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Economic Impact of Military Base Closings

Vol. II

Prepared for the
UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY

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Economic Impact of Military Base Closings. Volume II.

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TABLE OF CONTENTS

VOLUME 2: SPECIFIC COMMUNITY IMPACT STUDIES OF THE DISCONTINUANCE, REDUCTION, OR CONSOLIDATION OF DEFENSE ACTIVITIES.

Cont. on p. iv

IMPACT OF THE BROOKLEY AIR FORCE BASE CLOSING ON THE ECONOMY OF MOBILE, ALABAMA

The Bureau of Business Research

The University of Alabama
University, Alabama

August 1968

Introduction

The purpose of this report is to assess the economic impact on the Mobile, Alabama area resulting from the closing of the Brookley Air Force Base. Because it is usually extremely difficult, if not impossible, to measure the impact of one circumstance in isolation from all the other variables that affect economic change, some rather sweeping generalizations are necessary in most instances. In a few cases, however, specific changes can be identified as being caused by the Brookley closing. Examples are changes in Federal employment and the removal of Federal payments to public schools under the "impacted area" (PL874) criterion.

The method employed is time series analysis, that is, for the several Mobile area economic and demographic series available, quarterly data will be analyzed to determine deviations from trend that could reasonably be attributed to effects of the Brookley closing. A trend is established for the 1960-64 period for each available series. Then, because 1964 represents the last full year of pre-closing activity at Brookley, it is used as the base year for measuring changes in the several variables during the "impact" period of 1965-1967.

The general behavior of the Mobile economy from January 1960 through December 1964 is analyzed in the second portion below. A third part follows the same format for an analysis of the economy after the Brookley closing announcement and includes analyses of the Brookley closure pattern and the re-use of Base facilities. Conclusions concerning the overall impact of the closing are given in the final section.

Economy Prior to Announcement: 1960-64

INTRODUCTION

The Mobile, Alabama SMSA is comprised of Mobile and Baldwin Counties. Mobile County is the dominant member of the two, with just under 90 per cent of the area's population in 1967. Its principal city, Mobile, is located about 30 miles from the open Gulf of Mexico at the head of Mobile Bay. Most of the commercial and industrial activity is carried on within or in an area immediately surrounding the Mobile city limits. The Mobile Air Materiel Area (MOAMA, or Brookley AFB) headquarters and work functions are located in that city, only an approximate five-minute drive from the downtown district.

MOAMA (hereafter referred to as simply Brookley AFB), had for almost 30 years been the major employer in the Mobile area. Its employment rolls had swelled to over 15,000 by 1960, some 13 per cent of the total area employment. Its relative importance had declined slightly by 1964, but Brookley still employed approximately 12,600 civilian workers in that year.

Mobilians had come to take for granted the huge payrolls which this basic industry pumped into the local economy. They were thus quite stunned by the announcement of November 1964 that Brookley would immediately begin a phasing-out process that would culminate in the final closing of the Base in mid-1969.

By 1960 Mobile, like the nation, was in the throes of an economic recession. Employment declined in the area in each of the years 1960, 1961 and 1962, and the unemployment rate there remained above the 6 per cent level during most of this time. Government employment had stabilized and the quite sizable decline in manufacturing employment was not compensated for by the small increase in service workers. As a result, the Mobile economy was relatively stagnant in the 1960-62 period.

Brookley's civilian employment had remained stable in this three-year period, a fact that helped Mobile weather a rather difficult situation. Employment in this most important facility began to decline in 1963, however, at a time when all other sectors had started to grow. Mobile's average annual employment grew by 5,500 between 1962 and

1964, in spite of a reduction of approximately 2,800 in the Brookley work force in this period. The November 19, 1964, Announcement that Brookley would be phased out thus threatened to abort an upward movement begun in 1963 of possibly boom proportions.

BROOKLEY AIR FORCE BASE

In I-60, 15,641 civilians were employed by Brookley. This number remained relatively constant throughout the three-year period ending in 1962, then began to decline slowly in I-63. By the time of the phase-out Announcement in November 1964, Brookley's civilian employment rolls had declined to approximately 12,500.

Wage payments to civilian personnel at Brookley increased from $86.9 million in 1960 to a 1962 level of $94.4 million. Total wage payments dropped in 1963 and 1964, but even in this latter year, when average employment was some 2,700 below its 1960 level, wages still totaled the same as in 1960.

A relatively small number of military personnel were stationed at Brookley. Personnel data are not available for 1960, but based on information for 1961 and subsequent years, it is estimated that there were about 840 military people located there in 1960. This figure grew slowly, reaching its peak level of 1,296 in III-63. At the time of the phase-out Announcement 1,258 military personnel were stationed at Brookley.

When compared with the huge civilian payroll, Brookley's military wages have been rather small (Table 1). Again, 1960 data are not available, but a good estimate is that about $2.4 million in wages were paid out to Brookley's military personnel in that year. This figure grew under pressures of both greater numbers of people and pay raises to a level of $4.1 million in 1964.

In addition to the impact on the local Mobile economy of the civilian and military wage payments, some local benefit was derived from purchases made by Brookley. A "local" purchase is so-titled by the military because of procurement requirements. Brookley officials estimate that between 50 and 60 per cent of those purchases titled local were actually made in the Mobile SMSA. For example, $7.5 million in local purchases were made by Brookley in 1960. Using the 50-60 per cent range as stated, some $3.75 million to $4.50 million of this total went to Mobile business firms. The range (in millions of dollars) was 3.2-3.8 in 1961, 4.2-5.0 in 1962, 3.4-4.1 in 1963, and an all-time high of 4.5-5.4 in 1964.

Brookley's contributions to the local Mobile economy were quite significant in terms of both employment and wages paid. The number of civilian employees at Brookley averaged 15,400 in 1960, and represented 12.7 per cent of the total SMSA employment of 121,200 in that year. Moreover, these were relatively high-paying jobs, and stable in the sense that they were free from cyclical influence.

By 1964 Brookley's average annual civilian employment had slipped to 12,600, while the Mobile SMSA's total employment rolls had grown by almost 5,000 to a level of 126,100. As a ratio to total employment, Brookley's civilian work force now represented almost exactly one in ten.

In assessing the local impact of Brookley, it is logical to add local purchases expenditures to the civilian and military wage payments. In Table 1, these three sources of wage payments are totaled and related in each year of the 1960-67 period to total personal income in the Mobile SMSA. The more conservative figure of 50 per cent is used as that part constituting the impact in the Mobile SMSA of total local purchases.

It can be seen from Table 1 that Brookley contributed approximately 15 per cent of the Mobile SMSA's total personal income in each of the years 1960, 1961, and 1962. Its contributions declined to 13.2 per cent and 12.1 per cent in

TABLE 1

TOTAL PERSONAL INCOME, MOBILE SMSA, AND BROOKLEY AIR FORCE BASE WAGE PAYMENTS AND PURCHASES, 1960-67

		Brookley AFB wage payments and purchases				
					Total	
Year	Total personal income, Mobile SMSA ($1,000)	Wage payments ($1,000) Civilian	Wage payments ($1,000) Military	Purchases made in Mobile SMSA* ($1,000)	Amount ($1,000)	Per cent of Mobile SMSA's personal income
1960	617,470	86,904	2,400	3,750	93,054	15.1
1961	648,700	92,008	2,510	3,196	97,714	15.1
1962	677,701	94,362	2,798	4,200	101,360	15.0
1963	727,876	88,427	3,966	3,450	95,843	13.2
1964	789,649	86,664	4,433	4,500	95,597	12.1
1965	858,953	81,400	4,202	2,600	88,202	10.3
1966	893,359	67,420	2,811	4,223	74,454	8.3
1967	926,100	48,033	1,911	1,553	51,497	5.6

*50 per cent of all purchases entitled "Local."

Source: Brookley Air Force Base and Bureau of Business Research.

1963 and 1964, respectively, due in part to declining employment at Brookley.

The "real" impact of Brookley's wage and procurement in money terms was not quite this great, however, because not all the civilian and military wages was spent in the Mobile area. A one-time estimate, made by Brookley AFB officials, is that 84 per cent of the Brookley civilian workers lived in the Mobile SMSA, and 75 per cent of the military wages was spent locally. When considering that this is a rough, one-time estimate, that Mobile is the regional trading area for those workers who live outside the Mobile SMSA, and that the military pay has never been a significant part of total Brookley wages, the following points have some validity. (1) By far the largest chunk of the total personal income figure--covered wages and salaries--is based on "place of work" data. It is likely that the commuters in the entire work force approximated the same percentage (16) as those at Brookley, thus leaving Brookley's civilian wage impact relatively the same. (2) The total military wage is so inconsequential that the 25 per cent being spent outside the area would not affect the impact ratio to any appreciable degree.

The conclusion, then, is that Brookley's economic impact on the Mobile SMSA can be approximated from the data at hand. That is, in 1960 the 15,000+ civilian workers at that Base accounted for 12.7 per cent of the total work force, and wages of these and the military personnel, plus the local purchases made by Brookley, accounted for 15.1 per cent of the area's total personal income payments. By 1964 Brookley's relative contributions had declined to 10 per cent of employment and 12 per cent of total income.

ECONOMIC PATTERNS

AGGREGATE MEASURES

Population and Labor Force

During the period beginning in 1960 and continuing to the Announcement of the Brookley closing in November 1964, the Mobile area experienced a growth in population of 8 per cent. Almost half the increase (3.8 per cent) came in the 1960-61 period, as compared with a 1.8 per cent population increase in this period for the State as a whole. During this same period of time, employment at Brookley reached its highest level, which in part may explain the more rapid population growth in the Mobile area. However, population grew at the same rates in 1961-1962 for the State and Mobile. Mobile's population for the next two years registered a somewhat faster growth rate than the State despite the fact that employment at Brookley was decreasing. Small fluctuations in Brookley's employment thus seemed to have little effect on the Mobile area population, at least during this period.

This population increase occurred in spite of a continuous decline in the number of births and a slight increase in deaths, which indicates a net migration of people into the Mobile area. Net in-migration was greatest in 1961 when almost 7,000 more people entered the area than departed. The period prior to the Brookley closing experienced an average population increase per year of 2 per cent, or 7,300 persons added to the Mobile population each year.

Mobile's labor force increased by 2.3 per cent during the four-year period prior to the Announcement of the Brookley closing. As a per cent of population, Mobile's labor force declined from 36.1 per cent in 1960 to 34.2 per cent in 1964.

<u>Employment and Unemployment</u>

During the 1960-64 period average annual employment in the Mobile SMSA increased from 121,200 to 126,200, and the average unemployment rate dropped from 5.7 per cent of the total civilian work force in the earlier year to 5.0 per cent in 1964. Brookley employment declined by 2,800 in this same period, giving a net of 7,800 new jobs that were generated in the four-year period as a result of economic forces apart from Brookley (Table 2).

TABLE 2

TOTAL POPULATION, CIVILIAN LABOR FORCE, TOTAL EMPLOYMENT, AND UNEMPLOYMENT RATE, MOBILE SMSA, AND BROOKLEY EMPLOYMENT, BY QUARTERS, 1960-67

	Mobile SMSA				
Year and quarter	Total population[1] (1,000)	Civilian labor force (1,000)	Total employment (1,000)	Unemployment rate	Brookley employment (1,000)
1960	363.4	128.7	121.2	5.7	15.4
1		127.2	119.1	6.2	15.6
2		131.3	124.4	5.2	15.4
3		127.6	120.6	5.5	15.3
4		128.5	120.8	6.1	15.3
1961	377.2	128.6	119.8	6.8	15.5
1		127.8	118.5	7.3	15.5
2		129.7	120.3	7.2	15.4
3		127.8	119.1	6.8	15.5
4		129.1	121.3	5.9	15.6
1962	378.3	128.9	120.8	6.3	15.4
1		126.9	118.3	6.8	15.7
2		131.3	122.8	6.5	15.5
3		128.1	120.0	6.3	15.4
4		129.0	122.0	5.4	15.2

TABLE 2 (continued)

Year and quarter	Mobile SMSA: Total population[1] (1,000)	Civilian labor force (1,000)	Total employment (1,000)	Unemployment rate	Brookley employment (1,000)
1963	385.2	131.9	124.9	5.2	13.6
1		128.6	121.6	4.9	14.4
2		134.6	127.7	5.2	13.8
3		132.7	125.5	5.4	13.3
4		131.7	125.1	5.0	13.1
1964	392.6	132.8	126.1	5.0	12.6
1		129.7	123.0	5.2	13.0
2		134.3	126.9	5.5	12.6
3		133.1	126.0	5.3	12.5
4		134.7	128.8	4.4	12.4
1965	391.0	133.6	127.5	4.5	11.6
1		131.9	125.8	4.3	12.3
2		136.1	129.5	4.8	12.3
3		133.4	129.1	4.8	11.1
4		133.0	127.5	4.2	10.7

TABLE 2 (continued)

Year and quarter	Mobile SMSA Total population[1] (1,000)	Civilian labor force (1,000)	Total employment (1,000)	Unemployment rate	Brookley employment (1,000)
1966	385.0	130.7	125.0	4.4	8.8
1		128.6	123.3	4.1	10.0
2		134.0	127.8	4.6	9.3
3		131.1	125.1	4.6	8.3
4		129.3	123.8	4.2	7.5
1967	378.0P	126.8	120.4	5.1	3.9
1		125.6	120.1	4.4	6.5
2		128.4	121.7	5.3	3.9
3		126.9	120.0	5.4	2.9
4		126.3	119.8	5.1	2.3

1. 1960 population--actual Census count; 1961-67--estimates by the Bureau of the Census and Bureau of Business Research.

P Preliminary.

Source: U.S. Department of Commerce, Bureau of the Census; Alabama Department of Industrial Relations; Brookley Air Force Base; and Bureau of Business Research.

Employment growth was not even in this period. In fact, average annual employment declined in both 1961 and 1962, and the unemployment rate was still at a very high level of 6.3 per cent as late as 1962. Beginning in 1963, however, employment gains in the area began to accelerate, jumping by 5,300 in the two-year period 1963 and 1964. The majority of the additional workers went into the nonmanufacturing sector, but manufacturing employment had also begun to shake loose from its lethargy of the three previous years.

Mobile's manufacturing sector was relatively small during this period compared with other Southern cities of comparable size. In 1960 manufacturing represented only 15.6 per cent of total employment, and this percentage had climbed to only 15.8 by 1964. Employment gains in the recently-located textile industry and in the fast-growing pulp and paper industry were the only changes of significance within the manufacturing sector between 1960 and 1964.

Government employees, including Federal, State and local, made up the largest single employment bloc in both 1960 and 1964. Government employment stood at 26.7 thousand in 1960, climbed in both 1961 and 1962 in spite of falling total employment, then slipped back in 1963 and 1964 under pressure of the Brookley layoffs of 2,800 in that period. This great government/private sectors imbalance, caused primarily by the huge Brookley installation, was seemingly of no great concern to Mobilians prior to 1964. They became concerned, though, when the loss of the 12,700 Brookley employees became imminent.

Retail Sales

In 1960 retail firms in the Mobile SMSA accounted for 11.3 per cent of total Alabama retail sales. Beginning in that year there was a steady deterioration in Mobile's market penetration, and by 1964 its State share had declined to 10.8 per cent, although sales had grown absolutely. Much of Mobile's relatively poor showing during this 5-year period can be attributed to the following: (1) the inaccessibility of downtown Mobile from the region; (2) the two large urban centers in close proximity to Mobile (Pascagoula, Mississippi and Pensacola, Florida) became stronger retail centers; and (3) the physical deterioration of many of the downtown Mobile retail stores and a lack of adequate shopping centers on the city's outskirts.

Public Utilities Activity

Public utilities activity is generally considered a poor indicator of slight economic changes. Quite large population movements can usually be detected by studying things such as the number of residential gas, electric, water and telephone customers, however. With this impreciseness in mind, the following brief analysis is given solely to establish base-period trends in the several utility measures.

The number of residential electricity customers rose by 12.4 per cent in the 1960-64 period, gas customers by 4.6 per cent. This indicates the lively competition between these two suppliers. Telephones in service increased by 11.6 per cent in this period, or an average annual increase of 2.9 per cent. This exactly duplicated the per cent change in the number of water service customers.

Banking Activity

Of all the available data on banking activity, the volume of bank debits best reflects a community's overall growth. Using this measure, a clear pattern of the peculiarities of the Mobile economy is revealed. First of all, the stability afforded the community by the huge Brookley work force was apparent in the 1960-61 recession, when bank debits continued to rise in sharp contrast to some of the other cities in the State whose employment structure make them especially susceptible to business fluctuations. Secondly, Mobile's economy showed signs of stagnating in the 1960-62 period, when bank debits there remained relatively unchanged even though the State had a fast growth rate in the latter part of this period. There was a sharp upsurge in debits during 1963 and 1964, but again the increase was less than that for the combined total in Alabama's eleven largest cities. The total gain in the 1960-64 period in Mobile was only 23 per cent, as compared with a 35 per cent increase in the eleven-city total.

Demand and savings deposits changes in that city paralleled the movements in bank debits. There was growth in the 5-year period of 1960-64, to be sure (year-end demand deposits up by 15 per cent, savings by 75 per cent), but these rates were considerably below what would be expected based on growth in the State as a whole.

Personal and per Capital Income

Total personal income in the Mobile SMSA grew by 27.9 per cent between 1960 and 1964. The comparable change for the State of Alabama as a whole was 25.1 per cent. In contrast to the more rapid growth of total personal income, the change in per capita income in Mobile during this period lagged slightly behind that in the State. On an annual basis, the average gain during the 1960-64 period in the Mobile SMSA was 7.0 per cent in total personal income and 4.6 per cent in per capita income.

SECTORAL MEASURES

Covered[1] Employment, Wages, and Number of Firms

Average quarterly total covered employment in the Mobile SMSA reached its pre-recession peak of 62,192 in II-60. It was not to attain this level again until II-63. At the time of the Brookley closing announcement (IV-64) covered employment had climbed to its then all-time high of 67,666.

Table 3 reveals that the gain of almost 4,000 in the average number of covered employees between 1960 and 1964 was made up primarily of contract construction, manufacturing,

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1. For those firms covered by the Unemployment Compensation Law, e.g., those establishments employing 4 or more workers.

TABLE 3

NUMBER OF FIRMS, AVERAGE MONTHLY COVERED EMPLOYMENT, AVERAGE ANNUAL WAGE PER COVERED EMPLOYEE, AND TOTAL COVERED WAGES PAID, MOBILE SMSA, BY MAJOR DIVISIONS, 1960, 1964 AND 1967

Major divisions	Number of firms			Average monthly covered employment		
	1960	1964	1967	1960	1964	1967
Total	2,942	3,030	3,141	61,737	65,509	68,711
Agriculture, forestry & fisheries	23	25	31	192	377	386
Mining & quarrying	19	19	14	215	279	147
Contract construction	379	406	371	4,945	6,553	5,250
Manufacturing	284	264	286	18,824	19,597	21,216
Durable	156	138	148	6,294	5,967	6,066
Nondurable	129	128	138	12,531	13,631	15,149
Transportation communication, & utilities	156	164	176	7,953	7,522	7,433
Wholesale & retail trade	1,334	1,367	1,427	19,617	20,583	22,272
Finance, insurance & real estate	253	268	268	3,581	3,549	3,741
Services	495	519	567	6,415	7,054	8,262

NOTE: Details do not necessarily add to totals due to rounding.

Source: Alabama Department of Industrial Relations.

TABLE 3 (continued)

Major divisions	Average annual wage per covered employee (In dollars)			Total covered wages paid (In thousands of dollars)		
	1960	1964	1967	1960	1964	1967
Total	4,092	4,739	5,331	252,624	310,459	366,332
Agriculture, forestry & fisheries	2,520	2,856	3,149	484	1,077	1,215
Mining & quarrying	5,070	5,561	5,577	1,090	1,552	820
Contract construction	4,203	5,333	5,714	20,783	34,949	30,000
Manufacturing	5,001	5,751	6,572	94,137	112,704	139,425
Durable	4,486	5,095	6,129	28,237	30,399	37,176
Nondurable	5,259	6,038	6,750	65,900	82,305	102,249
Transportation, communication, & utilities	4,480	5,490	6,129	35,633	41,296	45,558
Wholesale & retail trade	3,365	3,807	4,304	66,013	78,358	95,867
Finance, insurance & real estate	4,514	5,196	5,986	16,164	18,442	22,394
Services	2,856	3,130	3,759	18,320	22,081	31,053

and service workers. Agriculture and mining play only minor roles in the economy of the Mobile area, and are not analyzed separately here.

The largest employment gain in this period was made in the contract construction sector. Employment in this industry reflected the depressed condition in the housing industry nationally, as it averaged only 4,945 in the Mobile SMSA in 1960. A sharp decline continued through the I-62, but in II-62 there began a rise in construction activity which culminated in a record-breaking total of 7,300 covered employees holding jobs in this sector in III-64. This employment level has not been attained since.

Covered employment in the manufacturing sector rose only slightly in the Mobile SMSA between 1960 and 1964. The slight decline in employment in the durable goods sector during this period was the result of continuing losses in the lumber industry and lay-offs in ship building and repair.

The nondurables sector of the manufacturing division is both the larger and faster-growing in the Mobile area. The number of covered workers in this division averaged 1,100 more in 1964 than in 1960. Most of this increase was attributable to the pulp-paper and chemical industries.

Trade employment increased at a steady, though unspectacular, rate in the 1960-64 period; finance, insurance and real estate had a slight decline; and service workers were added at a rate of approximately 150 per year.

New Residential Building Activity

The building permit data discussed below cover the city of Mobile only. This is not a serious limitation, however, since the preponderance of new residential building in the area takes place in that city, and changes in building activity here thus reflect the area-wide movements.

In 1960 residential building activity in Mobile was declining from a 1959 peak. Apartment building was almost negligible in this year, and, in fact, would remain so until IV-62. Single-family structures were still being built at a good rate, however, and this sector was very active through 1963.

Apartment building spurted in 1963 to 534 units, and this, when added to the high level of single-family structures, made that year the most active in the 1960-64 period. Following the normal boom and bust routine of apartment building, 1964 saw little activity in this sector with the exception of the fourth quarter, when permits were issued for a total of 121 units. Meanwhile, the single-family housing was continuing its slight but steady decline, with IV-64 activity at its lowest level in the entire 1960-1964 period.

The 1960-1964 Mobile residential building picture can be summarized as follows: (1) apartment building took place almost exclusively in 1963 and IV-64; (2) the number of single-family units remained at a high level throughout the period, but had declined slowly to its lowest level by IV-64; (3) permits were issued for a total of 5,997 residential units in the 5-year period, or an average of 1,200 per year; (4) single-family structures accounted for 85 per cent of all new units.

Housing Stock

A total vacancy rate of 9.3 per cent existed in Mobile County at the time the Census of Housing was taken in 1960. Out of a total housing stock of 91,700 units, 8,500 were vacant.

Mobile accounted for almost one-half of all foreclosures in the State of Alabama during the 1960-64 period. Residential construction remained at a high level during this period, however, indicating further that the vacant units were not of sufficient quality to meet present demands.

Within Mobile, over 85 per cent of total foreclosures came from two subdivisions, one for white tenants and one for nonwhites. Homes in these subdivisions were of the one bath and two- or three-bedroom category and priced in the $10-$13,000 range. Built in the early 1950's, these homes had never met minimum specifications, and owners verified this by abandoning them in droves, especially in 1963, when foreclosures reached their highest level in Mobile.

An increase in delinquent property taxes in 1963 also reflected this. Usually, about 94 per cent of all property taxes that are due by October of each year have been paid by the following January; but on January 1, 1964, eleven per cent of the 1963 taxes due were delinquent.

Private Nonresidential Construction

It is difficult to judge the meaningfulness of changes in non-residential construction. Sustained high activity over a long period normally indicates an area of great economic growth. In the short run, erratic movements in nonresidential construction activity typifies most moderate-sized cities.

It can be seen from Table 4 that 1964 was, by far, the best year in Mobile for nonresidential construction. One huge industrial warehouse accounted for most of the valuation in that category during 1964, and a $6 million bank building was the primary factor in pushing the valuation so high in the business and commercial sector. Significantly, plans were made and permits issued for both structures prior to the November 1964 Brookley phase-out announcement.

School Enrollment

The number of persons enrolled in both public and private schools in the Mobile SMSA stood at 92,871 in the 1959-60 school year. This figure had grown to 104,094 by 1963-64, with two-thirds of the increase coming in the last two years of that time span. Almost all the net increase occurred in the Mobile city public schools, as both the private/ parochial and rural systems in Mobile County showed slight enrollment declines between 1960 and 1964. The gain in Baldwin County was only moderate.

TABLE 4

VALUE OF BUILDING PERMITS FOR PRIVATE NONRESIDENTIAL CONSTRUCTION IN CITY OF MOBILE, 1960-1967
(In thousands of dollars)

Year	Total, all types	Industrial buildings	Business and commercial	Institutional construction	All other
1960	7,688	1,737	2,612	2,438	901
1961	8,351	225	2,022	5,624	480
1962	9,654	253	4,015	3,671	1,715
1963	6,642	1,501	3,121	1,535	484
1964	18,705	6,437	9,245	2,493	530
1965	8,390	506	6,583	805	496
1966	15,012	889	10,868	2,563	692
1967	5,880	931	3,081	1,552	215

Source: Compiled from forms supplied by U.S. Bureau of the Census, Construction Statistics Division.

New Public Facilities

Construction of certain public facilities, such as civic centers, public works and utilities buildings, and, in some cases, schools, reflects a community's economic growth and ability to service debt obligations. Other types of public construction--public housing is an example--are important in an economic sense only because of the additional jobs and revenue they provide.

Publicly financed construction in Mobile was very slight in 1960, as only $465,000 was spent, and most of this for schools. Total valuation for public building rose to almost $11 million in 1961, with one hospital accounting for over half of the total and schools for most of the rest. The addition of a new $7.75 million civic center in 1962 helped push public construction to almost $17 million, and the $4.8 million expended for 451 new public housing units also contributed to local construction employment.

Public construction fell back in both 1963 and 1964, as total valuation amounted to $5.7 million in 1963 and only $3.5 million in 1964. Schools and public works and utilities buildings accounted for almost all of the activity in these two years.

Revenues and Expenditures

Revenues: Local-source tax revenues have presented a problem in Mobile for some time. The rigidities of the Alabama law concerning property taxation have forced local governments to depend almost entirely on taxing policies that are expedient at best and, in most cases, highly inadequate. The Mobile tax structure has thus evolved to depend heavily upon the maintenance of high income and retail sales levels, since approximately 50 per cent of Mobile's operating revenue comes from sources (sales and business taxes) that are directly related to the volume of business activity.

In Table 5, the four important tax revenue sources for the city of Mobile are shown for the years 1960-67. Under the sales tax item, returns from a constant one per cent rate are shown in order to avoid the confusion presented by the additional one per cent tax which the city levied in 1963. Even this presents a problem, however, as the sales tax revenue in fiscal 1964 under the new rate was less than twice the 1963 revenue, although retail sales in 1964 were 6 per cent above their 1963 level. It appears that a 1960-63 rate of growth in sales tax collections should be established as the best measure of base-period changes, and for this to be related to a 1965-67 "impact period."

Another problem arises in the Mobile property taxes,

TABLE 5

MAJOR REVENUE SOURCES, CITY OF MOBILE, FISCAL YEARS 1960-67

	Revenues by tax source (thousands of dollars)					Per cent change from preceding year
Year	Property	Sales[1]	Gasoline	Business license	Total	
1960	1,213	2,366	1,192	1,783	6,554	-
1961	1,319	2,291	1,180	1,756	6,546	- 0.1
1962	1,385	2,358	1,223	1,840	6,806	+ 4.0
1963	1,412	2,504	1,266	1,885	7,066	+ 3.8
1964	1,452	2,410	1,337	1,977	7,177	*
1965	1,659	2,618	1,373	2,164	7,814	*
1966	1,754	2,759	1,383	2,227	8,123	+ 3.9
1967	1,846	2,827	1,435	2,329	8,438	+ 3.9

[1] Based on a constant one per cent sales tax.

*Not applicable due to the bad estimate of sales tax revenue for 1964.

Source: City of Mobile Financial Statements, Fiscal Years 1960-1967.

also shown in Table 5. In 1963 there was a transfer of 1-1/2 mills of the general property levy from the city of Mobile to the Mobile County Hospital. So that property tax revenues are comparable throughout the period, the data for 1963 and subsequent years are adjusted to account for this 1-1/2 mills reduction.

It should be noted that the four large Mobile revenue sources shown in Table 5 have historically accounted for over three-fourths of that city's general operating revenue. One further observation: the revenue sources' sensitivity to changes in the business cycle is clearly established by the slight decline in the total tax take in 1961--a year of economic recession.

Expenditures: Expenditures for education and general welfare in Mobile County are analyzed to indicate any new financial burden on the Mobile officials occasioned by the Brookley closing. Educational expenditures are analyzed for school years (October-September) 1960 through 1964 and welfare payments for fiscal 1960 and 1964 only.

Rural and city schools in the Mobile public school system enjoyed increased revenues, and thus expenditures, in each of the years covered by the base period. In the 1960-61 school year $13.2 million was expended in that county (exclusive of capital outlay and debt service), of which approximately $11 million went into instruction payments. Total expenditures had grown to $18.5 million by the 1964-65 school year, instruction expenditures to $15.3 million. This represented an increase of 40 per cent over the four-year period, or approximately 10 per cent per year.

All three levels of government contribute to the support of schools in Mobile County. The Federal Government contributed anywhere from $1.2 million to $1.9 million in each of the school years 1960-1964, most of it under PL 874, the so-called "impacted area" bill. The State of Alabama contributes the majority of the revenues for local education, but an Alabama law requires that all of it be used for current operations. The local Mobile effort is also relatively great (for Alabama municipalities), but a substantial percentage of the local school money is directed toward capital outlay and debt service.

Most of the increased expenditures in the 1960-64 period were made possible by greatly expanded State appropriations in 1963 and 1964. It is obvious that a slowdown in the State's economy, when added to a sharp curtailment in the PL 874 funds, would work a much greater hardship on the Mobile school board's ability to administer to its educational needs than would a localized economic setback.

Pensions and security expenditures also increased greatly in the 1960-64 period, but the added burden on the local Mobile community was slight. This is true because almost all the public assistance payments are made from Federal and State funds. In 1960 $3.4 million in public assistance payments were dispensed in Mobile County. Local funds made up only $23,000 of this total.

Total payments had increased by 80 per cent to $6.1 million in 1964 as a result of both a higher average payment and a greatly increased case load. Mobile's contribution had increased proportionately during this period, but still amounted to only $77,000 in 1964.

The increase of slightly over 2,000 in the number of welfare cases between September 1960 and September 1964 was due primarily to an increase in old-age pensioners, but the number of families receiving aid for dependent children also rose substantially. Changes in the number of this latter type of welfare recipient better reflect changes in economic conditions.

SUMMARY OF 1960-1964 PERIOD

-- Brookley Air Force Base: civilian employment was relatively stable at 15,500 through 1962, then declined gradually to 12,500 by November 1964; the Base employed 12.7 per cent of total area work force in 1960, 10 per cent in 1964; wages to civilian and military personnel were around $90 million in each year of the period, accounting for 15.1 per cent of the area's total personal income payments in 1960, 12 per cent in 1964.

-- Mobile SMSA population increased by 8 per cent.

-- Labor force rose by 2.3 per cent.

-- Total employment declined in 1960, 1961, and 1962, but rebounded sharply in 1963 and 1964 to average 5,000 greater in 1964 than in 1960.

-- Mobile's retail sales grew in this period, but there was a steady deterioration in its market penetration due primarily to its inaccessibility from the region and a lack of adequate shopping centers on its outskirts.

-- Public utilities: number of residential electricity customers up by 12.4 per cent, gas customers by 4.6 per cent, water customers by 2.9 per cent; telephones in service also up 2.9 per cent.

-- Bank debits rose 23 per cent, demand deposits 15 per cent, and savings 75 per cent. All increases were less than in the State as a whole.

-- Total personal income grew on the average 7.0 per cent each year (higher than State) and per capita income by 4.6 per cent each year (lower).

-- Total covered employment averaged 4,000 more in 1964 than in 1960, with contract construction, manufacturing, and service workers accounting for most of the gain. Continuing losses in lumber industry and lay-offs in ship building and repair resulted in a reduced employment level in the durable goods manufacturing sector in the four-year period.

-- New residential units were added at a rate of 1,200 per year, on the average, but had begun to slip quite fast in 1964 even before the announcement of Brookley phase-out.

-- Vacancy rate of 9.3 per cent in Mobile area in 1960; foreclosures extremely high in period, due almost entirely to two subdivisions. Valuation steadily climbing.

-- Value of private nonresidential building permits averaged

$8 million annually in 1960-63 period, then jumped to all-time high of $18 million in 1964.

-- School enrollment increased by approximately 3,000 students each year.

-- Mobile city operating revenues are based primarily on sales and business taxes, only slightly on property tax; increasing in each year after the drop in 1961.

-- Expenditures on education were up significantly in the period due to increased State appropriations; local effort primarily in capital outlay and debt retirement. Welfare payments and recipients up tremendously, but local financial effort almost nil.

Mobile was slow to recover from the 1960-61 recession. By the time the Brookley phase-out announcement was made in November 19[illegible], however, the area was making quite good economic progress. It is probably safe to surmise that, if Brookley's employment level had remained at approximately its 1964 level through 1967, Mobile would have achieved a higher rate of economic growth in 1964-67 than it had in the 1960-64 period.

In the next section the 1964-67 period is analyzed to determine what economic effect the loss of 10,000 Brookley workers had on the Mobile area.

Economy After Announcement: 1964-67

IMMEDIATE IMPACT

After the initial shock of the phase-out announcement had worn off, the Mobile community reacted by applying political pressures in attempting to roll back the decision to close Brookley. They did succeed in getting an extension of the planned phase-out time to cover a four-year period. The effect of these efforts was to delay the realization of the inevitability of the closing and to create roadblocks to conversion planning at the local level.

The immediate impact resulting from the announcement was confined to the residental housing sector, especially for those homes priced below $20,000. Employment in the area began to decline after mid-1965, but this is traceable directly to the Brookley job losses. There is no evidence of any building plans, either residental, commercial, or industrial, having been cancelled as a result of the closing announcement.

BROOKLEY AIR FORCE BASE

CLOSURE PATTERN

Although the announcement was made in November 1964, the actual phase-out of the Brookley personnel and facilities did not begin until mid-1965. Mobile officials asked for, and got, an extension of the planned phase-out time, so that the military will not relinquish control of the Base until after June 1969.

There were approximately 12,500 civilian employees at Brookley in November 1964. This figure remained relatively unchanged through II-65, at which time the planned phase-out began. There were 10,700 civilian employees on board at the end of 1965 and 7,500 at the end of 1966. By December 31, 1967, there were only 2,300 employees left at Brookley. If present plans materialize, only 750 of these will be left after December 1968, and none by June 1969.

Wage payments to civilian personnel at Brookley and purchases made by the Base did not decline at a rate commensurate with the decline of activities there between 1964 and 1967. In 1967, for example, when Brookley's average annual civilian employment was only 31 per cent of its 1964 level

(Table 2), civilian wage payments in that year still totaled $48 million, or 55 per cent of 1964 payments (Table 1).

The explanation of these high wages, for both 1966 and 1967, is to be found among the several factors which have influenced the Brookley average pay rate. These include: (1) a steady decrease in percentage of lower-paid Wage Board (WB) employees with a corresponding increase in percentage of higher-paid General Schedule (GS) employees; (2) large amounts of severance pay; and (3) large lump sum annual leave payments for retiring and resigning employees.

The importance to the local Mobile community of these larger than normal average payments during this particular time cannot be overstated. The Brookley Personnel Office put the following interesting piece of information together: a total of 11,012 persons were separated from Brookley from November 19, 1964, to December 18, 1967; almost exactly one-half of these (5,504) left the Mobile area; the average annual salary of these persons was $6,821. This means that those who left the area after being phased-out by Brookley carried with them an annual payroll of $37.5 million. The high wages of those left at Brookley, plus the severance and retirement benefits of those who left but remained in the Mobile area, helped greatly to compensate for this tremendous wage and salary loss. Its long-run implication is not so favorable, however, since most of this money is in the form of one-time benefits that will not continue beyond the phase-out period.

TRANSFER OF BROOKLEY AFB FACILITIES TO OTHER USES[1]

As of May 1968, the U. S. Government has not transferred

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1. Most of this section and the two sections which follow in this concluding portion of the report covering the use of lead time and effectiveness of offset programs was written after consultation with Mobile officials who have had a close day-to-day contact with the Brookley phase-out and the

title to any Brookley land, improvements or equipment to any local civic or commercial agency. Certain excess buildings have been made available to the city of Mobile by short-term lease (maximum: one-year renewable) for further sub-lease to private companies. Rental rates for this property are established by U. S. Corps of Engineers appraisers. The lessee and his employees must comply with all base regulations pertaining to civil tenants on Federal property and are subject to monthly compliance inspections.

At present, three firms occupy the Brookley facilities on the above terms. These are:

Continental Motors Corporation	800 employees
United Parcel Service	30 "
Atlantic General Fiberglass Company	25 "

One other company, which employs only 5 persons has cancelled its lease as an unprofitable operation. Significantly, high lease price rates, restrictive rules on use of warehouse space and nagging inspection practices were given as the reasons for cancellation. (More will be said about this in a following section.) Also, the Atlantic General Fibergalss Company is experiencing financial difficulties and its continued operation is questionable.

Rental payments by the city of Mobile to the U.S. Government for all land, buildings, systems, and equipment under lease for the month of March 1968 totaled $36,407. This sum represents funds taken out of the community and are therefore not available for reinvestment to rebuild the community's economy. This will remain the case until Mobile

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problems it has presented. One person in particular, whose planning work (first with the Mobile Chamber of Commerce and later as the City's Brookley coordinator) places him among the most knowledgeable about Brookley and its potential, has been especially helpful. The Bureau is indebted to him for much of the insights to the phase-out problems analyzed in this section.

gains control of parts of the Brookley facilities.

In September 1967 the city of Mobile submitted its Preferred Community Land Use Plan to the GSA. Some minor boundary revisions have been made since the original submission, but the GSA has indicated its concurrence with the majority of the plan.

The city's plan, if approved, amounts to a sort of "chop-up," or variety-use plan, whereby the land and facilities would be fragmented and used for various public, commercial and industrial purposes. Its objective is to make the Brookley property as productive as possible, as soon as possible, so as to alleviate the short-term adverse effects on the community of the Brookley job and payroll losses.

This plan has been attacked as having potentially disastrous long-run implications for the Mobile area. Pushed primarily by the Alabama AFL-CIO, an alternate plan has been submitted to set aside Brookley as a huge, international-scale, air-sea-land complex. Their contention is that the implementation of their plan would mean eventually 50,000 additional jobs for the State of Alabama, but that the variety-use plan as proposed by the city is "based upon the fragmentation and functional destruction of the mutually interdependent components of the facility."

Both plans probably have merit. The lateness of the AFL-CIO-backed proposal more than likely precludes its adoption. Unfortunately, very little expert planning has gone into the best and most efficient reuse of the Brookley facilities. This is one area in which the Federal Government can provide better guidance than it has in this particular case. Without it, bitter controversies over the best way to re-use phased-out military facilities are almost inevitable.

ECONOMIC PATTERNS

AGGREGATE MEASURES

Population and Labor Force

Population declined in the Mobile SMSA during the three-year period following the announcement of the Brookley closing. Having reached a peak in 1964, population decreased by 3.7 per cent to an estimated 1967 level of 378,000. (See Table 2.) Alabama's population increased at its base-period trend during this time.

About one-half of the population decline in the Mobile SMSA occurred in the period 1966-67, at a time when Brookley was also losing the largest part of its employment. The July 1, 1965, population estimate of 391,000 was only 1,500 below the year earlier, but the decline went to 6,000 in 1966 and to 7,000 in 1967, leaving an estimated 378,000 persons residing there in the latter year.

Unemployment rose only slightly during the period, which indicates both that (1) out-migration is taking place in response to labor shortages in other areas, and (2) since the ratio of employment to total population declined between 1964 and 1967, there is a considerable amount of traveling to jobs outside of the Mobile SMSA by persons who continue to reside there.

The phase-out of Brookley has thus had a marked effect on the Mobile SMSA population level, but not as great as expected. The fact that it came at a time of an extreme labor shortage in nearby cities such as Pensacola and Pascagoula has allowed Mobile to retain some of its population that would have left the area under normal conditions.

The Mobile SMSA work force declined by 4.4 per cent between 1964 and 1967. (See Table 2.) Population declined by 3.7 per cent during this same period. As a per cent of population, Mobile's labor force increased slightly during 1964-65 but declined in 1967 to its lowest level of the

1960-67 period. In 1967 the labor force declined by 4.2 per cent, the largest annual loss in both percentage and absolute terms since the phase-out began. This was also a time when employment at Brookley was declining at its most rapid rate.

Employment and Unemployment

It became apparent quite early that Mobile's economy was not growing at a sufficient pace to absorb the great Brookley losses. Total employment began to decline immediately after the phase-out began in mid-1965, although the first half of the year advance in employment was of such magnitude to push the 1965 annual average level above that in 1964. After this, the Brookley losses, when coupled with the related decline in contract construction workers and the totally unrelated decrease in ship building and repair employment, precipitated a skid that would continue through 1967.

For the entire three-year period average total employment declined by 4.5 per cent. This represented an employment decrease of 5,700 in absolute terms. (See Table 2.) When considering that the decline at Brookley amounted to 10,100 workers between IV-64 and the same quarter in 1967, this 5,700 is not too drastic. Moreover, the unemployment rate in Mobile has not zoomed up as was expected.

The unemployment rate stood at 4.4 per cent of the labor force (unadjusted) in IV-64, and averaged 5.0 per cent for the entire year. It declined even further in 1965 (to 4.5 per cent), then recorded the lowest yearly level (4.4 per cent) of the entire period included in this study. Both the average number unemployed and the rate began to climb again in 1967, but at 5.1 per cent of the labor force in 1967 unemployment was still at about its 1964 level.

In summary, there has been an employment decline in Mobile since the Brookley phase-out announcement. But the decline in the labor force has almost paralleled it; excessive unemployment had thus not become a burden on the local economy by 1967. Further, there are indications of a bottoming-out in Mobile's employment--the preliminary I-68 employment figure for the Mobile SMSA was approximately the same as its I-67 level.

Retail Sales

The opening of two huge, modern shopping centers has expanded the Mobile retail trading area tremendously. A visit to those centers revealed auto license plates from counties whose residents were formerly traveling to Montgomery to shop, and a great many Mississippi and Florida plates were also observed. Primarily as a result of this, the Mobile SMSA had a gain of 11.6 per cent in total retail sales between 1964 and 1967. Alabama's gain in this same period was 17.6 per cent, however; so in Mobile it was a case of the timing of the new shopping centers softening the impact of the Brookley closing.

Some retail categories were understandably affected more by the phase-out than others. The small general stores with food and gas and the general merchandise concerns suffered sales declines in the 1964-67 period. Food stores garnered a larger percentage of the total in 1967 than in 1964, while, surprisingly, automotive sales held up quite well. Because of the hard-hit construction activity, lumber-building materials and hardware-farm implements sales slowed perceptibly in the period 1964-67.

Public Utilities Activity

In contrast with the quite sizable gains shown in the 1960-1964 period, public utility growth rates between 1964 and 1967 had moderated considerably, and the number of residential gas customers actually declined by 0.9 per cent in this period. The number of telephones in service increased by only 4.0 per cent, electricity customers by 1.4 per cent, and water service customers by 1.5 per cent. The real slowdowns came in the 1966-67 period, which also coincided with the period of greatest layoffs and transferals at Brookley.

