Volunteer, Clark Township Fire Department	Lake Superior State College Advisory Committee, Engineering Technology Degree Programs
Volunteer, Rudyard Township Fire Department	Clark Township Zoning Board of Appeals
Volunteer, Soo Township Fire Department	St. Ignace Junior Chamber of Commerce
Volunteer, Whitefish Township Fire Department	Chief of Police, Kinross Township
Member, City of Sault Ste. Marie Study Committee for Multipurpose Recreation Addition to Community Building. Active in City of Sault Ste. Marie Youth Recreation Programs	Treasure, Kinross Township Park and Recreation Board
Secretary, Rudyard Area Public Schools	Member, Kinross Township Business Association
President, Rudyard Area Public Schools	Member, Chippewa County Fair Board
Member, Chippewa County Fair Board	Member, Kinross Boosters, Inc.
Building Code Administrator, Kinross Township; Chairman, Board of Directors, Kinross Township Boosters, Inc.	Sault Ste. Marie Planning Commission
Member, Lake Superior State College Advisory Committee, Nursing Degree Program	Treasure, Brimley Area Public Schools
Member, Kinross Township Boosters, Inc.	President, Eastern U.P. Intermediate School District
Member, Rudyard Zoning Commission	Member, Chippewa County Tax Allocation Board
Volunteer and Certified EMT, Superior Township Fire Department	Member, Supervisory Township Zoning Board
Member, Rudyard Township Tax Review Board	Member, St. Ignace City Planning Commission
Vice-President, Chippewa County Fair Board	Instructor, Michigan State Health Department for base chemistry course
Member, Kinross Township Parks and Recreation Board	Instructor, Lake Superior State College, Industrial Sewage Course
	Superintendent, DeTour Village Water Plant

Source: Data provided by Kincheloe AFB, Base Information Office.

2. TRANSPORTATION (AFERN 4.4.1)

Off-Base (AFERN 4.4.1.2)

Air Transportation (AFERN 4.4.1.2.1)

Passenger and air freight service to Kincheloe AFB is provided by the City-County Airport in Sault Ste. Marie and the Sault Ste. Marie Federal Airport of Sault Ste. Marie, Canada. Kincheloe employees primarily use the City-County Airport which has daily flight service provided by North Central Airlines. The volume of air passenger and freight business which is base-related is summarized below:

<u>Kincheloe Air Business</u>	<u>July 1975 to June 1976 (\$)</u>
Base Expenditure on Air Flights (Military Orders)	131,198
Military Air Freight Shipped (lbs)	63,170
Military Air Freight Received	NA

Source: Kincheloe Air Force Base Information Office.

NA: Data not available.

Kincheloe AFB generates an estimated 40 percent of City-County's passenger business.^{1/} Approximately 7 percent of the Federal Airport's passenger and freight business is base-related.^{2/}

Surveys by North Central Airlines have indicated that over 50 percent of their business is generated by the presence of Kincheloe AFB. The amount of service North Central provides to the area is determined by passenger traffic. If traffic decreases significantly with the closing of the base, air service will be reduced. However, at the minimum North Central will continue to provide two arrival and two departures per day.^{3/}

The Federal Aviation Administration has issued a planning grant for the site location of a new City-County Airport. If Kincheloe AFB closes, the base facilities may be examined for possible alternative use as a community airport site.^{4/}

Chippewa Flying Service also operates out of City-County Airport, providing a charter service, flying school, and airplane rental. Approximately 65 percent of their business volume is base-related.^{5/}

Rail Transportation (AFERN 4.4.1.2.2)

The Soo Line Railroad is the only line serving the area. Kincheloe AFB receives coal shipments and a small amount of freight from

this railroad line. Economic loss to the railroad as a result of base closure would not be significant since less than 1 percent of the Soo's annual revenue is base-generated.^{6/}

Highways (AFERN 4.4.1.2.3)

Traffic studies for both the City of Sault Ste. Marie and Chippewa County indicate that the existing highway system in the area, which includes U.S. Interstate 75 (Figure 1), is adequate for present traffic volumes.^{7/} There are no plans for highway expansion in the immediate vicinity of the base. Plans to upgrade the quality of some roads within Chippewa County as well as the addition of safety measures such as break-away sign posts on I-75 will not be altered by base closure.^{8/}

The road agency for the Kincheloe area is the Chippewa County Road Commission. The Commission receives maintenance and improvement funds from the state based on total population estimates for the area. If Kincheloe closes, the Commission could lose approximately \$181,500 in highway funds. This loss represents about 42 percent of their total annual road funds.^{9/}

The Eastern Upper Peninsula Transportation Authority which manages the bus terminal in Sault Ste. Marie recently invested \$42,000 in additional facilities and equipment to meet the transportation needs of base personnel. Kincheloe AFB accounts for approximately 39 percent of their yearly passenger service and 23 percent of their yearly freight service.^{10/} In addition, Dial-A-Ride bus service, a joint Federal and local government project, operates in Sault Ste. Marie with about 250 rides per day.^{10/} However, a very small percentage of base personnel utilize this service. Closing the base would reduce annual business volume of the Ste. Ignace bus depot by 10 percent.^{11/}

There are seven major moving and storage companies which would be significantly affected by the closing of Kincheloe AFB, as shown in Table 2. All of these companies would close or leave the area if the base closed.^{12/}

TABLE 2

PERCENT OF TOTAL BUSINESS ATTRIBUTED TO KINCHELOE AFB
FROM MAJOR MOVING COMPANIES

<u>Company</u>	<u>Percent of Business With Kincheloe</u>	<u>Number of Employees</u>
Frost Moving & Storage Company	85	3
Weir Moving & Storage Company	50	12
Dobson Cartage & Storage	99	16
Ball Moving Company	85	11
Stevens Van Lines	98	18
Clairmont Transfer Company	25	NA
Superior Moving & Storage	68	8

Source: Kincheloe Air Force Base Information Office.
NA: Data not available.

Trends (AFERN 4.4.1.2.5)

The most likely long-term impact on transportation would be a reduction in the level and frequency of air and truck service to the area. The City-County Airport would remain open, but service by North Central could be reduced. The frequency of truck service as well as the number of companies operating in the area would be greatly reduced.

On-Base (AFERN 4.4.1.3)

Interface with Community (AFERN 4.4.1.3.1)

A July 1973 traffic study conducted at the front and back gates of the base estimated peak traffic loads at 400 to 800 vehicles per hour during rush hours (8:00 a.m. to 9:00 a.m. and 5:00 p.m. to 6:00 p.m.). The number of individuals commuting to Kincheloe from area towns is presented in Table 3.

TABLE 3

NUMBER OF INDIVIDUALS COMMUTING TO KINCHELOE AFB FROM PRINCIPAL
CHIPPEWA COUNTY TOWNSHIPS AND THE CITY OF SAULT STE. MARIE

<u>Townships</u>	<u>Number of Commuters</u>
Daffer	60
Kinross	112
Pickford	53
Rudyard	80
Sault Ste. Marie (City of)	469

Source: Kincheloe Air Force Base Information Office.

There are no known traffic safety hazards in the area created by base personnel entering and leaving the base, but base closure will reduce traffic volume and some localized congestion.

Internal Circulation (AFERN 4.4.1.3.2)

All on-base transportation problems will be eliminated.

