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ABSTRACT

Focusing on government occupations, this document is one in a series of forty-one reprints from the Occupational Outlook Handbook providing current information and employment projections for individual occupations and industries through 1985. The specific occupations covered in this document include federal civilian government employees, state and local government employees, and career opportunities in the armed forces. The following information is presented for each occupation or occupational area: a code number referenced to the Dictionary of Occupational Titles; a description of the nature of the work; places of employment; training, other qualifications, and advancement; employment outlook; earnings and working conditions; and sources of additional information. In addition to the forty-one reprints covering individual occupations or occupational areas (CE 017 757-797), a companion document (CE 017 756) presents employment projections for the total labor market and discusses the relationship between job prospects and education. (BM)

Government Occupations

Reprinted from the
Occupational Outlook Handbook,
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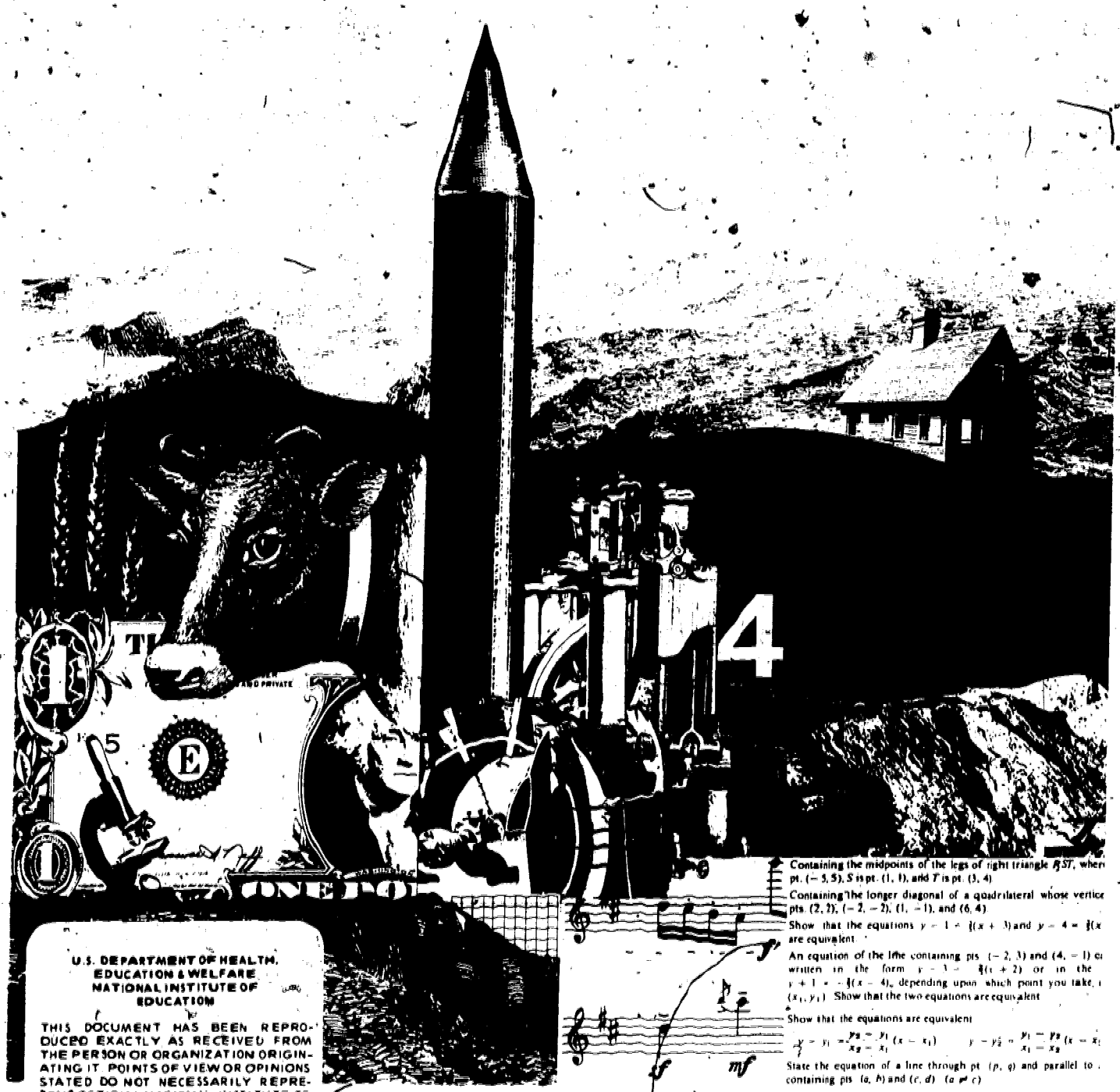
U.S. Department of Labor
Bureau of Labor Statistics
1978

Bulletin 1955-42



Containing the midpoints of the legs of right triangle RST, where pt. $(-5, 5)$, S is pt. $(1, 1)$, and T is pt. $(3, 4)$

Containing the longer diagonal of a quadrilateral whose vertice pts. $(2, 2)$, $(-2, -2)$, $(1, -1)$, and $(6, 4)$

Show that the equations $y - 1 = \frac{1}{2}(x + 3)$ and $y - 4 = \frac{1}{2}(x$ are equivalent

An equation of the line containing pts. $(-2, 3)$ and $(4, -1)$ ca written in the form $y - 3 = -\frac{2}{3}(x + 2)$ or in the $y + 1 = -\frac{2}{3}(x - 4)$, depending upon which point you take, i (x_1, y_1). Show that the two equations are equivalent

Show that the equations are equivalent

$$\frac{y - y_1}{x_2 - x_1} = \frac{y_2 - y_1}{x_2 - x_1}(x - x_1) \qquad y - y_2 = \frac{y_1 - y_2}{x_1 - x_2}(x - x_2$$

State the equation of a line through pt. (p, q) and parallel to containing pts. (a, b) and (c, d) $(a \neq c)$

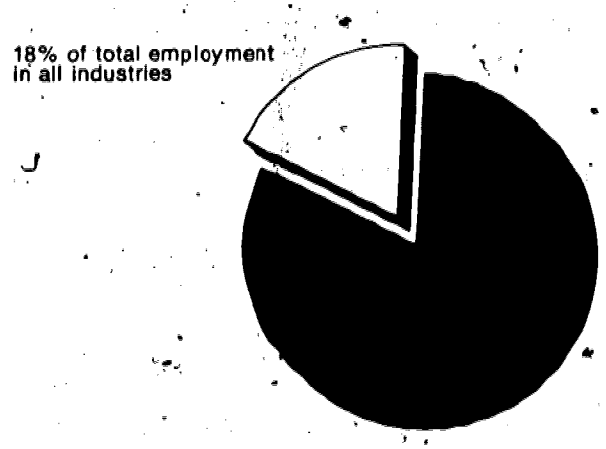
GOVERNMENT

Government service, one of the Nation's largest fields of employment, provided jobs for about 15 million civilian workers in 1976—about 1 out of 6 employed persons in the United States. State or local governments (county, city, township, school district, or other special division) employed 4 out of 5 government workers; the remainder worked for the Federal Government.