Banking Activity

The accelerated economic gains which had begun in 1963 were mirrored in the Mobile bank debits activity. Using 1964 as a base, the annual volume of debits in Mobile grew by 7.9, 8.7 and 5.2 per cent, respectively, in 1965, 1966, and 1967, which represented a gain of 23.4 per cent over the entire period. This was still below the composite gain from Alabama's eleven largest cities, but Mobile made a relatively better showing after the phase-out of Brookley began than it had in the 1960-64 period.

The 1966-67 growth in debits of only 5.2 per cent can not be attributed solely to the Brookley closing. Both the U. S. and Alabama had growth rates in 1967 that were only slightly above Mobile's as the very minor economic downturn in the first half of that year, caused primarily by reduced consumer spending, took its toll on debit activity.

While it is difficult to interpret short-run changes in demand deposit activity in a city the size of Mobile, the slight 1966-67 decline in deposits there was probably due to causes in addition to the tight money policy adopted by the Federal Reserve Board during much of the latter year. This decline becomes especially significant in view of the increased demand deposits held by banks in Alabama's eleven large centers as a whole.

Another indication of the Brookley phase-out's impact on Mobile is the relatively slow growth in savings held by commercial banks. Between 1960 and 1964 Mobile's average annual savings increased by 67 per cent, almost exactly keeping pace with the growth in Alabama's eleven largest cities. Mobile's rate of growth since 1964 has been just over one-half that of the eleven cities, and between 1966 and 1967 that city's savings increased by less than one-fourth the eleven-city rate. Further, the 1966-67 rate of increase in Mobile's bank debits was the smallest since the recession year of 1960. This declining growth rate can probably be attributed to two factors: (1) the physical removal of savings accounts by the departed Brookley employees;

and (2) the drawing down of savings account balances by the temporarily unemployed ex-Brookley workers who either refused a transfer to another Federal Government facility or did not have transfer rights.

Personal and per Capita Income

The rate of growth in total personal income in the Mobile SMSA declined as expected in the three years following the Brookley phase-out announcement. (See Table 1.) The average annual growth rate in the 1960-64 period of 7.0 per cent had declined to 5.8 per cent in 1964-67, well below the State average in this same period of 8.6 per cent. The surprising thing here is that income held up so well in Mobile, especially so when considering that the population in the SMSA dropped by almost 15,000 between 1964 and 1967, and average annual employment by 5,700.

Another surprise is that per capita income actually accelerated after the Brookley phase-out got underway. It rose to an average annual increase of 7.2 per cent per year in the 1964-67 period as compared with a 4.6 per cent average gain in the period 1960-64. At least part of the answer to this accelerated growth rate is in the one-time retirement incomes paid to former Brookley employees in 1966 and 1967. This is explained in greater detail in the section on the amount of civilian wages paid at Brookley.

SECTORAL MEASURES

Covered Employment, Wages, and Number of Firms

The Mobile economy finally heated up around mid-1963. The factors which caused the relatively slow employment growth in the 1960-63 period--automation in the lumber and wood products industry and the depressed construction activity--were no longer drags on the economy, and almost all the major employment divisions began to increase.

Average monthly covered employment in all industries rose by just over 3,000 between 1964 and 1967. On an annual basis, this was at a slightly higher rate than in the four-year period prior to the phase-out announcement. Toward the latter part of 1967, the covered employment figure began to decline. It is felt that this is a short-term slide, however, and employment should shortly begin to increase at its normal rate.

Contract construction was the only industry which had a significant employment decline in the 1964-67 period. Conditions for further growth in this sector were changing both nationally and locally at the time of the Brookley phase-out announcement. Housing starts in the nation were still declining from their late-1963 peak at this time, a decline that would eventually develop into the precipitous plunge of late 1966 to a rate of new housing starts less than half that of the previous four years.

To this was added the constraints of tight money and high interest rates. Add to these the situations peculiar to Mobile--over-building in the 1963-64 period and the Brookley phase-out--and the result, as expected, was a depressed construction industry in Mobile beginning in 1965. This is reflected in the 20 per cent decline in contract construction employment in the Mobile SMSA between 1964 and 1967. (See Table 3.)

Manufacturing employment actually accelerated after the phase-out announcement. The durable goods sector reversed its decline of the previous four years and employment rose slightly between 1964 and 1967, while employment in the non-durables sector rose at a much faster rate than in the earlier period. This is an indication of the almost complete divorcement of the Brookley facility from Mobile's manufacturing sector.

Wholesale and retail trade, finance, insurance and real estate, and service employment also advanced at higher rates after the phase-out announcement. When considering that total employment declined in the area because of the loss of the Brookley employees, these sharp increases, especially in service employment, are mildly surprising.

New Residential Building Activity

Construction is one of the areas in which the separation of the effects of the Brookley closing from other forces at work, both nationally and in the local Mobile economy, is extremely difficult. This is especially true of the residential housing sector. The volume of residential construction in the five- to six-year period prior to the Brookley phase-out announcement was at a very high, and probably nonmaintainable, level in Mobile. Soon thereafter the problems of tight money and higher interest rates began to affect new building. The psychological impact of the Brookley closing was evident, also, especially in the few months immediately following the announcement and for those homes in the sub-$20,000 price range.

For whatever reason(s), new residential construction declined precipitously in Mobile during 1965 and 1966. Permits were issued in both years for only 202 apartment units and 883 one-family units. Residential building rebounded somewhat in 1967, but most of the advance was accounted for by one or two large apartment complexes.

Over the entire three-year period, there was an average of just over 600 new units per year for which building permits were issued. This figure is approximately one-half the average number per year in the 1960-64 period. Just over one-fourth of all units in 1965-67 were in multi-unit structures.

Significantly, none of the building permits issued just prior to the Brookley phase-out announcement were allowed to lapse. One contractor who had planned a large apartment building wavered in his decision whether or not to go ahead with construction; a "yes" decision proved correct when all units were filled very soon after completion. Owners of older structures were hurt, however, as the vacancy rate surveys taken in 1966 and 1967 attest to.

As already implied, the market for the upper-priced ($20,000+) homes was not greatly affected by Brookley. As will be noted later, there is presently underway a study to measure the residential impact of Brookley's closing by several price categories, but expert opinion is that homes in the $10,000-$15,000 price range were more affected than any others. Where new construction is concerned, experts further testify that the tight money high interest rate situation that has prevailed throughout much of the time after Brookley began phasing out has hurt the housing industry more than the phase-out itself.

Housing Stock

The high foreclosure rate in the Mobile area during the 1960-64 period persisted during 1965-67. The problem presented by the two big subdivisions mentioned in Part II continued and was exacerbated by the transferral of several thousand local home owners from Brookley.

The VA foreclosure records for Mobile began in 1963, FHA in 1965. It is thus impossible to obtain comparable data from either source for the entire 1960-67 period. Based on VA records for 1963-67, however, the following pattern emerges.

First of all, the high foreclosure rate prior to 1965 was entirely unrelated to the Brookley closing. FHA, for example, started foreclosing in one of the two subdivisions in 1962 and had not been able to sell even one home prior to January 1967. In this month both FHA and VA sold at bulk-lot prices 737 homes to the University of South Alabama to be used for married students' housing. These homes originally sold for $9,000 to $12,000 each, but under the bulk sale 579 sold for an average price of only $2,056, and the remaining 158 went for an average price of $3,750.

Second, the number of VA foreclosures rose in 1965 and 1966, but fell back slightly in 1967. The number foreclosed in the two "troubled" subdivisions did not change noticeably in 1965 and 1966, and declined in 1967. This means that the effect of Brookley was being felt in the housing market during these three years, but its extent is not precisely measurable. An expert opinion is that about one in five of the 2,588 homes foreclosed in the Mobile area during 1965-67 was owned by former Brookley employees.

Brookley's effect on the Mobile housing market is revealed also in vacancy surveys taken in April 1966 and November 1967. In the earlier year 5.5 per cent of Mobile's residences were vacant, and this rate had climbed to 6.5 in November 1967. Apartment vacancy rates were more than double the rates for all housing in both years.

Private Nonresidential Construction

The total value of building permits issued for private nonresidential construction in the city of Mobile was at an extremely high level in 1964. On the basis of this alone, the big decline in 1965 was not unexpected. (See Table 4.) Nonresidential building rebounded in 1966, primarily as a result of a mercantile building and a parking garage. But the 1967 valuation of only $5.9 million was the lowest in the entire 1960-67 period. Brookley's role in this relatively poor performance is debatable.

School Enrollment

With a three-year population decline in the SMSA of 15,000 and an employment drop of 5,700, it is difficult to comprehend an increase in school enrollment in this same period. Yet, that's what the figures show--from 104,094 in 1964 to 104,964 in 1967. The increase of only 300 per year was slight when compared with the average annual increase of 3,000 in the 1960-64 period; but based on the population decline, a drop in school enrollment of at least 5,000 was expected.

A preliminary estimate for the Mobile city schools shows a 3,000 enrollment decline in 1968. A proportionate decline in the rural areas of the SMSA would just about make up the additional 2,000 that should be expected. The reasons for the time-lag between population and employment declines in the area and in school enrollment have not been ascertained.

New Public Facilities

Expenditures for new public facilities in Mobile have been rather slight since the Brookley phase-out began. Capital outlay for public schools has held up, but the 5½ mill property tax that has been earmarked for this purpose continues to bring in revenues in sufficient amounts that school construction should remain unaffected by Brookley. With the exception of approximately $4 million spent on public housing and public works and utilities buildings, all of the $21 million allotted for new public facilities in Mobile during 1965-67 went into the school construction program.

Revenues and Expenditures

Revenues: As was pointed out in Part II, Mobile's general fund revenues are structured to depend heavily upon the maintenance of high retail sales. Since retail sales activity in Mobile continued its strong upward movement in the 1964-67 period, city revenues have not been drastically affected. In fact, revenues from the four major sources shown in Table 5, increased at about the same rate (3.9 per cent) between 1965 and 1967 as in the 1961-63 period.

This is not to say that Mobile's operating revenues were not affected by the Brookley phase-out. Alabama's sales tax revenue rose by much higher rates between 1964 and 1967 than did Mobile's. An estimate is that Mobile was deprived of roughly $50,000 in sales tax revenues in the two-year period of 1966 and 1967 because of the Brookley closing.

Property tax collections actually accelerated after the closing announcement. Revenues from this source increased by only 20 per cent in the four-year period prior to the announcement, but rose by 27 per cent in the three years since the phase-out began. Much of this improvement is due to property revaluations and the additions of new land areas to the city's tax rolls, however.

Expenditures: The State Legislature in 1965 passed a public school appropriation bill that gave a tremendous increase to public school general operating funds for the 1965-66 and 1966-67 school years. The Mobile system received an additional $1.2 million in State funds in 1965-66 and $1.7 million in 1966-67. Federal operating funds also rose by $2.2 million in each of these two school years. In total, Mobile's general operating expenditures rose by $4.6 million between 1964 and 1966 as a result of the increased funds from these two sources.

The State Legislature was not feeling nearly so generous when it met again in 1967. State public school appropriations would remain essentially unchanged in the 1967-68 and 1968-69 school years, which meant that Mobile could count on no new revenue in this period from its largest single school funds contributor.

The school board's dilemma was further compounded by a drastic reduction in Federal PL874 ("impacted area") funds in fiscal 1967-68, and their removal entirely after 1968-69.

The first identifiable casualty of the Brookley phase-out has been the Mobile School Board. The unfavorable pupil/teacher ratio in Alabama has been fought by the local and State education associations for many years. With the sharp reduction in the PL874 funds, the pupil/teacher ratio in Mobile County has been adversely affected by the assignment of an additional student to each teacher's class load. It is the School Board's opinion that revenues will have to be found soon, probably through new local taxes, to compensate for the loss of the PL874 funds.

Expenditures for public assistance have also risen since the phase-out began, though at a rate considerably below that between 1960 and 1964. Factors such as the increased number of old-age pensioners, changes in eligibility requirements, and availability of funds are the primary causes of the increase that has occurred.

Needs arising from loss of employment are not met directly through public assistance payments. Alabama does not have a general assistance program that provides financial help to needy, able-bodied unemployed persons or their dependents. If such a program were in effect, it is possible that the Brookley phase-out would be reflected in increased expenditures under it. The local burden would still be almost negligible, however, as is now the case in Mobile.

SUMMARY OF INDICATORS IN 1964-67 PERIOD

A brief sector-by-sector analysis for the 1964-67 period is given below, with an asterisk indicating those series that performed poorly and are believed to be particularly sensitive to the Brookley closing. Analysis and conclusions are deferred to the following chapter.

-- *Population, which had been increasing at about 2 per cent per year during the base period, declined by 3.7 per cent, or 15,000, between 1964 and 1967.

-- *Labor force declined by 4.4 per cent.

-- *Total employment dropped by 4.5 per cent in the three-year period, or 5,700 workers. Unemployment rate dropped in 1965 and 1966, but rose slightly in 1967 to equal its 1964 level.

-- Retail sales held up quite well in the period, due primarily to the happy coincidence of two new shopping centers that expanded Mobile's trade area.

-- *Utilities were hurt badly in last year of study; this was expected, however, because of large Brookley employment losses in this year.

-- Bank debits growth was well below the State as a whole, but Mobile made a relatively better showing after the phase-out of Brookley began than in 1960-64 period. Growth in Mobile savings deposits was less than half that for State, however.

-- Total personal and per capita incomes continued upward, but their growth rates declined from 1960-1964 performances.

-- Covered employment, wages, firms: total covered employment rose substantially in 1965 and 1966, then declined in 1967. *Contract construction employment dropped rather severely following the Brookley announcement, and 41 construction firms went out of business between III-64 and III-67; manufacturing employment in both the durable and nondurable goods sectors accelerated after 1964; wholesale and retail trade employment also rose faster following the beginning of the phase-out, as did service employment. Changes in the other major divisions were insignificant.

-- *Residential construction was especially hard hit, as new units were added at only half the rate as in the 1960-64 period. To the psychological impact of Brookley were added tight money and higher interest rates. The net contribution of each factor is impossible to distinguish.

-- *Vacancy rate was moderate as late as 1966, but began to rise in 1967. Foreclosure rate was higher, with Brookley phase-out definitely contributing.

-- Private nonresidential construction was lower in City of Mobile, but higher in total SMSA.

-- *School enrollment was up slightly in 1967 over 1964, but preliminary estimate for 1968 shows a sharp decline of approximately 5,000 students.

-- Mobile city operating revenues rose in the period because of maintenance of high retail sales level resulting from increase in total personal income.

-- *Expenditures on education were up in 1965 and 1966, due primarily to greatly increased funds from State and Federal sources, but were leveling off in 1967 and 1968 due to non-increase in State funds and loss of Federal PL874 ("impacted area") payments. Operating revenues could become critical unless local taxable sources are found quickly. Brookley phase-out does not seem to have affected welfare assistance programs.

Reuse of Base Facilities and Economic Effects of Closure

In this concluding section the consequences of Mobile's attempts to offset the effects of the Brookley phase-out are first analyzed. Then conclusions are drawn concerning the overall economic effects of the phase-out and the contributions of the Brookley facilities to recovery.

ANALYSIS OF COMMUNITY REACTION TO CLOSURE

USE OF LEAD TIME

When considering what has been accomplished in the 42-month period following the Brookley phase-out announcement, it is apparent that the use of lead time has been less than optimum. Initially, there was a failure of the Mobile community leadership to accept the impending closure as a fact and to attack the conversion problem constructively and vigorously. Conversion planning at staff level was forced "underground" for one year, and all funds for professional conversion planning assistance were withheld for 27 months. Attempts to secure Federal funds for conversion studies were repeatedly refused. The funds and planning efforts that were finally forthcoming have been totally inadequate.

Hindsight now suggests that the request by city officials (agreed to by the DOD) for an extension of the phase-out to cover a four-year period was a mistake. Even for a Brookley-size facility, two years would probably be sufficient. Most of the problems of locating private industry on the Base stem from its continued control by the military.

Overt community controversy over the ultimate reuse of the vacated facilities has also compromised the goal of an orderly phase-in of civilian activities. It is felt that this controversy could have been avoided by sufficient planning funds and effective leadership.

EFFECTIVENESS OF OFFSET PROGRAM

Programs initiated to offset the Brookley losses have taken two forms. The first of these relates to Brookley itself--the establishment of sites on the phased-out portions of the Base for industrial, commercial, and educational uses. So far this operation has been, for various reasons, unrewarding. Only 855 replacement jobs have been generated on the Brookley site at the time of this writing.

The other form is the replacing of the Brookley job losses with an expansion of industry and business outside the Brookley facilities. In this endeavor, Mobile officials have been much more successful, with most of the credit due a local industrial committee called Task Force 200.

A few months before the Brookley phase-out was announced Task Force 200 was founded with an announced intention of obtaining $200 million in new and expanded industries in five years. When the Brookley news came Mobile was thus already geared up to go after replacements. But the Brookley announcement acted as a catalyst for more intensive efforts by diverse groups of local leaders. The original objective of the Task Force 200 group was accomplished in just over three years. Members working long hours on several consecutive days for a breakthrough on some technical aspect of a plant location was commonplace in the early months following the phase-out announcement.

Tangible evidence of the results of this all-out drive for new industry abounds. A new industrial park at Theodore, just a few miles away from Mobile, is already the scene of a new cast iron pipe facility, the first iron producer to locate in the area. New Port facilities and canals are being constructed to accommodate the Theodore complex and other industrial sites that are opening along the Mobile River.

All this would probably have come eventually, with or without the Brookley phase-out. Undoubtedly, the Brookley action girded local industry hunters into making it a reality much sooner than expected.

CONTRIBUTION OF BROOKLEY FACILITIES TO RECOVERY

It is unfortunate that the vast and highly desirable Brookley facility has not contributed more than it presently has to Mobile's recovery. The 10,000+ jobs lost at Brookley through the end of 1967 have been replaced by only 855 new industrial jobs on that facility. Mobile has yet to gain title to a square inch of real estate or the first item of personal property.

Industrial operations conducted on military real estate become fantastically complicated, frustrating, and much more expensive. Brookley has been no exception. The many road-blocks to efficient reuse of these facilities have in most part been man-made and therefore can presumably be eliminated by man. It is the general feeling that the community, the USAF, and Federal disposal agencies involved must all share the blame for shortcomings in various degrees and for many different reasons. Among the reasons are:

(1) A lack of legal procedure whereby the city could gain full possession of facilities as vacated and to enter into legal commitments with interested firms relative to long-term lease/purchase arrangements. The lack of an adequate answer to the two most common industry questions, "When can we gain occupancy?" and "How much will it cost?," lost Mobile innumerable job creating opportunities.

(2) The rules and associated price structures for temporary use of disposable facilities were not intended to relieve a massive permanent phase-out problem in a community, but instead to discourage use of certain isolated and temporarily unneeded facilities by all but the most desperate (and probably defense contract-oriented) firms. The high cost and restrictive terms of these leases receive a very cool reception from most firms. New

legislation is required to correct this deficiency.

(3) GSA rules governing appraisal and therefore pricing of surplus real property dictate that an appraisal be made only a short time before sale is contemplated. The lack of a firm sales-price date makes financial planning on the part of both the city and industry a rather useless exercise and suggests that existing planning may be negated summarily when a firm price is known.

(4) Inspections conducted by the USAF and forwarded to the city for corrective action through the Corps of Engineers are often based on standards and concepts not recognized as legitimate by industry, nor are these standards generally applicable within the city limits. It has also sometimes occurred that practices approved by labor unions or insurance underwriters are at variance with the findings of USAF inspectors. Most of the firms now on the Base, and even some who have contemplated moving onto it, have complained of the seemingly finical nature of the military inspection practices.

(5) Problems have risen from the number of military regulations which pertain to the conduct of business and behavior of civil employees on a military reservation. Ingress and egress are controlled by the military and automobile routes of travel and authorized probing areas are rigidly specified. Violators may lose on-base driving privileges. Canteen type food sales are severely limited. Companies cannot operate cafeterias and their employees cannot use those operating on Base to serve Federal employees. The theft of even a minor item from an on-Base company becomes a Federal offense to be handled by the F.B.I., since the crime occurred on Federal property.

There are other prohibitions, but the above examples serve to suggest why industrial executives are reluctant to locate on property remaining under military con rol. It should be emphasized that these are not roadblocks thrown up by the Brookley military officials, but are expressions of the inflexibilities governing military procedures in general. Our experience with the Brookley officials has been one of cordial reception and excellent cooperation.

To reiterate what was stated previously: the community and the Federal disposal agencies must share to some degree with the USAF the blame for the almost negligible contribution that the Brookley facilities have made to Mobile's economic recovery.

THE ECONOMIC EFFECTS OF CLOSURE

It is difficult to conclude the economic effect of a military base's closing when in fact almost 3,000 civilian and military personnel are still employed on the base. This is the situation that now exists at Brookley, and because of it a final judgment as to the effect of the closing on Mobile's economy is not possible at this time.

Based on what has occurred there so far, however, certain inferences can be drawn. First, because of the liberal transfer rights held by most Brookley employees, the short-run decline in Mobile's population was inevitable. Without this substantial out-migration the unemployment rate in Mobile, which really has not become a problem as yet, would have climbed much higher.

Second, with some notable exceptions that will be mentioned later, the several economic variables analyzed in this report have not indicated a depressed economy at any time since the Brookley phase-out began. Accelerated growth in the industrial sector, job opportunities in cities in close proximity to Mobile, and large severance, retirement, and leave payments accruing to the ex-Brookley employees have all contributed to the maintenance of high income and sales levels.

Some sectors of the Mobile economy were obviously affected more than others. The "people" measures, e.g., population, labor force, employment, and school enrollment, reflect the large employment loss at Brookley. Other measures which are directly related to these, such as utility customers, residential construction, the housing stock, and city revenues and expenditures, have also performed poorly since the phase-out began at Brookley. But in those series where expectations, business psychology, and just plain economic strength are exhibited, a quite different pattern has emerged. Retail sales, total personal and per capita incomes, and expenditures for new and expanded manufacturing concerns have not been, for the most part, greatly affected by the loss of the employees at Brookley.

The sector that has probably been most adversely affected by the phase-out is residential construction and the housing market in general. It is also the sector in which the impact has been the most difficult to determine. The data that are available reveal a quite drastic reduction in new residential construction and a slight increase in foreclosures since 1964. Reliable statistics covering the impact on residential property valuation in the Mobile area resulting from the Brookley phase-out are not currently available, however. This void will be filled by a survey now being conducted in Mobile by the U. S. Army Corps of Engineers pursuant to the provisions of a recently-enacted home-owners' assistance bill. This bill provides financial assistance to civilian personnel who incur losses as the result of the sale of their dwellings in connection with the closure of military bases. Unfortunately, the results of this survey are not yet available.

The phase-out has, on the other hand, had only a negligible impact on the manufacturing sector in Mobile. Brookley's procurement practices are such that very little repair work is "hired out" to local machinists, and all parts and accessories are shipped into the area from other, far-removed bases.

If anything, the phase-out will have a beneficial effect on the manufacturing sector in the long run. This is so because the firms that will eventually locate on the vacated Brookley site will create a demand for such satellite establishments as fabricated metals, machinery suppliers, etc., that simply were not needed for the Brookley functions. In fact, some demand of this type has already been created by the few firms already located on the Base. The required technical know-how is presently available in the area. Inevitably, new firms will arrive to take advantage of both the skilled technicians there and the demand for new goods and services that will result from the build-up at Brookley and at the new industrial parks close by.

One rather surprising aspect of Mobile's post-1964 performance has been the accelerated growth in its service employment. Theoretically, there is a rather strong positive relationship between population changes and employment changes in the household-serving portion of the service industry. Yet, service employment in the Mobile area rose at twice its base-period rate between 1964 and 1967 while population declined by an estimated 15,000 in this period.

In view of the evidence accumulated so far, there is a temptation to conclude that the Mobile economy has been affected less by Brookley's closing than it was by the 1960-61 recession. Coming as it has during a time of national prosperity, the phase-out has not occasioned a high unemployment rate, depressed city revenues, or manufacturing employment declines such as accompanied the 1960-61 downturn. Uncertainties are presented by the almost 2,500 civilian workers still employed on the base, however. Although a disproportionate number of higher-paid General Service (GS) workers are included among those still on board, the group also includes the lower-grade, less skilled maintenance workers whose re-entry into the local working population might be harder to accomplish than those phased out prior to December 1967.

In summary, Mobile seems to have already weathered the worst effects of the Brookley phase-out. Total employment seems now to be on the upturn and a feeling of optimism pervades the community. Mobile's recovery is especially noteworthy when considering that it has been accomplished with almost no contribution from the re-use of the Brookley facilities.

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A CASE STUDY OF THE PHASE-OUT OF SCHILLING AFB,

SALINA, KANSAS

by

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Introduction

This report has as its objective the evaluation of the local economic impact of the closure of a major military installation, Schilling AFB, on a rather isolated community, Salina, Kansas. Because of Salina's position as the major trading center for north central Kansas, with a trade area extending into Colorado and Nebraska, the impact caused by the closure of Schilling and the subsequent removal of military personnel resulting in elimination of civilian jobs and Base purchases affected the Salina economy less than expected for a city of its size (40,000 in 1964). Nevertheless, some sectors, notably construction and housing, were highly sensitive to changes in Base-related activity. Because these were crucial sectors in the local economy, the impact of closure on Salina was expected to be heavy economically as well as psychologically.

The ability of a community to recover from the shock of the sudden withdrawal of a large military installation is of major interest not only because of the magnitude of the immediate economic impact but also because of the problems encountered in converting the city to a civilian economy. Salina's recovery effort placed special emphasis on the community's ability to "replace" the Base in the area's economy and to convert the Base facilities to civilian usage.

The impact of closure is measured by analysis of quarterly data (1960-68) on such indicators as sales, employment, government receipts and expenditures, school enrollment, population, and public utilities. These data are augmented by information obtained from other reports dealing with Salina and from personal observation of the events which occurred there after the Announcement of closure.

The Economy Prior to Announcement: 1963-64

In order to analyze the economic impact of the Base closure and the subsequent recovery, it is first necessary to provide information on the status of the Salina community prior to the Announcement. To measure the effect of closure by relating the condition of the economy at some point after closure to the conditions at the date of closure would be inadequate. The actual loss due to closure should be measured against the situation which would exist if the economy had progressed after the Announcement in about the way it had been progressing immediately before the Announcement. This is accomplished by first presenting data on the economic trends before the Announcement and describing the status of the economy on the date of the Announcement. Then, in a later section, it is possible to relate the actual performance of the economy after closure to the trends that were evident earlier.

GEOGRAPHIC LOCATION

Salina is the main, large, urban center between Topeka, Kansas and Denver, Colorado. With a population of about 40,000 in 1964, it has long been the trading center for a vast area which includes parts of northwestern Oklahoma, eastern Colorado, and southwestern Nebraska as well as the entire western half of Kansas. This trade area includes almost 1.5 million people. Salina is the county seat of Saline County and the governmental center as well as the geographical center of the county. The city is 40 miles northeast of the centerpoint of the state and only 80 miles southeast of the geographical center of the continental United States. In recent years Salina's central location has been a great advantage in its efforts to convert the local economy to one which is not so dependent on agricultural trends as it has been in the past.

This central location coupled with excellent facilities for transportation and travel gives Salina an accessibility that is second to very few other U.S. c es. Recently completed highways have augmented transportation services to Salina: Interstate 70 and U.S. Highway 40 are primary east-west arteries, and Interstate 35 and U.S. Highway 81 are of like importance to the north and south. These roadways provide accessibility to other areas of the country in every direction. Utilizing these facilities, bus lines and trucking firms provide regular services to the city. Four major railroads provide convenient and adequate rail transportation. Although air service was somewhat limited prior to 1966, opportunities for air travel and transportation were vastly increased by the city's annexation and development of nearly the entire Base airport facility as a municipal airport.

The Schiliing AFB facilities are located to the southwest of Salina. The installation was valued at more than $146 million and contained 3,033 acres; it was dominated by modern runway and airport facilities and includes 700 buildings for housing, commercial, and maintenance uses. At the time of the closure Announcement in November 1964, the Base was staffed by 5,007 military personnel and employed 357 civilians. While the annual payroll of the Base was approximately $20 million, the total economic impact of Base expenditures was estimated to be $35 million. In addition to purchases made by the resident military personnel, it is estimated that $1.116 million were returned to the local economy through purchases from Salina firms by various Base divisions, such as the commissary, the Officers Club, mess hall acquisitions, services (natural gas, electricity, snow removal), and the motor pool. The additional $14 million was concentrated in construction and related activities. The Base's economic impact on Salina and its proximity to the community caused the Base to share an integral social and economic relationship with the city.

ECONOMIC TRENDS: 1960-64

The focus here is on economic trends in the Salina community during the period 1960-64. Attention is directed not only to the general economic trends but also to the pattern of growth in the important sectors of the local economy and to important events that particularly affected the community.

AGGREGATE MEASURES

In general Salina experienced growth for the five-year period beginning in 1960. Income, population, sales, employment measures of economic activity exhibited substantial, if not spectacular, growth. Although most indicators displayed signs of expansion, some segments of the economy, particularly housing, private construction, and public investment, were lagging. Of significant importance was the lack of growth of the basic economic strengths of the economy. Little new industry located in Salina; the expansion of existing industry was slow at best. The trade and service sectors, which are a large part of the export base of the Salina community, failed to grow. A contributing factor was the long term decline of regional agricultural population and income which provided much of the support for the trade and service sectors. Similar to many other communities in the Midwest, the central business district was deteriorating both physically and economically. This decline was due in part to new suburban shopping centers; but a major factor was the lack of imagination and initiative on the part of the downtown merchants. In addition much of Salina's housing was deteriorating or dilapidated--an estimated 20.6 per cent according to the 1960 Census of Housing. The major strength of the economy was the growth of Schilling AFB. These data are consistent with the large decline in population in the last half of 1962 caused by the transfer of construction and maintenance crews associated with the Atlas missiles. With this overview in mind let us proceed to the details of the situation.

Population

From March 1, 1960 to January 1, 1963, the Saline county population fell 988--from 46,459 to 45,471. The Salina population decline was smaller; the decrease was from 39,235 to 38,706 or a loss of 529. Two things are clear from these data: (1) with about 85 per cent of population, Salina is by far the most important part of the county, and (2) both Salina and the portion of Saline County outside Salina shared in the population decline. The population changes for Saline County were far from regular: in 1960 and in 1961 substantial growth was recorded; a large decline occurred in 1962;

there was a small gain in 1963; and a very large loss in 1964. It would be unreasonable to assume that all this 1964 decline occurred after the November 19th Announcement.

Employment

In I-61, the civilian workforce was approximately 19,000.[1] Of these, 1,000, or more than 5 per cent, were unemployed. Wholesale and retail trade employing about 4,000 was the largest employment category. Between 2,000 and 3,000 were employed in services, construction, and government. More than 1,000 were employed by two other major sectors--manufacturing and transportation, communication, and public utilities. Slightly more than half of the manufacturing employment was in the food and kindred products category. Finance, insurance and real estate and agriculture employed between 500 and 1,000 persons.

Between I-61 and IV-64 the civilian workforce in Saline County fell by over 1,200 or approximately 6.4 per cent; at the same time unemployment was almost cut in half. Consequently the unemployment rate was reduced at the end of the period to approximately 60 per cent of its I-61 level. During the four years total employment declined by approximately 800. The decline in the civilian workforce is a reflection of the decrease in population. Combined with the declining rate of unemployment, these trends indicate that Salina residents choose to leave the community rather than to remain unemployed.

Retail Sales

Retail sales activity for Saline County during the period 1960-64 displayed considerable variation. Four distinct

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1. Consistent employment data are available only since 1961. Throughout this report quarters are designated by Roman and Arabic numbers. Thus, the fourth quarter of 1964 becomes IV-64.

periods were evident: (1) from I-60 through II-62 retail sales increased in each quarter when sales are compared to sales in the same quarter a year earlier, (2) for the next four quarters, through II-63, declines occurred, and (3) from III-63 to IV-64, gains were recorded for each quarter and (4) in IV-64 a decline was evident. From 1960 to 1964 the increase was 13.2 per cent.

Utility Activity

The number of utility customers or utility sales provides a useful measure of population and housing characteristics of an area. Data are available on the number of water accounts in Salina and on natural gas and electricity sales in the area. The number of water accounts rose each quarter up to III-62, declined in II-63, and finally rose to III-64. From I-60 to IV-64 the net gain was 8.8 per cent.

With two exceptions, II-63 and III-64, electricity sales rose steadily each quarter when compared to the same quarter a year earlier (to allow for normal seasonal fluctuation in usage). This trend was observed for the three categories of electricity sales--commercial sales, residential sales, and total sales. Despite the exception to increased quarterly usage, the overall gain from 1960 to 1964 was 9.1 per cent. The yearly totals also increased regularly through 1964.

Natural gas sales were more erratic. Sales to both commercial and residential customers exhibit considerable quarterly variations. These variations were reflected in the total for quarterly usage: five quarters showed a decreased volume when compared with the same quarter a year earlier. Despite these several quarters of decline, gas sales showed persistent gains on a yearly basis.

The quarters which show a decline in the consumption of water, natural gas, or electricity (each of the three utility measures shows intermittent decreases) are from the same period when the most acute decline in population occurred. It can be assumed then that the decreased utility sales are a function of the increased housing vacancy rate which was caused by the flux in total population.

It should be noted that during the critical period from III-62 to IV-63 when a quarterly increase was shown, it was often a very slight increase--reflecting essentially an unchanged rate of usage.

Financial Conditions

Data are available for two measures of the financial condition of individuals and businesses of Saline County--bank deposits and bank debits. The total bank deposits of county banks rose by 53.4 per cent from June 15, 1960 to June 30, 1964. A large part of this gain occurred in the early part of the period.

Bank debits in each quarter after I-60 were greater than in the comparable quarter a year earlier up to II-64. The most rapid gains were made in 1961. The next two years showed declining percentage gains; the period ended with a 3.7 per cent decline in 1964. Nonetheless, a gain of 23.2 per cent occurred for the whole period.

Information regarding share accounts in Saline County savings and loan associations is only available since 1963; this information shows that share accounts rose 23.4 per cent from year-end 1963 to year-end 1964.

SECTORAL MEASURES

Employment

The different sections of the Salina economy experienced substantially different employment patterns during the preclosure years. Most of the 1960-64 loss in employment was caused by the very large decline in the construction industry associated with completion of work on area missile sites. A sizeable loss, however, was also registered in manufacturing. Small losses were recorded in agriculture and wholesale and retail trade while a rather large increase in employment occurred in services. Similar gains were also recorded in transportation, communication, and public utilities; government; and finance, insurance, and real estate.

By IV-64 manufacturing experienced a loss of 108 jobs from the I-61 level. An employment high was reached in III-61; then there was a decline that lasted until II-63. A second high was reached in II-64 while a major decline occurred in the last two quarters of 1964. Employment variations in food and kindred products employment contributed significantly to the fluctuation in total manufacturing employment. Although food and kindred products employment increased slightly during the period, this does not account for the decline in the total manufacturing employment.

Employment in contract construction declined in the period. After the high level of employment was reached in II-61 an irregular decline occurred through IV-64. While primarily a reflection of the completion of the missile sites, this trend was indicative of the tenor of other economic activity in the community.

As would be expected, the long-term trend of employment in the agricultural sector was one of decline. This decrease in agricultural employment, while it had an impact on the local economy, was a function of the nationwide trend toward larger and more capital-intensive farm operations rather than the result of economic conditions in the community.

Transportation, communication, and public utilities employment rose steadily from its I-61 level. Services employment also experienced a gain for the 1960-64 period. The large gains occurred in II-62, at which time employment hit a peak and remained constant until IV-62. Although the trend was reversed in I-63 and a decline was experienced, there was a net gain for the 1960-64 period. The gains in this sector are almost fully reflected in the growth of the medical and educational subsectors.

Employment in several sectors showed only small gains or were relatively stable: 1) wholesale and retail trade,

2) finance, insurance and real estate, and 3) government. The wholesale and retail trade sector of the Saline County economy was one of the most stable sectors--almost no employment change was recorded in this sector. An employment high was reached in III-62. Employment in finance, insurance, and real estate showed a small gain for the period; the most rapid gain was in the early part of the period. The peak was reached in II-62 followed by immediate decline in the last half of 1962. Relative stability characterized the latter half of the period.

A peak in the number of jobs in the government sector was recorded in I-64. Except for the general upward trend in employment in this sector, there was little variation over the period. This increase was equally divided between Base and other public employment.

In spite of recent efforts to lessen Salina's dependence upon the fortunes of local agriculture, the total agricultural situation is still very much a part of Salina. Agriculture has increasingly centered around larger business operations with fewer employees in proportion to land. Due to advances in technology there has been an increase in the value of field crops produced and a very sharp increase in the value of livestock and poultry produced. Like small farms, minor farm crops have faded from the picture entirely with the exception of the production of commercial seed which has increased sharply over the period and promises to become an important crop in the future.

Housing

As early as 1960, the weakness of the housing market was evident by the 5.7 per cent vacancy ratio (821 vacancies out of 14,304 available dwelling units). In addition over 1,000 new housing units, primarily single family residences had been built during the 1960-62 period when the Atlas Missile complex was being constructed. As a result, when the missile workers left the community in 1962, many houses came on to the market, creating a glut in the housing market.

Because houses could not be sold, a significant number of owners defaulted on their mortgages. Thus, FHA acquired 142 houses in IV-63 after a long period of few acquisitions. Although the rate of acquisition slowed in 1964, a total of 263 homes came into the possession of the FHA during that year. After the missile work was completed and the workers transferred, nearly a thousand units were left vacant. The majority of these dwellings were in subdivisions offering single-family units in the $9,000-$18,000 range. Most of them were in the immediate vicinity of the Base--the Indian Village subdivision.

Construction of new housing units, as revealed by building permits, showed considerable variation between 1960 and 1964. In the early part of the period up to 1962 the number of new housing units rose from 324 to 444. A severe decline occurred in 1963; this decline persisted through 1964 when only 108 housing units were authorized. In 1960 the value of building permits was $5 million; this rose to $7 million in 1962 but dropped sharply in 1963. The decline slowed in 1964 to total just over $3 million.

<u>The Public Sector</u>

The AFB had a large impact on the Salina school system. In 1961 approximately 3,000 Salina students were dependents of Schilling military personnel. About one-sixth of these students were enrolled in the elementary school located on the Base. The full cost of these students was not borne by Salina taxpayers as about $350,000 of Federal impact funds subsidized the school district.

Public expenditures and tax receipts increased fairly steadily in the 1960-64 period. Although several new public facilities were discussed, little real action had been taken to provide for their construction. Four major facilities were under consideration: 1) A civic center, to replace inadequate general city and county offices, had been in the discussion and planning stage before the Announcement; 2) A bond issue for an area vocational technical school which was scheduled to open in the fall of 1965 had already been approved by voters; 3) A public golf course had been recommended; 4) The Salina Community Inn of America, Inc. had been formed in 1962 in order to build a downtown motel and convention center. In addition to the four items involving new or expanded public facilities, Salina had completed a community planning study in 1964.

Base Activity

Base related activity in the 1960-64 period fluctuated. From 1959 until 1962 construction of the twelve Atlas missile sites outside Salina resulted in about 1,000 extra defense-related workers moving into the Salina area, particularly into the Indian Village housing subdivision, which was built primarily to accomodate these workers.

Total expenditures by the DOD for these sites amounted to $130 million during this 4-year period--$40 million for the actual construction and $90 million for supporting facilities and personnel costs. The quiet withdrawal of the construction workers and related personnel in 1962 led to a significant slowdown in Salina's economic activity. Most economic indicators reached peaks in II-62 and then began declining. Even the construction activity concerned with remodeling the runways at Schilling after 1962 did little to relieve the decline in contract construction and other economic activity that occurred in the 1962-64 period after completion of the missile sites.

Possibly because the missile cutback was accomplished without fanfare, Salina made no significant effort to replace these workers. As will be seen later, the loss of 1,000 unreplaced workers had a relatively greater impact on economic activity than did the complete closing of the entire Schilling facilities amid a blast of publicity. An enthusiastic reaction for a plan of positive action resulted from the excitement of the Base closure Announcement and the ensuing activity. These attitudes resulted in a concentration of the city's energy in attempts to find replacements for the economic activity lost by the Base closure.

The Economy After Announcement: 1964-67

IMMEDIATE IMPACT

The shocking news that Schilling AFB would be closed was released in Salina on November 19, 1964. The city fathers knew only minutes before news media released the news to the general public. Because elaborate praise had been given the recently modernized Base, no one but the highest DOD officials had any idea that Schilling would be included in the anticipated closure of bases throughout the country. From the mayor to the man on the street one thing was certain--the news was unbelievable and carried ominous overtones of a dim economic future for the city.

The civic and business leaders of Salina joined efforts to meet the crisis. Together they appointed a committee that would steer the city through the trying times during and following Base closure. This committee was the direct forerunner of the Schilling Development Council (SDC) that was to be so effective in guiding the city's recovery from Base closure and in mediating between the city and the federal government.

The citizens at large were not as calm and organized. Most were shocked by the Announcement and many had visions of an acute depression. Through foresightedness, or maybe sheer bravery, the city leaders were able to organize and inspire the populace enough to start a movement to substitute civilian activity for the rapidly departing AFB activities. This "fighting" attitude was enough to curb the depressed attitudes so that energies could be mobilized to take positive steps to minimize and possibly completely compensate for the economic effects of Base closure on the city. One thing was apparent: cooperation between the different factions of the City and the DOD was imperative.

Such cooperation proved to be forthcoming in significant proportions. Meetings of the city representatives were of an informal nature until the official appointment of the SDC which began actual negotiations with DOD representatives.

The DOD made it quite clear that it would be willing to aid the city's efforts toward recovery. The DOD was familiar with the many problems that typically confront a city upon closure of a military installation. Each city is unique, however, and Salina had to be approached with consideration of its own complexity of problems--many of which were peculiar to Salina.

As the situation unfolded, it became clear that Schilling would not be reactivated, and Salina was forced to make decisions about its future. The hope and optimism that had begun to grow were verbalized by Whitley Austin in an editorial in the Salina Journal entitled "Only a Civilian Future is Seen for Schilling--But That Future Could Be Exciting." It very soon became apparent to Salina that the real hope was in attracting permanent industry. Special emphasis was placed on attracting industry that could effectively re-use the existing Base facilities; in doing so, Salina became more attractive for industry in general and attracted significant non-Base industry.

No matter what industry was attracted and no matter how soon the industry decided to locate in the community, it could not move in fast enough to offset the immediate economic impact of Base closure. In an effort to secure some immediate offsetting activities, an attempt was made to find immediate substitutes through State government channels.

A number of State officials had attended the first public meeting with DOD officials in Salina (January 14, 1965). The concensus among State officials was that if the State were interested in making concessions to the City, it should be done immediately. The psychological impact of immediate State "aid" in form of some sort of institution would be as valuable as any tentative industrial plans to move into the area. Consequently, the Governor of Kansas made an informal offer of an already authorized medium-security prison which he was willing to assign to Salina.

Salina officials, however, unofficially rejected this offer. Salina, even at this low point, was not interested in becoming a "prison town." Similarly, the possibility of attracting a Job Corps center was rejected as not offering the type of replacement desired by the City. Although replacements had to be found, the citizens of Salina were concerned that the caliber of personnel attracted as replacements for the AFB be of at the least the "social acceptability" as the AF personnel.

