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ABSTRACT

To help meet the needs for manpower information, the interim manpower projections program was designed to provide detailed industry and occupational employment and manpower requirement projections for the States. This report presents the projections for the State of Georgia and includes: (1) population and civilian labor force projections; (2) total employment by industry; (3) employment by occupations; and (4) interpolated employment by industry and occupations, 1975 and 1976, and annual average job openings. Estimates of employment for 1975 and 1976 were obtained by linear interpolation of 1970 and 1980 data. A 127-page appendix provides: detailed Georgia interim manpower projections tables, national industry and occupation projections tables, a reprint of "Occupational Outlook Handbook in Brief, 1974-75," and "Supplement 3 to Tomorrow's Manpower Needs" (matching occupation classifications to vocational education program codes). (VA)

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GEORGIA

INTERIM MANPOWER PROJECTIONS

Industries and Occupations

1970 - 1980 With Interpolated Projections

for 1975 and 1976

(VT-102-186)

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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ACKNOWLEDGEMENTS

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Many persons in the U.S. Department of Labor, Manpower Administration and Bureau of Labor Statistics, and in the Lawrence Berkeley Laboratory (an Atomic Energy Commission facility with a huge computer capacity) contributed materially to the report. We particularly want to acknowledge the technical assistance and support rendered by Richard Dempsey of the National BLS Office, and of Arthur C. Spinks, Chief of the Atlanta BLS Regional Office's Branch of Federal, State and Local Government Relations.

The narrative sections of this report drew heavily on several other reports, including BLS Bulletin No. 1673, The U.S. Economy in 1980; articles on "The United States Economy in 1985" in the December 1973 edition of the Monthly Labor Review published by the U.S. Department of Labor, Bureau of Labor Statistics, Georgia Jobs for the Future published by the Georgia Department of Labor, Employment Security Agency, and the April 1974 draft version of Guidelines for the Use and Analysis of Data Resulting from the Interim Manpower Projections Program prepared by the U.S. Department of Labor, Manpower Administration, Office of Policy, Evaluation and Research.

Appendixes B, C and D contain reprints of several BLS-prepared articles pertinent to the understanding and use of this report. (See Guide to Appendixes)

INTRODUCTION

The Interim Manpower Projections Program, a cooperative project of the U. S. Department of Labor, Manpower Administration and Bureau of Labor Statistics, and the State Employment Security Agencies, provides industry and occupation employment projections on a comparable basis for the Nation, States and all Standard Metropolitan Statistical Areas (SMSA's) with a 1970 population of 250,000 or more. The purpose of the program as conceived by the Manpower Administration is outlined in the following three paragraphs. 1

There has long been a recognized need for both current and projected information on occupational employment levels and industrial staffing patterns, but the need for such occupational data as expressed by manpower and vocational education planners has often been only partially filled. Moreover, the growing involvement of national, State and local government in the effective and efficient utilization of the working-age population and the necessity for intelligent action in order to deal with possible future imbalances between the demand and supply of workers further demonstrates the essential need for reliable occupational manpower information.

Such legislation as the Employment Act of 1946, the Vocational Education Act, as amended, and the Comprehensive Employment and Training Act of 1973 (CETA) emphasize the importance of information on future labor demand (i.e., manpower requirements) and labor supply in directing manpower training and vocational educational planning programs toward those occupations which demonstrate definitive long range needs for properly trained workers.

To help meet the needs for manpower information, particularly on a local area basis as required by CETA, the Interim Manpower Projections Program was designed to provide detailed industry and occupational employment and manpower requirement projections for States and labor market areas for use in the Fiscal Year 1975 planning cycle. This information is also useful in helping to determine which occupations afford good opportunities for conducting manpower and vocational education training programs. The projections of future occupational manpower requirements for the States and their subdivisions will be especially valuable for employment counseling and vocational guidance purposes, for planning the establishment of manpower and vocational education training facilities, and for the development of appropriate curricula for manpower and vocational education training programs.

Some of the technical aspects of the project were described in a status report given by Dick Dempsey of the National BLS office at the Fourth Annual Conference of Research Directors of Employment Security Agencies held in Portland, Oregon, in September 1973. Part of the report is quoted below. 2

For those of you who aren't familiar with the two programs that I am immediately involved in, one is the national-state matrix system and the other this new industry projection project. Hopefully we will be producing projections of occupational employment requirements for all of the states and metropolitan areas of over 250,000 by the end of this year. Now, I'd like to give a status report. First, the national-state matrix system. We

have received from all the states their estimates of industrial employment for the full 1,208 cells for their matrix. We put them all together and added them up and, lo and behold, they came up as, I think, one-third of one percent different from total national employment, which just surprised the dickens out of us. That, by the way, is about 275,000, so it's not a drop in the bucket. Of the 1,208 individual industries in the matrix, only 24 of the sum total -- state totals -- came to a figure that was more or less than 10 percent away from the national figure, and these are relatively minor industries. We have some particular problems in agriculture and, I believe, private education and a couple of research sectors.

"There isn't any question now that we're going to have to bring these estimates into line with the national totals and we'll be coming back to some of you suggesting or recommending that we make certain adjustments to your agriculture figures in particular. I think in these cases where you feel you have a better figure, you can plug it into your particular matrix at a later date. I think we can do this without any problem at all. The minor problems we'll just prorate and give you back the estimates. The national matrix that we're going to use as a constraint matrix has been completed, it was finished several weeks ago and is presently available. "How big is it?" It's 201 industries by 427 occupations and 6 classes of worker categories. I multiplied it up and, lo and behold, it was 594,962 cells, about 90 percent of which are zero, I might add. That's still a lot of zeros.

"The next step in the process will be to bring all of the states matrices into consistency with the national matrix. At the moment we are a little hung up on that particular step of the process since we're so deeply involved in this projection project. If we do go ahead with it, we're thinking seriously of turning this particular problem over to Lawrence Berkeley lab. They seemed intrigued by the whole idea, and their computer is so enormous that they can swallow this thing in one large gulp and spit it out, whereas the Bureau's computer or the Department's computer probably would have to break it into a thousand pieces and do each separately. Now the remaining part of the state matrix package is the computer system. Since we've got the national matrix finished, the basic computer system is operational, it's completed and in our departmental computers. We have a draft operating manual for our own in-house use, it's documented and they are just starting on the documentation for outside implementation. We haven't yet rewritten the programs in order to fit the smaller computers; that particular project is delayed somewhat by this interim projection program. There is one module that isn't finished on the model but it's of no great consequence.

"Now, the interim projection project that we just embarked upon: As you know, you've received materials from us concerning setting up some data for running regressions. Since we don't have all the ends tied up on this program, you're going to be receiving, over the next few months, a number of communications. I think the next one will provide you with the formats for sending in your final industry estimates. There will be a series of these communications, that's the point I wanted to make. The national matrix for 1970 is completed. We have a large staff of handbook analysts now working on the individual projections of these occupational structures by industry. This we hope to be completed by the end of this month and in the hands of the Berkeley people for the processing.

"As most of you know, the death and retirement rates by state have already been completed. Many of you have them for your own particular use. If there are some who don't and wish them, just contact our regional office and I'm sure they'll be in contact with us for them.

"The Lawrence Berkeley Lab, as you know, has been contracted by the Manpower Administration to provide our data processing services. They will have a system operating out there very shortly, and hopefully, we will have all of these data that you've been transmitting to us back to you by the end of next week. We have a problem with the listings for the metropolitan areas of over a million regarding the basic census data that you need for this project, since the listing program isn't operational at Berkeley yet. We are going to get the data for major areas back and list them ourselves. You should be getting those within two weeks or so.

"Now as for the state inputs, I must say that your response has been most encouraging in fact overwhelming. I've been digging in my basket every morning and pulling out piles of keypunch sheets, data that you've been sending. We're going to have an awful wealth of historical data on file someplace when all of this gets run. I counted the other day and something like 40 states have either already completed their projections or have sent information to us. There are a few states that we haven't heard from yet. There has been virtually complete cooperation from the states.

"Before I shift gears, I must mention what we will probably be doing in the immediate future. One is that we'll want to recycle the projections utilizing your individual matrices right away. I think the second thing we ought to do early next year is complete a 1973 national matrix, then I think we should immediately update all the state matrices to 1973. We could then follow this very shortly with a 1975 national matrix. I would guess too that probably by the end of next year we should have some guidelines established and a system worked out for developing the sub-state areas' matrices."

As mentioned in Mr. Dempsey's talk quoted above, the Manpower Administration contracted with the Lawrence Berkeley Laboratory to provide data processing services. These services included the production of three tables. The basic tables, containing unrounded estimates, were:

Table 1 - Total Employment by Industry

Table 2 - Total Employment by Occupation

Table 3 - Average Annual Job Openings

The tables were produced on the basis of a mechanical process and standardized data input and require caution in their interpretation and use. For instance, the occupational data derived in the Interim Manpower Projections Program are based upon 1970 Census occupational employment which have been projected to 1980 according to the industry employment projections for 1980 and estimated national staffing patterns changes from 1970 to 1980. Estimates of employment for 1975 and 1976 in tables 1, 2 and 3 are obtained by linear interpolation of 1970 and 1980 data. The projection method thus does not take into account

cyclical, seasonal, and such exogenous factors as sudden and large plant openings or closings. Moreover, the national projections used in the development of the State and area projections do not reflect the potentially serious implications of the "energy crisis" and its effect on future employment. Although BLS is presently reviewing this question, no conclusive assessments are now available. Finally, the method assumes that the labor market area covered is self-contained and generally devoid of significant levels of commuting and migration.