Government employees represent a significant portion of each State's work force. They work in large cities, small towns, and even in remote and isolated places such as lighthouses and forest ranger stations. A small number of Federal employees work overseas.

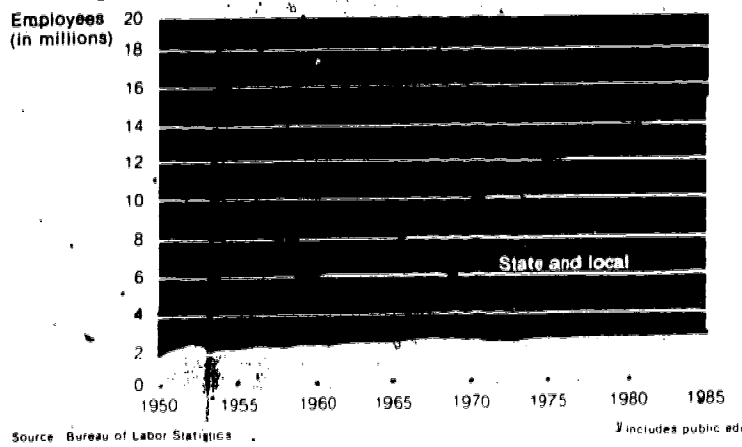
Continuing the trend begun in the late 1940's, employment in State and local government is expected to grow faster than the average for all industries through the mid-1980's. Federal employment, on the other hand, is expected to grow much more slowly than the average for all industries. Many job opportunities also will arise at all levels of government as workers retire, die, or leave government service.

Government (including public education), 1976



Almost all of the growth in government employment is at the State and local level

Civilian government employment,[1] 1950-76 and projected 1985



Source: Bureau of Labor Statistics

[1] Includes public education

Government Activities and Occupations

Two-fifths of all government workers in 1975, or 6.3 million, provided educational services, mostly at the State and local levels in elementary and secondary schools. Besides teachers, others who worked in educational services included administrative and clerical workers, maintenance workers, librarians, dietitians, nurses, and counselors.

More than 1 million civilian employees in 1975 worked for Federal agencies that are concerned with national defense and international relations. Principal occupations that deal with these functions included administrative and clerical workers, health workers, teachers, engineers, scientists, technicians, and craft and other manual workers. People in these jobs work in offices, research laboratories, navy yards, arsenals, and missile launching sites and in hospitals and schools run by the military services.

Another 1.4 million workers provided health services and staffed hospitals, primarily for State and local governments. Many workers also were employed in housing and community development, police and fire protection, social security and public welfare services, transportation and public utilities, financial administration, general administrative functions, and judicial and legislative activities. The majority of these workers also were State and local government employees. All of the 700,000 government workers in postal services and a majority of the 400,000 workers in natural resources, such as those in National Park and Forest Services, were employed by the Federal Government.

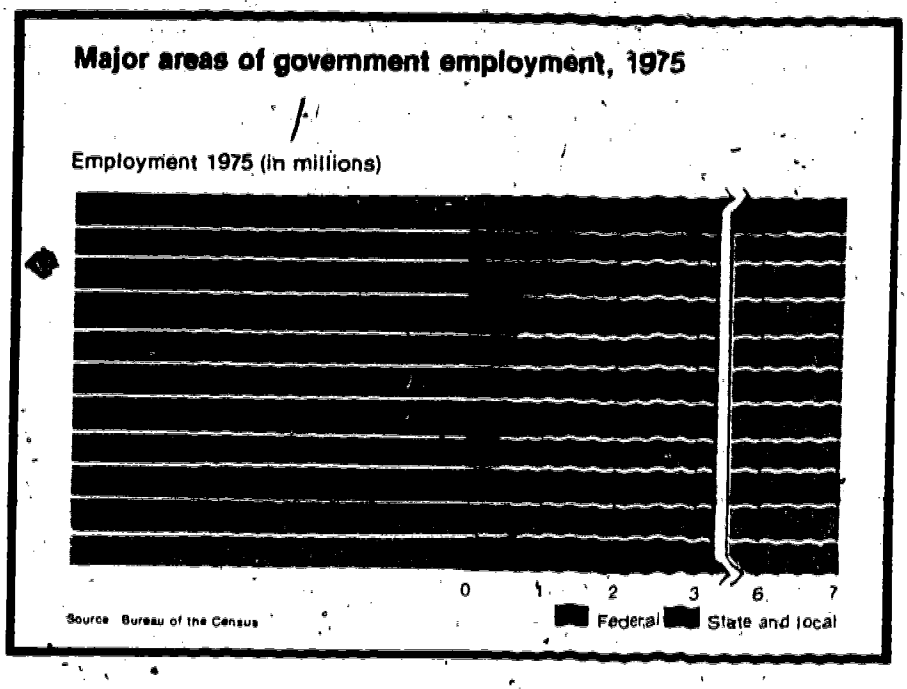


Table 1. Percent distribution of employment in government and private industry by occupation, 1976

Occupation	Government [1]	Private industry
Total	100	100
White-collar workers	68	46
Professional and technical	36	11
Managers and administrators	8	10
Clerical	24	18
Sales	(2)	7
Blue-collar workers	14	39
Craft and related workers	6	14
Transport equipment operatives	3	4
Other equipment operatives	1	15
Nonfarm laborers	4	6
Service workers	18	13
Farm workers	(2)	2

[1] Excludes Federal employment overseas.
[2] Less than 0.5 percent
NOTE: Because of rounding, sums of individual items may not equal totals.
SOURCE: Bureau of Labor Statistics

Because of the special character of many government activities, the occupational distribution of employment is very different from that in private industry, as shown in table 1.

Although the many government activities require a diversified work force having various levels of education, training, and skill, 2 out of 3 government employees are white-collar workers. Among the largest white-collar occupational groups are teachers, administrators, postal clerks, and office workers such as stenographers, typists, and clerks.

Some important service, craft, and manual occupations are aircraft and automotive mechanics, repairers, police officers, firefighters, truckdrivers, skilled maintenance workers (for example, carpenters, painters, plumbers, and electricians), custodial workers, and laborers.

The following chapters discuss opportunities for civilian employment in the major divisions of government and in the various branches of the Armed Forces. A separate chapter gives information on post office occupations.