Acceptable governmental replacements were found when the State Legislature authorized the Highway Patrol Training Center, the area Vo-Tech school, the technical institute, and the Vocational Rehabilitation Center (which was authorized through Federal as well as State procedures). Although the impact of these facilities could not be as great as that of Westinghouse or Beech, they were, nevertheless, among the first utilizations of Base facilities. In fact, the area Vo-Tech school opened in September of 1965 only three months after the final closing date of the Base. The Vo-Tech school personnel moving to Salina also had a favorable psychological impact on the housing market. Without the immediate action of the state authorities such as special legislation and meetings, this favorable offsetting impact would have been considerably delayed, since significant re-use and new non-Base activity did not really begin until 1966.

As discussed above, Salina had a surplus of living units left from the building boom during construction of the Atlas Missile Complex; as a result there was great concern about the likely effect of the Base closure on housing values.

The number of vacant living units had been at a constant, high level of six per cent since 1960 but suddenly advanced to nine per cent in 1964. The residential housing market was in a precarious situation. This situation would probably have reached a much higher level had it not been for the decision made by the Base Commander, Colonel Scanlan, (approved by the DOD only after local implementation had begun) to use the Capehart facilities to solve the problems of housing dependents of servicemen stationed in areas where their families were not allowed. (In the Schilling

Capehart utilization, many of the "waiting wives" were originally foreigners who had married U.S. servicemen and who had no families to whom they could return while their husbands were serving overseas.) The response to this decision was overwhelmingly positive. This utilization helped avoid a housing crisis.

There was no immediate impact on the schools since the loss of students due to Base closure was offset by the influx of military dependents moved into the Capehart housing. Thus school population in September 1965 was up in Salina as well as in Saline County. While the elementary school serving Base personnel was closed, a population explosion occurred in the other schools, sometimes at the rate of fifty students per day.

The reduction in the supply of labor represented by working dependents of Base personnel helped to soften the impact on the local workforce. Many of the military personnel and dependents were employed as civilian workers in Salina. A poll among businessmen indicated 1,100 such employees; 725 of whom were full-time employees. Employers estimated that at least 550 new workers would be needed eventually to fill these vancancies. This caused immediate concern to employers as employees left with the military. In the long run this loss of employed military dependents provided jobs for those out of work because of decreased business activity in some sectors of the economy.

More important than the loss of workers was the loss of particular skills. It was estimated that 60-80 per cent of the skilled tradesmen left the community during the first few months following the Base closure. Hospitals felt the effects of closure acutely as they lost 25 per cent of their registered nurses and nurses aides who were departing Air Force dependents. Likewise, the loss of teachers was felt by the school system.

With an ominous forecast of a loss of 32 per cent of income, 25 per cent of population, and 3,900 vacant dwellings, Salina was faced with a real crisis. Even though the military population had already decreased 15 per cent by January 1965, Salina acted to meet the problem. Though some of the immediate measures, such as stuffing monthly statements with brochures to attract industry to the Base facilities, were largely ineffective, they were, at least, indicative of the desire to make a successful recovery. Soon appeals to industry throughout the nation as well as the state were made with special emphasis on Salina's central location: "Salina--where North, South, East, and West meet," and upon the availability of the excellent facilities vacated at Schilling AFB. Salina's destiny was decided during those first crucial months.

ECONOMIC TRENDS: 1964-67

By six months after Announcement, indicators showed sharp declines in economic activity in almost all sectors. In most cases these indicators did not begin to reverse themselves until March and April of 1966, and did not reach their pre-Announcement level until mid or late 1967.

ECONOMIC PATTERNS

AGGREGATE MEASURES

Population

The population of Salina declined immediately following the Base closure from 41,293 in 1964 to 38,706 in 1965. Some recovery was reported in 1966. Considerable question has to be raised about the validity of the 1966 population estimate; there seems to be evidence that the reported estimate overstates the population relative to the estimates of other years. At any rate in 1967 the population had declined again. For Saline County, however, the earlier drop in population has been almost compensated by steady growth in the 1965-67 period. The 1964 Saline County population of 48,312 initially dropped to 45,471 in 1965, but by 1967 had risen to 48,228, almost completely replacing the original loss.

Employment

Between closure Announcement and IV-67 the civilian workforce in Saline County rose by 433--2.7 per cent. A reduction in the civilian workforce occurred throughout 1965; thereafter the workforce rose fairly regularly. During the period, total unemployment fell by 233 persons. This was a significant decrease in the unemployment rate.

The quarterly pattern of total employment, comparing each quarter with the same quarter a year earlier, showed a decline until III-66 and an increase thereafter. From IV-64 through IV-67 the number of employed persons rose by 667--3.9 per cent. A low point for total employment was reached in IV-65. Measured from that point, the increase in employment for the two-year period ending IV-67 was 10.2 per cent.

Retail Sales

As was described above, a decline in retail sales occurred in IV-64. This decline persisted through I-66 when retail sales were 7.9 per cent below the level that had been reached in I-64. An increase began in II-66 and continued through I-67. This one-year gain returned retail activity to 96 per cent of the I-64 level. A decline again began in II-67 and reversed itself immediately. Fourth quarter sales were down slightly from the same quarter in 1966.

Utility Activity

Public utilities sales dropped sharply in II-65 (with the exception of gas sales, which remained fairly constant) but immediately began recovery. By IV-67 all public utilities sales approached their pre-Announcement levels.

Financial Measures

The latest available data on bank deposits are for June 30, 1966. These data show that from June 30, 1964 to that time a gain of 5.1 per cent in the amount of total deposits of Saline County banks was registered. This gain is considerably below the gain in the two years earlier and much below the 1960-62 gain. If the increase had proceeded at the 1962-64 rate, bank deposits in Saline County would have been $6 million greater on June 30, 1966.

Share accounts in Saline County savings and loan associations fell between year-end 1964 and 1966. This loss was restricted primarily to 1966 when a decrease of 1.9 per cent was registered. The 1964-66 loss contrasts to a gain of 23.4 per cent in the two prior years.

SECTORAL MEASURES

Employment

In the period from Announcement through 1967, the employment pattern for Saline County began to change. Agricultural employment continued to decline while manufacturing, except for food and kindred products, made strong gains. Services continued to employ more Salinans; government and construction employed fewer. Trade and finance, insurance, and real estate remained relatively stable.

Agricultural employment in Saline County continued its steady decline. With one exception, employment in this sector was lower for every quarter than for the same quarter a year earlier. Average annual employment in the agricultural sector declined by 129 from 1964 to 1967, a decline of 14 per cent. This decline, as mentioned earlier, was caused by increasing productivity due to mechanization and technological change and in no way reflects an impact of the closing of Schilling.

Manufacturing employment in Saline County had been erratic in the 1960-64 period. Immediately after the closure Announcement, it dropped from its 1964 peak and fell throughout 1965. In early 1966, recovery began, and employment levels for each quarter of 1967 are higher than for any quarter through 1961. (Data are not available for earlier than I-61, but until 1967 the peak employment quarter in the manufacturing sector was III-61, with 2,050; employment in I-67--the lowest figure for 1967--was 2,075.) The average annual employment has grown by 454--20.3 per cent in the 1964-67 period. This compares with a loss of 123--6.4 per cent in 1961-64. For the 1961-67 period employment rose by 331--14.8 per cent. Employment in the Food and Kindred Products Manufacturing sector, however, has changed its erratic 1960-64 pattern of employment to one of steady decline. From 1964 to 1967, employment in each quarter has been lower than employment for the same quarter a year earlier. Average annual employment fell by 348 from 1964 to 1967--37.0 per cent. For the period 1961-67 the overall decline (remembering that there was a peak in IV-63) was 304--34.0 per cent.

Employment in Contract Construction, which had been declining since its 1961-62 high levels, continued to fall after the closure Announcement until mid-1965. The year 1966 was one of slight recovery, but employment in this sector fell again. It is obvious that the employment in the contract construction industry was more affected by and has recovered less from the completion of the missile sites than the closing of Schilling. Considering two "peak" years, 1962 and 1966, average annual employment in 1966 was 527, or 32.8 per cent, lower than in 1962. The 1964-67 changes show a decline of 119, or 9.7 per cent, while the over-all (1961-67) change was 867--a 40 per cent loss.

The wholesale and retail trade sector remained relatively stable. The immediate impact was undoubtedly due to the businesses which closed immediately after Announcement, thereby hoping to minimize their losses. Average annual employment in 1967 was up 213, or 4.9 per cent from the 1964 level. During the period 1961-67 there was a net increase of 142--3.2 per cent.

The Transportation, Communication and Public Utilities sector experienced almost no change from 1961-67; the average annual employment dropped by seven--only 0.5 per cent. The decline from 1964 to 1967 was hardly more significant--113 or 7.9 per cent. The pattern of employment is not regular. After 1964, the trend was generally downward, but some quarters showed gains over the same quarter a year earlier (I-65 and all but I-67). Since IV-61 and IV-67 data showed exactly the same number of employees in this sector (1,325), it is apparent that although recovery may have begun with the gains made in the last three quarters of 1967, it has only begun.

The number of employees in the Finance, Insurance, and Real Estate sector remained stable in the period immediately following the closure Announcement. A gradual decline began, however, in IV-65; by 1967 the decline had apparently subsided. The 1964-67 loss in employment was only 13 while the 1961-67 change was a decrease of only two. These changes were almost negligible. Significant, however, is the rapid loss of importance of this sector to the economy after the Base was closed.

Services employment, contrary to what was expected, has increased in the post-Announcement period. A very minor downturn in the first three quarters of 1966 did not negate the net gain in average annual employment of 267--5.6 per cent. This gain exceeded numerically the 1961-64 gain of 180 (six per cent) and gives a net gain for the overall period of 446--14.4 per cent. Significant to this gain is the fact that much of the Base re-use (schools and hospital which involved large numbers of people) has been oriented to heavy use of services, e.g., laundry, dry cleaning, and repair shops.

Government employment declined by 345 or 15.7 per cent between 1964 and the end of 1967. This loss more than offset the small gain during the 1961-64 period and gave a net change for the period 1961-67 of minus 269--a decline of 12.8 per cent.

Housing

The housing market in Salina was very weak before the Announcement. In addition, and of crucial importance, a significant portion of housing units in Salina were occupied by Base personnel. Finally there was a threat that the 735 Capehart units would be thrown onto the market. Transfer of the enlisted men resulted in the vacancy of many homes in the $9,000-$13,500 price range. One qualified observer has reported that "all in all, the serviceman-homeowner ordered from Schilling in the spring and summer of 1965 had a rough financial time." It is clear that DOD did not sufficiently protect the servicemen from the losses they suffered.

After closure, September 16, 1965, a vacancy rate of 21.3 per cent--3,321 out of 15,588 was recorded. Most of the vacancies were residential (2,578); significant numbers of apartments (743) and mobile homes (37), however, were also vacant. At one time an estimated 3,750 houses were vacant.

The buildup of dwelling units held by FHA began to reach sizeable proportions in March 1965, and by September 1, 1965 the FHA had acquired 719 properties. FHA foreclosures, however, reflect only a small portion of the total impact on housing. By October 1965, 2,200 standard units were vacant; 950 of them were for sale and 1,250 were for rent.

According to informed expert opinion the housing market showed some marked characteristics:

1. The value of housing priced at $15,000 and more remained quite stable;

2. A marked drop in the value of housing priced at less than $15,000;

3. The less than $15,000 houses in the vicinity of the Base declined most severely; and

4. Older houses experienced the greatest decline in value.

Among the factors influencing the market were: (1) A general up-grading of housing on the part of low to middle income Salina residents, and (2) very liberal credit terms employed by VA and FHA to dispose of the houses they foreclosed on has expanded the market for low-cost housing--people who would normally rent, now found it possible to buy.

Between September 1965 and February 1967 a sizeable portion of the surplus housing was eliminated. The number of vacancies fell by 1,066; as a result, the vacancy ratio fell from 21.3 per cent to 14.5 per cent. While the number of vacancies declined, the number of residential dwellings increased 3.7 per cent so that the occupied residential units reflect both an increase in dwelling units and a reduction in the number of vacant units. A 24 per cent decrease in the number of apartment units and a 26 per cent decrease in the number of vacant apartment units resulted in the vacancy rate for apartments remaining rather stable.

The Public Sector

The effects of closure began to be felt in the public sector, especially the public schools, by mid-1965. The closing of the Base elementary school caused hardships in the Salina public schools, especially the elementary schools, since other dependents began replacing Air Force children almost as soon as the Base school was closed.

The City of Salina continued its expansion of public projects in the 1965-67 period. The Urban Renewal arguments continued, with two projects having passed both the voters of Salina and the Federal bureaucratic maze. Building of new public facilities also continued--among these are the new library, City-County-School Board building, new Sheriff and Police Headquarters, and the Salina Municipal Golf Course.

Spending by the City of Salina rose, but not as much as would have been necessary had the financing for city projects not been partially provided by State and Federal funds. Although the first year's operation of the airport necessitated a three-mill property tax levy, the additional revenue-producing facilities and heavier traffic flows have since enabled the airport to become self-supporting.

Activity in the public sector increased during the period following the Announcement of closure. Besides the obvious effect on the construction industry, many of the benefits of this activity cannot be measured since they involve the "group spirit" of a community which united to offset a potentially great loss. The push to attract new industry was just as much a public sector activity as was the initiation of the numerous public building projects.

In summary, major portions of Salina industry suffered declines or slowdowns in the rate of growth from 1964 to 1966. Some industries that were almost unrelated to the Base, such as trucking, experienced strong growth which offset prior losses. In Base-related activities, such as hotels, motels, and auto repair shops, severe declines are observable. In other kinds of activities where a Base relationship might be expected, such as amusement and recreation services, almost no changes occurred. For those industries where a direct military relationship might be assumed (eating and drinking places and personal services) growth occurred.

Replacement of the Base in the Salina Economy

From a few months after closure of the Base was announced Salina has channeled most of its energies into efforts to attract new organizations--especially those which could utilize the facilities vacated by the military. In the three years that have passed since the Announcement of closure, Salina has been very successful in making substitutions that benefit the economy.

As a result of the City's efforts to accommodate Base re-use industry, some tax concessions were made. From a direct public treasury viewpoint this was not an unmixed blessing. On the tax side, regular State, County, school district, library, and recreation property tax lines apply. The City levy was set at $10.83 per $1,000 of assessed value (about 30 per cent of market value); this compares to a levy on other property of $30.31. For the next five years the rate will be $12.75 and $15.00 on these subsidized property. This reduction in taxes is less than the reduction offered to new industries in other Kansas cities; it does, however, constitute a subsidy to industry located at the Base.

The Base was divided into five "packages" to facilitate the disposition:

1. The "airport package," including municipal airport and supporting facilities.

2. The Area Vocational-Technical School in a five-building complex.

3. The Kansas State Institute of Technology with supporting facilities.

4. Medical or educational use of the Base Hospital and Community facilities area.

5. Sites and buildings for industry.

In addition to these five packages, there are two other important parts of the military facilities involved in the closure--the Atlas ICBM silos and Schilling Manor housing area. A discussion of the utilization of these properties and facilities follows.

The Announcement called for the closure of the Atlas missile sites which were positioned around the Salina area. These twelve sites were completed in 1962 at a total cost of $130 million. The Atlas System was phased-out with the bases. There sites were originally to be sold after being dismantled, however, demand for the sites was surprisingly slight. Nevertheless, the sites were dismantled and offered for sale. The dismantling involved a minor offset to closure since about 100 construction workers were employed in the process. By 1967, however, disposition of only three sites was complete. These were given to Kansas State University for education and research programs.

The Base proper has been entirely under civilian control since June 1967, with the exception of Schilling Manor which includes the Capehart housing units. The 735 Capehart housing units which make up the major part of Schilling Manor are located just off the Base. This area has been of considerable concern to those involved in the housing section of the Salina economy. For the present this matter has been disposed of to everyone's satisfaction. Essentially these housing units became a sub-post to Fort Riley, an Army post located 75 miles from Salina. As the 1st Infantry Division was being shipped to Viet Nam and a new training role was being assigned to Fort Riley, a different location for the families of the soldiers had to be found. The usual solution of having the dependents return to their homes was not suitable for the dependents of this Division.

In September 1965, even before the Air Force personnel had completely vacated the Capehart area, Army families began to arrive. By April 1966 the Army families occupied about one-third of the units and by the beginning of 1967 the Manor was nearly full (692 women and 3,500 children). Even though there may be little positive economic impact due to the location of the Army families, two positive effects are discernible (1) by counting the hundreds of people in Schilling Manor as residents (as had not been done in the past) the decline in population of Salina was not quite as severe as expected, and (2) a large number of dwelling units were kept off the market at a critical time. Even if, at some later time, the Army dependents leave, Salina will be better able to cope with the additional housing supply than it was in 1965.

Besides the re-use of the Base facilities, Salina has attracted much new business and industry. The present Schilling activities coupled with the new city businesses have substituted a new, stable economy based on permanent, commercial ventures for the more tenuous economic support the Base had given to the community in previous years.

NON-BASE INDUSTRIAL AND COMMERCIAL EXPANSION IN SALINA

Much new construction and expansion occurred in Salina during the period 1965-67. There was an increase in such activities after the Announcement of closure of Schilling AFB but only after Salina oriented itself toward a new life of industry. There has been a great influx of new industries into the Salina area (exclusive of Base re-use industries). A great deal of construction activity has been concentrated in eight major industrial expansions and the tax-supported City additions.

MAJOR INDUSTRY

Westinghouse

This industry was particularly crucial to the Salina recovery because it was the first large industry to locate after the Announcement of closure of the Base. In September 1965 Westinghouse announced the selection of Salina as the location for a large flourescent light tube plant. A 160-acre site quite close to the AFB was chosen for the 400,000 square foot, $4 million plant. Construction began in April 1966; the plant was dedicated in October 1967. One year after construction began, 25 employees began making test lamps. In October 1967 employment was over 100 and increasing. Advertising for employees, production operators, machinists, and maintenance mechanics began in early 1967 and continued to year end.

The location of the Westinghouse plant was heralded as a major accomplishment. It should be noted, however, that because of the high degree of automation involved, the employment impact of this firm is not sufficient to have a significant effect on the Salina labor market. Another peculiarity of the Westinghouse location was the particular site chosen. With a very large area potentially available on the Base--an area that had all the essential public utilities--Westinghouse selected a more isolated site that required the city to bear two-thirds of the cost of extending public utilities. This left attractive, improved Base facilities for other industry.

Graves Truck Lines

Graves is a multi-million dollar industry servicing

Kansas and the surrounding states. The new Salina facilities include offices and extensive warehouses that were built at a cost of $287,000. The warehouses have storage capacity for oil as well as dry goods and can handle up to 92 trucks at one time. Complete garage and servicing facilities are available so that mechanical repairs can be handled by the trucking line.

Wyatt Manufacturing Company

Wyatt has initiated construction of a plant with 101,000 square feet of working space and a gray iron foundry which has 25,000 square feet. Costs of the additions will be about $800,000. These facilities are part of one of Kansas' oldest industries which is still a leading producer of farm machinery.

Hercules Manufacturing Company

This is a new industry for Salina. Hercules planned its rennovation and occupation of the old Wyatt plant to take place in three phases; the last will be complete late in 1968 when all the available space will be utilized. At peak production the plant will employ 15 workers in the production of welders' chipping hammers.

Exline Inc.

An industrial chrome plating plant, Exline plans an expansion of the working facilities which will triple the present production space and double the working force. At peak production some 100 persons will be employed.

Roberts Manufacturing Inc.

Construction is to be completed on its $500,000 plant that will produce precision and commercial mounted ball-bearings. Employment, now about 100, will double with the new facility.

Applequist-Logerbery Manufacturing, Inc.

Under the same ownership as Roberts Manufacturing Company, a new plant was built in 1965 and provides 75,000 square feet of production space. As many as 55 employees are needed at peak production of precision tools and machinery.

Hy-Way Asphalt Products

This firm, new in 1965, began manufacturing emulsified asphalt as a road surfacing and maintenance material. By mid-1966 it employed six staff members and five truck drivers. Expansion has been steady since it opened.

CITY CONSTRUCTION

The optimism of Salina was characterized by the active construction program undertaken by the city itself. There are seven main projects which have been initiated since 1964.

City-County-School Board Center

A combined city-county-school board office building had been planned before the Announcement. A local bond issue and the first Salina Urban Renewal Program provided the financial resources for the Center. Construction began in April 1967 and will be completed in late 1969. This $2.4 million structure is the largest Salina has undertaken in the period since 1960.

Police Building

A city police building, costing $457,000, was begun in May 1966. This facility will house all police offices and the jail.

Post Office

The Salina Post Office doubled its size in 1967 by expanding into a building that had been occupied by a grocery store.

Library

A new structure will house the Salina Municipal Library. Construction should be completed by mid-1969. The building will be valued at $565,000 and is located in the heart of downtown Salina near the City-County-School Board Center.

High School

The bonds were approved for this $4.1 million facility in the spring of 1968. The structure will provide a second city high school and will be ready for occupancy by 1970.

Lakewood Park

A $140,000 park was purchased in 1967. The financing was one-half from a local bond issue and one-half from the Open Spaces program. This, coupled with the new construction, was characteristic of the efforts to beautify Salina as well as to help its economic condition.

Municipal Golf Course

A $260,000 golf course is being constructed by the conversion of the former Salina airport. Funds are provided jointly by the Federal Bureau of Outdoor Recreation, the City of Salina, and the State of Kansas. The course should be completed in 1968.

CONSTRUCTION BY PRIVATE SERVICE ORGANIZATIONS

Medical

Both St. John's and Asbury Hospitals have constructed additions of major importance to their present facilities. Both additions were finished by early 1968.

Educational

Kansas Wesleyan University sponsored much new construction. Financed jointly by Federal funds and contributions, a new science building was constructed at a cost of $1.5 million. The facility contains classroom and modern laboratory facilities. A 200-man dormitory was completed in 1967.

PRIVATE CONSTRUCTION AND EXPANSION

Kansas Power and Light Building

KP&L has purchased and razed four buildings on a downtown site for a regional and divisional office. Construction of a 36,000 square foot building is to begin in 1968. The facility will provide office space and a small auditorium which will seat 125 and will be available to civic groups and clubs free of charge. In addition KP&L is planning the expansion of their southwest substation at a cost of $150,000.

Statler Hilton Inn

Salina's long-talked-about Convention Center-Community Inn was completed in April 1968. It is hoped that the provision of adequate facilities will attract conventions from the Salina trade area which had formerly been held in Wichita or Topeka. Since 1962, 2,500 Salinans have invested cash in the $3 million enterprise, some as little as $100 and some as much as $10,000. By its grand opening date, the Statler Hilton had been contacted concerning conventions to be held as far in the future as late 1969. The facilities of the Inn include 150 rooms equipped with color TV, a self-contained restaurant, and a swimming pool.

Clubhouse for Salina Country Club

This $850,000 luxury facility will include swimming pool, snack bar, steam room and lockers, and sauna bath. In addition modern restaurant facilities will be available. Construction should be completed and the facilities in full use by mid-1968.

The previous discussion of construction and expansion which has been done during the post-Base-closure years has not included the small businesses which have opened during this period. These new businesses have been many and varied. Many have been located downtown. In addition, a number of new restaurants, motels, and service stations have located close to the new Interstate highways. The results of this building and expansion are also indicative of Salina's successful battle to recover its strength after closure of the military Base.

BASE UTILIZATION

NON-COMMERCIAL PUBLIC USES OF BASE FACILITIES

Salina Area Vocational-Technical School

The preliminary steps for this school were completed before the closure Announcement; a $750,000 bond issue had been passed to finance its construction. Instead of this construction, the school occupied the Base facilities and the bond issue was saved. In fact the Vo-Tech School was the first occupant of the Base facilities--September 15, 1965. The early enrollment was 119 high school students, 72 post-high school students, and 68 evening students; the staff numbered 14. A wide range of vocational and technical courses was offered to the 1967 enrollment of 188 post-high school full-time students and 138 juniors and seniors from ten area high schools. In 1966 there were 15 graduates and in 1967, there were 72. The financing of the school utilizes Federal, state and local tax funds as well as tuition and other receipts.

Kansas Highway Patrol Training Center

The Kansas Highway Patrol leased one building and adjoining facilities for a training center. The building contains dormitory, classroom, and firing range and is leased from the city. A ten-week course for new members of the State Police is offered. In December 1966 the first class of 40 was graduated.

Kansas Vocational Rehabilitation Center

The Base hospital was one of the prime facilities made available by the Base closure. The $3 million building constructed in 1958 was one of the few permanent structures on the Base. In total the Center has title to 12 buildings located on 43.2 acres. The value of the package was estimated to be $3,768,000 including some equipment which was declared surplus by the Air Force. The center opened in October 1966 with a staff of 28. In mid-1967 the staff numbered 35. In addition to an outpatient service the Center serves 60 resident clients.

Kansas State Institute of Technology (Formerly Schilling Institute)

This institute offers a two-year course of study in various technical fields and ranks between the vocational-technical schools and the engineering schools of the State universities. There is a physical capacity for 2,500 students; enrollment, however, has not been in line with capacity nor with expectations. The Institute opened with only 89 students in 1966. Since then the enrollment has doubled but still is much below what had been anticipated when the Institute was begun.

The Institute has title to 68 buildings of which no more than one-third are occupied. The value of the buildings and the accompanying 185.09-acre campus has been set at $2,149,000. The future of this Institute is in some doubt. Of all the public acquisitions on the Base this is the one that is in most difficulty and is most unstable.

BASE AIRPORT INDUSTRIAL PACKAGE

Airport Authority

The Airport Authority was created as a special unit of government to secure the facilities of the Base. Its primary mission is the maintenance and operation of a community airport. Since landing fees and other incidental revenues were not sufficient to support the airport, the Airport Authority was given additional facilities that would produce enough rental income to provide for the operation and maintenance of the airport. The facilities cannot be sold or removed without

FAA approval, and the revenue must be used, first of all, to support the airport. The transfer of the airport facilities required FAA approval; this was obtained in February 1966. The operation of the control tower and instrument landing equipment became a matter of concern. As an interim solution the County agreed to pay the cost of operation--$72,000 per year--and the FAA agreed to pay the cost when traffic at the airport justified the expenditure.

Two parcels were purchased by the Airport Authority. The first was the so-called Industrial Package--1,600 acres and about 40 buildings costing $690,000. Included in this purchase were 650 acres of the water storage reservoir, the gas and electricity distribution system, fuel storage facilities, an ordinance area, and five housing units. The gas and electric facilities were leased to Kansas Power and Light, the public utility corporation. The GSA set this price which reflects an investment of $2,139,000 in buildings and utilities and $169,000 in land. The other small purchase involved $39,000 for about 60 acres including a liquid oxygen plant and radio receiver. A bond issue provided the funds for the purchases. The free-of-charge transfer amounted to 1,927 acres.

The airport Authority thus came to own more than 3,600 acres and more than 200 structures. Included were the following: fire station; airport with control tower and instrument landing system; gas, electric, and water systems; and sewage disposal facilities.

Airport

The municipal airport was moved to the closed AFB in July 1966. Central Airlines and West-Central Airlines moved their passenger and freight terminal to the Base. The airport operator also engages in airplane sales and service and operates a flight school. Trans World Airlines uses the airport for takeoff and landing training for its pilots.

INDUSTRIAL USE OF BASE FACILITIES

At year-end 1967, 37 businesses had located at the Base, leasing their facilities from the Airport Authority. Some are relocations of firms that previously existed in Salina; some are expansions or relocations of firms previously located elsewhere; and some are new firms. Their operations range from storage to one-person offices to major manufacturing plants. In early January 1968, these 37 firms employed more than 1,200 persons--more than enough to compensate for the number of civilian jobs displaced by the Schilling closure. Because of the number of firms involved, only selected businesses are briefly discussed below.

Beech Aircraft Corporation

Beech announced its decision to locate at the Base in February 1966 and began operation in April. By June employment was 150; at year-end it was approaching 600; and by mid-1967 had stabilized at about 725. The operation began as a modification facility for a large aircraft. Activity has switched to include (1) the complete wing assembly for all aircraft manufactured in Wichita, (2) both propeller and rocket powered target missiles for the Army and Navy, and (3) bomb dispensers and containers. An announcement in November 1967 added a maintenance service program for a large Beech airliner and an additional contract, from the Army, will yield enough jobs to bring employment to over 1,000.

Craddock Uniforms, Inc.

This is an old concern which produces band uniforms that moved its operation from Kansas City, Missouri. Production began on a limited basis in June 1966 with about 50 employees. Employment rose gradually to total about 100 by the end of 1967. Management, sales and financial difficulties have plagued this concern since its location in Salina. At year-end 1967 its future looked uncertain. Financial aid was extended Craddock by the Small Business Administration assisted by local and State development corporations. (In the spring of 1968 Craddock's operations were taken over by another firm producing uniforms--Fruhauf Uniform Co. This transfer may make the future of the industry more secure.)

Creative Art Products

This firm moved to the Base from a prior location in Salina. Its operation is a warehouse and assembly for lamps and lighting fixtures.

Custom Metals, Inc.

An offshoot of a McPherson, Kansas firm which manufactures components for mobile homes, Custom Metals began with six employees and employed fifteen by mid-1967.

Funk Aircraft

This firm relocated from Broken Arrow, Oklahoma. Its product is agricultural spraying and dusting airplanes. Between one and two planes are produced per month.

Scientific Engineering

A new firm, Scientific Engineering manufactures furnace humidifiers and operates a job machine shop. The Schilling facilities are its first real home and it opened there with its first real contract--a DOD contract.

Tony's Inc.

Tony's uses a cold storage facility in its manufacture of frozen pizzas. This firm is rather large--$50,000 in equipment and an output of 1,000 pizzas per day. Tony's is due to begin another expansion program in the summer of 1968. This will be a $125,000 addition and will expand into another Base building. Eventual plans include completely relocating the Tony's Inc. facilities at the former Base.

SUMMARY OF ACTIVITY

Shortly after the Announcement of closure of the Base, the results of the reduction of the Base personnel began to become apparent. A few months after the Announcement, military personnel and dependents were leaving the city. Many houses stood vacant in Salina. Consequently, the use of public service utilities such as gas, electricity, water, and telephones began decreasing; this trend was reversed only after new industry entered the city several months later.

Employment showed a decrease as business demands were lessened and as employees who were associated with the military were transferred. Total employment rose above the pre-Announcement level in III-67. Recovery to the pre-Announcement level might be dated from that quarter. It must be remembered, however, the pre-Announcement period was characterized by declining employment. Therefore, if that same rate is projected, the recovery data might be set somewhat earlier (possibly as early as III-66). The total employment growth occurred in spite of a persistent decline in agricultural jobs.

The Base facilities have been completely converted to civilian control with the exception of Schilling Manor which has been retained by the military for the "waiting wives" project. This conversion was accomplished by June 1967. Besides the industries and organizations that have utilized the Base facilities, the many industries and businesses that have located in Salina have given the economy a boost that promises to keep the economic activity of Salina following an upward trend.

Before becoming overly optimistic about the transfer to civilian re-use, one should remember that two firms which have located on the Base, Beechcraft and Scientific Engineering, have Defense Department contracts largely responsible for their existence in Salina. While there is no evidence that DOD specifically placed these contracts to offset the closure of Schilling, the consequences of these contracts have been quite significant. For instance, it should be noted that Beechcraft is the largest single employer which has located in Salina since the closure Announcement. Thus, while the direct connection with the AFB no longer exists, the indirect connection, through DOD contracts with Salina firms, still ties a significant portion of Salina's economy to Defense activity--the war in Viet Nam.

Conclusions

The closing of Schilling AFB was probably a positive event for Salina in that the shock of the Announcement and the rapidity of the closure forced Salinans out of their complacent routines and into serious attempts to attract permanent industries. The relative ease with which Schilling was transferred from military to civilian hands reflects the cooperation between Salinans and DOD officials.

The tragedy that the closure was originally believed to portend has been anything but tragic. Nevertheless, a great deal of coordination was required to make such a transition smoothly. More important, any city which is given, almost free, facilities with the potential and value of the Schilling Base must accept the responsibility of deciding on how these facilities are to be utilized. While tax paying private industry might be the preferred replacement the most important objective adopted in Salina for the community offset activity was any re-use to attract payrolls and citizens to replace those who were removed by the Base closure. Thus the community leaders encouraged both public and private replacement activity. Although organizing the effort seemed a trial and error plan at first, the eventual definitions of re-use goals simplified the efforts involved in the transfer.

Salina has proved that a community need not be irrevocably dependent on the activities and payrolls associated with a large defense installation. Private industry can be attracted if a town is willing to accommodate it and, if necessary, to offer inducements such as tax concessions--the details of which is itself a separate story. Former civilian employees at the Base and business owners with close ties to Base activity may be temporarily displaced, but with a concerted community effort, their activities can be reintegrated into the civilian economy. In Salina's case the people attracted by the new businesses and the new schools has been great enough to largely compensate for the loss of the Base even for those businesses most directly injured by the closure.

A point which must be emphasized, however, is that although Salina has largely recovered from the Base closure, a major part of the replacement spending still comes from the DOD--indirectly, but certainly. Similarly, while the waiting wives helped avert a housing crisis in 1965, their impact must be viewed as temporary. Again, to some extent Salina is depending on Defense money. In essence, this amounts to phasing out one DOD activity and replacing it with others.

Besides the indirect DOD spending in Salina, much replacement has been State and local tax-supported institutions. As far as being spendable, government funds are as good as private enterprise payrolls. One must keep in mind that government projects are not self-regenerating. A city building is built once, and contract construction benefits. A missile site is built once, employs hundreds of construction workers, is completed, and the workers, with their attendant spending (and construction workers spend much more "locally" than do military people), move on. In other words, government spending often comes in a package too large to be easily assimilated. Something has to boom temporarily, and when the money is gone, the former boom industries must retrench.

Unless some replacement of a permanent nature begins to move in while increased government spending of a different form than that spending related to the base is softening the immediate impact, a delayed reaction may set in. This, in some measure, is what has happened to Salina. Much permanent replacement spending was acquired; however, much of the immediate impact was softened but not fully offset by government spending. Contract construction has still not recovered completely from the phase-out upon completion of the missile sites.

Although Salina could probably not hope to continue growing as it did in 1965-67 (industries such as Beechcraft and Westinghouse are not obtainable, and neither are appropriations for new State schools available), the late 1967 stabilizing has left some Salinans wondering whether their "stabilization" may not be a forerunner of "stagnation." Not all has been rosy in Salina. While much new business has entered the economy, some businesses have closed. It seems unlikely that Salina suffered a serious economic decline; it has much in its favor e.g. excellent airport facilities, easy accessibility by major highways, good rail connections, and much new public and private enterprise.

There are several conclusions which can be drawn from the study of this specific closure.

1. The rapid pattern of closure of the Base facilities seemed to be a positive factor in the City's recovery.

2. The closure Announcement came suddenly. The ensuing fanfare, excitement and panic seemed to unite the populace in recovery efforts.

3. The housing sector was a big problem area.

4. Important efforts to offset the economic impact of the Base closure included efforts toward obtaining new types of economic activity <u>throughout</u> the City. Non-Base industrial activity constituted a large part of Salina's offsetting activity.

5. Activity in both the private and public sectors acted as effective means to buoy the economy--especially during the months immediately after the closure Announcement.

6. Defense oriented activities provided significant offsetting activity. (The situation should be viewed with some reservations as the loss of these activities in the event of decreased Defense activity might lead to a second crises for the city.)

Finally, Salina has recovered from the impact of the Base closure. The City shows signs of optimism for continued growth. Whether Salina will rest now or continue to grow at the 196 -67 pace no longer depends upon the operations of the DO. or governmental endowments. The City's ability to survive and grow now depends upon its ability to compete. Any failure of Salina to progress cannot now be attributed to the Schilling Closure.

THE LOCAL IMPACT OF REDUCTION OF BASE ACTIVITY, BANGOR, MAINE

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Introduction

On November 19, 1964, the Defense Department announced Dow Air Force Base, Bangor, Maine would be closed June 30, 1968.

Dow Air Force Base is one of the largest single influences in the Bangor area and its loss will have many effects. The Bangor public school system estimates a loss of 1,400 students. Religious organizations and civic groups will lose members. Local merchants can expect a loss of business from both the Base itself and from military personnel and their dependents.

The purpose of this paper is to measure and evaluate the impact of the closing of Dow Air Force Base on the economy of the Bangor area. The Base has also brought social benefits to the community; but these are difficult to measure, so no attempt is made in this paper to investigate other than economic effects.

Data were collected for many Bangor business indicators on a quarterly basis from 1960 through 1967.[1] Data were obtained from Dow Air Force Base on payroll, total expenditures, and local expenditures, number of personnel, number of military dependents and housing status of the military

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1. The Bangor area is not a Standard Metropolitan Statistical Area; consequently the reader must bear with various inconsistencies in the data and no clear, consistent, and complete picture is ever available.

The Bangor Labor Market Area as defined by the Maine Employment Security Commission (MESC) is the primary geographic area used for analysis in this report; the Greater Bangor Area includes Bangor, Brewer, Old Town, Orono, and the smaller towns with a 20 mile radius (Eddington, Glenburn, Hampden, Hermon, Holden, Orrington, and Veazie).

personnel. The number of personnel at the Base declined somewhat after the Announcement but it was April 1968 before most of the personnel left, when the SAC wing was moved, and the Base was available for civilian use July 1968. Very little data about the impact of the closing are available at the time of writing.

The first section of this paper describes the Bangor economy and includes an identification and discussion of the major sources of export income. The second part discusses trends in the Bangor economy from 1960 to November 1964, the date of the closing Announcement. The third section discusses trends in the Bangor economy from the Announcement date to January 1, 1968 including the effects of (a) the Announcement

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Unfortunately estimates of unemployment and components of total work force are unavailable for this area until 1964 (with the exception of the census period of April 1960).

There are consistent data available for Penobscot County which includes the Bangor Labor Market Area. Penobscot County is quite large extending 100 miles north of Bangor and includes one major community, Millinocket, 85 miles from Bangor and therefore outside normal commuting range. However the Bangor Labor Market Area makes up 65 per cent of total employment in Penobscott County and therefore for many purposes data from Penobscot County can be used as indicators of the Bangor area.

<u>The Census of Maine Manufacturers</u>, published by the State's Department of Labor and Industry, presents data for the city of Bangor and for the Bangor economic area which is slightly larger than the Bangor Labor Market Area as defined by MESC. <u>The Federal Census of Business</u> presents data only for the major municipalities, that is Bangor, Brewer, Old Town and Orono and therefore excludes information for the smaller communities in the Bangor area. Retail sales, from the State Department of Taxation, are reported for the Bangor-Brewer area.

on the Bangor economy and (b) the decline in the size of the Base. The final section discusses the development efforts that arose because of the closing Announcement, some comments on the probable impact, and the usefulness of the efforts.

The Bangor Area Economy

The city of Bangor, where Dow Air Force Base is located, is economically integrated with the surrounding small communities. The integrated community, designated the Greater Bangor Area, includes the following major communities: Bangor, the largest city and the area's trading center; Brewer, a residential community; Orono, the home of the University of Maine; and Old Town, the area's manufacturing center. In 1960, Bangor had a population of 38,912 and the Greater Bangor Area had a population of 78,549. These figures included approximately 5,000 military and 7,000 dependents or a total of 12,000 persons there because of the Air Base. Total population in the four communities increased 20 per cent during 1950-60, a rate of growth about the same as the national average. Most of the growth, especially in Bangor and Brewer, can be attributed to the build-up at Dow Air Force Base.

The low rate of population growth may reflect a lack of in-migration to the area and the general out-migration from the State. Bangor's remote geographical location may have deterred industry from moving to the area. Transportation facilities have improved, and this barrier may have been overcome. Northeast Airlines serves the area with four to six flights daily between Boston and Bangor (depending upon the season). Private and business planes use Old Town Airport, giving businessmen access to plants scattered throughout the northern regions of Maine. The Bangor and Aroostook Railroad and the Maine Central Railroad supply the Greater Bangor Area as well as Northern Maine with an extensive railroad network for freight transportation including a direct connection with the excellent all-weather seaport at Searsport. Since the completion of

Interstate 95 from Bangor to Boston truck and automobile travel has improved.

During 1966 and 1967 employment in the Bangor Labor Market, on the annual average, ran close to 29,000. In 1967 sixty-eight per cent of the employment was in non-manufacturing and thirty-five per cent of non-manufacturing employment was in retail and wholesale trade. Within the manufacturing sector, which employs 22 per cent of the employed labor force, 40 per cent was employed by the leather and leather products industry. The paper industry, which has been employing a declining portion of the labor force in recent years, employed 22 per cent.

During the two years prior to the closing the unemployment rate remained low; an average 3.6 per cent during 1966 and 1.7 per cent during 1967. The closing of the Eastern Fine Paper and Pulp Mill in Brewer at the same time as the closing of Dow did increase the unemployed pool by 500-600 persons. The presence of an unemployed supply of skilled labor may help to attract a new firm to the community.

A recent extensive economic base study, utilizing input-output tables, described and analyzed the structure of the Bangor economy in 1963.[1]

The study identified the prime movers--the major sources of "export" income[2]--of the Bangor area economy in 1963 as higher education, paper, leather and textile manufacturing, wholesale and retail trade, and Dow Air Force Base, Table 1

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1. David H. Clark and John D. Coupe, The Bangor Area Economy Its Present and Future, A Report to the City of Bangor (Orono, Maine: University of Maine, March 1967).

2. The "prime movers" are those industries which sell goods and services outside the area, and therefore, bring

shows total transactions in 1963 for the Greater Bangor Area, and the per cent which were export, local and to Dow AFB.

Higher education is the single most important export industry in the Bangor area as well as being the major growth industry. The five institutions are the University of Maine in Orono, Husson College, the Bangor Theological Seminary, the Northern Conservatory of Music, and the Eastern Maine Vocational Technical Institute which opened in the fall of 1966 in Bangor. Combined student population is projected to reach over 10,500 by 1970 and combined employment is projected to be between 4,500 and 5,000 in 1970.

Paper, leather and leather products are the most important manufacturing industries with paper having the largest local impact. In 1963 the paper industry consisted of three firms in the Bangor Labor Market all producing for a national market; employment was close to 1,400. One firm producing pulp, fine writing and printing paper and bleached sulfite pulp, closed early in 1968 with total layoffs of about 750. The national market for pulp and paper is depressed, pressuring

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dollars into the area. There are other important sectors of the economy which are, in a sense, purely local, because for the most part they do not bring money in from outside. They are important, but their economic health depends upon the condition of the prime movers. Major improvements in the whole economy will happen when there is improvement in one or more of the prime movers, or when there is an additional prime mover (a "new industry") added. Any change in sales or employment in any of the prime mover industries will have an effect on the rest of the economy. The effect will vary, depending on which prime mover is involved, because of the differences in the characteristics of each, in terms of employment, payroll, and amounts of local purchases. These industries serve as a foundation for the economy and as a focal point for economic growth.

TABLE 1

TOTAL TRANSACTIONS, GREATER BANGOR AREA, 1963

	Per cent of Sales to			Total Sales
	Local firms & households including investment	Dow Field & its military & civilian personnel	Persons or firms outside "GBA" Export Sales	(In thousands of dollars)
Contract Construction	88.1	2.2	9.7	20,605
Manufacturing				
Textiles			100.0	11,384
Paper			100.0	30,386
Leather			100.0	21,885
Food and Kindred	62.4	8.9	28.7	11,869
Other	19.3	1.1	79.6	6,372
Transportation & Utilities	74.1	12.5	13.4	19,623
Wholesale & Retail Trade	41.5	3.2	55.3	238,283
Higher Education	9.6	0.3	90.1	17,101
Hospitals	69.8	2.6	27.6	3,867
Services & Finance	80.6	9.3	10.1	29,831
Other	90.0	0.4	9.6	140,133
Total				551,339

Source: David H. Clark and John D. Coupe, The Bangor Area Economy Its Present and Future, A Report to the City of Bangor (Orono, Maine, University of Maine, March 1967), pp. 7-8.

marginal firms to drop out of the market. This has made the outlook rather dim for the reopening of the mill; at the time of writing a local development corporation has been formed to purchase and operate the mill. The second firm produces bleached sulfite pulp. The third firm produces both pulp and paper products. In Penobscot County there are seven firms in the paper industry. They employed about 4,100 in 1963 and paid over $28 million in wages or over 26.4 per cent of total wages paid in the County to private covered employment.