The Bureau of Labor Statistics' national estimates for 1980 mentioned above are included in Appendix B of this report. They are consistent with the 1985 projections published in the December 1973 Monthly Labor Review.³ The general assumptions on which the national projections to 1980 and 1985 are based are condensed below.

1. Fiscal, monetary and manpower training and educational programs will achieve a satisfactory balance between relatively low unemployment and relative price stability, permitting achievement of the long-term economic growth rate.
2. The institutional framework of the American economy will not change radically.
3. Economic, social, technological, and scientific trends will continue, including values placed on work, education, income, and leisure.
4. Efforts to solve major domestic problems such as those of air and water pollution, solid waste disposal, urban congestion, inadequate industrial safety and energy shortages may consume more productive resources but will not have more than a marginal effect on long-term economic growth.

The Manpower Resources Section of the Manpower Program Development Division, Employment Security Agency, Georgia Department of Labor prepared the historical data that was the basis for the projections and reviewed and adjusted the 1980 industry projections prior to application of the national staffing patterns. It also selected the manner of presentation and prepared the report for publication.

- 1/ From "Guidelines for the Use and Analysis of Data Resulting from the Interim Manpower Projections Programs" draft version prepared by the U.S. Department of Labor, Manpower Administration, Office of Planning and Evaluation, April 1974.
- 2/ From a talk given by Dick Dempsey in a workshop panel entitled "The Occupational Employment Statistics Program and Manpower Data Needs" at the Fourth Annual Conference of Research Directors of Employment Security Agencies held in Portland, Oregon, in September 1973. The panel was chaired by Dudley E. Young of the National Bureau of Labor Statistics Office.
- 3/ See articles on "The United States Economy in 1985" beginning on pages 3, 8, 18 and 27 of the Monthly Labor Review, December 1973, published by the U.S. Department of Labor, Bureau of Labor Statistics.

HIGHLIGHTS

Population and Labor Force

Georgia added an average of 64,646 persons to its population each year during the 1960's with most of the gain being in the working-age population. Employment grew at a faster rate than the population during this period. As a result, the long-term flow of out-migration was reversed and the labor force participation rate increased.

Georgia population is expected to exceed 5,301,500 in 1980 after rising about 71,200 annually during the 1970's, according to projections prepared by the State Office of Planning and Budget. Half of the gain of approximately 712,000 from 1970 will be in the 25-44 age group. Declining birth rates will cause the 5-14 age group to actually drop during the 1970-80 decade, but other age groups are expected to record increases.

The civilian labor force is expected to expand 457,100 from 1970 to a total of 2,320,400, assuming an unemployment rate of 4.0 percent in 1980. The labor force participation rate for the civilian noninstitutional population 16 years old and over is expected to be 64.9 percent in 1980, compared to 62.2 percent in 1970.

Industry Employment Trends

Total employment increased by 40,680 jobs a year for an annual growth rate of 2.6 percent from 1960 to 1970. The net gain of 406,800 jobs during the ten-year period boosted employment to an average of 1,787,300 in 1970. Employment will continue to grow to 1980 but at a slower rate. Employment is expected to add 44,050 jobs a year from 1970 to 1980 for an annual growth rate of 2.2 percent. This would put the 1980 total at 2,227,800.

All major industry divisions added workers between 1960 and 1970 except agriculture, forestry and fisheries which continued a long downtrend and lost 48,500 workers. Annual growth rates ranged from a low of 2.1 percent for mining -- the smallest major division -- to 4.7 percent for public administration. Because of the decline in agriculture, forestry and fisheries and greater growth rates in most service-producing industries than in mining and manufacturing, the proportion of all employed workers who were employed in goods-producing industries dropped from 41.6 percent in 1960 to 37.6 percent in 1970. The trend will continue, and by 1980 only 36 of every 100 workers will be employed in goods-producing industries, while 64 will be employed in services.

Factories employed 25.5 percent of Georgia's workers in 1960 with 8.0 percent of all workers employed in durable goods industries and 17.5 percent in nondurable goods. Manufacturing employment increased by 116,200 from 1960 to 1970 with substantial changes taking place in the industry mix. Lumber and wood products was the only major industry group to register a decline in this period. Annual increases during the 1960-1970 span in the durable goods industries ranged from 130 a year for furniture and fixtures to 2,140 a year for transportation equipment (aircraft, automobiles, railroad cars, mobile homes, ship and boat building and repair). Increases in nondurable goods industries ranged from only 110 a year in leather products to 1,510 in textile mill products and 2,250 in apparel.

Manufacturing employment is expected to show a net growth of 91,500 from 1970 to 1980 when 559,600 will be on factory jobs. The annual growth will be 9,150 jobs, or 1.8 percent a year, compared to the faster growth of 11,620 jobs and 2.9 percent during the 1960-1970 period. Transportation equipment, which had provided so much of the growth in the early '60's, is expected to decline because of completion of defense related contracts in the aircraft industry. Textile employment will gain at a slower rate than all employment. By 1980 factory employment's share of all employment will have dropped to 25.1 percent. Durable goods industries' share will be 8.8 percent of all employment. The proportion in nondurable goods industries will have declined to 16.3 percent of all employment.

Agriculture, forestry and fisheries employment will continue to decline from 1970 to 1980 but at a slower rate than in the earlier period. Mining will have the slowest growth of any expanding industry. The fastest growth rate will be in construction and finance, insurance and real estate.

Occupational Employment Trends

Industry changes during the 1970's will have a strong influence on occupations which ones will grow and which will contract. Each industry in the economy requires a specific mix of occupations. As industries react to changes in final demand and in relation to each other, the relative importance of particular occupations also changes.

Beyond the effect of interindustry relationships, industry occupational structures are also affected by internal changes within industries. Just as technological advances that increase worker productivity have significantly affected employment and output, these advances significantly affected the occupational structure of the work force. As a result of technological innovations, new occupations have emerged, others have expanded, contracted, or even disappeared, and the content and skill requirements of a great many occupations have been altered. But technology and final demand are not the only factors affecting occupational shifts. Changes can occur as a result of revised work rules, new directions in governmental policy, and severe shortages that force substitutions in the kinds of workers hired.

Several long-term occupational trends are expected to continue:

White-collar occupations, the fastest growing occupational group over the past 30 years, will continue in that mode. This group, which surpassed employment in blue-collar occupations in 1960, will account for almost half of all employed workers (47.9 percent) by 1980. Employment in these occupations will rise from 705,000 in 1970 to 952,400 in 1980.

Blue-collar occupations, a slow-growing occupational group, will account for slightly more than one-third (37.7 percent) of employment in 1980, down from 39.2 percent in 1970. Employment, however, will rise from 622,300 to 749,500 in 1980. Many occupations within the group, particularly in the skilled craft and foreman category, require years of specialized training.

Farm occupations will continue to decline -- from 3.6 percent of employment in 1970 to 2.0 percent in 1980 -- as machines take over many more of the production processes on the farm. Employment will shrink from 57,100 to 39,500.

Service occupations will continue to expand in 1980, increasing by more than one-fifth. Employment will rise to 246,600, up from 203,400 in 1970.

Manpower Requirements

For every 100 new jobs created by industrial expansion, 160 jobs will require replacement of workers because of deaths and retirements. This means that from 1970 to 1980 there will be 1,049,800 jobs to be filled. The occupational categories by volume of needs are listed in descending order:

- Clerical and Kindred Workers (236,400)
- Operatives and Kindred Workers (162,700)
- Service Workers, including private household (160,600)
- Professional, Technical and Kindred Workers (156,800)
- Craftsmen, Foremen and Kindred Workers (109,100)
- Managers, Officials and Proprietors (108,800)
- Sales Workers (84,700)
- Laborers, excluding Farm and Mine (28,500)
- Farm Workers (2,200)

1/ Estimates are based on census data and are not fully comparable. 1970 estimates and 1980 projections are based on 1970 Census count from which "allocated" and "not specified" workers have been excluded. "Occupations not reported" have been excluded from data shown in 1960 Census reports.

POPULATION AND CIVILIAN LABOR FORCE PROJECTIONS

Georgia's population is expected to increase about 71,200 annually from 1970 to reach a total of 5,301,537 in 1980, according to projections prepared by the State Office of Planning and Budget. About half of the gain is expected to occur among the group 25 to 44 years old. This group will grow from 24.4 percent of the population in 1970 to 27.9 percent in 1980. The group 20 to 24 years old will have 11 percent of the growth and will increase its proportion from 9.1 to 9.3 percent of the total.

Youth 15 to 19 years old will increase 25,849 numerically, but the group will decline from 9.6 percent to 8.8 percent of the population. Declining birth rates will cause the group 5 to 14 years of age to decline 39,085 from 1970 to 1980. This group's proportion of the total will decrease from 20.7 to 17.2 percent. Both the number and the proportion of elderly persons 65 and over will increase.

