

THE UNIVERSITY OF OKLAHOMA  
GRADUATE COLLEGE

FEDERAL AVIATION AGENCY—AERONAUTICAL CENTER:  
ECONOMIC AND SOCIAL CHARACTERISTICS  
OF THE LABOR FORCE

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FEDERAL AVIATION AGENCY—AERONAUTICAL CENTER:  
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OF THE LABOR FORCE

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FEDERAL AVIATION AGENCY<sup>1</sup>—AERONAUTICAL CENTER:  
ECONOMIC AND SOCIAL CHARACTERISTICS OF  
THE LABOR FORCE

CHAPTER 1

INTRODUCTION

The economic importance of government both as an employer and as a purchaser of goods and services has increased significantly in recent years. It seems unlikely that this trend will be reversed in the near future. Recently government employment has accounted for about 17 per cent of nonagricultural employment in the United States.<sup>2</sup> Total wages and salaries paid government employees represent about 18 per cent of total wages and salaries paid all nonagricultural employees.<sup>3</sup>

Government employment and expenditures for goods and services varies from state to state, and from city to

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<sup>1</sup>The Federal Aviation Agency officially became the Federal Aviation Administration on April 1, 1967.

<sup>2</sup>U. S. Bureau of Labor Statistics, Employment and Earnings, Vol. 10, No. 7 (January, 1964), p. 22.

<sup>3</sup>U. S. Bureau of Business Economics, Survey of Current Business, Vol. 44, No. 8 (August, 1964), p. 18.

city. For example, in 1965 government employment accounted for 11 per cent of total nonagricultural employment in Connecticut, 30 per cent in South Dakota, and 43 per cent in Alaska. In Oklahoma, government employment accounted for about one-fourth of total nonagricultural employment. In most states government employment increased absolutely and relatively during the period 1960 to 1965.<sup>4</sup>

Information concerning government expenditures for goods and services by state, county, and metropolitan area is limited. However, a study has been made concerning prime military contract awards in these areas. Walter Isard and James Ganschow found that the ranking of these areas by prime military contract awards differed from their ranking by population and personal income.<sup>5</sup>

The economic impact and importance of government employment and expenditures for goods and services on cities and metropolitan areas is significant. The available information suggests that most government employment and expenditures for goods and services involve metropolitan areas. Federal expenditures and employment tend

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<sup>4</sup>U. S. Bureau of Labor Statistics, Employment and Earnings, Vol. 11, No. 7 (January, 1965), p. 23.

<sup>5</sup>Walter Isard and James Ganschow, Awards of Prime Military Contracts by County, State, and Metropolitan Area of the United States, Fiscal Year 1960 (Philadelphia, Penn.: Regional Science Institute, 1962), pp. 5-11.

to be independent of the local economy in that their growth is not necessarily dependent on the economic growth of the area.

Federal expenditures for wages and salaries in Oklahoma were \$279 million in 1963,<sup>6</sup> and involved about 48,000 federal civilian employees.<sup>7</sup> Their wages and salaries represent about nine per cent of total wages and salaries paid in Oklahoma in 1963. The majority of federal civilian employment in Oklahoma is concentrated in the Oklahoma City area. Of the 48,000 federal civilian employees in Oklahoma in 1963, 26,000 were located in the Oklahoma City area.<sup>8</sup>

About 90 per cent of federal civilian employment in the Oklahoma City area is concentrated in two organizations. The Oklahoma City Materiel Area (Tinker Air Force Base) employed about 20,000 and the Aeronautical Center about 4,000 in 1963. These two organizations employ about 50 per cent of all federal civilian employees in Oklahoma and account for 10 per cent of total employment

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<sup>6</sup>U. S. Bureau of Business Economics, Survey of Current Business, Vol. 44, No. 8 (August, 1964), p. 21.

<sup>7</sup>Oklahoma Employment Security Commission, Handbook of Oklahoma Employment Statistics, 1939-1966 (Oklahoma City, Oklahoma: March, 1967), p. 15.

<sup>8</sup>Joseph Young (ed.), Federal Employees Almanac--1964 (Washington, D. C.: Federal Employees News Digest, November, 1963), p. 148.

in the Oklahoma City Standard Metropolitan Statistical Area.<sup>9</sup>

Employees of Oklahoma City Air Materiel Area and the Aeronautical Center represent a vital part of the Oklahoma City SMSA economy. The direct and indirect effects of the employment and expenditures of these two major installations extends beyond what available employment and compensation statistics indicate. The dependence of local construction, wholesale and retail trade, finance, and service industries in Oklahoma on federal activities is significant.

#### Purpose

Federal organizations constitute a major source of employment and income for many metropolitan areas and urban communities. Information concerning the general economic and social characteristics of these organizations is useful to both public and private officials. This information is limited.

The purpose of this study is to examine the nature and amount of Aeronautical Center employment and expenditures in Oklahoma.

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<sup>9</sup>Oklahoma Employment Security Commission, Handbook of Oklahoma Employment Statistics, 1939-1966 (Oklahoma City, Oklahoma: March, 1967), p. 28.

### Scope

The scope of this study is limited to an investigation of: 1. general economic and social characteristics of Aeronautical Center employees; 2. distribution of wages and salaries, both by employee characteristics and geographic area; and 3. Aeronautical Center expenditures during its period of rapid growth (1957-1963), including a detailed analysis of selected fiscal year 1961 expenditures.

### Method

Economic and social characteristics of employees were obtained from three sources: 1. Aeronautical Center employee records, 2. federal gross wage and salary schedules, and 3. questionnaire information.

Employee information on data processing sheets was transferred, along with information gained from the questionnaire, to coding sheets. Later, after checking for accuracy, the coded employee information was transferred to data processing cards.

A questionnaire was designed to supplement information from employee records. Questionnaires were distributed by the Personnel Division to each organization at the Aeronautical Center. Usable questionnaires were available for 95 per cent of the employees questioned.

The economic and social characteristics examined

were selected on the basis of their relative importance for the national labor force. The general breakdown of employee characteristics was by sex and type of employment (salaried or hourly). This permits a comparison with other studies.

Data concerning total Aeronautical Center expenditures were computed from Budget Division and Procurement Branch records. Total expenditures for fiscal years 1957-1964 are classified and examined by major expenditure category.

The purchase orders of the Center's Procurement Branch for fiscal 1961 were available for analysis. This permitted an examination of the geographic and industrial group characteristics of organizations dealing with the Procurement Branch.

The SIC codes were assigned according to the principal product of the firm. This method of examining expenditures was suggested by Professors Izard and Ganschow.<sup>10</sup>

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<sup>10</sup>The authors stated that this method is preferred to the one they adopted (code assignment according to the nature of the item purchased). See Awards of Prime Military Contracts by County, State, and Metropolitan Area of the United States, Fiscal Year 1960 (Philadelphia, Penn.: Regional Science Institute, 1962), p. 2.



## CHAPTER 2

### HISTORY AND DESCRIPTION OF THE AERONAUTICAL CENTER

The Federal Aviation Agency--Aeronautical Center is located on the west side of Will Roger's World Airport in Oklahoma City. There were less than 100 employees at the beginning of activities at the Center in 1946. The Center experienced an accelerated growth period in the late 1950's due to increased concern for safety in civil aviation and the increasing complexity of the national airways system required by the introduction of faster, long range transport aircraft.<sup>1</sup>

By 1963, the Center had 4,000 employees and an annual budget of over \$70 million. New construction during the growth period of the Center totaled about \$28 million. This construction was needed to house the Center's new and expanding activities. During 1963 about 10,000 students were enrolled at the Academy at the Center.

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<sup>1</sup>Interview with Ellmore Champie, Associate Historian, Federal Aviation Agency, Washington, D.C., March, 1963.

The Aeronautical Center is composed of a number of organizations: Office of the Manager, Federal Aviation Agency Academy, Installation and Materiel Depot, Aircraft Services Base, Aviation Medical Services, and Aircraft and Airman Registration Branch. The activities of these organizations ranges from research in aviation medicine to the repair of jet aircraft.<sup>2</sup>

#### Office of the Manager

The Office of the Manager provides the facilities and services needed by the other Center organizations to perform their activities. The manager of the Center coordinates programs of common interest to various activities at the Center. The manager is the FAA representative to the public in matters of Center activities.

#### Federal Aviation Agency Academy

The Academy performs the centralized aviation training for FAA personnel. The training programs of the Academy are designed to provide sufficient specialized personnel necessary for the safe and efficient operation of the airways. FAA students come to the Academy from all of the states and many students from foreign countries come for

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<sup>2</sup>Interviews with Mark Weaver, Public Affairs Officer, Aeronautical Center, August, 1963.

basic and advanced training in the various fields of civil aviation. The Federal Aviation Academy conducts training in three major fields: flight standards, air traffic management, and maintenance of air navigation facilities.

The FAA Academy trains the FAA safety inspectors, who are assigned throughout the world to enforce the FAA regulations. These inspectors are trained in all aspects of aircraft operation and maintenance.

Flight standards training at the Academy falls into two general categories. One type of training is for pilots and the other for systems inspectors, maintenance inspectors, and manufacturing inspectors. A major program within this category is the training of aircraft operation inspectors in jet aircraft. FAA pilots who inspect airline operations receive both basic training and proficiency training in the aircraft operated by the Academy.

To insure that electronic facilities along the airways are working properly, FAA aircraft continuously check the facilities and the airways. The Academy trains pilots and electronic technicians to staff FAA flight check aircraft. These FAA planes carry specialized equipment on flights over precise courses checking the performance of ground equipment used by all pilots for navigational purposes.

The Academy provides the technical training for airline and general maintenance inspectors, electronics-

electrical system inspectors, engineering inspectors, and manufacturing inspectors.

This phase of aviation safety stresses new technical developments in aircraft and the FAA inspection requirements. The inspection of airline maintenance, maintenance of aircraft in industrial operations, business flight operations, and private flying in general are all involved.

Air traffic management is composed of three basic groups: air route traffic controllers, terminal traffic controllers, and flight service specialists. Air traffic control is concerned with safety of aircraft while they are in flight. The tight and continuous control of air traffic has become more difficult primarily because of the faster speeds of modern aircraft and of the increased number of aircraft. To insure airways safety, each aircraft must operate within its own block of air space. Assuring that aircraft operate only in their designated blocks is the specialized job of the air traffic control personnel.

The terminal controller's job is the supervision and guidance of aircraft as they approach and leave the air terminals. The flight service specialists provide continuous assistance to pilots with data essential to safe flying. They are also responsible for communication between controllers and pilots when distance prevents direct contact.

The largest of the Academy's training programs, is the program concerned with the maintenance of air navigation facilities. This program involves the training of electronic engineers and technicians in the maintenance of the electronics equipment used in the vast network of navigation aids and the control of air traffic.

#### Installation and Materiel Depot

The Installation and Materiel Depot at the Center is a central supply depot for the Federal Aviation Agency. It provides equipment and materials for air navigation and traffic control facilities. These supplies are purchased by the Depot's Procurement Branch and are stored for shipment in a warehouse which covers 15 acres. Shipments from the warehouse go to about 5,000 FAA facilities and field offices throughout the United States and other parts of the world.

#### Aircraft Services Base

The Aircraft Services Base is responsible for the maintenance and modification of all FAA aircraft. Aircraft Services carries out daily maintenance on Center based aircraft and provides engineering services and technical support to all maintenance bases as requested. In addition, Aircraft Services installs and calibrates all equipment used in facilities flight inspections.

### Aviation Medical Services

The Aviation Medical Services organization is engaged in various phases of aviation medicine activities. The Civil Aeromedical Research Branch engages in research into the physical and psychological factors involved in air travel. The Medical Standards Division formulates medical standards for civil airmen and investigates medical factors in aircraft accidents. The FAA's employee health program is administered by the Clinical Service Division.

### Aircraft and Airman Registration Branch

The Aircraft and Airman Registration Branch is responsible for the maintenance and storage of various records for all United States civil airmen and aircraft. The Registration Branch maintains records on over a million airmen and more than 100 thousand aircraft as to the current status of their licenses and certifications. The work load has been significantly reduced through the transfer of information from file records to electronic data processing tape.

## CHAPTER 3

### ECONOMIC AND SOCIAL CHARACTERISTICS OF THE AERONAUTICAL CENTER LABOR FORCE

This chapter is concerned with an examination of selected economic and social characteristics of the Aeronautical Center labor force. A number of employee characteristics were compiled from the employee records of the Personnel Division. A questionnaire was designed to provide additional information.

Personnel asked to complete the questionnaire were taken from a list provided by the Personnel Division. This list contained 3,850 names. All full time, nontransit employees were selected. Persons on temporary assignment, part-time personnel, and those on non-pay status were excluded. There were 3,606 names on the final list of those selected to complete the questionnaire.

The questionnaire was developed during November, 1962. The Aeronautical Center printed it. The questionnaires were sent out in December, 1962 by the Personnel Division. Listings of personnel by department were sent to appropriate supervisory personnel as check-off lists to assure that the questionnaires were received and

returned. All of the questionnaires were returned by the middle of January, 1963.

The questionnaires were examined for accuracy, completeness, and consistency. Generally, they were in usable form. Ninety-five per cent of the 3,606 full time employees returned usable questionnaires.

A coding system was developed to transfer information to data processing cards. The information on the questionnaires, plus information from the employee records, was transferred to code sheets with verification of proper transfer. The data were then transferred to data processing cards. The data processing cards were verified and transferred to tape for computer analysis.

The data were classified according to a nine column breakdown which separated males, females, hourly, and salaried employees. This approach made it possible to compare information obtained from this study with similar data from other studies.

#### Type of Employment by Sex

About 80 per cent (2,771) of the employees in the study (3,420) were male. Three-fourths of the employees were salaried. Male employees accounted for about 75 per cent of the salaried employees and virtually all of the hourly. All but 11 of the female employees were salaried.



### Occupational Groups and Job Classification

All Civil Service employees are classified by occupational groups. There are ninety different occupational groups in Civil Service Employment. Each group contains a number of jobs of a similar nature.

Aeronautical Center employees were found in two-thirds of the total number of occupational groups in Civil Service employment. Most of the Aeronautical Center employees were in 28 Civil Service occupational groups (Table 1). Almost 20 per cent of the employees were in General Administrative, Clerical, and Office Services Group. About half of the employees were in the Engineering Group and the General Administrative, Clerical and Office Services Group (Table 1). Two-thirds of the salaried female employees were in the General Administrative, Clerical, and Office Services Group.<sup>1</sup>

Aeronautical Center employees are classified according to 28 major occupational groups, as indicated in (Table 1). The occupational groups are as follows: (1) Social Science, Psychology, and Welfare; (2) Personnel Administration and Industrial Relations; (3) General

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<sup>1</sup>About 60 per cent of all salaried female employees in total federal civilian employment are in the General Administrative, Clerical, and Office Services Group. See U. S. Civil Service Commission, Occupations and Salaries of Women in the Federal Service, October 31, 1959, (Washington, D. C.: Government Printing Office, February, 1962), p. 4.

TABLE 1

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES,  
BY OCCUPATIONAL GROUP, AS OF JANUARY, 1963<sup>a</sup>

Occupational Group	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Social Science, Psychology, and Welfare	15	14	1	15	14	1	*	*	*
Personnel Adminis- tration and Indus- trial Relations	33	19	14	33	19	14	*	*	*
General Administra- tive, Clerical, and Office Services	660	236	424	660	236	424	*	*	*
Biological Science	25	24	1	25	24	1	*	*	*
Accounting and Budget	81	32	49	81	32	49	*	*	*
Medical, Hospital, Dental, and Public Health	19	14	5	19	14	5	*	*	*
Engineering	994	994	*	992	992	*	2	2	*
Legal	46	14	32	46	14	32	*	*	*
Business and Industry	60	52	8	60	52	8	*	*	*
Math. and Statistics	15	7	8	15	7	8	*	*	*
Mechanic	60	60	*	60	60	*	*	*	*
Investigation	140	140	*	140	140	*	*	*	*

(continued)

TABLE 1--Continued

Occupational Group	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Supply	208	137	71	207	136	71	1	1	*
Transportation	101	96	5	101	96	5	*	*	*
Electrical Installation and Maintenance	72	71	1	*	*	*	72	71	1
Machine Tool Work	24	24	*	*	*	*	24	24	*
Manual Labor	63	62	1	*	*	*	63	62	1
Metal Work	56	56	*	*	*	*	56	56	*
Painting and Paper-hanging	23	23	*	*	*	*	23	23	*
Printing and Reproduction	44	39	5	*	*	*	44	39	5
Woodwork	16	16	*	*	*	*	16	16	*
Fixed Industrial Equipment Maintenance	33	32	1	*	*	*	33	32	1
Mobile Industrial Equipment Operation	19	18	1	*	*	*	19	18	1
Mobile Industrial Equipment Maintenance	15	15	*	*	*	*	15	15	*

(continued)

TABLE 1--Continued

Occupational Group	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Warehousing	163	163	*	*	*	*	163	163	*
Packing and Processing	20	19	1	*	*	*	20	19	1
Aircraft Engine Overhaul	24	24	*	*	*	*	24	24	*
Aircraft Overhaul	222	221	1	*	*	*	222	221	1
Other	169	149	20	116	96	20	53	53	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11

Source: Data compiled from the records of the Personnel Division,  
Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

Administrative, Clerical, and Office Services; (4) Biological Sciences; (5) Accounting and Budget; (6) Medical; (7) Engineering; (8) Legal; (9) Business and Industry; (10) Mathematics and Statistics; (11) Mechanic; (12) Investigation; (13) Supply; (14) Transportation; (15) Machine Tool Work; (16) Manual Labor; (17) Metal Work; (18) Painting and Paper Hanging; (19) Printing and Reproduction; (20) Woodwork; (21) Fixed Industrial Equipment Maintenance; (22) Mobile Industrial Equipment Operators; (23) Mobile Industrial Equipment Maintenance; (24) Warehousing; (25) Packing and Processing; (26) Aircraft Engine Overhaul; (27) Aircraft Overhaul; and (28) Other.

#### Social Science, Psychology and Welfare

Included in this group were twelve psychologists and three anthropologists. All but one of the fifteen employees in this group were salaried males.