FEDERAL CIVILIAN GOVERNMENT

Nature and Location of Employment

The Federal Government is the Nation's largest employer. It employed about 2,750,000 civilian workers in 1976, including about 50,000 U.S. citizens in U.S. territories and foreign countries. Although the headquarters of most Government departments and agencies are in the Washington, D.C. metropolitan area, only 1 out of 8 (about 350,000) Federal employees worked in that area in 1976. Nearly 300,000 worked in California, and more than 100,000 each in New York, Pennsylvania, Texas, and Illinois.

Federal employees work in occupations that represent nearly every kind of job in private employment, as well as some others unique to the Federal Government, such as postal clerk, regulatory inspector, foreign service officer, and Internal Revenue agent. Most Federal employees work

for the departments and agencies that make up the executive branch of the government. About 50,000 are employed in the legislative and judicial branches.

The executive branch includes the Executive Office of the President, the 11 cabinet departments, and nearly 90 independent agencies, commissions, and boards. This branch is responsible for activities such as administering Federal laws, handling international relations, conserving natural resources, treating and rehabilitating disabled veterans, delivering the mail, conducting scientific research, maintaining the flow of supplies to the Armed Forces, and administering other programs to promote the health and welfare of the people of the United States.

The Department of Defense, which includes the Departments of the Army, Navy, and Air Force, is the largest agency. It employed over 930,000 civilian workers in 1976. The departments of Agriculture; Health, Education, and Welfare; and Treasury each employed more than 100,000 workers. The two largest independent agencies were the U.S. Postal Service, which employed 680,000 workers, and the Veterans Administration, which employed over 200,000.

Nearly 40,000 people worked for the legislative branch of government, which includes the Congress, the Government Printing Office, the General Accounting Office, and the Library of Congress. More than 10,000 people worked for the judicial branch, which includes the Supreme Court and the other U.S. courts.

White-Collar Occupations. Because of its wide range of responsibilities, the Federal Government employs white-collar workers in a great many occupational fields. Nearly 2 million white-collar workers, including postal workers, worked for the Federal Government in 1975. About 1 out of 4 of these were administrative and clerical workers.

More than 470,000 general clerical workers were employed in all departments and agencies of the Federal Government in 1975. Included in this group were office machine operators, secretaries, stenographers, clerk-typists, mail and file clerks, telephone operators, and workers in computer and related occupations. In addition, there were over 500,000 postal clerks and mail carriers employed by the Federal Government.

About 150,000 Federal Government workers were employed in engineering and related fields in 1975. Included in this total were about 80,000 engineers, representing virtually every branch and specialty of the profession. There also were large numbers of technicians in areas such as engineering, electronics, surveying, and drafting. Nearly two-thirds of all engineers were in the Department of Defense.

Of the 120,000 workers employed in accounting and budgeting work, 35,000 were professional accountants or Internal Revenue agents. Among technician and administrative occupations in this field were accounting technician, tax accounting technician, and budget administrator. There also were large numbers of clerks in specialized accounting work. Accounting workers were employed throughout the Government, particularly in the Department of Defense, the Treasury Department, and the General Accounting Office.

Nearly 120,000 Federal employees worked in hospitals or in medical, dental, and public health activities in 1975. Three out of 5 were either professional nurses or nursing assistants. Professional occupations in this field included physician, dietitian, medical technologist, and physical therapist. Other technician and aide jobs were medical technician, medical laboratory aide, and dental assistant. Employees in this field worked primarily for the Veterans Administration; others worked for the Departments of Defense and Health, Education, and Welfare.

Almost 70,000 workers were engaged in administrative work related to private business and industry. They arranged and monitored contracts with the private sector, and purchased goods and services needed by the Federal Government. Administrative occupations included contract and procurement specialist, production control specialist, and Internal Revenue officer. Two out of three of these workers were employed by the Departments of Defense and Treasury.

Another 60,000 persons worked in jobs concerned with the purchase, cataloging, storage, and distribution of supplies for the Federal Government. This field included many managerial and administrative positions such as supply management officer, purchasing officer, and inventory management specialist, as well as large numbers of specialized clerical positions. Most of these jobs were in the Department of Defense.

The Federal Government employed almost 60,000 persons in the field of law. There were about 17,000 employees in professional positions, such as attorney or law clerk, and administrative positions such as passport and visa examiner or tax law specialist. There also were many clerical positions that involve claims examining work. Workers in the legal field were employed throughout the Federal Government.

About 50,000 persons were employed in the social science field. Professional economists were employed throughout the Federal Government; psychologists and social workers worked primarily for the Veterans Administration; and foreign affairs and international relations specialists for the Department of State. One third of the workers in this field were social insurance administrators, employed largely in the Department of Health, Education, and Welfare.

About 45,000 biological and agricultural science workers were employed by the Federal Government. Many of these worked in forestry and soil conservation activities. Others administered farm assistance programs. The largest number were employed as biology, forest and range fire control, soil conservation, and forestry technicians. Most of these workers were employed by the Departments of Agriculture and Interior.

The Federal Government employed about 45,000 persons in investigative and inspection work. Large numbers of these workers were engaged in criminal investigation and health and regulatory in-

spection. Most of these jobs were in the Departments of Treasury, Justice, and Agriculture.

In the physical sciences, the Federal Government employed more than 40,000 persons. Professional workers included chemists, physicists, meteorologists, cartographers, and geologists. Aides and technicians in this field included physical science technicians, meteorological technicians, and cartographer's technicians. Three out of four workers in the physical sciences were employed by the Departments of Defense, Interior, and Commerce.

Among the 15,000 persons employed in the mathematics field were professional mathematicians and statisticians, and mathematics technicians and statistical clerks. Mathematics workers were employed primarily by the Departments of Defense, Agriculture, Commerce, and Health, Education, and Welfare.

Entrance requirements for white-collar jobs vary widely. Entrants into professional occupations usually must have a college degree in a specified field or equivalent work experience. Occupations typical of this group are attorney, physicist, and engineer.

Entrants into administrative and managerial occupations usually are not required to have knowledge of a specialized field, but rather must indicate that they have potential for future development by having a degree from a 4-year college or responsible job experience. Entrants usually begin at a trainee level and learn the duties of the job after they are hired. Typical jobs in this group are budget analyst, claims examiner, purchasing specialist, administrative assistant, and personnel specialist.

Technician, clerical, and aide-assistant jobs have entry level positions that usually are filled by people who have a high school education or the equivalent. For many of these positions, no previous experience or training is required. The entry level position is usually that of trainee. Persons who have junior college or technical school training, or those who have specialized skills, may enter these occupations at higher levels. Jobs typical of this group are engineering technician, supply clerk, clerk-typist, and nursing assistant.

Blue-Collar Occupations. Blue-collar occupations—service, craft, operative and laborer jobs—provided employment for more than 520,000 workers in 1975. The Department of Defense employed about three-fourths of these workers in establishments such as naval shipyards, arsenals, and air or army depots, as well as on construction, harbor, flood-control, irrigation, or reclamation projects. Others worked for the Veterans Administration, U.S. Postal Service, General Services Administration, Department of the Interior, and Tennessee Valley Authority.