TABLE 1
GEORGIA POPULATION BY SELECTED AGE GROUPS
1960 AND 1970 (ACTUAL) AND 1980 (PROJECTED)

Age	1960		1970		1980	
	Totals	% of Total	Totals	% of Total	Totals	% of Total
0-4	471,901	12.0	421,709	9.2	548,559	10.3
5-14	851,848	21.6	951,235	20.7	912,150	17.2
15-19	331,554	8.4	442,571	9.6	468,420	8.8
20-24	271,211	6.9	416,949	9.1	495,616	9.3
25-44	1,013,165	25.7	1,121,859	24.4	1,478,443	27.9
45-64	712,776	18.1	867,794	18.9	919,222	17.3
65+	290,661	7.4	367,458	8.0	479,127	9.0
Total	3,943,116	100.0	4,589,575	100.0	5,301,537	100.0

Source: Georgia State Data Center, Office of Planning and Budget, County Population Projections, Georgia 1980, Table I.

TABLE 2
GEORGIA POPULATION, DECENNIAL CHANGE FOR SELECTED AGE GROUPS
1960-70 (ACTUAL) AND 1970-80 (PROJECTED)

Age	1960 to 1970		1970 to 1980	
	Total Change	% Change	Total Change	% Change
0-4	-50,192	-10.6	126,850	30.1
5-14	99,387	11.7	-39,085	-4.1
15-19	111,017	33.5	25,849	5.8
20-24	145,738	53.7	78,667	18.9
25-44	108,694	10.7	356,584	31.8
45-64	155,018	21.7	51,428	5.9
65+	76,797	26.4	111,669	30.4
Total	646,459	16.4	711,962	15.5

Source: Georgia State Data Center, Office of Planning and Budget, County Population Projections, Georgia 1980, Table 2.

The labor force participation rate for the civilian noninstitutional population is expected to continue its long-term increase until 1976 but decline from 1976 to 1980. The 1980 rate of 64.9 percent will, however, remain above the 1970 rate of 62.2 percent.

TABLE 3
EMPLOYMENT STATUS OF CIVILIAN
NONINSTITUTIONAL POPULATION 16 YEARS AND OVER,
1970 (ACTUAL) AND 1975, 1976, AND 1980 (PROJECTED)
(Estimates in thousands)

Item	1970	1975	1976	1980
Civilian noninstitutional population ^{1/}	2,995.7	3,286.4	3,344.5	3,577.0
Civilian labor force	1,863.3	2,191.9	2,237.6	2,320.4
Participation rate	62.2	66.7	66.9	64.9
Employment ^{2/}	1,787.3	2,007.5	2,051.6	2,227.7
Unemployment ^{3/}	76.0	184.4	186.0	92.7
Percent of civilian labor force	4.1	8.4	8.3	4.0

- 1/ 1970 count was derived from 1970 U.S. Census of Population, PC(1)-C12, Table 53, and excludes members of the Armed Forces and inmates of institutions who were 16 years old and over. The Georgia State Data Center (see population table) projection for the total population 15 years old and over for the 1970-80 period was interpolated to obtain 1975 and 1976 estimates for this category. The ratio of .93132 (obtained by dividing the 1970 civilian noninstitutional population 16 and over by the total population 15 and over) was then applied to obtain the 1975, 1976 and 1980 population shown in this table.
- 2/ The estimate for 1970, based on place of work, was developed from Georgia Department of Labor, Employment Security Agency records supplemented to include self-employed persons, unpaid family workers, private household workers, and persons with a job but not at work, and adjusted to exclude the secondary job of multiple job holders. (The 1970 estimate is slightly under the estimate of 1,790 thousand derived from the Current Population Survey.) The employment estimates for 1975 and 1976 are simple interpolations of the projected long-run (1970-80) labor market trend.
- 3/ The 1970 unemployment estimate was derived from the Current Population Survey. The 1975 and 1976 estimates were projected from Georgia Department of Labor, Employment Security Agency estimates for the first half of 1974 and are based on the assumption the Nation will be in a recession in 1975, with recovery beginning in 1976. The 1980 projection is based on an assumed unemployment rate of 4.0 percent of the civilian labor force in that year.

Relative labor force growth between men and women is expected to alter sharply in the last half of the 1970-80 decade. Nationally, during 1960-72, women made up 60 percent of the net increase in the labor force. Between 1972 and 1980, they are projected to account for only 46 percent of new growth. This anticipated slowdown is attributable to, (1) the increase in the 25 to 34 year-old group, which has a lower labor force participation rate than the groups (under 25 and 35 to 54) which grew most rapidly in the 1960's, and (2) the assumed halt in the decline in women's fertility rates, which implies that increased labor force participation attributable to declining fertility will not be as evident over the coming years.

In the table showing projected employment status to 1980, it has been assumed that Georgia and the nation will be experiencing the effects of a business recession in 1975 and 1976 with full recovery by 1980. Georgia's assumed unemployment rates are 8.4 percent of the civilian labor force in 1975, 8.3 in 1976 and 4.0 in 1980. The employment levels shown are simple interpolations of the projected long-run employment trend.

Georgia has only recently been included among the states for which estimates of the civilian noninstitutional population and employment status by color, sex, and age are derived from the Current Population Survey (CPS). The only estimates published thus far are the 1973 annual averages which follow.

TABLE 4
EMPLOYMENT STATUS OF CIVILIAN NONINSTITUTIONAL POPULATION
16 YEARS AND OVER BY COLOR, SEX, AND AGE, 1973 ANNUAL AVERAGES
(Number in Thousands)

Population Group	Civilian Noninstitutional Population	Civilian Labor Force		Unemployment Level	Unemployment Rate
		Number	Participation Rate		
Total	3,232	2,070	64.0	1,989	81
White	2,545	1,633	64.2	1,586	48
Men, 20 years and over	1,081	906	83.8	892	13
Women, 20 years and over	1,208	586	48.5	565	21
Both sexes, 16-19 years	255	142	55.7	128	13
Negro and Other Races	687	436	63.5	403	33
Men, 20 years and over	252	200	79.4	195	6
Women, 20 years and over	334	184	55.1	171	12
Both sexes, 16-19 years	102	51	50.0	36	15

Source: U.S. Department of Labor, Bureau of Labor Statistics, Report 431, Geographic Profile of Employment and Unemployment, 1973, Table 3.

1. U.S. Department of Labor, Bureau of Labor Statistics, Monthly Labor Review, December 1973, "The United States Economy in 1985, Population and Labor Force Projections", p. 9.

TOTAL EMPLOYMENT BY INDUSTRY

Industry employment as presented here differs in concept from that in the historical nonfarm wage and salary series that is published monthly by this Agency and annually by the U.S. Department of Labor, Bureau of Labor Statistics, in Employment and Earnings' States and Areas. The historical series includes only nonagricultural wage and salary workers.

The 1970 estimates from which the 1980 projections were made were developed from Georgia Employment Security records and were supplemented to include self-employed persons, unpaid family workers, private household workers and persons with a job but not at work.

The 1970 estimates were adjusted to exclude the secondary job of multiple job holders. The only comparable estimates for an earlier period are those for 1960 contained in Georgia Jobs for the Future, a report prepared by the Georgia Department of Labor, Employment Security Agency, which contained projections to 1975.