#### Personnel Administration and Industrial Relations

This group includes 33 employees involved in employee staffing, employee classification, employee development, and personnel administration. All employees in this group were salaried.

#### General Administration, Clerical, and Office Services

One out of five Center employees was in this group. Employees in this group were administrative officers, secretaries, stenographers, typists, computer programmers,

computer operators, card punch operators, accounting machine operators, mail and file clerks, and telephone operators. Most of these employees were females in secretarial-clerical jobs.

#### Biological Sciences

This group included three biologists, one biological technician, two pharmacologists, and sixteen physiologists. There were twenty-five employees and most were salaried males.

#### Accounting and Budget

This group included payroll personnel, budget administrative personnel, and general accounting personnel. A total of 81 Aeronautical Center employees were in the Accounting and Budget Group.

#### Medical

There were nine medical doctors, one veterinarian, two nurses, and the remaining employees were medical technicians. Three out of five employees in this group were males.

#### Engineering

About one-third of the Aeronautical Center employees were found in this group. Included are civil engineers, electrical engineers, aerospace engineers, and industrial engineers. The majority of the employees in this group were technicians, primarily electronic technicians.

Legal

Most of the employees in this group were female secretarial and clerical workers. There were only a few lawyers in this group.

Business and Industry

This group included contract, procurement, and production control personnel. The majority of employees in this group were male purchasing agents.

Mathematics and Statistics

There were three mathematicians, three statisticians, and a number of statistical clerks. This group was equally divided between males and females.

Mechanic

Construction, maintenance, and equipment personnel constituted the majority of employees in this group. All employees were male.

Investigation

All of the 140 employees in this group were involved with air safety investigation. Most of these employees were pilots.

Supply

This group included inventory management, purchasing-storage and distribution, and packing personnel. One out of three employees was concerned with inventory management in the Aeronautical Center warehouse.

### Transportation

Included were air traffic control and freight rate personnel. Over 90 per cent of the employees in this group were salaried male aircraft controllers.

### Electrical Installation and Maintenance

Most of the employees were electricians concerned with electrical installation and repair. All but one of these employees were male.

### Machine Tool

All employees in this group were machine tool operators. All were males.

### Manual Labor

The employees in this group performed a wide variety of jobs at the Aeronautical Center. There is only one female employee in this group.

### Metal Work

Most of the employees in this group were metal-smiths. All employees in this group were hourly males.

### Painting and Paperhanging

The majority of these employees were male painters.

### Printing and Reproduction

The Aeronautical Center has its own printing shop. All 44 employees in this group worked in the Aeronautical Center Printing shop. The group consisted of printers,



linotypists, and other printing and reproducing personnel.

#### Woodwork

Most of the employees in this group were carpenters involved in repair and minor construction operations. There were no female employees in this group.

#### Fixed Industrial Equipment Maintenance

Employees in this group were primarily maintenance mechanics. There were 33 employees in the group.

#### Mobile Industrial Equipment Operation

There were 19 employees in this group. Most of the employees operated the heavy fork lifts used in the main warehouse.

#### Mobile Industrial Equipment Maintenance

The employees in this group were concerned primarily with keeping the hydraulic fork lifts operating. There were no female employees in this group.

#### Warehousing

This group of 163 employees represented about five per cent of the total labor force. They were involved in various jobs concerning changes and maintenance of the large inventory of the Aeronautical Center Depot. All were male employees.

### Packing and Processing

There were 20 employees concerned with handling of incoming and outbound materials for the Aeronautical Center Depot.

### Aircraft Engine Overhaul

All employees in this group were mechanics involved in maintaining and overhauling aircraft engines. All employees in this group were males.

### Aircraft Overhaul

This group was concerned with conversion of standard aircraft to Federal Aviation Agency specifications. There were 222 employees in this group. All but one were males.

### Other

Some of the occupations in this group included photographers, technical writers, illustrators, librarians, and educational personnel.

### Age

About 80 per cent of all Aeronautical Center employees were between the ages of 26 and 50 (Table 2). The median age of all employees was 39 years. The median age of female employees was 40 years and for male employees it was 38 years. The median age for hourly employees was 41 years and for salaried employees 38 years.

TABLE 2

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES,  
BY AGE, AS OF JANUARY, 1963<sup>a</sup>

Age	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
20 and under	15	3	12	15	3	15	*	*	*
21-25	161	86	75	154	79	75	7	7	*
26-30	455	367	88	364	276	88	91	91	*
31-35	662	578	84	515	431	84	147	147	*
36-40	603	495	108	448	342	106	155	153	2
41-45	713	603	110	528	420	108	185	183	2
46-50	400	316	84	287	204	83	113	112	1
51-55	240	185	55	163	113	50	77	72	5
56-60	115	92	23	68	46	22	47	46	1
61-65	43	36	7	22	15	7	21	21	*
Over 65	13	10	3	6	3	3	7	7	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11

Source: Data compiled from records of Personnel Division,  
Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

Female employees constituted a higher percentage of the higher age groups than they did of the total labor force. They also constituted a higher percentage of the lower age groups than of the total Center labor force. Participation of females in the labor force generally involves two periods: (1) when they enter the labor force directly from high school or college, and (2) when they re-enter the labor force after withdrawal for child bearing and the more dependent years of their children.<sup>2</sup> This appears to be true for Aeronautical Center female employees, as was indicated in the per cent of female employees in the 31-45 age groups (about 14 per cent) compared with their participation in the total Center work force (about 19 per cent).

This pattern of age distribution with regard to sex and hourly and salaried employees was consistent with that found in the OCAMA study.<sup>3</sup> However, the median age of female employees was less than that for male employees

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<sup>2</sup>Carl Rosenfeld and Vera C. Perrella, Why Women Start and Stop Working: A Study in Mobility, U. S. Department of Labor, Special Labor Force Report No. 59 (Washington, D. C.: Government Printing Office, 1965), pp. 1079-1082.

<sup>3</sup>Richard W. Poole, Characteristics and Commuting Patterns of the Oklahoma City Air Materiel Area Labor Force (Tinker Air Force Base, Oklahoma: U. S. Air Force, 1962), pp. 4-5 (cited hereafter as the OCAMA Study).

in the Lawton study.<sup>4</sup> This was due to the high percentage of relatively young Army wives employed at Ft. Sill, Oklahoma. Hourly employees in the studies mentioned had a higher median age than salaried employees. The median age of the OCAMA employees was slightly higher than that of the employees at the Aeronautical Center. OCAMA, however, had a higher per cent of hourly employees than salaried.<sup>5</sup>

Dr. Poole, in his study of the Oklahoma City Air Materiel Area, found that the basic factors underlying the relatively high percentage of older females in Civil Service employment could be accounted for by two basic factors. First, Civil Service employment provides a wide variety of relatively high paying jobs for women. Second, Civil Service employment ranks high in terms of employment stability and job security. Poole found that there was a relatively high percentage of widowed females among the female employees in his study.<sup>6</sup>

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<sup>4</sup>Floyd W. Durham, "Personal Income in the Standard Metropolitan Statistical Area of Lawton, Oklahoma, 1960" (Unpublished Ph.D. dissertation, University of Oklahoma, 1963), pp. 83-86 (cited hereafter as the "Lawton Study").

<sup>5</sup>Poole, OCAMA Study, p. 2.

<sup>6</sup>Ibid., p. 4.

### Marital Status and Work Status of Spouse

Most employees working at the Center are married (Table 3). Single employees represent only 11 per cent of total Center employment.<sup>7</sup> For the most part they are young salaried female employees. One out of three male employees' wives are employed.

### Educational Level

Most employees at the Center (84 per cent) have at least a high school education (Table 4).<sup>8</sup> This is particularly true among the salaried employees. About one out of five salaried employees has a college degree or higher level of education.<sup>9</sup> There are almost 100 employees who have a master's degree or a doctor's degree

### City of Residence

Aeronautical Center employees were separated by

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<sup>7</sup>About 13 per cent of the United States labor force is single. See Vera C. Perrella, Marital and Family Characteristics of Workers, U. S. Department of Labor, Special Labor Force Report No. 40 (Washington, D. C., 1964), p. 150.

<sup>8</sup>In the national labor force, about 57 per cent have at least a high school education. Denis F. Johnson, Educational Attainment of Workers, March 1964, U. S. Department of Labor, Special Labor Force Report No. 53, (Washington, D. C., 1965), p. 518.

<sup>9</sup>About 11 per cent of the United States labor force have completed four or more years of college. Ibid.

TABLE 3

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES, BY MARITAL  
STATUS AND SPOUSE'S WORK STATUS, AS OF JANUARY, 1963<sup>a</sup>

Marital Status and Work Status of Spouse	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	7	6	1	5	5	*	2	1	1
Single	388	178	210	338	131	207	50	47	3
Married, spouse works at center	143	81 <sup>b</sup>	62 <sup>b</sup>	123	61	62	20	20	*
Married, spouse works, but not at center	991	638	353	751	405	346	240	233	7
Married, spouse is not employed	1,891	1,868	23	1,353	1,330	23	538	538	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11

Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

<sup>b</sup>The difference between males and females indicating their spouse works at the Aeronautical Center can in part be explained by each of the following: (1) students and part-time employees were not included in this study; (2) FAA employees at the Will Rogers Airport were not included; and (3) some may not have wished to indicate that both husband and wife were employed at the Aeronautical Center.

\*No employees.

TABLE 4

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES, BY EDUCATIONAL  
LEVEL, AS OF JANUARY, 1963<sup>a</sup>

Educational Level	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	8	8	*	7	7	*	1	1	*
Did not complete grade school	62	60	2	4	2	2	58	58	*
Elementary school	494	458	36	152	126	26	342	332	10
High school	1,306	932	374	999	626	373	307	306	1
College Freshman	380	299	81	311	230	81	69	69	*
College Sophomore	426	354	72	377	305	72	49	49	*
College Junior	212	191	21	200	179	21	12	12	*
Bachelor's Degree	435	378	57	425	368	57	10	10	*
Master's Degree	63	58	5	62	57	5	1	1	*
Doctor's Degree	34	33	1	33	32	1	1	1	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11

Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.



sex and by hourly and salaried into city of residence or city nearest residence (Tables 5 and 6). Where employees did not live within the city limits, they were asked to indicate the city nearest their residence. Frequency tables were then constructed.

The 3,420 Aeronautical Center employees in this study live in or near 50 different towns and cities in Oklahoma. Nine out of ten employees live in or near Bethany, Norman, Oklahoma City, Midwest City, and Moore (Figure 1). All of these cities are within the Oklahoma City Standard Metropolitan Statistical Area. The 105 employees living outside city limits were about evenly divided between salaried and hourly.

All cities, towns, and municipalities within the Oklahoma City Standard Metropolitan Statistical Area represented about 97 per cent of the total residences of Center employees (Table 6). Salaried employees constituted a higher percentage of employees with residences within the Oklahoma City SMSA than they do of total employees. This was also true for female employees.

The following cities, towns, and municipalities were places of residence for ten or more employees:

Bethany (186)	Mustang (22)
Blanchard (35)	Noble (12)
Del City (54)	Norman (241)
Edmond (21)	Oklahoma City (2,366)
El Reno (29)	Village (17)
Midwest City (186)	Warr Acres (14)
Moore (104)	Yukon (72)

TABLE 5

AERONAUTICAL CENTER EMPLOYEES, BY CITY OF RESIDENCE OR  
CITY NEAREST RESIDENCE, BY SEX  
AS OF JANUARY, 1963<sup>a</sup>

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Amber	1	1	*	1	1	*	*	*	*
Asher	1	1	*	*	*	*	1	1	*
Bethany	186	157	29	185	156	29	1	1	*
Blanchard	35	29	6	21	18	3	14	11	3
Calument	1	1	*	1	1	*	*	*	*
Chickasha	5	4	1	5	4	1	*	*	*
Choctaw	8	8	*	7	7	*	1	1	*
Crescent	4	3	1	2	1	1	2	2	*
Del City	54	46	8	52	44	8	2	2	*
Dibble	3	3	*	1	1	*	2	2	*
Edmond	21	18	3	19	16	3	2	2	*
El Reno	29	21	8	25	17	8	4	4	*
Enid	2	2	*	2	2	*	*	*	*
Goldsby	1	1	*	*	*	*	1	1	*
Gotebo	1	1	*	*	*	*	1	1	*
Guthrie	2	2	*	1	1	*	1	1	*
Harrah	4	4	*	*	*	*	4	4	*
Hinton	2	2	*	1	1	*	1	1	*
Jones	3	3	*	2	2	*	1	1	*
Kingfisher	1	1	*	*	*	*	1	1	*

(continued)

TABLE 5--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Lexington	9	9	*	5	5	*	4	4	*
Lindsay	1	*	1	1	*	1	*	*	*
Macomb	1	1	*	*	*	*	1	1	*
Meeker	3	3	*	*	*	*	3	3	*
Midwest City	135	112	23	131	108	23	4	4	*
Minco	8	8	*	5	5	*	3	3	*
Moore	104	88	16	102	87	15	2	1	1
Mustang	22	20	2	19	17	2	3	3	*
Newcastle	8	8	*	3	3	*	5	5	*
Nicoma Park	3	1	2	1	*	1	2	1	1
Noble	12	12	*	6	6	*	6	6	*
Norman	241	195	46	234	189	45	7	6	1
Oklahoma City	2,367	1,880	487	2,352	1,870	482	15	10	5
Paoli	1	1	*	1	1	*	*	*	*
Prague	1	1	*	*	*	*	1	1	*
Purcell	5	4	1	5	4	1	*	*	*
Seminole	2	2	*	2	2	*	*	*	*
Shawnee	6	6	*	6	6	*	*	*	*
Spencer	2	2	*	2	2	*	*	*	*
Stratford	2	2	*	1	1	*	1	1	*

(continued)

TABLE 5--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Stroud	1	1	*	*	*	*	1	1	*
Tecumseh	3	3	*	*	*	*	3	3	*
Tuttle	4	4	*	3	3	*	1	1	*
Union City	2	2	*	1	1	*	1	1	*
Village	17	16	1	16	15	1	1	1	*
Warr Acres	14	13	1	14	13	1	*	*	*
Wayne	1	1	*	*	*	*	1	1	*
Wheatland	8	8	*	7	7	*	1	1	*
Wynnewood	1	1	*	1	1	*	*	*	*
Yukon	72	59	13	72	59	13	*	*	*
Total	3,420	2,771	649	3,315	2,677	638	105	94	11

Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

TABLE 6

AERONAUTICAL CENTER EMPLOYEES, BY CITY OF RESIDENCE OR  
CITY NEAREST RESIDENCE, BY SALARIED AND HOURLY  
CLASSIFICATION, AS OF JANUARY, 1963<sup>a</sup>

City	Total			City of Residence			City Nearest Residence		
	Total	Salaried	Hourly	Total	Salaried	Hourly	Total	Salaried	Hourly
Amber	1	*	1	1	*	1	*	*	*
Asher	1	*	1	*	*	*	1	*	1
Bethany	186	149	37	185	149	36	1	*	1
Blanchard	35	16	19	21	9	12	14	7	7
Calument	1	1	*	1	1	*	*	*	*
Chickasha	5	2	3	5	2	3	*	*	*
Choctaw	8	5	3	7	5	2	1	*	1
Crescent	4	3	1	2	2	*	2	1	1
Del City	54	40	14	52	39	13	2	1	1
Dibble	3	2	1	1	1	*	2	1	1
Edmond	21	15	6	19	13	6	2	2	*
El Reno	29	17	12	25	15	10	4	2	2
Enid	2	1	1	2	1	1	*	*	*
Goldsby	1	1	*	*	*	*	1	1	*
Gotebo	1	*	1	*	*	*	1	*	1
Guthrie	2	1	1	1	1	*	1	*	1
Harrah	4	1	3	*	*	*	4	1	3
Hinton	2	1	1	1	1	*	1	*	1
Jones	3	3	*	2	2	*	1	1	*
Kingfisher	1	*	1	*	*	*	1	*	1

(continued)

TABLE 6--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Salaried	Hourly	Total	Salaried	Hourly	Total	Salaried	Hourly
Lexington	9	1	8	5	1	4	4	*	4
Lindsay	1	1	*	1	1	*	*	*	*
Macomb	1	1	*	*	*	*	1	1	*
Meeker	3	2	1	*	*	*	3	2	1
Midwest City	135	97	38	131	95	36	4	2	2
Minco	8	3	5	5	2	3	3	1	2
Moore	104	71	33	102	70	32	2	1	1
Mustang	22	10	12	19	9	10	3	1	2
Newcastle	8	4	4	3	2	1	5	2	3
Nicoma Park	3	2	1	1	1	*	2	1	1
Noble	12	4	8	6	1	5	6	3	3
Norman	241	197	44	234	193	41	7	4	3
Oklahoma City	2,367	1,827	540	2,352	1,816	536	15	11	4
Paoli	1	*	1	1	*	1	*	*	*
Prague	1	1	*	*	*	*	1	1	*
Purcell	5	1	4	5	1	4	*	*	*
Seminole	2	*	2	2	*	2	*	*	*
Shawnee	6	4	2	6	4	2	*	*	*
Spencer	2	1	1	2	1	1	*	*	*
Stratford	2	*	2	1	*	1	1	*	1

(continued)

TABLE 6--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Salaried	Hourly	Total	Salaried	Hourly	Total	Salaried	Hourly
Stroud	1	*	1	*	*	*	1	*	1
Tecumseh	3	2	1	*	*	*	3	2	1
Tuttle	4	3	1	3	3	*	1	*	1
Union City	2	*	2	1	*	1	1	*	1
Village	17	16	1	16	15	1	1	1	*
Warr Acres	14	13	1	14	13	1	*	*	*
Wayne	1	*	1	*	*	*	1	*	1
Wheatland	8	1	7	7	1	6	1	*	1
Wynnewood	1	*	1	1	*	1	*	*	*
Yukon	72	50	22	72	50	22	*	*	*
Total	3,420	2,570	850	3,315	2,520	795	105	50	55