The leather industry consists of about nine firms in the Bangor Labor Market which employed about 2,580 (1967). If the area is expanded to include all of Penobscot County, the number of firms in the leather industry grows to 15. Employment for the County in 1963 was close to 3,100 and wages paid were $12.6 million or 11.7 per cent of the total wages paid in the County to private covered employment.

The textile industry is a third major export manufacturing industry. Three large firms employ 720. One firm produces woolen cloth, another knitted sweaters, and the third reprocessed wool which is shipped to other Maine firms for further processing. In the expanded area including all of Penobscot County there are ten firms in the textile industry which employed 1,500 and paid over $5 million in wages in 1963 or 5 per cent of wages paid to private covered employees in the county.

Wholesale, retail and service firms are important sources of export income for the Bangor area since they sell a great deal to other than local markets. In addition to serving the Greater Bangor Area as a trading center, Bangor attracts customers from northern Maine and parts of Canada--New Brunswick, Quebec and Nova Scotia. The Bangor newspaper serves the expanded area publishing seven different editions for several local areas. Hospitals in Bangor serve the county as well as the Greater Bangor Area.

There was one major addition to the economic base of the Bangor area since 1963--the Sylvania plant. This wholly export firm plans expansion from the present 480 employees to 1,500 in the 1970's.

DOW AIR FORCE BASE IN THE ECONOMY

The other major source of export funds to the Bangor economy has been Dow Air Force Base. Estimates of total spending in the different sectors of the Bangor economy by military and civilian personnel and by the Base itself in 1963 are shown in Table 2. These estimates were computed from the total outlays for Dow AFB in fiscal 1964 and estimated expenditures by military personnel and their families based upon a study of spending patterns at Pease Air Force Base, another SAC base in Portsmouth, New Hampshire.[1] Close to $7.8 million was spent in fiscal 1964 in the Greater Bangor Area with housing, transportation and food ranking highest. The amount spent in the Greater Bangor Area equaled 42 per cent of the total military personnel spending.

The direct expenditures in each sector of the Bangor economy by the Base and its military and civilian personnel are shown in the first column of Table 2. Using input-output tables a calculation was made of the total effect of the Base after all indirect effects are worked through. The results in terms of sales and employment are shown in columns 2 and 3 of Table 2. The employment multiplier for the Base was 1.37, i.e. for every hundred civilian and military positions on the Base there were 37 jobs in the Greater Bangor Area. In contrast the employment multipliers for the other major export industries were as follows: paper, 1.86; leather 1.33; higher education, 1.47; wholesale and retail trade, 2.10.

In 1963 Dow accounted for about $8.9 million in personal income to the citizens of the Bangor area or about 7 per cent of total personal income. Dow also accounted for about

1. Lawrence E. Laben, Economic Impact of a Defense Installation Upon the Surrounding Communities, 1959. (Unpublished Master's Thesis, MIT, 1961).

TABLE 2

"BEST" ESTIMATE OF DOW AIR FORCE BASE EXPENDITURES AND THEIR IMPACT, GREATER BANGOR AREA, FISCAL YEAR 1964

	Estimated Direct Spending by DAFB & Personnel	Total Spending (both direct & indirect)	Employment Impact[1] (both direct & indirect)
Contract Construction	462,000	654,400	42
Food & Kindred	1,052,000	1,562,200	74
Lumber	--	1,500	--
Printing	71,000	386,500	29
Other Manufacturers	70,000	114,700	7
Transportation & Public Utilities	2,454,000	3,644,000	446
Wholesale	2,119,000	5,210,300	78
Retail	5,623,000	9,875,800	379
Higher Education	59,000	179,200	25
Hospitals	100,000	297,800	63
Services & Insurance	2,772,000	4,687,800	422
Local Government	603,000	1,518,700	261
Other Local	--	555,500	48
Local Household	--	8,918,800	--
Total			1,874

1. Assuming a direct relationship between sales and employment.

Source: Clark and Coupe, The Bangor Area Economy Its Present and Future, p. 16

1,500 to 1,900 jobs in the civilian economy, or about 5.5 per cent of total employment. At the same time, the Base contributed about 1,000 full-time workers to the labor force (working wives and moonlighting) which meant that the closing of Dow should have a net employment loss of 500 to 900 jobs, a little over 2 per cent of the labor force. On the basis of these figures the Economic Base Study predicted that "the main impact of the closing in 1968 will be felt by: food manufacturing, in particular dairy and bakery companies who have sold many fresh foods to Dow Field; transportation and utilities; and wholesale, retail, service, and finance establishments that sold a great deal to the Base or to individuals stationed at Dow. Local government impact will be the loss of funds for local schools and to some extent property taxes from military and civilian personnel who live in the city".[1]

"The general result is this: overall personal income in the area will fall an estimated $8.9 million or 7 per cent, as the result of the closing of Dow Field and unemployment would rise by about 2 per cent. There will be a significant impact on parts of the economy as particular firms will be hurt and many people will experience serious transfer problems. The lower level of income could affect local investment but, as we suggest elsewhere, this may be largely offset by growth in other parts of the economy. Overall it does not appear that the income or employment impact of the closing of Dow will be so large that it cannot be offset by reasonable growth in the rest of the economy".[2]

SUMMARY

To summarize this cross sectional view the Bangor economy is quite diversified when the size of the community is taken

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1. Clark and Coupe, op. cit., pp. 15-16.

2. Ibid., p. 16.

into consideration. The economy is dependent not on any one single industry but upon several. Part of the economy directly depends upon the condition of the national economy: leather, textiles, and to some extent paper, are industries highly responsive to national changes and one of these, paper, currently is in a slump. The Bangor economy also reacts to changes in the Maine economy particularly in northern and eastern Maine because of Bangor's status as a major trading center. The major growth industry is higher education. The final factor is the economic independence of most firms in the Bangor area. Apart from labor and necessary supplies and utilities most firms buy little that is produced locally. Direct effects of changes can be quite important, but the indirect impact of changes on the rest of the economy is relatively small.

DOW FIELD ACTIVITY 1960-1967

Most of the expansion in the total number of personnel at Dow Air Force Base had taken place prior to 1960 and the peak was reached in 1961. There was a decline of about 11 per cent between 1961 and 1962; a 4.4 per cent increase during 1962 and 1963 and a 15.4 per cent decrease between 1963 and 1964. During the year immediately following the closing Announcement the number of personnel sharply declined by 30 per cent. The 1966 figure remained the same as 1965 and the total number of military increased in 1967. The SAC wing left Bangor on April 25, 1968. A small contingent remained to close the Base.

Table 3 contains selected outlays and expenditures of Dow Air Force Base. Although the number of personnel decreased by more than 30 per cent after 1964, payroll remained about constant. The only expenditure with any substantial decline was real property maintenance, about half of which is spent in the local area.

Economic Trends for 1960-64

There was some economic growth in the Greater Bangor Area between 1960-64 and a significant improvement in the level of economic activity, but the changes bore little relationship to changes at the Base. Unemployment stood at 6.4 per cent in April 1960 and 4.9 per cent in September 1960, a year when manpower at the Base was about at its peak. The unemployment rate improved to 4.5 per cent in April 1964 and 3.4 per cent average for all of 1964,[1] although the Base declined in size from 5,300 in 1960 and 5,600 in 1961 to 4,400 in 1964.

EMPLOYMENT TRENDS

Between 1960 and 1964 total employment in the Greater Bangor Area increased from about 23,800 to 25,000. (See Table 4). One fourth of the increase represented a decrease in unemployment and the rest additional workers. Manufacturing increased by 100 workers, and government employment by 1,150. Within manufacturing, leather and leather products increased 620 while paper and allied products declined 150.

Overall employment and unemployment figures are not available for 1961, 1962 or 1963. Other indicators, such as covered employment and taxable sales, show that the improvement from 1960 to 1964 did not come from a steady growth in business activity. There was a significant downturn during this period and I-63 appears to have been the trough in business activity. Private covered employment in the Bangor Labor Market hit a low of 14,573 in I-63. Private covered employment for Penobscot County hit a low of 22,082 at the same time. Penobscot County wages for private covered employment did not follow this pattern exactly. Stagnation characterized wages during 1960, 1961, and 1962. In late 1962 and early 1963, an upward trend appeared. By 1964 wages had risen to $115.6 million, an increase of $11.2 million from 1960.

Manufacturing employment for the Bangor-Old Town area

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1. Unless otherwise indicated 1960 figures refer to U.S. Census of Population figures for the first week in April 1960. The 1964 figures are those published by Maine Employment Security Commission, "Work Force Components by Month and Annual Average, 1964."

TABLE 3

OUTLAYS AND EXPENDITURES, DOW AIR FORCE BASE
1964-67

	FY 1964	FY 1965	FY 1966	FY 1967
Military Pay & Allowances	$18,717,531	$19,366,326	$18,205,641	$21,352,993
Pay - Civil Service	2,324,404	2,323,473	2,391,557	2,714,415
Pay - Other Civilian	611,216	658,514	720,971	370,080
Utilities	1,034,601	1,029,940	979,091	990,488
Communication Services	277,672	255,346	237,323	219,605
Transportation	452,601	401,494	370,474	445,554
Real Property Maintenance	617,449	386,581	131,245	204,048
Equipment Maintenance	144,891	140,101	147,340	121,642
Public School Tuition	562,231	571,580	550,000	550,000
Other	2,632,609	2,996,244	2,595,079	1,937,431
Total	$27,375,205	$28,129,599	$26,328,721	$28,906,256

Source: Controller Dow Air Force Base.

ACDA/E-90

TABLE 4

WORK FORCE IN THE BANGOR LABOR MARKET
1960, 1964, and 1967

Item	September 1960	Annual Average 1964	Annual Average 1967
Work Force	28,800	29,300	29,900
Unemployment	1,400	1,000	500
Employment	27,400	28,300	29,400
Nonagricultural Wage and Salary	23,800	25,000	26,440
Manufacturing	6,000	6,100	6,470
Food and Kindred Products	640	580	610
Textile Mill Products	710	750	720
Paper and Allied Products	1,550	1,400	1,400
Leather and Leather Products	1,870	2,490	2,580
All Other Manufacturing	1,230	880	1,160

Source: Maine Employment Security Commission, Work Force Components by Month and Annual Average, Bangor Labor Market Area, 1960, 1964, and 1967.

TABLE 4 (Continued.)

Item	September 1960	Annual Average 1964	Annual Average 1967
Nonmanufacturing	17,800	18,900	19,970
Contract Construction	1,200	1,200	1,520
Transportation and Public Utilities	2,800	2,400	2,470
Wholesale and Retail Trade	6,700	6,450	6,910
Finance, Insurance, and Real Estate	1,000	1,000	1,020
Nondomestic Service and Misc. Nonmanufacturing	2,000	2,600	2,800
Government	4,100	5,250	5,250
All Other Nonagricultural	3,200	2,950	2,600
Agricultural	400	350	360

fell from a total of 5,544 in 1960 to 5,419 in 1961 but then began a slow rise passing the 1960 figure in 1963 and reaching 5,800 in 1964. Total wages paid in manufacturing rose from $21.4 million in 1960 to $26.1 million in 1964, a 21 per cent increase resulting from a 16 per cent increase in the average gross wage in manufacturing and the 5 per cent overall increase in total employment.

Within the manufacturing sector, the paper industry showed a relatively small but steady decline in employment. Production increased, but productivity rose more, so employment declined. The textile industry showed a highly fluctuating level of employment throughout this five year period with a net increase of 80 workers.

The largest change, an increase, took place in the leather industry where employment rose from 1,842 in 1960 to 2,352 in 1964.[1] Judging from wage and employment measurements for Penobscot County, leather is a growth industry. Between 1960 and 1964 leather expanded its wage share from 7-8 per cent of County total to 11½-12½ per cent and expanded employment from 9-10 per cent of total to close to 14 per cent. The food and kindred products sector of manufacturing showed considerable fluctuation through this five year period. Employment was about the same in 1964 as it was in 1960.

TAXABLE SALES

Taxable sales in the Bangor-Brewer economic area grew slowly between 1960 and 1964 from an annual average of $72.5 million in 1960 to $80.8 million in 1964, a growth of 11.4 per cent. The annual growth rates show the unsteady trend: 1960-61, 1.0 per cent; 1961-62, 3.1 per cent; 1962-63, -0.6 per cent; and 1963-64, 7.7 per cent. Two major components of taxable sales showed substantial increases between 1960

1. Source of individual figures for manufacturing is from the Department of Labor and Industry, Census of Maine Manufacturing.

and 1964. Motor vehicle dealers increased sales from $12.7 million in 1960 to $15.0 million in 1964, a growth of 18.1 per cent. Annual growth rates for this period for motor vehicle sales were as follows: 1960-61, -6.8 per cent; 1961-62, 5.7 per cent; 1962-63, 10.8 per cent; 1963-64, 7.9 per cent. Department store sales increased from $14.5 million in 1960 to $19.6 million in 1964, a growth of 35.1 per cent. Annual growth rates were: 1960-61, 14.0 per cent; 1961-62, 14.4 per cent; 1962-63, -8.6 per cent; 1963-64, 13.0 per cent.

REAL ESTATE MARKET

Property values declined between 1960 and 1964, after Capehart units at Dow AFB were opened in 1960 and 1963. The buildup of Dow had caused severe housing shortages with rising prices in the late 1950's. In general, property values declined from 1960 to 1964 for houses worth $10,000 or more. Property of lower priced and commercial property generally increased in price. A State field audit report of Bangor property value dated March 10, 1966, said the market on multi-dwelling apartment houses in Bangor was showing signs of definite softness. Bangor assessors and the local FHA people agreed with this judgment. The new Capehart project that was available for occupancy in late 1963 might have affected the new market for multi-dwelling apartment houses since many service families would probably have rented apartments rather than buy or rent single houses.

SUMMARY

To summarize, the trend of the Bangor economy at the time of the Announcement that Dow Air Force Base would close was one of rising employment and lowering unemployment caused primarily by rising employment in leather and in government. These changes had offset any effect of the leveling off and decline at Dow AFB. At the time of the Announcement unemployment had fallen to an estimated 3.4 per cent of the workforce. The decline in paper mill employment had leveled off and showed a slight increase in 1964 and the shoe industry continued to expand as employment increased almost 400 during 1964.

Economic Trends Since 1964

After the Announcement that Dow Air Force Base would be deactivated military manpower was reduced. Between 1964 and 1966 there was a net loss of 1,363. There are no signs that the Announcement or the reduction in military manpower had had any effect on the local economy.

TAXABLE SALES

Taxable sales in the Bangor-Brewer economic area have continued to grow. Taxable sales grew 11.4 per cent between 1964 and 1965, 9.7 per cent between 1965 and 1966 and 11.4 per cent between 1966 and 1967. There is no evidence of a relationship between taxable sales and the loss of manpower at the Base. One could argue that sales would have risen faster if Dow Air Force Base had not been reduced, but retail sales in Bangor-Brewer as a proportion of State retail sales had not changed during this period.

There are three reasons why retail sales are insensitive to changes in manpower at Dow Air Force Base.

(1) Although Dow Air Force Base was large (12,000) relative to Bangor's total population (39,000) the trading area of Bangor is much larger, perhaps as large as 150,000. Therefore total retail sales in the Bangor area which could be attributed to the Base were about 5 per cent in 1963.

(2) While manpower at the Base declined military wage payments did not--total outlays remained constant. Consequently military spending in absolute terms may have remained about constant.

(3) Bangor area employment in the prime movers which are independent of the Base (textile, leather, paper and government) remained constant between 1964-67 as shown in Table 4. Wage and employment data for Penobscot County show an overall

growth pattern for the prime movers during this period.

EMPLOYMENT TRENDS

In terms of employment and wages, the textile industry showed very strong growth. Employment expanded 8.2 per cent between 1964 and 1965 and 8.1 per cent between 1965 and 1966. Wages grew at a much higher rate: 1964-65, 15.7 per cent and 1965-66, 13.3 per cent. Leather followed its previous growth pattern. Employment grew 10.4 per cent between 1964 and 1965 and 4.0 per cent between 1965 and 1966. Again wages showed a stronger rise: 1964-65, 15.5 per cent and 1965-66, 8.9 per cent.

The paper industry declined in overall employment but wages increased slightly. Employment grew 1.4 per cent between 1964 and 1965 but dropped 2.2 per cent between 1965 and 1966. Wages in the paper industry expanded 3.0 per cent between 1964 and 1965 and 0.5 per cent between 1965 and 1966. Wholesale and retail trade, both of which are connected with Dow, showed growth since 1964 although the growth in wholesale trade was weak. Employment grew 1.5 per cent between 1964 and 1965 but contracted 1.3 per cent from 1965 and 1966, resulting in no real change in the employment level between 1964 and 1966. Wages paid did expand by 6.1 per cent between 1964 and 1965 and 4.2 per cent between 1965 and 1966. Retail trade made greater advances. Employment grew 3.2 per cent between 1964 and 1965 and 5.4 per cent between 1965 and 1966. Wages increased 8.0 per cent between 1964 and 1965 and between 1965 and 1966. There is no evidence that the sluggishness in wholesale trade is connected with the reduction at Dow. The Bangor Economic Base Study showed that the transactions done with Dow constituted only 1.7 per cent of total transactions carried out in wholesale trade.

In addition to the growth of the prime movers, new industry moved to the area thus providing new employment opportunities. Sylvania opened a plant in Bangor to assemble integrated circuits. Employment is planned to be 1,300, but was about 490 in early 1968. A new chlorine plant in Orrington employs about 40 people. It is a heavy user of electricity which may substitute for some revenue lost to the utility industry by the closing of Dow.

The growth in overall earnings can be seen by examining total employment data for Penobscot County. Penobscot County employment continued to rise after the Announcement. Growth was 3.4 per cent in 1964-65 and 4.8 per cent in 1965-66. First quarter 1967 showed a 5.3 per cent increase over I-66.

Wages paid in Penobscot County increased 6.5 per cent between 1964 and 1965 and 8.0 per cent between 1965 and 1966. This set the County total wage bill for private covered employment at $133.0 million as opposed to $115.6 million in 1964 and $104.4 million in 1960. Wages paid in I-67 are 10.3 per cent higher than I-66.

Therefore, if the decline of Dow Air Force Base from 4,414 men in 1964 to about 3,000 in 1965, 1966, and 1967 had any effect on the Bangor economy, it was lost in the economic expansion that was taking place. There was no indication of any effect in the overall economic indicators of employment, unemployment or total (taxable) retail sales.

EFFECTS ON INDIVIDUAL SECTORS

Tables 3 and 4 show that Dow Air Force Base transactions are spread through the economy. An attempt was made to measure the effects of the changes in manpower at Dow on the economy and on individual sectors. The study of spending patterns at Pease Air Force Base already referred to (see footnote 2,) pointed out that these sectors of the economy were most affected by the base: 1) automotive dealers; 2) gasoline service stations; 3) furniture stores, and 4) drug and proprietary stores. Since comparable data for the Bangor area are available for some of the sectors, they were analyzed to determine if a relationship existed between the changes at Dow and the changes in the sectors.

AUTOMOBILE SALES AND SERVICES

The study of Pease Air Force Base designated automobile sales and gasoline service station revenues as highly responsive to the great influx of military personnel. Growth from 1954 to 1958 in the Portsmounth-Dover economy in these sectors greatly exceeded the growth of these sectors for the State (New Hampshire) and for New England. A crude estimate of expenditures by Dow military personnel for FY1964 and FY1967 shows the expenditures for automobiles and allied services equaled 7.5 per cent of sales in the local economy. The expenditure estimate is based upon the pattern developed in the Pease study and may overstate the effect in the Bangor Brewer economic area, as a study of statistics in this area will indicate.

In terms of employment for these sectors in the Penobscot County economy, no relationship between Dow manpower growth and employment in automobile repair, automobile services and garages seems to exist. Dow buildup came between 1959 and 1961, the time of its peak manpower. Between 1961 and 1963 no great net change occurred. Since 1963 Dow manpower has declined. Overall employment in automobile repair, services, and garages grew during the 1960's unsteadily with most of the growth between 1961 and 1963. Annual data from 1960 shows no correlation between the rate of change in military manpower and the rate of change in employment in automobile repair services and garages. County wages for the sector showed no correlation with military manpower although wages for automobile repair, services and garages increased between 1960 and 1966 with a peak in 1963 and a subsequent decline. Service station and garage sales ran close to 5.2 per cent of Maine sales during the early 1960's. A slight increase is visible throughout 1963 when sales in the Bangor-Brewer economic area for this sector ran up to 6.0 per cent of the State total. This was followed by a drop back to the early 1960's mark. The temporary increase may have been due to Dow but the gain is scarcely noticeable.

Although the Pease Study also found automobile sales to be greatly inflated with the growth of Pease Air Force Base, sales by motor vehicle dealers in the Bangor-Brewer area were not affected in this manner by Dow Air Force Base. A look at sales in this sector shows a definite upward trend since 1961, but not a growth pattern significantly different from that of the State. Relative to the State of Maine, motor vehicle dealers in the Bangor-Brewer economic area maintained their position--accounting for 10.5 per cent of the State sales over the entire period, 1960-66. Employment in automotive dealers and gasoline service stations in Penobscot County did not differ from the overall trend of total employment, i.e., a decrease from 1960 to 1963 followed by an increase from 1963 to 1967. Wages in the automotive dealers and gasoline service stations sector paralleled the movement of employment in the sector, i.e., an increase developed from 1963 onward. Relative growth in wages surpassed growth in employment by a rate three times as large.

From this rough comparison, it may be concluded that Dow has had no material effect on the growth of sales in the automotive sector of Bangor-Brewer economic area whereas this sector was substantially affected in the Portsmouth, New Hampshire economy by Pease Air Force Base.

FURNITURE AND APPLIANCES

The Pease study designates the furniture sales sector as another area which was greatly influenced by the tremendous buildup at Pease Air Force Base. Growth in the Portsmouth-Dover area exceeded that for the State and for New England, but again this sector does not seem to have been affected in the Bangor-Brewer economic area by Dow. Although furniture and appliance sales do not constitute a major portion of sales in Bangor-Brewer, it has been more than $5 million per annum. A slight upward trend is noticeable since the beginning of 1963. The amount of growth in this sector for Bangor-Brewer economic area since 1963 equaled 35 per cent, comparable to the State wide growth. During this period, manpower at Dow declined. Whereas the Pease study indicated a relationship between an increase in sales and an increase in the size of the base, no such relationship shows here.

It may be argued that Bangor-Brewer growth would have been higher had Dow manpower not contracted, but there is no evidence to support the argument. Between 1960 and 1963 when an increase occurred in the number of personnel at Dow, furniture and appliance sales declined in the Bangor-Brewer economic area by approximately $200 thousand or 4 per cent. Employment in furniture sales is low relative to total employment in Penobscot County, but the rate of growth in employment for the sector ran about twice as high as the rate of growth for employment in the County. There is no indication that Dow caused the great growth in employment in furniture sales, but expectations of growth in sales may have been high due to the influx of military personnel.

FOOD AND BEVERAGES

A substantial portion of Dow spending goes for food and beverages. In FY1967, about $2.5 million passed into the Greater Bangor Area to buy food and beverages. Dow spends close to $1.3 million in the local economy for groceries and beverages to stock the commissary, Base exchange and clubs. Most of the groceries bought locally consist of produce, milk, ice cream, bread and other perishables and beer. The Pease study expenditure pattern would indicate another $1.3 million is spent in the Greater Bangor Area by military personnel even though the major expenditure for food is at the commissary. No estimates are available of the amount spent for food in Greater Bangor Area.

UTILITIES

The major utilities in the area, (Bangor Water District, Brewer Water District, Bangor Hydro-Electric, and New England Telephone & Telegraph) grew in terms of net new utility customers during the 1960's. It is difficult to determine the extent of the effect of Dow on utility sales. Utility expenditures, including electricity, fuel oil, water and telephone amount to over $1 million by Dow Air Force Base in the local economy. More than $500,000 of this amount goes for electricity. Close to $400,000 buys fuel oil for heating purposes. The New England Telephone and Telegraph sales to Dow have declined substantially from $288,000 in FY1964 to $104,000 in FY1967. Over 1,000 military families lived off Base in FY1967, all of whom required the above utilities but no estimate is available of the total amount.

HOUSING

Bangor was faced with a housing shortage in the late fifties. The buildup at the Base accentuated the problem but it was partially alleviated by the opening of Capehart housing for servicemen in 1960 and 1963. Expenditures in the Greater Bangor Area for housing run to a substantial amount annually ranging from $2.5 million to $3.0 million for military families. The loss of this expenditure is bound to affect the housing market in Bangor although it is difficult to predict the amount. In an attempt to explain variations in the values in the Bangor real estate market, regressions were run utilizing the change in property value as the dependent variable and several independent variables. (They were taxes, unemployment, Base size, government expenditures, and several dummies indicating the opening of Capehart and the closing Announcement.) No direct relationship appeared between the size of Dow and the fluctuations in the real estate market. It had been expected that the rapid military manpower buildup and the subsequent decline in manpower would have had a strong influence on the market. The lack of influence may have been because military personnel operated in the lease market rather than the buy market, as they waited for government housing which opened in 1960 and 1963. Using the sales ratio (assessed value ÷ sale price) as an indication of demand for housing, it may be concluded that demand lessened from 1960 to 1965 in all price categories. During this period the sales ratio increased or the sales price approached the assessed value, which indicates a softening in the market. The Census of Housing vacancy study in 1960 showed a homeowner vacancy rate of 1.9 per cent, and a rental vacancy rate of 6.0 per cent in Bangor. Although care must be taken in comparing the rates, the Post Office vacancy survey taken in 1967 shows somewhat different figures. In the February 25-March 1, 1967 survey, the residence vacancy rate was 2.2 per cent and the apartment vacancy rate was 16.0 per cent. The October 23-26, 1967 survey shows a residence vacancy rate of 1.9 per cent and an apartment vacancy rate of 10.4 per cent.

The Federal Housing Administration analyzed the Greater Bangor Area Housing Market utilizing data for March 1, 1967. At the time of the study, the area included 24,750 units which gave a net increase of 1,525 units since April 1960. About 9 per cent of these units were vacant at the time of the survey. A postal vacancy survey during February 25 to March 1, 1967 of 19,750 possible deliveries indicated a vacancy ratio of 3.8 per cent. The vacancy ratio for residences was 1.9 per cent and for apartment units, 13.2 per cent. The rental vacancies were concentrated in the central business district of Brewer and in a semi-circle on the fringe of the central business district of Bangor. These units are primarily dilapidated or deteriorating and were in use due to the buildup of Dow Air Force Base and thus were the first affected by the curtailment of military strength.

A total of 19,450 units were enumerated in a segment of the Bangor Housing Market, which covers Bangor, Brewer, Old Town and the incorporated portion of Orono. Approximately 56 per cent of these are single units including trailers. A distribution of the units classified according to the year of construction shows that 71 per cent were built prior to 1940. An estimated 15 per cent of the units in this segment of the housing market were substandard based upon a dilapidated condition or lack of some or all plumbing facilities.

Between 1960 and March 1967, the housing starts included about 1,750 units with building permits recorded and 100 units with no building permits. Included in these figures are 480 units of Capehart housing. There has been a clear downward trend in housing starts since 1960. The high was 260 in 1961 and a consistent decline followed to 111 units in 1966. At the time of the study, there were about 25 units under construction.

The Federal Housing Administration concluded that the sales market was sluggish in March 1967 and had been since 1960. The greatest weakness occurred in Bangor and in the older sections of Brewer. The same phenomenon occurred in the rental market although the vacant apartment units are substandard and undesirable. The availability of vacant rental units with modern facilities is practically nonexistent. Unless some unforeseen growth occurs in the population, the vacant rental units will not be marketable. It is expected that the availability of Capehart plus other standard quality units which will be vacated due to the closure of Dow (approximately 750 units), will be sufficient to meet the demand. Although some demand for new housing may develop, construction is not recommended.

The above estimate of expenditures for housing by military personnel ($2.5 to $3.0 million) includes rent, mortgage payments, utility costs, property taxes, home furnishings and equipment. There is no reasonable way to isolate the individual costs from the housing figure. Therefore the total lost incurred will be substantial, although the effect upon any one sector will be minimal. Again, a further cushioning can be expected by the attraction of new people to the reuse facilities of Dow.

LOCAL GOVERNMENT

Education is the largest single item in the budget of the city of Bangor. In 1960, expenditures for public education amounted to slightly over $2 million which was equivalent to a $313 per pupil expenditure. By 1966, expenditures equaled $3.7 million or $506 per pupil. During the period several new school buildings were constructed including a modern high school equipped for 1,500 students. Total enrollment in the high school for 1967 was just over 1,300. Enrollment for the entire school system came to 7,598. Of this, an estimated 1,400 students will leave the system due to the closure of the Base in June 1968. (This is 18 per cent of the 1967 school population.) Base school facilities include 2 elementary schools and 1 junior high school with a total employment of 58 teachers. It is anticipated that natural turnover will assimilate these 58 teachers into the remaining schools.

Besides the loss of students, the area will also lose federal aid to education of an estimated $592,234 in 1966.

This was 16 per cent of total expenditures in the Bangor public schools in 1966.

The City has continued to expand its expenditures in other areas as well. In the field of recreation the City opened a new swimming pool and a new golf course in 1964. The City supports Bangor City Hospital, which will expand its facilities once the Base closes through the acquisition of the Base hospital. Urban renewal, made possible through federal funds, is another area of great activity in Bangor. Downtown parking facilities have been greatly improved by the demolition of old buildings and conversion of land space into parking areas.

SUMMARY

Neither the Announcement of the closing of Dow AFB nor the small decline in military manpower has had discernible effect upon the Bangor economy. The Base does not seem to be closely tied to the level of economic activity. Many of the economic indicators for the area have run counter to the changes in the size of the Base, in terms of military manpower. This is more prominent in the years that military manpower declined, while taxable sales increased, motor vehicle sales increased, wages in Penobscot Company increased, and employment in Penobscot Company increased. The real estate market seemed to be unaffected by movements at the Base. A regression was run to investigate the relationship of the size of Dow, the opening of Capehart and the closing Announcement to changes in the real estate market. The results showed no effect upon the changes in real estate values by any of the Base variables.

Re-use of Dow Air Force Base

Although it may be difficult to find any effect of the closing Announcement on Bangor's economic indicators it is not difficult to find the effects of the Announcement on development and planning efforts. Immediately following the Announcement of the deactivation of Dow AFB, the city manager of Bangor appointed a four-man task force consisting of the Dow Reuse Coordinator, the Director of Personnel, the Director of Economic Development and the Director of Planning. The Task Force's job was to investigate the facts of the closing and to identify problem areas. From the data gathered, the Task Force designated four areas of concern to Bangor in connection with possible Base re-use: 1) education and institutional; 2) airport; 3) housing; and 4) industrial/commercial.

The Task Force appointed an Executive Reuse Committee to study the re-use areas. This committee uncluded business leaders in Bangor and two representatives from Brewer. The committee acted as a forum for the discussion of ideas and actions of the staff--acceptance or rejection of proposals occurred at this level. An area reuse committee was formed to be the liaison between Bangor and the surrounding communities. This committee was asked for suggestions and did some groundwork on particular problems. The small communities in the area showed little interest.

The primary objective of the reuse committee and the staff was to institute a plan to convert Dow AFB into a workable civilian enterprise with optimum benefit to the community. In the process of constructing the plan, these needs of Bangor were considered:

1. the need to diversify and upgrade the industrial structure
2. the need to expand the tax base
3. the need to develop an integrated transportation system
4. the need to provide improved public housing
5. the need to provide improved hospital facilities.

One problem of the City and the Re-use Committee was that time and personnel were lacking to accomplish work such as the inventorying and preparation of save lists needed before the Base could be transferred to the City. Other problems developed because of non-cooperation on the part of several Federal agencies. Disputes were smoothed over via the Office of Economic Adjustment, DOD. Among other things the office acted as a coordinator of high level decisions of the various government agencies such as GSA, FAA and HEW involved in the change from military to civilian use. The

Dow Reuse Coordinator says that the work of the Office of Economic Adjustment was invaluable.

AIRPORT AND INDUSTRIAL PROPERTY

The city of Bangor will acquire an airport with an 11,440 foot runway and the modern navigational system capable of handling the largest jet aircraft. As part of the airport complex there are 650,000 square feet of revenue-producing space for industrial and aviation use. The City will acquire the property at no cost with the provision that all revenues from the airport complex must go to maintain the airport.

The surrounding communities had been contacted about helping to support the airport but they showed little interest. Consequently the City has decided to operate it as a municipal airport using regular city funds in anticipation of revenues from the airport making the new department self-sustaining. There will be partial support from the Air National Guard now located at the field and the Air Defense Command. The Air Defense Command plans to maintain a dispersal unit consisting of fighter aircrafts and about 150 military personnel. In addition an Army National Guard unit plans to move from Augusta to Bangor bringing in 15 light aircraft.

The Economic Director and Reuse Coordinator for the city of Bangor has been active in contacting new industries to locate at Dow AFB. Efforts have been made along two general lines: one to attract those companies which will utilize the excellent airport facilities and the other to attract those industries which will utilize the available real estate.

Several types of airport uses were studied. The study of an air-oriented foreign trade zone resulted in the conclusion that this was not suitable for the Bangor area. But in the process of the study some 200 to 300 air-oriented firms were contacted, and as a result the availability of Dow was well advertised.

Several airlines were contacted to use the airport as an alternate landing port, a cargo depot, a flight training school or other purposes depending upon the needs of the airline. Bangor airport should be an attractive field for use as an alternate landing port and as a flight training school because air traffic is minimal and the surrounding area is sparsely settled relative to the locations of other airports with comparable landing facilities. Airlines did object to using the airport as a cargo depot primarily because land transportation costs in and out of Bangor are rather expensive.

Several plans for utilization of the airport have materialized from the efforts of the Reuse Coordinator. An airport manager and a fixed base general aviation operator have been obtained. TransEast Airlines moved in as the fixed Base operator on July 1 which was the official transfer date of the airport to civilian use. TransEast has begun service between Bangor and New York and has plans for service between Bangor and Portland and Bangor and Presque Isle. TransEast will service private planes which take off and land and will offer private flying lessons some time in the future. Northeast Airlines has plans to expand service to the Bangor airport to begin night cargo service. Northeast has also decided to develop a small air crew training center at the Bangor airport. Other plans include the erection of a large modern terminal building and the acquisition of a hangar for use as a test center and aircraft maintenance.

Alitalia has agreed to use the Base as an alternate landing airport. This led to the designation of Bangor airport as a port of entry and an international airport; further efforts are being pursued to obtain other airlines to use the Bangor airport as an alternate. At present there are insufficient customs and other service personnel which could slow these developments. A goal has been set to develop Bangor as a transfer point for passengers and cargo to proceed either north-south or east-west. Presently, access is only in the north-south direction via rail and highways, and south via air. An east-west interstate highway system and an east-west air route would greatly enhance Bangor's geographical position.

The development of the industrial complex is progressing at a slow rate. The major reason for the slow pace is the desire to obtain the "best users" for the available facilities. In the case of Bangor, since a full-employment situation has existed for the past few years (with the present exception of the unemployed from the Eastern Fine Paper & Pulp Mills), the development aim is to obtain an industry which will demand a labor supply with a more sophisticated level of training than the existing labor demands of the area. This would accomplish two objectives. First, it would open an opportunity for the existing labor force to upgrade its job position and pay level, and second, a highly skilled labor pool could be attracted to the area which would bring growth to Bangor. Attempts are underway to attract an aerospace industry to utilize the large hangers which will be available but are not easily adaptable to other industries.

Several problems have arisen in contacting and attracting new business. The usual problem of whom to contact in a company cropped up. There are also problems which are unique to Bangor. Several of the companies responded that the size of the population and labor supply were insufficient to support anticipated growth in the industry. Added to this is the fact that there seemed to be no pool of unemployed labor from which to pull the initial work force. An argument was put forth by the development people that a condition of underemployment exists in Bangor and that an advertisement of "better jobs" would pull labor from lesser jobs. At this time, no companies have been convinced, but the closing of the Eastern Fine Paper & Pulp Mills in Brewer and Lincoln releases some 1,200 employees (wage & salary) which somewhat changes the ready supply of labor. Another major problem which arose in attracting new industry was the image of Bangor Maine relative to its geographical location, climate, and transportation system. As air transportation improves the geographical location will become immaterial. The completion of Interstate 95 opened the opportunity for the area to improve land traffic. The Development Director expresses optimism concerning further development of Dow. As of July 1968 most buildings suitable for industrial use have been optioned but apart from the Northeast training center no definite committments have been made.

HOUSING

The Air Force had 150 World War II housing units which will be demolished and the area developed for parks and recreation. The plans for the use of the 1,010 Capehart housing units are not yet firm. Following is a description of current plans and progress (July 1968). A public housing authority has been organized to administer the housing units. The housing authority will work under an Air Force contract to protect and maintain the housing units. Some of the housing units (approximately 150) will be used by military personnel such as those with the National Guard, TAC, ROTC, etc. At some future date 348 units will be acquired by the City through a bond issue for low income housing.

The remainder of the units are available for rent to the general public. The housing authority, in an effort to reduce the impact on the local market as much as possible, will not permit people to move into Capehart housing from adequate or satisfactory housing in the City. All rent is paid to the housing authority who uses the funds for maintenance; any remainder after expenses will be turned over to the Air Force.

EDUCATION AND HOSPITAL

The University of Maine will acquire at no charge approximately 64 Base buildings 572,000 sq. ft.) to form a new unit to serve as a commuting campus for the area. The University of Maine plans to develop facilities for 2,000 students and some facilities will be ready for use in September 1968. The new Base hospital facility will be used by Bangor City Hospital for long-term medical care which is badly needed in Bangor.

Conclusions

By the end of 1967 there had been little or no effect of the Announcement of the closing or the subsequent decline in manpower. No effect can be seen in either (1) the general economic indicators for the area-sales, employment, or unemployment; or (2) particular sectors such as auto sales and services which would probably be most affected by the Base. The Announcement of the closing took place during an upturn in the economy which has continued to operate at a higher level. The major effect on the economy so far would seem to be the encouragement of development and planning efforts on the part of Bangor. The development director has expanded his staff and is very actively promoting new firms to locate in the area using the airport facilities as the major attraction. A substantial comprehensive plan is being done by the City which includes a detailed study of possible areas of industrial growth for the area. The continuation of planning and development has succeeded in bringing in Sylvania Electric, the first major company to locate north of Waterville except for paper and shoes.

The Economic Base Study completed in 1967 predicted that "overall it does not appear that the income or employment impact of the closing of Dow will be so large that it cannot be offset by reasonable growth in the rest of the economy". Events up to the end of 1967 would seem to bear out this prediction.

The evidence about 1968, the year of the closing, is still not in. The SAC Wing departed Dow AFB in April 1968. Unfortunately a major paper company had unexpectedly closed its operations during the prior month. This company employed 600 persons in Brewer and another 600 in Lincoln, part of Bangor's trading area. This is a serious blow to the local economy. However, the development efforts fostered by the announcement of the closing of Dow AFB at least hold promise of reasonable alternative economic growth. At the time of writing only one economic indicator is available with data for the period after the closing--the projected unemployment rate from the Maine Employment Security Commission (MESC). The unemployment in Bangor was an estimated 4.1 per cent or approximately 1,200 people in April 1968, more than twice the rate of 1.9 per cent of 550 people in April 1967. According to the MESC there were two major reasons for the increase in unemployment: The closing of the paper mill and the effect of the unusually hard winter on the construction industry. MESC reports that there was virtually no unemployment resulting from the closing of Dow Air Force Base.

THE CLOSURE PATTERN AND ITS LOCAL IMPACT: A CASE STUDY OF THE NEW YORK NAVAL SHIPYARD, BROOKLYN, NEW YORK

by

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In terms of the number of jobs dislocated, the closure of the Brooklyn Navy Yard ranks high among the eighty installations affected by the November 1964 announcement; for this reason the Yard closure was selected as one of the actions to be singled out for intensive analysis.

Closure and Re-use

The complete closure and the associated elimination of 9,771 civilian and 165 military jobs at the New York Naval Shipyard, termed informally the Brooklyn Navy Yard, was originally scheduled for February 1966; in December 1964 the Department of Defense announced the official phase-out schedule and changed the closure date to June 30, 1966. The closure proceeded according to plan and deviated from the original schedule only infrequently and in relatively unimportant particulars. Phase one of the shutdown was to consist of the completion of assigned overhaul and repair work. With the retention of personnel with specialized labor skills vital to Yard functions during the period, the size of the temporary workforce was allowed to fluctuate as the Yard activity dictated. About 3,000 workers were due to remain after completion of phase one, about February 1, 1966. Phase two was to include a workforce of about 1,500 civilians and to consist of shipping tools and equipment. This force was to be reduced in the last month of operation until complete closure was accomplished. From November 1964 to March 1965, 800 employees left the Yard. In 1965, to diminish community impact, the workforce reduction was to be prorated by increasing monthly increments, for example: 100 in April, 300 in May, 600 in July, 750 in August and 1,230 in September. As a result, by December 1965 the workforce had been cut to 4,210.

The portion of the Yard to be released from military use was a tract consisting of 292 acres. There were five piers and approximately 600 structures on the premise, with 10 or 15 of these structures suitable for industrial uses. The yard was located in the Brooklyn Heights, Fort Green, and Williamsburg section of the Brooklyn Borough--a depressed area. According to the 1960 census, 25 per cent of the residents of this section of Brooklyn were Negro and 17 per cent were Peurto Rican. In the same year the unemployment rate for the area was 7.9 per cent; by the spring of 1966 this rate had risen to 12.9 per cent.[1] There is evidence that suggests a loss of population after 1960. A large part of this loss can be accounted for by out-migration of white residents.

Normal disposal procedures were followed by the General Services Administration (GSA) despite the efforts of the State and New York City to channel negotiations directly through the City. Two Federal claims which were to assume priority under the proposed disposal system were made early in the course of negotiations:

- the Federal Bureau of Prisons requested the use of 12 acres as a federal detention home, and

- the Navy requested retention of some dock and land space. In addition, the Navy had plans to retain 18 acres of land, including the officers' club and officers' quarters.

With the aid of congressional pressure, the Prison and Navy proposals were dropped by March 1966, allowing the GSA to negotiate directly with New York City. The original value set on the Yard was $55 million; this was decreased due to the depressed condition of the area and the avowed goal of the City to redevelop the Yard as an industrial complex. The main aim of this redevelopment was to alleviate severe unemployment in the vicinity of the Yard--welfare recipients numbered one in twelve before closure and one in six by December 1967.

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1. The Institute for Urban Studies, Fordham University, and Tippetts, Abbett, McCarthy, Stratton, Engineers and Architects, The Brooklyn Navy Yard: A Plan for Development, May 1967, p. 20.

Several alternatives to the industrial concept were submitted by local officials or their consultants for all or part of the Yard:

- conversion to a private shipyard for construction of commercial, cargo and fishing craft,
- designation of the federal mansion on the site as a national shrine,
- construction of public housing,
- construction of a major state office building,
- construction of a large and unique incineration complex on a 24-acre tract,
- development of 36 acres as a State park, and
- conversion to a large automobile production and assembly plant.

Such plans were discouraged and generally dropped.