The largest single group of blue-collar workers consisted of mobile equipment operators and mechanics. These jobs included those of forklift operator, chauffeur, truckdriver, and automobile mechanic. The second largest group of workers consisted of general laborers, who performed a wide variety of manual jobs.

The Federal Government employed many workers in machinery operation and repair occupations, such as boiler and steam plant operator, machinist, machinery repairer, maintenance electrician, electronics equipment repairer, and aircraft mechanic.

Skilled construction workers also were utilized widely throughout the Federal Government in such jobs as carpenter, painter, plumber, steamfitter and pipefitter, and sheet-metal worker. Other important blue-collar occupations included warehouse worker, food service worker, and printer.

Entrance requirements. Persons with previous training in a skilled trade may apply for a position with the Federal Government at the journeyman level. Those with no previous training may apply for appointment to one of several apprenticeship programs. Applicants are given a written examination and are rated on their potential for learning a skilled trade. Apprenticeship programs generally last for 4 years; trainees receive both classroom and on-the-job training. After completing this training, a person is eligible for a position at the journey level. There also are a number of positions which require little or no prior training or experience, including custodian, maintenance worker, messenger, and many others. (Detailed descriptions of the work duties, qualifications, and training of most white-collar, service, craft, and laborer jobs mentioned above are provided in other sections of the *Handbook*.)

The Merit System

More than 9 out of 10 jobs in the Federal Government are under a merit system. The Civil Service Act, administered by the U.S. Civil Service Commission, covers 6 out of 10 Federal jobs. This act was passed by the Congress to insure that Federal employees are hired on the basis of individual merit and fitness. It provides for competitive examinations and the selection of new employees from among those who make the highest scores. The commission, through its network of about 100 Federal Job Information Centers, examines and rates applicants and supplies Federal departments and agencies with names of persons eligible for the jobs to be filled.

Some Federal jobs are exempt from Civil Service requirements, either by law or by action of the Civil Service Commission. However, most of these positions are covered by separate merit systems of other agencies such as the Foreign Service of the Department of State, the Department of Medicine and Surgery of the Veterans Administration, the Federal Bureau of Investigation, the Energy Research and Development Administration, the Nuclear Regulatory Commission, and the Tennessee Valley Authority.

Civil service competitive examinations may be taken by any U.S. citizen. To be eligible for appointment, an applicant must meet minimum age, training, and experience requirements for the particular job. A physical handicap will not in itself bar a person from a position if it does not interfere with his or her performance of the required duties. Examinations vary according to the types of positions for which they are held. Some examinations test the applicant's ability to do the job applied for

or his or her ability to learn how to do it. Applicants for jobs that do not require a written test are rated on the basis of the experience and training described in their applications and any supporting evidence required.

Applicants are notified as to whether they have achieved eligible or ineligible ratings, and the names of eligible applicants are entered on a list in the order of their test scores. When a Federal agency requests names of eligible applicants for a job vacancy, the area office sends the agency the names at the top any one of the top three. Names of those not selected are restored to the list for consideration for other job openings.

Employment Trends and Outlook

Federal employment is expected to grow more slowly than the average for all industries through the mid-1980's, continuing a trend begun in the late 1960's. Although total Federal Government employment is expected to rise somewhat, some Federal agencies will reduce their staffs as some administrative responsibilities will continue to be transferred to State and local governments. In addition, the Postal Service is expected to reduce staff while the Department of Defense is expected to keep the number of its civilian employees relatively constant.

In addition to some new jobs there will be openings due to the need to replace employees who transfer out of the Federal service, retire, or die. Thus, many job opportunities will occur in occupations where total employment is relatively stable, as well as in those in which it is rising.

The proportion of Federal workers employed in professional, technical, and administrative jobs has gradually increased in recent years and the proportion employed in clerical and blue-collar jobs has fallen. This trend is expected to continue, reflecting the increasing demand for existing services by a growing population, as well as demands for new services. Acceptance of new or redefined responsibilities by the Federal Government is expected to result in rising requirements for professional, administrative, and technical workers. Employment in many clerical and blue-collar occupations will be limited by the Federal Government's increasing use of laborsaving electronic data processing and materials handling equipment and the introduction of improved data transmission and communications systems.

Table 1. Distribution of full-time Federal employees under the General Schedule by grade level, March 31, 1976, and salary scale effective February 20, 1977

General Schedule	Employees		Salaries		
	Number	Percent	Entrance	Periodic increase	Maximum
Total all grades	1,358,489	100.0			
1	2,256	0.2	$5,810	$194	$7,556
2	25,526	1.9	6,572	219	8,543
3	99,330	7.3	7,408	247	9,631
4	174,146	12.8	8,316	277	10,809
5	182,211	13.4	9,303	310	12,093
6	85,741	6.3	10,370	346	13,484
7	127,553	9.4	11,523	384	14,979
8	27,790	2.0	12,763	425	16,588
9	139,334	10.3	14,097	470	18,327
10	22,090	1.6	15,524	517	20,177
11	146,954	10.8	17,056	569	22,177
12	139,692	10.3	20,442	681	26,571
13	107,310	7.9	24,308	810	31,598
14	49,379	3.6	28,725	958	37,347
15	24,530	1.8	33,789	1,126	[2] 43,923
16	3,309	0.2	39,629	1,321	[2] 47,500
17	990	0.1	46,423	—	[2] 47,500
18	348	(1)	[2] 47,500	—	—

[1] Less than 0.05 percent

[2] The rate of basic pay for employees at these rates is limited by section 5308 of title 5 of the United States Code to $47,500 as of the above date.

SOURCE: U.S. Civil Service Commission.

Earnings, Advancement, and Working Conditions

Most Federal civilian employees are paid according to one of three major pay systems; the General Pay Schedule, the wage system, and the Postal Service Schedule. (The Postal Service Schedule is discussed in the statement on the Postal Service elsewhere in the *Handbook*.)

Nearly half of all Federal workers are paid under the General Schedule. The General Schedule is a pay scale for workers in professional, administrative, technical, and clerical jobs,

Table 2. Coordinated Federal Wage System average salaries for selected occupational groups, October 31, 1975

Occupational group	Average Salary
Manual labor	$9,895
Mobile industrial equipment operation and maintenance	12,942
Fixed industrial equipment operation and maintenance	13,607
Warehousing	11,558
Metal work and processing	13,676
Aircraft repair, propeller work, and engine overhaul	13,712
Electrical installation and maintenance	14,052
Machine tool work	13,660
Electronic equipment installation, maintenance, and operation	14,198
Woodworking	13,271
Pipefitting	13,786
Printing and reproduction	14,339
Painting and paperhanging	13,006

SOURCE: U.S. Civil Service Commission.

and for workers such as guards and messengers. General Schedule jobs are classified by the U.S. Civil Service Commission in one of 18 grades, according to the difficulty of duties and responsibilities, and the knowledge, experience, and skills required of the worker. General Schedule (GS) pay rates are set by Congress and apply nationwide. They are reviewed annually to insure that they remain comparable with salaries in private industry.