Review of 1960-1974 Trends

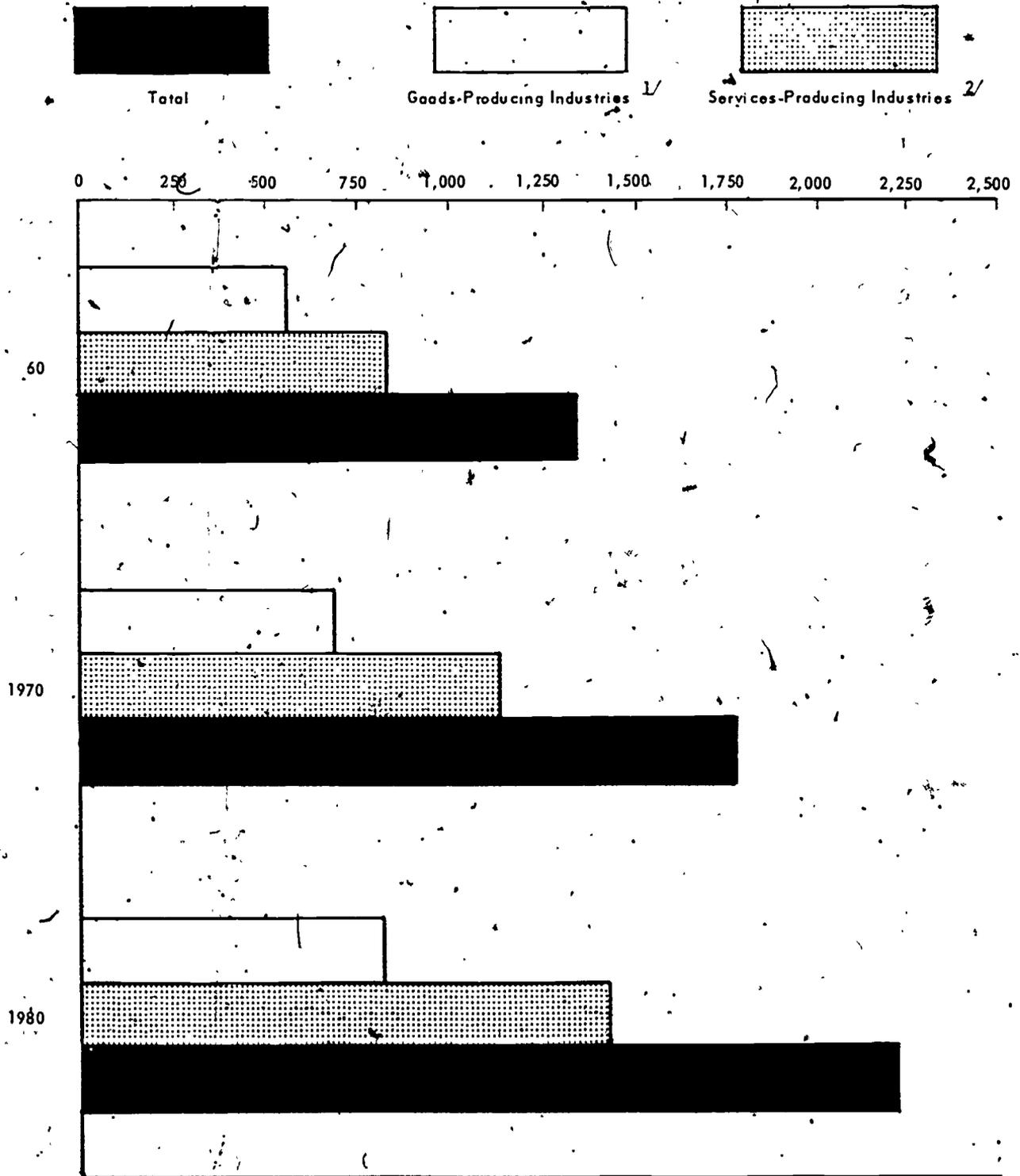
Employment rose in most nonfarm industries and fell in agriculture in the 1960's. The policy of the National Administration, following the 1960-61 recession, was to spur the economy. Even after activities in the Vietnam War were sharply stepped up in the mid-60's, a policy of both "Guns and Butter" was pursued. Demand for war materiel and consumer goods and services rose. New manufacturing plants were built and existing plants were expanded in an effort to meet the demand. Employment in nonmanufacturing industries also rose. The failure of the federal government to adequately finance the war effort through increased taxation led to inflation.

In late 1969 Georgia and the nation entered a period of retarded economic growth due to the winding down of the Vietnam War and the policies of the Nixon Administration and of the Federal Reserve System designed to fight inflation. During this period of retarded growth, which lasted about two-and-a-half years, Georgia's nonfarm employment, both total and for nonmanufacturing, continued upward but at a much slower rate than the average for the 1960-'70 decade. Agricultural employment continued its long-term downtrend and manufacturing employment declined. The factory-worker drop took place primarily in ordnance, the aircraft segment of transportation equipment, and in textiles. These industries had accounted for much of manufacturing gain in the 60's.

A series of measures taken by the Administration and the Federal Reserve System to bring about recovery from the 1969-70 recession resulted in further gains in nonfarm employment with manufacturing again sharing in the rise. However, inflation continued at increasing rates. In late 1973, Arab oil-producing states clamped an embargo against nations they considered friendly to Israel. Although the embargo was later lifted, the threat that it will be reimposed lingers. Both Arab and non-Arab oil-producing states have also greatly jacked-up the price at which they will sell oil to the United States and other countries. This helped to bring on what has been described as "slumpflation", a combination of deepening business decline side by side with relentlessly galloping inflation. 1/

1/ The term "slumpflation" was taken from an article by Sylvia Porter, the New York financial columnist, in the Atlanta Journal, November 13, 1974.

CHART I
 EMPLOYMENT IN GEORGIA,
 TOTAL AND IN GOODS-PRODUCING AND SERVICES-PRODUCING INDUSTRIES,
 1960, 1970 AND PROJECTED 1980

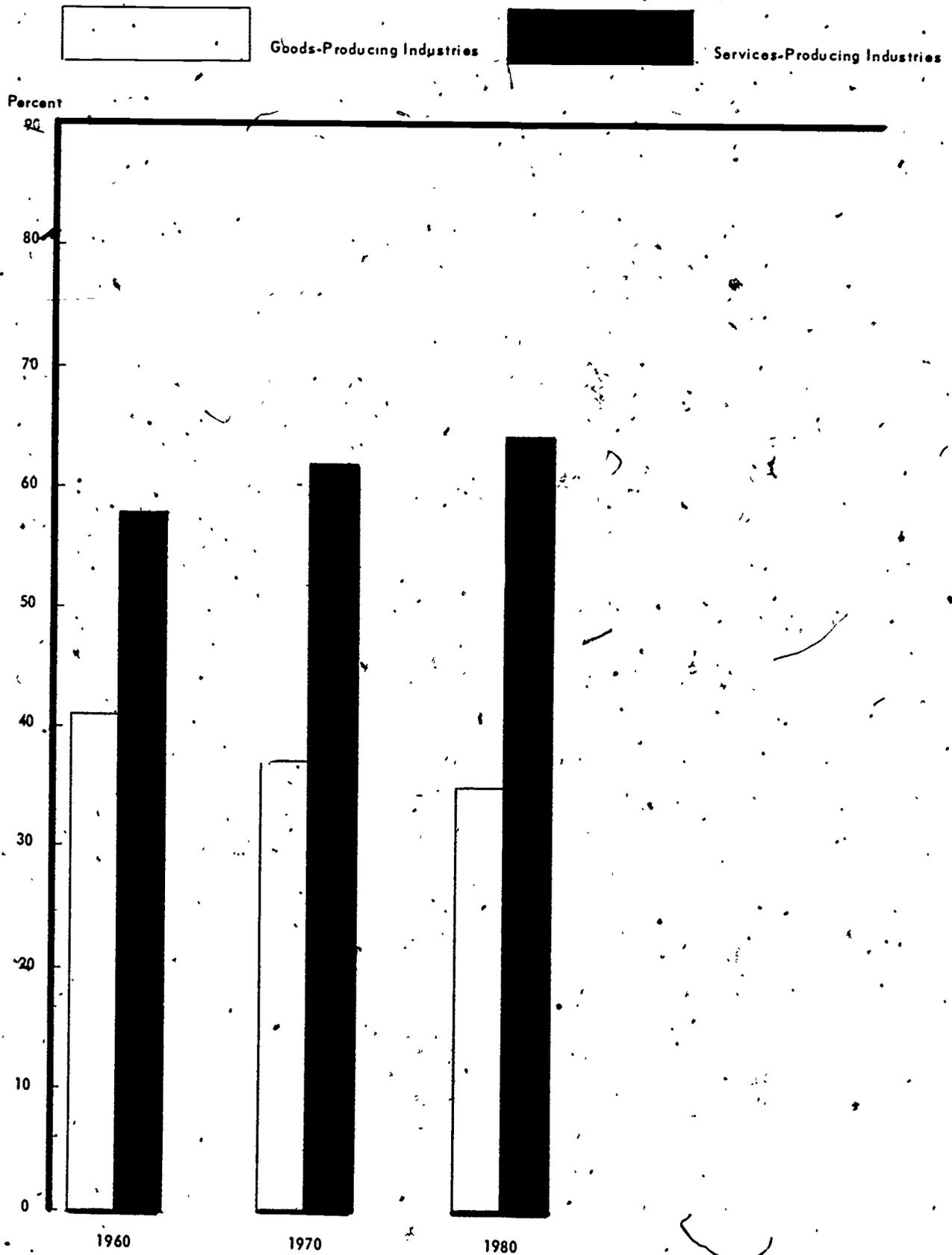


1/ Includes agriculture, forestry and fisheries; mining, construction; and manufacturing.

2/ Includes transportation, communication and public utilities; wholesale and retail trade, finance, insurance and real estate; services; and public administration.

Source of 1960 Data: Georgia Jobs for the Future, Table 4.

CHART 2
EMPLOYMENT IN GOODS-PRODUCING AND SERVICES-PRODUCING INDUSTRIES
AS A PERCENT OF TOTAL EMPLOYMENT 1960, 1970 AND PROJECTED 1980



Source of 1960 Data: Georgia Jobs For the Future, Table 4.

The most dramatic change in industry employment in recent years has been the employment shift towards service-producing industries. Data in the 1940 Census showed that only about 4 in every 10 workers were in service industries. By 1950 the weight had shifted to just under 5 in every 10 in service industries. In 1970 more than 6 of every 10 of Georgia's 1,787,350 employed workers were in the service industries.

Employment in goods-producing industries slowed drastically between 1940 and 1950 and declined in 1960 because sharp reductions in agriculture, forestry and fisheries more than offset increases in manufacturing, construction and mining. Trends in the various goods-producing industries continued in the same direction between 1960 and 1970, but the group showed a gain of 98,600 workers because the drop of 48,500 in agriculture, forestry and fisheries was less than the increase of 147,100 in nonagricultural goods-producing industries.