In May 1967 it was announced that final accord had been reached between the GSA and the City on the price for the Yard--about $24 million. Disagreements concerning terms of payment, questions concerning State and City ownership of parts of the Yard, and legal subtleties forestalled final approval.[1]

Federal support for the re-use of the Yard was evidenced by numerous loans and grants from various federal agencies. Early in 1966, the Economic Development Administration (EDA) declared the Brooklyn Naval Yard and its surrounding area

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1. It should be noted that even by the end of 1968 final agreement had not been reached and that the City had still not taken formal possession of the Yard. It appears that the May 1967 Announcement was excessively optomistic.

eligible for federal redevelopment assistance; the assistance was contingent upon redeveloping the Yard as an industrial park. The area was declared eligible for EDA aid because of the sudden upsurge of unemployment expected before closure--under the sudden rise feature of the act that created the EDA. The total amount of assistance was estimated to be $10 million; the exact amount would eventually depend upon the amount of non-Federal investment. The EDA further suggested that the City request technical assistance funds to provide (1) low interest loans, (2) access to public work grants, (3) eligibility for special manpower training funds, and (4) aid in bidding on Defense contracts.

In mid-1966 the EDA announced that industries sharing in the redevelopment of the Yard and providing jobs for area unemployed were eligible for 25-year loans at the interest rate of 5-5/8 per cent--lower than the prime rate that then prevailed. At about the same time, a grant of $58,750 was made by the EDA to assist the City in planning the re-use of the Yard. Similarly CLICK (Commerce Labor Industry Corporation of Kings), the redevelopment authority, received a $100,000 federal grant to finance a study of needed revision in Base facilities to permit industrial occupation. In all, by the end of 1967, it was estimated that EDA had spent $200,000 surveying and studying alternative plans for the re-utilization of the Yard.

Early predictions concerning re-use proved overly optimistic. By December 1966, requests for space in the Yard exceeded the available space by five times. Preliminary plans for redevelopment, announced in August 1966 by Mayor Lindsey, called for on-the-job training programs to provide a source of skilled and semi-skilled workers to attract industry to the area. At the same time a steel fabrication complex, an apparel industry center, and office equipment manufacturing facilities were tentatively committed to location at the Yard. Four companies, employing 1,165 workers, originally planned to move from the area because of outdated or inadequate physical plants but in August 1966 announced their intention to stay at their present locations if plans for the industrial complex were finalized. Several other concerns curtailed their plans to move their operations from the area.

The first actual re-use of the Yard began in August 1967 when ten acres were leased to the New York Transportation Training Center to train 570 men from the area to become truck drivers and warehousemen.[1]

In summary, rapidly formulated plans were retarded by lengthy negotiations between the City and the GSA and by sporatic conflicts between local groups concerning specific programs for redevelopment. The effectiveness of the quasi-public corporations which were created to handle the redevelopment were hindered by the slowness of the State Legislature in providing the necessary legal foundation for their operation. Early optimism concerning the effective re-use appears to have been unfounded, and the tenants who located at the Base have thus far not filled the employment void created by the closure of the Yard.

Economic Impact

Large as the workforce reduction (9,771 civilian and 165 military jobs) may seem, its community impact is very difficult to measure because the impact was spread throughout the large New York metropolitan area and not geographically concentrated. As others have said, the Yard was autonomous and isolated from the surrounding neighborhoods. Little or no Yard purchases were made in the immediate area. In addition, few of the Yard personnel resided in the area; "just prior to the Announcement of the Yard's closure, in November 1964, less than one-half of the employees resided in Brooklyn and approximately 10 per cent lived in neighborhoods contiguous to the Yard."[2] The definition used in the Fordham-Tippetts Study

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1. It was the second quarter of 1968 before the first announcements were made regarding temtative agreements with private firms to locate in the Yard.

2. *Ibid*. p. 9.

of the Yard area was quite large and contained approximately 155,000 people and a labor force of over 50,000. If 10 per cent of the Yard workforce resided in the vicinity of the Yard, 977 of the 9,771 civilians whose jobs were eliminated by the Yard closure resided in the area. This would mean that 0.65 per cent of the population, or less than two per cent of the labor force in the defined geographic area, had a direct yard association.

While the impact on the thousands of workers who lost their jobs should not be minimized, the impact of the closure of the Yard could not be expected to be more than modest on the region near the Yard. If one were inclined to expand the geographic area to include all the workers, he would have to include most of metropolitan New York and therefore would have to conclude that the community impact was trivial. If one rejects the use of "modest" or "trivial", then he is still faced with the difficulty of isolating the economic impact of the loss of such a small portion of the jobs in the Greater New York City area. While what has been said above is true, there is one community economic impact that was expected to be severe and proved to be readily observable: the loss of about 10,000 people entering the Yard on a regular basis. This loss caused a reduction in the utilization of many of the retail and service establishments in the vicinity of the Yard.

In order to ascertain the geographic area containing these establishments, a survey of the area near the Yard was made. Particular attention was paid to the location of the gates leading into the Yard and the establishments located nearby. Informal discussions were held with businessmen in the area and with Yard workers. As a result, the area of immediate impact was generally defined to include the main streets bordering the Yard and one block of the streets intersecting these main streets.

Beginning in mid-1965, semi-annual surveys of the retail establishments were conducted to discover the pattern of the impact of the Yard closure on the number of these establishments

TABLE I

THE NUMBER OF OPEN AND CLOSED BUSINESSES IN THE BROOKLYN NAVY YARD AREA, BY BUSINESS TYPE, SIX DATES

Business Type	Survey Date Mid 1965	End 1965	Mid 1966	End 1966	Mid 1967	End 1967
Gas Stations and Auto Repair						
Open	6	6	6	7	9	9
Closed	1	1	1	1	1	1
Eating and Drinking Places						
Open	18	17	17	16	13	12
Closed	5	7	7	9	12	13
Tailor, Cleaning and Pressing Shops						
Open	3	3	3	3	3	1
Closed	2	2	2	2	2	4
Other						
Open	3	3	2	3	4	4
Closed	0	0	1	1	1	1
Total						
Open	30	29	28	29	29	26
Closed	8	10	11	13	16	19

Source: Surveys conducted for this study.

by business type. The results of these surveys are summarized in Table I. In mid-1965 the majority of the establishments in the area were eating and drinking places. The largest part of their business was the lunch trade of the Yard personnel; in addition some before and after shift activity was present. The only other important type of business in mid-1965 was gas stations. At the time of the first survey, it was found that eight of the thirty-eight establishments in the area were already closed. This attests to the general economic decline of the area that had been evident long before the Announcement of closure. Most of these closed establishments were eating and drinking places. The number of closed tailor, cleaning and pressing establishments reflects the days in which large numbers of Navy personnel were associated with the Yard.

Between mid-1965 and the end of 1967 a persistent increase, accelerating in the latter part of the period, in the number of closed establishments is observable. Besides an almost total elimination of the tailor, cleaning and pressing establishments, most of this decline occurred in eating and drinking establishments. Of course, as the number of Yard personnel decreased, little else could be expected. The two business types that experience growth in the number of operating firms are gasoline stations and grocery stores. To some extent, these two activities may be unrelated to the Yard and may reflect services provided to the community in general.

From the data presented in Table I, it should be clear that although the closure of the Yard caused severe difficulties for some businesses, the area far from collapsed. On the other hand, those activities which suffered most were those obviously connected with the Yard--the tailor shops, bars, and sandwich shops. It should be noted that because of the relatively small size of these establishments, the closure of eleven of them resulted in the loss of no more than fifty jobs--an impact that is certainly proportionally very small, whether the basis of comparison is the New York City SMSA, Brooklyn, or even the area adjacent to the Navy Yard.

A CASE STUDY OF THE PHASE-OUT OF OLMSTED AFB,

MIDDLETOWN, PENNSYLVANIA

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Introduction

PURPOSE

The purpose of this paper is to assess the impact on the local area of the phase-out of Olmsted Air Force Base, Middletown, Pennsylvania. This assessment is accomplished through a selective analysis of existing time-series data obtained from a variety of public and private agencies.

The first portion reviews the growth pattern of the area prior to the Announcement in November 1964 which called for a total phase-out by June 1969. The post-Announcement activity pattern is examined in the next section and includes a comparison with the earlier period as well as the planned re-use of Base facilities. A third part explores the reaction of the community to the phase-out. Finally, a fourth portion is devoted to a recapitulation of the experiences through 1967.

LOCATION

Olmsted AFB is located on the Susquehanna River in the southwest corner of Dauphin County, Pennsylvania. Dauphin County is one of three counties in the Harrisburg SMSA. This difference between county and SMSA lines presented a procedural problem for the exploration of the impact of changing activity levels at Olmsted AFB through the use of existing sources of data. The 1960 population figures shown in Table 1 exemplify the problem when the population of the Harrisburg SMSA is compared with the county of residence of Olmsted employees.

Harrisburg, the state capitol, is located 15 miles north of the Olmsted installation, York lies 25 miles south across the Susquehanna, and Lancaster is only 35 miles east. Sizeable numbers of Olmsted employees lived in both the Harrisburg and Lancaster SMSA's, but the Harrisburg SMSA was selected as the relevant geographic unit on the basis of overall metropolitan orientation for

TABLE 1

1960 POPULATION OF THE HARRISBURG, LANCASTER, AND YORK SMSA'S COMPARED TO THE RESIDENTIAL DISTRIBUTION OF OLMSTED AFB CIVILIAN EMPLOYEES IN 1964

	1960 Population			Residence of Civilian Employees	
				per cent	per cent
Harrisburg SMSA	371,653			69	
Cumberland County		124,816			7
Dauphin County		220,255			61
Perry County		26,582			1
Harrisburg			79,697		
York SMSA	290,242			1	
Adams County		51,906			-
York County		238,336			1
York			54,504		
Lancaster SMSA	278,359			15	
Lancaster County		278,359			15
Lancaster			61,055		
Other				15	

Source: Standard Metropolitan Statistical Areas, Bureau of the Budget, Executive Office of the President, GPO, 1964, pp. 17, 20, and 42.

those measures which are only available at this level of aggregation.

Other sources of data use other reference units. The utility companies, for instance, do not recognize political boundaries. Telephone company records are based on exchange areas. Postal authorities use main station and ZIP code designations. A major consolidation of school districts occurred during the period of interest.

METHOD

The reason for presenting these population figures and for emphasizing the variation in geographical coverage is to impress upon the reader the difficulty encountered in interpreting selected time-series measures as being sensitive to the closure. Ideally, one would want to know what value each of the measures would have taken at a given point in time if the phase-out had not occurred, ceteris paribus. But, of course, the continuing interaction of the Base, and its surroundings would have resulted in other unknown changes.

What has been done, therefore, is to select variables which can be theoretically justified as being sensitive to changes in the level of economic activity at the Base, and then to explore the time-series patterns of these measures explaining why they behaved in the observed way.

The Growth Pattern, Through 1964

1917-59

Less than six weeks after the United States entered World War I in 1917, ground was broken on a former H. J. Heinz Co. cucumber farm located in Middletown Borough adjacent to the Susquehanna River 15 miles southeast of the state capitol at Harrisburg. Originally comprised of less than fifty acres and a single building, Olmsted grew to 1,100 acres and some 300 buildings by November 19, 1964. The installation was named in honor of Lt. Robert

S. Olmsted in 1923, after the former engineering officer at the field was killed in the Gordon Bennett International Balloon Races.

Peak employment at Olmsted Field came during World War II when 17,000 civilian employees contributed to the massive task of maintaining aircraft engines for the overseas war. In fact, the field became one of the largest engine repair centers in the world during this period. In 1946 Olmsted became the headquarters for the Middletown Air Material Area (MAAMA), subsequently one of nine such areas under the Air Force Logistics Command headquartered at Wright-Patterson AFB, Ohio. In March 1948, six months after the Air Force became a separate branch of the military service, Olmsted Field became Olmsted Air Force Base. The Base served as the major domestic control center for the Berlin airlift in 1948 and 1949.

With the advent of jet aircraft, a new jet engine overhaul facility was located at Olmsted in 1950. During the Korean War these shops served as one of the major repair centers in the country. In 1956 a major expansion and modernization program was undertaken at the Base with a five-year estimated cost of nearly 43 million dollars, including a 12 million dollar runway which is capable of handling any aircraft now in production (including the SST), and a 3.5 million dollar headquarters building. These two facilities are mentioned because they figure directly in the re-use of the Base after phase-out. As late as 1962, an additional 2.8 million dollars was earmarked for expansion and modernization of facilities at Olmsted.

THE PHASE-OUT ANNOUNCEMENT: NOVEMBER 19, 1964

A five-year phase-out period was announced, with the first transfer of operational units to begin within six months of the Announcement date. Most of the MAAMA instrument maintenance and jet engine overhaul responsibilities were to be transferred to Tinker AFB in Oklahoma City and Kelly AFB in San Antonio, Texas. Other engine maintenance and missile guidance system work were to go to Hill AFB in

Ogden, Utah. Additional activities of lesser magnitude were assigned to Robins AFB near Macon, Georgia, and to Kelly AFB.

These functional transfers were expected to result in a net reduction of 2,300 civilian and 500 military jobs, indicating that approximately 8,000 civilian employees at Olmsted, or 77 per cent, would be offered functional transfers.

THE 1960-1964 LEVEL OF ACTIVITY: AN OVERVIEW

Depending upon what measure is used, it can be said that the level of activity at Olmsted AFB was essentially constant during this five-year period, or that it reached a peak in 1962, and declined thereafter.

Table 2 shows Civilian employment reached a peak for the five-year period in the I-63 and declined by six per cent by IV-64. The trough for civilian employment came in III-61, with a level less than three per cent below the November 1964 strength. In other words, the variation in civilian personnel strength was quite small.

The opposite is seen to be true of civilian payroll expenditures during the period. The IV-64 expenditure level was 16 per cent less than the mid-1962 period high and 46 per cent more than the mid-1960 low. The range of variation in this money measure is obviously much greater than the range of personnel strengths during the five-year period. This is explained by pay increases which occurred from 1960-64 and summer construction activity.

It is evident that the purchasing power of an essentially constant work force fluctuated widely during the pre-Announcement period, but the trend was toward an increase in the amount of money flowing into the area through Olmsted AFB civilian employee paychecks.

The pattern of off-Base economic activity was one of slow but steady growth beginning in 1961 after a sluggish

TABLE 2

CIVILIAN PERSONNEL STRENGTH AND PAYROLL EXPENDITURES, OLMSTED AFB QUARTERLY 1960-64

	Average Number of Employees	Total Civilian Payroll Expenditure
1960		
1st Quarter	10,873	$ 16,173,818
2nd	10,594	13,541,038
3rd	10,408	16,244,193
4th	10,222	13,901,743
1961		
1st Quarter	10,151	16,094,359
2nd	10,048	14,504,981
3rd	10,048	16,564,404
4th	10,152	19,431,903
1962		
1st Quarter	10,467	20,809,247
2nd	10,831	23,560,584
3rd	10,932	20,225,791
4th	10,999	22,752,584
1963		
1st Quarter	11,007	22,652,371
2nd	10,855	19,179,853
3rd	10,637	18,798,666
4th	10,577	15,450,631
1964		
1st Quarter	10,493	19,189,779
2nd	10,411	21,803,991
3rd	10,347	17,901,354
4th	10,357	19,761,615

Source: Olmsted AFB Civilian Personnel Office period during the first year. This pattern is similar to that of the national economy. Specific area strengths and weaknesses are discussed below.

THE 1960-64 PERIOD: AGGREGATE MEASURES

The civilian labor force in the Harrisburg SMSA ranged from a low in February 1960 of 172,200 to a high of 183,500 in June 1964--a net increase of 6.4 per cent. Employment during this same period increased by 6.9 per cent because of a decline in the unemployment rate from a high of 7.7 per cent of the civilian labor force in January 1961 to a low of 2.5 per cent by October 1964. These trends are virtually identical to the national pattern, although the high and low extremes are both beyond the national levels.

It is apparent from these three "people" measures that the Olmsted employees were discharged into a tight area-wide labor market--a very fortunate circumstance.

Retail sales data offer another type of measure of the economic activity pattern for the 1960-64 period. Data on gross sales, subject to the Pennsylvania state sales tax, were obtained in a three-digit SIC format for Dauphin County on a monthly basis from July 1962 to December 1964. As would be expected from the employment pattern, a general positive trend in sales value is observed with normal seasonal variations around the trend line. (These data are not presented in tabular form because of the cumbersome nature of the three-digit SIC format.)

Other aggregate indicators, such as utility sales and bank debits, reinforce the judgment already made that from a depressed level in 1960 economic activity increased steadily throughout the five-year period with normal seasonal variations being observed in the time pattern of each measure. It will be of greater value, therefore, to devote attention to specific sectors within the local area economy to clarify further the pre-Announcement situation.

THE 1960-64 PERIOD: SECTORAL MEASURES

The Pennsylvania Department of Labor and Industry annually compiles and publishes for the first quarter wages, number of employees, and number of firms on a two-digit SIC basis at the county level for employment covered by the unemployment insurance laws. The ten covered two-digit industries with the highest wage bill in Dauphin County during I-64 have been selected for more detailed scrutiny. (Eight of the ten are also at the top of the list in terms of the number of employees.) These ten industries, with first quarter wage bills for 1960 and 1964, and the percentage change during the intervening four years are listed in Table 3. These ten industries employed 32,021 or 50 per cent, of the covered employees in Dauphin County in 1964.

The conclusion reached after an examination of Table IV is that the Harrisburg metropolitan area economy was a healthy one in 1964 with strong growth in diversified areas. The Insurance sector, as well as the Electrical Machinery, Equipment, and Supplies sector, showed especially strong growth during this five-year period. The Service sector also showed strong growth. The Primary Metals sector was the only one of the ten which shows an absolute decline over the five-year period. This precipitous decline came in 1961 when the Phoenix Steel Company in Harrisburg shut down, resulting in Layoffs of 2,800 workers--a 37 per cent decline in total area employment in the industry.

It should be noted that these ten major industries do not include employment in local, state, and federal governments, because these are not covered by the unemployment insurance legislation. Since Harrisburg is both the state capital and county seat, and since Olmsted employed more than 10,000 civilian employees in 1964, this omission should not be overlooked. Approximately one-half of the area labor force is employed by federal and state governmental agencies.

TABLE 3

THE TEN COVERED INDUSTRIES HAVING THE HIGHEST WAGE BILL, FIRST QUARTER 1964, DAUPHIN COUNTY
(000's)

	1960	1964	Per cent Change
Wholesale Trade	$7,243	$8,163	+13
Food and Kindred Products	6,196	7,384	+19
Primary Metals Industries	12,744	6,661	-48
Communication	3,713	3,870	+ 4
Electrical Machinery Equipment, and Supplies	2,670*	3,663	+37
Insurance Carriers	2,770	3,655	+32
Construction--Special Trade Contractors	2,488	2,848	+14
Apparel and other Finished Products Made From Fabrics and Similar Materials	2,076	2,521	+21
Automotive Dealers and Gasoline Service Stations	2,121	2,434	+15
Miscellaneous Services	1,848	2,372	+28

*--refers to 1961 amount because 1960 data were N.A.

Source: Statistical Information Bulletin No.'s 142, 146, 152, 157, 165, 169, and 174, Table 2 in "Employment and Wages of Workers Covered by the Pennsylvania Unemployment Compensation Law by County and by Industry, First Quarter 196__," Department of Labor and Industry, Bureau of Employment Security.

Two aggregate measures of the housing sector are available. One, property values, is a stock indicator. The other, value of building permits issued, is a flow indicator. The building permit and property value data were secured for the Middletown Borough jurisdiction because it was thought that these would be the most sensitive measures of changing activity levels. The estimated market value of property in the Middletown Borough increased by 4.7 per cent from 1960 to 1964, with wide variations in the quarterly value of building permits issued. There does not appear to be any clear trend in either the number or value of permits issued although 1963 and 1964 were more active than the three earlier years. Again, there is a clear indication of strength in the economy as measured by the stock and flow measures of realty in the area.

Building construction contributed less strength to the area-wide economy, as evidenced by a 7 per cent decline in wage payments in this sector from 1960 to 1964. Wage payments in non-building construction declined by 10 per cent during the same period. It appears that the Middletown area was more active than the more broadly defined geographic area, at least in construction activity.

Two measures of the public sector are of special relevance because of their sensitivity to mobility and Federal government employment. These measures are net school enrollment and Federal impact funds received under PL 815 and PL 874.

There are now five consolidated school districts which surround Olmsted AFB and which are in Dauphin County. Enrollment data have been classified into these five districts for the years preceding consolidation. All five districts realized enrollment increases for the 1960-64 period, with percentage increases ranging from 7 to 20 per cent.

As would be expected, because of the employment pattern in the area, when enrollment figures increased so did Federal impact payments. The range of increase, in money received ranged from 23 per cent to 440 per cent over the four-year period, with the largest absolute amount going to the immediately adjacent Middletown Area school district.

Other revenue and expenditure measures of local government units were assessed for potential value in clarifying the impact of the closure, but they were not found to have sufficient relevance, either in theory or fact, to warrant their inclusion. The reader should have an adequate awareness by now of the non-Base economic environment within which the phase-out Announcement was made. Attention is turned, then, to the Base itself as a component sector of the area economy.

Two measures of the presence of the Base have already been mentioned briefly--civilian employment and wage payments. These measures and military personnel strength are explored in greater detail. In September 1964, the authorized manpower complement was as follows:

	MAAMA	TENANTS	TOTAL
Civilian	10,366	368	10,734
Military	642	1,387	2,029
Total	11,008	1,755	12,763

Source: Olmsted AFB Information Office

The actual strengths were very close to these authorized numbers, with the civilian complement falling slightly short of, and the military group exceeding, the authorization. The annual civilian payroll at this time amounted to $73 million, and the military payroll totaled nearly $8 million. As previously indicated, the payroll amount increased during the 1960-64 period because of wage rate increases, even though the number of civilian employees and military personnel remained nearly constant from year to year.

Another measure of Base activity is the pattern of "local" purchases. An aggregate figure for purchases in the Greater Harrisburg Area on a monthly basis was secured for the period mid-1962 to 1964, with eight months of the 1963 data and one month of the 1964 information missing. This omission makes it virtually impossible to assess the pattern of purchases during the 1960-64 period. During the last eight months of

1962, $1.75 million in local purchases were made. The eleven-month total for 1964 was just under two million dollars. It is clear, therefore, that the total value of local procurement, prior to phase-out, approximated two million dollars annually. This amount, when added to the payroll totals, indicates that the presence of Olmsted AFB was contributing over $80 million annually to the local economy. This is not to be construed as a net figure, because in the absence of the Base other activities would have occurred, as will become evident in subsequent paragraphs.

CONCLUSIONS: 1960-64 PERIOD

The stage has been set for an assessment in the following pages of the impact on the local area of the phase-out of Olmsted AFB. In November 1964, the Middletown area labor market was tight, and getting tighter, because of slow growth in the aggregate level of area economic activity. The unemployment rate was only 2.9 per cent--far below the national average at that time. The Base itself was contributing more than $80 million a year to the area economy.

The Phase-out, 1965-67

1965-67: AN OVERVIEW

The phase-out actually began in earnest during the summer of 1965--six months after the Announcement in November 1964. By June 1, 1966 the civilian personnel complement had been halved, and by December 1966 only one-fourth of the 1964 level was still on board. The value of local purchases followed a similar pattern, tailing off rapidly during 1965-66. By the end of 1966 most of the base functions had been transferred to other Air Material Areas. In fact, the entire phase-out went so smoothly that the final closure date was moved up a full year, from June 1969 to June 1968.

The local economy continued to show diversified strength during this crucial period. The labor force continued to grow, but employment increased even more rapidly, resulting in a continuing decline in the area unemployment rate. Part of this growth in employment came in other Federal military installations in the area. The Chambersburg and New Cumberland Army Depots and the Mechanicsburg Naval Supply Depot each expanded employment to fulfill the needs of the Viet Nam war effort. The importance of these installations to the resulting impact of the Olmsted phase-out will be explored in greater detail below.

THE 1965-67 PERIOD: AGGREGATE MEASURES

A comparison of the "people" measures during this period with what was found during the 1960-64 period for the Harrisburg SMSA reveals some very important points. The civilian labor force for this period ranged from a low of 177,600 in February 1965 to a high of 188,800 during July of 1966. This represented a 6.3 per cent increase, as compared to a 6.4 per cent increase during the 1960-64 period.

Employment during this period increased from a low of 171,300 in January 1, 1965 to a high of 184,000 during August of 1966. This represented a 7.4 per cent increase, higher than the rate of increase during the 1960-64 period. Coinciding with this increase in employment, the unemployment rate declined from a period high of 3.8 per cent in January 1965 to a low of 1.8 per cent during October of 1966.

The size of the civilian labor force during 1967 remained high but did not experience the fluctuations that were present in 1966. The level of unemployment likewise remained low throughout 1967 but did not fall to the extreme lows that were seen in 1966. Because of the tendency to remain low and not fluctuate greatly, the annual average unemployment rate was lower in 1967 than any other period.

It is apparent that there was no perceptible impact on the three "people" measures during the 1965-66 period while the Base was phasing out most rapidly. The trend continued during 1967, when the rate of phase-out had slowed down, as the annual average level of unemployment continued to fall to 2.3 per cent. The exceptionally tight labor market, which existed during the entire period, cannot be overemphasized as a factor in the explanation of the local impact.

The level of retail sales has been examined from January of 1965 through December of 1966 by three-digit SIC. For this period, like the 1960-64 period, the level of retail sales followed a rather strong upward trend. There were no obvious variations in the retail sales data which could directly be attributed to anything but seasonal fluctuations.

Electric utility usage is one measure which does show some sensitivity to the phase-out during this period. The Borough of Middletown and part of the area south of the Base are served by the Consolidated Edison Electric Company. Middletown Borough monitors the kilowatt hours of electricity sold and the number of customers which are served within the Borough.

These data are the only utility measures which were secured at a detailed level of disaggregation. The other areas around the Base are so extensive that the records of both the Pennsylvania Power and Light Company and the Consolidated Edison Company, which serve surrounding areas do not show any impact at all during this period. The records which reflect the Middletown Borough sales directly show a gradual decrease in the number of customers from 1965 through 1967, with very slow and irregular increases in the number of kilowatt hours used. The number of customers fell from a high of 3,403 in I-65 to a low of 3,009 in I-67--a drop of 11.5 per cent. But this figure started to rise gradually again during the last three quarters of 1967. Notice should be taken of the fact that this is only a small area very close to the Base, and the larger area surrounding Olmsted showed no impact at all in KWH use.

Bank debits, which were examined for the 1960-64 period, have also been studied for the more recent period. The bank debits do not reflect any changes which would suggest there was any exogenous force affecting them. Both grew steadily throughout the period and showed only minor fluctuations.

THE 1965-67 PERIOD: SECTORAL MEASURES

Turning again to the Pennsylvania Department of Labor and Industry annual list of first quarter wages, number of employees, and number of firms for Dauphin County, it is possible to obtain a better sense of industrial activity. Again, the ten two-digit SIC industries with the highest wage bill for I-67 are compared with the 1964 figures in Table 4. (Seven out of the ten industries which were at the top during 1964 were still at the top in 1967.) Automobive Dealers and Gasoline Service Stations, as well as Miscellaneous Services, had dropped out since 1964, while Transportation Equipment and Motor Freight Transportation and Warehousing were added. As shown in Table VII, all of the groups on the 1967 list showed moderate to large percentage increases over the size of their 1964 wage bill. The Electrical Machinery, Equipment and Supplies continued to show exceptionally strong growth, although Transportation Equipment had the largest percentage increase in wage payments. The slowest growth is observed to have occurred in the gasoline station and automotive dealer sector, but even here a 15 per cent increase is found.

This analysis would indicate that there were no major harmful effects on the industrial sector during the 1965-67 period. However, it should again be stressed that these data do not include local, state, and Federal Government employment and, therefore, do not show the direct effects of the Olmsted closure on the entire economy, but only the direct effects on industry.

Property values for Middletown Borough grew slowly from 1965 through 1967, increasing by 1.1 per cent over the 1964 level. This would indicate that, even in this immediately adjacent community, the market value of property never fell but only increased at a slower rate than in the past.

Changes in building activity once again are difficult to classify. There was no particular trend in the building permit data for Middletown Borough. However, it should be noted that first quarter wages in the building construction industry for Dauphin County in 1967 increased by 54 per cent over the

TABLE 4

THE TEN COVERED INDUSTRIES HAVING THE HIGHEST WAGE BILL, FIRST QUARTER 1967, DAUPHIN COUNTY
(In thousands of dollars)

	1964	1967	Per cent Change
Wholesale Trade	8,163	9,592	+18
Primary Metals Industries	6,661	9,199	+38
Food and Kindred Products	7,384	8,709	+18
Electrical Machinery Equipment and Supplies	3,663	6,459	+76
Communication	3,870	5,224	+35
Transportation Equipment	1,311	4,373	+261
Insurance Carriers	3,655	4,275	+17
Construction - Special Trade Contractors	2,848	3,960	+39
Motor Freight Transportation and Warehousing	2,078	3,277	+58
Automotive Dealers and Gasoline Stations	2,434	2,789	+15

Source: Statistical Information Bulletin No.'s 142, 146, 152, 157, 165, 169, and 174, Table 2 in "Employment and Wages of Workers Covered by the Pennsylvania Unemployment Compensation Law by County and by Industry, First Quarter 1964 through 1967," Department of Labor and Industry, Bureau of Employment Security.

level in 1964, indicating a revival in the area-wide building construction industry.

As was pointed out earlier, school enrollment and Federal impact fund payments are extremely sensitive to mobility and Federal Government employment. The net school enrollments in the five consolidated school districts in Dauphin County which surround Olmsted AFB are especially revealing. Two of these five school districts, Middletown Area and Steelton-

Highspire Area, both showed absolute decreases in net enrollment in 1967 when compared with the 1964 levels. Middletown Area enrollment is seen to have fallen by 8.2 per cent, while the Steelton-Highspire level fell by 7.3 per cent. All of the other districts experienced increases in net enrollment ranging from six to ten per cent.

However, while net enrollment was increasing in three of the five districts, Federal impact payments fell from their 1964 level in every district. In four of the five districts impact payments rose gradually until the school year ending in 1965 and then started to fall. In one district the payments continued to rise through the 1966 school year and then tapered off in 1967.

This evidence indicates that the net enrollment in the three districts that were experiencing an increase had increased because of non-Federally employed families moving into the area. The five school districts were obviously experiencing changing employment patterns within their boundaries during these years.

Now that the area-wide economy has been examined, attention is turned to the actual pattern of closure in order to explain further the impact on the local economy. There are two elements in the closing of the Base which could have had a major effect on the economy. These are the time patterns of the civilian personnel layoffs, and the pattern of reduction of local purchases by the Base.

Table 5 shows the civilian personnel strength at Olmsted AFB by quarters from September 1964 through March 1968. A study of this Table shows that from September of 1964 until March of 1968 more than 10,000 civilian personnel left the Olmsted AFB. This, at first thought, appears to be inconsistent with the area-wide civilian unemployment data which were examined earlier, because the rate of unemployment during this period was decreasing monotonically. To explain this apparent inconsistency Table 6 should be examined. This Table categorizes the reduction in civilian personnel

TABLE 5

CIVILIAN STRENGTH OLMSTED AFB

	1964	1965	1966	1967	1968
March 31		10,163	6,170	1,799	247
June 30		9,413	4,986	1,139	
September 30	10,347	7,997	3,208	577	
December 31	10,357	6,831	2,300	369	

Source: Personnel Division, Olmsted Air Force Base.

strength from November 19, 1964, through November 30, 1967, by the reason each employee gave for leaving.

As shown in Table 6, civilian strength at the Olmsted AFB in November 1964 was 10,344. During the period between November 1964 and November 1967, 1,853 of the civilian employees took advantage of some form of retirement. According to military definition these retirements could have been either the result of some form of disability or option (which means they were eligible for benefits and decided to retire), or they could have been mandatory, where the employee reached a maximum age and had to retire. During the same period there were 1,710 civilians who went with their functions to the various Air Material Areas. The next group of entries in the Table shows the number of civilian employees who secured a job at another military installation. It is important to note that the New Cumberland, Mechanicsburg, Carlisle, and Indiantown Gap installations are within daily commuting distance from the Olmsted AFB area, and it is therefore likely that between 2,500-3,000 employees did not have to change their residence. Those who separated represent the group who might have been most vulnerable to chronic unemployment. This category can also be disaggregated.

TABLE 6

CIVILIAN STRENGTH RELOCATION

November 19, 1964 through November 30, 1967

	Civilian Strength (11/19/64)			10,344
	Retirement for Period		1,853	
	Went with Functions		1,710	
	Transfers:			
	To Other Air Force Bases	151		
	To New Cumberland	1,166		
	To Mechanicsburg	1,000		
local ←	To Carlisle	105		
	To Letterkenny	211		
	To Indiantown Gap	102		
	To Other Army	398		
	To Other Navy	381		
	To All Others	513		
	Total Transfers		4,027	
	Separations:			
	Declined Relocation	1,204		
	Resigned	1,044		
	Removal	6		
	Death	62		
	Others	11		
	Total Separations		2,372	
	Grand Total No Longer Employed at Olmsted AFB			9,917
	Civilian Strength (11/30/67)			427
				10,344

Source: Personnel Division, Olmsted Air Force Base

Separation (Declined Relocation) refers to those employees who were separated from the Base when their functions ran out because they declined relocation. Resignations refer to the group who resigned before their functions ran out, while removals are those persons who were eliminated for disciplinary reasons. Therefore, with a civilian personnel strength of 427 in November of 1967, an accounting exists for all of the civilian employee reduction to date.

As can be seen, the apparent elimination of civilian employment for some 10,000 people really resulted in only 2,200 (or less) persons entering the local labor market during the close-out period. Some of these people might have also left the area. This was obviously a major factor in accounting for the small area-wide impact because of the phase-out.

A final measure of Base activity, which acts as an important factor in area-wide economic activity, is the level of purchases made by the Base in the Greater Harrisburg Area. Table 7 shows the pattern of purchases during the phase-out period. There is no doubt that this decrease is significant, but it can be interpreted as a loss to the area only insofar as new operations on the former military facility fail to provide the basis for purchases of similar amounts of goods and services in the local area.

RE-USE OF BASE FACILITIES

The closure of Olmsted AFB made available a multi-million dollar installation located adjacent to the Penn-Central Railroad and three miles from an interchange of the Pennsylvania Turnpike and the north-south Interstate 83. A complete airport facility was to be abandoned, as well as a 3.5 million headquarters building and numerous other facilities, including several large temperature and humidity controlled "clean rooms" which had been used for delicate computer facilities and electronic equipment calibration and maintenance. In addition, former military dormitories

TABLE 7

LOCAL PURCHASES BY OLMSTED AFB IN THE GREATER HARRISBURG AREA

Quarter	1964	1965	1966	1967
First	$345,891	$328,656	$121,260	$32,766
Second	205,525*	282,697	104,572	77,787
Third	693,995	395,693	78,719	34,760
Fourth	699,029	284,644	34,642	*
Annual Total	1,944,440**	1,291,690	339,193	145,313***

*--data not available
**--11 month total
***--9 month total

Source: Base Procurement Division, Olmsted Air Force Base.

and family housing units were to be abandoned, as well as a golf course, officers club, PX, dining hall, theatre, and similar ancillary services found on all major military bases. The disposition of each major component of the Base is discussed separately below.

The North complex lying between the Penn-Central Railroad, U.S. Route 230, and the Pennsylvania Turnpike, consists of 340 acres on which the 198,500 square feet of headquarters building, 670,000 square feet of warehouse space, and both dormitory and family housing units are located.

The General Services Administration (GSA) transferred title to the headquarters building to the Department of Health, Education and Welfare, which in turn assigned it to the Commonwealth of Pennsylvania for educational purposes early in 1967. The Pennsylvania State University is currently using the facility as its capital branch campus. The former bachelor officer quarters and airmen's dormitories are also being used by the University. Negotiations are currently under way between the GSA and the University concerning the acquisition of the 140 unit Meade Heights Capehart housing complex which still has an outstanding mortgage. (The Borough of Middletown is negotiating for the purchase of the vacant Pine Ford Acres housing complex which lies outside the Base perimeter in the Borough. It is hoped that this can be used as a low income housing area.)

The Dauphin County Industrial Development Agency (DCIDA) purchased approximately 94 acres of the North complex, including the two major warehouses, for $2.2 million. The DCIDA is a quasi-public agency since it receives partial support from the Commonwealth of Pennsylvania, and, therefore, qualified as a purchaser of the property in question. The GSA is barred from selling government property directly to private individuals or corporations. Title to this area was then transferred to the Harrisburg Area Industrial Development Corporation (HAIDC) which has acted as the leasing agent. Fruehauf Corporation subsequently leased the entire warehouse area under a lease-purchase agreement and is presently manufacturing over-the-road dry-haul trailers and cargo containers with a labor force of 507, as of May 1, 1968. These are all new jobs in the area, and a four-fold increase in employment is projected for the near future if demand meets current expectations.

The South complex consists of 637 acres lying south of U.S. Route 230, north of the Susquehanna River, and bounded on the east and west by Middletown and Highspire boroughs, respectively. Included in this complex is the airport facility and the majority of the warehouse and technical equipment buildings.

The HAIDC purchased 48 acres from the GSA (through the DCIDA) in the heart of this building complex for $700,000 and is presently negotiating with the Commonwealth of Pennsylvania to sell this island in the midst of the South complex. Title to the rest of the South complex was given to the Pennsylvania Aeronautics Commission in June 1967 to be used as a regional airport facility. The buildings are being leased at the present time by the airport manager. All revenues received are to be ploughed back into the development and operation of the airport itself.

A large hangar has been renovated to serve as a terminal facility and the complex has now been formally designated Olmsted State Airport, serving the Greater Harrisburg Area. Three commercial airlines--TWA, United, and Allegheny--now service the airport, as well as commuter flights and non-passenger aircraft. Private aircraft continue to use the York State Airport across the river, which previously served commercial passengers too. Since this was only a transfer of functions, the net increase in area employment has been negligible.

The next few months represent a crucial period for the potential of this South complex. It is reported that one company (unnamed) has submitted a firm proposal to employ 400-600 people. A second company (unnamed) has also submitted a proposal to employ 400-500 people within a two-year period. A third company has expressed strong interest in locating in the complex with the intention of employing from 1,000-1,200 people. In addition, the airport manager reports that three smaller manufacturing companies are negotiating for space and would employ from 15-45 people each. If all of these projects come to fruition, nearly 2,000 new jobs will become available.

A total of 17 lessees already occupy vacated building space, employing a total of 548 people as of April 1, 1968. The largest of these is the Water and Wastewater Technical School, Inc., a private operation which trains people to operate and maintain water and sewage facilities.

The houses fronting on the river and formerly occupied by the top ranking officers at the Base are now rented by the airport manager to airport employees.

The former golf course located immediately east of the airport runway, was sold to Londonderry Township at 50 per cent of market value to be used as a park and recreation site.

The conclusion to be drawn from this review of the re-use of Base facilities is this: the location of relatively new buildings and warehouses in a central regional location with unmatched access to all major modes of transportation except water presents an attractive site for a variety of public and private employers. The potential as an east coast distribution center is practically unlimited since both north-south and east-west limited access highways are immediately adjacent, the rail facilities serve the South complex, and the airport facility can handle any aircraft now flying or under construction. While present and immediately projected employment totals only about one-third of the pre-Announcement level, everyone concerned with the conversion of the Base to non-military use expresses optimism, as do local area leaders and townspeople.

OFF-BASE ECONOMIC ACTIVITY

There are various outward manifestations of strength in the local economy. A new small shopping center was completed during 1967 in Highspire, directly west of the Base. The owner of a diner located directly across the street from the main gate to the Base was quoted on the night of the closure Announcement in 1964 as saying, "Olmsted is the right arm of my business. I've had my business 10 years and Olmsted is it." He now says, "I feel a lot better today...business has picked up." The owner of a local grocery store for 30 years said in 1964, "anything can happen here in six months or five years. Something'll happen. But I guess Johnson got in and then swung the ax. He'll create some poverty and then he can do something." He now owns a realty agency. He let the grocery business dwindle, although he still owns the store, because the store really serves as the home base for his real estate business. Of the latter he says, "really doing a good job now...can sell most anything of value... Things have come back fast, especially in the last year... need more better class houses now...the vacant homes by the

Base,...now there are only about 10 per cent vacant and that is because they are two bedroom. If they were four bedroom, they would sell." The owner of a local hotel said in 1964 that the news was "devastating," "awful." Today he remarks that business is "very poor." Of course, the advent of modern motel facilities near the interchanges of the major highways, and in the central Harrisburg area, clearly overwhelms the presence of an older small town hotel.

The general impression one receives in talking with local Chamber of Commerce officials is that little more than the normal attrition of under capitalized or poorly conceived enterprises have seen their demise. The major impact of business withdrawal came immediately after the closure Announcement, when the largest Middletown clothing store and several restaurants closed. These entrepreneurs apparently thought that they could make the best of a bad situation by getting out right away. It is apparent, however, that the large group of former Olmsted employees who either retired, took other Federal jobs in the area, or accepted other local employment, live in the same homes, send their children to the same schools, and shop in the same stores as before the phase-out.

Community Reaction

RELATION TO THE CLOSURE ANNOUNCEMENT

A brief glimpse of the reaction of the local business community to the closure Announcement was given in the previous section through the juxtaposition of 1964 and 1968 statements by owners of Middletown establishments. Other indications of the initial reaction include the temporary closing of the local federal credit union on December 2, 1964, less than two weeks after the Announcement, because of unusually heavy withdrawals; the formation of a Save Olmsted Services (SOS) committee of 15 influential business, military, legislative, and congressional leaders to initiate a formal appeal directly to Secretary of Defense McNamara; the transmittal of some 10,000 (a familiar number?) letters of protest to the Secretary's office; and the holding of a mass rally to whip up the fervor necessary for an effective protest.

It was quickly realized, however, that these efforts would be to no avail and that planning for the inevitable reckoning day should begin. Toward this end, the Middletown Chamber of Commerce was merged with the Harrisburg Area Chamber of Commerce to provide the most effective leadership possible. It was immediately decided that rapid conversion to non-military use of the Olmsted installation presented the best hope for stability in the local economy. The effectiveness of this local leadership has been detailed in previous sections. The State University was attracted to locate a branch campus in the former headquarters building. A former warehouse complex has been leased to a major manufacturer of trailers and cargo containers. A metropolitan airport facility has been opened with a bright future for expansion of both passenger and cargo activities. Other smaller lessees have already located in portions of the former 'industrial area' complex and negotiations are currently underway with more substantial enterprises in terms of employment potential.

The fact cannot be ignored, of course, that approximately 30 per cent of the Olmsted employees are now working for other local military installations, specifically Army and Navy supply depots. The importance of the Viet Nam war effort on the level of employment at these depots has already been noted. It may be grimly true that the ease with which the phase-out has apparently occurred is due in part to the concurrent engagement in a war. This speculation is not intended to negate the importance of the efforts made by local area leaders but rather to make explicit the conclusion which confronts any student of the re-employment pattern.

Summary and Conclusions

Three elements seem to tell the story of the 30 month phase-out of Olmsted AFB: where, when, and how. The decision to close the Olmsted facility literally came down from "on high". There had been little speculation in the area that Olmsted would be one of the 95 bases to be phased-out. The attention of the Pennsylvania congressional delegation had been focused on the anticipated closure of the Philadelphia naval shipyards. Great anxiety built up as the Announcement date arrived, but not with regard to the Olmsted operation. Millions of dollars had been invested in the Middletown complex during the preceding five years to provide a modern headquarters facility for the MAAMA and to assure the most modern and flexible flight line operation possible. Extensive temperature and humidity controlled workrooms had been outfitted to increase the capability for electronic equipment calibration and maintenance. In addition, the opinion was openly voiced that the highly skilled workforce at Olmsted would be a strong factor operating to protect the Base from closure. How could a saving be realized by declaring 10,000 experienced workers redundant and then attempting to relocate their previous functions in another state where a new labor force would have to be recruited? This question, of course, missed the important point that massive functional transfers were integral components of the planned phase-outs. Finally, functions had recently been transferred to Olmsted from the Rome, New York, AMA.