The distribution of Federal white-collar employees by General Schedule grade, the entrance and maximum salaries for each grade, and the amount of each grade's periodic increases are listed in table 1. Appointments usually are made at the minimum rate of the salary range for the appropriate grade. However, appointments in hard-to-fill positions may be at a higher rate.

Employees in all grades except the highest, GS-18, receive within-grade pay increases after they have worked the required time period, if their work is at an acceptable level of competence. Within-grade increases may be given also in recognition of high-quality service.

High school graduates who have no related work experience usually start in GS-2 jobs, but some who have special skills begin at grade GS-3. Graduates of 2-year junior colleges and technical schools often can begin at the GS-4 level. Most people appointed to professional and administrative jobs such as psychologist, statistician, economist, writer and editor, budget analyst, accountant, and physicist, can enter at grades GS-5 or GS-7, depending on their academic record. Those who have a master's degree, or the equivalent education or experience, usually enter at the GS-9 or GS-11 level. Advancement to higher grades generally depends upon ability, work performance, and openings in jobs with higher grades.

About one-quarter of the Federal civilian workers are paid according to the coordinated Federal Wage System. Under this system, craft, service, and manual workers are paid hourly rates which are established on the basis of "prevailing" rates paid by private employers for similar work in the same locations. As a result, the Federal Government wage rate paid for an occupation varies by locality. Average salaries paid Federal workers for some of the more common types of blue-collar work appear in table 2.

Federal Government employees work a standard 40-hour week. Employees who are required to work overtime receive premium rates for the additional time or compensatory time off at a later date. Most employees work 8 hours a day and 5 days a week, Monday through Friday, but in some cases, the nature of the work requires a different workweek. Annual earnings for most full-time Federal workers are not affected by seasonal factors.

Federal employees earn 13 days of annual (vacation) leave each year during their first 3 years of service; 20 days each year until the end of 15 years; after 15 years, 26 days each year. Nine paid holidays are observed annually. Workers who are members of military reserve organizations also are granted up to 15 days of paid military leave a year for training purposes. A Federal worker who is laid off is entitled to unemployment compensation similar to that provided for employees in private industry.

Other benefits available to most Federal employees include: A contributory retirement system, optional participation in low-cost group life and health insurance programs which are partly supported by the Government, and training programs to develop maximum job proficiency and help workers achieve their highest potential. These training programs may be conducted in Government facilities or in private educational facilities at Government expense.

Sources of Additional Information

Information on employment opportunities in the Federal Government is available from a number of sources. High school students are often able to get information from their high school guidance counselors. A college placement office is often a good source of such information for college students. Information also may be available from State employment service offices.

The U.S. Civil Service Commission operates 62 area offices and over 100 Federal Job Information Centers located in various large cities throughout the country. These offices announce and conduct examinations required for various Federal Government jobs. They evaluate qualifications and refer eligible applicants to employing agencies for their geographic areas. They also provide a complete one-stop information service on local and nationwide job opportunities in the Federal Government service. The Federal Job Information Centers also operate a toll-free telephone information service in nearly all States for those unable to visit them. Their telephone numbers are listed in most telephone books under "U.S. Government."

For information about jobs in a specific agency, contact the agency directly.

STATE AND LOCAL GOVERNMENTS

State and local governments provide a very large and expanding source of job opportunities in a wide variety of occupational fields. In 1976, about 12.2 million people worked for State and local government agencies; nearly three-fourths of these worked in units of local government, such as counties, municipalities, towns, and school districts.

Educational services account for about [illegible] of all jobs in State and local government. In 1975, about 6.3 million government employees worked in public schools, colleges, or other educational services. In addition to more than 3.5 million instructional personnel, school systems, colleges, and universities also employed 2.7 million administrative personnel,

librarians, guidance counselors, nurses, dietitians, clerks, and maintenance workers. Three-fifths of these worked in elementary and secondary schools, which are administered largely by local governments. State employment in education is concentrated chiefly at the college, university, and technical school levels.

The next largest field of State and local government employment was health services. The 1.2 million workers employed in health and hospital work included physicians, nurses, medical laboratory technicians, and hospital attendants.

General governmental control and financial activities accounted for about 750,000 workers. These included chief executives and their staffs, legislative representatives, and persons employed in the administration of justice, tax enforcement and other financial work, and general administration. These functions require the services of individuals such as lawyers, judges and other court officials, city managers, property assessors, budget analysts, stenographers, and clerks.

More than 600,000 people worked in street and highway construction and maintenance. Highway workers include civil engineers, surveyors, operators of construction machinery and equipment, truckdrivers, concrete finishers, carpenters, toll collectors, and construction laborers.

Police and fire protection is another large field of employment. Over 600,000 persons were engaged in police work, including administrative, clerical, and custodial personnel, as well as uniformed and plainclothes police. Local governments employed all of the nearly 300,000 fire protection employees, as well as most of the police. One out of three firefighters was employed part time.

Other State and local government employees work in a wide variety of activities: Local utilities (such as water or electricity), transportation, natural resources, public welfare, parks and recreation, sanitation, correction, local libraries, sewage disposal, and housing and urban renewal. These activities require workers in diverse occupations such as economist, electrical engineer, electrician, pipefitter, clerk, forester, and busdriver.

Clerical, administrative, maintenance, and custodial work make up a large portion of employment in most government agencies. Among the workers involved in these activities are clerk-typists, stenographers, secretaries, office managers, fiscal and budget administrators, bookkeepers, accountants, carpenters, painters, plumbers, guards, and janitors. (Detailed discussions of most occupations in State and local governments are given elsewhere in the *Handbook*, in the sections covering the individual occupations.)

Employment Trends and Outlook

The long-range trend in State and local government employment has been steadily upward. Much of this growth results from the need to provide additional services as population increases and as people move from rural to urban areas. City development has required additional street and highway facilities; police and fire protection; and public health, sanitation, welfare, and other services. Population growth and increasing personal income have generated demand for additional and improved education, housing, health facilities, and other services. Except for employment in elementary and secondary school systems State and local government employment is expected to grow faster than the average for all industries through the mid-1980's.

A larger State and local work force also will be needed to provide improved public transportation systems, more urban planning and renewal programs, increased police protection, better measures to guard against air and water pollution, and expanded natural resource development programs. In addition, large numbers of workers will be needed to replace employees who transfer to other fields of work, retire, or die.