Projections to 1980

Employment projections to 1980 reflect additional changes expected in the industrial composition of the economy. The proportion of the total of almost 2,227,800 employed in 1980 that work in service-producing industries is expected to be about 6.4 of every 10 -- or 1,434,740. About 3.6 of every 10 workers -- or 793,010 -- will be employed in goods-producing industries in 1980.

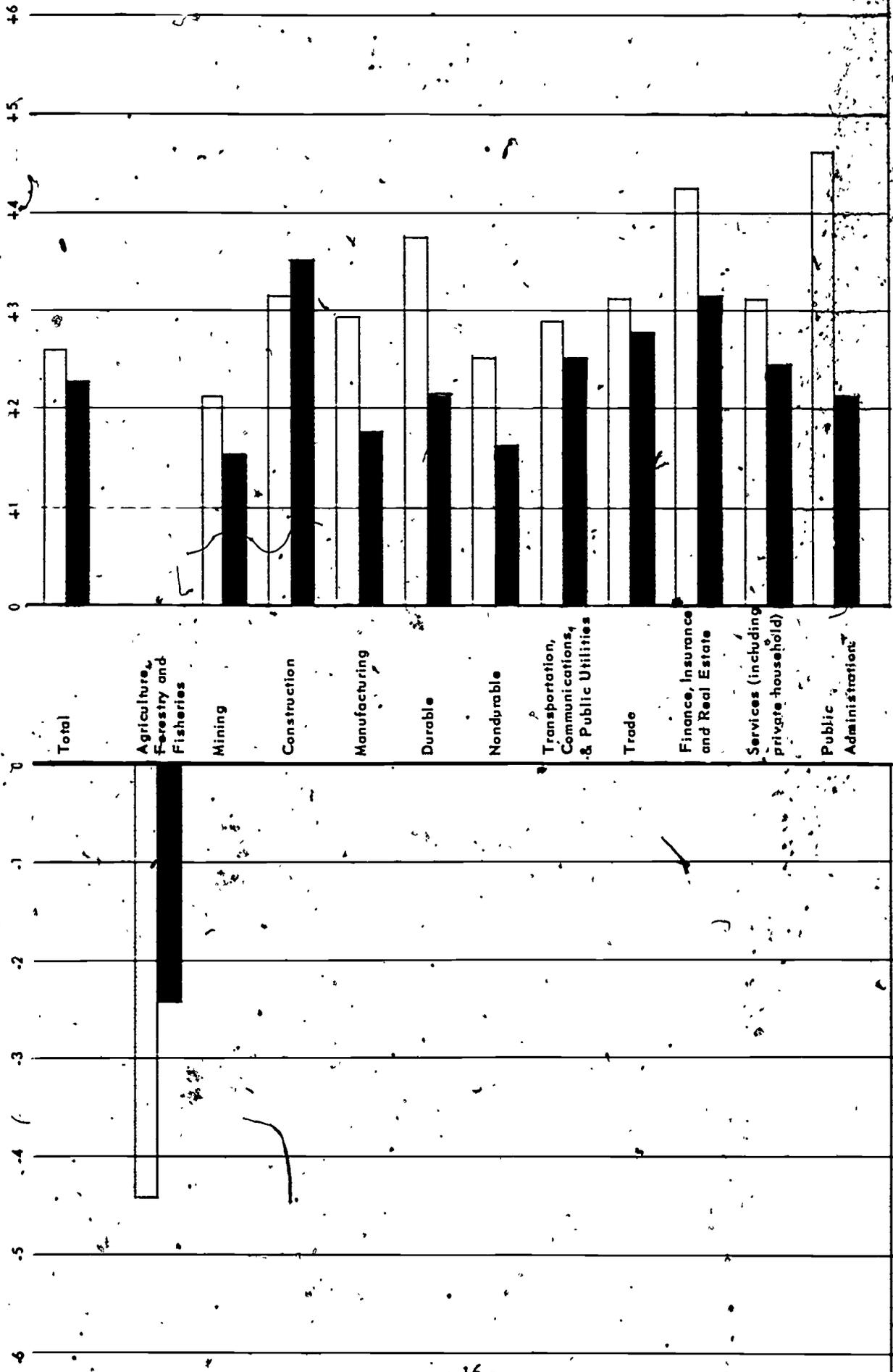
TABLE 5
GEORGIA TOTAL EMPLOYMENT AND AVERAGE ANNUAL RATE OF CHANGE BY MAJOR SECTOR, 1960-70 (ACTUAL) AND 1970-80 (PROJECTED)

Major Industry Sector	Employment (In Thousands)			Annual Average Rate of Change ^{2/}	
	1960 ^{1/}	1970	1980	1960-70	1970-80
Total Employment, All Industries	1,380.5	1,787.3	2,227.8	2.6	2.2
Agriculture, Forestry and Fisheries	133.6	85.1	66.7	-4.4	-2.4
Mining	5.7	7.0	8.1	2.1	1.5
Construction	82.6	112.2	158.6	3.1	3.5
Manufacturing ^{2/}	351.9	468.1	559.6	2.9	1.8
Durable	110.3	159.5	196.9	3.8	2.1
Nondurable	241.6	308.6	362.7	2.5	1.6
Transportation, Communications and Public Utilities	87.4	116.8	149.5	2.9	2.5
Trade, Wholesale and Retail	269.8	366.3	481.7	3.1	2.8
Finance, Insurance and Real Estate	55.0	83.1	112.7	4.2	3.1
Services (including private and household)	329.3	445.5	563.7	3.1	2.4
Public Administration	65.2	103.2	127.2	4.7	2.1

^{1/} From Georgia Jobs for the Future, Industries and Occupations, 1960-1967-1975, a report published by the Georgia Department of Labor, Employment Security Agency.

^{2/} Compound interest rate between terminal years.

CHART 3
TOTAL EMPLOYMENT: AVERAGE ANNUAL RATE OF CHANGE, 1/
BY MAJOR SECTOR, 1960-70 (ACTUAL) AND 1970-80 (PROJECTED)



1970-80

1960-70

Chart 3 and Table 5 show average annual rate of change by major sector from 1960 to 1970 and the projected rate from 1970 to 1980. All of the major nonfarm sectors shown are expected to have smaller average growth rates than during the 1960-70 decade except construction which is projected to show a higher rate. The rate of decline for agriculture, forestry and fisheries is expected to be less in the 1970-80 period.

—A discussion of projected change in employment levels as shown in Table 6 follows. Employment is rounded to ten's and percent change figures have been rounded to whole numbers. (See Appendix A for more detail for Georgia and Appendix B for national projections.)

Goods-Producing Industries

Agriculture, Forestry and Fisheries. Employment is expected to continue to decline, dropping by 18,400 or 22 percent to 66,780. The proportion of all employment will drop from 4.8 percent in 1970 to 3.0. The national expectation is that even though worldwide demand for this nation's agricultural products will increase, the need for farm workers will decline because of rising productivity on farms. However, if less productive land is planted because of the increased demand for foodstuffs and if there are shortages of fertilizer, insecticides and other agricultural chemicals and of truck and tractor fuel as a result of an energy crisis, productivity could decline. The weather is another unknown factor in agricultural productivity.

Mining. Employment has increased slightly during recent years, primarily in metal mining and in nonmetallic mining and quarrying, but this has remained the smallest industry division in the state. Employment is expected to rise from 7,020 in 1970 to 8,150 in 1980. As a proportion of total employment, mining is expected to remain at 0.4 percent. Future employment growth will be limited by the increasing use of new and improved labor-saving devices and techniques.

Construction. Employment is expected to increase 41 percent to 158,570. Construction's share of all employment is expected to rise from 6.3 percent to 7.1. Much of the increase will be due to construction of transportation facilities and expansions of utilities. Probably the most expensive project in the State's history is scheduled to start in the last half of this decade -- the \$1.7 billion Metropolitan Atlanta Rapid Transit Authority's 50-mile rapid rail system. The MARTA construction is expected to result in the generation of as much as \$50 billion in new commercial and high-density residential construction in Fulton and DeKalb Counties.

Manufacturing. Manufacturing employment had supplanted agricultural employment as the largest single source of jobs in the State's economy by 1950, according to Census of Population data, and remained as the biggest industry division in 1970. It will continue to grow but by 1980 will be surpassed by the services division, including domestics and health and educational services. Manpower requirements in manufacturing will increase at a slower pace, at 1.8 percent a year, than that experienced during the 1960-70 period, chiefly because the increases in employment in the '60's in industries heavily oriented toward defense (aircraft and parts, ordnance, etc.) are not expected to continue at the same pace. Total manufacturing employment, however, will rise from 468,130 in 1970 to 559,590 in 1980.

As in the past, changes in employment in individual manufacturing industries are expected to vary widely, depending on the impact of technology as well as shifts in demand. The increasing application of technological innovations to manufacturing processes is expected to continue to reduce unit labor requirements in manufacturing. Major technological developments that will continue to limit growth in manufacturing employment include numerical control of machine tools, new metal processing methods, machinery improvements, improved materials handling (including layout), new and improved raw materials and products, instrumentation and automatic controls, and electronic computers.