3. CIVILIAN COMMUNITY UTILITIES (AFERN 4.4.2.1)

Revenue and employment losses to community utility companies are included in the regional economic analysis developed by Hammer, Siler, George Associates.

All water used on base is obtained from wells. Water used by off-base households of military and civilian personnel is also from privately owned wells with the exception of water obtained from municipal water services in Sault Ste. Marie, Cedarville, and St. Ignace.

The most significant impact on local sewer and water utilities will occur in the City of Sault Ste. Marie. The city's sewer and water department currently provides services to 4,018 residential users.^{13/} It is estimated that 444 off-base households residing in Sault Ste. Marie will leave the area if Kincheloe AFB is closed.^{14/} Based on an average annual billing per household of \$89,^{13/} which includes both sewer and water services, this department will lose about \$39,500 in annual revenues, or over 9 percent of the city's total revenue from sewer and water services (\$423,400). Impacts of base closure on water and sewer utility rates to remaining users in Sault Ste. Marie cannot be determined at this time,^{15/} but the loss could hasten the need for upward rate adjustments.

No significant impacts on the Cedarville and St. Ignace utility services are anticipated as a result of base closure. However, base closure and the resultant population loss may cause delay in construction of sewage treatment facilities planned for Rudyard and overinvestment of facilities planned for Pickford.^{16/}

The Edison Sault Electric Company would lose approximately \$300,000 in annual revenues from loss of direct on-base electric utility procurements. This represents about 4 percent of the company's annual gross revenue. In addition, the company would lose customers with the loss of area households, commercial establishments, etc., that would occur if the base were to close. Long-term population and economic losses to the area could alter utility rates for remaining users but this impact cannot be quantified.^{17/}

The Cloverland Electric Cooperative supplies a very limited number of off-base households with electrical power; it is estimated that no more than 1 to 2 percent of kilowatt hour sales from the Cooperative are directly attributable to Kincheloe AFB personnel. Company representatives estimate that impacts on remaining users resulting from base closure would be relatively minor.^{18/}

The Michigan Consolidated Gas Company provides gas service to approximately 1,400 to 1,480 housing units on the base which represent about 18 percent of the company's Sault area total load. The revenue from base purchase of natural gas (approximately \$281,000 in 1975) would be lost if the base were closed. Partially mitigating this revenue loss is a written guarantee entitling Michigan Consolidated Gas Company to receive a liquidation payment for initial cost of facilities. The original payment was an amount not to exceed \$375,000 but this figure would be adjusted downward based on the length of time the company's facilities have been in use.^{19/}

To serve Kincheloe AFB, Michigan Consolidated Gas Company was franchised to provide service to nonmilitary customers in Kinross Township. This service includes about 78 accounts; it is estimated that only 10 to 20 of these are permanent residents. If the base were closed, the distribution facilities in Kinross Township would be greatly in excess of those required to serve these remaining customers. These accounts would therefore become an economic burden to the company.^{19/}

General Telephone Company of Michigan provides telephone service to five communities in the Eastern Upper Peninsula, including Cedarville, Detour, Kinross, Pickford, and Rudyard. Much of this company's past investment has been directed toward facilities to serve Kincheloe personnel including about \$2,450,000 in investment to the Kinross exchange. A company representative estimated that providing service to military and

civilian base personnel represents about 43 percent of the company's total subscribers.^{20/} Closure of Kincheloe AFB would constitute a significant impact on this company, including a loss in annual revenue of about \$650,000.^{20/}

Michigan Bell Telephone Company provides service lines to the base and would lose an estimated \$180,000 in annual revenue as a result of base closure. In addition, toll revenue placed by base personnel through the Kinross exchange represents an important source of revenue. A company representative estimated that 300 accounts are held by off-base households in the area; based on an average billing of \$540 per year, these accounts constitute an additional loss in revenue of \$162,000. While rates to remaining users would not be expected to change as a result of base closure, the installation of direct dialing equipment into the area could be delayed.^{21/}

The base accounts for approximately 85 percent of the sales of coal by Reiss Coal Company, or \$1.1 million in annual revenue. Closure of the base would force closure of this coal company and remaining users (some local and regional schools and domestic customers) would probably have to use oil or gas in place of coal.^{22/}

Northwestern Oil Terminal Company of St. Ignace stores approximately 515,000 barrels of liquid fuel (JP4-jet petroleum number 4) which is used solely by Kincheloe AFB. The storage tanks hold enough fuel to serve the entire upper peninsula--far too much fuel for any civilian use. The exact financial loss to this company has not been determined, but the cost for reproducing a plant of similar size is about \$3 million. Another company that would be impacted if the base closes is Northern Michigan Pipeline Company which is owned by Park-Ohio Industries of Cleveland, Ohio. The sole purpose of this company is to transport the liquid fuel from the storage tanks of Northwestern Oil Terminal Company in St. Ignace to the base. This is approximately a \$2 million operation that would have little or no alternative use if the base closed.^{23/} There would be no significant affects on services provided to local residents as a result of impacts to these companies.

Petrolane Gas Service is dependent on on-base government contracts for about 15 percent of their total sales of liquid petroleum; sales to off-base personnel constitute an additional 10 percent of this company's total sales volume, for a total of about 25 percent. However, the losses in revenue to this company will not affect rates to remaining customers.^{24/}

Losses in annual revenue to Cities Service Oil Company of \$50,000 to \$60,000 would represent 10 to 12 percent of this company's total annual revenue. A company representative estimated it would require about 2 years for this business to recover from this financial setback. However, rates to remaining utility users would not be affected by closure of the base.^{25/}

The Superior Sanitation Company of Sault Ste. Marie will lose about \$62,400 annually, or 15 percent of this company's total annual revenue, from loss of government procurement for refuse collection if Kincheloe AFB were closed. Households of personnel residing off-base constitute additional users who will be lost to this company. No reduction in service to remaining customers would be anticipated.^{26/}

4. LAND USE (AFERN 4.4.3)

Existing Land Use (AFERN 4.4.3.1)

Table 4 presents a land use and land ownership profile for Chippewa County. Over 75 percent of the county's land area is forest land which is largely in federal and state forests. Wood production is the area's economic base, although an increasing amount of forest land is being used for recreation and recreation-oriented development. Agricultural land use constitutes about 9.5 percent of the county's total land area, with most of the prime agricultural land in the eastern half of the county. Most of the agricultural use is forage production and animal agriculture, primarily beef and dairy cattle operations. The number of farms in Chippewa County has been steadily decreasing over the past 10 years as small farms are becoming inoperative and others are being consolidated into larger units. About 75 percent of the farmers in the county rely on off-farm employment to supplement their farming income; in fact, a significant percentage of civilian base personnel at Kincheloe AFB are also full or part-time farmers.^{27/}

Kincheloe AFB is located midway in the central corridor of U.S. Interstate 75, which runs generally north/south through the upper peninsula. A significant amount of the commercial strip development located in Chippewa County borders I-75 along this area. The most intensive recreational use areas of the county are near bodies of water and along major access roads.^{28/} Residential use lands are concentrated in the City of Sault Ste. Marie, a primary population center of the county, and secondary population centers in local area townships.

