

The 1995-2005 Job Outlook in Brief

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The 1995-2005 Job Outlook in Brief

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"What do you want to be when you finish school?"

The answers you can give to this question keep changing. Occupations that once offered solid careers are in decline, while positions once unheard of are now among the fastestgrowing. About the only thing that hasn't changed in the past 40 years is the relentlesspace of change itself.

Consumer demand, technology, and business practices are all inconstant flux. In today's rapidly changing, international marketplace, it is increasinglyimportant for people who are planning their careers to be aware of what occupations willbe in demand in the future. We can not stop the tide; the best we can do is to know whichway it is running.

For the U. S. economy as a whole, the tide is rising. The \$5-trillion economy of 1992 isprojected to reach \$6 to \$7.2 trillion in 2005. Employment is expected to reach 147.5million in 2005, an increase of 22 percent or 26 million jobs above the 1992 level. Thefollowing pages point out which occupations will benefit most from this growth and whichwill lose out. They give the numerical and percent change in employment and a summaryof job prospects for the 1992-2005 period for about 250 occupations.

The next few pages discuss factors that affect employment in an occupation, describe theassumptions used in making the projections, and discuss general trends.

Why Employment Changes

The number of workers employed in any occupation depends in large part on the demandfor the goods or services provided by those workers. Over the last decade or so, forexample, increased use of computers by businesses, schools, scientific organizations, andgovernment agencies has

contributed to large increases in the number of systems analysts, programmers, and computer repairers. Even if the demand for goods and services provided by a group of workers rises employment may not increase at all or may increase more slowly than demand because of changes in the ways goods are produced and services are provided. In fact, some changes in technology and business practices cause employment to decline. For example, while the volume of paperwork to process is expected to increase dramatically, the employment of typists and word processors will probably fall. This reflects the growing use of word processing equipment that increases the productivity of these workers and permits other office workers to do more of their own typing.

Using information on the demand for goods and services, advances in technology, changes in business practices, and the occupational composition of industries, economists at BLS have developed three sets of projections of the economy in 2005. Each set was developed in light of a series of assumptions about the future. The various sets reflect different assumptions about such factors as growth of the labor force, output, productivity, inflation, and unemployment. Referred to as the low-, moderate-, and high-growth scenarios, each provides a different employment estimate for most occupations. The scenarios should not be viewed as the bounds of employment growth but as illustrations of what might happen under different conditions. All the data in the "Brief" come from the moderate-growth projections. Any projection of future employment growth is clouded by uncertainty. Unforeseen changes in technology or the balance of trade could radically alter future employment for individual occupations. A few of the uncertainties that blur our view of the economy in 2005 are highlighted in the accompanying box, "Past Trends and Future Uncertainties."

Employment Through the Year 2005

Between 1992 and 2005, employment will rise from 121.1 million to 147.5 million. This section gives a brief overview of projected employment change. It focuses on the following 12 clusters of occupations based on the Federal Government's Standard Occupational Classification (SOC) system:

- * Executive, administrative, and managerial occupations
- * Professional specialty occupations
- * Technicians and related support occupations
- * Marketing and sales occupations

- * Administrative support occupations, including clerical
- * Service occupations
- * Agriculture, forestry, fishing, and related occupations
- * Mechanics, installers, and repairers
- * Construction trades and extractive occupations
- * Production occupations
- * Transportation and material moving occupations
- * Handlers, equipment cleaners, helpers, and laborers.

Keep in mind that a particular occupation may not follow the trend projected for its group. Therefore, you should refer to the table on pages XX to XX for the outlook in a specific occupation. An index of individual occupations appears on page XX.

Executive, administrative, and managerial occupations. Workers in executive, administrative, and managerial occupations establish policies, make plans, determine staffing requirements, and direct the activities of businesses, government agencies, and other organizations. Workers in management support occupations, such as accountant and auditor or underwriter, provide technical assistance to managers.

Growth due to the increasing number and complexity of business operations will be offset somewhat by corporate restructuring and downsizing of management, resulting in average growth for executive, administrative, and managerial occupations. Because these workers are employed throughout the economy, differences in the rate of expansion for individual industries will produce varying rates of employment change for particular kinds of managers and support workers. For example, employment of health services managers will grow much faster than average, whereas wholesale and retail buyers are expected to grow more slowly than average.

Due to growth in the number of people seeking these positions and the increasingly technical skills required, jobseekers with previous work experience, specialized training, or graduate study have an advantage in competition for jobs. Familiarity with computers will continue to be helpful as more managers rely on computerized information systems to help direct their organizations.

Professional specialty occupations. This group includes engineers; architects and surveyors; computer, mathematical, and operations research occupations; life, physical, and social scientists; lawyers and judges; social, recreational,

and religious workers; teachers, librarians, and counselors; health diagnosing, assessment, and treating occupations; and communications, visual arts, and performing arts occupations. Professional workers may provide services or conduct research and are employed in almost every industry.

As a whole, this group is expected to continue to grow faster than average and to increase its share of total employment significantly by 2005. However, growth rates for individual occupations are as diverse as the jobs these workers perform. Occupations such as physical therapist, human services worker, operations research analyst, and computer scientist and systems analyst are expected to grow much faster than average. Others, such as physicist and astronomer, mining and nuclear engineer, and dentist should grow more slowly than average. Most new jobs will be in the education, business, and health services industries.

Technicians and related support occupations. This group includes health technologists and technicians, engineering and science technicians, computer programmers, tool programmers, aircraft pilots, air traffic controllers, paralegals, broadcast technicians, and library technicians. These workers operate and program technical equipment and assist engineers, scientists, physicians, and other professional workers. Changes in technology, demographics, and ways of conducting business will cause some of these occupations to grow faster than others. Overall employment is expected to grow faster than average. This group contains one of the fastest growing occupations—paralegal; its growth will result in part from the increasing reliance of lawyers on these workers. Increased demand for health services from a growing and aging population will spur growth for radiological technologist, medical record technician, surgical technologist, and electroencephalographic (EEG) technologist. In fact, jobs for health technologists and technicians are expected to account for over half of all the new jobs in this group. Employment of computer programmers will also continue to grow rapidly, as more organizations use computers and the number of computer applications increases.

Employment growth in other occupations in this group will be limited. For example, because of labor-saving technological advances, employment of broadcast technicians should show little change and employment of air traffic controllers should grow slower than average.

Marketing and sales occupations. Workers in this group

sell goods and services, purchase commodities and property for resale, and stimulate consumer interest. Employment is expected to grow as fast as average because of the increased demand for financial, travel, and other services. However, the rate of growth should be slower than over the previous 13 years because these workers are concentrated in retail trade, an industry which will grow more slowly than in the past.

A large number of part-time and full-time positions are expected to be available for cashiers and retail trade sales workers due to the large size and high turnover of these occupations, as well as employment growth. Higher paying sales occupations, such as securities and financial services sales worker, tend to be more competitive than retail sales occupations. Job opportunities will be best for well-trained, personable, and ambitious people who enjoy selling.

Administrative support occupations, including clerical. Workers in this group prepare and record memos, letters, and reports; collect accounts; gather and distribute information; operate office machines; and handle other administrative tasks.

This occupational group will continue to employ the largest number of workers, although growth is expected to be at the low end of the average range. As a result, these occupations will decline as a proportion of total employment by 2005. Despite the tremendous increase expected in the volume of clerical tasks to be done, increased automation and other technological changes will limit growth in many clerical occupations, such as typist, word processor, and data entry keyer; bookkeeping, accounting, and auditing clerk; and telephone operator. In contrast, teacher aide should grow much faster than average as schools increase their use of these workers. Receptionists and information clerks are expected to experience faster than average growth because these workers are concentrated in rapidly growing industries.

Because many administrative support occupations are large and have relatively high turnover, opportunities should be plentiful for full- and part-time jobs, even in slow growing occupations.

Service occupations. This group includes a wide range of workers in protective, food and beverage preparation, health, personal, private household, and cleaning and

buildingservices. These occupations, as a group, are expected to grow faster than average because of a growing population and economy. Higher personal incomes and increased leisure time will spur demand for many different types of services. This group is projected to add the largest number of jobs of any occupational group in the 1992-2005 period.

Among protective service occupations, the employment of guards is expected to rise much faster than average because of growing concern over crime. As the number of prisoners and correctional facilities increases, more correction officers also will be needed. However, only average employment growth is expected for police patrol officer and firefighter because only slow growth in local government spending is anticipated. Employment growth will also be faster than average for food preparation and service occupations. Due to the large size, high turnover, and fast growth of many food service occupations, such as chef, cook, and other kitchen worker, both full- and part-time jobs will be plentiful.

Growth in personal service, cleaning, and private household workers will vary widely. Homemaker-home health aide should be one of the fastest growing occupations, in part because of the substantial increase in the elderly population. Private household workers, on the other hand, will decline rapidly due to the shift from home to institutional childcare.

Among health services occupations, medical assistant, one of the fastest growing occupations in the economy, and nursing aide, orderly, and attendant will grow much faster than average, in response to the aging population and expanding health care industry.

Agriculture, forestry, fishing, and related occupations. Workers in these occupations cultivate plants, breed and raise animals, and catch fish. Although demand for food, fiber, and wood is expected to increase as the world's population grows, the use of more productive farming and forestry methods and the consolidation of small farms are expected to result in little or no employment change in most of these occupations. The employment of farm operators and farm workers is expected to decline rapidly, reflecting greater productivity; the need for skilled farm managers, on the other hand, should result in average employment growth for that occupation.

Mechanics, installers, and repairers. Workers in this

group adjust, maintain, and repair automobiles, industrial equipment, computers, and many other types of machinery. Average overall growth is expected due to the continued importance of mechanical and electronic equipment throughout the economy, but projections vary by occupation. Data processing equipment repairer is expected to be the fastest growing occupation in this group, reflecting the increased use of these types of machines. In sharp contrast, two occupations—communications equipment mechanic, installer, and repairer and telephone installer and repairer—are expected to decline in employment due to labor-saving advances.

Construction trades and extractive occupations. Workers in this group construct, alter, and maintain buildings and other structures or operate drilling and mining equipment. Virtually all of the new jobs will be in construction. An increase in the number of households and industrial plants, the desire to alter or modernize existing structures, and the need to maintain and repair highways, dams, and bridges will result in average employment growth in construction. In contrast, continued stagnation in the oil and gas industries and low growth in the demand for coal, metal, and other minerals will result in a decline in employment of extractive workers.