Employment in durable goods industries is expected to increase 23 percent from 1970 to 196,850 in 1980. The proportion of all workers employed in durable goods is expected to decline from 8.9 percent to 8.8. All major durable goods groups except ordnance and transportation equipment should record a 10-year employment gain. Ordnance has almost completely phased out since the United States became disengaged from the Vietnam War. Transportation equipment employment is expected to be down 4,840 by 1980 due to losses in aircraft manufacturing that took place in the early part of the Post-Vietnam Era. Employment in motor vehicle and mobile home manufacturing is expected to show substantial gains from 1970 but the expected increases could be wiped out if energy shortages should be severe in the last half of the 70's.

Nondurable goods industries are expected to show an increase from 1970 of 54,090 or 18 percent. All major groups except leather and leather products are expected to increase in this period. The greatest numerical increases are projected for food, textiles, apparel, and rubber and miscellaneous plastic products. At this writing, however, the textile industry is experiencing cutbacks because of less demand for floorcovering due to a depressed construction industry and because of shortages of manmade fibers due to the energy crisis. The prospect for rubber and plastics could be dimmed also by shortages of petroleum and by pollution problems.

Service-Producing Industries

Transportation, Communications and Public Utilities. Employment in this industry division is expected to increase to 149,470 in 1980, up from 116,750 in 1970. Its share of total employment is expected to rise from 6.5 percent in 1970 to 6.7 percent in 1980. Gains in local and interurban passenger transit, trucking and warehousing; air transportation; telephone communications, electric, gas and sanitary services and most other industries should more than offset continued declines in railroads and telegraph and miscellaneous communications.

Trade. Wholesale and retail trade, the second largest of the service industries, is interwoven throughout the economic system in a network of wholesale and retail establishments. Trade employment changes are expected to parallel those of the whole economy. At 481,680 in 1980, trade will be up 32 percent from 1970. Trade's relative share of total employment will be up slightly -- from 20.5 percent in 1970, to 21.6 percent in 1980.

Wholesale trade employment will increase more rapidly than retail employment, rising 35 percent from 1970 to 136,460 in 1980. Employment in motor vehicles and automotive equipment, drugs and chemicals, electric, hardware and plumbing goods, and machinery and equipment will be among the faster growing areas. The projection for motor vehicles assumes, of course, there will be adequate supplies of fuel to power vehicles.

The anticipated expansion of retail trade is expected to increase the need for sales workers, while changing techniques in merchandising are expected to hold down some of the increase. Retail trade is expected to be up 30 percent from 1970 to a total of 345,220 in 1980. The expansion will be most rapid in general merchandise stores and eating and drinking places.

Finance, Insurance and Real Estate. Employment in these industries is expected to increase at a faster rate to 1980 than total employment and to account for a slightly larger share -- 5.1 percent -- in 1980 than in 1970. Employment will rise from 83,130 to 112,730. The fastest gains will be in finance, although advancing automation will eliminate some clerical functions in banking institutions. Insurance employment will be constrained somewhat by the computerization of recordkeeping functions but will continue to grow with the rising population. Real estate employment will also continue to grow, it is little affected by technological advances but is highly responsive to the rising number of family formations.

Services. Employment in this heterogeneous group of service industries, which includes personal, business, health and educational services, underwent a rapid expansion in the sixties and is expected to be somewhat slower in the seventies. The growth rate would be higher if private households were not included. The service group will still grow at a slightly faster rate than total employment despite an expected substantial decline in private households. Employment in service industries will rise from 445,490 in 1970 to 563,700 in 1980. The service group's share of all employment will increase from 24.9 percent to 25.3.

The employment growth in the service industries will be related to a substantial increase in population, a rapid rise in personal disposable income, expanding economic activity, and a growing demand for medical, educational and other services. The output of these labor-intensive industries is less affected by technological change than many other industries, hence their employment growth is not restrained very much by productivity advances.

Within the services division, employment is expected in all major industries except private households and motion picture theaters. Growth in hotels and lodging places is expected to be particularly rapid, especially in Atlanta which has become one of the nation's leading convention cities and where a World Trade Center is to be constructed. Growth in business services also will be rapid as firms rely increasingly on advertising services to sell their products, on accounting, auditing, bookkeeping, and computing services to handle their recordkeeping, on contract firms to provide maintenance services, and on audit bureaus and collection agencies to cope with mushrooming consumer credit.

Public Administration. (Government workers engaged in activities unique to government are classified as public administration, those engaged in activities also carried on by private enterprises, such as construction, manufacturing, transportation, medical and educational services, etc., are classified in the appropriate industry.)

Employment grew faster in the sixties in public administration than in any other major sector. From 1960 to 1970 public administration employment grew 4.7 percent a year, compared to only 2.6 percent for total employment. The sharp rise was stimulated by the needs of the Vietnam War as well as by the rapid growth in population, the increasing proportion of young and of old persons who require more services, and the general growth in demand for more and better government services. Now that the United States has disengaged its troops from the Vietnam War, employment is expected to rise more slowly. All levels of government will expand efforts to meet a variety of domestic needs, but State and local government activity will grow relative to Federal activity.

The total growth in public administration for the 1970-80 period is expected to be 23,920 which will boost public administration employment to a level of 127,160. Employment among postal workers will rise 980 to 14,040 but other federal public administration will decline 140 to 54,110. State public administration employment is expected to increase 3,640 to 10,400. Local public administration employment is expected to expand by 19,440 from 1970 to 44,130 in 1980.

5

TABLE 6
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY GROUP
 1970 AND PROJECTED TO 1980 1/

Industry Group	1970		Projected 1980		1980 Absol
	Number	Percent 2/	Number	Percent 2/	
Total, All Industries 3/	1,787,350	100.0	2,227,750	100.0	440,400
Agriculture, Forestry and Fisheries	85,140	4.8	66,700	3.0	-18,440
Agriculture	81,550	4.6	62,540	2.8	-19,010
Forestry	3,010	0.2	3,540	0.2	530
Fisheries	580	.	620	.	40
Mining 4/	7,020	0.4	8,150	0.4	1,130
Metal mining	330	.	540	.	210
Nonmetallic mining and quarrying	6,600	0.4	7,430	0.3	830
Construction	112,180	6.3	158,570	7.1	46,390
General building contractors	30,010	1.7	44,050	2.0	14,040
General contractors, except building	33,410	1.9	46,330	2.1	12,920
Special trade contractors	48,760	2.7	68,190	3.1	19,430
Manufacturing	468,130	26.2	559,590	25.1	91,460
Durable goods	159,480	8.9	196,850	8.8	37,370
Nondurable goods	308,650	17.3	362,740	16.3	54,090
Transportation and Public Utilities	116,750	6.5	149,470	6.7	32,720
Transportation	66,560	3.7	82,980	3.7	16,420
Communications	25,760	1.4	34,040	1.5	8,280
Electric, gas and sanitary services	24,430	1.4	32,450	1.5	8,020
Trade	366,270	20.5	481,680	21.6	115,410
Wholesale	101,040	5.7	136,460	6.1	35,420
Retail	265,230	14.8	345,220	15.5	79,990
Finance, Insurance and Real Estate	83,130	4.7	112,730	5.1	29,600
Finance	35,600	2.0	55,780	2.5	20,180
Insurance	29,510	1.7	35,830	1.6	6,320
Real estate and combinations of real estate, insurance, loan and law offices	18,020	1.0	21,120	1.0	3,100
Services 4/	445,490	24.9	563,700	25.3	118,210
Hotels and lodging places	18,170	1.0	27,010	1.2	8,840
Other personal services	33,720	1.9	38,100	1.7	4,380
Miscellaneous business services	26,880	1.5	39,740	1.8	12,860

TABLE 6
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY GROUP
 1970 AND PROJECTED TO 1980 1/

	1970		Projected 1980		Change	
	Employment		Employment		1970 - 1980	
	Number	Percent 2/	Number	Percent 2/	Absolute	Percent 2/
3/	1,787,350	100.0	2,227,750	100.0	440,400	25
and Fisheries	85,140	4.8	66,700	3.0	-18,440	-22
	81,550	4.6	62,540	2.8	-19,010	-23
	3,010	0.2	3,540	0.2	530	18
	580	.	620	.	40	7
	7,020	0.4	8,150	0.4	1,130	16
	330	.	540	.	210	65
g and quarrying	6,600	0.4	7,430	0.3	830	13
contractors	112,180	6.3	158,570	7.1	46,390	41
s, except building	30,010	1.7	44,050	2.0	14,040	47
tractors	33,410	1.9	46,330	2.1	12,920	39
	48,760	2.7	68,190	3.1	19,430	40
	468,130	26.2	559,590	25.1	91,460	20
	159,480	8.9	196,850	8.8	37,370	24
	308,650	17.3	362,740	16.3	54,090	18
Public Utilities	116,750	6.5	149,470	6.7	32,720	28
	66,560	3.7	82,980	3.7	16,420	25
sanitary services	25,760	1.4	34,040	1.5	8,280	32
	24,430	1.4	32,450	1.5	8,020	33
	366,270	20.5	481,680	21.6	115,410	32
	101,040	5.7	136,460	6.1	35,420	35
	265,230	14.8	345,220	15.5	79,990	30
Real Estate	83,130	4.7	112,730	5.1	29,600	36
	35,600	2.0	55,780	2.5	20,180	57
binations of real estate, and law offices	29,510	1.7	35,830	1.6	6,320	21
	18,020	1.0	21,120	1.0	3,100	17
places	445,490	24.9	563,700	25.3	118,210	27
ices	18,170	1.0	27,010	1.2	8,840	49
ness services	33,720	1.9	38,100	1.7	4,380	13
	26,880	1.5	39,740	1.8	12,860	48