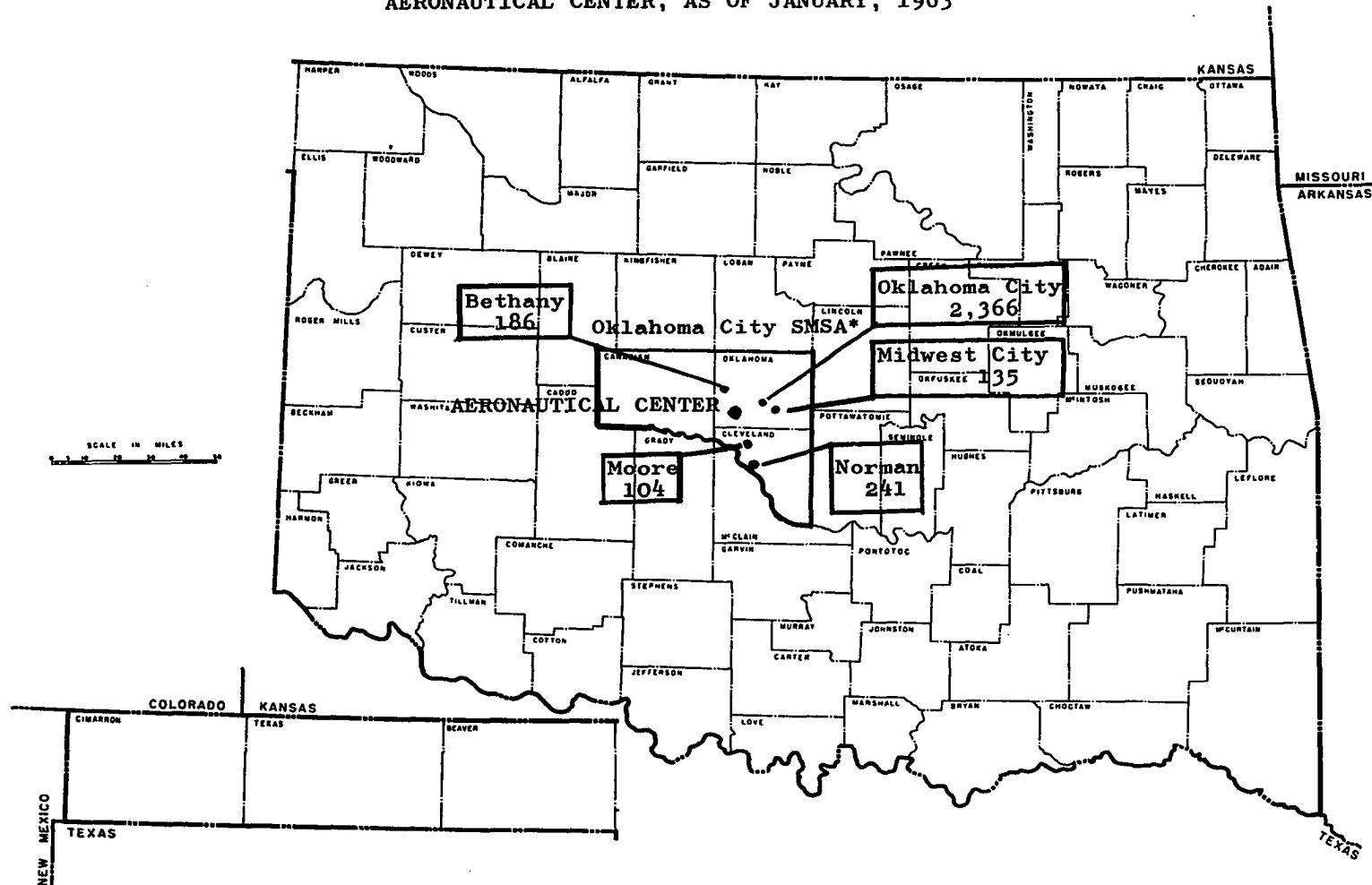
Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

FIGURE 1

CITIES WITH 100 OR MORE RESIDENTS EMPLOYED BY THE  
AERONAUTICAL CENTER, AS OF JANUARY, 1963



\*Oklahoma City SMSA includes Canadian, Oklahoma, and Cleveland Counties.



All of the places of residence for ten or more Center employees were within the Oklahoma City SMSA with the exception of Blanchard (Table 6).

#### Place of Birth

More than half the employees at the Center were born in Oklahoma and three fourths of them were born in Oklahoma, Kansas, Missouri, Arkansas, and Texas (Table 7). Some employees were born in each of the other states, except Alaska and Hawaii. There were 21 employees who indicated their place of birth as a United States territory or a foreign country. Most hourly employees were born in Oklahoma.

Some employees at the Center were born in each of the counties of Oklahoma, except that none indicated Cimarron County as the place of birth (Table 8). As might have been expected, the largest number of employees was born in Oklahoma County. The next heaviest concentration was found in the counties surrounding Oklahoma county. The data indicate that there was a considerable migration from rural counties to Oklahoma County.

The findings concerning employees at the Center are consistent with those in the OCAMA and Lawton Studies.<sup>10</sup> In each of these studies it was found that there is a

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<sup>10</sup>OCAMA Study, pp. 26-27, and "Lawton Study," p. 101.

TABLE 7

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES,  
BY STATE OF BIRTH, AS OF JANUARY, 1963<sup>a</sup>

State	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	10	10	*	7	7	*	3	3	*
Alabama	21	20	1	18	17	1	3	3	*
Alaska	*	*	*	*	*	*	*	*	*
Arizona	6	6	*	6	6	*	*	*	*
Arkansas	146	121	25	98	75	23	48	46	2
California	35	30	5	30	25	5	5	5	*
Colorado	27	24	3	25	22	3	2	2	*
Connecticut	5	5	*	4	4	*	1	1	*
Delaware	1	1	*	1	1	*	*	*	*
Florida	19	16	3	18	15	3	1	1	*
Georgia	15	14	1	14	13	1	1	1	*
Hawaii	*	*	*	*	*	*	*	*	*
Idaho	10	9	1	10	9	1	*	*	*
Illinois	64	55	9	49	40	9	15	15	*
Indiana	31	28	3	24	21	3	7	7	*
Iowa	45	34	11	38	28	10	7	6	1
Kansas	121	100	21	96	75	21	25	25	*
Kentucky	18	16	2	15	13	2	3	3	*
Louisiana	22	19	3	20	17	3	2	2	*
Maine	3	2	1	2	1	1	1	1	*
Maryland	7	6	1	5	4	1	2	2	*

Of

(continued)

TABLE 7--Continued

State	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Massachusetts	22	20	2	22	20	2	*	*	*
Michigan	31	26	5	28	23	5	3	3	*
Minnesota	21	20	1	18	17	1	3	3	*
Mississippi	19	16	3	13	10	3	6	6	*
Missouri	118	99	19	94	75	19	24	24	*
Montana	13	13	*	11	11	*	2	2	*
Nebraska	31	28	3	29	26	3	2	2	*
Nevada	1	*	1	1	*	1	*	*	*
New Hampshire	3	3	*	2	2	*	1	1	*
New Jersey	26	24	2	24	22	2	2	2	*
New Mexico	12	8	4	10	6	4	2	2	*
New York	45	44	1	38	37	1	7	7	*
North Carolina	11	10	1	10	9	1	1	1	*
North Dakota	4	4	*	3	3	*	1	1	*
Ohio	40	35	5	36	31	5	4	4	*
Oklahoma	1,831	1,404	427	1,285	864	421	546	540	6
Oregon	11	10	1	11	10	1	*	*	*
Pennsylvania	63	57	6	57	51	6	6	6	*
Rhode Island	2	2	*	2	2	*	*	*	*
South Carolina	8	8	*	7	7	*	1	1	*
South Dakota	18	14	4	17	13	4	1	1	*
Tennessee	33	27	6	22	16	6	11	11	*
Texas	349	298	51	261	212	49	88	86	2
Utah	6	5	1	6	5	1	*	*	*
Vermont	2	2	*	1	1	*	1	1	*

(continued)

TABLE 7--Continued

State	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Virginia	14	8	6	13	7	6	1	1	*
Washington	12	12	*	10	10	*	2	2	*
West Virginia	11	9	2	9	7	2	2	2	*
Wisconsin	20	18	2	17	15	2	3	3	*
Wyoming	10	8	2	10	8	2	*	*	*
District of Columbia	6	5	1	5	4	1	1	1	*
U. S. Territories & Foreign Born	21	18	3	18	15	3	3	3	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11

Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

TABLE 8

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES BORN IN OKLAHOMA,  
BY COUNTY OF BIRTH, AS OF JANUARY, 1963<sup>a</sup>

County	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	9	8	1	3	2	1	6	6	*
Adair	2	2	*	2	2	*	*	*	*
Alfalfa	14	10	4	12	8	4	2	2	*
Atoka	12	9	3	8	5	3	4	4	*
Beaver	6	2	4	5	1	4	1	1	*
Beckham	29	19	10	20	11	9	9	8	1
Blaine	24	19	5	14	9	5	10	10	*
Bryan	14	10	4	10	6	4	4	4	*
Caddo	62	51	11	41	30	11	21	21	*
Canadian	65	54	11	43	32	11	22	22	*
Carter	30	26	4	20	16	4	10	10	*
Cherokee	3	2	1	1	*	1	2	2	*
Choctaw	12	9	3	10	7	3	2	2	*
Cimarron	*	*	*	*	*	*	*	*	*
Cleveland	58	49	9	30	23	7	28	26	2
Coal	6	4	2	3	1	2	3	3	*
Comanche	19	16	3	13	10	3	6	6	*
Cotton	10	5	5	8	3	5	2	2	*
Craig	3	1	2	2	*	2	1	1	*
Creek	24	21	3	16	13	3	8	8	*
Custer	11	10	1	5	4	1	6	6	*

(continued)

TABLE 8--Continued

County	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Delaware	2	1	1	1	*	1	1	1	*
Dewey	8	4	4	8	4	4	*	*	*
Ellis	8	6	2	6	4	2	2	2	*
Garfield	52	41	11	35	24	11	17	17	*
Garvin	67	48	19	46	27	19	21	21	*
Grady	66	47	19	49	30	19	17	17	*
Grant	8	6	2	7	5	2	1	1	*
Greer	15	15	*	12	12	*	3	3	*
Harmon	5	4	1	4	3	1	1	1	*
Harper	8	4	4	7	3	4	1	1	*
Haskell	13	10	3	8	5	3	5	5	*
Hughes	34	24	10	23	13	10	11	11	*
Jackson	19	14	5	16	11	5	3	3	*
Jefferson	11	8	3	6	3	3	5	5	*
Johnston	20	18	2	14	12	2	6	6	*
Kay	27	19	8	26	18	8	1	1	*
Kingfisher	22	16	6	12	6	6	10	10	*
Kiowa	26	22	4	20	16	4	6	6	*
Latimer	6	6	*	4	4	*	2	2	*
Le Flore	23	19	4	14	10	4	9	9	*
Lincoln	41	35	6	25	19	6	16	16	*
Logan	23	19	4	17	13	4	6	6	*
Love	5	4	1	4	3	1	1	1	*
McClain	50	40	10	29	19	10	21	21	*
McCurtain	18	16	2	13	11	2	5	5	*

(continued)

TABLE 8--Continued

County	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
McIntosh	13	11	2	6	4	2	7	7	*
Major	13	8	5	10	5	5	3	3	*
Marshall	9	7	2	5	3	2	4	4	*
Mayes	4	3	1	4	3	1	*	*	*
Murray	18	13	5	12	7	5	6	6	*
Muskogee	21	14	7	17	10	7	4	4	*
Noble	11	7	4	10	6	4	1	1	*
Nowata	1	1	*	1	1	*	*	*	*
Okfushee	20	13	7	12	5	7	8	8	*
Oklahoma	336	240	96	255	161	94	81	79	2
Okmulgee	31	27	4	21	17	4	10	10	*
Osage	18	14	4	13	9	4	5	5	*
Ottawa	10	5	5	7	2	5	3	3	*
Pawnee	13	10	3	9	6	3	4	4	*
Payne	27	23	4	21	17	4	6	6	*
Pittsburg	37	30	7	23	16	7	14	14	*
Pontotoc	25	19	6	11	5	6	14	14	*
Pottawatomie	62	53	9	45	36	9	17	17	*
Pushmataha	8	8	*	3	3	*	5	5	*
Roger Mills	8	5	3	7	4	3	1	1	*
Rogers	3	2	1	2	1	1	1	1	*
Seminole	37	31	6	27	22	5	10	9	1
Sequoyah	9	7	2	5	3	2	4	4	*
Stephens	22	20	2	15	13	2	7	7	*
Texas	3	2	1	3	2	1	*	*	*

(continued)

TABLE 8--Continued

County	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Tillman	9	6	3	7	4	3	2	2	*
Tulsa	26	19	7	23	16	7	3	3	*
Wagoner	4	3	1	4	3	1	*	*	*
Washington	7	7	*	5	5	*	2	2	*
Washita	24	16	8	20	12	8	4	4	*
Woods	4	2	2	3	1	2	1	1	*
Woodward	8	5	3	7	4	3	1	1	*
Total	1,831	1,404	427	1,285	864	421	546	540	6

Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to questionnaire.

\*No employees.



relatively higher mobility of workers within Oklahoma and from surrounding states than there is between more distant geographic areas.

#### Length of Employment

Four out of five employees have been employed at the Aeronautical Center five years or less (Table 9). Hourly employees have been employed longer than salaried employees and males longer than females. About five per cent of the Center labor force has been employed at the Center more than 10 years.

While length of employment in many cases is an indicator of employment stability, such is not the case with regard to the Aeronautical Center. The basic reason for the relatively short duration of employment for most employees was the rapid growth of the Center. The general expansion of Center activities required more salaried than hourly employees.

#### Location of Prior Employment

Prior to their employment at the Center a substantially higher per cent of hourly employees were employed in Oklahoma than were salaried employees (Table 10). Center employees had been previously employed in a number of states, United States territories, and foreign countries. Some of these other than Oklahoma were Texas, California,

TABLE 9

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES, BY LENGTH OF  
EMPLOYMENT AT THE CENTER, AS OF JANUARY, 1963<sup>a</sup>

Years	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	21	16	5	18	13	5	3	3	*
Less than 1	508	360	148	421	275	146	87	85	2
1-5	2,292	1,869	423	1,727	1,311	416	565	558	7
6-10	421	369	52	281	230	51	140	139	1
11-15	122	106	16	80	65	15	42	41	1
16 and over	56	51	5	43	38	5	13	13	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11

Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

TABLE 10

PERCENTAGE DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES,  
BY STATE OF PRIOR EMPLOYMENT, AS OF JANUARY, 1963<sup>a</sup>

State	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	2.5	2.2	3.4	2.8	2.5	3.4	1.5	1.5	*
Alabama	0.4	0.5	0.3	0.4	0.5	0.3	0.5	0.5	*
Alaska	0.8	0.9	0.6	1.1	1.2	0.6	0.1	0.1	*
Arizona	0.4	0.5	*	0.4	0.6	*	0.4	0.4	*
Arkansas	0.7	0.6	1.1	0.8	0.7	1.1	0.4	0.4	*
California	3.1	3.1	2.9	3.5	3.7	3.0	1.9	1.9	*
Colorado	0.7	0.8	0.5	0.9	1.0	0.5	0.2	0.2	*
Connecticut	+	+	*	+	+	*	*	*	*
Delaware	+	+	*	+	+	*	*	*	*
Florida	0.6	0.6	0.2	0.7	0.9	0.2	*	*	*
Georgia	0.3	0.3	0.3	0.4	0.4	0.3	*	*	*
Hawaii	0.4	0.4	0.3	0.5	0.5	0.3	*	*	*
Idaho	*	*	*	*	*	*	*	*	*
Illinois	0.7	0.8	0.3	0.9	1.0	0.3	0.2	0.2	*
Indiana	0.7	0.8	*	0.8	1.0	*	0.4	0.4	*
Iowa	0.3	0.3	0.2	0.4	0.5	0.2	*	*	*
Kansas	1.6	1.8	0.5	1.6	1.9	0.5	1.6	1.7	*
Kentucky	0.1	0.1	*	0.2	0.2	*	*	*	*
Louisiana	0.4	0.4	0.3	0.5	0.6	0.3	0.1	0.1	*
Maine	*	*	*	*	*	*	*	*	*
Maryland	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	*

(continued)

TABLE 10--Continued

State	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Massachusetts	0.4	0.4	*	0.5	0.6	*	*	*	*
Michigan	0.4	0.4	*	0.4	0.6	*	0.1	0.1	*
Minnesota	0.2	0.3	*	0.3	0.4	*	*	*	*
Mississippi	0.3	0.3	0.2	0.4	0.4	0.2	*	*	*
Missouri	1.8	2.1	0.9	2.0	2.4	0.9	1.3	1.3	*
Montana	0.2	0.2	*	0.2	0.3	*	0.1	0.1	*
Nebraska	0.4	0.5	*	0.5	0.7	*	0.1	0.1	*
Nevada	0.1	+	0.2	0.1	+	0.2	*	*	*
New Hampshire	+	+	*	+	+	*	*	*	*
New Jersey	0.2	0.2	*	0.3	0.4	*	*	*	*
New Mexico	0.5	0.5	0.8	0.7	0.7	0.8	*	*	*
New York	0.8	1.0	0.2	1.1	1.4	0.2	*	*	*
North Carolina	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	*
North Dakota	0.1	0.1	0.2	0.2	0.2	0.2	*	*	*
Ohio	0.5	0.6	*	0.6	0.8	*	*	*	*
Oklahoma	66.7	64.2	77.5	61.1	55.8	77.1	83.6	83.4	100.0
Oregon	0.1	0.1	*	0.1	0.2	*	0.1	0.1	*
Pennsylvania	0.5	0.5	0.2	0.6	0.8	0.2	*	*	*
Rhode Island	*	*	*	*	*	*	*	*	*
South Carolina	0.1	0.1	*	0.2	0.2	*	*	*	*
South Dakota	0.1	0.1	*	*	*	*	0.2	0.2	*
Tennessee	0.6	0.6	0.3	0.7	0.8	0.3	0.1	0.1	*
Texas	8.8	9.8	4.5	9.8	11.5	4.5	6.0	6.1	*
Utah	0.2	0.2	*	0.3	0.4	*	*	*	*
Vermont	*	*	*	*	*	*	*	*	*

(continued)

TABLE 10--Continued

State	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Virginia	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.2	*
Washington	0.4	0.4	0.2	0.5	0.6	0.2	0.1	0.1	*
West Virginia	0.1	0.1	*	0.1	0.1	*	*	*	*
Wisconsin	0.1	0.1	*	0.1	0.1	*	0.1	0.1	*
Wyoming	0.2	0.1	0.3	0.2	0.1	0.3	0.2	0.2	*
District of Columbia	1.1	1.3	3.1	2.2	1.9	3.1	*	*	*
U. S. Territories & Foreign Countries	0.4	0.4	0.3	0.5	0.6	0.3	*	*	*
Total#	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

+Less than 0.05

#Components may not add to total due to rounding.