Future Land Use (AFERN 4.4.3.3)

The relative percentage distribution of forest land, agricultural land, developed land, and land used for transportation and recreation throughout Chippewa County will not change as a result of closing Kincheloe AFB. The primary impacts on land use will be related to changes in land values, ownership patterns, and land use trends in area townships surrounding the base and also in the City of Sault Ste. Marie.^{29/}

TABLE 4

1970 LAND USE PROFILE FOR CHIPPEWA COUNTY, MICHIGAN

<u>Use</u>	<u>Acres</u>	<u>Percent</u>
Total Area	1,056,640	100.0
Inland Water	38,912	3.7
Land Surface	1,017,728	96.3
Forested	766,500	75.3
Agriculture	96,495	9.5
Transportation	17,756	1.7
Recreation	18,116	1.8
Urbanization	12,518	1.2
Other	106,343	10.5

Ownership

Total Area	1,017,728	100.0
Federal	223,899	22.0
State	203,881	20.0
County and Township	40	0.0
Municipal	251	0.0
Total Public	428,071	42.1
Private	394,483	38.8
Corporation	195,175	19.2

Source: Eastern V.P. Regional Planning and Development Commission, P.O. Box 478, Sault Ste. Marie, Michigan.

Note: Percentages in land ownership do not add up to 100 due to rounding.

Past residential development in the Rudyard-Kinross area has essentially been a direct result of the presence of Kincheloe AFB. New residential development in these areas has essentially ceased as a result of the announcement of possible base closure, and future residential development would be significantly slower if the base were closed. Development of a 32-acre recreational complex in Rudyard Township will be altered in scope, and plans for a housing development in Kinross Township have been cancelled. Maintenance funds for Kinross Township Park, located approximately three-fourths of a mile from the base's west gate, will be severely reduced.^{29/}

The majority of commercial establishments in Kinross are service-type enterprises and dependent on Kincheloe AFB. Examples of these businesses include trailer parks, rental units, garages, gas stations, and grocery and sporting goods stores. Some of these businesses would be forced to liquidate or relocate if the base were closed;^{30/} the commercial lands would likely be idle or underutilized for a significant transition period. Future use would depend on the economic recovery strategies adopted by the area.

Residential development in a number of areas of Sault Ste. Marie has halted with the announcement of possible base closure. If the base were closed, new residential development would be greatly reduced during an undetermined transition period.

No determination has been made as to the future use of base facilities if the base were closed. Future land use trends in all population centers of Chippewa County, and particularly on lands surrounding the base, would be largely influenced by future use of Kincheloe AFB.

Closure of the base would be expected to alter development trends in Chippewa County to such an extent that past township and regional land use plans would no longer be valid. Development of seasonal homes and recreational facilities would continue in the primary recreation areas, but since base personnel make extensive use of commercial recreation facilities the loss of the base could also alter recreational use trends for the area. Commercial developments along I-75 which are marginal operations may liquidate or relocate out of the area. In general, however, the central corridor's commercial enterprises cater to a broader recreation-tourism market and these land uses would not be expected to change significantly with closure of Kincheloe AFB.^{28/}

Land Ownership and Value (AFERN 4.4.3.2)

The announcement of possible closure of Kincheloe AFB has already significantly altered the land market throughout Chippewa County. If the base were closed, the greatest decline in land values would occur on lands

held for potential residential development.^{28/} While accurate projections on the location and market value change of specific properties cannot be made, the decline in land values at some localities will be significant. Housing vacancies and, to a lesser extent, vacancies in commercial business which were forced to liquidate would leave properties vulnerable to reduced investment and maintenance, which may in turn further lower land values.

The majority of the lands surrounding the base are state-owned forest. There are, however, isolated tracts of privately-owned land bordering the base to the west and southwest. Future ownership and value of these lands will be determined by the future use of the base facilities in the event of closure. Ownership of publically-owned lands is not expected to be affected if Kincheloe AFB is closed.

B. Closure of Wurtsmith Air Force Base

1. INSTITUTIONAL CHARACTERISTICS (AFERN 4.3)

Present forms of government and jurisdictional boundaries of Iosco County, the county townships, and the cities of Tawas, East Tawas, and Whittemore are not expected to change as a result of base closure.^{31/} However, because impacts on public finance, community services and facilities, and public schools (discussed in AFERN categories 4.2.3, 4.3.5, and 4.3.3, respectively) will be significant, new institutional arrangements may emerge for economic development strategies.

Additional services will be needed to help civilian personnel who will be unemployed if the base is closed. At the same time, financial and labor resources for local government operations may be strained. As an example of impacts on available labor resources, a number of base employees as well as their spouses and dependents hold jobs in the communities surrounding the base. Table 5 presents this employment by type. Although government employment is not significant as a second job for base employees, it accounts for a large percentage (42 percent) of employment for their spouses.

TABLE 5

SECOND JOB OF EMPLOYEES OF WURTSMITH AIR FORCE BASE AND
EMPLOYMENT OF SPOUSES AND DEPENDENTS, BY TYPE

<u>Type of Employment</u>	<u>Number of Second Jobs Held By Base Employees</u>	<u>Number of Jobs Held By Spouses and/or Dependents of Base Employees</u>
Agriculture	5	1
Construction	3	9
Transportation, Communica- tion or Utilities	3	16
Manufacturing	--	14
Wholesale/Retail	13	47
Finance, Insurance, or Real Estate	6	21
Services	53	103
Government	19	226
Other	<u>57</u>	<u>104</u>
Total	159	541

Source: Base Information Office, Wurtsmith AFB, (survey conducted April 5 to 9, 1976.)

Formal and informal cooperative agreements between the base and surrounding communities now provide police and fire protection, recreation and education benefits, and other services. There is likely to be a significant transition period during which local governmental units cannot provide services comparable to those available prior to the closure of the base.

It is anticipated that the East Central Michigan Planning and Development Regional Commission would emerge as a key agency in efforts to unite the area in economic recovery strategies if the base were closed. Future planning programs of this agency will be affected by changes in area population and the socioeconomic stresses accompanying base closure, as planning for Iosco County has been largely influenced in the past by the presence of Wurtsmith AFB and the needs of its personnel and their dependents.

2. TRANSPORTATION (AFERN 4.4.1)

Off-Base (AFERN 4.4.1.2)

Air Transportation (AFERN 4.4.1.2.1)

The Tri-City Airport, located approximately 90 miles south of Wurtsmith AFB, is the nearest civilian airport which has regularly scheduled commercial flights. The two airline companies serving the area, United and North Central, will experience losses in revenue if Wurtsmith AFB closes. The volume of base-related air passenger and freight services out of Tri-City Airport is summarized below:

<u>Tri-City Airport</u>	<u>United (\$)</u>	<u>North Central (\$)</u>
Base Expenditure on Air Flights	46,306	5,300
Military Air Freight Shipped	600	1,400
Military Air Freight Received	NA	NA

Source: Base Information Office, Wurtsmith AFB.

NA: Data not available.

The Tri-City Airport also serves the Saginaw, Bay City, and Midland area; closure of Wurtsmith AFB will not significantly alter air service to the area.^{32/}

In addition to revenue losses to regular commercial airlines, annual expenditures by Wurtsmith AFB for passenger service on military orders also includes \$17,800 to Seaco Airlines, Alpena, Michigan and Welch Airlines, which maintains planes and provides pilots for Seaco Airlines.