TABLE 6 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY GROUP,
 1970 AND PROJECTED TO 1980 1/

Industry Group	1970 Employment		Projected 1980 Employment		Absol
	Number	Percent 2/	Number	Percent 2/	
Automobile repair services	12,810	0.7	14,710	0.7	1,90
Other repair services	6,740	0.4	7,660	0.3	92
Motion pictures, theaters	3,710	0.2	3,660	0.2	-5
Miscellaneous, entertainment	6,970	0.4	9,570	0.4	2,60
Medical and other health services	86,840	4.9	124,750	5.6	37,91
Legal services	6,450	0.4	8,040	0.4	1,59
Educational services	118,600	6.6	167,360	7.5	48,76
Nonprofit organizations	26,440	1.5	36,570	1.6	10,13
Private households	85,300	4.8	69,070	3.1	-16,23
Other professional and related services	12,770	0.7	17,350	0.8	4,58
Public Administration 5/	103,240	5.8	127,160	5.7	23,92
Federal	68,150	3.8	68,990	3.1	84
State	10,400	0.6	14,040	0.6	3,64
Local	24,690	1.4	44,130	2.0	19,44

- 1/ This table summarizes information found in greater detail in Appendix Table 1. Estimates were rounded to ten's.
- 2/ Percents were computed from unrounded data. Percent change figures are shown as whole numbers.
- 3/ The 1970 and 1980 "Total, All Industries" employment in Table 6 and the "Total, All Occupations" employment shown in Table 11 was developed from different data sources. The 1970 occupational employment levels are those reported in the 1970 decennial census and are based on place of residence. The 1970 industry employment estimates, based on place of work, were developed from Georgia Department of Labor, Employment Security Agency records, supplemented to include self-employed persons, unpaid family workers, private household with a job but not at work, and adjusted to exclude the secondary job of multiple job holders.
- 4/ Data were withheld from some of the components of this industry because of either smallness of size (less than 100 workers in 1970) or to avoid disclosure of individual establishment data, therefore, the sum of data for the listed components does not equal the industry total.
- 5/ Includes public administration only. Government agencies engaged in educational and medical services and in activities commonly carried on by private enterprises, such as agriculture, construction, transportation, etc., are classified in their appropriate industry.
- * Denotes less than 0.05.

TABLE 6 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY GROUP,
 1970 AND PROJECTED TO 1980 1/

	1970 Employment		Projected 1980 Employment		Change 1970 - 1980	
	Number	Percent 2/	Number	Percent 2/	Absolute	Percent 2/
Air services	12,810	0.7	14,710	0.7	1,900	15
Services	6,740	0.4	7,660	0.3	920	14
Theaters	3,710	0.2	3,660	0.2	-50	-1
Entertainment	6,970	0.4	9,570	0.4	2,600	37
Health services	86,840	4.9	124,750	5.6	37,910	44
	6,450	0.4	8,040	0.4	1,590	25
Services	118,600	6.6	167,360	7.5	48,760	41
Organizations	26,440	1.5	36,570	1.6	10,130	38
Buildings	85,300	4.8	69,070	3.1	-16,230	-19
Medical and related services	12,770	0.7	17,350	0.8	4,580	36
Occupation 5/	103,240	5.8	127,160	5.7	23,920	23
	68,150	3.8	68,990	3.1	840	1
	10,400	0.6	14,040	0.6	3,640	35
	24,690	1.4	44,130	2.0	19,440	79

Summarizes information found in greater detail in Appendix Table 1. Estimates were rounded to ten's.

Computed from unrounded data. Percent change figures are shown as whole numbers.

1980 "Total, All Industries" employment in Table 6 and the "Total, All Occupations" employment shown in Table 11 differ because each is derived from different data sources. The 1970 occupational employment levels are those reported in the 1970 decennial census (after rounding) on place of residence. The 1970 industry employment estimates, based on place of work, were developed from Georgia Department of Labor Security Agency records, supplemented to include self-employed persons, unpaid family workers, private household workers, and persons not at work, and adjusted to exclude the secondary job of multiple job holders.

Excluded from some of the components of this industry because of either smallness of size (less than 100 workers in 1970) or in order to conform with the 1970 decennial census data; therefore, the sum of data for the listed components does not equal the industry total.

Government administration only. Government agencies engaged in educational and medical services and in activities commonly carried on by the private sector, such as agriculture, construction, transportation, etc., are classified in their appropriate industry.

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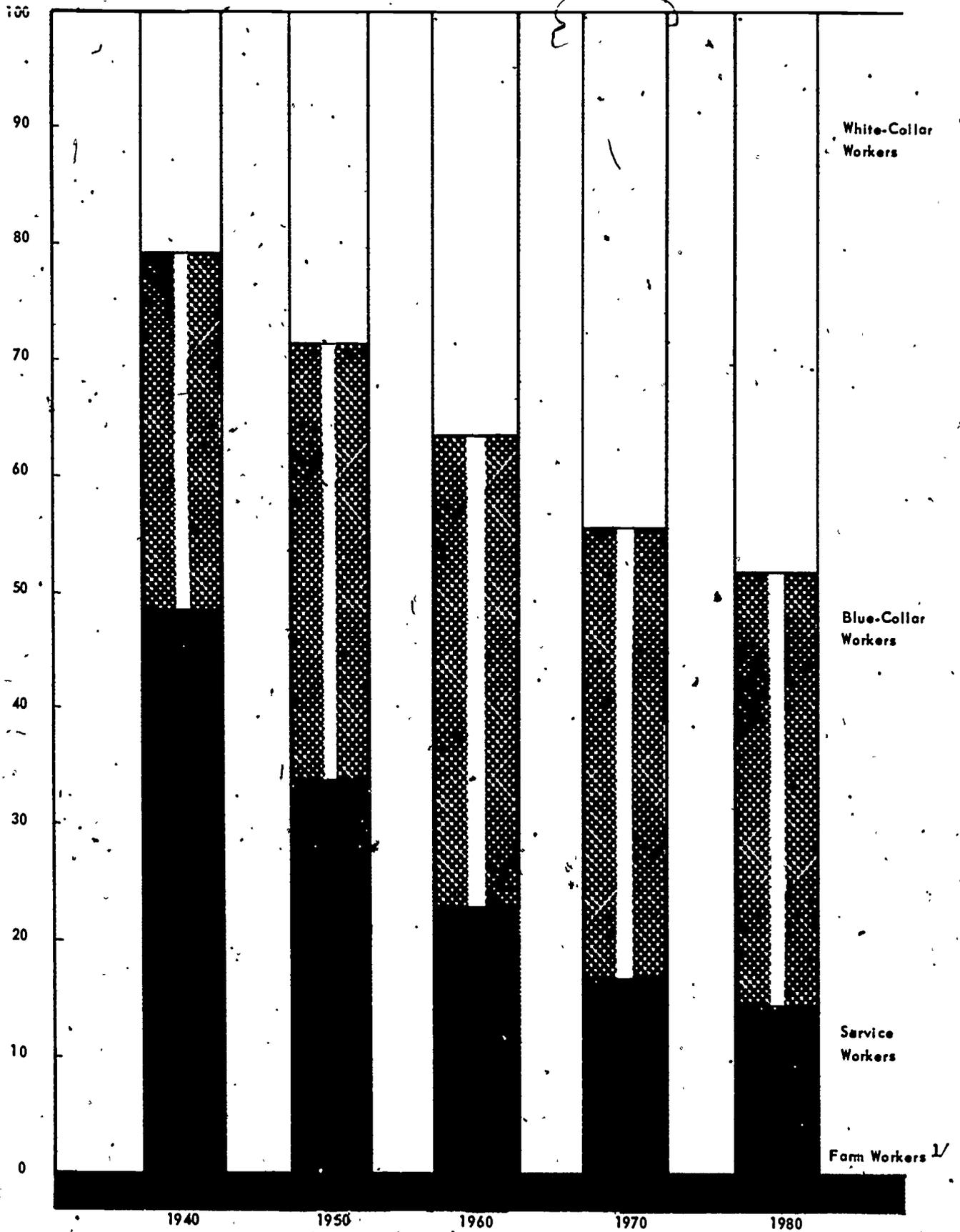
EMPLOYMENT BY OCCUPATION

Total employment for all occupations as shown in this section differs from the total for all industries shown in the preceding section because estimates for the two categories were developed from different data sources. The 1970 industry employment estimates were developed from Georgia Employment Security records, supplemented to include self-employed, unpaid family and private household workers and persons with a job but not at work, and adjusted to exclude the secondary job of multiple job holders. Actual occupational employment levels shown are those reported in the decennial censuses of 1970 and 1960, excluding "allocated" and "not specified" cases the Bureau of the Census had included in the 1970 Census and the "occupations not reported" that were included in the 1960 Census. Because of the exclusions cited above, the 1970 total for all occupations of 1,587,797 was 158,972 under the figure of 1,746,769 reported in the census.