Missouri, Kansas, and the District of Columbia. Most of the professional personnel, who are salaried, came from outside the State of Oklahoma. Female employees had a higher incidence of prior employment in Oklahoma than did male employees.

#### Length of Time at Present Address

About three out of four Aeronautical Center employees had lived at their present address less than five years, as of January, 1963 (Table 11). A higher per cent of hourly employees had lived at their present address longer than had salaried employees. A number of factors seem to have contributed to this. First, there was a rapid expansion of the activities of the Center during the period 1957 to 1962. Second, the per cent of employees living in Oklahoma before their employment at the Center was higher for hourly employees (84 per cent) than salaried (61 per cent). Third, employees tend to move into better housing as they obtain job security and higher incomes. Fourth, there is a general tendency for employees to reduce commuting time and/or commuting distance to their place of work.

#### Housing Status

Prior to employment at the Center, somewhat more than half the employees owned their homes, while 36 per cent rented. The remainder lived mainly with relatives.

TABLE 11

PERCENTAGE DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES, BY LENGTH  
OF TIME AT PRESENT ADDRESS, AS OF JANUARY, 1963<sup>a</sup>

Years	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	3.7	4.2	1.7	3.0	3.5	1.6	5.8	5.7	9.1
Less than 1	22.4	21.8	24.8	24.9	24.7	25.2	14.9	15.1	*
1-5	50.6	52.0	45.0	51.0	52.9	45.1	49.6	49.8	36.4
6-10	12.9	12.7	13.9	11.9	11.3	13.6	16.0	15.9	27.3
11-15	7.1	6.4	10.3	6.7	5.5	10.2	8.5	8.3	18.2
16 and over	3.2	3.0	4.3	2.6	2.0	4.2	5.2	5.1	9.1
Total <sup>#</sup>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

<sup>#</sup>Components may not add to total due to rounding.

Home ownership was slightly higher among hourly employees than among salaried employees (Table 12).

There was a marked increase in home ownership after employment at the Center. Those owning their own homes increased to almost 80 per cent of the total number of employees, and those renting declined to 17 per cent (Table 13). There was also a decline among the number living with relatives. The increase in home ownership was about evenly distributed between salaried employees and hourly employees. This suggests that employment stability is a more important determinant of home ownership than the size of income. These findings are consistent with those of Dr. Poole in his study of OCAMA employees.<sup>11</sup>

#### Transportation Media

Although virtually all employees at the Aeronautical Center traveled by auto, almost two-thirds drove alone and were not members of a carpool (Tables 14 and 15). Most of the remaining employees were members of a carpool ranging in number from two to six. Only a small fraction of one per cent traveled in a carpool of more than six persons.

That so many employees drove to work individually in their own cars presented a problem for the Aeronautical

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<sup>11</sup> OCAMA Study, pp. 19-23.



TABLE 12

PERCENTAGE DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES, BY  
PRIOR HOUSING STATUS, AS OF JANUARY, 1963<sup>a</sup>

Prior Housing Status	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	0.3	0.4	*	0.3	0.4	*	0.5	0.5	*
Rent	35.6	36.6	31.3	36.2	37.7	31.7	33.6	34.0	9.1
Own	56.1	56.3	55.5	55.2	55.3	54.9	58.9	58.5	90.9
Live with relatives	7.0	5.7	12.5	7.2	5.4	12.7	6.5	6.6	*
Other	0.9	1.0	0.8	1.1	1.2	0.8	0.5	0.5	*
Total#	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

#Components may not add to total due to rounding.

TABLE 13

PERCENTAGE DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES, BY  
PRESENT HOUSING STATUS, AS OF JANUARY, 1963<sup>a</sup>

Present Housing Status	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	1.2	1.4	0.6	1.0	1.2	0.6	1.8	1.8	*
Rent	17.3	16.3	21.6	17.5	16.0	21.9	16.8	17.0	*
Own	78.6	80.3	71.3	78.1	80.5	70.8	79.9	79.6	100.0
Live with relatives	2.5	1.7	5.7	2.8	1.9	5.8	1.4	1.4	*
Other	0.4	0.3	0.8	0.5	0.4	0.8	0.1	0.1	*
Total <sup>#</sup>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

<sup>#</sup>Components may not add to total due to rounding.

TABLE 14

TYPE OF COMMUTING TRANSPORTATION OF AERONAUTICAL  
CENTER EMPLOYEES, AS OF JANUARY, 1963<sup>a</sup>

Type of Transportation	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	13	10	3	11	8	3	2	2	*
Automobile	3,394	2,751	643	2,547	1,915	632	847	836	11
Other	13	10	3	12	9	3	1	1	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11
PER CENT									
No response	.4	.4	.1	.4	.4	.4	.2	.2	*
Automobile	99.2	99.2	99.8	99.1	99.1	99.2	99.6	99.6	100.0
Other	.4	.4	.1	.5	.5	.4	.1	.1	*
Total <sup>#</sup>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

<sup>#</sup>Components may not add to total due to rounding.

TABLE 15

PERCENTAGE DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES, BY  
USE OF CAR POOL IN COMMUTING, AS OF JANUARY, 1963<sup>a</sup>

Use of Car Pool	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.5	*
Commute Alone	62.4	62.5	61.8	61.4	61.4	61.3	65.5	65.2	90.9
Commute in Car Pool	37.0	36.9	37.6	38.0	38.0	38.1	34.0	34.3	9.1
Total <sup>#</sup>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

<sup>#</sup>Components may not add to total due to rounding.

Center in terms of parking space. Parking facilities were designed on the basis of experience of other large employers where auto transportation was the principle mode of commuting. It was learned that one parking space for every two or three employees was adequate. At the Center, the parking spaces, based on a ratio of one auto space for every two to three employees, meant that substantially more parking spaces were needed.

### Automobile Ownership

About one out of two Aeronautical Center employees own two or more automobiles (Table 16).<sup>12</sup> Multiple automobile ownership is more prevalent among male employees than female employees. There is no apparent difference in multiple automobile ownership between salaried and hourly employees.

There are several factors underlying the degree of automobile ownership for Center employees. First, regular public transportation was unavailable for Center employees for the purpose of traveling to and from work. Second, among salaried employees the relatively high incomes permitted multiple automobile ownership for the convenience

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<sup>12</sup>In 1962, 14 per cent of the households in the United States owned two or more automobiles. Automobile Facts and Figures, (1963 ed.; Detroit, Michigan: Automobile Manufacturers Association, Inc., 1963), p. 39.

TABLE 16

PERCENTAGE DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES,  
BY NUMBER OF AUTOMOBILES OWNED, AS OF JANUARY, 1963<sup>a</sup>

Number of Automobiles	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	0.6	0.6	0.3	0.5	0.5	0.3	0.8	0.8	*
One or none	52.2	51.0	57.3	52.8	51.2	57.4	50.5	50.4	54.6
Two or more	47.2	48.4	42.4	46.8	48.2	42.3	48.7	48.8	45.4
Total <sup>#</sup>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

<sup>#</sup>Components may not add to total due to rounding.

of non-working wives. Third, the relatively young and single employees had little need for more than one automobile.

#### Commuting Distance

Most of the employees of the Aeronautical Center live within ten miles of their place of work (Table 17). About 26 per cent of the employees travel five or less miles from their residence to their place of work, and about 35 per cent travel between six and ten miles. Most of the employees, about 90 per cent, lived within 20 miles of the Center. Seventeen employees traveled more than 50 miles each way.

This pattern of commuting is similar to that found by Dr. Poole in his study of the commuting habits of employees at Tinker Air Force Base.<sup>13</sup> In both studies hourly employees travel farther than salaried employees and male employees farther than female employees. At Tinker Air Force Base hourly employees make up a much larger share of the total number of employees than is the case at the Aeronautical Center. Employees at Tinker Air Force Base travel slightly farther distances than do typical employees at the Aeronautical Center.

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<sup>13</sup>OCAMA Study, pp. 28-30.

TABLE 17

DISTRIBUTION OF AERONAUTICAL CENTER EMPLOYEES,  
BY COMMUTING DISTANCE, AS OF JANUARY, 1963<sup>a</sup>

Commuting Distance (miles)	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	23	15	8	18	11	7	5	4	1
0-5	899	751	148	660	514	146	239	237	2
6-10	1,188	932	256	941	691	250	247	241	6
11-15	605	477	128	455	328	127	150	149	1
16-20	313	262	51	236	186	50	77	76	1
21-25	235	199	36	176	140	36	59	59	*
26-30	82	66	16	52	36	16	30	30	*
31-35	16	15	1	6	5	1	10	10	*
36-40	15	15	*	7	7	*	8	8	*
41-45	17	14	3	9	6	3	8	8	*
46-50	10	9	1	4	3	1	6	6	*
Over 50	17	16	1	6	5	1	11	11	*
Total	3,420	2,771	649	2,570	1,932	638	850	839	11

Source: Compiled from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.



Commuting Time in Miles-Per-Hour

Commuting time in miles-per-hour was computed for over 90 per cent of the Center employees (Table 18). This relates both commuting time and commuting distance. This takes into consideration highway conditions, traffic congestion, and various driver characteristics. Male employees had a higher commuting miles-per-hour than did female employees. Commuting miles-per-hour for hourly employees tended to be less than that for salaried employees. The commuting miles-per-hour difference between males and females and between salaried and hourly employees can be partially explained by the difference in age. Female employees and hourly employees on the average are older than salaried employees and male employees.

The commuting route used by employees residing in Moore and Norman is generally the same. The commuting miles-per-hour for Norman employees is substantially higher than for Moore employees. The difference in commuting miles-per-hour for Moore and Norman employees is related to the difference in distance from the Aeronautical Center. Employees living a greater distance from the Aeronautical Center, but travelling the same route as employees living closer, generally have a higher commuting miles-per-hour.

Traffic congestion is an important factor in commuting time for employees. Since most Aeronautical Center

TABLE 18

AVERAGE COMMUTING TIME IN MILES-PER-HOUR OF AERONAUTICAL  
CENTER EMPLOYEES, BY SELECTED CITIES OF RESIDENCE,  
AS OF JANUARY, 1963<sup>a</sup>

City of Residence	Average				
	All Employees	Males	Females	Salaried	Hourly
Oklahoma City	21	22	19	21	19
Norman	34	35	32	35	32
Bethany	24	25	22	24	25
Midwest City	27	26	25	26	27
Moore	27	27	29	28	27

Source: Computed from questionnaire data.

<sup>a</sup>For employees responding to the questionnaire.

employees living in Oklahoma City reside in the northwest and southwest sections, traffic congestion is not as significant as it would be if they were equally distributed over the entire metropolitan area.

#### Physically Handicapped

There were 160 (5 per cent) physically handicapped employees at the Center. As might be expected, most of these employees were males. About two-thirds were salaried.

## CHAPTER 4

### COMPENSATION OF AERONAUTICAL CENTER EMPLOYEES

The annual rate of compensation of Aeronautical Center employees in January, 1963, is examined in this chapter. Wages and salaries are analyzed according to characteristics discussed in Chapter 3. Wage and salary data, compiled from Personnel Division records, were related to the employee characteristics obtained from the questionnaire.

#### Average Compensation by Type of Employment and Sex

Average compensation for all employees was \$6,900.<sup>1</sup> The 850 hourly employees received an average of about \$5,500 and the 2,570 salaried averaged about \$7,300. None

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<sup>1</sup>The average annual rate of compensation for all federal civilian full time employees was \$5,664 in June, 1961. See U.S. Civil Service Commission, Pay Structure of the Federal Civil Service (Washington, D.C., May, 1962), p. 9. The mean annual compensation of the civilian employees at both Tinker Air Force Base (OCAMA Study, p. 80) and Fort Sill ("Lawton Study," p. 114) was about \$2,000 less than that for Center employees.

of the full time Center employees had an annual rate of compensation of less than \$3,000.

Male employees compensation averaged \$7,300 and the compensation of female employees averaged about \$5,000. The average compensation of male hourly employees was \$5,500, while that for salaried males was about \$8,100. There was little difference in the average compensation of the hourly female employees (\$5,100) and the salaried females (\$4,900).

Comparison of Present with  
Prior Compensation

Two out of three employees at the Aeronautical Center received a higher rate of pay than they did with their former employers. (Table 19). More than three-fourths of the female employees received a higher wage or salary than they did with their former employers.

Higher rates of pay in present employment were prevalent among salaried employees. More than 70 per cent of all salaried employees received a higher salary than they did in prior employment. This is important when it is recalled that salaried employees account for about three-fourths of the total number of employees. Among hourly employees 56 per cent received a higher wage than they did from their former employers.

While the hourly rate of pay of a large number of hourly employees was not higher than it was with former

TABLE 19

PERCENTAGE DISTRIBUTION OF AERONAUTICAL CENTER  
EMPLOYEES COMPARING PRESENT COMPENSATION WITH  
COMPENSATION FROM PRIOR EMPLOYER,  
AS OF JANUARY, 1963<sup>a</sup>

Compensation	PER CENT								
	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	2.0	1.8	2.8	2.1	1.9	2.8	1.5	1.5	*
Compensation Higher With Aeronautical Center	66.9	64.4	78.0	70.6	68.1	78.2	55.8	55.7	63.6
Compensation Higher With Prior Employer	31.1	33.8	19.3	27.2	30.0	19.0	42.7	42.8	36.4
Total <sup>#</sup>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from questionnaire data.

<sup>a</sup>For employees with previous employment responding to the questionnaire.

\*No employees.

<sup>#</sup>Components may not add to total due to rounding.

employers, their annual incomes at the Center in a great many cases were significantly higher. This was due to greater employment stability at the Center. For example, a carpenter might receive the same rate of pay at the Aeronautical Center as he did when he worked for another employer, but his work for the former employer might have been highly seasonal, whereas, he might be employed a full 2,000-hour year at the Center.

Average Compensation by  
Occupational Group

Employees were classified according to occupational group and job classification. Total and average compensation data were computed for the 28 occupational groups (Table 20).

Social Science, Psychology, and Welfare

The average salary for the fifteen psychologists and anthropologists in this group was \$9,500. The average salary for male employees was \$9,800, while female employees received, on the average, \$5,500.

Personnel Administration and  
Industrial Relations

The 33 employees in the Personnel Administration and Industrial Relations Group received an average salary of \$8,200. Male employees received \$10,100, while female employees received \$5,600.

TABLE 20

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY OCCUPATIONAL GROUP, AS OF JANUARY, 1963<sup>a</sup>

Occupational Group	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Social Sci- ence, Psychol- ogy and Welfare	\$ 9,500	\$ 9,800	\$5,500	\$ 9,500	\$ 9,800	\$5,500	\$	*	*
Personnel Administra- tion and In- dustrial Re- lations	8,200	10,100	5,600	8,200	10,100	5,600	*	*	*
General Admin- istrative, Clerical, and Office Ser- vices	5,600	7,400	4,700	5,600	7,400	4,700	*	*	*
Biological Science	9,700	9,900	6,700	9,700	9,900	6,700	*	*	*
Accounting and Budget	6,500	8,200	5,400	6,500	8,200	5,400	*	*	*
Medical, Hos- pital, Dental, and Public Health	11,100	12,500	7,000	11,100	12,500	7,000	*	*	*

(continued)



TABLE 20--Continued

Occupational Group	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Engineering	\$ 7,900	\$ 7,900	\$ *	\$ 7,900	\$ 7,900	\$ *	\$ 4,900	\$ 4,900	\$ *
Legal	5,900	6,300	5,700	5,900	6,300	5,700	*	*	*
Business and Industry	7,500	7,800	6,100	7,500	7,800	6,100	*	*	*
Mathematics and Statis- tics	6,200	7,400	5,200	6,200	7,400	5,200	*	*	*
Mechanic	9,700	9,700	*	9,700	9,700	*	*	*	*
Investigation	10,200	10,200	*	10,200	10,200	*	*	*	*
Supply	6,100	6,500	5,100	6,100	6,500	5,100	4,200	4,200	*
Transportation	9,300	9,500	6,800	9,300	9,500	6,800	*	*	*
Electrical In- stallation and Maintenance	6,000	6,000	5,700	*	*	*	6,000	6,000	5,700
Machine Tool Work	6,000	6,000	*	*	*	*	6,000	6,000	*
Manual Labor	4,500	4,500	4,000	*	*	*	4,500	4,500	4,000

(continued)

TABLE 20--Continued

Occupational Group	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Metal Work	\$ 5,900	\$ 5,900	\$ *	\$ *	\$ *	\$ *	\$ 5,900	\$ 5,900	\$ *
Painting and Paperhanging	5,600	5,600	*	*	*	*	5,600	5,600	*
Printing and Reproduction	5,600	5,600	5,000	*	*	*	5,600	5,600	5,000
Woodwork	5,600	5,600	*	*	*	*	5,600	5,600	*
Fixed Indus- trial Equip- ment Mainte- nance	5,500	5,400	6,600	*	*	*	5,500	5,400	6,600
Mobile Indus- trial Equip- ment Opera- tion	4,700	4,700	4,600	*	*	*	4,700	4,700	4,600
Mobile Indus- trial Equip- ment Mainte- nance	5,500	5,500	*	*	*	*	5,500	5,500	*
Warehousing	4,900	4,900	*	*	*	*	4,900	4,900	*

(continued)

TABLE 20--Continued

Occupational Group	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Packing and Processing	\$ 4,900	\$ 4,900	\$ 4,800	\$ *	\$ *	\$ *	\$ 4,900	\$ 4,900	\$ 4,800
Aircraft En- gine Overhaul	6,000	6,000	*	*	*	*	6,000	6,000	*
Aircraft Over- haul	5,900	5,900	5,300	*	*	*	5,900	5,900	5,300
Other	6,600	6,700	5,600	7,100	7,400	5,600	5,500	5,500	*
Average for all groups	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

General Administrative, Clerical,  
and Office Services

This group included 660 Aeronautical Center employees, or about 20 per cent of the work force. The average salary for employees in the General Administrative, Clerical, and Office Service Group was \$5,600. Male employees received about \$7,400, while female employees received \$4,700.