Because the construction industry is sensitive to fluctuations in the Nation's economy, employment in construction occupations varies from year to year. Many construction workers become unemployed during downturns in construction activity.

Production occupations. These workers set up, adjust, operate, and tend machinery and use hand tools and hand-held power tools to make goods and assemble products. Increases in imports, overseas production, and automation—including robotics and advanced computer techniques—will result in a slight decline in overall employment. For a few occupations, however, employment growth is expected. Expansion of the printing and publishing industry, for example, will create average employment growth for printing press operator.

Many production occupations are sensitive to fluctuations in the business cycle and competition from imports. When factory orders decline, workers face shortened workweeks, layoffs, and plant closings.

Transportation and material moving occupations. Workers in this group operate the equipment used to move people and

materials. Although overall employment is expected to grow about as fast as average, prospects vary by occupation. Subway operator will grow much faster than average as more cities build new systems and expand existing ones. Faster than average growth is expected for school bus driver, and average growth is expected for taxi driver and chauffeur. These projections reflect rising school enrollments and growing demand for transportation services. However, slower than average growth is expected in the employment of material moving equipment operator because of the increased use of automated material handling systems.

Handlers, equipment cleaners, helpers, and laborers. Workers in these occupations assist skilled workers and perform routine tasks. Overall employment is expected to grow about as fast as the average for all occupations. Growth will be limited in some occupations, such as machine feeder, due to automation. Many opportunities will arise from the need to replace workers who leave these occupations, because turnover is very high. However, economic downturns may substantially lower the number of openings, particularly for construction laborer and other occupations in industries that are highly sensitive to changes in the economy.

Information in the "Brief"

"The Job Outlook in Brief" provides thumbnail sketches of employment data for each occupation in the Occupational Outlook Handbook, 1994-95 edition, on which it is based. Nearly all employment estimates are from the BLS industry-occupation matrix. Throughout this article, employment growth rates are compared to the average for all occupations; the box, "Key Phrases in the Brief," explains the terms used. The box also explains the phrases used to describe the amount of competition jobseekers are likely to encounter. The description of the relationship between the supply of, and the demand for, workers in a specific occupation is highly subjective. It is based on information obtained from technical journals and other relevant literature, interviews with occupational experts, historical data, and the judgment of the analyst who studied the occupation. Assessing the degree of competition is difficult, although for occupations with lengthy training and strict entry requirements, it can be done with some accuracy. However, because most occupations have several routes of entry and flexible requirements, the potential supply of workers is difficult to measure. For many occupations, therefore, no description of job opportunities or competition is given.

One last factor to remember when checking the outlook for an occupation is that growth in employment is only one source of job openings. In fact, BLS projects that 53 percent of all job openings over the 1992-2005 period will arise because of the need to replace workers who transfer to other occupations or leave the labor force. As a result, even occupations with slower than average growth may offer many jobs for new workers; this is especially true of large occupations.

Beyond the "Brief"

"The Job Outlook in Brief" is only a starting point for the exploration of economic projections or careers. The projections in it were produced by BLS as part of its employment projections program, which develops new sets of projections every 2 years. Besides occupational employment, BLS also projects industry employment, industry outlook, labor force activity, and numerous components of the gross domestic product. This information is available in a variety of publications designed to meet different needs.

The fall 1993 issue of the Occupational Outlook Quarterly contains more than 40 charts that illustrate the economic, labor force, and employment projections. Considerably more detail is available in the November 1993 issue of the Monthly Labor Review. These articles, along with additional data, are reprinted in BLS Bulletin 2452, The American Work Force: 1992-2005 (price: \$X.XX). Occupational Projections and Training Data, 1994 edition, (Bulletin 2451, price: \$X.XX) is statistical supplement to the Occupational Outlook Handbook containing current and projected employment estimates for about 500 occupations. It also presents information on occupational separation rates, unemployment rates, and the demographic characteristics of workers when such information is available. People weighing the advantages of different career choices will probably find two other BLS publications more useful than the technical ones: Occupational Outlook Handbook, 1994-95 edition (Bulletin 2450, price: \$X.XX) and "Matching Yourself With the World of Work in 1992" (price: \$1). "The Job Outlook in Brief" provides outlook information in a format that allows easy comparison of job prospects in different fields, employment prospects are not the only consideration when choosing a certain career. Matching your goals and abilities to the work done on the job and the education required is another important part of choosing a career.

Where you want to live and how much money you want to earn also are important. Information like this appears in the Handbook and "Matching."

The Handbook has been a major source of career guidance information for more than 40 years. It contains more about the outlook for each of the occupations in the "Brief," as well as information about the nature of the work, training and personal qualifications, earnings, and other subjects. Originally published in the Fall 1992 OOO, "Matching" is a 20-page, tabular presentation similar in format to the "Brief." Rather than outlook, it highlights significant job characteristics, including educational level required, working conditions, and interaction with data, people, and things (price: \$X.XX).

Additional information on job growth also is available from State Job Service offices. The outlook for many occupations varies considerably among local job markets. For example, sections of the country with slow population growth may have less need for elementary school teachers than regions with high growth. State Job Service offices, listed in the State government section of local telephone directories, can provide information on local labor market conditions. Also, see the section on "Sources of State and Local Job Outlook Information" in the Handbook.

Ordering Information

BLS publications are usually available in libraries, career centers, and the offices of school guidance counselors and employment counselors. They are sold by the Government Printing Office. Send orders to either of the following addresses:

Bureau of Labor Statistics Publication
Sales Center
P.O. Box 2145
Chicago, IL 60690

New Orders

Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954. Payment by check, money order, VISA, MasterCard, or GPO deposit account must accompany your order. Make check or money order payable to the Superintendent of Documents. Key Phrases in the "Brief"

Changing employment between 1992 and 2005

If the statement about growth reads... Employment is projected to...

Much faster than average	Increase 41 percent or more
Faster than average	Increase 27 to 40 percent
About as fast as average	Increase 14 to 26 percent
Little change or more slowly than average	Increase 0 to 13
Decline	Decrease 1 percent or more

Opportunities and competition for jobs

If the statement about opportunities reads... Job openings compared to job seekers may be...

Excellent	Much more numerous
Very good	More numerous
Good or favorable	About the same
May face competition	Fewer
May face keen competition	Much fewer

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Key:

Occupation Subgroup
Estimated employment 1992
Percent change in employment 1992-2005
Numerical change in employment 1992-2005

EXECUTIVE, ADMINISTRATIVE, AND MANAGERIAL OCCUPATIONS

Accountants and auditors

939,000

32

304,000

Faster than average employment growth will be spurred by increases in the number of businesses and the complexity of financial information. In addition to setting up books and preparing taxes, more accountants and auditors will be needed to tailor financial information and advise management individually. Those with a bachelor's or higher degree in accounting, particularly CPA's, should have good job opportunities; however, competition will remain keen for prestigious jobs with major accounting and business firms.

Administrative services

226,000

13

30,000

Slower than average employment growth will result from managers corporate restructuring and contracting of administrative services in an effort to cut costs will result in . However, demand for these managers will increase in management services, management consulting, and facilities support services firms to which these services are contracted. The ample supply of competent, experienced workers seeking advancement will result in competition for these jobs.

Budget analysts

67,000

20

13,000

Average employment growth is expected for budget analysts. Businesses and governments seeking to increase their efficiency will create a strong demand for these workers. However, computer-induced productivity gains will offset some of the demand. The large number of qualified applicants will contribute to competition for positions. Job seekers with at least a 4-year college degree, some experience, and a familiarity with financial software packages will have the best opportunities.

Construction and building

66,000

30

20,000

Faster than average employment

inspectors growth will stem from increases in the amount and complexity of construction projects, rising concern for public safety, and improved quality. Job prospects will be best for experienced craft workers who have some college education or certification.

Construction contractors

180,000

47

85,000

Much faster than average growth should result from increases and managers in the size and complexity of construction and increased spending on the Nation's infrastructure—highways, bridges, dams, schools, subways, airports, and water and sewage systems. Particularly favorable prospects are expected for experienced construction managers with a bachelor's or higher degree in construction science with an emphasis on construction management.

Cost estimators

163,000

30

49,000

Employment is expected to increase faster than average as more estimators will be needed to project the cost of construction and manufacturing projects. In construction, job prospects should be best for those workers who have substantial experience in construction or those with a degree in construction management, engineering, or architectural drafting. In manufacturing, experienced people with degrees in engineering, science, mathematics, business administration, or economics and who have computer expertise should have the best job prospects.

Education administrators

351,000

23

81,000

Employment is expected to grow about as fast as average as school enrollments rise, services provided to students grow, efforts to improve the quality of education continue, and institutions comply with government regulations. However, stiff competition is expected. Candidates who have doctorate degrees and are willing to relocate should have the

best job prospects.

Employment interviewers

79,000

22

17,000

Average growth is expected. Most new jobs will be with temporary help or personnel supply firms; little growth is expected in State job service offices. Job opportunities will be best for college graduates.

Engineering, science, and data

337,000

32

106,000

Employment, which is expected to increase processing managers faster than average, is closely related to the growth of the occupations these workers supervise and to changes in the industries in which they are found. Underlying much of the growth of managers in science and engineering are competitive pressures and advancing technologies, which force companies to update and improve products more frequently. Employment of data processing managers will increase rapidly due to the expansion of the computer and data processing services industry and the increased employment of computer systems analysts.

Financial managers

701,000

25

174,000

Average employment growth is expected. The need for skilled financial management will increase due to the demands of global trade, the proliferation of complex financial instruments, and changing laws and regulations; however, many firms are reducing their ranks of middle managers in an effort to be more efficient, thus preventing dramatic employment growth. Like other managerial occupations, the number of applicants for financial management jobs is expected to exceed the number of job openings, resulting in competition for jobs.

Funeral directors

27,000

18

4,700

Average employment growth is expected, as demand for funeral services rises with the number of deaths.

Employment opportunities are expected to be excellent because the number of graduates in mortuary science is likely to continue to be less than the number of job openings in the field.

General managers and top

2,871,000

13

380,000

Slower than average employment executives growth is expected as companies restructure managerial hierarchies to cut costs. Projected employment growth varies widely by industry; for example, employment in the services industries will rise faster than average while that in manufacturing declines.

Competition will remain keen for these top managerial jobs.