Nevertheless, on November 19, 1964, Olmsted AFB was among the 95 installations slated for closure, (and the Philadelphia shipyards were not. In fact, they were to be expanded.) The immediate reaction was one of open panic. State and local business and political leaders quickly banded together to seek redress of this grievous injustice to central Pennsylvania. Some local merchants immediately pulled up stakes in anticipation of a steadily worsening situation that could best be salvaged only by quick action to minimize expected losses. In general, however, disbelief coupled with optimism resulted in area-wide business stability.

This initial reaction to avert the impending disaster gradually turned to one of resignation to the inevitable, and the group which had been galvanized to avert the closure now turned to positive action to counteract the impact of the reduction in activity. It was at this point that the where, when, and how elements came into play. Each of these factors has been discussed in the preceding pages and is briefly reviewed here.

The location and form of the Olmsted AFB facility is perhaps unique among the 95 which were closed. First, it is located within 40 miles of three SMSA core cities--Harrisburg (the state capital), Lancaster, and York and within two-hundred and fifty miles of New York City, Washington, D. C., Philadelphia and Pittsburgh. Second, having been an Air Material center, the installation includes a large industrial complex. Third, the new headquarters building and runway represented outstanding facilities for non-military uses. Fourth, and perhaps most important, the access of the Base to transportation acted as a strong attraction to new non-military enterprises. So, the 'where' factor was a strong plus in the conversion from military to non-military use.

The "when" element also appears to have been favorable to the observed closure pattern. The annual average unemployment rate in the Harrisburg SMSA declined continuously from 1961 through 1967, with rates far below the national average. The area-wide economy is a diversified one with growth being observed in a number of sectors, and only the primary metals and construction sectors showing definite weakness during the 1960-67 period. One sector in particular, Federal military installations, experienced rapid growth in the area because of the Viet Nam war effort. Thirty per cent of the former Olmsted civilian employees found jobs with one of the other military operations in the area. All are close enough that a worker could continue to live in the same location as when he was employed at Olmsted. It is concluded, therefore, that the strength of the area-wide economy and of these military installations in particular has been a strong force acting on the observed impact of the Olmsted AFB closure. It is clear then, that these "when" and "where" factors interacted in a favorable way.

The "how" element appears to have been equally important. A quasi-public industrial development agency was founded to receive selected facilities from the General Services Administration of the Federal Government. This agency then transferred its acquisitions to a Harrisburg area industrial development corporation which has acted as a leasing agent. These activities came about after the merger of the Middletown Chamber of Commerce into the larger Harrisburg Area Chamber of Commerce, which was accomplished to provide a more effective front to adapt to the closure of the Base. Other fortunate acquisitions include the location of a branch campus of The Pennsylvania State University in the former headquarters building, and the use of the airport facilities by the State Aeronautics Commission as a regional commercial airport. Local leadership did come forward and, in conjunction with Commonwealth and national officials, made an immediate "success" of the conversion attempt. The end of the effort is not yet in sight, however. Operational revenues of the portion of the complex now owned and operated by the Commonwealth are only a fraction of the operational budget. Negotiations are underway with a number of potential lessees. If and when the time comes when revenues exceed costs, the excess will be ploughed back into improvement of the airport facilities.

While we do not know what the Harrisburg area economy would have looked like if Olmsted AFB had not been phased-out, it is clear that the impact was diffused to the extent that most measures of area-wide economic activity do not show a reversal of the general strength beginning in 1961. The overall conclusion, therefore, is that the "where," "when," and "how" factors each interacted with the others to assure the observed pattern reported on in this paper.

ECONOMIC EFFECTS OF THE ANNOUNCED CLOSURE OF AMARILLO AFB, AMARILLO, TEXAS

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Introduction[1]

The objective of this report is the evaluation of the impact on the local economy of the closure of Amarillo Air Force Base, a basic military and technical training facility located northeast of Amarillo, Texas. The Base has been in continuous operation since 1951 and at one time had a total population of more than 19,000. Since it has been estimated that the Base has contributed more than $60 million annually to the Amarillo economy and since the Base was one of many designated in November of 1964 to be closed, it was considered of interest to public officials to determine the economic and political impact of the closure, the methods by which local leaders attempted to replace the Base as a source of income for the community, and the probable effect on the long-run growth of the city as a result of both the Base closure and offset activity.

The methodology employed consisted of (a) the collection and analysis of data on various economic and demographic phenomena, (b) the recording of day to day events in the city, and (c) the determination of the scope, timing, and effectiveness of activity designed to compensate for the Base closure. Data were collected for employment (aggregated and disaggregated), income, banking activity, construction activity, population, school enrollment (in the city and on the Base), utilities (water, electricity, telephone, and gas), housing, and public receipts and expenditures. These data were collected on a quarterly basis, generally,

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1. The writers wish to express their appreciation for the assistance provided by Mr. Bill Rook, Assistant Director of Finance of the city of Amarillo, Mr. William Henderson, Base Closure Officer at Amarillo AFB, Mr. Dean Simon, Assistant Base Closure Officer at Ammarillo AFB, and Mr. Albert Clay, District Labor Market Analyst of the Texas Employment Commission.

in certain instances only annual data were available, and occasionally data were available monthly. Day-to-day events were recorded through a subscription to the Amarillo Daily News. Potential offset activity was determined primarily through interviews with knowledgeable local officials, notably the Mayor of Amarillo, the City Manager, the chairman of the Amarillo Airport Board, and officials of the Base Closure Office at Amarillo AFB.

Whenever possible, linear regression analysis was used to determine the pre-Announcement trends for the data and the post-Announcement trends. A comparison of trends indicated whether any substantial change had occurred.

Since the population of Amarillo AFB at the time of the last data collection was almost 10,000 persons (only 3,000 less than at the time of the Announcement), many of the effects of the closure decision can relate only to the psychological effects of the Announcement. Moreover, since the actual phasing-out process has been extended by six months to December 31, 1968 and since for some time there existed the hope that the Base actually would not close, many of the ultimate effects of the closure cannot be determined at this time.

Some of the impact of the Base closure can be separated from the effects of other variables on the performance of the Amarillo economy since 1964. In general, the high plains agricultural economy, of which the Amarillo economy is a part, has stabilized in recent years, and growth, while regular, has decreased in intensity. This is reflected in the slower rates of population growth of this area. Decreases in the availability of underground water for irrigation purposes partly explains this trend. Moreover, the relatively undeveloped tertiary industries of the 1940s and 1950s increased in importance in the pre-Announcement period and served to make the Amarillo economy a more homogeneous entity. This process was largely completed by 1964. Hence, the slow rate of growth of the Amarillo economy in the 1964-67 period was not atypical of the regional economy of West Texas.

However, certain effects of the anticipated Base closure can be determined at this time. First, and most important, the Announcement seriously disrupted the real estate and construction industries. Many construction companies ceased to build houses; others built only on a contract basis; few built houses priced at less than $20,000.

The number of new houses under construction decreased by approximately 75 per cent from 1964 to 1967, and the value of building permits for new residential construction decreased by approximately 67 per cent. Moreover, realtors expressed concern at the prospect of a near-collapse in their industry. Two factors caused this concern: first, the ten-fold increase in the number of F.H.A. foreclosures from 1964 to 1967; second, the prospect of more than 500 high-quality "Capehart" houses being placed on the market for sale when the Base finally closes.

Second, the Announcement generated a concerted and united effort to find a source to replace the Base's income contribution to the local economy. This effort was only momentarily interrupted by (a) an effort to convince officials in the Department of Defense of the desirability of keeping the Base open, (b) a brief period of indecision on the part of city leaders, and (c) a period of study designed to determine the most appropriate course to follow.

Initially the strategy involved the search for aerospace industries which would utilize the Base runways, parking ramps, and hangars. To this end several commercial airlines were considered, as well as companies engaged in the construction of military and commercial aircraft and parts. As an incentive, new terminal facilities and access roadways at Amarillo Airport were promised. However, these tactics were largely unsuccessful, partly due to the uncertain status of the Base during much of the 1964-67 period.

During 1967 the strategy changed considerably. A concentrated effort was made to find a tenant for the dormitories and instructional buildings at the Base. Since Amarillo College, a two-year institution, could not utilize the facilities, discussions were inaugurated with Texas A & M University to determine if it were feasible to establish a technical training program at the Base. It now seems that this approach will be successful if the Texas Legislature will appropriate funds for the technical training institute's operations.

Third, the Announcement has had little impact on the aggregate employment of the Amarillo economy, although some sectors have declined absolutely and relatively. Employment has increased at a rate of approximately 3 per cent per year, and the unemployment rate has generally been 3 per cent or less. In part this can be explained by the existence of part-time employment by Base personnel, and by the employment of family members of Base personnel, which now become available to permanent residents of Amarillo. Included here are such diverse occupations as gas station attendant, cook, practical nurse, clerk, and teacher.

The Economy Prior to Announcement

Amarillo, situated at the center of a regional trade and marketing area and located on U.S. Highways 66 and 87, grew substantially during the 1960-64 period. All major economic indicators increase regularly during this period, explained in part by the performance of the American economy during the period, and explained in part by the increased public expenditures.

Total employment increased by approximately 5.25 per cent and the unemployment rate decreased from 5.2 per cent to 3.7 per cent after reaching a peak of 6.4 per cent early in 1961. The population and employment at Amarillo AFB were relatively stable during the period, except for a brief period in the latter part of 1963.

Construction activity contributed significantly to the expansion of the Amarillo economy, with residential construction increasing slightly less than 12 per cent during the period and mercantile construction increasing slightly more than 12 per cent in terms of the value of building permits. In addition, the activity in the banking community indicated that the regional economy was expanding. Debits to bank demand deposits increased by 44 per cent during the period--a period of relatively stable prices.

The most significant aspect of Amarillo's growth during the period is its regularity. Few of the indicators were erratic. Most showed a persistent increase along a linear trend. Industry was attracted during the period, and the strategic location of the city allowed the business related to tourist traffic to increase their employment and sales.

ECONOMIC PATTERNS: AGGREGATE MEASURES

Population increased continuously during this period, with the most rapid growth occurring early in the period. Of the two counties in the Amarillo SMSA, Randall County (which includes the Southern portion of Amarillo and the city of Canyon) grew substantially more rapidly than Potter County (which includes most of the geographic area of Amarillo and the Base). This growth is reflected in the rapid increase in school enrollment, which increased by approximately 19 per cent during the period, an annual rate of increase of approximately 4.5 per cent. This growth was most notable in the high school population, with the elementary and junior high school population increasing more slowly.

Moreover, the labor force increased steadily, employment increased steadily, and the number of unemployed decreased during the period. Only in 1961 and 1962 did the employment remain stationary. The economy reached a peak in IV-60 with total "covered" employment of 54,030. In 1961 and 1962 employment remained approximately at 52,000 and did not recover to the previous peak until II-63, when employment was 54,130. At the end of 1964, employment had increased to 54,800. The highest unemployment rate was 6.4 per cent I-61, and the lowest unemployment rate was 3.3

per cent II-64. (See Table 1.)

There was considerable seasonal variation in the number of unemployed, with peak unemployment occurring in the first quarter of each year. Minimum unemployment occurred during the fourth quarter of each year.

The regularity with which the Amarillo economy expanded can be illustrated by an examination of the sales of the utilities companies. For example, the number of electric customers increased each year by approximately 1,600 during the period. The percentage rate of increase varied between +0.5 per cent and +1.5 per cent for all but one of the quarters during this period.

Similarly, the percentage rate of increase in the number of residential telephones in Amarillo varied between +0.5 per cent and +1.5 per cent for all but six of the quarters during the period, and in four of these six quarters the rate of increase was approximately +0.25 per cent. The total number of telephones increased by approximately the same rate: in all but two of the quarters the rate of increase varied between +0.5 per cent and +1.5 per cent. With respect to the number of active water meters, the rate of increase was substantially the same: in only two of the quarters was the rate of increase not within the rate of +0.5 per cent to +1.5 per cent.

The number of active gas meters varied seasonally, the cyclical pattern being for the number of meters to decrease during the second quarter of each year, and to increase during the remaining three quarters. When adjusted for this seasonal variation, this rate of increase is the same as for electric customers and probably is indicative of the rate of population increase in the city of Amarillo.

ECONOMIC PATTERNS: SECTORAL MEASURES

All revenue and expenditure categories in the budget of the city of Amarillo increased from 1960 to 1964. Revenues were divided into (a) property tax receipts, (b) all other tax receipts, (c) profits from water and sewer operations,

TABLE 1

EMPLOYMENT AND UNEMPLOYMENT, AMARILLO LABOR MARKET AREA, 1960-64

Period	Total Non-Agricultural Employment	Unemployment Rate (per cent)
1960--I	52,070	5.2
--II	53,000	3.9
--III	53,500	3.4
--IV	54,030	4.5
1961--I	51,700	6.4
--II	51,670	4.8
--III	51,970	4.9
--IV	52,270	4.9
1962--I	51,430	5.3
--II	52,100	4.2
--III	52,260	3.9
--IV	52,630	3.7
1963--I	53,300	4.5
--II	54,130	3.5
--III	55,030	3.6
--IV	54,870	3.6
1964--I	53,930	4.3
--II	54,470	3.3
--III	54,470	3.5
--IV	54,800	3.7

Source: Compiled from data provided by the Texas Employment Commission.

and (d) revenues from the use of money and property. Expenditures were divided into (a) general government, (b) public safety, (c) streets and highways, (d) sanitation, (e) health and hospitals, (f) parks and recreation, and (g) public library.

While the population of Amarillo was increasing at a decreasing rate, the expenditures per capita were increasing. This conclusion applies to certain of the "luxury" expenditures such as libraries, as well as to other, more routine types of expenditure.

Property tax receipts increased by 30 per cent during the period--(with a constant tax rate) an average annual rate of increase of approximately 7 per cent. All other tax receipts increased at approximately the same rate. Profits from water and sewer operations more than doubled during the period, and revenues from the use of money and property increased by more than 40 per cent.

Expenditures for sanitation increased at approximately the same as did the population. Expenditures for the public library (numerically the smallest category) increased by more than 60 per cent during the period. Expenditures for general government increased by 21 per cent during the period, while expenditures for public safety increased by 26 per cent. For streets and highways and for health and hospitals, the rates of increase were, respectively, 32 per cent and 33 per cent. For parks and recreation, the rate of increase was 20 per cent.

Generally, the increases were regular and persistent. Most of the categories increased at a rate substantially in excess of the rate of population growth.

The pattern of population growth was evidenced by the rate of increase of students in the Amarillo Independent School District. Overall, the increase was 19.4 per cent during the period. For the elementary and junior high schools the rate of increase was approximately 13 per cent, whereas for the high schools the rate of increase was 47.8

per cent. For the systems as a whole, the rate of increase was regular, but for the high schools rapid increases were experienced in the 1962-63 and 1963-64 school years.

Since the number of firms, level of employment, and wages paid in Potter County are, respectively, 7.9 times as large, 12.1 times as large, and 13.4 times as large, as for Randall County and since the number of two-digit SIC industries in Potter County is 48, while for Randall County it is 17; the following analysis which will relate only to Potter County covers most of the SMSA.[1] It is expected that the results would be substantially the same if both counties were examined.

In terms of employment, three of the industries suffered decreases: Crude Petroleum and Natural Gas, Retail Trade, Food and Wholesale Trade. The most rapidly growing industry was Retail Trade: General Merchandise.

In terms of wages paid, all of the industries grew during the period. The most rapidly growing industries were Retail Trade: General Merchandise and Motor Freight Transportation and Warehousing. The slowest growing were the two industries which suffered the greatest decrease in employment: Crude Petroleum and Natural Gas and Retail Trade. The overall pattern is illustrated in Table 2.

Growth was somewhat erratic, with only two industries suffering no decrease in wages paid in any year and with no industries experiencing increases in employment each year.

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1. Since the Texas Employment Commission includes in the SIC two-digit breakdown only those employers with four or more employees for at least 20 weeks per year, and since the T.E.C. classifies as "other industries" those industry groups with fewer than four firms, it was possible to obtain complete series for only eight industries in Randall County. In many instances, no comparison could be made between these industries and their counterparts in Potter County.

TABLE 2

EMPLOYMENT AND WAGES PAID, TEN LARGEST INDUSTRIES, POTTER COUNTY, 1960 AND 1964 (FIRST QUARTER)

	Employment			Wages Paid ($1,000)		
Industry*	1960	1964	Change (per cent)	1960	1964	Change (per cent)
SIC 13	1,126	944	-16.2	$1,846.8	$1,866.1	1.0
SIC 17	972	1,086	11.7	1,061.6	1,346.0	26.7
SIC 20	1,084	1,100	1.5	1,412.1	1,574.1	11.5
SIC 42	1,049	1,253	19.4	1,277.8	1,810.1	41.6
SIC 48	813	891	9.6	968.2	1,306.4	34.9
SIC 50	4,391	4,301	-2.0	5,466.6	5,986.8	9.5
SIC 53	1,254	1,562	24.6	934.0	1,363.0	45.9
SIC 54	944	841	-10.6	688.2	716.4	4.1
SIC 55	1,189	1,223	2.8	1,364.4	1,689.7	23.9
SIC 58	1,369	1,557	13.7	618.4	786.7	27.3

*SIC 13 Crude Petroleum and Natural Gas
SIC 17 Special Trade Construction
SIC 20 Food and Kindred Products
SIC 42 Motor Freight Transportation and Warehousing
SIC 48 Communications
SIC 50 Wholesale Trade
SIC 53 Retail Trade: General Merchandise
SIC 54 Retail Trade: Food
SIC 55 Auto Dealers and Service Stations
SIC 58 Retail Trade: Eating and Drinking Establishments

Source: Compiled from data provided by the Texas Employment Commission.

Perhaps this is explained in part by the method of reporting by the Texas Employment Commission. Data were reported only for the first quarter of each year during this period. Beginning with 1966, however, data were reported for each quarter.

The housing industry experienced an expansion from 1960 through 1963, with the value of building permits for new residential construction increasing from $20.132 million to $26.840 million, an increase of 33.3 per cent during this three-year period. The value of permits issued decreased in 1964 to $22.476 million--a decrease of 16.1 per cent from 1963 to 1964. For the period of 1960-64 as a whole, the value of permits increased by 11.6 per cent. The value of building permits for alterations to residences decreased by 11.2 per cent from 1960 to 1961 but remained approximately the same from 1961 to 1964.

Regarding the sale of existing houses, the number of houses for sale and occupied remained constant during the period, while the number of houses for sale and vacant decreased substantially. New house construction remained constant, and the number of FHA foreclosures was only 63 for the entire period.

THE MILITARY INSTALLATION

Military activity on the Base was stable during the 1960 to 1964 period. Maximum Base population was approximately 15,900 in III-63. Minimum Base population was approximately 12,250 in III-64. Civilian permanent party personnel fluctuated between 1 450 and 1,600 during the period, and military permanent party personnel varied between 3,700 and 4,100 during the period. The number of students at the Base varied between 5,200 and 5,700 during the period.

At the time of the announced closure of the Base, total Base population was 13,120, with 5,105 students (4,025 students engaged in Basic Military Training, and 1,080 students assigned to the 3320th Technical Training Wing for aircraft mechanic or aircraft-missile specialist training), 2,708 tenants, and

5,307 permanent party personnel, of whom 1,602 were civilian (1,574 or 98 per cent of these were career or career-conditional personnel) and 3,705 were military (380 officers and 3,325 airmen).

There were no significant activity variations. Activity was routine; Base population was relatively constant, and the installation had become an integral part of the Amarillo economy since its reactivation in 1951.

In terms of impact on the local economy, it can be said that Amarillo relied on Base personnel and their families to occupy second jobs, to occupy certain technical positions (e.g., teacher, nurse), to fill and contribute to church congregations, and, through the Base band, to render public service. In addition, Federal impacted-area funds were received by area school districts, and several housing additions were constructed.

Discounting the impact on the local economy of the student population, which spent perhaps only 20 per cent of income locally as contrasted to the 60 per cent of income spent by tenants and permanent party personnel, the Base contributed to the local economy to the extent of an industry with an employment of approximately 7,000 to 8,000 persons. Considering all income payments and local purchases, it is estimated that the Base contributed $60 million annually to the income of the Amarillo economy.

<u>CONCLUSIONS</u>:

As indicated earlier, the Amarillo economy grew substantially in this period. Population growth was reflected in the trend of customers of water, electricity, gas, and telephone companies and in the growth of school population. Confidence in the local economy by the business community was reflected in the growth of the construction industry. The increase in bank debits indicated that the volume of trade in the Amarillo regional economy had increased substantially. Optimism on the part of the population was expressed by the extremely low rate of foreclosure on FHA-approved houses and by the rate of construction of new houses (generally occupied soon after completion). And, the officials of the city of Amarillo continued to spend more per capita for public facilities and services.

The Economy After Announcement

ECONOMIC PATTERNS: AGGREGATE MEASURES

The population of the Amarillo SMSA has decreased each year since the Announcement of the Base closure. While the population of Randall County increased, the population of Potter County decreased by a larger amount. In total, from 1964 to 1967 the population decreased by a total of 2.2 per cent. For each year in the period the population decrease was small, but it was regular. (See Table 3.) This pattern follows those of other West Texas metropolitan areas, however, and it cannot be determined with certainty that the Base closure has been directly responsible. The most recent estimates of long-run population change for the State of Texas indicate that this part of the State will experience extremely slow growth.

With regard to the Amarillo Independent School District, the conclusion is basically the same. From September of 1964 to September of 1967, the total school enrollment decreased from 31,915 to 31,661--a decrease of 0.8 per cent. However, this figure understates the impact, since the peak enrollment for the district occurred in September of 1966, when 32,221 students were enrolled. In the past year the number of students has decreased by 560, a 1.7 per cent decrease. This decrease occurred only in the elementary grades, in which the number enrolled decreased from 18,179 in September of 1964 to 17,081 in September of 1967. This is a 6.0 per cent decrease.

While population and school enrollment have decreased in the post-Announcement period, this tendency has not been apparent in the labor market. The number of persons employed increased from 54,570 in the third quarter of 1964 to 59,630 in IV-67, an increase of 9.5 per cent. In addition, employment increased by 610 persons per quarter in this period,

TABLE 3

ESTIMATED POPULATION, AMARILLO S.M.S.A., 1960-67

Year	Potter Company	Randall Company	Total	Change (per cent)
1960	115,580	33,913	149,493	
1961	121,934	38,809	160,743	7.5
1962	121,846	41,430	163,276	1.6
1963	121,875	44,741	166,616	2.0
1964	122,497	48,585	171,082	2.7
1965	119,778	50,164	169,942	-0.7
1966	114,605	54,922	169,527	-0.2
1967	109,324	57,999	167,323	-1.3

Source: Computed from data provided by the Population Research Center, The University of Texas. Data are compiled as of April 1, of each year.

compared to an average increase of 135 persons per quarter in the pre-Announcement period. Moreover, while the seasonal pattern of unemployment continued, the total number of unemployed remained relatively constant, only increasing by 100 persons. (See Table 4.)

The unemployment rate continued to decrease and in six of the twelve quarters since the Announcement of the closure of the Base, was 3 per cent or less. This reflects the "tight" nature of the Amarillo labor market. In fact, the total employment increased in all but one of the quarters since the Announcement of the closure (the decrease occurring in I-64).

The utility activity is indicative of the declining population of the SMSA area and is indicative of the declining rate of growth of the city of Amarillo. For example, whereas the rate of increase of electric customers for the 1960-64 period was approximately 400 per quarter, from III-64 to II-67 the rate of increase was only 45 per quarter. And, in III-67 and IV-67 the number of customers decreased by 144 and 484, respectively. For the period from September of 1964 to December of 1967, the number of electric customers decreased by 129--a decrease of 0.3 per cent.

With regard to the number of telephones installed in the city of Amarillo, the total number increased slowly until IV-66. In 1967 the number remained constant. The number of residential telephones actually decreased slightly, being offset by a small increase in the number of business telephones. Moreover, this pattern was similar for gas and water customers.

General business conditions, as measured by debits to bank demand deposits, improved gradually during 1965, slumped during 1966, and remained relatively constant during 1967. For the post-Announcement period, as contrasted with the pre-Announcement period, the total growth was less than one-half as great. The trend for bank debits is upward, but at a slower rate than during the previous period.

TABLE 4

EMPLOYMENT AND UNEMPLOYMENT, AMARILLO LABOR MARKET AREA, 1964-67

Period	Total Non-Agricultural Employment	Unemployment Rate (per cent)
1964--IV	54,800	3.7
1965--I	54,200	4.8
--II	54,730	3.7
--III	55,670	3.4
--IV	55,700	3.0
1966--I	55,700	3.8
--II	57,670	2.7
--III	58,500	2.8
--IV	59,070	2.7
1967--I	59,770	3.3
--II	60,030	2.9
--III	60,570	3.0
--IV	59,630	3.3

Source: Compiled from data provided by the Texas Employment Commission.

ECONOMIC PATTERNS: SECTORAL MEASURES

From the time of the Announcement of the Base closure to III-67 (the latest period for which disaggregated data are available), the total covered employment increased, but this increase was not distributed evenly. However, the industries which suffered decreases in employment in the 1960-64 period continued to experience decreases in the post-Announcement period: Crude Petroleum and Natural Gas, Wholesale Trade, and Retail Trade: Food. (See Table 5.)

The most rapidly growing industries continued to expand during the recent period. The industry of Retail Trade: Eating and Drinking Establishments grew most rapidly. Other rapidly growing industries were Special Trade Construction, Motor Freight Transportation and Warehousing, and Retail Trade: General Merchandise.

It is significant that the largest industry (in terms of employment, more than three times as large as the next largest industry) has suffered continuous decreases in employment and recently has suffered decreases in wages paid. This is the Wholesale Trade industry. This indicates the general decline of the regional area as well as the decline of the Amarillo area.

The Announcement of the impending closure of the Base caused a severe contraction in the construction industry, particularly in the housing industry. The value of building permits for new residential construction decreased from $22.476 million in 1964 to $11.347 million in 1965, to $7.680 million in 1966, and to $7.441 million in 1967. This represents a decrease of 66.9 per cent from 1964 to 1967. Moreover, the value of building permits for residential alterations decreased from $1.403 million in 1964 to $1.007 million in 1967--a decrease of 28.2 per cent. This effect was slightly offset by the 5.9 per cent increase in mercantile building permits. However, one can discount this somewhat, since it is probable that not all of the construction actually occurred for which permits were obtained.

TABLE 5

EMPLOYMENT AND WAGES PAID, TEN LARGEST INDUSTRIES, POTTER COUNTY, I-64 AND III-67

	Employment			Wages Paid ($1,000)		
Industry[1]	I-64	III-67	Change (Per cent)	I-64	III-67	Change (Per cent)
SIC 13	944	778	-17.6	$1,866.1	$1,699.6	-8.9
SIC 17	1,086	1,287	18.5	1,346.0	2,084.1	54.8
SIC 20	1,100	1,098	-0.2	1,574.1	1,559.7	-0.9
SIC 42	1,253	1,387	10.7	1,810.4	2,239.8	23.8
SIC 48	891	928	4.2	1,306.4	1,536.4	17.6
SIC 50	4,301	3,975	-7.6	5,986.8	5,951.5	-0.6
SIC 53	1,562	1,793	14.8	1,363.0	1,750.0	28.4
SIC 54	844	747	-11.5	716.4	828.1	15.6
SIC 55	1,223	1,305	6.7	1,689.7	1,816.1	7.4
SIC 58	1,557	1,933	24.1	786.7	1,113.2	41.4

1. For an identification of SIC Codes, see Table 2

Source: Compiled from data provided by the Texas Employment Commission.

Also symptomatic of the depressed condition of the housing industry was the rapid increase in FHA foreclosures. (See Table 6.) The most recent survey conducted by the Federal Housing Administration indicated that between August of 1966 and August of 1967 there were 638 foreclosures--ten times the number that occurred during all of 1962, 1963, and 1964. This reflects a trend which began immediately after the Announcement of the Base closure. Similar trends are evident in new house construction and in houses for sale.

In spite of the unsettled atmosphere created by the Base closure, the failure of the city to attract industry for re-use of Base facilities, and the depressed condition of the construction industry, the receipts and expenditures of the city of Amarillo continued to increase and to increase even more when considered on a per capita basis. For example, per capita receipts in fiscal 1967 were $70.52, compared with per capita receipts in fiscal 1965 of $66.56 and in fiscal 1960 of $50.82. In general, the receipts and expenditure pattern for the city of Amarillo did not resemble that for a city plagued with the loss (permanently) of a major source of income. (See Table 7 for detail.)

ECONOMIC EFFECTS OF CLOSURE

Statements regarding the effects of the closure of the Base are difficult to make, since at the present time there are still more than 8,100 persons at the Base. At the time of the Announcement there were approximately 13,120 persons at the Base, of whom 5,300 were permanent party personnel, 5,100 were students, and 2,700 were tenants. During 1965 the population of the Base decreased, but, with the troop build-up in Vietnam beginning in that year, the Base population swelled to a maximum of 19,300 in II-66, with a maximum of 11,700 students. Most of this increase was in students and support personnel for technical training.

At the beginning of 1967 there were still 17,000 persons at the Base, and at the end of I-67 there were approximately 14,640 persons, of whom 7,300 were students, 5,800 were permanent party personnel, and 1,500 were tenants. For IV-67 there

TABLE 6

CONDITIONS IN THE HOUSING MARKET,
AMARILLO, TEXAS, 1961-67

Item	Date						
	Sept. 1961	May 1962	June 1963	Sept. 1964	June 1965	Aug. 1966	Aug. 1967
FHA Repossessions	n.a.	12	9	42	211	411	638
New Houses Under Construction	226	382	206	168	93	61	55
New Houses Completed and Vacant	236	228	149	218	207	105	79
Existing Houses for Sale and Occupied	403	293	501	414	585	535	499
Existing Houses for Sale and Vacant	425	273	175	281	680	1,088	1,282

Source: Compiled from data provided by the Federal Housing Administration, Lubbock, Texas.

TABLE 7

SELECTED RECEIPTS AND EXPENDITURES,
CITY OF AMARILLO, TEXAS, 1960-67

Item	Fiscal Year[1]							
	1960	1961	1962	1963	1964	1965	1966	1967
Receipts ($1,000):								
Property Tax	4,496	4,823	5,225	5,483	5,862	6,062	6,603	6,847
Other Taxes	347	381	404	430	465	478	493	515
Profit: Water and Sewer Operations	1,181	1,270	1,787	2,242	2,601	2,557	2,716	2,554
Revenue from Use of Money and Property	987	1,132	1,277	1,349	1,401	1,445	1,505	1,729

1. Fiscal Year: October 1 to September 30.

TABLE 7 (Continued)

Item	1960	1961	1962	1963	1964	1965	1966	1967
	Fiscal Year							
Expenditures ($1,000):								
General Government	682	709	759	803	823	918	977	1,118
Public Safety	1,884	1,937	2,148	2,253	2,372	2,549	2,647	2,867
Streets and Highways	863	773	1,048	1,094	1,144	1,366	1,442	1,452
Sanitation	763	790	757	883	855	949	1,013	1,095
Health and Hospitals	255	262	298	331	340	396	419	478
Parks and Recreation	459	406	515	551	553	560	617	643
Library	167	173	222	236	273	311	318	352

Source: H. V. Robertson & Company, Amarillo, Texas, City of Amarillo: Report on Audit of Accounts and Records at September 30, 1967. Exhibits J-1, J-2, and J-3, pp. 70-72.

were still almost 10,000 persons at the Base (9,700). Hence, it is difficult to assess the impact of the closing of the Base at this time.

Current plans call for the basic training capacity to be transferred by the end of 1968 and for the technical training capacity to be transferred by June of 1968. The last of the B-52x of the Strategic Air Command left the Base in March of 1968, reducing the number of tenants from 1,200 to 400, most of whom will be gone this year. The Base should be transferred to a 200-man care-taker force early in January of 1969.

The pattern of employment in the Amarillo area remains much the same as in 1964. The affluence of the economy is indicated by the rapid increase in the activity of the eating and drinking establishments. The caution of the business community is indicated by the decrease in construction. However, the population stability is not indicative of the Base closure, but rather of the general decline in relative importance of West Texas economy.

However, one can obtain a general impression of the change in the Amarillo economy by comparing the trend of utility customers before and after the Announcement. The increase in electric customers was approximately 407 per quarter, with a base of more than 42,000 from 1960 to III-64. The increase in electric customers from IV-64 to IV-67 was approximately 11 per quarter--only one-fortieth of the pre-Announcement growth rate.

Similar results were obtained when the trend of gas company accounts was determined for the pre-Announcement and post Announcement periods. The increase was 416 per quarter in the former period, compared with an increase of only eight per quarter in the latter period--only one-fiftieth of the pre-Announcement growth rate.

THE MILITARY INSTALLATION

THE CLOSURE PATTERN

The most marked characteristics of the closure pattern of Amarillo AFB have been the extensions of close-out dates and the addition of new responsibilities and personnel to the Base during much of the time since November 1964. Therefore, this report does not cover the entire close-out period, because the date when the Base will be fully closed is now fixed as December 31, 1968.

On November 19, 1964 Amarillo Mayor F. V. Wallace (since defeated for reelection), selected city officials, and representatives of Base employee organizations were informed of the Announcement of the closure. On November 19, 1964 there were approximately 12,200 personnel assigned to the Base. The direct economic impact of the Base upon the Amarillo SMSA at time of closure Announcement was more than $60 million annually.

There was little change in Base personnel strength during the remainder of 1964 following the closure Announcement. Directives were received by the Base to put a freeze upon all new military construction programs and upon the hiring of permanent Wage Board personnel. Temporary Wage Board personnel were only to be hired where absolutely required. The expectation was that the Base would soon commence an orderly reduction of its activities.

In the early months of 1965 conferences were held with personnel from other Air Force Bases regarding the transferring of Amarillo AFB training activities elsewhere. It was not until June 4, 1965 that Headquarters Air Training Command provided authorization for the first movement of an Amarillo AFB function. This was the ABR43131C Jet Aircraft Mechanic Course which commenced moving to Sheppard AFB on June 23, 1965. This move was completed by October 1965.

A USAF-approved plan was received by the Base in July 1965 which projected the future phase-out stages for the Base. This was ATC Programming Plan 205-65, dated June 1, 1965. On October 5, 1965 the Base made public the projected closure pattern contained in the plan so that interested parties could make appropriate plans. In practice this plan, which called for a June 30, 1968 final close-out date has been substantially modified. During 1965 the Base strength decreased to 10,240.

In 1966 substantial changes were made in the phase-out schedule. Because Base programs were retained and because new airmen were transferred from Lackland AFB for basic training at Amarillo AFB, the Base strength increased to 19,200. In addition, the number of students receiving technical training increased by 4,000. This figure represented the most personnel assigned to the Base for any period since it was reopened in 1951 during the Korean Conflict. Not only did the shift in programming throw the proposed close-out plan out of phase, it suggested to many Amarillo citizens that perhaps the Base would not be closed. The increasing intensity of the Vietnamese War seemed to point toward the same conclusion. A revised phase-out schedule was adopted in 1967 and has been modified most recently on May 8, 1968. The result was that by the end of the year the Base strength was down to 9,700.

The year 1968 began in what has become the normal phase-out pattern for Amarillo AFB, that is to say, some of the projected phase-out plans were implemented and others were scrapped as functions were extended. On January 21, 1968 the last B-52's of the Strategic Air Command's 261st Bomb Wing flew from the Base. By March 31, 1968 the remainder of the SAC personnel had left. Their departure dropped the Base personnel strength to approximately 8,100. On January 19, 1968 an order from the Secretary of the Air Force directed Amarillo AFB to extend its operation to December 31, 1968. The activities involved in the extension are the basic training function, 3,000 basic trainees, and the Personnel and Administration training courses, 1,300 students. Some 3,500 support personnel will remain on the Base to service these activities. The cause given for the extension by AF spokesmen is that facilities which were to be ready to receive the personnel from Amarillo AFB have not been completed at Lackland AFB due to a freeze on Federal construction.

TRANSFER OF FACILITIES TO OTHER USES

Before describing the uses to which various sections of the Base have been put and the plans for utilization of other portions, a general description of the six different areas of the Base should be made.

1. The "airport" section of the Base consists of the active runway, which is in excess of 12,000 feet and constructed to support the heaviest aircraft possessed by the United States; secondary runways and parking ramps; hangars and maintenance/storage facilities; POL facilities; and the tower and navigational aid equipment. The primary use for this area was in support of the SAC bombers formerly based at AAFB.

2. A special warehouse and unloading area is suitable for handling high explosives and other materials required by the AEC operation at the nearby Pantex Ordnance Plant. These facilities can service large aircraft such as the C-124 and C-130 or heavier planes.

3. The training, support, and living area (for unmarried personnel or those without their families) includes administrative offices, Base hospital, educational buildings, dining halls, recreation facilities, dormitories, and associated maintenance/storage/heating facilities. This area of the Base is primarily utilized by the Air Training Command in the operation of various educational and training functions.

4. The Capehart Housing area, which contains 507 units, is utilized by military families associated with the various activities of the Base.

5. A golf course is included in the Base property.

6. Facilities associated with the 688th AC&W Squadron comprise the last area. This unit operates certain radar, communication, and navigational equipment.

"Airport" Area

According to present plans, the "airport" area of the

Base will become the possession of the City of Amarillo at no cost in October 1968.[1]

According to current plans the City of Amarillo will build a $3.2 million air terminal to replace the outdated commercial facilities which are located to give access to the Base's active runway. An airport consulting firm has been retained by the City to draw up a "master airport plan", and the Texas Highway Commission has been approached concerning the construction of an access road to the location of the new terminal facilities. Funds for the Amarillo Air Terminal have not yet been secured.

The economic worth to be generated by the proposed Amarillo Air Terminal cannot be predicted with any degree of certainty at this time. Much depends upon the development of the Supersonic Transport and the "Jumbo" jets and whether the Amarillo Airport is utilized to accomodate such aircraft in large numbers. The unusually long and heavy duty active runway would facilitate such usages.

AEC Area

The AEC has requested that the special warehouse and unloading facilities used in connection with operations of the Pantex Ordnance plant continue in operation after the Base closes. This portion of the Base will be screened off from the other areas by security fencing.

Training, Support, and Living Area

After several years of fruitless contacts with prospective users of this portion of the Base and of the "airport" area, success was finally achieved early in 1968. Negotiation with the Bell Helicopter Co. of Fort Worth (a subsidiary of

1. The Strategic Air Command will retain the right to park bombers at the Amarillo Airport for short periods of time.

Trextron, Inc.) began the first of the year and culminated six weeks later with the announcement that Bell would commence a helicopter repair and modification operation on the Base. The helicopters undergoing repairs and modifications are from Viet Nam. Early in 1968 Bell took possession, under lease from the City, of Hangars No. 4000 and 5000, Headquarters Building 5105, Training Building 2206 and Steam Cleaning Building 2105 (this area is partly in the airport section and partly in the Training, Support and Living area). In April, Bell took over Hangar No. 3000 and the Flight Line Snack Bar No. 400. In May, Hangar No. 6000 was turned over to Bell. By the end of the year the helicopter firm expects to utilize some 600,000 square feet of space. The employment plan initiated by the company calls for 500 to be employed by June 1, 1968, with 1,000 by the end of 1968. Bell officials estimate that the payroll of the 1,000 man force will run between $7-8 million annually. Of this work force only 30 to 40, including the plant manager, will be transferred from Fort Worth. The rest will be local hires or people moving in from the surrounding area. The Texas Employment Commission reported that in one day, shortly after the Bell announcement, 750 applications for jobs at the helicopter plant were received. Many were from individuals living elsewhere in the Texas Panhandle and in New Mexico and Oklahoma.

The locating of the Bell operation at the Amarillo AFB resulted from a contact initiated by Bell officials who read a brochure telling of the opportunities to be available at the Base. The Chairman of the Base Use Committee of the Chamber of Commerce and his committee handled much of the negotiations.

News of the Bell announcement was enthusiastically welcomed in Amarillo. However, officials of the Base Closure Office doubt that the operation will substantially replace Amarillo AFB as a source of income for the economy, indicating that the employment at Bell will be only a small fraction of the Base employment.

Initially the damaged helicopters, primarily UH-1D utility troop carriers and UH-1B "gunships" will be trucked to Amarillo from Fort Worth. Later they will be delivered by military aircraft. The work thus generated is expected, according to Bell officials, to require all types of licensed aircraft skills, plus machine shop workers, welders, and platers. Whether or not the Bell operation will extend past the conclusion of the Viet Nam War is not known at this time. Of course, if it does not, then the Bell activity will constitute only a short-lived compensation to the Base closing, and one which would in turn need to be offset later.

An as yet untested aspect of the Bell repair facility is the prospect that a technical training school proposed for location at Amarillo AFB will train individuals for the type of employment available in the helicopter plant.

Very early in the history of the Amarillo closure the idea of using portions of the vacated Base for vocational education activities was considered. The first time on record was January 6, 1965 when a delegation of five Amarillo citizens, headed by Mayor F. V. Wallace, talked with Governor John Connally in Austin. The Governor suggested a vocational college to provide technical training for both youths and adults who had been displaced by automation. Later, on January 13, 1965, at a meeting of the Board of City Development, a discussion was held with local educators about the educational uses to which the Base might be put. According to a chronology of major events kept by the Base Closure Office no recommendations were made then.

The prototype for the envisioned Mid Continent Technical Training School is the James Connally Technical Training Institute, located on the site of James Connally AFB in Waco, Texas. That facility is administered, as would be the school in Amarillo, by Texas A & M University. During the course of the discussions concerning the development of a technical training school on the Base, City officials have been in frequent contact with individuals responsible for the Waco facility. The A & M Regents have submitted to the Governor a feasibility study recommending the establishment of the Amarillo training facility. The study suggests $1.3 million in State funding would be required to establish the school and operate it for the first year. This amount is in addition to that needed to acquire the necessary Base property. A & M officials have suggested that the City of Amarillo initially contribute $150,000 to the project. It should be noted that the City has earmarked $280,000 for general conversion of the Base to commercial purposes and to the promotion of a monument to the helium industry. Although the feasibility study is in the Governor's hands and has been commented upon approvingly by the State Senate Chairman of the Committee on Vocational Education, the Texas Legislature will not have the chance to act upon it until the 1969 session, unless it is discussed at a special session in June of 1968.

In the interim period what has been described as a "mobile laboratory training center" will offer several courses compatible to the new Bell facility and to other aviation industries in Texas. The center, actually a pilot project, consisting of two or three 20-student courses and three Instructors from Waco, will begin in June of 1968. This operation will be conducted in Building 7105, which has 20,000 square feet and 16 laboratory areas. The City of Amarillo has agreed to pay for the building's utilities and janitorial service. Students will be charged $50 a term for the four-five month long courses, the same fee as is charged elsewhere in Texas for comparable education. The extension of Base operations six months beyond the original phase-out date of July 1, 1968 will not cause any changes in the plans for the technical training school.

Backers of the proposed school are aware that while Panhandle and West Texas members of the Texas Legislature are favorably inclined toward the school, their votes alone will not be sufficient to obtain approval of the enterprise. Therefore, regardless of the attitude of the City of Amarillo and the helpfulness of the Air Force, the fate of the school is largely in the hands of the Texas Legislature.