Federal-State programs in education, vocational training, health, and other fields will increase the needs of local and State governments for professional, administrative, and technical personnel. These will include engineers, scientists, social workers, counselors, teachers, physicians, and librarians.

Most positions in State and local governments are filled by residents of the State or locality. If shortages of particular skills exist however, it is often necessary to recruit from outside the area.

Earnings and Working Conditions

Earnings of State and local government employees vary widely, depending upon occupation and locality. Salary differences from State to State tend to reflect differences in the general wage level in various localities.

The *Handbook* statement for individual occupations often gives salary information for State and local government employment. Salary information also can be obtained from the appropriate State and local government agencies.

A majority of State and local government positions are filled through some type of formal civil service test, that is, personnel are hired and promoted on the basis of merit. In some areas, groups of employees, such as teachers and police, have separate civil service coverage for their specific groups.

Most State and local government employees are covered by retirement systems or by the Federal Social Security program. They usually work a standard week of 40 hours or less, with overtime pay or compensatory time benefits for additional hours of work.

Sources of Additional Information

Persons interested in working for State or local government agencies should contact the appropriate State, county, or city agencies. Offices of local school boards, city clerks, school and college counselors or placement personnel, and local offices of State employment services have additional information.

THE ARMED FORCES

The Armed Forces offer young people career opportunities in a range of occupations almost as wide as that found in civilian life. Jobs include clerical and administrative work, skilled construction trades, electrical and electronic occupations, auto repair, and hundreds of other specialties requiring varied amounts of education and training. Each year the Armed Forces give hundreds of thousands of men and women basic and advanced training that can be useful in both military and civilian careers.

Since the draft was ended in 1973, the various branches of the Armed Forces—Army, Air Force, Navy, Marine Corps, and Coast Guard—are being staffed entirely through voluntary enlistments. The military services must compete with civilian employers, and they must offer occupational benefits and training programs that make military service an attractive career alternative. These benefits are explained in more detail later in this statement.

A young person may enlist in any one of a variety of programs that involve different combinations of active and reserve duty. Active duty ranges from 3 to 6 years, with 3- and 4-year enlistments the most common. In general, enlistments for over 4 years are for job specialties that require a considerable amount of advanced technical training.

The Armed Forces train personnel in hundreds of different types of jobs.

Places of Employment

At the end of 1976, over 2.1 million persons were on active duty in the Armed Forces—about 770,000 in the Army; 600,000 in the Air Force; 525,000 in the Navy; 190,000 in the Marine Corps; and 38,000 in the Coast Guard. In addition to those on active duty, over 2.7 million persons were in reserve components.

Military personnel are stationed throughout the United States and in many countries around the world. In the United States, the largest numbers are in California, followed by Texas, North Carolina, Florida, and the Washington, D.C. metropolitan area. About 480,000 are outside the United States. The majority of these—over 300,000—are stationed in Europe (particularly Germany); large numbers also are in the Western Pacific.

Job Training and Education for Enlisted Personnel

The Armed Forces train personnel in hundreds of different types of jobs. Job training available to enlistees depends on the length of their service commitment, their general and technical aptitude, the needs of the service, and personal preferences. Following a basic training period of between 6 and 11 weeks, depending on the service branch, a majority of the recruits go directly to formal classroom training to prepare for a specialized field of work. The remainder receive on-the-job training at their first duty assignment. For those not assigned directly to schools, there is opportunity for formal classroom training following on-the-job training.

After initial or advanced training, recruits are sent to their service assignment. The type and location of duty depend on the service vacancies, personal qualifications, and personal preferences.

People planning to apply the skills they gain through military training to a civilian career should obtain certain information before choosing a military occupation. First, they should determine how good the pros-

pects are for civilian employment in jobs related to the particular military specialty which interests them. Second, they should know what the prerequisites are for the related civilian job. Many occupations require licensing, certification, or a minimum level of education. Those who are interested should find out whether military training is sufficient to enter the field or, if not, what additional training will be required.

Much information is given in other *Handbook* statements on the employment outlook for civilian jobs for which military training helps prepare an individual. Additional information often can be obtained from schools, unions, trade associations, and other organizations in the field of interest, or from a school counselor. By looking into this kind of information before choosing a specific military occupation, young people entering the Armed Forces will help insure that the type of training they obtain will fit their career plans.

A list of major job categories for enlisted personnel is presented below.

Administrative Specialists and Clerks:

—Personnel.
—Administration.
—Clerical personnel.
—Accounting, finance, and disbursing.
—Supply and logistics.
—Religious, morale, and welfare.
—Information and education.
—Communications center operations.

Electrical and Mechanical Equipment Repairers:

—Aircraft.
—Automotive.
—Wire communications.
—Missiles, mechanical and electrical.
—Armament and munitions.
—Shipboard propulsion.
—Power generating equipment
—Precision equipment.
—Aircraft launch equipment.
—Other mechanical and electrical equipment.

Crafts:

—Metalworking.
—Construction.
—Utilities.
—Construction equipment operation.
—Lithography.
—Industrial gas and fuel production.
—Fabric, leather and rubber.
—Firefighting and damage control.
—Other crafts.

Service and Supply Handlers:

—Food service.
—Motor transport.
—Material receipt, storage, and issue.
—Military police.
—Personal service.
—Auxiliary labor.
—Forward area equipment support.

Infantry, Gun Crews, and Seamanship Specialists:

—Infantry.
—Armor and amphibious.
—Combat engineering.
—Artillery/gunnery, rockets, and missiles.
—Combat air crew.
—Seamanship.

Electronic Equipment Repairers:

—Radio/radar.
—Fire control systems.
—Missile guidance and control.
—Sonar equipment.
—Nuclear weapons equipment.
—ADP computers.
—Teletype and cryptographic equipment.
—Other electronic equipment.

Communications and Intelligence Specialists:

—Radio and radio code.
—Sonar.
—Radar and air traffic control.
—Signal intelligence/electronic warfare.
—Military intelligence.
—Combat operations control.

Medical and Dental Specialists:

—Medical care.
—Technical medical services.
—Related medical services.
—Dental care.

Other Technical and Allied Specialists:

—Photography.
—Drafting, surveying, and mapping.
—Weather.
—Ordnance disposal and diving.
—Scientific and engineering aides.
—Musicians.

A brief description of each category as it relates to civilian jobs follows:

Administrative specialist and clerk jobs are found in most private businesses and government agencies and require the same basic skills as those learned in the military services.

Electrical and mechanical equipment repairers generally are instructed in the basic theories and advanced troubleshooting techniques involved in the operation and repair of equipment. This instruction and training make transfer to a similar civilian job fairly easy in many career fields. In others, some additional civilian training may be needed.

In general, the various *skilled crafts or trades* require some kind of apprenticeship program. In some apprenticeship programs credit may be given for skills acquired through military training and experience.