Government chief executives

73,000

3

2,200

Little, if any, employment growth and legislators is expected because few, if any, new governments are likely to form and the number of chief executives and legislators in existing governments rarely changes. Small increases will occur as growing communities become independent and elect a chief executive and legislators. A few new positions will develop as cities and counties without managers hire them and as unpaid positions, which are not counted as employment, are converted to paid positions.

Generally, there is less competition in small jurisdictions than in large jurisdictions.

Health services managers

302,000

45

135,000

Much faster than average growth is expected as the healthcare industry expands and diversifies. Most new jobs will be in hospitals, offices and clinics of physicians, nursing facilities, and home health care.

Hotel managers and assistants

99,000

23

23,000

Job growth is expected to be about as fast as average with growth in business and vacation travel and foreign tourism. People with college degrees in hotel or restaurant management will have the best opportunities.

Industrial production

203,000

2

4,800

Little change in managers employment is expected as the trend toward smaller management staffs and the lack of growth in the employment of production workers limit demand.

Opportunities should be best for MBA's with undergraduate engineering degrees and college graduates with degrees in industrial engineering or business administration.

Inspectors and compliance

155,000

27

41,000

Faster than average growth is expected for officers, except construction expected due to growing public demand for a safer environment and higher quality products. Employment growth in government will stem from the expansion of regulatory and compliance programs; in private industry, from increasing self-enforcement, particularly among franchise dealerships, which are growing rapidly.

Loan officers and counselors

172,000

40

68,000

Faster than average employment growth is expected as the population and economy grow, increasing the number of applications for commercial, consumer, and mortgage loans. Growth in the variety and complexity of loans and the importance of loan officers to the success of banks and other lending institutions should also assure rapid employment growth. College graduates and those with banking and lending experience should have the best job prospects.

Management analysts

208,000

43

89,000

Much faster than average employment growth is projected and consultants because of the tendency for businesses to rely on outside experts for many functions previously carried out internally. Demand also will be driven by the need for firms to improve performance, expand markets, incorporate new technologies, cope with government regulations, and adapt to a changing labor force. Despite projected rapid employment growth, jobseekers will face keen competition.

Marketing, advertising, and

432,000

36

156,000

Faster than average growth is public relations managers expected due to increasingly intense domestic and global competition. Many of these highly coveted jobs will be sought by other managers and other experienced people, resulting in substantial competition. College graduates with extensive experience, a high level of creativity, and strong communication skills should have the best job opportunities.

Personnel, training, and

474,000

32

150,000

Faster than average growth is expected labor relations. Greater resources will be devoted to job-specific training and managers programs in response to the growing complexity of many jobs, the aging of the work force, and technological advances that can leave employees with obsolete skills. In addition, legislation and court rulings setting standards in occupational safety and health; equal employment opportunity; wages; and health, pension, family leave, and other benefits will spur job growth. The job market is likely to remain competitive in view of the abundant supply of qualified college graduates and experienced workers.

Property and real estate

243,000

35

85,000

Faster than average employment managers is expected to result from increases in the number of office buildings,

retail properties, and apartment and condominium complexes requiring management. Opportunities should be best for people with college degrees in business administration and related fields.

Purchasers and buyers

624,000

8

49,000

Employment is expected to grow more slowly than average as demand is restricted by the consolidation of buying departments resulting from mergers, changes in the way purchases are made, and increases in the use of automated systems.

Restaurant and food

496,000

46

227,000

Job growth is expected to service managers be much faster than average. Population growth, rising personal incomes, and increased leisure time will continue to produce growth in the number of eating and drinking establishments and, therefore, of managers. People with college degrees in restaurant or institutional food service management will have the best opportunities.

Retail managers

1,070,000 ()

15

162,000

Employment is expected to increase about as fast as average as an increase in the number of retail establishments is offset by labor-saving innovations, such as computerized registers and inventory control systems. Competition is expected for jobs that offer the highest earnings or best working conditions. Candidates with retail experience will have the best opportunities.

Underwriters

100,000

24

24,000

Jobs should increase about as fast as average. Demand for more life, property, and casualty insurance should

rise because of population growth_ especially of people in their 40's and 50's, the age groups that tend to be most concerned about liability and financial security.

PROFESSIONAL SPECIALTY OCCUPATIONS

Engineers

1,354,000()

23

306,000

Employment is expected to grow as fast as average because of rising investment in plant and equipment to increase productivity and expand the output of goods and services. Job opportunities in engineering have been good for a number of years, and this trend is expected to continue. However, many jobs in engineering are related to national defense. Defense expenditures will decline, so the job outlook for engineers will not be as strong as in the 1980's, when defense expenditures were increasing.

Aerospace engineers

66,000

14

9,200

Employment growth is expected to be slower than average, due to declining purchases of military aircraft and only slow growth of the commercial aircraft industry. Keen competition is expected.

Chemical engineers

52,000

19

10,000

Employment growth is expected to be as fast as average. Although employment in the chemical manufacturing industry is expected to grow very little, the relatively small number of chemical engineering graduates should find favorable job opportunities. The production of industrial chemicals, biotechnology, and materials science may provide better opportunities than other segments of the chemical manufacturing industry.

Civil engineers

173,000

24

41,000

Employment is expected to increase about as fast as

average, spurred by population growth and an expanding economy. More civil engineers will be needed to design and construct higher capacity transportation, water supply, and pollution control systems and large buildings; the repair or replacement of existing roads, bridges, and other public structures will also stimulate demand.

Electrical and

370,000

24

90,000

Average growth is expected, with the electronics engineers fastest growth anticipated outside manufacturing.

Increased demand for computers and communications equipment is expected to account for much of the projected employment growth. However, layoffs of electrical engineers could result from cutbacks in defense spending.

Industrial engineers

19,000

17

20,000

Employment is expected to grow about as fast as average due to industrial growth, the increased complexity of business operations, and the rising use of automation in factories and offices. The function of industrial engineers to improve products and productivity should keep their services in demand and job opportunities favorable.

Mechanical engineers

227,000

20

46,000

Employment is expected to increase about as fast as average. Even in manufacturing, which is expected to decline overall, the employment of mechanical engineers should increase because industrial machinery and processes are becoming increasingly complex. Although many mechanical engineering jobs are in defense-related industries and reductions will probably continue in these industries, rapid growth in other industries should make job opportunities favorable overall.

Metallurgical, ceramic, and

19,000

28

5,400

Employment is expected to increase materials engineers faster than average. Research, testing, engineering, and architectural services should provide significant numbers of job openings.

Mining engineers

3,600

3

()

Little change in employment is expected. The small number of new graduates, however, is expected to find favorable job opportunities.

Nuclear engineers

17,000

1

(3)

Although employment is expected to change little, opportunities should be good because the number of people graduating with degrees in nuclear engineering is likely to be below and in rough balance with the number of job openings.

Petroleum engineers

14,000

-2

(3)

Employment is expected to decline unless oil and gas prices rise enough to increase exploration in this country, which is unlikely. Even without job growth, opportunities for petroleum engineers should be good because the number of degrees granted in petroleum engineering is low.

Architects and surveyors

Architects

96,000

26

25,000

Employment is expected to grow as fast as average as new construction spurs demand. Competition for jobs will be keen, however, particularly during recessions. Architects familiar with computer aided design technology may have

better opportunities, especially when the job market is tight.

Landscape architects

19,000

26

5,000

Average employment growth is expected, in keeping with anticipated growth in construction. Landscape architects will be needed to design and develop land surrounding new construction, convert open space into recreation areas and parks, and refurbish existing sites.

Surveyors

99,000

13

13,000

Jobs are expected to increase more slowly than average. Job growth will not keep pace with construction activity because new technology makes workers more productive. Growth will fluctuate from year to year because construction is sensitive to swings in the overall economy. Opportunities should be best for people with at least a bachelor's degree.

Computer, mathematical, and operations research occupations

Actuaries

15,000

29

4,300

Despite expected faster than average employment growth, especially for consulting actuaries, the number of job openings will be low because of the small size of this occupation. Relatively high potential earnings make the occupation attractive to many who have a mathematical aptitude, thereby increasing competition.

Computer scientists and systems analysts

666,000

111

737,000

Employment is expected to grow much faster than average as organizations demand technological advances to maximize the efficiency of their computer systems and increasingly recognize the need to design computer networks that will

facilitate the sharing of information. Individuals with advanced degrees in computer science should enjoy very favorable job prospects. Those with a bachelor's degree in computer science, computer engineering, information science, or information systems also should have good prospects for employment.

Mathematicians

16,000

8

1,200

Expected slowdowns in research and development will result in slower than average employment growth. Job opportunities will be best for those whose educational background includes both mathematics and a related discipline, such as computer programming, operations research, or engineering.

Operations research analysts

45,000

61

27,000

Employment is expected to grow much faster than average due to the increasing importance of quantitative analysis in decisionmaking and the increasing availability of computing resources. Much of the expected growth will be in the transportation, manufacturing, finance, and services industries. Job opportunities will be best for those who hold a master's or Ph.D.

Statisticians

16,000

9

1,500

The number of jobs for statisticians is expected to grow more slowly than average. Workers with a bachelor's degree in statistics and a strong background in mathematics, engineering, or physical or computer science will have the best prospects for finding jobs..

Life scientists

Agricultural scientists

29,000

14

4,200

Overall, average employment growth is expected for agricultural scientists. Continued interest in the environment and in improved food products and processing techniques will spur demand for soil scientists and food technologists. Animal and plant scientists with a background in molecular biology, microbiology, genetics, or biotechnology also should have good opportunities. However, budget cuts may limit funding for basic research, creating keen competition for these jobs.

Biological and medical

117,000

27

31,000

Efforts to clean up and

scientists

preserve the environment, use biological methods to develop and produce goods, and expand health-related research will fuel demand for biological and medical scientists, leading to faster than average employment growth.

Nevertheless, budget tightening may slow funding of government research grants, creating competition for positions.

Foresters and conservation scientists

35,000

12

4,300

Slower than average employment growth is expected for foresters and conservation scientists, partly due to budgetary constraints in the Federal government, where employment is concentrated. Opportunities will be better in private industry and State and local governments, where demand will increase in response to a growing emphasis on environmental protection and responsible land management.

Physical scientists

Chemists

92,000

21

20,000

Average employment growth is expected. Demand for new consumer goods such as better pharmaceuticals, personal

careproducts, and specialty chemicals designed to address specificproblems will counterbalance the slower growth expected inother types of research and development.

Geologists and geophysicists

48,000

22

11,000

Average employment growth is expected. Althoughemployment prospects are uncertain in the petroleumindustry, demand for these professionals in environmentalprotection and reclamation is expected to be strong.