If the Legislature is cooperative, 2,100 acres of vacated Base property will go to the technical training school. Major training items which are bought from the Air Force include several jet aircraft and a number of jet engines. According to Texas A & M officials, the school could commence operations within 90 days of its authorization by the Legislature. Projected enrollment is given by A & M officials as 2,000. It is hoped that location of the training school at Amarillo will facilitate the attraction of additional aviation and other industrial firms to the area. Graduates of the school would possess skills which are in demand nationally.

Capehart Housing Area

To date the most troublesome aspect of Base utilization, one not yet resolved, is the 507 unit Capehart Housing component. With approximately 12 per cent or 4,774 of the housing units in Amarillo now vacant (including mobile homes and apartments), property owners and real estate interests have been fearful that the release of the Capehart housing would further damage the market. With this view in mind and with no particular use proposed for the Capehart Housing, the Government will retain them until such a time as their release would have a less harmful effect on the market. According to a Department of Defense official, the City of Amarillo will be responsible for maintenance of the units and the Government will have responsibility for the mortgages. At some later date the Capehart units will be sold to the highest bidder. Of course if the Bell Helicopter Plant expands, if the technical training school grows, and if additional industry locates on the Base, demand may develop for the Capehart units by people employed on the vacated Base. In addition, Public Law 89-754 (Section 1013) allows the federal government to purchase the houses of those persons whose jobs were ended by the closure.

Golf Course

Plans are for the eighteen hole golf course to be leased, initially, by the City of Amarillo and administrated by the Parks and Recreation Department as a public course on October 1, 1968. The proposed arrangements are for the Air Force to guarantee to reimburse the City for any losses the latter incurs while operating the course.

688th AC&W Site

The navigational and communication responsibilities of this unit close on September 1, 1968. Disposition of the equipment and site of the 668th AC&W Squadron has not been determined.

INDUSTRIAL AND COMMERCIAL DEVELOPMENTS

A central point which must be made in regard to businesses and commercial activity after the closure Announcement is that some events set in motion prior to the closure news continued during the phase-out, it will provide more in the years ahead. Such events are discussed in the following paragraphs.

Amarillo Medical Center

One of the most far-reaching developments, in economic terms, which began before the closure Announcement is the construction of the Amarillo Medical Center. This complex is located upon 415 acres at the western edge of the city.

During the period for which data are presented in this study, the Amarillo Medical Center, with the exception of the Veterans Administration Hospital, was under construction. The greatest economic impact of the center, influx of staff and support personnel, patients and their families, will occur after the conclusion of this study.

Civic Center

A second large construction project, also begun before the Base closure Announcement, is the Civic Center complex located at the eastern edge of the central business district. The complex consists of a $3.5 million unit comprising an auditorium, coliseum, plaza, and enclosed exhibition hall, and a nearby city hall. The latter is complete and the former is nearing completion. As was the case with the Amarillo Medical Center, the Civic Center generated construction employment during the period of the study but the primary economic benefits will not be observed until after the study is completed.

Traffic Artery System

Two other major construction projects begun before the closure Announcement, which are now finished, are the high-speed trafficways in the city and interstate Highway 40. The latter will replace the old Highway 66. While both traffic projects contributed to construction employment during part of the study, the Interstate 40 development is something of a mixed blessing. The problem is that the new highway is causing less use to be made of several miles of eating establishments, automobile service facilities, and motels, which extend along the Highway 66 route. On the positive side, the completion of Interstate 40 has started to contribute to a new motel/automobile service area. For example, a 120 unit motel and 165 seat restaurant are nearing completion on a seven acre site within the city along the new route. The facility, to be operated by the Howard Johnson firm, is a $1.4 million dollar project being built by Western Builders of Amarillo.

Sanford Dam and Lake Meredith National Recreation Area

Begun long before the closure Announcement by the Corps of Engineers, Lake Meredith will undoubtedly draw thousands to the Amarillo area. The lake is the largest body of water in West Texas, Eastern New Mexico, Southeastern Colorado, Western Kansas, and Western Oklahoma--a region noted for its scarcity of recreational water resources. Lake Meredith is a twenty mile long body of water located forty-five miles northeast of Amarillo. Although the dam and lake are complete, work remains on developing the area for full recreational use. National Park Service estimates have been quoted by the Amarillo Chamber of Commerce to the effect that the Lake Meredith National Recreation Area may generate in excess of $15 million annually, when all facilities are completed.

Palo Duro State Park

This State park, located a few miles south of Amarillo, has been in existence for a number of years. However, during the period of the study the Canyon Pioneer Amphitheatre was constructed, in which evening performances are held during the summer months. Further improvements in the park's facilities, costing $542,988, are planned.

Institutions of Higher Learning

Expansion of two area institutions of higher learning continued during the period of the study. At Amarillo College the enrollment increased from 1,563 in 1960-61 to 2,962 in 1966-67, while the faculty increased from 65 to 112. At West Texas State University (Canyon) the number of students increased from 2,205 in 1960-61 to 6,100 in 1966-67, and the faculty increased from 155 to 276.

Southwestern Public Service Company and Bank of the Southwest Expansion

At the time of the closure Announcement the Southwestern Public Service Company had made plans for the expansion of its electric generating capacity. No changes were made because of the Announcement, and the expansion took place during the period of the report. In general, the view of business leaders was that whatever was being planned should be built, since after a business dip following closure the expectation was for Amarillo to resume its steady economic progress.

Levi Strauss and Pantex Plants

The Levi Strauss Company, manufacturer of Levi clothing, opened a new plant in Amarillo. The firm employs approximately 600 persons. In 1966 the Atomic Energy Commission transferred a number of employees from a San Antonio facility to the Pantex Ordnance Plant a few miles northeast of Amarillo. The exact number of individuals involved in the transfer is not known due to the classified nature of the work done at the plant.

West Amarillo Industrial Park

In 1967 announcement was made of the development of a 200 acre industrial site. Utilities at the site were installed in 1967 and a spur line of the Fort Worth and Denver Railroad is planned. No buildings were constructed on the site during the study period.

Western Plaza Shopping Center

This shopping center, which provides employment for approximately 700 individuals, was completed during the study period.

Recent Developments

Construction for a $45 million chemical plant began in 1967, and work began on a $3 million meat packing plant at the end of the year.

Early in 1968, after data collection had been completed, the Amarillo Chamber of Commerce announced the creation of a new project termed "Forward Amarillo". Although not a business in the strict sense of the term, it is an activity which may have an impact upon Amarillo's employment. The announced goals of the project are to recruit, train, and place in gainful employment the city's disadvantaged citizens. In a statement characteristic of the Amarillo leadership, the Chairman of "Forward Amarillo" emphasized that the program will not have ties with any government and will therefore not be distributing tax dollars to the needy. Instead the project will be a local matter designed to prepare people to assume jobs for which they have been trained. The philosophy suggested by the rationale for "Forward Amarillo" indicates why no large scale Federal programs are to be found in the offset activities of the City of Amarillo.

Two types of business activity were lost during or just prior to the Base closure period. In the latter condition were several oil companies which closed out offices in Amarillo as they consolidated their staffs elsewhere. These actions were in no way related to the Base closure. The other businesses which were adversely affected were the small beer halls, hamburger cafes, and dance halls which were to be found on either side of Highway 66 in eastern Amarillo. Such establishments did not exceed thirty in number and rarely had more than five or six employees. Their decline is in part a result of the Base closure, but also a function of the transient nature of the businesses themselves and the result of the decreased traffic on Highway 66 due to the opening of route 40.

Conclusion

ANALYSIS OF COMMUNITY REACTION TO CLOSURE

USE OF LEAD TIME

An analysis of the use of lead time must begin by mentioning that any advantage so obtained was partially diminished because of the indefinite character of the final phase-out date. Knowing that a base will at some point close is useful in order to commence planning for meeting the situation, but until a definite date is established and a phase-out schedule adhered to, it is difficult to conclude agreements with organizations for base utilization. This point was universally stressed by individuals who were interviewed in the Amarillo study.

Amarillo's response to the Base closure Announcement of November 19, 1964 was rapid. A week later Mayor F. V. Wallace created the Board of City Development and merged that group with another City organization, the Airport Board. From that point until his defeat in the spring of 1967 Mayor Wallace, acting personally, with the Board of City Development (BCD), and in cooperation with the Chamber of Commerce, exercised a heavy influence upon Amarillo's planning for Base closure. At first some effort was devoted by Wallace and his associates in an unsuccessful attempt to convince the Department of Defense to retain the Base in active status. At the first meeting between the BCD and Base officials the matter was discussed, and on June 23, 1965, an Amarillo delegation outlined to Secretary of Defense McNamara reasons why the Base should remain open.

In general the lead time provided by the November Announcement was used to pursue two goals: (1) the transfer of Base property to the City of Amarillo, and (2) the solicitation of industrial organizations to locate their activities on the vacated Base property. Action designed to advance both objectives began soon after the closure Announcement.

In the months following the closure Announcement the BCD (a) toured the Base with special emphasis upon the "airport" area and established a list of equipment the City would like to acquire when the Base closed; (b) sent the list to the Office of Economic Adjustment, DOD; (c) requested that the Office of Economic Adjustment send personnel to Amarillo to assist in making preparations to acquire Base property; (d) met with Texas Governor John Connally to discuss the phase-out; (e) met with FAA officials in Fort Worth to discuss the possibilities for a commercial air terminal on the vacated Base; (f) contacted airlines serving the Southwest and other aviation-oriented industries regarding the possibility of their use of vacated Base property and facilities (in the last named effort, Mayor Wallace, a civilian pilot, expended considerable time and personal funds.); and (g) prepared a brochure extolling the opportunities for industry locating on the Base.

During the first few months of activity following the initial closure Announcement, considerable effort was expended which is only now bearing returns. As mentioned before, the Base closure projection was altered substantially on several occasions. These changes meant that despite the use of lead time only limited advanced planning could be done, since industries could not be assured of the time when the Base could be used.

One possible advantage of the expanded lead time period is that an alternative Base-utilization plan could develop which now is being implemented along side what may be called the "Wallace Plan". The "Wallace Plan" emphasized the utilization of the "airport" sections of the Base and it received primary concern during Mayor Wallace's term of office. Toward the end of his tenure, and particularly since his defeat, the alternative and seemingly compatible plan for Base utilization has taken form.[1] The plan calls for the use of the educational and training portions of the Base in ways which need not be connected with aviation. This plan supports the development of the Mid Continent Technical Training School, mentioned previously, which is based upon the similar experience of converting the James Connally AFB at Waco into a vocational school. Therefore, the very long lead time was fortuitous in the sense that it permitted the Waco facility to be developed as a model for the Amarillo conversion to follow.

ANALYSIS OF EFFECTIVENESS OF OFFSET PROGRAM

In examing the offset program and its effectiveness, a distinction must be made between two types of activity, both of which serve to replace revenue formerly generated by the Base. On the one hand there is the direct action taken to utilize vacated Base property to produce new sources of economic activity. These efforts are a direct and consciously-planned result of Base closure and could not have taken place without closure since they involve utilization of Base property. In addition, there is activity designed to attract new economic activity to the Amarillo SMSA which does not in any way involve the use of Base property and which might have been undertaken in the normal desire to improve the economic condition of the community, regardless of events at the Base.

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1. From the beginning of his efforts to secure utilization of vacated Base property Mayor Wallace concentrated on use of the "airport" facilities because of his belief that the greatest potential for Base reusage lay in this direction. On the surface, his defeat in 1967 was not connected with his advocacy of the utilization of the "airport" portions of the Base, Other factors such as local taxes and his lack of a campaign seem to account for his loss. However, the election has not been examined in great detail.

Regarding the first of the two types of offset activity, this report must be incomplete. The reasons are that much Base property will not be available for utilization until 1969. Furthermore, of the three major offset programs proposed to use vacated Base property, one, the Bell Helicopter plant, has only begun operations; another, the technical training school, will not start its pilot program until this summer; and the third, a new Amarillo Air Terminal, probably will not be completed for 18 months or longer. Should the first two programs reach the levels of activity predicted by officials associated with them they will comprise a substantial offset effect.[1] Of course it must be kept in mind that the Bell facility is now heavily dependent upon work generated by the Viet Nam War. Those planning the three major offset programs believe that their successful implementation will serve to attract still further economic activity to the vacated Base. While such hopes are at this time just that, there seem to be no particular reasons why they should not in time reach fruition should the national economy continue in a modest expansion.

In assessing the offset activity one must give considerable emphasis to those programs which, although they are not related to the Base closing directly, nevertheless will provide substantial economic inputs by the time the Base is finally closed. Such projects as the Amarillo Medical Center, the Civic Center, and the Lake Meredith National Recreation Area, together with lesser projects, will undoubtedly assist Amarillo in making the transition from an economy partially dependent upon the Base revenues to one operating without such inputs.

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1. Bell expectations are for 1,000 employees and an annual $7-8 million payroll by 1969; Mid Continent Technical Training School expectations are for 2,000 students and an undetermined economic input in 1969 or 1970. No figures are available as to the economic worth of the air terminal.

Although more evidence remains to be observed, it is the judgment of the investigators that in the course of several years the program to offset the Base closure by utilizing Base property will partially match the revenue lost from the Base. These economic inputs, when coupled with those generated by programs begun before close-out and those begun since close-out in the general Amarillo area, should more than match the Base produced revenue in two to three years after final close down.

THE ECONOMIC EFFECTS OF CLOSURE

THE WHOLE ECONOMY

The most striking fact about the overall economy of the Amarillo SMSA before and during the Base closure period studied in this report was its general strength. During the study only a few of the economic indices which were monitored showed weaknesses. Of course part of the economic vitality observed between November 1964 and the date of the last data collection, the IV-67, is due to the fact that during much of this time the Base operated with 25 per cent more personnel than when the closure Announcement was made. Furthermore, at the data collection cut-off date there remained approximately 10,000 personnel assigned to the Base. This figure represented 80 per cent the strength at time of closure Announcement.

Taking into consideration the numerous areas of economic expansion in the Amarillo SMSA mentioned previously, the researchers believe the overall Amarillo economy will only show small and short-lived economic dislocations in the aggregate, except for the housing market, and the associated building industry, after the Base closes. This will not be the case should the national economy take a downturn however.

The generally healthy state of the Amarillo SMSA economy may be attributed to the sustained operation of several variables. All of these (except of course the Base) are likely to continue in operation long after the Base is closed. One major variable is the indigenous wealth-producing capacity of the Amarillo area. Chief aspects of this capability are the area's oil and natural gas production, wheat, cattle, irrigated crops, light manufacturing, the operation of U. S. Government activities such as the AEC Pantex Ordnance plant and government helium plant, Amarillo's role as a regional transportation, finance, and wholesale distribution center, and the presence of large recreational features and two institutions of higher learning.

A second major variable is the expanding condition of the national economy and its beneficial impact upon Amarillo's economy. Much of the agricultural and mineral production from the Amarillo area must be sold elsewhere in the nation. Furthermore the use of nearby recreational areas is affected by the national economic conditions as is the use of Amarillo as a main link in the highway system extending from the east coast to Southern California and as an overnight stop for Texans travelling to Colorado in the summer. A third major variable affecting the overall Amarillo economy has been the determination of City leaders to continue economic expansion planned or begun before Base closure was announced, and to create new economic activity to offset the anticipated loss in Base revenue. These activities have had not only a beneficial substantive effect upon the economy, but a psychological impact as well.

PARTICULARLY SENSITIVE SECTIONS

The real estate market and correlative building trades activity are the hardest hit portions of the Amarillo economy. The last data collected indicates that 4,774 housing units or 12 per cent of the total in Amarillo were vacant. This compares with a figure of 2,253 vacant units (5.5 per cent) the year before the closure Announcement. The value of residential building permits decreased by more than 50 per cent since the Base closure Announcement. Since the "tight money" market resulting from Federal manipulation of interest rates only recently occurred, it is assumed that the basic cause for the housing surplus is the anticipated Base closure. No other economic factors in Amarillo offer an explanation.

Although the data on housing and building trades does not clearly disclose it, interviews with real estate men, and visual observations, indicate that particular types of housing in certain sections of the community are most prone to being vacant. In general, the units so affected are the rental properties and single-family units selling for between $7,500 and $13,000. Of such housing the greatest amount of vacancy can be found in areas in the eastern portions of the community those nearest the Base. While there is a glut of such housing on the market, homes costing $25,000 and up are continuing under construction and the more expensive areas of the community have little or no vacancy.

Another particular section of the economy, but a minor one, being adversely affected by Base closure can be found along the eastern portion of Highway 66 as it passes through Amarillo. Here are found eating and entertainment establishments which cater in part to nearby Base personnel and in part to motorists on the highway. The economic decline in this area is a factor both of Base closure and the re-routing of traffic on the new Interstate 40.

THE CONTRIBUTION OF THE FREED MILITARY PROPERTY TO RECOVERY

The contribution of the freed military property to the recovery process cannot be fully assessed at this time. Much such property is neither free for commercial use nor being used in that fashion. If the proposed plans for utilization of freed military property are successful, then freed Base property will be substantially beneficial in offsetting Base revenue loss.

CONCLUDING COMMENTS

Several facts stand out which warrant emphasis. First, Amarillo enjoyed a healthy, expanding economy when the Base closure Announcement was made. Second, although some leveling off and downturn has been reflected in the aggregate and sectoral measure, particularly housing and building trades, the overall economy of the Amarillo SMSA has remained healthy. For example the February 1968 unemployment figures indicate the unemployment rate was 3.1 per cent as contrasted to 3.5 per cent for the same month in 1967. Third, the national economy during the period of this study has continued its sustained expansion and this has had a marked beneficial effect upon the Amarillo economy. Fourth, fortuitous circumstances positively affected the Amarillo economy. Examples are the locating of additional AEC operations at nearby Pantex Ordnance Plant and the construction of the Lake Meredith National Recreational Area. Fifth, city leaders continued programs planned or begun before the closure Announcement and so contributed substantive and psychological impetus to the community's economic progress. Sixth, community leaders consciously undertook measures to assist in the community's economic recovery after being notified of the closure. They sought ways to utilize the Base property when it became surplus, and they supported the attraction of non-Base-related activities to the community. Seventh, the indefinite status of the final close out date probably diminished the efforts designed to attract industrial firms to utilize Base property. On the other hand the extremely long lead time, extending from November 1964 to December 1968 before final close out, may have assisted in the gestation and implementation of the plan to use portions of the Base for educational purposes. Eighth, plans to utilize the Base property developed along two lines and seem to some extent to have been the products of different groups of individuals. The two plans may be distinguished as being the one to utilize the "airport" sections of the Base for aviation-oriented activity, and the plan to use the training and educational portion of the Base for activities not necessarily connected with aviation. Ninth, the effect upon the aggregate and sectoral measures would probably have been more pronounced during the period of the study had the Base personnel strength decreased 13,000 to zero. Instead the Base strength fluctuated (at one point it reached more than 19,000), and at the time of the last data collection, 10,000 individuals remained on the Base. Tenth, the political character of the Amarillo SMSA, (Potter and Randall Counties cast 19,348 votes for Senator Goldwater and 18,866 votes for President Johnson in 1964) is markedly "states-rights" oriented and therefore rather hostile to Federal programs. For this reason specific Federal programs were not sought as a means to assist the community in adjusting to the loss of Base revenue. State assistance is being sought, however, in the form of $1.3 million to commence and operate for the first year the technical training school. Of course the Federal Government's general activity which assists the overall economy such as farm price supports, oil import regulations, Social Security and Unemployment Compensation programs, Medicare, aid to education, aid for highway construction, etc., were in effect for Amarillo as elsewhere.

Had most of the variables mentioned above not been in effect for the Amarillo SMSA the consequences to date of the Base closing would likely have been much more severe.[1] Had they not been in effect the future impact upon the community when the Base finally closes would likely be more detrimental than will probably be the case.

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1. A variable not studied in any detail, for neither funds nor justification existed for it, is the political situation which has existed at City Hall for a little over a year. The mayor and the four city commissioners have been involved in considerable argumentation among themselves on a number of points. This difficulty has been well covered in the Amarillo papers, and while it is not a suitable topic for this report, it undoubtedly has exercised an adverse influence upon the city's plans for recovery from the loss of Base revenue.

A CASE STUDY OF THE PHASE-OUT OF LARSON AFB,

MOSES LAKE, WASHINGTON

Guy G. Gordon

The University of Washington

Seattle, Washington

July 1968

Overview

STATISTICAL RECOVERY OF MOSES LAKE

Moses Lake had recovered from the closure of Larson Air Force Base by the end of 1966. From the point of view of the Moses Lake Chamber of Commerce, Moses Lake is "right where it should be for long-run stability--an agricultural service center." It is true that agriculturally-based industries account for the recovery which is evident in the facts that employment is up, retail sales are up, and unemployment is the lowest in fifteen years. In terms of the usual aggregative indicators of the economic health of a community, Moses Lake provides evidence that a relatively small increase in industrial employment can make up for a large loss in military personnel. In the case of Moses Lake, it seems that one industrial worker replaces about ten or eleven military personnel in terms of community impact.

BASE UTILIZATION

Moses Lake achieved its recovery by the end of 1966 despite the fact that Larson Air Force Base was almost unutilized. Even at the time of this report (May 1968), virtually the only industry on the Base is a small sheet metal shop. Some Base facilities are used by Big Bend Community College, but there is a real question whether this constitutes a net addition to the economy. The Base is used by both a Men's Job Corps and Women's Job Corps, but the total personnel requirements of the two groups is 70 people.

The saving of the airport for community use was itself a major achievement, and does have long-range potential for an important contribution to the local economy. The airport has rented over 700 homes (out of a total of over 1,350, most of which had become vacant). Several parcels of Larson facilities have been purchased by businesses (Boeing was the largest purchaser, having obtained considerable acreage, a three-place hangar, and the paint shop--in fact, most of the property formerly used by Boeing), but neither Boeing nor any other purchaser will state what use will be made of their properties.

The Grant County Airport (Larson Air Force Base) has operated in the black since April, 1967. Its revenues, however, are primarily from landing fees and margin on fuel sales. Landing fees are ten dollars, and fuel margins are one cent on jet fuel and three cents on gasoline. It took 15 months for the Grant County Airport to achieve its first 100,000 operations, but only eight months to reach 200,000 operations. In 1967 Grant County Airport was the fifth busiest airport in the Federal Aviation Administration's western district. So far in 1968, Grant County Airport has been the third busiest airport in the western district. The fact that Boeing had contracted to use the airport for flight training through 1980, and that it probably will use the airport for its 747 Jumbo Jet training, augurs well for this aspect of airport revenues. Even now, flight training starts at 4 a.m. because of the intensity of training activity.

QUALITATIVE LABOR PROBLEMS

Despite the statistical evidence of recovery, however, there are certain qualitative limitations to the current Moses Lake economic situation. First, the quality of the labor force has deteriorated. Employment for skilled and professional types of labor has been replaced by semi-skilled and unskilled types. The stable twelve-month employment of the Air Force has been replaced with positions in food processing in which two or three months unemployment is routine. Absolute employment has increased in the county, but the record low unemployment rate is largely a function of the decline in population--people have left the county. Further, 70 per cent of the new jobs in food processing are for women--at minimum wages.

AGRICULTURE DEPENDENCE

Moses Lake and Grant County now depends primarily upon agriculture. The dependence is first of all on crop output, but also on industries which use agricultural commodities as raw material (food processing, sugar refining, and starch manufacturing). Larson Air Base represented the major economic diversification in the Moses Lake area. Now there is almost no diversification of consequence. Over the years, agricultural growth in Grant County is inevitable. Most of the Columbia Basin Project is in Grant County, and less than half of the desert area which is to receive water has been irrigated. Crops will become more diversified (currently most acreage is in potatoes, sugar beets, hay, grapes, corn, peas, and livestock).

But there are certain deficiencies in such complete dependence on agriculture. First of all, the skill and wage levels of agricultural labor are at the minimum. Even relatively skilled work, such as truck driving, machine operation, and mechanical work receives the minimum wage if it occurs before the crops are delivered to a weighing scale (i.e., it is "farm work"). But agricultural employment is decreasing due to technology and chemistry while agricultural output is climbing. The Moses Lake agricultural placements decreased from 5,479 people in 1965 to 3,798 in 1966, and to 2,834 in 1967. A hay stacking machine has virtually displaced field labor in that commodity, automatic machinery in potato packing plants has replaced fifteen sorters with one grader, food chains prefer bulk cars of potatoes (since they repack in consumer sizes at their warehouses); this wipes out jobs for jiggers (sack loaders) and car loaders, and thinners and weeders (most of the field labor in sugar beet fields) are about to be replaced by machines and chemistry.

In addition, Grant County agriculture suffers the same risks from weather as other crop-producing areas. In 1968 for example, a late freeze killed some fruits and vegetables and high winds blew out seed crops as many as three times on some farms. One farmer reported planting peas five times, which not only created high costs but destroyed his cycling process (pea farmers plant sections of their fields in two week intervals to balance the work loads in processing plants). Thus, although the Chamber of Commerce might not admit it, Moses Lake has been hurt.

POTENTIAL FOR THE FUTURE

The chief source of hope for a stable, more diversified base for economic development is the Base (Grant County Airport). The area needs manufacturing, with twelve months employment and higher types of skills and professional training. The airport has excellent structures, an adequate water supply, land that is ideal for construction, excellent intermodal transportation potential, housing on the airport itself, and a great reserve of electric power at about the lowest rates in the United States. Light manufacturing that could use air transportation would find the airport ideal and when a few more miles of freeway are completed on each side of the Base, Seattle will be three hours away by truck in one direction and Spokane less than two hours in the other direction. Further, although the area was originally a bona fide desert, it is an excellent area for outdoor recreation with hundreds of miles of lakefront, riverfront, hunting, fishing, and camping. Tourism is expanding, but probably never will become a major component of the economic life of the county.

Introduction

OBJECTIVE AND METHOD

The objective of this study was to determine the impact on a community (Moses Lake, Washington) of the closure of a military base (Larson AFB). A further objective was to determine the community's reaction to the closure and the extent to which other economic activities could be achieved to offset the loss of the Base.

The method involved the recording and analysis of available secondary data, interviewing of key individuals in the community and on the Base, and the conducting of three special studies. The special studies include an Interindustry

Analysis of Larson AFB expenditures for the year 1963; a detailed tabulation of all Base procurement for the years 1964, 1965, and 1966; and a detailed tabulation of non-Federal purchases made by clubs and other retail facilities on the Base.

The Interindustry Analysis of Larson AFB expenditures was a portion of a study of defense expenditures in the state of Washington.[1] The defense expenditure study was integrated with the Washington State Interindustry Study (1963) and consisted essentially of a disaggregation of the Federal expenditure sector of that study.[2] The expenditures of Larson (and all other military installations in the State) were disaggregated into those made in the State of Washington and those made outside the State.

The second special study consisted of a tabulation of all Base procurement records remaining at Larson AFB in 1966. Data were available for the years 1964, 1965, and 1966 (Final closure of the Base occurred in 1966, and no procurement was made after III-66.) The original procurement contracts and orders (contained in 56 boxes packed) were utilized in the tabulation. The procurement actions were segregated into purchases made in Moses Lake, purchases in Grant County, purchases made in the state of Washington, and purchases made outside the state of Washington.

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1. Guy G. Gordon, <u>The Impact of Defense Expenditures on an Economy</u> (Seattle: University of Washington Graduate School of Business, 1967), 37 pp. plus four input-output tables.

2. Philip J. Bourque, Edward Chambers, John S. Y. Chiu, Frederick Denman, Barney Dowdle, Guy G. Gordon, Charles Tiebout, Morgan Thomas and Eldon Weeks, <u>The Washington State Interindustry Study</u> (Seattle: University of Washington Graduate School of Business, 1966), 38 pp. plus seven tables.

The third special study consisted of a detailed tabulation of sales and purchases of consumer units on the Base (clubs, post exchange stores, service station and service shops). This study involved going to each consumer unit, compiling its figures, making large numbers of computations to derive either purchases or sales from limited information, and consolidating the data. Information was available for the years 1964, 1965, and 1966 (these organizations also ceased operations by III-66).

Certain desired data were not obtained because they were not provided by DOD as originally expected.

The Economy Prior to Announcement

THE INSTALLATION

NATURE OF THE BASE

Larson AFB is located five miles north of Moses Lake and 14 miles southeast of Ephrata, the county seat (Grant County). The nearest metropolitan areas are Spokane (112 miles northwest) and Seattle (179 miles west).

The total land area of the Base was 9,193 acres, of which 8,903 were government owned and the remaining 290 acres were leased for navigational purposes. Unimproved land area on the Base was some 950 acres. The airfield occupied 6,530 acres. The main runway is 13,500 feet long and 300 feet wide and has a load capacity of 350,000 pounds. This runway, the second longest in the United States, was in excellent condition at the time of transfer to the Moses Lake Port District (July 1, 1966). There is a secondary runway which is 10,000 feet long and 200 feet wide and a load capacity of 50,000 pounds. Total airfield pavement amounts to some 727 acres. The control tower, which is now occupied by the FAA, and the terminal account for 34,000 feet of floor space. The terminal building contains a lounge and snack bar. It was built in 1952 at a cost of $568,000 and was in good condition at the time of transfer.

There are 26 dormitories located on the Base capable of housing 1,744 persons. These are all of permanent type construction and were in good to excellent condition in 1964. There were 1,335 housing units on the Base; 800 of which are Wherry-type units and 530 units of Capehart construction. There were 305 two-bedroom units, 821 three-bedroom units, and 209 four-bedroom units. These housing units are clustered in a neatly planned and landscaped section at one end of the Base, with two fine elementary school buildings in their midst.

These two elementary schools, which were under the administration of the Moses Lake School District, have an enrollment capacity of more than 1,200.

A typically well maintained Air Force hospital is located on the Base. This hospital was constructed in 1958 at a cost of $1.4 million and has 50,000 square feet of floor space. It is a 50 bed unit in excellent condition. The Base also had a 10-chair dental clinic which was constructed in 1959 at a cost of $263,000.

Electrical energy for the Base was purchased from the Grant County Public Utility District (PUD) which services the entire county. The PUD offers low industrial power rates on hydoelectric energy generated at nearby facilities on the Columbia River. Water is provided by a total of nine wells located on the Base. Water pressure is provided by five elevated storage tanks which have a total capacity of 775,000 gallons. The distribution system consists of 279,230 feet of cast iron pipe. Located on the Base is almost 200,000 feet of sewer mains of concrete construction. These mains range from 4 to 16 inches in diameter. There also is a treatment and disposal plant which has a capacity of 840,000 gallons per day.

State Highway 17 runs past the main gate of the Base and joins U. S. Highway 10 (Interstate 90) approximately six miles south of the Base. This is the main east-west route between Seattle and Spokane. Several major motor freight lines have terminals in nearby Moses Lake. Three railroads operate trunk lines in the proximity of the Base, and one serves the Base directly with 6.5 miles of spur. This spur serves three warehouses and the fuel storage area on the Base. The largest of these warehouses is an excellent building with 41,000 square feet of space. West Coast Airlines and Great Northern Railway offer passenger service at Ephrata 14 miles away. Commute-Air began an air ferry service between the Spokane International Airport and the Grant County Airport (Larson AFB) in August of 1967.

The personnel strength of the Base was 600 officers, 3,200 Airmen and 400 civilians in June of 1961. At the time of Announcement of closure, the personnel stationed or employed at the Base was 3,944 military and 390 civilians. The annual payroll of the Base was approximately $15.0 million in 1961 and $13.0 million in 1964.

The Air Force and the local communities have at all times maintained a close and friendly relationship with one another. Moses Lake particularly had taken great pride in the Base and considered it a very real part of the community. There were never any serious sources of friction between the two.

IMPACT ON COMMUNITY

The purchases made through Base procurement apparently contributed over $1 million per year to the local economy when in full operation. In this study, a detailed item-by-item tabulation was made of all Base procurement purchases for the years 1964, 1965, and 1966. Records for prior years were not available. In the tabulation, purchases made in Grant County were segregated, and were as follows:

1964	$1,351,812
1965	$1,086,556
1966	$ 260,061

Most of these purchases were made in Moses Lake. There were no purchases made after III-66.

Although no records were available for prior years, the

Air Force had reported to the Moses Lake Chamber of Commerce that Grant County purchases in 1963 were $1,336,930. The purchases of supplies ran around 50 per cent of the total. Purchases of services were around 40 per cent and the balance was in construction. Supplies and services purchases were rather stable, but construction might vary because of some major item such as runway repairs.

Non-federal local purchases (by Officers' Mess, N.C.O. Open Mess, Wanderer's Club, Aero Club, the Commissary, Patio Shop and snack bars, the service station, beauty shop, and tailor shop) were as follows:

1964	$350,295
1965	$353,380
1966	$104,789 (all but $1,150 in first two quarters)

An interesting sidelight is that the club sales (which accounted for around $100,000 in purchases per year) increased on a per capita basis after the Announcement.

Thus, it appears the directly traceable purchases in Grant County amounted to from $1.5 million to $1.8 million when the Base was in full operation. The purchases made through central procurement (such as armaments and jet fuel) could have had some impact on the county and most certainly had an impact on the Washington state economy. Jet fuels, for example, provided revenues and employment in the storage and transportation functions and may have come from Washington oil refineries.

Consumer purchases made in the county by Base personnel undoubtedly were substantial. The impact on Moses Lake may have been relatively small, as compared with that on some other communities near bases, because Moses Lake is a small town without the retailing and entertainment attractions of larger cities and because there were over 1,350 houses on the Base. Consumer purchases <u>on the Base</u> amounted to:

1964	$2,249,268
1965	$2,136,884
1966	$ 645,248

Of these purchases, around $600,000 (annually 1964 and 1965) was accounted for by the clubs and the remainder represented merchandise and services. Despite the existence of housing on the Base, around 600 military and 400 civilian employee families lived off the Base, mostly in Moses Lake. Further, there were certain categories of retail store merchandise not well represented in Base exchange facilities (apparel and millinery, for example). The Base annual payroll, which ran from $13 million to $14 million, made it possible for several millions per year to be spent for rent, services and merchandise in the County and, of course, most of this revenue would have gone to Moses Lake.

INTERINDUSTRY RELATIONS

As noted above, Larson AFB was included in an interindustry (input-output) study of the impact of defense expenditures on the Washington state economy. The data were gathered for the year 1963 on a sampling basis and therefore are subject to an indeterminate error. The method of selecting the sample involved choosing a representative month and extending the monthly figures to obtain annual figures. The month chosen was one in which expenditures were one-twelfth of the year's total. Several months procurement were tabulated as a check on the representativeness of the month selected, and the opinion of the procurement officer was secured as to representativeness. For the month selected, a complete tabulation was made of all procurement actions. Procurement within the state of Washington was segregated from procurement outside the State. The following list represents purchases made by Larson AFB from industries in the state of Washington for the year 1963.

PURCHASES MADE BY LARSON AFB FROM WASHINGTON STATE INDUSTRIES:

Meat Products	$127,000

Dairy Products	$165,000
Canning and Preserving	749,000
Grain Mills	465,000
Other Foods	598,000
Sawmills	21,000
Other Wood	2,000
Furniture and Fixtures	126,000
Paper Mills	229,000
Other Chemicals	150,000
Petroleum Refining	339,000
Light Metal Product	216,000
Nonelectric Motive Equipment	208,000
Nonelectric Industrial Equipment	61,000
Electrical Machinery	191,000
Motor Vehicles	43,000
Other Manufacturing	270,000
Electrical Companies	288,000
Communications	502,000
Construction Maintenance	140,000
Contract Construction	69,000
Business Services	105,000
Personal Services	279,000
Unallocated	21,000
Total	$5,364,000

In looking at these figures, it should be kept in mind that respondents were asked to disregard intermediaries (wholesalers and retailers), since intermediaries were not credited with the sale of merchandise *per se*; the input-output figures for intermediaries represented gross margins only. Hence, although many Larson procurements were in fact from wholesalers, the data were shown as though the purchases had been made directly from producers to avoid duplication (this is consistent with the methods employed in constructing the national interindustry tables to make these data compatible with Gross National Product).

The Washington Interindustry Study utilized a 60-sector breakdown. Larson procurement involved 24 of these sectors. The total impact on the State was approximately three times the impact on Grant County. It is rather obvious that many products were not available in the County. Further, the Air Force personnel interviewed felt that some Moses Lake businesses missed out on potential business because they were afraid to maintain sufficient stocks to serve the Base--hence purchases were made elsewhere. These losses of business were most obvious in foods and food purchases by the Base in Washington state amounted to over $2.1 million. This figure relates only to Base procurement and does not include non-federal purchases by clubs and other eating places.

Prior to the Announcement of intention to close Larson AFB, the Grant County economy had already been disturbed by the cessation of activity on two fronts. The Boeing Company had been active in the Moses Lake-Ephrata area for some time but pulled out almost two years before Announcement. Several hundred people were employed by the firm before it withdrew. At approximately the same time the project of constructing the Titan I missile system was completed. The phaseout of this project which had generated much activity also served to upset the economy somewhat. The result of the cessation of these two activities is reflected significantly in the aggregate measures discussed below. Almost without exception the measures reveal a weakening in late 1962 and 1963. City and County population estimates both reveal a continual decline since 1962. Taxable retail sales slumped some 9.2 per cent in 1963 from 1962. Year end bank deposits also show a weakness for the period, and not until the end of 1963 do they indicate a stronger position. The number and value of involuntary mortgage foreclosures show some sign of an increase in late 1963 but had settled down somewhat by the time of the Announcement.

Many of the local businessmen and civic leaders expressed the opinion that the economy had already been through its most severe setback by the time the closure of Larson AFB was announced. Invariably they pointed to the phase-out of Boeing and missile construction activity as the cause. Most of them indicated that they believed this had more serious consequences than the closure of Larson AFB was eventually to have.

POPULATION AND THE LABOR FORCE

POPULATION

The population data for the incorporated cities and towns of Grant County as collected and estimated by the Washington State Census Board indicate an upward trend from 1960 through 1962. Then, in 1963 a downward swing in population began which has continued to the present time. The following percentage changes emerge when one compares each year to the previous year beginning with 1961: +8 per cent; +10.5 per cent; -8.3 per cent; -2.4 per cent. The 1964 statistics place Grant County incorporated area population below that of 1961 and only 6.3 per cent higher than 1960, but more than 10 per cent below the high of 1962. It will be seen, that by 1967 this figure is at the lowest level in over ten years. Eleven of the 13 incorporated areas showed population increases in 1961 over 1960, and in 1962 eight of the 13 had increases with one unchanged. However, in 1963 only three of 15 registered increases and two remained unchanged. Six of 15 incorporated cities and towns showed increases in 1964 over 1963 with two unchanged. Moses Lake reflects the county trend. Moses Lake had a 7.8 per cent increase in 1961, a 4.3 per cent increase in 1962 but then declined in 1963 and 1964 by 8.9 per cent and 5.2 per cent respectively. The 1964 population of 11,000 in Moses Lake was the lowest since 1958, and yet it was still on its way down.

LABOR FORCE

Labor force data were not available for Grant County prior to 1962. However, 1962 had the highest labor force statistics for any recorded year, in fact, only one quarter (IV-67) registered a higher labor force figure than that of the lowest quarter in 1962. The first quarter of 1964 was the only quarter for the two year period which registered an increase over the corresponding quarter of the previous year. Unemployment data indicates just the opposite for 1963. That is, unemployment had increased over the 1962 level resulting in some very high quarterly unemployment rates. For 1962 they were 6.8 per cent, 6.3 per cent, 8.0

per cent and 9.4 per cent; the unemployment rates for 1963 were 13.4 per cent, 10.0 per cent, 6.8 per cent, and 7.9 per cent. The following year, 1964, had quarterly unemployment rates of 11.4 per cent, 7.1 per cent, 5.9 per cent, and 6.5 per cent. The last two quarters of 1964 had two of the lowest unemployment rates in three years. Employment in all quarters of 1963 and 1964 was below the corresponding quarters of 1962. All quarters, with the exception of the I-64, had employment lower than the same quarter of the preceding year. This is true of III-64 and IV-64 despite some narrowing as would be indicated by the relatively low unemployment rates of those two quarters.

RETAIL SALES AND OTHER INDICATORS

RETAIL SALES

Quarterly taxable retail sales fit well with the trend sketched by the above indicators. All quarters of 1961 registered increases in taxable retail sales over the same quarter of the preceding year. Total taxable sales increased by about 10.6 per cent in 1961 over that of 1960. Again in 1962 all quarters registered increases over the corresponding quarters of 1961, and total taxable sales for 1962 were 7.2 per cent above those of 1961. But, in 1963 the trend reversed itself. All quarters of 1963 registered taxable sales which were significantly lower than those of the same quarter in 1962. The result was a decline of 9.2 per cent in total sales for 1963; 1964 witnessed a modest increase of 1.6 per cent in sales over those of 1963. Total taxable sales for the five years were: 1960-$48.9 million; 1961-$54.1 million; 1962-$58.0 million; 1963-$52.7 million; 1964-$53.5 million.

BANK DEPOSITS

Bank deposits in Grant County totaled to $24.8 million at year end 1959, but by the end of 1960 they had increased by almost $4 million to $28.7 million. Again by years end in 1961 they had increased by slightly over $4 million to $32.7 million. Then in 1962 they slipped down slightly to $32.1 million by the end of the year. Deposits declined through the middle of 1963, but by the end of the year had recovered to $32.3 million. They recovered completely in 1964 and had established a $3.7 million increase by the end of the year.

Moses Lake bank deposits indicate a similar pattern. Year end deposits in Moses Lake branches of the representative banks for 1959 through 1964 were: $10.1 million; $12.2; $14.3; $13.6; and $15.3 million. These also indicate the drop during 1962 and only a moderate recovery in 1963. Moses Lake deposits were 20 per cent higher at year end 1960 than in the previous year, 18 per cent higher in 1961, down 6 per cent in 1962, and followed by 2 per cent and 12 per cent gains in 1963 and 1964. Moses Lake deposits had increased 51 per cent over 1959 by 1964.

ELECTRIC POWER

Sales of electric power to Moses Lake residents decreased steadily for the years since 1961. However, commercial sales in Moses Lake increased from $287,594 in 1961 to $325,886 in 1962. Then in 1963 sales fell off to $312,363 and in 1964 to $304,468. For all accounts in the county, sales of electric power increased in 1962 to $3.7 million from $3.6 in 1961, but fell off to $3.6 again in 1963. In 1964 sales increased to slightly over $3.7 million.

THE MAJOR INDUSTRIES

FOOD AND KINDRED

Wages in the food and kindred industries realized rapid gains throughout the period from 1960 to 1965. III-63 and III-64 are the only two exceptions to a period which showed gains in each quarter over that of the comparable quarter of the preceding year. Wage increases over the previous year are as follows: 1961-46.7 per cent; 1962-35.6 per cent; 1963-5.5 per cent; 1964-10.9 per cent. Wages in 1960 amounted to $1.1 million, and in 1964 it was $2.7 million. Employment data are not available for the years prior to 1962, but the figures for 1962-1964 indicate a consistent increase. Employment in food and kindred was up by about 28.5 per cent in 1964 over the same in 1962. The number of firms reportedly in the industry increased from around seven in 1960 to about eleven in 1964.

STONE, CLAY AND GLASS

Stone, clay, and glass manufacturing wages consistently decreased from 1960 through 1963 and then recovered some of the losses in 1964. Wages decreased from the 1960 level of $611,180 by 3.3 per cent, 3.7 per cent, 12 per cent and then increased 12.5 per cent in 1964 at which time it was $563,011 or almost 8 per cent below what it was in 1960. Employment in stone, clay, and glass took a slight decrease in 1963 compared to 1962, but was back at the 1962 level in 1964. The number of firms increased in 1961 but then fell slightly for the next three years.