Currently there is a temporary (18-month) agreement allowing Seaco Airlines to land at the base, and the company operates two flights daily with a morning flight originating at Alpena, stopping at the base, and continuing to Chicago, and a return flight in the evening. This service is used by base personnel primarily for business trips to the Chicago area. This 18-month agreement would be terminated prior to base closure.^{33/}

Rail Transportation (AFERN 4.4.1.2.2)

"The Detroit and Mackinac Railway Company provides service to Wurtsmith AFB for the delivery of jet fuel and other commodities. The closure of the base would cause a substantial reduction in its freight revenue as a result of the loss of approximately 2,500 tank cars of jet fuel per year."^{34/} In addition to the railway freight service, the Detroit and Mackinac Railway Company owns several companies which would suffer revenue losses if Wurtsmith AFB were closed. The Lakeshore Terminal and Pipeline Company, which provides a storage and pipeline transfer service of jet fuel to the base, would lose about \$75,000 in annual revenue if the base were closed. Huron Building Supplies Company, a concrete block manufacturing company, and Straits Aggregate and Equipment Corporation, an operator of ready mix concrete plants in Oscoda and Tawas City, would lose approximately 30 percent and 60 percent, respectively, of their total business volumes if the base were closed. Total revenue losses to the Detroit and Mackinac Railway Company were estimated to equal \$625,000.^{35/} The company has stated that the elimination of rail and pipeline traffic (resulting from closure of Wurtsmith AFB) would result in a 20 to 25 percent reduction in area services.^{34/}

Highways (AFERN 4.4.1.2.3)

U.S. Highway 23 is the major highway serving the area around Wurtsmith AFB. Average daily traffic and design hourly volume projected for the year 1976 are 11,000 and 1,000 vehicles, respectively. Iosco County Highway F-41 is the primary route from U.S. Highway 23 to Wurtsmith AFB. In addition Highway F-41 also serves some of the recreational and rural needs of the area. The projected average daily traffic volume on Highway F-41 for the year 1976 is 11,000 vehicles, a volume identical to that projected for U.S. Highway 23. The design hourly volume of Highway F-41 is expected to be around 1,000 vehicles in 1976. These figures emphasize the importance of the base on both routes. Base closure would significantly reduce highway traffic on both routes.^{36/}

Highway F-41 is considered to be overloaded with traffic causing traffic hazards, particularly in the winter months. Load restrictions are imposed for short periods each spring due to frost damage. The county road commission has submitted a plan to widen Highway F-41 to four lanes. Plans currently call for \$1,500,000 in federal funds to be spent on improvement of this road. Since more than 75 percent of all trips in the area are base-related, closure of the base would probably alter plans for such projects.^{37/}

The road agency for the Wurtsmith area is the Iosco County Road Commission. The Commission receives maintenance and improvement funds from the State Motor Vehicle Fund and the Federal Aid Road Fund. The amount of money the Commission receives depends in part upon the population of the area. If Wurtsmith closes, the Road Commission will lose approximately \$285,000 in highway funds.^{38/} This loss represents about 25 percent of the Road Commission's total annual funds.^{37/}

The decrease in population will also effect the property tax base and the ability of the township to participate in the 50-50 statutory requirement for financing local roads.^{39/}

There are six local agents of major moving and stroage companies which are dependent on Wurtsmith AFB for nearly all of their business volume, as indicated in Table 6.

TABLE 6

MAJOR MOVING COMPANIES AFFECTED BY CLOSING OF WURTSMITH AFB

<u>Moving Company</u>	<u>Local Agent</u>	<u>Percent of Business Volume Which is Base-Related</u>
Aero Mayflower Moving Service	Silver Moving & Storage	NA
Allied Van Lines	Frost Moving & Storage ^{40/}	70
Atlas Van Lines	Dobson World-Wide Movers ^{41/}	95
Beacon Van Lines	Banways, Inc. ^{42/}	95
North American Van Lines	Dobson Van Lines, Inc. ^{43/}	99
United Van Lines	Stevens Van Lines, Inc. ^{43/}	95

In general, these companies indicated that they would go out of business if the base were closed. The transactions with Wurtsmith AFB are the reason most of these companies located in the area originally; services to other area customers are so minimal that impacts on community users would not be significant as a result of loss of these companies.

During the past 12 months a total of 21 passengers moved via the local Greyhound Bus Line. A new, federally-supported bus line, the "Iosco Transit," carries Air Force employees to and from work on a daily basis. An estimated 8 passengers per day utilize this service. Closure of the base would have no significant impact on any bus lines operating in the area.^{33/}

Trends (AFERN 4.4.1.2.5)

The most likely long-term impact on transportation would be a reduction in the frequency of rail service to the area and a deterioration in the quality and maintenance of local roads.

On-Base (AFERN 4.4.1.3)

Interface With Community (AFERN 4.4.1.3.1)

Since the private automobile is the primary method of transportation in the area there is a significant use of the roads by off-base personnel traveling to and from the base. As of September 1975, there were 9,009 private vehicles registered on Wurtsmith AFB. Of these, 4,682 vehicles were owned by personnel residing on base; commuter data are not available but private cars are used by most of the over 1,000 off-base households.

Even with the operation of two gates into the base, the Main Gate and Capehart Gate, severe congestion exists on Highway F-41. Less than half a mile separates these two gates causing traffic from both to enter onto Highway F-41, which is only a two-lane road. At peak traffic hours traffic backup is approximately six blocks around the base. Closure of the base will eliminate present traffic safety hazards and congestion on Highway F-41.

Internal Circulation (AFERN 4.4.1.3.2)

All on-base transportation will be eliminated.

3. CIVILIAN COMMUNITY UTILITIES (AFERN 4.4.2.1)

Revenue and employment losses to community utility companies are included in the regional economic analysis developed by Hammer, Siler, George Associates.

All water used at Wurtsmith AFB is obtained from on-base wells; the base has its own treatment and distribution system as well as its own wastewater collection and treatment system. Impacts on water and sewer utility companies resulting from closure of Wurtsmith AFB would be primarily related to use of these utilities by off-base households of base personnel.

Currently, the water department in Oscoda Township services 980 water and sewer residential customers with an average annual billing per household of about \$180. There are also 107 residential customers for sewer only service; average annual billing for these households is about

\$120. The department's total annual revenue from residential and non-residential users is approximately \$414,000.^{44/} In AuSable Township, there are 486 residential customers for water services; average annual billing to these households is about \$74. The department's total annual revenue from residential and nonresidential users is estimated at \$43,700.^{45/} Some of the off-base households of civilian and military personnel of Wurtsmith AFB are not part of either township's system. While the loss of revenue to these utility departments cannot be accurately determined, up to 1,013 households may leave the area. A rate increase to remaining users is anticipated in both townships; in Oscoda Township a 20 percent increase was estimated^{44/} and in AuSable Township a rate increase up to 50 percent was estimated.^{45/}

In Tawas City, there are 550 residential customers for sewer services and 575 customers for water services. The City's annual revenue from sewer and water utilities are about \$40,000 and \$75,000, respectively. Loss of approximately 28 households from the Tawas City area could reduce both sewer and water utility revenues by 2 percent (based on an average annual household cost of \$30 for sewer and \$60 for water services). In the City of East Tawas, combined water and sewer services are provided to 970 residential customers; average annual cost to these households is about \$128. There are also 80 units which receive only sewer services which cost each household about \$70 per year. Loss of about 34 households from East Tawas as a result of base closure could reduce the city's utility revenues (currently about \$173,000 annually) by 2.5 percent. These losses would probably not have significant impact on either city's utility revenues but could hasten the need for upward rate adjustments to remaining users. No impact on plans for future services in either city is anticipated.^{46,47/}