Meteorologists

6,100

24

1,500

Average employment growth will result both from hiring bythe National Weather Service to improve short-term andlocal-area weather forecasts and from the growth of privateenvironmental, weather, and consulting firms.

Physicists and astronomers

21,000

-3

-700

Small employment declines will result from the expectedreduction of civilian and defense-related research.

Lawyers and judges

716,000

28

197,000

Jobs for lawyers are expected to increase faster than average in response to growth in population and business activity. Employment of judges is expected to increase more slowly than average as public concern about crime is tempered by tight government budgets. Keen competition for job openingsis expected for both occupations.

Social scientists and urban planners

258,000

37

95,000

Faster than average growth is expected due to rising concern

over the environment, crime, communicable diseases, mental illness, and the growing elderly and homeless populations, the increasingly competitive global economy, and a wide range of other issues. Job prospects are best for those with advanced degrees and are generally better in disciplines which offer many opportunities in nonacademic settings. Competition may ease for academic jobs due to an expected wave of retirements among college and university faculty.

Economists and marketing research analysts

51,000

25

13,000

Average growth is expected due to the increasingly complex and competitive global economy and increased reliance on quantitative methods of analyzing business trends, forecasting sales, and planning. Graduates with related work experience or an advanced degree should have the best job opportunities. Training in quantitative techniques and their application to economic modeling, forecasting, and marketing research provide applicants with the most marketable skills.

Psychologists

143,000

48

69,000

Much faster than average growth is expected for several reasons: Increased emphasis on mental health maintenance in conjunction with the treatment of physical illness; public concern for the development of human resources, including the growing elderly population; increased testing and counseling of children; interest in rehabilitation of prisoners; and development of programs to combat substance abuse, crime, marital strife, and other problems plaguing society. Opportunities are best for candidates with a doctoral degree in applied specialties. Graduates with a master's degree may encounter competition for the limited number of jobs for which they qualify, while bachelor's degree holders can expect very few opportunities directly related to psychology.

Sociologists

()

(4)

(4)

Job growth will stem from increasing demand for research

in such fields as demography, criminology, and gerontology and from the need to evaluate and administer social and welfare programs. Sociologists well-trained in quantitative research methods and practical rather than theoretical sociology should have the widest choice of jobs. Ph.D.'s have the best opportunities for academic positions and will find that nonacademic opportunities also are expanding. People with a master's degree face keen competition for academic positions but will be able to enter sociological practice.

Urban and regional planners

28,000

23

6,400

Average growth will stem from the importance of planning in several fields. Those with certification or a master's degree from an accredited planning program, or a master's degree in civil engineering or landscape architecture coupled with training in transportation or environmental planning have the best job prospects. Graduates with an accredited bachelor's degree in planning have relatively good job prospects.

Social and recreation workers

Human services workers

189,000

136

256,000

Jobs are expected to increase much faster than average due to the expansion of facilities and programs for the elderly and disabled and the provision of more services for families in crisis. Opportunities for qualified people should be excellent due to high job turnover, relatively low pay, and the demanding nature of the work.

Social workers

484,000

40

191,000

Faster than average job growth is expected in response to the increased needs of the elderly, mentally ill, and disabled as well as individuals and families in crisis. Some of the need will be met through greater use of human services workers to assist social workers. Competition for social worker jobs is expected in some areas.

Recreation workers

204,000

38

78,000

Employment is expected to grow faster than average in response to population growth, increased interest in health and fitness, and rising demand for organized recreational activities. Competition is expected for full-time career positions, but opportunities for seasonal and part-time work should be good.

Religious workers

Protestant ministers

290,000

()

(6)

Competition is expected to continue due to the slow growth of church membership and the large number of men and women attracted to the profession. Graduates of theological schools should have the best opportunities.

Rabbis

3,900

(6)

(6)

Job opportunities are expected to be generally favorable in the four major branches of Judaism. Present unmet needs for rabbis, together with the many rabbis approaching retirement age, should insure that the relatively constant numbers of people completing rabbinical training should have good job prospects.

Roman Catholic priests

53,000

(6)

(6)

Opportunities are expected to continue to be very favorable due to a shortage of priests. The number of men becoming priests in recent years has not been, and will not be, enough to meet needs even if seminary enrollments continue their recent slow increase, especially in light of the growing numbers of priests reaching retirement age.

Teachers, librarians, and counselors

Adult education teachers

540,000

32

172,000

Employment is expected to grow faster than average as the demand for adult education programs continues to rise. To keep abreast of changes in their fields and advances in technology, an increasing number of adults are taking courses to advance their careers, upgrade their skills, and enrich their lives. Opportunities will be best in computer technology, automotive mechanics, medical technology, and other fields that offer attractive, and often higher paying, jobs outside of teaching.

Archivists and curators

19,000

18

3,500

Average employment growth is expected. More archivists will be needed as institutions put more emphasis on establishing archives and organizing records. Museums and botanical and zoological gardens, where curators are concentrated, are expected to grow in response to increased interest in science, art, history, and technology. However, competition for jobs is expected to be keen. Graduates with highly specialized training and practical work experience have the best opportunities.

College and university faculty

812,000

26

214,000

Employment is expected to increase about as fast as average as enrollment in higher education increases. In addition, retirements should begin increasing in the late 1990's, resulting in improved opportunities for college faculty positions and tenure. Fewer faculty members should have to take part-time or short-term appointments. Job prospects will continue to be better in such fields as business, engineering, health science, computer science, physical sciences, and mathematics than in other specialties, largely because very attractive nonacademic jobs will be available for many potential faculty members in these fields.

Counselors

154,000

32

50,000

Employment is expected to grow faster than average in response to increasing demand for school, rehabilitation, mental health, and employment counselors. Opportunities should increase significantly by the end of the decade as a large number of counselors reach retirement age.

Librarians

141,000

12

17,000

Employment is expected to grow more slowly than average, continuing the trend of the 1980's. Budgetary constraints in school, public, and college libraries and the increasing use of computerized information storage and retrieval systems will dampen demand. Opportunities will be best in nontraditional settings, information brokers, private corporations, and consulting firms. Willingness to relocate will greatly enhance job prospects.

School teachers_kinder- garten, elementary, and secondary

3,255,000

34

1,113,000

Faster than average employment growth is expected; however, projected growth varies among individual teaching occupations. Employment of special education teachers is expected to increase much faster than average due to legislation emphasizing training and employment for individuals with disabilities; technological advances resulting in more survivors of accidents and illnesses; and growing public interest in individuals with special needs. Employment of secondary school teachers is expected to grow faster than average, while average employment growth is projected for kindergarten and elementary school teachers, reflecting population trends and corresponding student enrollment. Job prospects generally are better in cities and rural areas than in suburbs. Mathematics, science, and special education teachers remain in short supply in many locales.

Health diagnosing occupations

Chiropractors

46,000

36

16,000

Employment is expected to grow faster than average because of rapid growth in the older population, with its increased likelihood of physiological problems. Greater public awareness of the profession also will encourage growth. Replacement needs are low because chiropractors generally remain in the profession until they retire.

Dentists

183,000

5

9,500

Employment is expected to grow more slowly than average despite growing demand. Dentists will absorb the increase in demand for services by working more hours and hiring more dental hygienists and dental assistants to handle routine services. Demand for dental care should grow substantially: The baby-boom generation will seek more care as it ages; the elderly will require more care than their predecessors because they are more likely to retain their teeth; and the younger generation will need preventive check-ups.

Optometrists

31,000

16

4,800

Employment is expected to grow as fast as average in order to meet the needs of a population that is larger, older, and more aware of the need for proper eye care. Replacement needs are low because optometrists generally remain in the profession until they retire.

Physicians

556,000

35

195,000

Employment is expected to grow faster than average due to a growing and aging population and technological improvements that encourage expansion of the health care industry. Job prospects are good for primary, geriatric, and preventive care specialists. Some shortages have been reported in general surgery and psychiatry and in some rural and low income areas. Replacement needs are low because physicians generally remain in the profession until they retire.

Podiatrists

15,000

37

5,500

Employment is expected to grow faster than average due to the rising demand for podiatric services, especially by older people. Establishing a new podiatric practice will be toughest in areas surrounding the seven colleges of podiatric medicine since podiatrists are concentrated in these locations. Replacement needs are low because podiatrists generally remain in the profession until they retire.

Veterinarians

44,000

33

14,000

Employment is expected to grow faster than average due to an increase in the number of pets and greater willingness of pet owners to pay for more intensive care. The outlook will be particularly good for veterinarians with specialty training in toxicology, laboratory animal medicine, and pathology.

Health assessment and treating occupations

Dietitians and nutritionists

50,000

26

13,000

Employment is expected to grow about as fast as average because of increasing emphasis on nutrition in nursing homes, hospitals, physicians' offices, and social service programs.

Occupational therapists

40,000

60

24,000

Employment is expected to grow much faster than average due to strong growth in rehabilitative services. Medical advances now make it possible for more patients with critical problems to survive and need therapy. Also, as the baby-boom generation moves into middle age, the incidence of heart attack and stroke will increase. The rapidly growing population 75 years of age and above and disabled

children entering special education programs will spur further demand.

Pharmacists

163,000

29

47,000

Spurred by the pharmaceutical needs of a larger and older population and greater use of medication, employment is expected to grow faster than average.

Physical therapists

90,000

88

79,000

Employment is expected to grow much faster than average. Growth will occur as new technologies save more trauma victims and permit more disabled people to be treated, who then will need therapy. Demand also will come from an aging population that is more likely to encounter heart attacks, strokes, and other debilitating conditions. Younger people will also need therapy as medical advances save the lives of more newborns with birth defects.

Physician assistants

58,000

34

20,000

Employment is expected to grow faster than average due to expansion of the health services industry and increased emphasis on cost containment and primary care. Job prospects will be excellent, especially in rural and low income areas that have difficulty attracting physicians.

Recreational therapists

30,000

40

12,000

Employment is expected to grow faster than average, because of expansion in long-term care, physical and psychiatric rehabilitation, and services for the disabled. The growing number of older people is expected to spur job growth for activity directors in nursing homes, retirement communities, adult day care programs, and social service agencies. Continued growth is expected in community

residential facilities as well as in day care programs for people with disabilities. Job prospects are expected to be best for those with clinical experience.