Many of the *service and supply occupations* are identical to those in civilian life. Such military experience is helpful in obtaining similar civilian employment.

On the other hand, some of the jobs in the *infantry, gun crews and seamanship specialist* group are unique to the Armed Forces—they have few or no parallels in civilian jobs. However, this work experience may be helpful in developing leadership and supervisory skills that provide a good base for future civilian employment.

Those working as *electronic equipment repairers* generally maintain and repair specialized military equipment. However, most of the training and experience gained can be directly related to civilian occupations such as electronics technician, aircraft instrument mechanic, or radar and radio repairer. The service-trained specialist in electronic equipment repair may need additional training on specialized equipment before gaining journeyman status in civilian employment. Again, credit sometimes is given in an apprenticeship program for skills acquired in

Seaman looks through the ship's telescope as he stands lookout watch.

the service. For certain occupations, such as electrician, applicants for a license may be required to demonstrate their proficiency by passing an examination.

Some of the *communications and intelligence specialist* occupations have civilian counterparts; for example, sonar, radar, and radio operators may move into civilian jobs and use the same skills. In general, however, these specialists have a limited civilian demand. Other jobs, such as military intelligence or combat operations control have very few or no directly parallel civilian occupations.

In recent years, changes in military training and civilian requirements in the *medical and dental* fields have greatly increased civilian employment opportunities for service-trained personnel. An examination is required in most fields to show proficiency. Some of the civilian occupations in which service-trained individuals can become certified include: Physician's assistant; laboratory technician; emergency medical technician; medical technologist; dental assistant; nurse (most States allow service-trained personnel to take the Licensed Practical Nurse Examination; a few, the Registered Nurse Examination); and physical therapists.

Other technical and allied specialists include a wide range of jobs, many having direct civilian parallels such as photographer, meteorologist, musician, and others providing skills with limited demand in the civilian sector such as ordnance disposal and diving.

Women are eligible for and encouraged to enter all military occupational fields except those involving actual combat.

Other Educational Programs

In addition to on-duty training, a variety of programs are available to help military personnel continue their education. At most military installations, a Tuition Assistance program is available for active duty personnel who, during off-duty hours, wish to take courses.

Each service branch also offers programs for full-time education, and provides full pay, allowances, tuition, and related fees. Other programs enable enlisted personnel to take college courses and additional military training so that they can become commissioned officers. Courses also are available by other institutions to help service personnel earn their high school equivalency diploma. In addition, programs are being instituted to permit the application of credit for military training courses towards associate or baccalaureate college degrees from participating institutions.

Officer Training

Officer candidates in the Armed Forces receive special training through such programs as: The Federal Service Academies (Naval, Air Force, Military, and Coast Guard); Reserve Officer Training Corps (ROTC); Officer Candidate School; National Guard (State Officer Candidate School programs); direct appointment; and several other programs.

The Federal Service Academies, which admit women as well as men, provide a 4-year, college program leading to a bachelor of science degree. The midshipman or cadet is provided free room and board, tuition, medical care, and a monthly allowance. Graduates may receive regular commissions in all branches of the service and have a 5-year active duty obligation.

To become a candidate for appointment as a midshipman or cadet in the Naval, Air Force, or Military Academy, most applicants obtain a nomination from an authorized nominating source (usually a member of Congress). It is not necessary to know a member of Congress personally to request a nomination. The nominee must meet certain requirements, which include an academic record of a specified quality, college aptitude test scores above an established minimum, and recommendations from teachers or school officials. Also, the nominee must pass a medical examination. Appointments are made from eligible nominees according to personal preference of the nominating authority and by a competitive system based on the nominees' qualifications. The dependents of certain veterans may automatically gain admission if they apply. Active and reserve service members also may receive such preferences.

Appointments to the Coast Guard Academy are made on a competitive basis. A nomination is not required.

The Reserve Officer Training Corps (ROTC) Program involves the training of students in about 500 Army, Navy, Marine Corps, and Air Force units at participating colleges and universities throughout the United States and Puerto Rico. As a

The Armed Forces offer a variety of flight training programs, many of which lead to a commission.

part of the school curriculum. ROTC training includes 2 to 3 hours of military instruction a week in addition to regular college courses.

Students in the last 2 years of an ROTC program and all those on ROTC scholarships are paid a monthly allowance while attending school and receive additional pay for summer training. Following graduation ROTC students fulfill their military obligations by serving as regular or reserve officers for a stipulated period of time.

A commission in the Armed Forces can be earned without ROTC training by those who enlist from civilian life into one of the several Officer Candidate School Programs. The Army, Navy, Air Force, Marine Corps, and Coast Guard train selected college graduates to become commissioned officers. The National Guard also has several Officer Candidate Programs for qualified high school graduates.

Many persons who are trained in medicine or one of the related health sciences may qualify for direct appointment as officers. Financial assistance is available to students enrolled in training in one of these fields. Direct appointments also are available for those qualified to serve in other special duties, such as the judge advocate general or chaplain corps.

The Armed Forces offer a wide variety of flight training programs, many of which lead to a commission. All services have programs for qualified enlisted personnel to obtain commissions.

Table 1 Active duty military compensation [illegible] who are single and have less than 2 years of service

Pay grade	Regular military compensation total	Basic pay	Quarters allowance	Subsistence allowance
Enlisted members				
E-1	[illegible]	[illegible]		[illegible]
E-2	6,915	[illegible]	940	967
E-3	7,227	5,198	1,062	967
E-4	7,566	5,407	1,192	967
Commissioned officers				
O-1		[illegible]		
O-2	12,263	9,540	2,056	667
O-3	13,973	10,944	2,362	667

SOURCE: Department of Defense

Salary, Allowances, Promotion, and Working Conditions

In addition to a regular salary, military personnel receive free room and board, medical and dental care, a military clothing allowance, military supermarket and department store shopping privileges, recreational facilities, 30 days of paid vacation a year, and travel opportunities. When room and board are not provided, a living allowance is given. Table 1 gives examples of military pay and allowances. Career officers and enlisted personnel also are eligible for retirement benefits after 20 years of service.

The pay grades for enlisted personnel are E-1 to E-9. The pay grades for commissioned officers are O-1 to O-10.

Enlisted personnel will normally be promoted to pay grade E-3 within their first 12 months of service. Further promotions depend on individual merit, but in-grade pay increases are possible on the basis of length of service.

The normal workweek in the Armed Forces is 8 hours a day, 5 or 5 1/2 days a week. Due to the nature of military work, an individual or group may be called upon to work longer hours without additional compensation. With the wide range of jobs found in the service, working conditions vary substantially. Some jobs that are extraordinarily dangerous, or in an undesirable location, provide additional income in the form of bonuses or special payments.