The Consumer's Power Company would lose approximately \$1,129,219 in annual revenues from loss of direct on-base electric utility procurements. In addition, the company estimates it would lose up to \$160,000 with the loss of households, commercial businesses, etc., which would occur with base closure. Total annual revenues of Consumer's Power Company are over \$1,340,000,000. Closure of Wurtsmith AFB is not expected to have a major impact on this company; utility rates to remaining users are not expected to change and there will be no affect on the company's future plans.^{48/}

The Michigan Consolidated Gas Company provides service to a number of off-base residences of civilian and military personnel. The company does not supply gas directly to the base. It is estimated that off-base generated demand constitutes about 16 percent of the company's total load in Oscoda and AuSable townships, and contributes about \$190,000 in annual revenues.^{49/} However, due to the size of this company, the loss of revenue related to closure of Wurtsmith AFB is not expected to be significant. Rates to remaining users would not change and there would be no significant affect on this company's future plans.^{49/}

Michigan Bell Telephone Company (part of the AT&T Bell System) provides both residential and administrative telephone service to Wurtsmith AFB. Michigan Bell would lose government procurement revenues of about \$166,440 annually with the closure of the base. An additional estimated \$975,000 in revenues would be lost yearly from the 1,355^{33/} residential units on base (based on an estimated monthly average household billing of \$60). In addition, the loss of over 1,000 off-base households in Iosco County would result in annual revenue losses to Michigan Bell of over \$605,000 based on an average household billing of \$600 per year. The total annual revenue loss, therefore, to Michigan Bell is estimate at over \$1,700,000. This revenue loss represents nearly 50 percent of Michigan Bell's total Iosco County annual revenue of \$3,409,000 (Est. 1975), but less than 1 percent of Michigan Bell's total company revenue of \$1,045,831,000. Michigan Bell is the largest telephone company in Michigan. Telephone rates and service to the remaining users in Iosco County would not be expected to change with closure of Wurtsmith AFB.^{50/}

Fuel oil procurements by Wurtsmith AFB totaled \$1,097,000 in fiscal year 1976; about \$540,000 of this was purchased through the Barbier Oil Company. This procurement represents about 10 percent of the total sales of fuel oil made by this company; a company representative has estimated that remaining customers in the area, primarily residential users, would not be affected by the loss in revenue to this company. Rates and services would not be altered, and additional customers could be found to make up the revenue loss from base closure.^{51/}

Procurements by the base for solid waste disposal services in fiscal year 1977 are with Hager Sanitation Service. If the base were closed this company would lose approximately \$36,000 in monthly revenues, or one-fourth of their total business volume. A company representative estimated loss of service to off-base users dependent on the base could raise this impact to 33 percent of the company's total business volume.^{52/} However, solid waste disposal services in the communities around the base would not be altered as a result of this company's losses.

4. LAND USE (AFERN 4.4.3)

Existing Land Use (AFERN 4.4.3.1)

Table 7 shows a land use profile for Iosco County. Forest lands make up over 69 percent of the land area and 67 percent of the total area of Iosco County. Inland water area constitutes 3.4 percent of the county's total area. The county is ideally suited for recreational use as about 35 percent is composed of State and National Forests.^{53/} The Lake Huron shoreline is also a prime recreational attraction. Agricultural use lands are primarily concentrated in the southwestern third of the county. The greatest population concentrations are in the area of Oscoda-AuSable Townships, Tawas City, East Tawas, Whittemore, and the unincorporated area of Hale.

TABLE 7

LAND USE PROFILE OF IOSCO COUNTY

<u>Use</u>	<u>Acres</u>	<u>Percent</u>
Total Area	360,320	100.0
Inland Water	12,416	3.4
Land Surface	347,904	96.6
Forest Land	242,200	69.6
Agricultural Land	74,498	21.4
Transportation Use	9,591	2.8
Recreational Use	341	0.1
Developed Land (Urban)	3,911	1.1
Other	17,363	5.0

Source: East Central Michigan Planning and Development Region, "Staff Critique of DOD/DEIS Concerning the Potential Closure of Kincheloe and Loring Air Forces Bases and Particularly the Alternative: Wurtsmith AFB," unpublished report, provided by Thomas P. Schroeder, October 28, 1976.

About 80 percent of the occupied year-round residential units in Iosco County are recreational units; about 1 percent (3,360 acres) of the total county land area is devoted to seasonal homes.^{53/} Most of this development is near bodies of water and little or no local control is exercised over how or where this development occurs. However, Iosco County has been developing a model zoning ordinance which could be adopted by all the county's townships and would aid in the consistent administration of zoning.^{31/}

Land use in Oscoda and AuSable townships has been largely influenced by the land ownership pattern of Wurtsmith AFB, state and national forests, and lands held in lease by Consumer's Power Company (largely along the AuSable River).^{54/} The two townships have a sizeable unincorporated core area of mixed commercial development, some industrial activities, and a considerable concentration of residential development in some areas. The commercial use is largely highway and tourist-oriented use, although the Oscoda-AuSable business district also serves as a commercial and service center for Wurtsmith AFB. The close proximity of Wurtsmith AFB has contributed to much of the area's residential development, particularly around Van Etten Lake (northeast of the base) and in some of the area's newer housing subdivisions. Figure 2 shows the location of Wurtsmith AFB in conjunction with these two townships.

Between the Oscoda-AuSable area and the Tawas area development is primarily year-round homes, cottages, motels, and some scattered commercial businesses along U.S. Highway 23.

Future Land Use (AFERN 4.4.3.3)

The relative percentage distribution of forest land, agricultural land, transportation land, recreation land, and developed use land in Iosco County will not change as a result of closure of Wurtsmith AFB. The primary impacts on land use will be related to changes in land value, ownership patterns, and land use trends in developing areas in the Oscoda-AuSable area.^{31/}

Since 1970, real market value of residential as well as agricultural use lands in Iosco County have approximately doubled in value.^{54/} A significant decline in rate of development of subdivision areas north of Oscoda and also near Lake Huron has already occurred with the announcement of possible closure of the base. If the base were closed, the rate of development of these and other residential and commercial use areas in Oscoda and AuSable townships would be significantly reduced.

No determination has been made of possible future uses of the base and its facilities if Wurtsmith were to close. Future land use trends in Oscoda and AuSable townships and particularly in the area surrounding the base would be largely determined by the economic recovery measures or mitigative actions associated with the base closure. The unincorporated area of Oscoda-AuSable has been attempting to develop a more diversified economic base with an industrial park but this development has been slow, partially because of the difficulty in acquiring a large enough tract of land to qualify for the highest industrial park classification assigned by the state. The future use of this 37-acre industrial park in AuSable Township which is in the earliest stages of development would also depend largely on future use of the base, as the park is only about 3 miles from the base.^{54/}

All land use planning in Iosco County would have to be reassessed as a result of base closure, since all population projections used in development of these plans were based on the assumption of continued presence of Wurtsmith AFB.^{31/}

Land Ownership and Value (AFERN 4.4.3.2)

The announcement of possible closure of Wurtsmith AFB has already significantly altered the land market in the Oscoda-AuSable area. If the base is closed, the primary impact on land values and ownership patterns will occur in this area, particularly on lands developed for residential use by base personnel. While accurate projections on the location and market

value change of specific properties cannot be made, the decline in land values at some localities will be significant. There would be essentially no new residential construction for an indefinite transition period; similarly, there would be little new demand for commercial developments.^{54/} Trailer park areas which are currently dependent on base personnel will be vulnerable to reduced investment, which may further reduce land values in these areas.