Registered nurses

1,835,000

42

765,000

Much faster than average growth is expected due to overall growth in health care and medical technology. Job prospects will be good, especially as emphasis on primary care grows. Many job openings will also result from the need to replace experienced nurses who leave this large occupation.

Respiratory therapists

74,000

48

36,000

Employment is expected to grow much faster than average because of the substantial growth in the middle-aged and elderly population. An older population is more likely to suffer from cardiopulmonary diseases such as pneumonia, chronic bronchitis, emphysema, and heart disease. Rapid growth in the number of patients with AIDS also will boost demand since lung disease often accompanies AIDS. Because medical advances will allow more premature infants to survive, job opportunities are expected to be highly favorable for those with neonatal care skills.

Speech-language pathologists and audiologists

73,000

51

37,000

Much faster than average overall growth is expected because the increased number of older people and the entrance of the baby-boomers into an age bracket when the possibility of stroke-induced hearing and speech loss increases. Increased emphasis on early detection and prevention will also spur growth.

Communications occupations

Public relations specialists

98,000

26

26,000

Average growth will stem from the recognition by organizations of all sizes of the need for good public relations in an increasingly competitive business environment. Keen competition for public relations jobs will likely continue among recent college graduates with a degree in communications as the number of applicants is expected to exceed the number of job openings.

Radio and television announcers and newscasters

56,000

25

14,000

Employment is expected to grow about as fast as average as new radio and television stations are licensed and the number of cable television systems continues to grow. Competition will be very keen because the broadcasting field attracts many more jobseekers than there are jobs. Radio stations are more inclined than are television stations to hire beginners.

Reporters and correspondents

58,000

26

15,000

Employment is expected to grow about as fast as average. Competition on large metropolitan newspapers and broadcast stations and on national magazines will continue to be keen. Small town and suburban newspapers will continue to offer better opportunities for beginners. Talented writers who can handle highly specialized scientific or technical subjects have an advantage.

Writers and editors

283,000

23

66,000

Employment is expected to increase about as fast as average. Employment of salaried writers and editors by newspapers, periodicals, book publishers, nonprofit organizations, and advertising and public relations agencies is expected to increase with growing demand for their publications. Demand for technical writers is expected to increase because of the continuing expansion of scientific and technical information.

Visual arts occupations

Designers

302,000

19

57,000

Employment is expected to grow about as fast as average. Designers in most fields can expect to face competition throughout their careers as a result of the abundant supply of talented, well-educated individuals attracted to this occupation. Job opportunities should be best in floral design due to its relatively low pay and limited advancement opportunities. Opportunities also should be good for qualified people in some specialized fields, such as furniture design.

Photographers and camera and newscasters

118,000

25

29,000

Average employment growth will stem from increasing use of visual images in education, communication, entertainment, marketing, and research and development and as businesses make greater use of videos for training films, business meetings, sales campaigns, and public relations work. However, competition will be keen for what is generally regarded as an exciting field.

Visual artists

273,000

23

63,000

Average employment growth is expected for both graphic designers and fine artists. Despite demands by advertising agencies, publishing firms, and other businesses for creative and ingenious designs, graphic designers can expect competition for employment. Competition for jobs also will continue to be keen among fine artists, who often create art to satisfy their need for self-expression, and display their works in museums, art galleries, and homes.

Performing arts occupations

Actors, directors, and producers

129,000

54

69,000

Much faster than average job growth is expected. Keen competition is expected for jobs because large numbers of people are attracted to these careers, which do not require formal preparation. Only a relatively few people will find regular employment.

Dancers and choreographers

18,000

25

4,600

Jobs are expected to increase about as fast as average due to the public's continued interest in dance. Very keen competition is expected for job openings, and only the most talented will find regular employment.

Musicians

236,000

25

59,000

Jobs are expected to grow about as fast as average due to the continued demand for live and recorded musical entertainment. Competition for jobs will be keen, and even many talented individuals will not be able to make a living solely as musicians. Opportunities will be best for people with an ability to play several instruments and a variety of types of music.

TECHNICIANS AND RELATED SUPPORT OCCUPATIONS

Health technologists and technicians

Cardiovascular technologists and technicians

31,000

9

2,600

Overall employment is expected to grow more slowly than average, but technicians and technologists will experience different patterns of employment change. Employment of EKG technicians is expected to decline as hospitals train nurses and other personnel to perform basic EKG procedures. Employment of cardiology technologists is expected to grow faster than average as the population ages because older people have a higher incidence of heart problems.

Clinical laboratory technologists and technicians

268,000

26

71,000

Employment is expected to grow about as fast as average, with demand stimulated by the growth of the older population and its accompanying medical problems. Technological advances will have opposite effects on employment: New, more powerful tests encourage more testing, but automation and simpler tests make each worker more productive. The fastest growth is expected in independent medical laboratories. Rapid growth also is expected in the offices and clinics of physicians. Hospitals will experience only slow growth as they continue to send laboratories a greater share of their testing.

Dental hygienists

108,000

43

46,000

Employment should grow much faster than average because of increased demand for dental care. Demand will arise from population growth, greater retention of natural teeth by middle-aged and elderly people, and rising incomes. Also, dentists are likely to hire more hygienists as their workloads increase.

Dispensing opticians

63,000

36

22,000

Employment is expected to grow faster than average in response to rising demand for corrective lenses as the population grows and ages. Replacement needs will be significant. This occupation employs many young people; and, like many other occupations in retail trade, many people transfer to other fields.

EEG technologists

6,300

54

3,400

Employment is expected to grow much faster than average, reflecting the increased number of neurodiagnostic tests performed. More testing will occur as new tests

and procedures are developed and as the aging population requires more medical care.

Emergency medical and technicians

114,000

36

41,000

Employment technicians is expected to grow faster than average because of the increasing number of older people, who are more likely to need emergency services. Most job openings will occur because of this occupation's high turnover.

Licensed practical nurses

659,000

40

261,000

Employment is expected to grow faster than average in response to general demand and the long-term-care needs of a rapidly growing elderly population. Job prospects should remain excellent unless the number of people completing LPN training increases substantially.

Medical record technicians

76,000

61

47,000

Employment is expected to grow much faster than average. Demand will arise from rapid growth in the number of medical tests, treatments, and procedures and the increasing scrutiny of medical records by third-party payers, courts, and consumers.

Nuclear medicine technologists

12,000

50

6,100

Employment is expected to grow much faster than average. Substantial growth in the number of middle-aged and older people will spur demand for nuclear medicine tests. Technological innovations should increase the uses of nuclear medicine, further strengthening demand.

Radiologic technologists

162,000

63

102,000

Employment is expected to grow much faster than average. New generations of diagnostic imaging equipment should increase demand. Also, more treatment of cancer is anticipated due to the aging of the population and the improved ability to detect malignancies.

Surgical technologists

44,000

42

19,000

Much faster than average growth is expected as a growing population and technological advances increase the number of surgical procedures performed. Growth will be fastest in clinics and offices of physicians due to increased outpatient surgery; however, most jobs will be in hospitals.

Technicians except health

Aircraft pilots

85,000

35

30,000

Despite faster than average employment growth, pilots should face considerable competition for jobs because the glamour, prestige, and high pay associated with the occupation attract many applicants. Pilots who have logged the greatest number of flying hours using the most sophisticated equipment and those with the most FAA licenses generally have the best prospects.

Air traffic controllers

23,000

10

2,300

Employment growth is expected to be slower than average as productivity gains stemming from labor-saving air traffic control equipment offset some of the demand generated by more aircraft flying. Competition for jobs is expected to remain keen because the occupation's relatively high pay and liberal retirement plan attract many applicants.

Broadcast technicians

35,000

4

1,400

Employment in radio and television broadcasting is expected to grow more slowly than average because of labor-saving technologies. Employment in the motion picture industry will grow faster than average as more movies are made. Job prospects are expected to remain competitive because of the large number of people attracted to this relatively small field.

Computer programmers

555,000

30

169,000

Employment is expected to grow faster than average as organizations seek new applications for computers and improvement to the software already in use. Employment is not expected to grow as rapidly as in the past, however, because new software and techniques have simplified or eliminated some programming tasks. Job opportunities should be particularly plentiful in data processing services firms, software houses, and computer consulting businesses.

Drafters

314,000

11

35,000

Despite increasing demands by industry for drafting services, productivity gains due to advances in computer-aided drafting technology are expected to result in slower than average employment growth.

Engineering technicians

695,000

19

132,000

Average employment growth is expected. Overall, the drive to improve manufacturing facilities and product designs will provide good employment opportunities; however, the outlook varies with the area of specialization and industry; technicians whose jobs are defense related may experience fewer opportunities because of cutbacks.

Library technicians

71,000

25

18,000

Average employment growth will be spurred by increasing automation. Computerized information systems have simplified certain tasks, such as descriptive cataloging, which can now be handled by technicians instead of librarians. However, budgetary constraints may dampen employment growth in school, public, and college and university libraries. Willingness to relocate enhances one's job prospects.

Paralegals

95,000

86

81,000

Employment is expected to grow much faster than average as law firms and other employers of legal workers restructure tasks to make greater use of paralegals. However, keen competition for jobs should continue as the large number of people graduating from paralegal training programs exceeds job growth.

Science technicians

244,000

25

61,000

Average employment growth is expected because of the growth of scientific research and development and the production of technical products. Job opportunities will be best for individuals who have training or experience on the equipment currently in use in industrial and government laboratories.

MARKETING AND SALES OCCUPATIONS

Cashiers

2,747,000

24

669,900

Average growth is expected, spurred by a growing population's expanding demand for goods and services. As in the past, replacement needs will create a significant number of job openings because the occupation is large and turnover is much higher than average.

Counter and rental clerks

242,000

36

88,000

Faster than average employment growth is expected due to rising demand for laundry and dry cleaning, automobile rental, amusement and recreation, and equipment rental and leasing services. Part-time employment opportunities should be especially plentiful.

Insurance agents and brokers

415,000

15

62,000

Employment is expected to increase about as fast as average as increasing productivity moderates growth in response to the rising volume of sales of insurance and other financial products. Opportunities will be best for ambitious people who enjoy sales work and develop expertise in a wide range of insurance and financial services. Many beginners abandon this highly competitive business because they are unable to establish a sufficiently large clientele.

Manufacturers' and wholesale sales representatives

1,613,000

5

78,000

Employment growth is expected to be slower than average as more firms rely on technology such as electronic data interchange, point of sale inventory systems, and expert system software and as more large companies begin to negotiate directly with suppliers, bypassing sales representatives entirely.