Biological Sciences

The 22 physiologists, biologists, and pharmacologists received an average annual salary of \$9,700. Male employees received an average of \$9,900 and female employees received \$6,700.

Accounting and Budget

The average salary for employees in this group was \$6,500. Male employees received, on the average, \$8,200, while female employees received \$5,400.

Medical

Doctors, nurses, and medical technicians received an average salary of \$11,100. Male employees averaged \$12,500, while female employees received \$7,000.

Engineering

Engineers and engineering technicians constituted about one-third of total Center employees. They received

an average salary of \$7,900. It should be noted, however, that 70 per cent of the employees in this group were electronic technicians with an average salary of about \$7,000, while the electronic engineers constituted only 20 per cent of the group and their average salary was about \$10,500.

#### Legal

The average salary for employees in this group was \$5,900. Male employees received an average salary of \$6,300, while female employees received \$5,700.

#### Business and Industry

Employees in this group received an average annual salary of \$7,500. Male employees on the average received \$7,800, while female employees received \$6,100.

#### Mathematics and Statistics

The average salary of mathematicians, statisticians, and statistical clerical personnel was about \$6,200. Male employees averaged \$7,400, while female employees averaged \$5,200.

#### Mechanic

The construction, maintenance, and equipment specialist personnel received an average salary of \$9,700.

#### Investigation

The 140 aviation safety officers included in this group received about \$10,200.

Supply

Employees in this group received an average salary of \$6,100. Male employees averaged \$6,500, while female employees received \$5,100.

Transportation

There were about 100 employees in this group, with average salaries of \$9,300. Male employees averaged \$9,500, while female employees received \$6,800.

Electrical Installation and Maintenance

These employees received an average annual wage of \$6,000. Female employees received \$5,700.

Machine Tool Work

Center employees in machine tool work received average wages of \$6,000.

Manual Labor

This group included 63 employees with average annual wages of \$4,500. Male employees averaged \$4,500 annually, while female employees averaged \$4,000.

Metal Work

Metalsmiths received wages of about \$5,900.

Painting and Paperhanging

The average wage for painters was \$5,600.

Printing and Reproduction

There were 44 employees in this group, with average wages of \$5,600. Male employees averaged \$5,600, while female employees averaged \$5,000.

Woodwork

Cabinetmakers and woodcraftsmen received average wages of \$5,600.

Fixed Industrial Equipment Maintenance

Employees in this group received annual wages of \$5,500. Male employees received an average wage of \$5,400, while female employees received \$6,600.

Mobile Industrial Equipment Operation

Employees included in this group received an average wage of \$4,700. Male employees averages \$4,700, while female employees received \$4,600.

Mobile Industrial Equipment Maintenance

The maintenance employees included in this group received about \$5,500.

Warehousing

Warehousing employees in this group received average wages of about \$4,900.

Packing and Processing

Employees in this group received annual wages of

about \$4,900. Male employees averaged \$4,900, while female employees averaged \$4,800.

#### Aircraft Engine Overhaul

There were 24 employees in this group, with average wages of \$6,000.

#### Aircraft Overhaul

There were 222 employees (23 per cent of all hourly employees) in this group, with average annual wages of \$5,900. Male employees received about \$5,900, while female employees averaged \$5,300.

#### Other

The 169 Center employees not elsewhere classified averaged about \$6,600 in annual compensation. Male employees received on the average about \$1 thousand more than females. Salaried employees averaged about \$1.5 thousand more than hourly.

#### Average Compensation by Educational Level

There was a direct relationship between average compensation and educational level (Table 21). High school graduates received an average of \$6,500, while college graduates averaged \$8,100.<sup>2</sup> The largest differential in

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<sup>2</sup>The average income of persons with four years of high school education was \$5,567 in 1959, and the average for persons with four or more years of college was \$9,206. Herman P. Miller, Rich Man, Poor Man (New York: Thomas Y. Crowell Co., 1964), p. 143.



TABLE 21

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY EDUCATIONAL LEVEL, AS OF JANUARY, 1963<sup>a</sup>

Educational Level Completed	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 9,500	\$ 9,500	\$	*\$10,200	\$10,200	\$	* \$ 4,600	\$ 4,600	*
Did not complete grade school	5,100	5,100	4,900	5,200	5,500	4,900	5,100	5,100	*
Elementary school	5,800	5,800	4,900	6,500	6,800	4,800	5,400	5,500	5,100
High School	6,500	7,100	4,900	6,700	7,800	4,900	5,600	5,600	5,700
College Freshman	6,700	7,300	4,600	7,000	7,800	4,600	5,500	5,500	*
College Sophomore	7,200	7,700	5,100	7,400	8,000	5,100	5,700	5,700	*
College Junior	7,700	7,900	5,300	7,800	8,100	5,300	5,300	5,300	*
Bachelor's degree	8 100	8,400	5,600	8,100	8,500	5,600	5,200	5,200	*
Master's degree	9,900	10,000	7,600	9,900	10,100	7,600	7,100	7,100	*
Doctor's degree	12,800	13,000	*	13,100	13,300	*	*	*	*
Average for all levels	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

average compensation between educational levels occurred between those employees with a master's degree and those with a doctor's degree. Female employees with the same educational level as male employees received, on the average, about \$2,000 to \$3,000 less. Hourly employees with the same formal educational level as salaried employees received from \$1,000 to \$2,000 less.

While educational level is a basic factor in explaining income differences, job classification also accounts for differences in income.

Average Compensation by Type  
of College Degree

Employees with bachelor's degrees in physics and engineering received a higher average salary than did those with other types of bachelor's degrees (Table 22).

Employees with master's degrees in mathematics and business administration received more than those with master's degrees in other areas. Employees with doctor's degrees in medicine and statistics ranked higher in terms of annual compensation than those with other types of doctor's degrees.

It should be noted that the number of employees with advanced degrees was relatively small and those with advanced degrees in particular areas was even smaller. This tends to reduce the statistical relevance of comparison of compensation by type of degree.

TABLE 22

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, WITH COLLEGE DEGREES, BY TYPE OF DEGREE AND  
MAJOR, AS OF JANUARY, 1963<sup>a</sup>

Type of Degree and Major	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 6,600	\$ 7,000	\$ 4,900	\$ 7,000	\$ 7,800	\$ 4,900	\$ 5,500	\$ 5,500	\$ 5,100
Bachelor's									
Agriculture	6,900	6,900	*	7,400	7,400	*	4,800	4,800	*
Business Adm.	7,900	8,800	5,600	8,000	9,000	5,600	5,400	5,400	*
Chemistry	7,200	7,200	*	7,200	7,200	*	*	*	*
Economics	6,800	7,200	5,200	6,800	7,200	5,200	*	*	*
Education	8,000	8,600	6,100	8,100	8,800	6,100	5,700	5,700	*
Engineering	9,300	9,300	*	9,400	9,400	*	5,400	5,400	*
English	6,300	7,600	5,100	6,400	7,900	5,100	4,500	4,500	*
Geology	6,600	6,600	*	6,600	6,600	*	*	*	*
History	4,900	4,500	5,600	4,900	4,500	5,600	*	*	*
Industrial Arts	7,700	7,700	*	7,700	7,700	*	*	*	*
Journalism	7,800	8,700	5,300	7,800	8,700	5,300	*	*	*
Law	9,400	9,400	*	9,400	9,400	*	*	*	*
Mathematics	7,000	7,100	6,400	7,000	7,100	6,400	*	*	*
Physics	9,500	9,500	*	9,500	9,500	*	*	*	*
Psychology	5,500	4,600	6,900	5,500	4,600	6,900	*	*	*
Other	7,500	8,300	5,600	7,600	8,600	5,600	4,900	4,900	*

(continued)

TABLE 22--Continued

Type of Degree and Major	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>Master's</b>									
Art	\$ 8,200	\$ 8,200	\$ *	\$ 8,200	\$ 8,200	\$ *	\$ *	\$ *	\$ *
Business Adm.	11,000	11,000	*	11,000	11,000	*	*	*	*
Biology	7,000	6,700	7,100	7,000	6,700	7,100	*	*	*
Education	10,600	10,600	*	10,600	10,600	*	*	*	*
Engineering	10,700	10,700	*	10,700	10,700	*	*	*	*
Government	9,000	9,000	*	9,000	9,000	*	*	*	*
Journalism	6,900	6,900	*	6,700	6,700	*	7,100	7,100	*
Library Sci.	8,200	9,800	6,700	8,200	9,800	6,700	*	*	*
Mathematics	11,600	12,100	8,800	11,600	12,100	8,800	*	*	*
Psychology	7,800	7,800	*	7,800	7,800	*	*	*	*
Other	10,600	11,100	8,000	10,600	11,100	8,000	*	*	*
<b>Doctor's</b>									
Anthropology	13,300	13,300	*	13,300	13,300	*	*	*	*
Chemistry	11,500	11,500	*	11,500	11,500	*	*	*	*
Education	9,600	9,600	*	9,600	9,600	*	*	*	*
Government	13,300	13,300	*	13,300	13,300	*	*	*	*
Medical Doctor	15,500	15,500	*	15,500	15,500	*	*	*	*

(continued)

TABLE 22--Continued

Type of Degree and Major	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Pharmacology	\$ 9,400	\$ 9,400	\$ *	\$ 9,400	\$ 9,400	\$ *	\$ *	\$ *	\$ *
Physiology	12,800	12,800	*	12,800	12,800	*	*	*	*
Psychology	12,600	12,600	*	12,600	12,600	*	*	*	*
Statistics	17,000	17,000	*	17,000	17,000	*	*	*	*
Vet. Science	10,400	10,400	*	10,400	10,400	*	*	*	*
Average for all degrees	8,600	9,000	5,800	8,700	9,100	5,800	5,300	5,300	*

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

Compensation by City  
of Residence

Aeronautical Center employees live in or near 50 cities and in 14 counties in Oklahoma. Total and average compensation data was computed by city of residence or city nearest residence. (Tables 23, 24, 25, and 26).

The Oklahoma City SMSA was selected for individual analysis. Cities and municipalities which were indicated as city of residence (or city nearest residence) by ten or more employees will be discussed individually.

Employees residing in the Oklahoma City SMSA received about 98 per cent of total wages and salaries. The Oklahoma City SMSA includes all cities and municipalities of residence for ten or more employees with the exception of Blanchard. The average compensation for employees in the Oklahoma City SMSA was higher than that for other employees. Total wage and salary payments were about \$23 million and the average compensation was about \$6,800. Male employees in the Oklahoma City SMSA received an average of \$7,300, while female employees received \$4,900. Salaried employees received, on the average, about \$2,000 more than hourly employees.

Bethany

There were 186 employees, with total compensation of about \$1.4 million living in Bethany. Average

FIGURE 2

ANNUAL COMPENSATION OF AERONAUTICAL CENTER EMPLOYEES BY  
MAJOR CITIES OF RESIDENCE, AS OF JANUARY, 1963

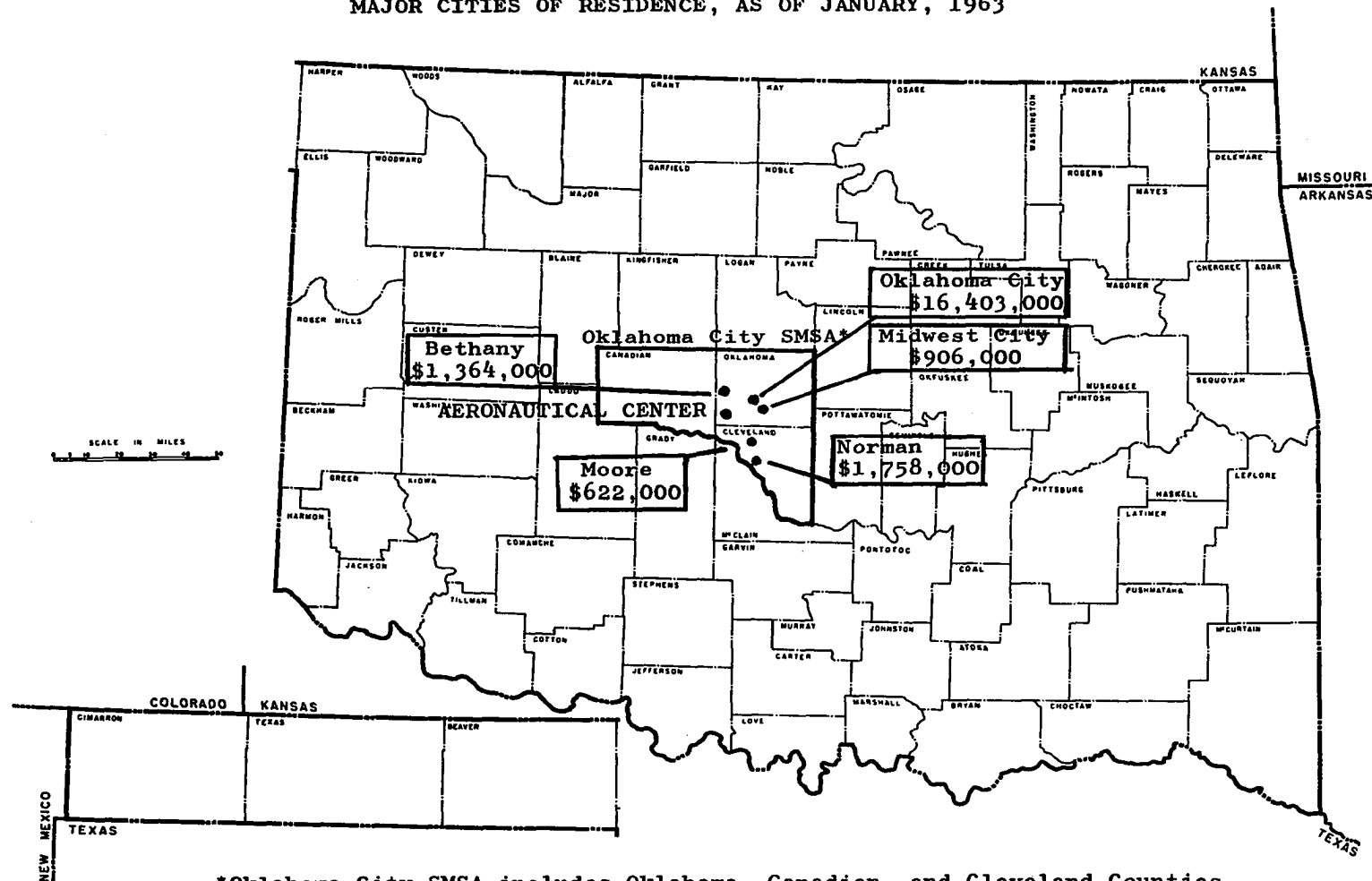


TABLE 23

ANNUAL COMPENSATION OF AERONAUTICAL CENTER EMPLOYEES, BY  
CITY OF RESIDENCE OR CITY NEAREST RESIDENCE, BY SEX  
AS OF JANUARY, 1963<sup>a</sup>  
(Thousands of Dollars)

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Amber	\$ 6	\$ 6	\$ *	\$ 6	\$ 6	\$ *	\$ *	\$ *	\$ *
Asher	6	6	*	*	*	*	6	6	*
Bethany <sup>1</sup>	1,364	1,221	143	1,359	1,217	143	5	5	*
Blanchard	185	158	27	112	99	13	73	60	13
Calumet	9	9	*	9	9	*	*	*	*
Chickasha	24	20	4	24	20	4	*	*	*
Choctaw	60	60	*	55	55	*	5	5	*
Crescent	26	22	4	11	8	4	15	15	*
Del City <sup>1</sup>	343	305	38	332	294	38	11	11	*
Dibble	15	15	*	4	4	*	11	11	*
Edmond <sup>1</sup>	123	110	12	106	94	12	16	16	*
El Reno <sup>1</sup>	169	129	40	145	105	40	25	25	*
Enid	11	11	*	11	11	*	*	*	*
Goldsby	7	7	*	*	*	*	7	7	*
Gotebo	5	5	*	*	*	*	5	5	*
Guthrie	13	13	*	7	7	*	6	6	*
Harrah <sup>1</sup>	21	21	*	*	*	*	21	21	*
Hinton	12	12	*	7	7	*	5	5	*
Jones <sup>1</sup>	18	18	*	13	13	*	6	6	*
Kingfisher	6	6	*	*	*	*	6	6	*

(continued)



TABLE 23--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Lexington <sup>1</sup>	\$ 46	\$ 46	\$ *	\$ 26	\$ 26	\$ *	\$ 20	\$ 20	\$ *
Lindsay	5	*	5	5	*	5	*	*	*
Macomb	5	5	*	*	*	*	5	5	*
Meeker	18	18	*	*	*	*	18	18	*
Midwest City <sup>1</sup>	906	795	111	884	773	111	22	22	*
Minco	54	54	*	33	33	*	21	21	*
Moore <sup>1</sup>	622	545	77	611	540	71	11	5	5
Mustang <sup>1</sup>	138	129	9	121	112	9	17	17	*
Newcastle	53	53	*	21	21	*	32	32	*
Nicoma Park <sup>1</sup>	17	6	11	6	*	6	12	6	6
Noble <sup>1</sup>	79	79	*	32	32	*	47	47	*
Norman <sup>1</sup>	1,758	1,528	231	1,710	1,484	226	49	44	5
Oklahoma City <sup>1</sup>	16,408	13,979	2,430	16,317	13,912	2,405	91	67	24
Paoli	5	5	*	5	5	*	*	*	*
Prague	8	8	*	*	*	*	8	8	*
Purcell	25	21	4	25	21	4	*	*	*
Seminole	9	9	*	9	9	*	*	*	*
Shawnee	38	38	*	38	38	*	*	*	*
Spencer <sup>1</sup>	11	11	*	11	11	*	*	*	*
Stratford	12	12	*	6	6	*	6	6	*

(continued)

TABLE 23--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Stroud	\$ 6	\$ 6	\$ *	\$ *	\$ *	\$ *	\$ 6	\$ 6	\$ *
Tecumseh	20	20	*	*	*	*	20	20	*
Tuttle	22	22	*	17	17	*	6	6	*
Union City <sup>1</sup>	11	11	*	5	5	*	6	6	*
Village <sup>1</sup>	138	134	4	131	127	4	7	7	*
Warr Acres <sup>1</sup>	130	124	6	130	124	6	*	*	*
Wayne	4	4	*	*	*	*	4	4	*
Wheatland <sup>1</sup>	51	51	*	45	45	*	6	6	*
Wynnewood	5	5	*	5	5	*	*	*	*
Yukon <sup>1</sup>	472	413	60	492	413	60	*	*	*
Total	23,502	20,288	3,214	22,868	19,707	3,161	634	581	53

Source: Computed from data obtained from the questionnaire and Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

<sup>1</sup>Within Oklahoma City SMSA.