III. COMPARATIVE ANALYSIS OF ALTERNATIVE ACTIONS

A. Institutional Characteristics

The basic structures and jurisdictional boundaries of governmental institutions in the impact area of either Kincheloe AFB or Wurtsmith AFB would not be altered. Changes in the governmental infrastructures in either impact area cannot be anticipated without an accompanying comprehensive examination of impacts on public finance, public services, and public education. Alternative institutional arrangements would be needed to implement successful economic recovery strategies in the impact areas if closure of either Kincheloe AFB or Wurtsmith AFB were proposed.

B. Transportation

Alternative 1 - Closure of Kincheloe AFB: Over 50 percent of the business volume of North Central Airlines at the City-County Airport of Sault Ste. Marie, Michigan, is base-related, and services of this airline company to the City-County Airport may be reduced.

Impacts on Sault Ste. Marie Federal Airport of Sault Ste. Marie, Canada, and to Soo Line Railroad would not be significant. No road improvement plans will be altered but the population decrease associated with base closure will reduce road and street maintenance funds in Chippewa County by approximately 42 percent.

Bus service out of Sault Ste. Marie terminal would be reduced since Kincheloe AFB accounts for about 40 percent of the passenger and 23 percent of the freight service. The St. Ignace Bus Depot would lose about 10 percent of its annual business.

The number of moving and storage companies operating in the area would be greatly reduced.

Alternative 2 - Closure of Wurtsmith AFB: The two airlines with services into the Tri-City Airport will experience some revenue losses, but air services will not be reduced.

The Detroit and MacKinac Railway Company would experience a revenue loss of \$625,000, and the elimination of base-related rail and pipeline traffic would result in a 20 to 25 percent reduction in railroad services to the area.

Traffic on the roads surrounding Wurtsmith AFB is often severely congested during peak rush hours. Plans to construct additional highway lanes to alleviate this problem may be terminated if the base is closed.

The Iosco County Road Commission could lose about 25 percent of their annual road maintenance and improvement funds.

Impacts on the local Greyhound Bus Line would be minimal. The number of moving and storage companies operating in the area would be greatly reduced.

C. Civilian Community Utilities

Alternative 1 - Closure of Kincheloe AFB: The City of Sault Ste. Marie will lose about \$39,500 in annual utility revenues for sewer and water services. This loss represents approximately 9 percent of the city's total revenue from these utilities. This revenue loss may hasten the need for upward rate adjustments but a rate increase has not been estimated by the city.

No alteration in availability or user rates for electrical or gas utilities in Chippewa County were indicated by the Edison Sault Electric Company, Cloverland Electric Company, or Michigan Consolidated Gas Company.

No alteration in user rates for telephone services in Chippewa County were indicated by General Telephone or Michigan Bell Telephone Company. However, the installation of direct dialing equipment into the area by Michigan Bell Telephone Company may be delayed.

In general, loss of base-related procurements of coal, jet petroleum fuel, and petroleum products would have no impact on rates or services to other area users. Customers of the Reiss Coal Company would have to find alternative services or alternative fuel sources.

No alteration in solid waste disposal services to area customers was indicated.

Alternative 2 - Closure of Wurtsmith AFB: The water and sewer department of Oscoda Township and the water department in AuSable Township anticipate rate increases of 20 and 50 percent, respectively, as a result of the loss of off-base utility customers. Water and sewer utility revenue losses to Tawas City and East Tawas will be about 2 and 2.5 percent, respectively.

No alteration in availability or user rates for electrical, gas, or telephone services were indicated by Consumer's Power Company, Michigan Consolidated Gas Company, or Michigan Bell Telephone Company.

In general, loss of base-related procurements of petroleum products would have no impact on rates or services to remaining customers.

No alteration in solid waste disposal services to area customers was indicated.

D. Land Use

Alternative 1 - Closure of Kincheloe AFB: Conversion of agricultural or idle lands to residential use in the developing areas of Kinross and Rudyard townships will largely cease. Similarly, commercial uses of lands in Kinross and some residential development in Sault Ste. Marie will be greatly reduced throughout an indefinite transition period following the closing of the base. A 32-acre recreational complex in Rudyard Township will be reevaluated and probably altered in scope. Some commercial establishments in Chippewa County will be forced to close and the market values of the lands these properties occupy will decline. The market value of land held in anticipation of residential and, to a lesser extent, commercial development will decrease. Considerable decline in market value of some parcels has already occurred in the developing areas of the county. Over the long-term, land values and use patterns, particularly near Kincheloe AFB, will depend on the future use of the land and facilities on the base.

Alternative 2 - Closure of Wurtsmith AFB: The rate of residential development and the market value of some residential lands, particularly in the unincorporated core area of Oscoda-AuSable, will be greatly reduced. Considerable decline in market values of some parcels has already occurred. Some commercial establishments will be forced to close and the market value of lands these properties occupy will decline. Over the long-term, land values and use patterns (particularly in Oscoda and AuSable townships) will be largely determined by the future use of the land and facilities on the base. This will be especially true in the case of a planned industrial park near the base.

IV. IMPACT SUMMARIZATION AND UNRESOLVED ISSUES

A. Irreversible and Irretrievable Commitments of Resources

On the basis of preliminary data there appear to be no resources pertaining directly to governmental institutions, transportation, civilian community utilities, or land use which would be irreversibly committed to any purpose should either Kincheloe AFB or Wurtsmith AFB be selected as the candidate action.

B. Unavoidable Adverse Effects and Mitigation Possibilities

1. Kincheloe AFB, Michigan: Local governmental units would be severely disrupted and future activities constrained due to losses in local population and accompanying losses in financial and labor resources for governmental functions. The broad socioeconomic impacts which will accompany the action will alter past planning assumptions for all levels of government. New goals and directions will be necessary, particularly for areawide economic recovery measures. Many community services of local governments will lose valuable leadership provided by the Kincheloe AFB personnel, their spouses, and their dependents.

The primary adverse effects on transportation facilities will be a reduction in the frequency of air and truck service to the impact area, and an estimated 42 percent loss in county and city funds for maintenance and improvement of local roads.

Revenue losses to utility companies serving the impact area will be unavoidable. However, these losses are included in the regional income analysis. Revenue losses will generally not result in higher rates to remaining customers, with the exception of losses to water and sewer utilities. Loss of 11 percent of the residential sewer and water users in Sault Ste. Marie will hasten the need for a rate increase to remaining customers.

Primary adverse impacts on land use will relate to changing land values. Due to impacts on the housing market and regional income losses, some lands developed for residential or commercial use or in transition toward more intensive use will decline considerably in value. Land ownership turnover of some residential and commercial properties may lower investments in these properties which will further decrease land values, particularly in the Kinross-Rudyard area. Land use plans and policies will need to be reassessed with entirely new assumptions about growth parameters in the impact area.

The above adverse impacts can be partially mitigated by regional and community economic development projects which would generate employment opportunities and help stabilize the area's economy. Examples of such projects are included in Part 3 of this section.