Real estate agents, brokers, and appraisers

397,000

16

63,000

Average employment growth is expected as a result of the growing volume of sales of residential and commercial property. Because turnover is high, real estate sales positions should be relatively easy to obtain.

Retail sales workers

4,086,000

21

877,000

Employment is expected to increase about as fast as average due to anticipated growth in retail trade. As in the past, replacement needs will generate an exceptionally large number of sales jobs because the occupation is large and turnover is much higher than average.

Securities and financial services sales representatives

200,000

33

65,000

Employment is expected to grow faster than average as economic growth, rising personal incomes, and greater inherited wealth increase the funds available for investment and as banks and other financial institutions offer an increasing array of financial services. Due to the highly competitive nature of securities sales work, many beginners leave the field because they are unable to establish a sufficient clientele. Job prospects should be best for mature individuals with successful sales experience.

Services sales representatives

488,000

38

185,000

Faster than average growth is expected in response to the growth of the services industries. However, employment will not keep pace with industry growth due to downsizing and the use of technologies, such as voice mail, cellular telephones, and laptop computers, that increase productivity. Prospective services sales representatives with a college background or a proven sales record should have the best job opportunities.

Travel agents

115,000

66

76,000

Employment is expected to grow much faster than average due to a sharp increase in business and vacation travel.

ADMINISTRATIVE SUPPORT OCCUPATIONS INCLUDING CLERICAL

Adjusters, investigators, and collectors

1,185,000

31

367,000

Job growth is expected to be about as fast as average as a result of increases in the population, the economy, and the volume of insurance sales. Bill and account collectors and insurance adjusters and examiners will grow the most rapidly.

Bank tellers

525,000

-4

-24,000

Employment is projected to decline. Overexpansion and competition from large nonbank corporations will result in closings, mergers, and consolidations in the banking industry, where employment of tellers is highly concentrated. Further, teller employment could be adversely affected by new technologies if they are widely adopted by banks. Nevertheless, qualified applicants should have good prospects because the number of job openings is large.

Clerical supervisors and managers

1,267,000

24

301,000

Employment is expected to increase as fast as average. These workers will not be affected as dramatically by office automation as other administrative support workers, although automation may limit growth in some areas. Job openings will be numerous due to replacement needs.

Computer and peripheral equipment operators

296,000

-41

-122,000

Employment is expected to decline sharply as data centers become increasingly automated and as more computing is done with personal computers.

Credit clerks and authorizers

218,000

24

53,000

Average employment growth is expected as the number of real estate, retail sales, and other transactions requiring

credit increases.

General office clerks

2,688,000

24

654,000

Average employment growth is anticipated as more small businesses place a single office worker in charge of all clerical duties. Opportunities should be quite favorable because high turnover in this very large occupation produces many job openings.

Information clerks

1,333,000

32

429,000

Faster than average growth is expected due to economic growth and general business expansion. Replacement needs will create large numbers of job openings. Many opportunities for part-time work will be available.

Hotel and motel desk clerks

122,000

40

50,000

Faster than average growth is expected due to the expansion of the number of hotels, motels, and other lodging establishments. Job opportunities should be relatively good because turnover is very high. Opportunities for part-time work should continue to be plentiful.

Interviewing and new accounts clerks

175,000

19

34,000

Overall employment is expected to increase about as fast as average. Employment of interviewing clerks is expected to grow faster than average in the health services industry and much faster than average in personnel supply services as more firms contract for these services of these clerks. New accounts clerks can anticipate lower than average employment growth, reflecting slow growth among commercial banks and savings and loan institutions.

Receptionists

904,000

34

305,000

Faster than average growth is expected due to strong growth in the services sector of the economy. Job opportunities should be plentiful due to high turnover. Because many receptionists also perform secretarial duties, good typing and computer skills, coupled with strong interpersonal and communications skills, enhance one's job prospects.

Reservation and transportation

131,000

30

39,000

Faster than average ticket agents and travel clerks growth is expected due to expansion of both business and pleasure travel. Most applicants are likely to encounter considerable competition because the supply of qualified applicants far outstrips demand. Airline jobs, in particular, attract many applicants because of the travel benefits and glamour associated with the industry.

Mail clerks and messengers

271,000

10

26,000

Jobs are expected to increase more slowly than average as the increasing automation of mail handling offsets somewhat the growing volume of internal mail, parcels, and other written information that must be handled and delivered. High turnover should result in plentiful job openings.

Material recording, scheduling,

3,558,000

13

455,000

Overall

dispatching and distributing occupations employment is expected to grow more slowly than average. The volume of business transactions will increase as the economy grows, but automation will enable workers to be more productive, holding down employment growth somewhat. Job prospects for individual occupations vary.

Dispatchers

222,000

21

46,000

Employment is expected to grow about as fast as average due to the growing need for the various services dispatchers provide.

Stock clerks

1,969,000

10

187,000

Even though employment is expected to grow more slowly than average, job prospects should be favorable. This occupation is very large, and many job openings will occur each year to replace workers who transfer to other jobs or leave the labor force. Growing use of computers for inventory control and automated equipment are expected to hold down demand, especially in manufacturing and in wholesale trade, industries whose operations are most easily automated.

Traffic, shipping, and receiving clerks

824,000

18

147,000

Employment is expected to increase about as fast as average. Employment growth will be affected by automation, as all but the smallest firms move to hold down labor costs by using computers to store and retrieve shipping and receiving records. However, certain functions cannot be automated.

Postal clerks and mail carriers

361,000

()

1,600

Little change is expected in overall employment. Employment of postal clerks is expected to decline due to the implementation of productivity-increasing automated equipment. Postal mail carrier employment is expected to change little, the result of the conflicting factors of increased mail volume and the growing use of automated sorting equipment. Competition for jobs will be keen as the number of applicants continues to far exceed the

number of job openings.

Record clerks

3,573,000

6

204,000

Slower than average employment growth is expected as automation makes these workers more productive. However, opportunities will be plentiful for full-time, part-time, and seasonal employment due to above average turnover in this large occupation.

Billing clerks

409,000

3

12,000

Little change in employment is expected as computers are increasingly used to manage account information and as more advanced equipment replaces billing machines.

Bookkeeping, accounting, and auditing clerks

2,112,000

3

73,000

Little change in employment is expected. Although a growing economy will result in more financial transactions, continuing automation will increase productivity and limit employment growth. However, employment opportunities should be plentiful due to the size of the occupation and relatively high turnover.

Brokerage clerks and statement clerks

88,000

7

5,900

Slower than average employment growth is expected as further automation and changes in business practices reduce demand for these workers.

File clerks

257,000

19

48,000

Average employment growth is expected as

recordkeeping requirements continue to rise. Demand will be strongest in the rapidly growing health sector. Job opportunities should be plentiful due to high turnover.

Library assistants and bookmobile drivers

114,000

18

20,000

Average employment growth is expected due to growth in local government and schools. Job prospects should be favorable, especially for part-time work.

Order clerks

300,000

4

13,000

Little change in employment is expected as office automation continues to increase the productivity of these workers. However, job opportunities should be plentiful, especially for outside order clerks who deal directly with the public.

Payroll and timekeeping clerks

165,000

()

(8)

Employment is expected to change little as continuing automation of payroll and timekeeping make these workers more productive.

Personnel clerks

128,000

25

32,000

Average employment growth is expected. Despite an increasing workload, rising productivity through automation will moderate demand.

Secretaries

3,324,000

12

386,000

Overall employment is expected to grow more slowly than average, in spite of projected rapid growth for legal and medical secretaries. Employment gains resulting from

an increase in the amount of office work and the assumption of new responsibilities by secretaries will be tempered by productivity gains made possible by automation. Job prospects should continue to be excellent, however, for well qualified secretaries.

Stenographers and court reporters

115,000

-2

-1,700

Employment is expected to decline as decreases in stenographer jobs more than offset growth in transcriptionist and court reporter jobs. Widespread use of dictation machines should continue to greatly reduce the need for stenographers, but medical transcriptionist jobs should increase as health services grows. Growing use of video recordings of court proceedings should dampen growth of court reporters.

Teacher aides

885,000

43

381,000

Employment is expected to grow much faster than average in response to the rising number of special education classes, restructuring of schools, and increasing number of students who speak English as a second language.

Telephone operators

314,000

-28

-89,000

Employment is expected to decline due to automatic switching systems, voice message systems, and voice recognition technology.

Typists, word processors, and data entry keyers

1,238,000

-4

-46,000

Employment is expected to decline, primarily due to new technologies that allow more data to be collected at the point of its origin or transmitted electronically. Job prospects will be best for those with a broad knowledge of office technology.

SERVICE OCCUPATIONS

Protective service occupations

Correction officers

282,000

70

197,000

Employment is expected to increase much faster than average as correctional facilities expand and additional officers are hired to supervise and counsel a growing number of inmates. The large number of job openings from both rapid growth and replacement needs will ensure highly favorable employment prospects.

Firefighting occupations

305,000

16

50,000

Average employment growth is expected as the Nation's population grows and fire protection needs increase. Keen competition is expected in most areas; the best opportunities are likely to be found in smaller communities with expanding populations.

Guards

803,000

51

408,000

Much faster than average employment growth is expected due to increasing concern about crime, vandalism, and terrorism. Job opportunities should be plentiful, although some competition is expected for in-house guard jobs, which generally have higher salaries, more benefits, better job security, and greater potential for advancement. Opportunities will be best for those who work for contract security agencies.

Police, detectives, and special agents

700,000

13

92,000

Employment is expected to increase more slowly than average. Job growth resulting from increases in the population and the need for police protection will be restrained by tight

government budgets. Keen competition is likely for most jobs.

Food and beverage preparation and service occupations

Chefs, cooks, and other kitchen workers

3,092,000

38

1,190,000

Job growth is expected to be faster than average as the population and economy both grow and as fewer meals are prepared at home. High turnover should result in plentiful job openings.

Food and beverage service workers

4,365,000

26

1,124,000

Employment is expected to grow about as fast as average in response to growth in the population and economy.

Job openings should continue to be plentiful due to high turnover.

Health service occupations

Dental assistants

183,000

39

72,000

Employment is expected to grow faster than average. Population growth, higher incomes, and greater retention of natural teeth by middle-aged and older people will fuel demand for dental services. Also, dentists are expected to hire more assistants to perform routine tasks.