\*No employees.

TABLE 24

ANNUAL COMPENSATION OF AERONAUTICAL CENTER EMPLOYEES BY CITY  
OF RESIDENCE OR CITY NEAREST RESIDENCE, BY SALARIED AND  
HOURLY CLASSIFICATION, AS OF JANUARY, 1963<sup>a</sup>  
(Thousands of Dollars)

City	Total			City of Residence			City Nearest Residence		
	Total Salaried	Hourly		Total Salaried	Hourly		Total Salaried	Hourly	
Amber	\$ 6	\$ *	\$ 6	\$ 6	\$ *	\$ 6	\$ *	\$ *	\$ *
Asher	6	*	6	*	*	*	6	*	6
Bethany	1,364	1,153	212	1,359	1,153	207	5	*	5
Blanchard	185	86	99	112	50	62	73	36	36
Calumet	9	9	*	9	9	*	*	*	*
Chickasha	24	10	14	24	10	14	*	*	*
Choctaw	60	43	17	55	43	12	5	*	5
Crescent	26	21	4	11	11	*	15	9	5
Del City	343	265	78	332	259	72	11	6	7
Dibble	15	10	5	4	4	*	11	6	5
Edmond	123	92	30	106	76	30	16	16	*
El Reno	169	104	66	145	91	54	25	12	12
Enid	11	6	6	11	6	6	*	*	*
Goldsby	7	7	*	*	*	*	7	7	*
Gotebo	5	*	5	*	*	*	5	*	5
Guthrie	13	7	6	7	7	*	6	*	6
Harrah	21	6	15	*	*	*	21	6	15
Hinton	12	7	5	7	7	*	5	*	5
Jones	18	18	*	13	13	*	6	6	*
Kingfisher	6	*	6	*	*	*	6	*	6

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(continued)

TABLE 24--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Salaried	Hourly	Total	Salaried	Hourly	Total	Salaried	Hourly
Lexington	\$ 46	\$ 5	\$ 42	\$ 26	\$ 5	\$ 22	\$ 20	\$ *	\$ 20
Lindsay	5	5	*	5	5	*	*	*	*
Macomb	5	5	*	*	*	*	5	5	*
Meeker	18	12	6	*	*	*	18	12	6
Midwest City	906	695	211	884	684	200	22	11	11
Minco	54	23	31	33	14	19	21	10	12
Moore	622	447	175	611	441	170	11	5	5
Mustang	138	66	72	121	61	60	17	6	12
Newcastle	53	29	24	21	14	7	32	15	17
Nicoma Park	17	11	6	6	6	*	12	6	6
Noble	79	38	41	32	7	25	47	32	16
Norman	1,758	1,526	233	1,710	1,493	217	49	33	15
Oklahoma City	16,408	13,433	2,975	16,317	13,663	2,955	91	70	21
Paoli	5	*	5	5	*	5	*	*	*
Prague	8	8	*	*	*	*	8	8	*
Purcell	25	4	21	25	4	21	*	*	*
Seminole	9	*	9	9	*	9	*	*	*
Shawnee	38	27	10	38	27	10	*	*	*
Spencer	11	6	6	11	6	6	*	*	*
Stratford	12	*	12	6	*	6	6	*	6

(continued)

TABLE 24--Continued

City	Total			City of Residence			City Nearest Residence		
	Total Salaried	Hourly		Total Salaried	Hourly		Total Salaried	Hourly	
Stroud	\$ 6	\$ *	\$ 6	\$ *	\$ *	\$ *	\$ 6	\$ *	\$ 6
Tecumseh	20	15	5	*	*	*	20	15	5
Tuttle	22	17	6	17	17	*	6	*	6
Union City	11	*	11	5	*	5	6	*	6
Village	138	133	5	131	126	5	7	7	*
Warr Acrea	130	126	5	130	126	5	*	*	*
Wayne	4	*	4	*	*	*	4	*	4
Wheatland	51	9	42	45	9	36	6	*	6
Wynnewood	5	*	5	5	*	5	*	*	*
Yukon	472	346	126	472	346	126	*	*	*
Total	23,502	18,828	4,673	22,868	18,491	4,377	634	337	297

Source: Computed from data obtained from the questionnaire and records of the Personnel Division Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

TABLE 25

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER EMPLOYEES,  
BY CITY OF RESIDENCE OR CITY NEAREST RESIDENCE, BY  
SEX, AS OF JANUARY, 1963<sup>a</sup>

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Amber	\$ 5,700	\$ 5,700	\$ *	\$ 5,700	\$ 5,700	\$ *	\$ *	\$ *	\$ *
Asher	5,700	5,700	*	*	*	*	5,700	5,700	*
Bethany	7,300	7,800	4,900	7,300	7,800	4,900	4,800	4,800	*
Blanchard	5,300	5,500	4,400	5,300	5,500	4,500	5,200	5,400	4,400
Calumet	8,600	8,600	*	8,600	8,600	*	*	*	*
Chickasha	4,800	5,000	3,900	4,800	5,000	3,900	*	*	*
Choctaw	7,500	7,500	*	7,800	7,800	*	4,800	4,800	*
Crescent	6,500	7,400	3,900	5,700	7,500	3,900	7,300	7,300	*
Del City	6,400	6,600	4,700	6,400	6,700	4,700	5,700	5,700	*
Dibble	5,000	5,000	*	4,300	4,300	*	5,400	5,400	*
Edmond	5,800	6,100	4,000	5,600	5,900	4,000	8,100	8,100	*
El Reno	5,800	6,100	5,000	5,800	6,200	5,000	6,100	6,100	*
Enid	5,700	5,700	*	5,700	5,700	*	*	*	*
Goldsby	6,700	6,700	*	*	*	*	6,700	6,700	*
Gotebo	5,300	5,300	*	*	*	*	5,300	5,300	*
Guthrie	6,700	6,700	*	6,900	6,900	*	6,500	6,500	*
Harrah	5,200	5,200	*	*	*	*	5,200	5,200	*
Hinton	5,900	5,900	*	6,900	6,900	*	4,800	4,800	*
Jones	6,100	6,100	*	6,400	6,400	*	5,500	5,500	*
Kingfisher	5,900	5,900	*	*	*	*	5,900	5,900	*

(continued)

TABLE 25--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Lexington	\$ 5,200	\$ 5,200	\$ *	\$ 5,300	\$ 5,300	\$ *	\$ 5,000	\$ 5,000	\$ *
Lindsay	4,700	*	4,700	4,700	*	4,700	*	*	*
Macomb	4,800	4,800	*	*	*	*	4,800	4,800	*
Meeker	5,900	5,900	*	*	*	*	5,900	5,900	*
Midwest City	6,700	7,100	4,800	6,700	7,200	4,800	5,500	5,500	*
Minco	6,700	6,700	*	6,600	6,600	*	7,000	7,000	*
Moore	6,000	6,200	4,800	6,000	6,200	4,800	5,300	5,300	5,400
Mustang	6,300	6,400	4,700	6,400	6,600	4,700	5,800	5,800	*
Newcastle	6,600	6,600	*	7,100	7,100	*	6,300	6,300	*
Nicoma Park	5,800	6,200	5,500	5,500	*	5,500	5,900	6,200	5,500
Noble	6,600	6,600	*	5,300	5,300	*	7,900	7,900	*
Norman	7,300	7,800	5,000	7,300	7,900	5,000	6,900	7,300	4,500
Oklahoma City	6,900	7,400	5,000	6,900	7,400	5,000	6,100	6,700	4,800
Paoli	5,500	5,500	*	5,500	5,500	*	*	*	*
Prague	8,300	8,300	*	*	*	*	8,300	8,300	*
Purcell	5,000	5,200	3,900	5,000	5,200	3,900	*	*	*
Seminole	4,500	4,500	*	4,500	4,500	*	*	*	*
Shawnee	6,300	6,300	*	6,300	6,300	*	*	*	*
Spencer	5,700	5,700	*	5,700	5,700	*	*	*	*
Stratford	5,900	5,900	*	5,900	5,900	*	5,900	5,900	*

(continued)

TABLE 25--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Stroud	\$ 5,900	\$ 5,900	\$ *	\$ *	\$ *	\$ *	\$ 5,900	\$ 5,900	\$ *
Tecumseh	6,800	6,800	*	*	*	*	6,800	6,800	*
Tuttle	5,600	5,600	*	5,500	5,500	*	5,900	5,900	*
Union City	5,600	5,600	*	5,300	5,300	*	5,900	5,900	*
Village	8,100	8,400	3,900	8,200	8,500	3,900	6,700	6,700	*
Warr Acres	9,300	9,600	6,100	9,300	9,600	6,100	*	*	*
Wayne	4,400	4,400	*	*	*	*	4,400	4,400	*
Wheatland	6,400	6,400	*	6,500	6,500	*	5,700	5,700	*
Wynnewood	5,300	5,300	*	5,300	5,300	*	*	*	*
Yukon	6,600	7,000	4,600	6,600	7,000	4,600	*	*	*
Average for all cities	6,900	7,300	5,000	6,900	7,400	5,000	6,000	6,200	4,800

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.



TABLE 26

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY CITY OF RESIDENCE OR CITY NEAREST  
RESIDENCE, BY SALARIED AND HOURLY CLASSIFICATION  
AS OF JANUARY, 1963<sup>a</sup>

City	Total			City of Residence			City Nearest Residence		
	Total	Salaried	Hourly	Total	Salaried	Hourly	Total	Salaried	Hourly
Amber	\$ 5,700	\$ *	\$ 5,700	\$ 5,700	\$ *	\$ 5,700	\$ *	\$ *	\$ *
Asher	5,700	*	5,700	*	*	*	5,700	*	5,700
Bethany	7,300	7,700	5,700	7,300	7,700	5,700	4,800	*	4,800
Blanchard	5,300	5,400	5,200	5,300	5,600	5,200	5,200	5,200	5,200
Calumet	8,600	8,600	*	8,600	8,600	*	*	*	*
Chickasha	4,800	4,900	4,700	4,800	4,900	4,700	*	*	*
Choctaw	7,500	8,600	5,600	7,800	8,600	6,000	4,800	*	4,800
Crescent	6,500	6,900	5,300	5,700	5,700	*	7,300	9,400	5,300
Del City	6,400	6,600	5,600	6,400	6,600	5,600	5,700	5,700	5,700
Dibble	5,000	5,200	4,600	4,300	4,300	*	5,400	6,100	4,600
Edmond	5,800	6,200	5,000	5,600	5,900	5,000	8,100	8,100	*
El Reno	5,800	6,100	5,500	5,800	6,100	5,400	6,100	6,100	6,200
Enid	5,700	5,500	5,900	5,700	5,500	5,900	*	*	*
Goldsby	6,700	6,700	*	*	*	*	6,700	6,700	*
Gotebo	5,300	*	5,300	*	*	*	5,300	*	5,300
Guthrie	6,700	6,900	6,500	6,900	6,900	*	6,500	*	6,500
Harrah	5,200	5,500	5,100	*	*	*	5,200	5,500	5,100
Hinton	5,900	6,900	4,800	6,900	6,900	*	4,800	*	4,800
Jones	6,100	6,100	*	6,400	6,400	*	5,500	5,500	*
Kingfisher	5,900	*	5,900	*	*	*	5,900	*	5,900

(continued)

TABLE 26--Continued

City	Total			City of Residence			City Nearest Residence		
	Total	Salaried	Hourly	Total	Salaried	Hourly	Total	Salaried	Hourly
Lexington	\$ 5,200	\$ 4,500	\$ 5,200	\$ 5,300	\$ 4,500	\$ 5,400	\$ 5,000	\$ *	\$ 5,000
Lindsay	4,700	4,700	*	4,700	4,700	*	*	*	*
Macomb	4,800	4,800	*	*	*	*	4,800	4,800	*
Meeker	5,900	5,900	5,900	*	*	*	5,900	5,900	5,900
Midwest City	6,700	7,200	5,600	6,700	7,200	5,600	5,500	5,500	5,500
Minco	6,700	7,800	6,100	6,600	7,000	6,300	7,000	9,400	5,900
Moore	6,000	6,300	5,300	6,000	6,300	5,300	5,300	5,400	5,300
Mustang	6,300	6,600	6,000	6,400	6,800	6,000	5,800	5,500	5,900
Newcastle	6,600	7,200	6,000	7,100	7,200	6,900	6,300	7,300	5,700
Nicoma Park	5,800	5,500	6,200	5,500	5,500	*	5,900	5,500	6,200
Noble	6,600	9,600	5,100	5,300	6,700	5,000	7,900	10,600	5,200
Norman	7,300	7,700	5,300	7,300	7,700	5,300	6,900	8,300	5,100
Oklahoma City	6,900	7,400	5,500	6,900	7,400	5,500	6,100	6,400	5,100
Paoli	5,500	*	5,500	5,500	*	5,500	*	*	*
Prague	8,300	8,300	*	*	*	*	8,300	8,300	*
Purcell	5,000	3,900	5,200	5,000	3,900	5,200	*	*	*
Seminole	4,500	*	4,500	4,500	*	4,500	*	*	*
Shawnee	6,300	6,900	5,100	6,300	6,900	5,100	*	*	*
Spencer	5,700	5,700	5,700	5,700	5,700	5,700	*	*	*
Stratford	5,900	*	5,900	5,900	*	5,900	5,900	*	5,900

(continued)

TABLE 26--Continued

City	Total			City of Residence			City Nearest Residence		
	Total Salaried	Hourly		Total Salaried	Hourly		Total Salaried	Hourly	
Stroud	\$ 5,900	\$ *	\$ 5,900	\$ *	\$ *	\$ *	\$ 5,900	\$ *	\$ 5,900
Tecumseh	6,800	7,500	5,300	*	*	*	6,800	7,500	5,300
Tuttle	5,600	5,500	5,900	5,500	5,500	*	5,900	*	5,900
Union City	5,600	*	5,600	5,300	*	5,300	5,900	*	5,900
Village	8,100	8,300	5,100	8,200	8,400	5,100	6,700	6,700	*
Warr Acres	9,300	9,700	4,500	9,300	9,700	4,500	*	*	*
Wayne	4,400	*	4,400	*	*	*	4,400	*	4,400
Wheatland	6,400	9,400	5,900	6,500	9,400	6,000	5,700	*	5,700
Wynnewood	5,300	*	5,300	5,300	*	5,300	*	*	*
Yukon	6,600	6,900	5,700	6,600	6,900	5,700	*	*	*
Average	6,900	7,300	5,500	6,900	7,300	5,500	6,000	6,700	5,400

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

compensation of Center employees living there was \$7,300. Male employees received, on the average, about \$7,800, while females averaged \$4,900.

#### Blanchard

The 35 employees in Blanchard received total compensation of about \$185 thousand. They had an average compensation of \$5,300. Male employees averaged \$5,500, while females received \$4,400. The average wage was \$5,200, while the average salary was \$5,400.

#### Del City

There were 54 employees in Del City with total wages and salaries of \$343 thousand. Average annual compensation was about \$6,400. The average wage was \$5,600 and the average salary was \$6,600. Male employees averaged \$6,600, while that for females was \$4,700.

#### Edmond

Edmond was the city of residence for 21 employees with total wages and salaries of \$123 thousand. The average compensation was \$5,800. Male employees received, on the average, \$6,100, while females received \$4,000.

#### El Reno

Twenty-nine employees with annual wages and salaries totaling \$169 thousand lived in El Reno. The average compensation was \$5,800. Male employees averaged \$6,100,

while females received \$5,000. The average salary was \$6,100 and the average wage was \$5,500.

#### Midwest City

Midwest City was the city of residence for 135 employees with total wages and salaries of about \$906 thousand. The average compensation was \$6,700. Female employees received, on the average, \$4,800, while males averaged \$7,100. The average salary was \$7,200, while the average wage was \$5,600.

#### Moore

One hundred and four employees with total wages and salaries of about \$622 thousand lived in Moore. The average compensation was \$6,000. The average salary was \$6,300, and the average wage was \$5,300. Male employees received an average of \$6,200, while females received \$4,800.

#### Mustang

Mustang was the city of residence for 22 employees with total compensation of \$138 thousand. The average compensation was \$6,300. Salaried employees received an average of \$6,600, while hourly employees received \$6,000. Male employees averaged \$6,400, while females received an average of \$4,700.

#### Noble

Twelve employees lived in Noble with total wages

and salaries of \$79 thousand. The average compensation was \$6,600. The average salary was \$9,600, while the average wage was \$5,100.

#### Norman

Norman was the city of residence of 241 employees with total wages and salaries of about \$1.8 million. The average compensation was \$7,300. Male employees averaged \$7,800, while females received \$5,000. Hourly employees received \$5,300, and salaried averaged \$7,700.