2. Wurtsmith AFB, Michigan: Local governmental units would be severely disrupted and future activities constrained due to losses in local population and accompanying losses in financial and labor resources for governmental functions. Many community services of local governments will lose valuable leadership provided by the base personnel, their spouses, and their dependents. The broad socioeconomic changes which the action will create will alter past planning assumptions for all levels of government in the impact area. New goals and directions will be necessary, particularly for areawide economic recovery strategies.

The primary adverse effects on transportation facilities will be an estimated loss of 25 percent of the county funds for maintenance and improvement of local roads. The frequency of rail service to the area may also be reduced.

Revenue losses to utility companies serving the impact area will be unavoidable. However, these losses are included in the regional income analysis. Revenue losses will generally not result in higher rates to remaining customers, with the exception of losses to local water and sewer utilities. Loss of up to 1,013 households from the Oscoda-AuSable area will require an estimated rate increase of 20 percent for water and sewer services in Oscoda Township, and up to 50 percent for water services provided by AuSable Township. Loss of 5 percent of the residential customers in Tawas City and about 4 percent of the residential customers in East Tawas could hasten the need for rate increases to remaining users in both these municipalities.

Primary adverse impacts on land use will relate to changing land values in the impact area, primarily in Oscoda and AuSable Townships. Due to impacts on the housing market and regional income losses, some lands developed for residential or commercial uses or in transition toward more intensive development will decline considerably in value. Turnover in land ownership of some residential and commercial properties may lower investments which will further decrease land values. Land use plans and policies will have to be reassessed with new assumptions about growth parameters in the impact area.

There are a number of potential uses of the base lands and facilities which could be part of a comprehensive redevelopment program. Military conversions to a great diversity of uses (primarily industry, commerce, aviation, education, housing, recreation and government) have been accomplished in the past by communities in similar circumstances.*

There are also a number of federally-sponsored programs under the Department of Defense, the Small Business Administration, Community Services Administration, the Department of Commerce, and the Great Lakes Regional Commission which are possible sources of mitigation projects. Descriptions of many of these are included in Part 3 of this section.

* The President's Economic Adjustment Committee, "Economic Recovery-Community Response to Defense Decision to Close Bases," 1976.

3. Mitigation Measures - Federal Assistance Programs*

DEPARTMENT OF DEFENSE

Office of the Assistant Secretary

Community Economic Adjustment: This program aims to assist communities to overcome adverse economic impacts resulting from program changes of the Department of Defense through a concerted utilization of existing federal, state, local and private sector resources. Assistance ranges from advice and technical analyses to a coordinated application of appropriate federal programs involving grants and loans. The program includes guidance in the conversion of surplus Defense installations to productive civilian use and direct technical assistance to communities in developing strategies for economic growth.

SMALL BUSINESS ADMINISTRATION

Displaced Business Loans: This program aims to assist small businesses which have experienced substantial economic injury as a result of displacement by, or location in or near a federally aided project.

Base Closing Economic Injury Loans: The objective of this program is to assist small business concerns subject to economic injury as the result of closing by the Federal Government of a major military installation under the Department of Defense, or as the result of a severe reduction in the scope and size of operation of such an installation. Assistance is provided for continuing in business at an existing location, reestablishing a business, purchasing a new business, or establishing a new business.

COMMUNITY SERVICES ADMINISTRATION

Community Action: The objectives of this program are to mobilize and channel public and private resources into antipoverty action; to increase the participation of the poor in such programs; and to strengthen the planning and coordination of such programs. They are primarily implemented by a Community Action Agency, which is state-designated. A wide variety of projects are financed with CAA funding. The chief beneficiaries are low income families and individuals in urban and rural areas.

* Executive Office of the President, Office of Management and Budget, "Catalog of Federal Assistance" (Washington, D.C.: U.S. Government Printing Office, 1975).

Community Economic Development (Special Impact): The objectives of this program are to promote community based economic development through the partnership of established business with locally controlled community organizations. Eligible areas are rural or urban regions having concentrations or substantial numbers of low income persons.

DEPARTMENT OF COMMERCE

Economic Development Administration

Grants and Loans for Public Works and Development Facilities: The objective of this program is to assist in the construction of public facilities needed to initiate and encourage long-term economic growth in designated geographic areas where economic growth is lagging behind the rest of the Nation. Grants are for public facilities. Proposed projects must be consistent with the currently approved overall economic development program for the area. Beneficiaries must be unemployed or underemployed persons and/or members of low-income families.

Business Development Assistance: The objective of this program is to encourage industrial and commercial expansion in designated areas by providing financial assistance for projects that cannot be financed through private lending institutions. Funds may be used for most kinds of new industrial or commercial facilities or to expand one already in existence.

Technical Assistance (Economic Development): The aim of this program is to solve problems of economic growth in EDA-designated geographic areas through project grants, feasibility studies, management and operation assistance, and other studies. Most technical assistance applicants are private nonprofit groups or municipal or county governments or entities thereof, located in economically depressed areas of the country.

Public Works Impact Projects: The objective of this program is to provide immediate useful work to unemployed and underemployed persons in designated project areas. This work is restricted to the construction of public facilities.

State and Local Economic Development Planning: This program aims to develop the capability of state and local governments to undertake an economic development planning process that is comprehensive in scope, with particular emphasis on reducing unemployment and increasing incomes. Grants are used for planning, staff salaries and related administrative expenses.

Special Economic Development and Adjustment Assistance Program:
The intent of this program is to provide aid to state and local areas attempting to meet special needs arising from unemployment and from severe changes in economic conditions. Grants may be made to develop or carry out plans for a variety of projects, including the following: public facilities, public services, business development, relocation of individuals, rent supplements, or other appropriate assistance.

In addition, the Regional Commissions have at least three programs available to member states which may be useful in mitigating adverse impacts; these are described as follows:

(New England/Ozarks) Regional Economic Development: This program provides project grants to improve opportunities for employment, average level of income, or the economic and social development of a given area.

(New England/Ozarks) Technical and Planning Assistance: Project grants and contracts are awarded to assist regions in evaluating needs and potentialities for economic growth through research, planning, and demonstration projects and training programs.

(New England/Ozarks) Supplements to Federal Grant-In-Aid: Grant-in-aid supplements are available to provide a portion of the local share of federal grant-in-aid programs for the construction or equipping of facilities or the acquisition of land when a community, because of its economic situation, cannot supply the matching share.

C. Details of Unresolved Issues

1. Loring AFB: The long-term use of the lands and facilities of the base are presently unresolved.
2. Blytheville AFB: The long-term use of the lands and facilities of the base are presently unresolved.