Medical assistants

181,000

71

128,000

Much faster than average growth is anticipated due to expansion of the health services industry. In view of the high turnover in the occupation and the preference of many physicians for trained personnel, job prospects should be excellent for medical assistants with formal training or experience.

Nursing aides and psychiatric aides

1,389,000

44

616,000

Overall employment is projected to grow much faster than average. Employment of nursing aides will also grow much faster than average as a result of the expansion of nursing and personal care facilities. Employment of psychiatric aides is expected to grow faster than average to meet the needs of very old people and those suffering from acute psychiatric and substance abuse problems. Replacement needs will be high because of relatively high turnover in this occupation. Job prospects are expected to be very good.

Personal service and cleaning occupations

Animal caretakers, except farm

103,000

40

41,000

Employment is expected to grow faster than average due to a significant increase in the number of dogs and cats who need care. The best prospects should be for graduates of training programs in veterinary technology.

Barbers and cosmetologists

746,000

32

239,000

Population growth and rising incomes will produce faster than average employment growth. Most of this growth will be in cosmetology, reflecting shifting consumer preference toward personalized styling in full-service salons. Job prospects will be best for those specializing in nail and skincare.

Part-time employment will continue to account for a significant share of the job growth.

Flight attendants

93,000

51

47,000

Employment is expected to grow much faster than average as the number of airline passengers continues to increase. Competition for jobs is expected to remain very keen. Applicants with at least 2 years of college and experience in dealing with the public have the best

prospects.

Gardeners and groundskeepers

884,000

35

311,000

Faster than average employment growth is expected in response to increasing demand for gardening and landscaping services. Employment opportunities should be plentiful.

Homemaker-home health aides

475,000

136

645,000

A substantial increase in the elderly population, greater efforts to care for the chronically ill at home, and development of in-home medical technologies should spur much faster than average growth. Job opportunities are excellent.

Janitors and cleaners and cleaning supervisors

3,018,000

20

600,000

Employment is expected to grow about as fast as average as the number of office buildings, apartment houses, schools, hospitals, and other buildings increases. The occupation is easy to enter, turnover is high, and part-time and temporary jobs are plentiful.

Preschool workers

941,000

65

611,000

Employment is projected to increase much faster than average, reflecting a shift in the kind of child-care arrangements parents choose, and a rise in labor force participation among women ages 20-44. Job openings should be plentiful because many preschool workers leave the occupation each year for other, often better paying, jobs, family responsibilities, or other reasons. Qualified people should have little trouble finding and keeping a job.

Private household workers

869,000

-33

-286,000

Employment is expected to decline. The severely limited supply of people willing to work in this field has given rise to child care and household cleaning service firms, which adversely affects employment in this occupation. Nevertheless, job opportunities should be excellent.

AGRICULTURE, FORESTRY, FISHING, AND RELATED OCCUPATIONS

Farm operators and managers

1,218,000

-17

-204,000

Employment is expected to decline as farms become larger, more productive, and fewer in number. Nevertheless, replacement needs will result in many job openings.

Fishers, hunters, and trappers

60,000

5

3,000

Slower than average growth is expected due to stock depletion. Many operations currently are at or beyond maximum sustainable yield, limiting potential for occupational growth. Employment growth of fishers will also be restrained by improvements in fishing vessels and gear.

Forestry and logging occupations

131,000

2

3,200

Little change in overall employment is expected. Despite an increase in demand for lumber and wood products, improvements in logging equipment will cause employment of timber and logging workers to decline. Employment of forestry and conservation workers is expected to increase moderately as environmental concerns help spur demand. However, these jobs are sought by many people, and applicants are expected to face competition.

MECHANICS, INSTALLERS, AND REPAIRERS

Aircraft mechanics and engine specialists

131,000

13

17,000

Slower than average employment growth is expected as productivity gains resulting from greater use of automated inventory control and modular systems speed repairs and parts replacement. Job prospects are likely to be best in general aviation.

Automotive body repairers

202,000

30

61,000

Employment is expected to increase faster than average due to a rise in the number of motor vehicles and the popularity of lighter weight cars, which are more easily damaged in collisions and more difficult to repair. Opportunities should be best for people with formal training in automotive body repair or mechanics.

Automotive mechanics

739,000

23

168,000

Employment is expected to increase about as fast as average as the need to service and repair an increasing number of motor vehicles is offset by improvements in their reliability. Most new jobs will be in automotive repair shops and automobile dealerships as fewer gasoline service stations provide repair services. Opportunities should be best for people who complete formal automotive mechanic training programs.

Diesel mechanics

263,000

24

64,000

Employment is expected to increase about as fast as average as freight transportation by truck increases. Opportunities should be best for people who complete formal diesel mechanic training programs.

Electronic equipment repairers

398,000

-4

-15,000

Overall employment is expected to decline due to improvements in product reliability and ease of service; in addition, lower prices will cause consumers to purchase new equipment rather than have old items repaired.

Commercial and industrial electronic equipment repairers

68,000

7

5,000

Overall employment is expected to grow more slowly than average. Employment in nondefense industries is expected to grow about as fast as average as firms install more electronic equipment. Because of cuts in the defense budget, employment is expected to decline significantly in the Federal Government.

Communications equipment repairers

108,000

-38

-41,000

Employment is expected to decline sharply. Decreased labor requirements due to improved technology have already caused layoffs.

Computer and office machine repairers

143,000

30

43,000

Overall employment is expected to grow faster than average. Employment of computer repairers is expected to grow much faster than average as the amount of computer equipment increases. Employment of other office machine repairers is expected to grow more slowly than average due to slow growth in the amount of that equipment.

Electronic home entertainment equipment repairers

39,000

-5

-2,100

Employment is expected to decline. Improvements in reliability and ease of service should reduce service requirements, even though more equipment is expected to be in use. Nevertheless, opportunities should be good because many repairers transfer to higher paying jobs that also require knowledge of electronics.

Telephone installers and repairers

40,000

-50

-20,000

Employment is expected to decline significantly due to technological improvements, such as prewired jacks and modular telephones. Also, fewer phones will be worth repairing as prices continue to decline.

Elevator installers and repairers

22,000

18

3,900

Average growth will occur as the construction of buildings with elevators and escalators increases and as the stock of equipment needing maintenance grows. In addition, demand will be spurred by the need to modernize older equipment. Job prospects will be best for people with postsecondary training in electronics.

Farm equipment mechanics

47,000

13

6,000

Employment is expected to increase more slowly than average. Farmland consolidation and more efficient farm practices will hold down demand, but the tendency of farmers to make fewer of their own repairs will increase it. Opportunities should be best for people who complete formal training in farm equipment repair or diesel mechanics.

General maintenance mechanics

1,145,000

28

319,000

Faster than average growth is expected as the number of office and apartment buildings, stores, schools, hospitals, hotels, and factories increases. Although construction of these facilities is expected to slow down, many opportunities will arise because of the high turnover in this large occupation.

Heating, air-conditioning, and refrigeration technicians

212,000

29

62,000

Employment is expected to increase faster than average. Demand for new residential, commercial, and industrial climate control systems, as well as the need to maintain existing systems, should create very favorable job prospects.

Home appliance and power tool repairers

74,000

()

(9)

Little change in employment is expected as the increasing number of appliances in use will be offset by their greater reliability and durability. Job prospects will be best for people who have a strong background in electronics.

Industrial machinery repairers

477,000

-3

-15,000

Employment is expected to decline as more firms introduce automated production equipment that requires less maintenance than existing machines. Because maintenance and repair of machinery are crucial regardless of the level of production, industrial machinery repairers generally are less subject to layoffs than other workers.

Line installers and cable splicers

273,000

-11

-31,000

Overall employment is expected to decline. Employment of telephone and cable TV line installers and repairers is expected to decline sharply as the conversion to fiber optics is completed and as maintenance requirements are reduced. Employment of electrical power line installers is expected to grow more slowly than average.

Millwrights

73,000

9

6,400

Slower than average employment growth is expected. Millwrights continue to be needed to maintain and repair existing machinery, to dismantle old machinery, and to install and maintain new equipment.

Mobile heavy equipment mechanics

96,000

4

3,900

Employment is expected to grow more slowly than average, matching the slow growth in the amount of mobile heavy equipment in operation. Opportunities should be best for people who complete formal training programs in diesel or heavy equipment mechanics.

Motorcycle, boat, and small-engine mechanics

46,000

15

6,900

Overall employment is expected to grow about as fast as average as rising incomes enable consumers to buy more boats and outdoor power equipment. Opportunities should be best for people who complete formal training programs.

Musical instrument repairers and tuners

12,000

9

1,100

Employment is expected to increase more slowly than average, even though moderate growth is expected in the number of professional musicians, because the number of students playing instruments should grow only slowly.

Vending machine servicers and repairers

20,000

()

(10)

Little change in employment is expected because an increase in the number of vending machines in use is offset by the greater reliability of new equipment.

CONSTRUCTION TRADES AND EXTRACTIVE OCCUPATIONS

Bricklayers and stonemasons

139,000

26

36,000

Average employment growth is expected as population and business growth create a need for new factories, schools, hospitals, offices, and other structures, and as

brick is increasingly used for decorative work and for building exteriors.

Carpenters

990,000

20

197,000

Average employment growth is expected in response to demand for new housing, commercial buildings, and industrial plants and the need to renovate and modernize existing structures.

The demand for carpenters will be offset somewhat by expected productivity gains resulting from the increased use of prefabricated components and better tools. Employment opportunities should be plentiful.

Carpet installers

62,000

22

13,000

Average employment growth is expected in response to the continuing need to renovate and refurbish existing structures and growing demand for carpet in new industrial

plants, schools, hospitals, and other structures.

Concrete masons and terrazzo workers

100,000

13

13,000

Despite strong demand for concrete and terrazzo, productivity gains from improved materials, equipment, and tools will result in slower than average growth.

Drywall workers and lathers

121,000

37

44,000

Faster than average employment growth is expected as the level of new construction and renovation increases. Many job opportunities will be available because of replacement needs.

Electricians

518,000

19

100,000

Average employment growth will stem from the need to install and maintain electrical devices and wiring in homes, factories, offices, and other structures. Installation of the wiring for computers, telecommunications equipment, and other advanced technologies should also create job opportunities for electricians.

Glaziers

39,000

30

12,000

Faster than average employment growth is expected due to the increase in new construction, the need to modernize and repair existing structures, and the increased popularity of glass as a building material.