#### Oklahoma City

The total rate of compensation of employees living in Oklahoma City was over \$16 million. This was about 70 per cent of the total compensation of all employees. The average compensation of employees living in Oklahoma City was about the same as the average rate for all Center employees. Also, there was little difference between the compensation of males and females in Oklahoma City and that average for all cities. Hourly employees received an annual wage of about \$5,500 and salaried employees received an average of \$7,400.

#### Village

Seventeen employees living in Village received total compensation of about \$138 thousand. The average compensation was \$8,100. Male employees received an average of \$8,400, while females averaged \$3,900.

Warr Acres

Warr Acres was the city of residence for 14 employees with total wages and salaries of about \$130 thousand. Average compensation was \$9,300. The average salary was \$9,700, while the average wage was \$4,500. Males received, on the average, \$9,600, and females \$6,100.

Yukon

The 72 employees in Yukon received total compensation of about \$472 thousand. The average compensation was \$6,600. Male employees received \$7,000, while females averaged \$4,600. The average salary was \$6,900, and the average wage was \$5,700.

Compensation by County  
of Residence

Total wages and salaries paid Aeronautical Center employees in this study were \$23.5 million. (Table 27). Three counties (Oklahoma, Cleveland, and Canadian) accounted for 98 per cent of the total.

The average compensation for employees residing in Oklahoma County was higher than any other county (Table 28).

Average Compensation by  
Length of Employment

There is a direct relationship for employees involved in this study between the length of their employment

**DISTRIBUTION OF ANNUAL COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY COUNTY, AS OF JANUARY, 1963  
(Thousands of Dollars)**





TABLE 27

ANNUAL COMPENSATION OF AERONAUTICAL CENTER EMPLOYEES,  
BY COUNTY OF RESIDENCE, AS OF JANUARY, 1963<sup>a</sup>  
(Thousands of Dollars)

County	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Caddo	\$ 5	\$ 5	\$ *	\$ *	\$ *	\$ *	\$ 5	\$ 5	\$ *
Canadian	804	698	106	523	417	106	281	281	*
Cleveland	2,490	2,188	302	2,006	1,704	302	484	484	*
Garfield	11	11	*	6	6	*	6	6	*
Garvin	27	22	5	5	*	5	22	22	*
Grady	106	102	4	50	46	4	56	56	*
Kingfisher	6	6	*	*	*	*	6	6	*
Kiowa	5	5	*	*	*	*	5	5	*
Lincoln	26	26	*	20	20	*	6	6	*
Logan	39	36	4	28	24	4	12	12	*
McClain	285	254	30	131	100	30	154	154	*
Oklahoma	19,620	16,857	2,764	16,014	13,306	2,707	3,607	3,551	56
Pottawatomie	68	68	*	47	47	*	21	21	*
Seminole	9	9	*	*	*	*	9	9	*
Total#	23,502	20,288	3,214	18,828	15,670	3,158	4,673	4,617	56

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

#Components may not add to total due to rounding.

TABLE 28

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY COUNTY OF RESIDENCE, AS OF JANUARY, 1963<sup>a</sup>

County	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Caddo	\$ 4,800	\$ 4,800	\$ *	\$ *	\$ *	\$ *	\$ 4,800	\$ 4,800	\$ *
Canadian	6,400	6,700	4,800	6,800	7,600	4,800	5,700	5,700	*
Cleveland	6,900	7,200	5,000	7,400	8,100	5,000	5,300	5,300	*
Garfield	5,700	5,700	*	5,500	5,500	*	5,900	5,900	*
Garvin	5,400	5,600	4,700	4,700	*	4,700	5,600	5,600	*
Grady	5,900	6,000	3,900	6,200	6,600	3,900	5,600	5,600	*
Kingfisher	5,900	5,900	*	*	*	*	5,900	5,900	*
Kiowa	5,300	5,300	*	*	*	*	5,300	5,300	*
Lincoln	6,500	6,500	*	6,700	6,700	*	5,900	5,900	*
Logan	6,600	7,100	3,900	6,900	7,900	3,900	5,900	5,900	*
McClain	5,500	5,700	4,400	5,700	6,300	4,400	5,300	5,300	*
Oklahoma	6,900	7,400	5,000	7,400	8,200	5,000	5,500	5,500	5,100
Pottawatomie	6,200	6,200	*	6,800	6,800	*	5,300	5,300	*
Seminole	4,500	4,500	*	*	*	*	4,500	4,500	*
Average	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

TABLE 29

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY LENGTH OF EMPLOYMENT AT THE CENTER,  
AS OF JANUARY, 1963<sup>a</sup>

Years	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 6,300	\$ 6,900	\$ 4,300	\$ 6,300	\$ 7,100	\$ 4,300	\$ 6,100	\$ 6,100	\$ *
Less than 1	6,100	6,800	4,500	6,400	7,400	4,500	4,700	4,700	4,200
1-5	6,800	7,200	4,900	7,200	7,900	4,900	5,500	5,500	5,300
6-10	7,600	7,900	5,900	8,500	9,100	5,800	5,900	5,900	4,800
11-15	8,200	8,500	6,500	9,500	10,200	6,600	5,900	5,900	5,300
16 and over	8,700	8,900	6,600	9,400	9,800	6,600	6,400	6,400	*
Average	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

and their average annual compensation.<sup>3</sup> The highest average compensation occurred with the group that had been employed at the Center over 11 years (Table 29).

Average Compensation by Time  
at Present Address

The highest average annual compensation occurred with that group of employees who had lived at their present address between one and five years (Table 30). There appears to be an inverse relationship between length of time at present address and average compensation. Most of the highly paid professional employees at the Center had prior residences outside of Oklahoma.

Average Compensation by  
Housing Status

The average compensation for employees owning their own homes was \$7,000, and for employees who were renting, it was \$6,400 (Table 31). Employees living with relatives received \$5,500. This suggests a direct relationship between level of income and homeownership for Center employees. The average compensation for female employees, whether renting or owning, was about the same. For male employees, those renting received about \$600 less than those who own their own homes.

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<sup>3</sup>This was also true for the federal civilian employees included in the "Lawton Study." See pp. 118-121.

TABLE 30

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY LENGTH OF TIME AT PRESENT ADDRESS,  
AS OF JANUARY, 1963<sup>a</sup>

Years	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 6,700	\$ 6,900	\$ 5,100	\$ 7,500	\$ 7,900	\$ 5,200	\$ 5,400	\$ 5,500	\$ 4,400
Less than 1	6,700	7,200	4,700	7,900	7,700	4,700	5,200	5,200	*
1-5	7,100	7,500	5,000	7,500	8,300	5,000	5,500	5,500	5,000
6-10	6,900	7,300	5,100	7,400	8,300	5,100	5,600	5,600	5,300
11-15	6,600	7,200	5,100	7,000	8,200	5,100	5,700	5,700	5,700
16 and over	6,000	6,400	4,800	6,500	7,600	4,800	5,200	5,300	4,600
Average	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

TABLE 31

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY PRESENT HOUSING STATUS, AS OF JANUARY, 1963<sup>a</sup>

Present Housing Status	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 7,200	\$ 7,300	\$ 5,700	\$ 8,000	\$ 8,400	\$ 5,700	\$ 5,700	\$ 5,700	\$ *
Rent	6,400	6,900	5,000	6,800	7,600	5,000	5,200	5,200	*
Own	7,000	7,400	5,000	7,500	8,200	5,000	5,600	5,600	5,100
Live with relatives	5,500	6,200	4,500	5,600	6,600	4,500	5,100	5,100	*
Other	6,600	7,100	5,800	6,700	7,200	5,800	5,900	5,900	*
Average	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

Average Compensation by  
Car Ownership

The average compensation for those employees owning two or more automobiles was significantly greater than for those employees that owned only one automobile or did not own an automobile (Table 32).

Those employees who used carpools had a higher average compensation than those who commuted to work alone. This may suggest that not one, but two automobiles were often available for use by the employee's family during the working day. In addition, carpool commuting arrangements appear to be more a function of urban residence than of rural.

Average Compensation by  
Distance to Work

There appears to be an inverse relationship between distance to work and average compensation (Table 33). The highest average compensation occurred among those employees that traveled 21 to 25 miles to work (one way). This particular group included many employees working for the Civil Air Research Institute which was previously located on the north campus of The University of Oklahoma in Norman.

Average Compensation by  
Commuting Time

Generally, those employees having commuting time

TABLE 32

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY NUMBER OF AUTOMOBILES OWNED,  
AS OF JANUARY, 1963<sup>a</sup>

Number of Automobiles	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 7,300	\$ 7,700	\$ 4,700	\$ 8,600	\$ 9,300	\$ 4,700	\$ 5,300	\$ 5,300	\$ *
One or none	6,600	7,100	4,900	7,000	7,800	4,900	5,400	5,400	4,800
Two or more	7,100	7,600	5,000	7,700	8,400	5,000	5,600	5,600	5,500
Average	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.



TABLE 33

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY COMMUTING DISTANCE, AS OF JANUARY, 1963<sup>a</sup>

Miles	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 6,600	\$ 7,400	\$ 4,900	\$ 6,800	\$ 8,000	\$ 4,900	\$ 5,900	\$ 6,000	\$ 5,300
0-5	6,800	7,200	4,800	7,300	8,000	4,800	5,700	5,700	5,700
6-10	6,900	7,500	5,000	7,300	8,200	5,000	5,500	5,500	5,100
11-15	6,800	7,300	5,000	7,300	8,200	5,000	5,400	5,400	4,000
16-20	7,000	7,400	5,000	7,500	8,200	5,000	5,400	5,400	4,800
21-25	7,200	7,700	4,900	7,800	9,300	4,900	5,400	5,400	*
26-30	6,000	6,300	5,000	6,400	7,000	4,500	5,400	5,400	*
31-35	5,800	5,900	4,500	7,000	7,500	5,000	5,100	5,100	*
36-40	5,900	5,900	*	6,700	6,700	*	5,300	5,300	*
41-45	5,500	5,800	4,200	5,900	6,800	4,200	5,000	5,000	*
46-50	5,400	5,500	3,900	5,600	6,200	3,900	5,200	5,200	*
51-55	6,900	6,900	*	8,300	8,300	*	4,900	4,900	*
56-60	5,400	5,400	*	*	*	*	5,400	5,400	*
Over 60	6,200	6,400	3,900	8,000	10,100	3,900	5,400	5,400	*
Average	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

TABLE 34

AVERAGE ANNUAL RATE OF COMPENSATION OF AERONAUTICAL CENTER  
EMPLOYEES, BY COMMUTING TIME, AS OF JANUARY, 1963<sup>a</sup>

Minutes	Total			Salaried			Hourly		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
No response	\$ 6,300	\$ 6,800	\$ 4,500	\$ 6,400	\$ 7,300	\$ 4,500	\$ 6,000	\$ 6,000	\$ *
0-5	6,400	6,700	4,400	6,700	7,300	4,400	5,600	5,600	*
6-10	6,900	7,300	4,900	7,500	8,000	4,900	5,700	5,700	5,700
11-15	6,900	7,400	4,900	7,400	8,000	4,900	5,700	5,700	4,600
16-20	6,900	7,400	4,900	7,300	8,100	4,900	5,500	5,500	5,100
21-25	7,200	7,900	5,100	7,500	8,500	5,100	5,400	5,400	5,700
26-30	6,700	7,200	5,000	7,200	8,100	5,000	5,400	5,400	*
31-35	7,400	7,700	5,000	7,900	8,400	5,000	5,500	5,500	*
36-40	6,800	7,300	5,100	7,400	8,400	5,100	5,300	5,300	4,800
41-45	6,300	6,700	4,800	6,900	7,800	4,800	5,300	5,300	4,000
46-50	6,500	7,000	5,400	6,800	8,000	5,400	5,800	5,800	*
51-55	6,600	6,600	*	6,600	6,600	*	*	*	*
56-60	5,800	6,000	4,500	6,900	7,500	4,500	5,100	5,100	*
Over 60	5,400	5,500	3,900	5,800	6,100	3,900	5,200	5,200	*
Average	6,900	7,300	5,000	7,300	8,100	4,900	5,500	5,500	5,100

Source: Computed from data obtained from the questionnaire and records of the Personnel Division, Aeronautical Center.

<sup>a</sup>For employees responding to the questionnaire.

\*No employees.

less than 30 minutes had a higher average compensation than those with commuting time over 30 minutes (Table 34). This was particularly true among salaried employees and to a lesser degree among hourly employees.

## CHAPTER 5

### AERONAUTICAL CENTER EXPENDITURES, FISCAL YEARS 1957-1964

The Aeronautical Center is one of the largest organizations in Oklahoma both in terms of employment (4,000) and annual expenditures (\$75 million). However, this was not true in the late forties and early fifties when the Center consisted of a few old, barrack-type buildings, several hundred employees, and total fiscal expenditures of approximately \$9 million.

This chapter is concerned with an analysis of Center expenditures. The first part of the chapter deals with the major categories of expenditures during the seven year expansion period (fiscal years 1957-1964). The major categories are: compensation of employees; equipment, supplies, and materials; services; building and grounds rental; personnel travel and transportation of goods; equipment rental; utilities; and communications.

The second part of the chapter deals with selected expenditures for fiscal year 1961. These expenditures are classified by broad industrial group and examined by states and then by cities in Oklahoma.

Major Expenditures in Fiscal Years 1957-1964

Expenditure data were obtained from Budget Division records. Virtually all of these expenditures were classified into eight major categories. Total expenditures increased steadily during the period from about \$9 million in fiscal year 1957 to about \$75 million in fiscal year 1964 (Table 35). The largest absolute yearly increase was between fiscal years 1962 and 1963, when total expenditures increased from \$55 million to \$74 million. In most cases, the increase in expenditures in particular categories followed the growth pattern of total expenditures.

Compensation of Employees

The largest category of expenditure is compensation of employees. This category increased from about \$6 million in fiscal year 1957 to \$36 million in fiscal 1964 (Table 35). Estimates of per diem allowances for FAA student personnel in attendance at the Center and living in the Oklahoma City area were included in total compensation of employees.

About 98 per cent of the total wages and salaries paid by the Center are received by persons who live in the Oklahoma City Standard Metropolitan Statistical Area. Therefore, the total compensation of Aeronautical Center employees living in the Standard Statistical Area increased from about \$6 million in fiscal 1957 to about \$36 million

TABLE 35

TOTAL AERONAUTICAL CENTER EXPENDITURES, BY TYPE,  
FOR FISCAL YEARS 1957-1964  
(Millions of Dollars)

Type of Expenditure	1957	1958	1959	1960	1961	1962	1963	1964
Compensation of Employees	\$ 6.0	\$10.2	\$15.4	\$19.6	\$25.0	\$28.7	\$34.4	\$36.4
Equipment, Supplies, and Materials	1.3	2.9	10.6	12.6	18.5	17.6	24.0	22.6
Services	1.6	4.4	4.3	5.6	8.2	4.3	10.0	9.6
Building and Grounds Rental	0.1	0.2	1.3	1.4	1.6	1.6	2.0	2.4
Personnel Travel and Transportation of Goods	0.2	0.3	1.2	1.3	1.7	1.8	2.2	2.1
Equipment Rental	*	*	*	*	0.6	0.6	0.8	0.6
Utilities	*	*	*	0.2	0.3	0.3	0.4	0.5
Communications	*	0.1	0.1	0.1	0.2	0.2	0.3	0.4
Other	*	*	*	0.1	0.1	0.1	*	0.1
Total	9.2	18.1	32.9	40.9	56.2	55.2	74.1	74.7

Source: Compiled from records of the Budget Division, Aeronautical Center.

\*Less than .05.

in fiscal 1964. This increase is primarily the result of employment expansion. However, general wage and salary increases were also involved.

#### Equipment, Supplies, and Materials

Total expenditures by the Center for equipment, supplies, and materials increased from about \$1.6 million for fiscal 1957 to \$22.6 million for fiscal 1964.

The largest increase in equipment, supplies, and materials expenditures, \$7.5 million, occurred between fiscal 1958 and 1959. Other large increases occurred between fiscal 1960 and 1961, \$5.9 million, and fiscal 1962 and 1963, \$6.4 million. Most of these increases were the result of the expanded use of the Center as the centralized purchaser and distributor of supplies and equipment for other Federal Aviation Agency facilities.

#### Services

The Center is a large purchaser of services. About \$9.6 million of expenditures were made in fiscal 1964. This amount is \$8 million greater than the amount spent for services in fiscal 1957.

The service category includes large expenditures for services contracted from firms, such as the maintenance of electronic navigational equipment and the repair and modification of the FAA aircraft fleet, and services from other governmental agencies.

Rental of Buildings and Grounds

The Federal Aviation Agency through the General Services Administration leases the buildings and grounds used by the Aeronautical Center from the Oklahoma City Airport Trust. The total construction costs of new facilities at the Center for the period fiscal 1957 through 1964 was approximately \$29 million. The annual rental costs of the buildings and grounds increased from less than \$100 thousand for fiscal 1957 to about \$2.4 million for fiscal 1964.

The rental payments made by the Center to the Oklahoma City Airport Trust are used to retire self-liquidating bonds sold to finance the construction.

Personnel Travel and Transportation of Goods

During the expansion period, expenditures for personnel travel and the transportation of goods increased from \$200 thousand in fiscal 1957 to \$2.2 million in fiscal 1963 (Table 35). In fiscal 1959, transportation expenditures for goods were about \$1 million or six times that for fiscal 1958.

The increase in travel and transportation expenditures reflect the growing importance of the Center as the purchaser and supplier for all Federal Aviation Agency facilities. Most of the transportation expenses involved the shipment of supplies from the Center to other F.A.A. facilities.



The majority of expenditures for travel and transportation go to airlines and trucking firms which operate in the Oklahoma City area. Part of the increase in transportation activity associated with increased Center expenditures is concealed. Most of the goods delivered to the Center are purchased on an F.O.B. destination basis rather than on an F.O.B. factory basis.

#### Equipment Rental

Until fiscal 1961, equipment rental expenditures were negligible. Since then, however, the Center has spent about \$600 thousand annually for equipment rental. Most of this expenditure has been for electronic data processing equipment.