Athletic and other recreational facilities—such as libraries, gymnasiums, tennis courts, golf courses, and movies—are available on most military installations. Also available are personal affairs officers, legal assistance officers, and chaplains as well as supporting agencies, which military personnel may go to for help with personal or financial problems.

Veterans' Benefits

[illegible] Veterans Administration [illegible] offers numerous benefits to those who have served in the Armed Forces. The educational assistance program usually is the most important to those considering enlisting.

Each month they [illegible] in any Armed Forces [illegible] set at a rate between $40 and [illegible] the actual payment [illegible] depend [illegible]

The Veterans Administration puts in two dollars for every dollar contributed by the service member, up to a limit of $2,700 of the service member's contribution. Upon separation from active duty, the amount in the fund can be used to finance an education at any approved institution. One month of benefits is available for each month the service member contributed, a service member may receive benefits for a maximum of 36 months. Since the service member's contributions are matched 2 for 1, this means that a maximum of $8,100 may be available over the 36 month period ($2,700 paid into the fund by the service member, $5,400 by the Armed Forces). Since most colleges have about a 9 month academic year, a regular 4 year college program can be financed through this contributory arrangement. These benefits may be received for education at any approved institution, including public or private elementary, secondary, vocational, correspondence, business or flight training schools, community or junior colleges, normal schools, teacher's colleges, colleges or universities, professional, scientific [illegible] institutions, and [illegible] other institutions that furnish education at the elementary, [illegible] level or above.

More detailed or current information on educational benefits, as well as other veterans benefits, is available from the Veterans Administration office located in each State, the District of Columbia, Puerto Rico, and the Philippines.

Other Sources of Information

Each of the military services publishes handbooks and pamphlets that describe entrance requirements, training and advancement opportunities, and other aspects of military careers. These publications are available at all recruiting stations, most State employment service offices, high schools, colleges, and public libraries. Individuals may obtain additional information by writing to the addresses below.

U.S. Army Recruiting [illegible] Fort Sheridan, Ill. 60037

[illegible] Recruiting [illegible] (Code 40) 401 N. Wilson Blvd., Arlington, Va. 22203

USAF Recruiting Service, Directorate of Recruiting Operations, Randolph Air Force Base, Tex. 78148

[illegible] Personnel [illegible] Headquarters U.S. Marine Corps, Washington, D.C. 20380

[illegible] Washington, D.C. [illegible]

What to Look For in this Reprint

To make the *Occupational Outlook Handbook* easier to use, each occupation or industry follows the same outline. Separate sections describe basic elements, such as work on the job, education and training needed, and salaries or wages. Some sections will be more useful if you know how to interpret the information as explained below.

The TRAINING, OTHER QUALIFICATIONS, AND ADVANCEMENT section indicates the preferred way to enter each occupation and alternative ways to obtain training. Read this section carefully because early planning makes many fields easier to enter. Also, the level at which you enter and the speed with which you advance often depend on your training. If you are a student, you may want to consider taking those courses thought useful for the occupations which interest you.

Besides training, you may need a State license or certificate. The training section indicates which occupations generally require these. Check requirements in the State where you plan to work because State regulations vary.

Whether an occupation suits your personality is another important area to explore. For some, you may have to make responsible decisions in a highly competitive atmosphere. For others, you may do only routine tasks under close supervision. To work successfully in a particular job, you may have to do one or more of the following:

- motivate others
- direct and supervise [illegible]
- work with all types of [illegible]
- work with things [illegible]
  - [illegible]
  - independently [illegible]
  - [illegible]
  - as part of a [illegible]
  - [illegible]
  - [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

[illegible]

[illegible] market [illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
Little	[illegible]
Declining	[illegible]

[illegible] ing [illegible]

But you would [illegible]

putting with you to be su[illegible] supply information is lacking for most occupations.

There are exceptions, however, especially among professional occupations. Nearly everyone who earns a medical degree, for example, becomes a practicing physician. When the number of people pursuing relevant types of education and training and then entering the field can be compared with the demand, the outlook section indicates the supply/demand relationship as follows:

Excellent	Demand much greater than supply
Very good	Demand greater than supply
Good or favorable	Rough balance between demand and supply
May face competition	Likelihood of more supply than demand
[illegible] competition	Supply greater than demand

Competition or few job openings should not stop your pursuit of a career that matches your aptitudes and interests. Even small or overcrowded occupations provide some jobs. So do those in which employment is growing very slowly or declining.

Growth in an occupation is not the only source of job openings because the number of openings from turnover can be substantial in large occupations. In fact, replacement needs are expected to create 70 percent of all openings between 1976 and 1985.

[illegible] job prospects in your area may differ from those in the Nation as a whole. Your State employment service can furnish local information.

The EARNINGS section [illegible]

[illegible] information is available for only one type of earnings: wages and salaries, and not even this for all occupations. Although 9 out of 10 workers receive this form of income, many earn extra money by working overtime, night shifts, or irregular schedules. In some occupations, workers also receive commissions based on sales or service. Some factory workers are paid a piece rate, an extra payment for each item they make.

The [illegible] self-employed people, [illegible] physicians, [illegible] and farmers, for example. Earnings for self-employed workers in the same occupation differ [illegible] because much depends on whether one is just starting or has an established business.

Most wage and salary workers [illegible] benefits such as paid vacations, holidays, and sick leave.

Workers also receive income in goods and services (payment in kind). Sales workers in department stores, for example, receive discounts on merchandise.

Despite difficulties in determining exactly what people earn on the job, the Earnings section does compare occupational earnings by indicating whether a certain job pays more or less than the average for all nonsupervisory workers in private industry, excluding farming.

Each occupation has many pay levels. Beginners almost always earn less than workers who have been on the job for some time. Earnings also vary by geographic location but cities that offer the highest earnings often are those where living costs are most expensive.

What's an ad for the OOQ doing in a place like this?

They affect information contained in the [illegible] ad. [illegible] was taken from the 1978-79 edition of the Occupational Outlook Handbook. But the Handbook is not the only source of career information published by the Bureau of Labor Statistics. The Handbook's companion, the Occupational Outlook Quarterly, is published four times during the school year to keep subscribers up to date on new occupational studies completed between editions of the Handbook. The Quarterly also gives practical information on training and educational opportunities, salary trends, and new and emerging jobs — just the [illegible] for finding a place in careers.

If you were a subscriber to recent issues of the Occupational Outlook Quarterly, you would have learned

- how to write an effective employment resume
- [illegible] the [illegible] employment prospects are [illegible] place [illegible]
- [illegible]
- [illegible]
- [illegible] and [illegible], and about a [illegible] posting.

[illegible] at the [illegible] it has your [illegible] [illegible]

[illegible]

[illegible]
Superintendent
of Documents
[illegible]
Washington,
Order No.

[illegible]
FORM TO
Superintendent of
Documents
Government
Printing Office
Washington, D.C.
20402