OTHER MANUFACTURING

Wages for other manufacturing were very eratic for the five year period. It increased by almost 200 per cent in 1961 from $5.1 million in 1960 to $10.7 million in 1961. Then in 1962 it increased again to $14.1 million. However, in 1963 the wage figure had fallen to $1.6 million, or only 11.4 per cent of the 1962 wages. The number employed in 1962 was very high and then drastically in 1963 (85 per cent) and again in 1964 it slipped about 5.3 per cent. The number of firms in the industry increased from 23 to 26 in 1961 and 1962 falling off to 24 and 22 in 1963 and 1964 respectively.

TRANSPORTATION AND UTILITIES

Wages in transportation, communication, and utilities showed good steady increases in 1961 and 1962 of 5.3 per cent and 8.8 per cent. They increased from $2.3 million in 1960 to $2.7 million in 1962. The latter two quarters of 1961 were the only ones which failed to increase over the same quarter of the previous year. Then in 1963, wages decreased by 20.6 per cent with all quarters showing declines from the preceding year. Again in 1964 wages fell, this time by 5 per cent to $2.1 million. This was the lowest wage figure for the industry in five years. Employment data for the years available

(1962-1967) indicate a constant decline through 1964 with no quarter at all registering an increase. Employment had fallen almost 15 per cent from 1962 to 1964 at which time quarterly employment was around 400 persons. The number of firms in the industry increased substantially in 1961 above the quarterly and yearly levels of 1960. However, they decreased in 1962 and remained fairly constant for the next three years.

WHOLESALE TRADE

Wages in the wholesale trade industry showed three consecutive increases during 1961, 1962, and 1963. However, the rate of increase was lower in each year than it was the previous year whether we measure in absolute or percentage terms. The percentage increases were 12 per cent, 5 per cent, and 4.4 per cent. Wholesale trade wages decreased in 1964 by a nominal amount (less than 1 per cent). Employment data for years prior to 1963 are not available for this industry, but the data for 1963 and 1964 indicate that yearly employment was about the same. However, employment during the third quarter of 1963 was unusually high (1,020). With the exception of the third quarter, employment was higher in each quarter of 1964 than of those in 1963. Employment for the two years ran right around 700 persons. The number of firms in the industry in 1960 were as few as 76 in the second quarter and as many as 82 in the third and fourth quarters. They averaged 80 for the four quarters. These had increased somewhat in 1961 which saw as many as 85 and as few as 82, but in 1962 they began to decrease. Each quarter of 1962 had fewer firms reported than the preceding quarter. The number had dropped to 72 by the fourth quarter. A similar trend continued in 1962. The number of firms decreased from 74 in the first quarter to 69 in the fourth. This trend seemed to reverse itself in 1964; there were 72 in the first quarter, 72 in the second, and 76 and 75 in the third and fourth respectively.

RETAIL TRADE

Retail trade wages follow the same general trend of increases in the first few years but suffered a decline in

1963 and 1964. Specifically, wages in retail trade increased 7.7 per cent and 9.5 per cent in 1961 and 1962 respectively. Every quarter in 1961 and 1962 revealed higher wages than in the corresponding quarter of the preceding year. But as before wages began to decrease. They registered a 2.6 per cent decline in 1962 and a 1 per cent decline in 1964. The pattern which emerges is: 1960-$6.1 million; 1961-$6.6 million; 1962-$7.2 million; 1963-$7.0 million; 1964-$7.0 million. Consistent employment data is available for 1963 and 1964 only. The data for those years suggest a slight increase in employment in 1964. The number of firms increased in 1961, 1962, and 1963 for comparative quarters with the exception of the IV-63. However, in 1964 all four quarters saw less firms reported than in the same quarter of 1963.

FINANCE, INSURANCE AND REAL ESTATE

The gross wages of the finance, insurance, and real estate industry increased in 1961 over 1960 by about 4.9 per cent from $1.1 million to $1.2 million. The 1962 data indicate a very strong increase of 17.6 per cent to $1.4 million. This tapered off to a very modest 1.4 per cent increase in 1962 and eventually turned down by 1.4 per cent in 1964. At that time wages were at about the same level as they were in 1962--($1.4 million). Employment in the industry generally decreased over the three years up to 1964 for which data is available. Employment in the IV-62 was the lowest (267) for any quarter since 1961. The number of firms in the industry increased over the same quarter of the preceding year up to the III-63. The number was lower than the same quarter of the preceding year for the next four quarters (through the II-64). The number actually remained relatively constant through 1963 and 1964 at a level slightly higher than in 1961.

SERVICE

Wages in the service industry were increasingly strong during 1961 and 1962. The 1961 figure was 22.2 per cent greater than 1960. In 1962 wages showed an overall increase of 17.3 per cent above that of 1961. However, unlike 1961 where all quarters showed increases over the same quarter of

1960, III-62 and IV-62 were lower than those of 1961. The increase for the year came on the unusually strong I-62 and II-62. The softening which appeared in the last half of 1962 manifested itself in 1963 by an overall wage decline amounting to 27.5 per cent, or almost $1 million. All quarters were significantly lower than those of 1962. In 1964 wages fell by another 2.1 per cent to a level ($2.6) just slightly higher than what they were in 1960 ($2.5). The available employment statistics indicate that following the bit year in 1962 employment fell in both 1963 and 1964. The employment data indicate that all of the eight quarters of 1963 and 1964 had lower employment than the corresponding quarter of the preceding year. The number of total firms in the industry increased through 1963. All quarters had a greater number of firms reported than for the same quarter of the preceding year. This was reversed in 1963 and 1964 when all quarters with one exception (I-63) showed fewer firms than in the previous year. The number of firms catering to the personal and business services increased the first three years, but then dropped in 1963 and 1964. They numbered well below the 1960 level in 1964. The automobile and other repair services increased in number the first three years, then remained stable during 1963 and 1964. Hotels, motels, and rooming houses increased somewhat in 1961 and 1962, but then slipped sharply in 1963 and 1964 returning to a level at or below that of 1960.

PARTICULARLY IMPORTANT INDUSTRIES

AGRICULTURE

Employment data for agriculture are not available for years prior to 1962, and due to the changing nature of the industry in the Columbia Basin, it would not be practical to estimate the missing data. Employment in agriculture during 1963 was slightly lower than in 1962 with the exception of the third quarter. However, the variations are very small and could certainly be due to statistical problems. Reported employment in 1964 was higher than in 1963 for each of the quarters and slightly higher than in the corresponding quarters of 1962. The wages paid in this industry show a similar pattern. In 1963 wages were some $470,872 below that of 1962, or 7 per cent lower. In 1964, wages recovered, and stood slightly higher than in 1962. However, the gross value of crop production in Grant County as estimated by the Bureau of Reclamation increased steadily from 1960 through 1964 with the exception of 1961. Gross crop values for 1960 through 1964 were: $25.5; $24.6; $27.8; $33.3 and $34.0 million. Gross crop value per irrigated acre was relatively high in 1960 ($142.11), then declined in 1961 ($129.69) but increased in both 1962 ($131.90) and 1963 ($148.46). Crop value per irrigated acre in 1964 was $153.57. This is a significant increase over that of 1960. The number of acres irrigated in Grant County has, of course, continued to grow as the Columbia Basin Irrigation Project continued. There were 179,407 irrigated acres in 1960; this had grown to 227,613 in 1963. Irrigated acreage in the county has been increasing steadily at about 8 per cent a year. Of course, agriculture in the project area is still youthful, and the farmers with newly irrigated acres are apt to plant quick cash crops for the first few years in order to pay developmental costs. The nature of agriculture has been radically changed by the project.

CONSTRUCTION

Employment in contract construction certainly reflects the activity, or lack thereof, centered around the installation of the Titan missile system in Grant County. Unfortunately the employment data is available only for 1962 and the following years. However, employment during the I-62 was above 2,000 people, and during the II-62, it was 1,843. But in III-62 it fell by almost 900 persons to 953 employed. The IV-62 saw a drop of 403 to only 550 persons employed. All quarters of 1963 were well below those of the corresponding year. The employment data of 1964 show a slight increase with a spurt during the second quarter. The quarterly employment figures are quite revealing and worth indicating here.

	1st	2nd	3rd	4th
1962	2057	1843	953	550
1963	380	440	520	430
1964	373	1123	523	550

The wage data in contract construction are even more revealing. The data are available for the entire period. Wages were $15.3 million in 1960, $19.6 in 1961, only $11.5 in 1962, $2.6 in 1963, and $4.8 million in 1964.

The value of building permits issued in the City of Moses Lake increased significantly in 1961 from $714,029 to $1,972,505 and again in 1962 to $2,644,467. The number of permits issued increased from 114 in 1960 to 174 in 1961 and fell slightly in 1962 to 154. However, in 1963 the number of permits issued fell to 108 and the value of these dropped drastically from the $2.6 million in 1962 to $436,052 in 1963. The number of permits issued took another dip in 1964 to 80, but the value increased to $829,977.

The valuation of 1960 residential building permits issued was $432,330 for 36 permits issued. The permits issued for alterations and additions to existing residential structures added another 53 permits and $59,950. The number of permits and the value of these more than doubled in 1961 for new residential structures. The number and valuation of permits issued for residential additions and alterations increased also. The number and value of permits remained high during the I-62 and II-62, but showed some slowing down in the last two quarters. However, for 1962 the value of permits issued for new residential structures was over $1 million. This was the highest recorded during the first eight years of the decade. The number and value of permits issued for alterations was also higher in 1962 than in any of the preceding years. However, 1963 was quite another story; the value of permits for new residential building dropped drastically to a mere $158,180 and the number of permits issued fell to 9 from the 1962 level of $1,016,190 and 50 permits. Virtually no permits for new structures were issued during the fourth quarter of 1963. Yet, the number and value of permits issued for alterations increased slightly over the level of 1962. Again in 1964 there were no permits issued for new structures during the fourth quarter and only five for the entire year. The value of these was only $101,375. The number and value of permits for alterations also fell sharply from 76 and $93,889 to 36 and $42,588.

Property values in Moses Lake showed steady increases over the entire 1960-1964 period. They rose from $48 million in 1960 to $57.7 million in 1964. These figures are usually released by the County Assessor in September of the year; therefore the 1964 figure represents property values before the announcement of closure. The County data show a similar pattern of increase through 1964. The number and judgment cost of real property sales conducted by the County Sheriff's office for property located in Moses Lake showed an increase in 1961 over 1960 and then a decline in 1962 to approximately the 1960 levels. However, in 1963 the number increased from two to 22 and the value rose from $23,632 in 1962 to $304,320 in 1963. The judgment cost rose again in 1964 to $415,413, but the number declined to 14.

The number and value of building permits issued in Moses Lake for new industrial and commercial buildings increased sharply in 1961 over that of 1960. There was a slight increase in 1962 in the value of permits issued but the number issued actually declined. However, in 1963 both the number and value declined. The value of the eight permits issued in 1963 was only $145,583, down from $670,673 in 1962. Yet, in 1964 while the number of permits issued remained the same, the value rose to $255,340. The value of permits issued for commercial and industrial alterations increased sharply in 1961 to $63,102 from $28,050 in 1960. They rose slightly in 1962 to $73,800, but then fell sharply in 1963 to $34,400. However, in 1964 the figure had risen to $84,817.

The Economy After Announcement

HISTORICAL SUMMARY

The Grant County economy appeared to be in a healthy state during the first year following the Announcement of the closure of Larson AFB despite some general fears expressed by the local population. Grant County, basically an agricultural area, has been experiencing an increase of irrigated land in recent years as a result of the Columbia Basin Project and its federally appropriated funds. Potato farming has established itself as a dominant activity, with vastly increased acreage being devoted to the crop. Yet, the most interesting development in the County economy seems to be the burgeoning of vegetable processing. The bulk of this activity involves potatoes.

Needless to say, the communities in the County expressed concern over the possible economic effects of the closure of Larson AFB. A Columbia Basin delegation, led by Washington's U.S. Senator Henry M. Jackson met with the DOD and the Air Force to challenge the grounds cited for the closure. The Larson Action Committee (LAC) requested that the Area Redevelopment Administration (now the Economic Development Administration) sponsor a study of industrial uses to which the Larson facilities could be converted. A private research firm was hired to conduct the study. Similarly, the LAC requested that the Washington State Employment Security Department conduct a manpower resources study. These two events took place in February, 1965. As time passed, however, there seemed to be a reserve of confidence and optimism fed by the positive developments in the economy which more than offset the general apprehensions of the local populatio

The last month and a half of 1964 and the year 1965 was a pivotal period in which agriculture and related industries played an important and expanding role. Potatoes became the leading cash crops in 1964. Production for the Basin area was up 50 per cent in 1965 over 1964. Basin potato acreage was estimated at 42,000 in 1965 compared with 28,000 in the preceding year. Potato storage capacity expanded to 200,000 tons during the year in the two-county area of Grant and Adams. Most of this increased capacity was reported to be on farms. Sugar beet production, as well as most other crops and livestock, remained promising.

Particularly important to the Grant County economy was the confidence in the future evidenced by the food processing industry. There was a general expansion of existing plants, and several new processing plants were added. Altogether, six farms announced plans for expansion affecting four different communities. Moses Lake, the largest city in the County--and the city nearest Larson Air Force Base, received two of the new food processing plants and nearby Quincy added two new plants also. Expansion of existing plants occurred in Othello (just outside Grant County) and Warden (in Grant County). These food processing plants were concentrated mostly in the dehydrated and frozen potato field, although not confined to these operations only. The farmers in Grant County have been very encouraged by this increasing interest and evidence of confidence coming from the food processing industry.

In 1965, definite plans for the future use of Larson facilities were few. The Big Bend Community College and a men's Job Corps Center began operating on the Base, but industrial uses did not materialize.

Early in 1966, Boeing expressed an interest in using some of the facilities at Larson for training crews of customer airlines and for storage purposes. The Air Force immediately responded affirmatively. After the last B-52 had left, but before the facilities had been transferred to the Moses Lake Port District, Boeing airplanes began landing and takeoff maneuvers. Late in April, Big Bend Community College was given some of the buildings at Larson, In June, the Air Force announced its intention to leave the instrument landing system for the airport, and Boeing announced that it would guarantee the Moses Lake Port Authority's operation of the airport to the amount of $300,000. On July 1, the GSA transferred air operations to the Port, and the Federal Aviation Administration took over the control tower. Boeing then signed a contract to use the Grant County Airport (Larson) as a training center through 1980. Big Bend College began use of the Airport in the fall term for its commercial pilot training program. In December, Boeing received the Supersonic Transport award and, although Boeing made no commitment or statement, Moses Lake citizens believed firmly--and still do--that Boeing will use Larson facilities for some part of the SST work.

By the end of 1966, in terms of the usual measures, Moses Lake had recovered from the closure of the Base. Employment and retail sales were up, unemployment was at the lowest rate in years, the Grant County Public Utility District increased its sales by nearly 6 per cent. New food processing plants were built and existing ones expanded and this, plus some increase in agricultural output, appeared to be responsible for the recovery.

The economy continued healthy through 1967, even though utilization of the airport is minimal. The community's income came essentially from agricultural production and from processing of agricultural raw materials. At the end of 1967, the Base contained the two Job Corps (men's and women's), a small sheet metal fabricating plant, the community college "North Campus", and rentals were being obtained from several hundred homes on airport property. The airport had been operating "in the black" since April and had become the fifth busiest airport in the FAA's western district. The airport revenues were mostly from crew training flights, although the small Commutair feeder airline included Moses Lake in its system running from Helena, Montana to Paine Field north of Seattle. Boeing and a few other firms had obtained parcels of property from GSA early in 1968 but none of the firms had announced plans for utilization.

At the time of writing (May 1968), no significant industrial utilization of the Base has occurred, and neither Boeing nor any other purchaser of Larson facilities has been willing to state what utilization might be made of their properties.

GENERAL ECONOMIC HEALTH

Grant County, basically an agricultural area, has been enjoying the benefits of the federally financed Columbia Basin Reclamation Project. This project has greatly increased the irrigated acreage in Grant County over the years and will certainly continue to do so in the future. Potato farming has established itself as a dominant farm activity with vastly increased acreage being devoted to the crop. Yet, the most interesting and lasting development in the economy to date seems to be the expansion of vegetable processing. The bulk of this activity is in potatoes.

In general, employment with the exception of the military of course has been holding its own. The lowest unemployment rates in the history of the county were recorded during the first two years following the Announcement, with only a slight increase in 1967. Retail sales have done exceedingly well, showing consistent increases over the same quarter of the previous year with two minor exceptions.

The general health of the economy has been maintained without the benefit of any new major industry entering to take advantage of the vacated Larson facilities. As mentioned above, the expansion of food processing facilities has played a major role in the maintenance of the economy. This has had not only a real, but also a psychological, affect. This has all happened in a community which felt itself inevitably attached to Larson. This seems to support the hypothesis that a substantial military establishment has a rather limited impact on the general local economy. Although particular sections of the economy become dependent upon the military establishment, the economy as a whole seems less so than often thought.

POPULATION AND THE LABOR FORCE

The Moses Lake population, as estimated by the Washington State Census Board, declined by 7.6 per cent between 1964 and 1965. The population had actually begun to decline in 1963 from the 1962 high of 12,622 to 11,600 in 1963 and 11,000 in 1964. The 7.6 decline in 1965 represents a continuation of the rather rapid decline which began in 1963. Again in 1966 there was another decline from 10,159 in 1965 to 10,050, or slightly over 1 per cent. The 1967 population has been estimated at 10,289 which represents a 2.4 per cent increase over 1966. This is the first year since 1962 in which the population statistics actually show an increase for Moses Lake. Population figures for the incorporated cities and towns of Grant County indicate that Moses Lake was not the only city suffering a declining population. When 1965 is compared to 1964, one finds that six of the 15 cities and towns actually registered a decrease; four of the remaining 9 registered no change at all, and five experienced rather nominal increases. Total figures indicate a decline from 28,511 in 1964 to 27,902 in 1965. Again relating to 1964, it is found that eight of the 15 declined with three unchanged and four registering increases. Total population in 1966 was down to 27,621. In 1967, total population was estimated to have been 26,744, which represents a 6.7 per cent decline from 1964 and a 16 per cent decline from the 1962 figure. Nine of the incorporated cities and towns had declined with two unchanged and four with increases in estimated population over the 1964 figures. The year 1967 marks the fifth straight year in which population in the incorporated areas of Grant County has declined.

The available labor force statistics for Grant County indicate that the labor force increased generally over what it was in 1964. There appears to have been approximately a 4.4 per cent increase during the three years following the Announcement. Employment totals were mixed, but the unemployment rate has been markedly lower. With the exception of the last two quarters of 1967, the unemployment rate has been lower in each quarter than it was in 1964. The last two quarters of 1967 were only slightly higher than the corresponding quarters in 1964. All quarters of 1966 were significantly lower than the corresponding quarters of any previous year for which there are statistics available (1962-1965). Unemployment was actually as high as 13.4 and 11.4 in the IV-63 and IV-64. Unemployment was well over 6 per cent for the period 1962-1964, while in 1966 the unemployment rate ran under 5 per cent with one exception--the first quarter rate was 5.8 per cent.

RETAIL SALES

Moses Lake retail sales for the first three quarters of 1967 were running over 26 per cent greater than during the equivalent period of 1964. However, it must be noted that sales had diminished sharply (9.2 per cent) between 1962 and 1963, followed by a modest 1.6 per cent recovery in 1964. Since 1964, the percentage increases in sales from year to year are as follows: 10.4 per cent, 3.5 per cent, and 9.3 per cent. The 9.3 per cent increase in 1967 over 1966 represents a comparison of the first three quarters of the respective years. Relating the first three quarters of 1967 back to the same date for 1962, which was the highest for any year prior to 1964, one finds that there was only about a 14 per cent increase during the five years.

THE MAJOR INDUSTRIES

Wages in 1965 were the highest in history. The second quarter of 1965 was the single exception to a year which otherwise saw higher total wages in each quarter than any previous year. Total wages paid slipped in 1966, a year in which only one quarter, the fourth, showed an increase over the records of 1965. However, 1967 was a year in which wages increased significantly. Although statistics are only available for the first three quarters, it is very reasonable to expect 1967 wages to run ahead of the 1965 high. The available data for 1967 show that wages are 5 per cent higher than in the equivalent period during 1964; 1.6 per cent higher than that of 1965; and 6 per cent higher than in 1966.

FOOD AND KINDRED

The largest single increase occurred in the food and kindred industries. Since 1964, wages in food and kindred industries have increased approximately 164 per cent. Wages paid in 1965 were 40 per cent greater than in 1964; this was an increase of slightly over $1,000,000. The following year wages had increased by over $2.3 million which was a 63 per cent rise. The first three quarters of 1967 witnessed a 15 per cent increase over the comparable period a year earlier. Food and kindred wages accounted for only some 4 per cent of total wages in 1964, but in 1967 the fraction had risen to 9.1 per cent through the first three quarters. Wages in this industry rated only sixth in size in 1964 (excluding government wages), however, in 1967 it was the second largest. Retail trade was the only industry with larger wages in 1967. While the wages in food and kindred industries were only $1 million greater than all other manufacturing wages paid in 1964, they were slightly over $4.0 million greater in 1967.

Food and kindred manufacturing accounted for about 63 per cent of all wages paid in manufacturing during 1964; however, in 1967 this was up to almost 75 per cent. Manufacturing wages, excluding food and kindred wages, did increase over the three year period by approximately 28 per cent. Wages paid declined, however, in 1965 by slightly over 7 per cent; this loss was more than recovered in 1966 and wages in 1967 were running about 16 per cent higher than in 1966 for the respective first three quarters. Employment during the same three years has actually slipped and in 1967 is only about 92 per cent of what it was in 1964. The number of firms involved in manufacturing, excluding food and kindred, actually slipped in 1965 and 1966 but by 1967 were back at the same level as in 1964. Of course, when food and kindred firms are included the number of active firms reported shows a slight increase over the 1964 levels.

Employment statistics in the food and kindred industries show dramatic change. Employment in this industry has doubled since 1964. The first and fourth quarter of each year have particularly high levels of employment in this industry, a rather stabilizing offset to the traditionally low levels of employment in agriculture during the same quarters. While only ten to twelve firms existed in this field in 1964, there have been 15 since 1966.

RETAIL TRADE

Retail trade wages showed increases over the previous year in 1965, 1966, and 1967 of the following degrees: 6.1 per cent, 8.4 per cent, and 10.4 per cent for the first three quarters of 1967 over the comparable period in 1966. The quarter to quarter variations are rather slight. The wages paid in retail trade account for about 12.5 per cent of the total wages earned in Grant County. This makes the retail trade the industry with the largest wage figure in Grant County. Employment in the industry has actually remained rather constant. It seems to have declined slightly in 1965 and then regained approximately the 1964 level in 1966 with only a slight rise in 1967. The number of firms in the industry have diminished approximately 4 per cent since 1964. The largest decreases occurred in the "furniture and home furnishings" and "apparel and accessories" outlets. These were followed by "food," and "eating and drinking places."

SERVICE

Since 1964 service industries wages have increased approximately 64 per cent with the largest single increase occurring in 1967. The first three quarters of 1967 witnessed a total wage figure for services which was about 53 per cent higher than the comparable period a year earlier. In 1966 wages had fallen off slightly from that of 1965. Employment in services has typically reached its peaks in the second and third quarters of each year with the exception of 1967 (3rd and 4th). Although subject to a fair amount of seasonal fluctuation total employment in services has steadily increased since 1964, and by 1967 it was approximately 12 per cent greater than in 1964. The number of firms has also decreased in the service industries despite the general increase in employment and wages. The professional, social and miscellaneous services seem to have been the most seriously affected followed by "automobile and general repair" and "hotels, motels, and rooming houses."

FINANCE, INSURANCE AND REAL ESTATE

The number of firms in the finance, insurance and real estate industry began an immediate and significant decline following the 1964 Announcement. There were 69 firms in this industry during 1964 and I-65, but then it began to decline. There were only 62 at the end of 1965 and only 55 at the end of 1966. The third quarter of 1966 saw only 56 firms reported in this industry. This represents about 17 per cent decline in the number of firms since 1964.

Employment in this industry over the same period has likewise shown a decline. Every quarter since 1964, with the exception of the second quarter of 1966, has shown a smaller number of persons employed than the same quarter of the previous year. If we compare average employment during the period 1964-67 for the third quarter which is typically higher than any other quarter, the following pattern emerges: 1964 - 307, 1965 - 293, 1966 - 267, and 1967 - 253. Employment in finance, insurance, and real estate had fallen to about 87 per cent of the 1964 level by 1967. Wages show a decline of some 6.6 per cent between 1964 and 1965 followed by a nominal gain of less than 1 per cent in 1966. Then in 1967, they further declined by about 3 per cent. The total effect is about a 9 per cent decline in wages since 1964.

WHOLESALE TRADE

Wholesale trade wages showed impressive gains for 1965 and 1966 of 11.5 per cent and 7.1 per cent respectively, but in 1967 they were down 8.1 per cent for the first three quarters from the same period in 1966. Wholesale trade wages in 1967 were about 114.5 per cent of the 1964 level for the first three quarters of each year. The third quarter, which is typically the highest, yields a pattern as follows: 1964 - $889,164; 1965 - $989,404; 1966 - $1,132,796; and 1967 - $927,318. Despite the disappointing third quarter, 1967 had the highest first and second quarter wage totals in the history of Grant County. Average quarterly data in 1965 and 1966 showed only one quarter each in which employment was higher than in 1964 (the IV-65 and II-67). The second and fourth quarter of 1967 showed gains over the like quarters of 1964. Employment in wholesale trade has essentially declined since 1964. The number of firms in the industry actually remained rather constant through 1966, but in 1967 it dipped from about 73 to around 67 firms. The third quarter of 1967 had only 66 firms reported in the industry which is the lowest number this decade.

TRANSPORTATION AND UTILITIES

The number of firms in transportation, communication, and utilities in 1967 was about 51. This is only about one firm less than was reported in 1964, three less than in 1965, and one less than in 1966. However, employment in 1967 was slightly higher than it was in 1964. Employment slipped in 1965 and 1966, but as mentioned had more than recovered by 1967. Wages, on the other hand, showed an increase of just less than 1 per cent in 1965 and then again in 1966 increased approximately 8.7 per cent. A decline during the first three quarters of 1967 from those of 1966 occurred to the extent of about 2.3 per cent. The first three quarters of 1967 had a wage rate of about 9.2 per cent greater than the equivalent period of 1964.

FOOD PROCESSING

Potatoes established themselves as the leading cash crop in the Grant County economy during 1964 according to the Bureau of Reclamation. The product has rejuvenated the hopes of farmers and investors as well as the local labor force. Potato production and processing have both played a strong pivotal role in the economy since the November 19, 1964 announcement. The processing industry has accounted for much of the stability witnessed in Grant County during the years since the Announcement.

The largest building permits issued during 1965 were both for potato processing plants near Moses Lake. The American Potato Co. and Pronto Foods were issued building permits in excess of $1 million for their plants and storage facilities.

Pronto Foods, Inc., largely owned by Moses Lake stockholders, employed only 165 persons in 1961. This was just thirty days after the plant opened for production. However, by 1968 the plant was the second largest employer in the Moses Lake area with over 300 employees. Utah-Idaho Sugar was the only firm which employed more persons than Pronto. Utah-Idaho employs more than 500. American Potato Co. and Western Farmers Association were the third and fourth largest employers in the Moses Lake area by 1968. Each of these vegetable processors employed more than 100 persons. The four largest private employers in the Moses Lake area are food processors. Plants have also been opened in Othello and Quincy as well as numerous other communities throughout the Columbia Basin and Grant County. They too employ several hundred people each.

The operating season of these processing plants usually begins sometime in July and often continues into March. Since the slow agricultural period is during the winter months, this provides a somewhat stabilizing offset. However, as many as 70 per cent of the employed persons in these processing plants are women.

The food processing industry which has been attracted to the Columbia Basin in the past few years is a significant indication of the successfulness of the Columbia Basin Irrigation Project. This program succeeded in putting irrigation water on the first acres in 1948. Since that time the Basin has become an agricultural area attractive enough to lure the badly needed processing industry into it. The processing industry has always been what was needed to fill out the economy, and would have established itself at some time. However, when it did begin establishing itself, the Grant County businessmen, farmers and workers all were in need of an uplift because of the shock of the Larson closure plans. For this reason, the processing industry became the economic and psychological guidepost which pointed toward a stable and healthy future. The industry has at very least filled the psychological void left by the Larson closure in Grant County. All of these plants have moved into the area without making use of any of the Larson facilities.

BANK DEPOSITS

Grant County bank deposits continued to increase uninterrupted during the years following the Announcement. At year end 1964 they totaled $36.0 million, and by the end of 1964 had increased to $41.3 million. They had reached $44.2 million by the end of 1966 and $48.9 million by the end of 1967. Moses Lake deposits showed gains of 16 per cent, 17 per cent, and a very modest 0.5 per cent at the end of 1965, 1966, and 1967 respectively. At year end 1967, Moses Lake deposits were 37 per cent greater than at year end 1964.

ELECTRIC POWER

County electric sales increased steadily from 1964 through 1967. Total sales for 1964 were $3.7 million and in 1967 they were $4.0 million. It is interesting to note that in 1965 total energy sales in Grant County were $3.889 million. Sales to Larson AFB decreased by $133,070 in 1966 from 1965, but the sale of electric power in two cities (Quincy and Warden) increased by $139,326. These towns are two in which the potato processing industry has established itself. The rather significant increase in energy sales in those two towns certainly reflect processing activity. The sale of electric power to Moses Lake residential and commercial accounts has steadily declined since 1962.

AGRICULTURE

Gross crop value in Grant County has shown a steady increase during the periods since Announcement. As estimated by the Bureau of Reclamation, gross crop value for the years 1964-67 was $34.0 million, $38.1, $41.9, and $42.2 million respectively. Over the same years the value of production per irrigated acre has increased also with the exception of 1967. Gross value per irrigated acre was $153.57 in 1964, $157.75 in 1965, $166.70 in 1966, and $164.34 in 1967. The Columbia Basin Irrigation Project has greatly increased the number of acres receiving water over the past few years, and since 1964 the irrigated acreage has increased by 35,270 in Grant County. This represents approximately a 16 per cent increase over the acreage receiving water in 1964. As pointed out earlier, the newly irrigated acres are often planted with cash crops for the first few years in order to help pay development costs.

CONSTRUCTION

Wages in construction declined both in 1965 and again in 1966, however, in 1967 they were running ahead of 1966 for the first three quarters. Fourth quarter data are not available yet, but the first three quarters all had higher wage figures than for the corresponding quarters of 1966. Employment in the industry has been rather variable, but generally lower since 1964 mainly because of the slight spurt evident in the second quarter of 1964. The number of firms has likewise been smaller in the 1965-1967 period.

Residential building permits issued in the City of Moses Lake significantly reflect the affect of the closure of Larson AFB on housing in the area. In 1964 there were five permits issued with an estimated value of $101,375, but in 1965 this had fallen off to three permits and only $55,600. However, in 1966 permits for new residential buildings had fallen as far as possible; there were virtually no residential permits issued in 1966. A total of four permits were issued in 1967 for $88,000. The number and value of permits issued for alterations to existing residential buildings fell also; there were 36 permits issued in 1964 for $42,588, 23 permits in 1965 for $35,377, 26 in 1966 for $26,175, and in 1967 they increased to 49 and $55,221. The number and judgment cost of Sheriff's sales of real property in Moses Lake increased dramatically after Announcement. There were 14 sales in 1964 with a total judgment cost of $415,413, but in 1965 this had increased to 42 and $447,337. Thirty-one of these sales took place in the third and fourth quarters and represented judgment costs of $347,252. The Sheriff's office had a very busy year in 1966. There were 50 sales of real property in Moses Lake that year and judgment costs totaling $572,005. The foreclosure rate showed signs of declining during the fourth quarter of 1966 and in 1967 the number of sales had dropped off to 39 with judgments totaling $429,742. Grant County data reflect much the same pattern, but Moses Lake was certainly hardest hit.

Assessed valuation of property in Grant County dipped from $66.4 million in 1964 to $64.7 million in 1965. However, in 1966 there was a gain of $5.2 million followed by a $3.0 million gain in 1967. Property values in Moses Lake (estimated by multiplying the assessed valuation by a factor of four) fell from $57.7 million in 1964 to $54.1 million in 1965. They rose to $55.0 million in 1966 and declined again in 1967 to $54.5 million.

Commercial and industrial building permits for Moses Lake fell by more than half in 1965. The 1964 valuation of the eight permits issued for new structures was $255,340, but in 1965 only 4 permits were issued for a value of only $116,000. However, in 1966 there were six permits issued for $138,300, and in 1967 there were 13 permits issued for $293,179. The number and value of permits issued for alterations to commercial and industrial structures for 1964-1967 were: 27 and $84,817; 15 and $20,545; 25 and $76,948; 30 and $378,509.

Conclusions

ANALYSIS OF COMMUNITY REACTION TO CLOSURE

The immediate reaction to the November 1964 Announcement was panic. Two retailers immediately closed down their businesses without waiting for any effects. The first concerted action was to appeal for the reversal of the order. When the community got down to business, it formed the Larson Action Committee, Federal funds were sought (from Area Redevelopment Administration) and obtained for a research project on the impact of the closure and possible offset moves. The Grant County Public Utility District compiled a rather comprehensive report on the impact of the closure of the Base. The Larson Action Committee and the Chamber of Commerce went through the usual process of trying to attract industry with a single lack of success. The civic groups were very busy during the lead time period.

The single most effective result of community activity was saving the Base for use as Grant County Airport. As of this writing, industrial utilization of the Base is negligible, but the potential for industrialization as well as the more common airport uses provides at least strong hopes for the future. Another very effective community action was the establishment of Pronto Foods. Pronto is a community project. The idea for a potato freezing plant was conceived, checked as to potential, and organized on the basis of widespread participation in investment. The community organizers set a lower limit on investment by an individual at $300 and a maximum per individual at $3,000. Six hundred residents became stockholders, and a plant was built that reached an employment level of 300 workers in 1967.

RECOVERY BASE

The recovery in the County was based on an increase in agricultural output and on the location or expansion of food processing facilities in the area. Other than the establishment of Pronto Foods, it is difficult to credit civic groups with increases in agricultural and processing increases. In agriculture, additional lands were receiving water from the Columbia Basin Project and lands which had been opened up in recent years were becoming more productive. The construction and expansion of food processing plants were undoubtedly a function of economics rather than promotion. Most of the expansion took place in potato processing. The potatoes grown in the area are ideal for processing, supply was expanding to meet the needs of processors, and market demand was very strong.

FUTURE PROBLEMS

Civic leaders point with pride to the statistics which indicate complete recovery from the effects of the closure. These statistics have been cited elsewhere in this report. In terms of long-range economic development, however, Moses Lake has been hurt in the following ways:

1. The quality of the labor force has been diminished

2. The offsetting industries all suffer severe unemployment for two or three months per year.

3. The community has lost ground in terms of diversification. It is now almost completely dependent on agribusiness (agriculture, servicing of agriculture, and processing of agricultural products).

New industries might find it difficult to obtain the skills and professions they needed to employ. The unemployment problems inevitable to local economic activities will represent a drain on public resources, as well as having a negative impact on consumer businesses. Agricultural employment and employment in agricultural wholesaling enterprises is declining. Because of technology and science, each year sees a decreased need for labor.

The community needs manufacturing enterprises which operate twelve months per year and which utilize higher skills and professions. Almost nothing of this character exists in the community and nothing is visible on the horizon.

THE ECONOMIC EFFECTS OF CLOSURE

Data on the whole economy cited above suggest recovery. However, certain qualitative problems arose in that the quality of the labor force diminished, many of the new jobs are at or near the minimum wage and in the food processing plants (which provided most of the new employment), 70 per cent of the employees are women. Skilled and professional types of workers who had been employed at Larson and in some of the businesses serving Larson have departed--there is nothing for them in Moses Lake.

The businesses which were hardest hit were business services and construction. The largest construction enterprise in Moses Lake during the operation of Larson as an air base was one which did construction and maintenance including runways. Except for a token establishment in which it and another firm share a single office, this firm has moved on. There was a fleet of 900 vehicles at Larson, there were 1,350 homes and considerable equipment of all types which needed servicing. Many of the firms which did this work were wiped out. Certain types of retail stores (particularly those not directly competitive with the post exchange) and eating places have lost business, although it is not possible to determine whether turnover in retail trade is directly related to the closure. For companies which were supplying the base, the closure was a disaster because some received most of their trade from the base. The household goods moving companies, which did a consistently good business all during the life of the base--and did a land-office business during the closure process--found the closure a disaster. The firms which were directly competitive with retail operations on the base (for example, gasoline service stations which "lost" $270,000 per year to the single Larson service station) have suffered little if any.

REASONS FOR UNDERUTILIZATION

The most serious weakness in the position of the economy in the post-closure period is that no industrial activity of consequence has appeared on Larson AFB. The fact that a few industrial firms, including Boeing, have obtained some facilities on the base suggests that at some future time they will utilize them for economic activities which will generate incomes and employment. The chief explanation for the failure of industrial firms to utilize the base so far probably lay in its location. The physical attributes of the Base are excellent. It has buildings, residences, large paved areas, an adequate water supply, level terrain and firm soil. Locationally, however, Moses Lake is on the periphery of the United States market, it is on the periphery in terms of raw material supply for most industries, and much potential industrial land lies between it and the major market concentrations (Seattle and western Washington, Spokane and Portland, Oregon). Initially, it would appear that the most likely industrial prospects for the Base would be footloose industries--especially industries that could distribute by air.

CURRENT CONTRIBUTION OF BASE

The contribution of the freed military property is positive but slight. The Community College operates facilities on the Base, but this activity probably is not a net addition to the community. The two Job Corps centers, with a total employment of 70 people and with procurement needs important to the community have been a net addition. The Grant County Airport, in the black since April, 1967, is contributing employment and revenues to the County (although revenues to date are meager). The fact that Boeing and some smaller firms have obtained Larson properties has a potential for the future, but none of the property-holders will state when they will use the facilities or how they will use them. The total employment on the Base of somewhat over 100 people would have been insufficient to avoid disaster had not industries off the Base expanded. Hence, there has been a slight contribution and a potential for an important contribution at a later date, but the magnitude of utilization to date does not represent recovery in itself.

DISCONTINUED STUDIES

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The University of Kansas

Lawrence, Kansas

July 1968

ACDA/E-90

Introduction

Separate impact studies were originally scheduled to study the announced closure of Hunter Air Force Base at Savannah, Georgia and the Elwood Unit of the Joliet Arsenal at Joliet, Illinois. Because of subsequent events these studies were terminated due to the fact that it soon became clear that no impact could be expected in either of the communities.

Hunter Air Force Base--Savannah, Georgia [1]

One of the bases selected for closure in the November 1964 Announcement was Hunter AFB located in Savannah Georgia. The phase-out was scheduled to be carried out over a period of two and one half years. By the end of 1966 some reduction in civilian and military personnel had taken place--from close to 6,000 to nearly 3,500. The only immediate impact, however, of the phase-out was on the housing market and was localized to the immediate vicinity of the Base. While some plans had been made to utilize the Base facilities in private activity, no actual re-use had occurred by the end of 1966.

On December 15, 1966 the DOD announced that Hunter AFB had been selected as the site for a major Army helicopter pilot training center. This role for the Base was scheduled to result in a larger civilian and military component than had been associated with Hunter AFB in 1964--6,400 vs. 6,000. By early 1967 Army personnel had begun to arrive. Whatever effect was caused by the decision to close Hunter and the reduction of personnel during 1965 and 1966 was offset by the Announcement of a changed role for the Base and by the rapid buildup of personnel associated with this new role.

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1. This summary was prepared on the basis of material supplied by Jerry L. Lewis, Industrial Development Division, Georgia Institute of Technology.

Elwood Unit of the Joliet Arsenal--Joliet, Illinois[1]

The Elwood unit of the Joliet Arsenal located near Joliet, Illinois, was scheduled for closure by July 1965. Very few (6) military personnel were involved; however, a substantial number of civilian jobs were scheduled for dislocation--878. The DOD estimate was that this closure would cause severe problems for the Joliet area. This has not happened. At almost the same time that the Elwood unit was closed, the Kankakee unit was activated. By December 1965, employment at the Kankakee unit totaled 890, with an additional 490 persons employed in construction activity. It is clear that the opening of the Kankakee unit forestalled any serious economic impact in the Joliet areas caused by the closure of the Elwood unit.

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1. This summary was prepared on the basis of material supplied by Roger K. Chisholm, School of Business, Northwestern University.

ACDA PUBLICATIONS ON THE ECONOMIC IMPACT OF DEFENSE AND DISARMAMENT IN THE UNITED STATES

GENERAL

* Economic Impacts of Disarmament (ACDA 2), January 1962.

* The Economic and Social Consequences of Disarmament (ACDA 21), June 1964.

* The Timing of the Impact of Government Expenditures (ACDA/E-157), University of Pittsburgh, November 1970.

Adjustment of the U.S. Economy to Reductions in Military Spending (ACDA/E-136), University of Colorado.

MEASUREMENT

Survey of Economic Models for Analysis of Disarmament Impacts (ACDA/E-59), University of Michigan, July 1965.

A Study to Measure Direct and Indirect Impacts of Defense Expenditures on an Economy (ACDA/E-85), University of Washington, August 1967.

An Economic Impact Study of the Minuteman II Weapon System (ACDA/E-125), Research Analysis Corporation.

INDUSTRY

* The Implications of Reduced Defense Demand for the Electronics Industry (ACDA/E-48), Battelle Memorial Institute, September 1965.

* Defense Industry Diversification (ACDA/E-68), Denver Research Institute, January 1966.

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* Defense Systems Resources in the Civil Sector (ACDA/E-103), Denver Research Institute, July 1967.

The Management of Growth and Technological Change (ACDA/E/RA-15), Northeastern University, August 1967.

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MANPOWER

* The Dyna-Soar Contract Cancellation (ACDA/E/RA-13), State of Washington Employment Service, June 1965.

* (I) Post Layoff Experiences - Republic Aviation Workers and (II) The Transferability of Defense Job Skills to Non-Defense Occupations (ACDA/E-69), State of New York, Department of Labor, August 1966.

* Reemployment Experiences (ACDA/E-67), Martin Marietta, December 1966.

* The Transferability and Retraining of Defense Engineers (ACDA/E-110), Stanford Research Institute, November 1967.

The Potential Transfer of Industrial Skills from Defense to Non-Defense Industries (ACDA/E-102), State of California, Department of Labor, June 1968.

* Reemployment Experiences of Defense Workers (ACDA/E-113), University of Colorado, November 1968.

* Pensions and Severance Pay for Displaced Defense Workers (ACDA/E-138), University of Illinois, July 1969.

Characteristics of Potential Unemployment Problems in Vietnam Procurement Reductions (ACDA/E-168), Research Analysis Corporation.

REGIONS

Adjustments to Reduced National Defense Expenditures in New Mexico (ACDA/E-58), Kirschner Associates, January 1966.

* Community Readjustment to Reduced Defense Spending (ACDA/E-57), National Planning Association, January 1966.

Community Information System (ACDA/E-88), National Planning Association, July 1967.

* Ammunition Production for Vietnam-Impact on Southeast Kansas (ACDA/E-142), Midwest Research Institute, February 1970.

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Copies of completed studies which have been printed by the Government Printing Office may be purchased directly from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Several other reports are available in limited number in ACDA and may be obtained on request to RIC, U.S. Arms Control and Disarmament Agency, Washington, D.C. 20451. Copies of research reports have been forwarded to major public and academic libraries in the U.S. and to U.N. libraries in New York and Geneva.

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* U.S. Government Printing Office

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