#### Communications and Utilities

Expenditures for communications and utilities followed the pattern of growth of the other major expenditure categories during the expansion period. Communications expenditures increased from less than \$50 thousand in fiscal 1957 to about \$400 thousand in fiscal 1964. During the same period, expenditures for utilities increased from less than \$50 thousand to about \$500 thousand.

#### Analysis of Selected Expenditures for Fiscal Year 1961

Procurement Branch purchase order characteristics for fiscal 1961 were available for computer analysis. The

approximately 31,000 purchase orders involved about 3,200 organizations. First, total expenditures by organization, city, and state were computed. Second, all organizations with sales to Center of \$5 thousand or more were categorized by standard industrial classification code for tabular analysis. Then, the expenditures by broad industrial groups were cross-classified by city and by state.

Tables 36 and 37 are based primarily on Procurement Branch expenditures for fiscal 1961. Compensation of employees, expenditures with other federal organization, and other expenditures charged to the Center's budget, but not administered by the Procurement Branch were not included. Most of the Center's expenditures other than compensation of employees are purchased through the Procurement Branch. This permitted an analysis of the types of organization and their geographic location that were the suppliers for the Aeronautical Center.

#### Expenditures by State

About 40 per cent (\$8.9 million) of the expenditures for fiscal 1961, were within Oklahoma. States containing organizations with sales to the Center of over \$1 million in fiscal 1961 were California, Illinois, Indiana, New Jersey, Texas, and Oklahoma. Both New Jersey and Indiana organizations accounted for a higher percentage of manufacturing purchases by the Center than did organizations in Oklahoma. In terms of the various industrial classifications

TABLE 36

SELECTED AERONAUTICAL CENTER EXPENDITURES, BY BROAD INDUSTRIAL  
GROUP AND BY STATE, FOR FISCAL YEAR 1961  
(Thousands of Dollars)

State	Total	Mining	Const.	Mfging.	Transp. Comm. and Utilities	Wholesale Retail Trade	Services	State & Local Gov't	Unclassified <sup>1</sup>
Alabama	\$ 7	\$ *	\$ *	\$ *	\$ *	\$ *	\$ *	\$ *	\$ 7
Arizona	136	*	*	43	*	*	*	*	93
California	2,095	*	*	1,182	188	132	*	*	465
Colorado	11	*	*	10	*	*	*	*	2
Connecticut	203	*	*	150	*	*	*	*	53
Delaware	7	*	*	6	*	*	*	*	1
Florida	90	*	*	7	61	9	*	*	12
Georgia	6	*	*	5	*	*	*	*	1
Illinois	1,557	*	*	1,379	*	53	*	*	125
Indiana	2,805	*	*	2,785	*	*	*	*	20
Iowa	51	*	*	48	*	*	*	*	3
Kansas	254	*	*	155	*	86	*	*	13
Kentucky	166	*	*	165	*	*	*	*	1
Maryland	110	*	*	92	*	*	*	*	18
Massachusetts	572	*	*	487	*	*	*	*	85
Michigan	75	*	*	57	*	*	*	*	18
Minnesota	39	*	*	25	*	*	*	*	14
Missouri	79	*	*	20	*	*	*	*	59
New Hampshire	9	*	*	*	*	*	*	*	9
New Jersey	2,451	*	*	2,308	17	*	*	*	126

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(continued)

TABLE 36--Continued

State	Total	Mining	Const.	Mfging.	Transp. Comm. and Utilities	Wholesale Retail Trade	Services	State & Local Gov't	Unclas- sified <sup>1</sup>
New York	\$ 840	\$ *	\$ *	\$ 575	\$ *	\$ 29	\$ *	\$ *	\$ 236
Ohio	256	*	*	164	*	*	14	*	78
Oklahoma	8,867	18	197	2,052	2,368	1,768	78	1,720	667
Pennsylvania	190	*	*	142	*	*	*	*	48
Rhode Island	7	*	*	5	*	*	*	*	2
Texas	1,237	*	*	206	628	134	14	*	255
Utah	16	*	*	9	*	*	*	*	6
Washington	14	*	*	*	*	*	*	*	14
Wisconsin	15	*	*	6	*	*	*	*	9
Dist. of Col.	30	*	*	6	*	*	*	*	24
Other	24	*	*	*	*	*	*	*	24
Total <sup>#</sup>	21,272	18	197	12,101	3,263	2,211	106	1,720	2,486

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Source: Purchase orders and other records of the Procurement Branch and Budget Division, Aeronautical Center.

<sup>1</sup>Organizations with sales to the Center of less than \$5 thousand were not classified.

\*Less than 0.5.

<sup>#</sup>Components may not add to total due to rounding.

the state of Oklahoma accounts for the majority in all but manufacturing. In manufacturing which is the largest expenditure class, Oklahoma accounts for about 16 per cent (Table 36).

#### Expenditures by City for Oklahoma

Ninety per cent of the total expenditures during fiscal 1961 were within the Oklahoma City SMSA (Table 37). The only city other than Oklahoma City of any significance in terms of Center expenditures was Tulsa with about \$935,000.

Approximately half of all Aeronautical Center expenditures in Oklahoma during fiscal year 1961 were either for transportation, communications, and utilities or manufacturing. There were some 663 organizations in Oklahoma with sales to the Center during fiscal 1961. Most of these were in the Oklahoma City SMSA. The large number of firms with sales to the Center of less than \$5,000 was indicated by the size (\$667,000) of total unclassified expenditures (Table 37).

It is not possible to measure precisely the economic impact of Center expenditures on Oklahoma or the Oklahoma City SMSA economies. The collective findings of both the labor force analysis and expenditures examination suggest that 60 per cent or more of all Aeronautical Center expenditures go to persons and organizations within the Oklahoma City SMSA.

TABLE 37

SELECTED AERONAUTICAL CENTER EXPENDITURES IN OKLAHOMA, BY BROAD  
INDUSTRIAL GROUP AND BY TYPE, FOR FISCAL YEAR 1961  
(Thousands of Dollars)

City	Total	Mining	Const.	Mfging.	Transp. Comm. and Utilities	Wholesale Retail Trade	Services	State & Local Gov't	Unclas- sified <sup>1</sup>
Bethany	\$ 222	\$ *	\$ *	\$ 102	\$ 11	\$ 103	\$ *	\$ *	\$ 6
Blackwell	41	*	*	*	*	*	*	*	41
Clinton	27	*	*	*	*	*	*	*	27
Midwest City	70	*	*	*	*	60	9	*	2
Norman	16	*	*	*	*	*	*	6	10
Oklahoma City	7,549	*	197	1,410	2,317	1,325	58	1,713	529
Tulsa	935	18	*	539	40	281	12	*	46
Other	5	*	*	*	*	*	*	*	5
Total#	\$8,867	18	197	2,052	2,368	1,768	78	1,720	667
Oklahoma City SMSA	7,857	*	197	1,512	2,328	1,488	67	1,720	547

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Source: Purchase orders and other records of the Procurement Branch and Budget Division, Aeronautical Center.

<sup>1</sup>Organizations with sales to the Center of less than \$5 thousand were not classified.

\*Less than 0.5.

#Components may not add to total due to rounding.

## CHAPTER 6

### SUMMARY AND CONCLUSIONS

The Aeronautical Center is one of the largest civilian employers in the State of Oklahoma. Total employment at the Center is about 4,000 and total annual expenditures are over \$70 million. Prior to this study, little was known about its employment and expenditure characteristics.

A general description of the Center and its development was followed by an analysis of the characteristics of the Center's employees and of its expenditures.

Information about the nature and development of the Center was obtained from unpublished records, personal interviews, and various publications.

The economic and social characteristics of the Center labor force were obtained from Personnel Division records and a questionnaire sent to all non-transit, full-time employees. Usable questionnaires were returned by 95 per cent (3,420) of the 3,606 employees who were sent questionnaires.

The primary sources of information concerning Center

expenditures were purchase orders and other records of the Budget Division and Procurement Branch. Two approaches were used in examining the nature and amount of expenditures. First, an analysis of Budget Division records of Center expenditures by major category over the period of rapid expansion, fiscal years 1957-1964, was made. Second, Procurement Branch purchase orders for fiscal year 1961 were classified by type of firm, amount of purchase, by city, and by state. The first permitted an examination of the types of expenditures and their amounts during the expansion period. The second provided information concerning the type and location of firms dealing with the Center and the amount of purchases made from these firms.

Activities at the Center began in the summer of 1946 with fewer than 100 employees. The accelerated growth period for the Center occurred in the late fifties and early sixties. There was not only an expansion of existing activities during that period, but also other FAA activities were moved to the Center.

The major FAA organizations engaged in activities at the Aeronautical Center in 1963 were: Installation and Materiel Depot, which provides supply support to the various facilities of the FAA; Aircraft Services Base, which is responsible for most of the maintenance and modification of FAA Aircraft; Federal Aviation Agency Academy, which provides aviation training for FAA personnel; Aviation



Medical Services, which is concerned with medical standards for airmen and research involving physical and psychological factors in air travel; Aircraft and Airmen Registration Branch, which maintains the examination and certification records of airmen and aircraft in civil aviation; Office of the Manager, which is responsible for the general support and coordination of all Center organizations.

The 3,420 employees, responding to the questionnaire, included 2,771 males and 649 females. Of these 2,570 were salaried (General Service) and 850 were hourly (Wage Board, Wage Level, and Wage Scale) employees. There were employees in approximately 28 civil service occupational groups. However, about one-half of the employees were in two groups: Engineering (29 per cent) and General Administrative (19 per cent).

The median age of Center employees was 39. The median age of female employees was slightly higher (2 years) than that of males. Female employees constituted a higher percentage of both higher and lower age groups than they did of total employees. This is consistent with the findings of similar studies.

Although a total of 50 cities, towns, and municipalities were indicated as places of residence, over 95 per cent of the employees lived within the Oklahoma City SMSA. The major cities of residence, all of which are included in the SMSA, were: Oklahoma City (69 per cent),

Norman (7 per cent), Bethany (5 per cent), Midwest City (4 per cent), and Moore (3 per cent).

Most of the employees were born either in Oklahoma or in states bordering Oklahoma. Nine out of ten employees were married and about one-third of the male employees' wives were in the labor force.

More than 80 per cent of the employees at the Center had at least a high school education. Salaried employees had a higher level of education than hourly.

In January, 1963, three out of four employees had lived at their present address less than five years. There was a significant increase (about 30 per cent) in employees' homeownership after their employment at the Center. These findings may be partially explained by greater employment security.

Ninety per cent of the employees had been employed at the Center less than five years. Hourly employees had a higher per cent of prior employment in Oklahoma than did salaried. Most of the salaried professional personnel came to the Center from outside of Oklahoma.

About two-thirds of the employees lived within 15 miles of the Center. Virtually all of the employees commuted by auto and about two-thirds drove alone. The commuting time for four out of five employees was less than 30 minutes (one way). Commuting miles-per-hour was directly related to commuting distance. Male employees

had a slightly higher commuting miles-per-hour than did female employees.

The full time employees, responding to the questionnaire, received annual compensation of about \$23.5 million, not including overtime and shift differentials. The average annual rate of compensation was \$6,900. It was \$7,300 for males and \$5,000 for females. Hourly employees received \$5,500, while salaried received \$7,300. For most employees compensation at the Center was higher than that received from their prior employer. This was particularly true for female employees. Average compensation by occupational groups ranged from \$4,500 for manual labor to \$11,100 for medical employees.

About 98 per cent (\$23 million) of total wages and salaries paid, were to employees living in the Oklahoma City SMSA. Total wage and salary expenditures by major cities of residence of employees were: Oklahoma City (\$16.5 million), Norman (\$1.8 million), Bethany (\$1.4 million), Midwest City (\$900 thousand), and Moore (\$620 thousand). The differences in average compensation by city of residence was related to the geographic distribution of employees by occupational group and by sex.

Educational level and average compensation were directly related. Generally, those employees with college degrees in the physical sciences received a higher level of compensation than those with other degrees. Employees

with shorter commuting times and distances received on the average higher compensation. Average compensation was higher for homeowners than for renters. The shorter the length of time at present address and the length of employment at the Center, the higher the average compensation. Most of the professional employees came from out of state. Their compensation was significantly higher than other employees. The average compensation for multiple car owners was higher than for those with only one or no auto.

During the period fiscal years 1957-1964 there was a substantial increase in Center expenditures. Total expenditures increased from \$9 million in fiscal 1957 to about \$75 million in fiscal 1964.

Compensation of employees constituted about 50 per cent of total expenditures. Together, compensation of employees and equipment, supplies, and materials expenditures are about 77 per cent of total expenditures. Transportation expenditures increased from \$300 thousand in fiscal 1958 to about \$1.2 million in fiscal 1959. This was the result of the expanded use of the Center as a centralized purchaser for FAA.

The General Service Administration leases the buildings and grounds used by the Center from the Oklahoma City Airport Trust. Total rental costs increased from less than \$100 thousand in 1957 to over \$2 million by 1964. Total costs of new facilities constructed during that time period were about \$29 million.

Most of the Center's expenditures are received by persons residing in or organizations operating in Oklahoma. These persons and organizations are concentrated in the Oklahoma City SMSA. About 50 per cent of the Center's expenditures is received by employees residing in the Oklahoma City SMSA and about 15 per cent is received by organizations operating in the Oklahoma SMSA.

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## APPENDIX

FEDERAL AVIATION AGENCY

TO: ALL AERONAUTICAL CENTER EMPLOYEES

SUBJECT: ECONOMIC IMPACT STUDY OF FEDERAL AVIATION  
AERONAUTICAL CENTER

The Aeronautical Center has been selected to participate in an Economic Impact Study for the State of Oklahoma. This study is being conducted in connection with similar studies of a number of Government agencies by the State Universities of Oklahoma and is part of an important national project designed to improve community services. You are requested to complete the attached questionnaire in order to provide information necessary to the successful completion of this study.

Directions:

- a. Read each statement carefully before printing or typing your answer.
- b. Be sure to answer all questions on the three pages. Accuracy is very important.
- c. Return the completed questionnaire to your supervisor as soon as possible.

(Type or Print)

FEDERAL AVIATION AGENCY  
ECONOMIC IMPACT STUDY

NAME: \_\_\_\_\_  
(Last) (First) (Middle)

(Read each question carefully before answering)

1. CURRENT ADDRESS

(a) \_\_\_\_\_  
(Number & Street or Rural Rt.) (City) (County)

(b) Do you live inside a city limits? (Please check one)

\_\_\_\_\_ YES \_\_\_\_\_ NO

(c) If you do not live inside a city or town limits,  
please give the distance and direction from the  
nearest city or town:  
(Example: 2 miles N.W. of Norman)

\_\_\_\_\_   
(Miles) (Direction) (City or Town)

(d) If you live in Oklahoma City, give the area in  
which you are located: (Please check one)

\_\_\_\_\_ SE \_\_\_\_\_ NE \_\_\_\_\_ SW \_\_\_\_\_ NW

(e) How long have you lived at this address?

\_\_\_\_\_ years \_\_\_\_\_ months

(f) Do you: (Please check one)

\_\_\_\_\_ Rent \_\_\_\_\_ Live with relatives

\_\_\_\_\_ Own \_\_\_\_\_ Other (Please specify) \_\_\_\_\_

2. ADDRESS WHEN FIRST HIRED AT FAA AERONAUTICAL CENTER:

\_\_\_\_\_  
City (If rural, list distance and direction from near-  
est town)

\_\_\_\_\_   
County State

(a) At this address, did you: (Please check one)

☐ Rent ☐ Live with relatives  
☐ Own ☐ Other (Please specify) \_\_\_\_\_

3. EMPLOYMENT DATA

(a) How long have you worked at FAA Aeronautical Center?

\_\_\_\_\_ years \_\_\_\_\_ months

(b) Were you employed just before you were first hired at FAA Aeronautical Center: (Please check one)

☐ YES ☐ NO

(c) Give location of last employment before being hired at Aeronautical Center.

\_\_\_\_\_  
(City) (County) (State)

(d) Was your pay higher with your former employer than it was when first hired at the Aeronautical Center? (Please check one)

☐ YES ☐ NO

4. TRAVEL TO WORK DATA

(a) How do you normally get to work?

☐ Auto ☐ Other (Please specify) \_\_\_\_\_

(b) What is the driving distance from your home to work? (One way based on route usually taken)

\_\_\_\_\_ miles

(c) How long does it normally take you to get to work?

\_\_\_\_\_ minutes

(d) How long does it normally take you to get home from work?

\_\_\_\_\_ minutes

(e) Do you belong to a car pool? (Please check one)

\_\_\_\_\_ YES \_\_\_\_\_ NO

(f) If you belong to a car pool, then give the total number of persons in your car pool (including driver):

\_\_\_\_\_  
(Number in car pool)

(g) Do you own two or more automobiles?

\_\_\_\_\_ YES \_\_\_\_\_ NO

5. PERSONAL DATA

(a) Birth place: \_\_\_\_\_  
(City) (County) (State)

or \_\_\_\_\_  
(Foreign country)

(b) Are you: (Please check one)

\_\_\_\_\_ Single \_\_\_\_\_ Married

(c) If Married, does your spouse: (Please check one)

\_\_\_\_\_ work at the Aeronautical Center

\_\_\_\_\_ work, but not at the Aeronautical Center

\_\_\_\_\_ not work

(d) Have you completed elementary school?

\_\_\_\_\_ YES \_\_\_\_\_ NO

(e) Have you received a high school diploma?

\_\_\_\_\_ YES \_\_\_\_\_ No

(f) If you have attended college, please indicate the highest level completed.

\_\_\_\_\_ Freshman



\_\_\_\_\_ Sophomore

\_\_\_\_\_ Junior

\_\_\_\_\_ Senior (Please specify in what field degree)

\_\_\_\_\_ Master's degree (Please specify in what field)

\_\_\_\_\_ Doctor's degree (Please specify in what field)

(g) Are you presently engaged in any formal educational or training programs?

\_\_\_\_\_ YES      \_\_\_\_\_ NO (Specify type of educational or training program.)