**MATRIX OF MITIGATIVE PROGRAMS/ACTIVES THAT MIGHT BE
CONSIDERED FOR MEETING POTENTIAL UNDESIRABLE ADVERSE EFFECTS**

Community Impact	Level of Programs and Nature of Mitigation	
	State (with coordination at local level)	Local
1. Institutional Characteristics Need or New Institutional Arrangements for Economic Recovery Strategies	<p>Federal</p> <ol style="list-style-type: none"> 1. Loan programs to attract industry into affected areas. 2. Foreign trade: Preferential availability of Export-Import Bank credits and other export assistance to business in affected areas. 3. Establishment of custom free foreign trade zones in affected cities to aid their attractions for international trade. 4. Higher depreciation allowances and special tax credit for new investment in such areas. 5. Lower rate of corporate or individual income taxes in severely affected areas. 	<ol style="list-style-type: none"> 1. State or local guarantee of private mortgage loans for financing or expanding existing industry. (Development corporation, industrial parks, etc.). 2. Direct state loan programs to attract industry. Most effective if handled in conjunction with Federal and/or local programs of this type. 3. State-local contracts might be preferentially placed in affected areas. 4. Special state and local school building program and hospital construction program in area. 5. Special state tax inducements to attract new industry into affected areas. 6. Construction of facilities for new industry or leasing of existing facilities. Industry either paying rent or lease-purchase arrangements on favorable terms.
	<ol style="list-style-type: none"> 1. More favorable tax assessment in selected areas for existing industry. 2. Special tax inducements and/or rates to attract new industry. 3. Setting up local development credit corporations to attract new industry and expand or retain existing industry in cooperation with private investors. <p>Banking and Financial</p> <ol style="list-style-type: none"> 1. Encourage local development through solvability of credit on favorable terms. 2. Setting up joint funds for the above purposes in order to spread risks in financing new ventures or for the conversion of existing firms. 3. Participating in the financing of local development corporations. <p>Community (Chamber of Commerce and similar organizations)</p> <ol style="list-style-type: none"> 1. Publicity on locational advantages of areas. 2. Planning for further development of area infrastructure, industrial and commercial development. 3. Setting up of joint undertaking to attract new industry into area, possibly by participation in local privately financed development corporations. 	

MATRIX OF MITIGATIVE PROGRAMS/ACTIONS THAT MIGHT BE
CONSIDERED FOR MEETING POTENTIAL UNAVOIDABLE ADVERSE IMPACTS

Community Impact	Level of Program and Nature of Mitigation	
	Federal	Local
I. Institutional Characteristics		<p>4. Setting up land buildings in industrial parks or estates for attracting industry.</p> <p><u>Affected Firms</u></p> <p>1. Greatest possible effort to continue local operations through switching over to nondefense business, either through the development of new products or shifting of operations from other areas where branch divisions are located.</p> <p>2. Encouragement of research to develop new nondefense products.</p> <p><u>Labor Unions</u></p> <p>1. Establishing a "favorable" labor image in affected areas, through moderation and constructive attitudes; must start before areas are affected.</p> <p>2. If necessary, moderating pay or other demands, and in some cases accepting pay cuts to keep plants in affected areas operating.</p> <p>3. Spread-the-work arrangements by a voluntary ban on overtime work.</p>
II. Transportation	<p>1. Federal highway programs. Speed up of expenditures in affected areas.</p> <p>2. Airport construction in affected areas.</p> <p>3. Increase in subsidies to airline serving affected areas.</p>	<p>1. Special state and local road building and maintenance program in affected areas.</p>

MARKS UP RELEVANT PROGRAMS/ACTUAL FINAL REPORT IN
CONSIDERED FOR MEETING POTENTIAL UNAVOIDABLE ADVERSE IMPACTS

Level of Program and Nature of Mitigation
State (with coordination at local level)

Community Impact

III. Land Use
 Declining Land Values

Federal

1. Special rehabilitation and home modernization programs in affected areas to assist building industry. (Example: Declaring area equivalent to urban renewal area, making available low cost long-term mortgages for rehabilitation.)
2. Subsidies to cushion losses on selling owner-occupied homes for families having to relocate.
3. Stepped-up urban renewal expenditures, with special consideration given to the needs of affected areas.
4. Preference for constructing Federal buildings in affected areas.
5. Stepped-up public housing programs, particularly for aged, both nationally and/or with special consideration for affected areas.

Banking and Financial

1. Leniency in respect to home mortgage loans and mortgage loans on individual and commercial real estate.
2. Leniency in treatment of business borrowers losing defense contracts or of personal borrowers affected by cutbacks.

Local

REFERENCES

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- 2/ Base Information Office, Kincheloe AFB.
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- 4/ Information provided by Mr. Jerry Trout, Chief of the Lansing Airport District Office, Federal Aviation Administration (telephone communication, December 3, 1976).
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- 7/ Michigan Department of State Highways and Transportation, Transportation Planning Division, "Developing a Transportation Systems Plan for the Eastern Portion of Michigan's Upper Peninsula," (P.O. Drawer K, Lansing, Michigan).
- 8/ Mr. Gary McCarthy, Engineer, State Highway Department, Lansing, Michigan (telephone communication, December 3, 1976).
- 9/ Information confirmed by Mr. Ron Woods, Peninsula Transportation Authority, Sault Ste. Marie, Michigan (telephone communication, December 8, 1976).
- 10/ Information provided by Ms. Paula Ryan, Head Disptacher for Dial-A-Ride, Sault Ste. Marie, Michigan (telephone communication, December 8, 1976).
- 11/ Information provided by Ms. Dawn Sandusky, Manager, Ste. Ignace Bus Depot, Ste. Ignace, Michigan (telephone communication, December 8, 1976).
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- 16/ Information provided by Mr. Bernard Doll, Chairman of the Chippewa County Board of Commissioners, Route 1, Dafter, Michigan (telephone communication, November 24, 1976).
- 17/ Data based on information provided by Mr. Stewart Moran, Edison Sault Electric Company, 725 El Portage Street, Sault Ste. Marie, Michigan (telephone communication, November 23 and 24, 1976).
- 18/ Information provided by Mr. Jack Holt, Cloverland Electric Cooperative, Sault Ste. Marie, Michigan (prehearing discussion with Mr. John Chapman, October 27, 1976).
- 19/ Information provided by Mr. Leslie Bush, Michigan Consolidated Gas Company, 127 West Spruce, Sault Ste. Marie, Michigan (telephone communication, November 24, 1976).
- 20/ Data based on information provided by Mr. Bob Fischer, General Telephone Company, Pickford, Michigan (testimony submitted at Kincheloe AFB public hearing, November 16, 1976).
- 21/ Information provided by Mr. J. J. Schneider, Manager, Michigan Bell Telephone Company, 110 Dawson Street, Sault Ste. Marie, Michigan (testimony submitted at prehearing meetings and at Kincheloe AFB public hearing, November 16, 1976).
- 22/ Information provided by Mr. James Larsen, Manager, Reiss Coal Company, 718 Ashmun Street, Sault Ste. Marie, Michigan (telephone communication, November 23, 1976).
- 23/ Data provided by Mr. Pat Murphy, representative of the Northwestern Oil Terminal Company (telephone communication, December 1, 1976).
- 24/ Data provided by Mr. Clayton Sawyer, Manager, Petrolane Gas Service, 718½ Ashmun, Sault Ste. Marie, Michigan (telephone communication, December 2, 1976).
- 25/ Information provided by Mr. Basil Christy, District Manager, Cities Service Oil Company, 2120 Ashmun, Sault Ste. Marie, Michigan (telephone communication, December 2, 1976).
- 26/ Information provided by Ms. Yvonne Winger, Superior Sanitation Service, Inc., 751 Peck, Sault Ste. Marie, Michigan (telephone communication, December 3, 1976).

- 27/ Information on agricultural use of county lands provided by Mr. James Hutchinson, Michigan State University Cooperative Extension Service, Federal Building, East Portage Avenue, Sault Ste. Marie, Michigan (telephone communication, November 30, 1976).
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