Insulation workers

57,000

40

22,000

Employment is expected to grow much faster than average, reflecting the demand for insulation for new construction and renovation, as well as the demand for asbestos removal in existing structures. Job opportunities should be plentiful because growth will be rapid and turnover is the highest of all construction occupations.

Painters and paperhangers

440,000

29

128,000

Faster than average employment growth is expected as construction activity increases and the number of buildings in need of repainting grows. Job prospects should be quite favorable.

Plasterers

32,000

16

5,200

Employment is expected to grow as fast as average due to growing appreciation for the durability and attractiveness of troweled finishes and the need to repair plaster surfaces in older buildings.

Plumbers and pipefitters

351,000

8

27,000

Slower than average employment growth will result from rising productivity because the growing use of plastic pipe and fittings, more efficient sprinkler systems, and other labor-saving technologies will offset much of the increasing demand for plumbing services.

Roofers

127,000

22

28,000

Average employment growth is expected due to increases in new construction and the need to repair or replace roofs on existing buildings. Employment will not keep pace with demand because of productivity increases brought about by advances in materials, technology, and tools. Because of high turnover, employment opportunities are expected to be plentiful.

Roustabouts

33,000

-33

-11,000

Employment is expected to decline as a result of reduced exploration and falling production in the domestic oil industry. Opportunities will be very limited.

Sheet-metal workers

91,000

37

34,000

Employment is expected to grow as fast as average as more factories, shopping malls, homes, and other structures using sheet metal are built. Additional job opportunities will be created as more efficient air-conditioning and heating systems are installed in existing buildings.

Structural and reinforcing ironworkers

66,000

22

15,000

Average employment growth is expected due to the rising levels of industrial and commercial construction, as well as the rehabilitation and maintenance of an increasing number of older buildings, factories, power plants, highways and bridges. Job openings for ironworkers are usually more abundant during the spring and summer, when construction activity increases.

Tilesetters

30,000

25

7,400

Rising levels of construction activity and the increased popularity of tile as a building material should ensure average employment growth. Job opportunities will not be as plentiful as in other construction occupations because the occupation is small and turnover is relatively low.

PRODUCTION OCCUPATIONS

Assemblers

Precision assemblers

334,000

-6

-18,000

Employment is expected to decline, with increasing automation offsetting any increase in employment that would have occurred due to industrial growth. However, opportunities depend on the industries in which the jobs are located. For instance, keen competition is expected for assembly jobs in the aerospace and electronics manufacturing industry. Other industries may provide more opportunities.

Blue-collar worker supervisors

1,757,000

12

217,000

Overall employment is expected to increase more slowly than average. Job creation varies by industry, with employment expected to decline slightly in manufacturing and increase in construction and most other nonmanufacturing industries.

Food processing occupations

Butchers and meat, poultry, and fish cutters

349,000

3

11,000

Employment is expected to increase more slowly than average as meat cutting and processing shift from the store to the factory. Although consumption of meat, poultry, and fish will continue to increase, growth of lesser skilled factory machine cutter jobs will just barely offset the decline of skilled retail meatcutters.

Inspectors, testers, and graders

625,000

-10

-65,000

Employment is expected to decline. Manufacturers are increasingly using automated inspection systems and assigning inspection, testing, and grading duties to production workers. There may be competition for job openings.

Metalworking and plastics-working occupations

Boilermakers

26,000

-4

-1,100

Employment is expected to decline due to the trend toward repairing rather than replacing old boilers, the use of smaller boilers requiring less on-site assembly, the automation of production technologies, and the increased use of imported boilers. There may be competition for job openings.

Jewelers

30,000

19

5,700

Average growth is expected. Job opportunities for jewelers depend largely on jewelry sales and on demand for jewelry repair services. Jewelry sales are expected to remain strong. Opportunities should be good for graduates from jeweler training programs. The outlook will be best in jewelry stores and repair shops; competition is expected for jobs in jewelry manufacturing.

Machinists and tool programmers

359,000

-1

-3,400

Employment is expected to decline slightly. Nevertheless, job opportunities will be good because, in recent years, employers have reported difficulties in attracting workers to machining and tool programming occupations.

Metalworking and plastics-working machine operators

1,378,000

-3

-43,000

Overall employment is expected to decline, although machine operators in the plastics industry should fare better than their counterparts in metalworking. Increasing productivity from automation and growing international competition are combining to dampen the demand for machine operators. Workers able to operate a variety of machines, particularly computer controlled equipment, have the brightest prospects.

Tool and die makers

138,000

-7

-9,400

Employment is expected to decline because of increased automation and imports of finished goods. However, jobseekers with appropriate skills should find excellent opportunities because the number of tool and die makers receiving training is not expected to be as great as the number of retiring tool and die makers.

Welders, cutters, and welding machine operators

403,000

7

30,000

With automated welding systems taking the place of some workers, employment is expected to increase more slowly than average. Manual welders, especially those with a wide variety of skills, still will be needed for maintenance, repair, and other work that cannot be automated.

Plant and systems operators

Electric power generating plant operators and power distributors and dispatchers

43,000

10

4,200

Employment is expected to grow more slowly than average. Construction of power plant capacity is expected to be moderate because of overbuilding in the past. The increasing use of automatic controls and more efficient equipment should further offset the need for new plant construction. Keen competition is expected for jobs.

Stationary engineers

31,000

5

1,600

Employment is expected to grow more slowly than average as automated and computerized equipment limits the number of engineers needed. Job opportunities will be best for those with apprenticeship training or vocational school courses in computerized controls and instrumentation.

Water and wastewater treatment plant operators

86,000

18

16,000

Employment is expected to grow as fast as average as population and economic growth spur the construction of new plants and the expansion of existing water and wastewater treatment services. Job opportunities should be good.

Printing Occupations

Prepress workers

167,000

13

22,000

Employment is expected to increase more slowly than average. The increased use of computers in typesetting and page layout should restrain job growth despite rising demand for printed materials.

Printing press operators

241,000

20

47,000

Job growth is expected to be about as fast as average as needs for printed materials grow. Employment of offset, gravure, and flexographic press operators will grow, while letterpress operator jobs will decline.

Bindery workers

76,000

16

12,000

Employment is expected to increase about as fast as average in response to the growing volume of printed materials that must be bound. Needs for lesser skilled workers will decline as bookbinding machinery becomes more efficient and complex.

Textile, apparel, and furnishings occupations

Apparel workers

986,000

-19

-183,000

Employment is expected to decline due to increases in imports, offshore assembly, and automation. However, replacement needs will result in some job openings.

Shoe and leather workers and repairers

22,000

-20

-4,300

Employment is expected to decline, primarily because inexpensive imports have made shoe replacement a reasonable alternative to shoe repair for many.

Textile machinery operators

284,000

-17

-47,000

Employment declines are expected as a result of greater use of automated machinery and changing business practices. However, there will still be job opportunities stemming from the need to replace workers who leave their jobs.

Upholsterers

60,000

11

6,700

Employment is expected to increase more slowly than average as growth in jobs in furniture manufacturing is offset somewhat by declining employment in reupholstery shops. Opportunities for skilled upholsterers should be good.

Woodworking occupations

341,000

8

28,000

Employment is expected to grow more slowly than average, largely reflecting increasing productivity due to technological advances and stiffer international competition. Opportunities should be favorable for woodworkers who specialize in moldings, cabinets, stairs, and windows.

Miscellaneous production occupations

Dental laboratory technicians

48,000

3

1,500

Little change in employment is expected. The fluoridation of drinking water and greater emphasis on preventive dental care since the early 1960's have improved the overall dental health of the population. Instead of full or partial dentures, most people will need only a bridge or crown.

Ophthalmic laboratory technicians

19,000

22

4,100

Average growth is expected in response to rising demand for corrective lenses and fashionable glasses.

Painting and coating machine operators

151,000

1

1,800

Little change in overall employment is expected as technological improvements raise productivity. Employment of

painting and coating machine operators should fall slightly in manufacturing due to the expanding use of industrial robots and increase modestly in nonmanufacturing industries.

Photographic process workers

63,000

20

13,000

Average growth will stem from the increasing volume of film to be processed, as long as film remains the mainstay of photographic processing. Digital cameras have the potential to displace photographic process machine operators but are not likely to affect demand for precision photographic process workers.

TRANSPORTATION AND MATERIAL MOVING OCCUPATIONS

Bus drivers

562,000

21

119,000

Overall employment is expected to grow about as fast as average. Job opportunities will be best for school bus drivers due to increased enrollments. Local and intercity bus driving jobs that offer the best working conditions and the highest earnings are expected to attract the most competition.

Material moving equipment operators

983,000

13

129,000

Employment is expected to grow more slowly than average. Equipment improvements, including the growing automation of material handling in factories and warehouses, are expected to restrain the growth of this occupation. However, many job opportunities will arise from the need to replace the many experienced workers who leave this large occupation each year.

Rail transportation workers

116,000

21

25,000

Overall employment is expected to grow about as fast

as average as an increase in freight shipped by railroad is offset by more efficient operations and labor-saving innovations. Employment of subway and streetcar operators should grow much faster than average due to the rapid expansion of urban rail systems.

Taxi driver and chauffeurs

120,000

18

22,000

Employment is expected to grow about as fast as average as local and urban travel increases. Competition is expected for jobs that offer the highest earnings or best working conditions.

Truck drivers

2,720,000

26

708,000

Employment is expected to grow about as fast as average. Job opportunities in this large occupation should be plentiful because of the growing demand for truck transportation services and the need to replace drivers who leave the occupation. However, competition is expected for jobs that offer the highest earnings or best working conditions.

Water transportation occupations

54,000

-5

-2,500

Employment is expected to decline due to foreign competition and technological innovations that allow fewer workers to operate a vessel.

Handlers, equipment cleaners, helpers, and laborers

4,451,000

17

776,000

Average growth is expected overall, reflecting growth of the industries that employ these workers and rising employment of the skilled workers whom they assist. Projected growth varies widely by occupation. While the employment of service station attendants will decline, that of parking lot attendants will grow faster than average. Overall job openings should be numerous because this occupational group is very large and

turnover is relatively high.

THE ARMED FORCES

1,808,000()

-14

-254,000

Diminishing threats to U.S. security have led to reductions in military forces. Further reductions are planned through 1997, after which the level of military forces should remain relatively constant. In spite of this, job opportunities should be good in all branches of the Armed Forces because people of prime recruiting age will account for a smaller share of the total population than in the past. Opportunities for enlisted personnel are very limited for those without a high school diploma. Competition for officer positions has always been keen and will continue to be so.