1940 - 1970 Trends

Revised data from the 1940 and 1950 censuses were published in 1960 census volumes. The data in the 1960 and 1970 census publications show consistent trends for two of the four major occupational classifications, with white-collar workers increasing and farm workers steadily declining as a proportion of all employment. White-collar workers advanced from 20.9 percent in 1940 to 44.4 percent of all employment in 1970. Farm workers declined from 34.4 percent in 1940 to only 3.6 percent in 1970. Employment of blue-collar workers increased from 30.2 percent in 1940 to 40.6 in 1960, then declined slightly to 39.2 percent in 1970 (the decline could have been due to under-reporting of nonfarm laborers). Service workers, with divergent trends for private household workers and other service workers, see-sawed. The service percentage dipped from 14.5 in 1940 to 12.4 in 1950, climbed to 14.6 in 1960, and dropped back to 12.8 in 1970.

CHART 4
 EMPLOYMENT TRENDS AMONG MAJOR OCCUPATIONAL CATEGORIES,
 1940-70 (ACTUAL) AND 1980 (PROJECTED)



✓ Farm workers include farm managers.

Source for 1940-70: Percents were computed from census of population data that excluded "occupations not reported" (1940-60) and for 1970 "allocated" and "not specified" cases. 1940-60 data include persons 14 years old and over; 1970 includes persons 16 and over.

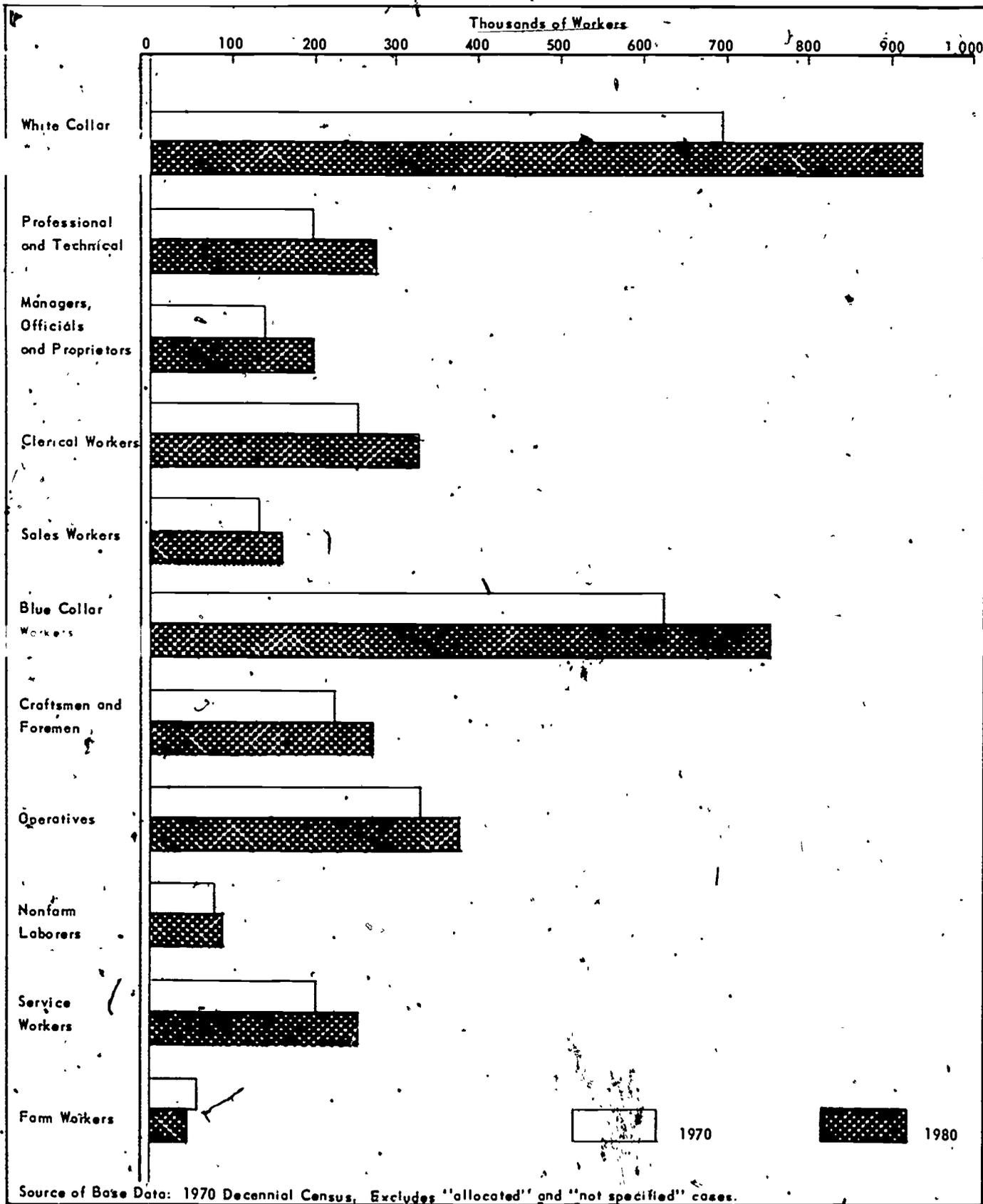
PERCENTS FOR 1940-80 OCCUPATIONAL CATEGORIES

Category	1940	1950	1960	1970	1980
Total*	100.0	100.0	100.0	100.0	100.0
White-Collar	20.9	28.3	36.4	44.4	47.9
Blue-Collar	30.2	38.1	40.6	39.2	37.7
Service Workers	14.5	12.4	14.6	12.8	12.4
Form Workers	34.4	21.2	8.4	3.6	2.0

*Excludes "occupations not reported" for 1940-60 and "allocated" and "not specified" for 1970.

**CHART 5
EMPLOYMENT IN MAJOR OCCUPATIONAL GROUPS,
1970 (ACTUAL) AND 1980 (PROJECTED)**

See Table 8 for estimates



Source of Base Data: 1970 Decennial Census. Excludes "allocated" and "not specified" cases.

Projected Changes in Occupations*

Total employment is expected to increase about a quarter between 1970 and 1980, going from 1,587,800 to 1,988,000 (based on 1970 census count of employed persons from which "allocated" and "not specified" workers have been excluded). Expected changes for major occupational classifications are shown below.

TABLE 7
EXPECTED CHANGES IN
MAJOR OCCUPATIONAL CLASSIFICATIONS, 1970-80

Classification	1970		1980		Percent Change 1970-80
	Number of Jobs (In Thousands)	Percent	Number of Jobs (In Thousands)	Percent	
Total Employment ^{1/}	1,587.8	100.0	1,988.0	100.0	25
White-Collar Workers	705.0	44.4	952.4	47.9	35
Blue-Collar Workers	622.3	39.2	749.5	37.7	20
Service Workers	203.4	12.8	246.6	12.4	21
Farm Workers	57.1	3.6	39.5	2.0	-31

^{1/} Excludes "allocated" and "not specified" workers who had been included in the 1970 Census total.

Most of the 1960-70 trends in the employment of white-collar, blue-collar, service, and farm workers are expected to continue to 1980, but some important changes will occur in the mix of occupations within these broad categories. Technological changes will cause employment to increase in some occupations and to decrease in others. The spread of the computer will continue to be a notable example of this. Also, differences in industrial growth will boost some occupations (for example, those in the health field), while others grow more slowly than in the recent past (the educational field) and still others continue to decline relatively (farm and private household jobs). Another phenomenon, national in scope, is a potential supply that is greater than potential requirements for college graduates beginning in the late 1970's in jobs traditionally held by these workers.

*This section depends heavily on the explanation of reasons for projected national changes detailed in "The United States Economy in 1985, Projected Changes in Occupations", by Neal H. Rosenthal, pp. 18-26 of the December 1973 edition of the Monthly Labor Review. Where the wording in this article fits conditions in Georgia, it has been incorporated unchanged in this report.

TABLE 8
EMPLOYMENT BY MAJOR OCCUPATIONAL GROUP,
1960 AND 1970 AND PROJECTED 1980
(In Thousands)

Occupational Group	1960	1970	1980
Total ^{1/}	1,336.4	1,587.8	1,988.0
White-Collar Workers	487.0	705.0	952.4
Professional and technical workers	117.6	199.5	269.5
Managers and administrators	115.2	141.6	202.1
Sales workers	91.9	114.2	150.4
Clerical workers	162.3	249.7	330.4
Blue-Collar Workers	542.3	622.3	749.5
Craftsmen and kindred workers	161.4	225.6	288.2
Operatives ^{2/}	295.1	323.3	376.7
Nonfarm laborers	85.8	73.4	84.6
Service Workers	194.4	203.4	246.6
Private household workers	87.5	50.4	41.8
Other service workers	106.9	153.0	204.8
Farm Workers	112.7	57.1	39.5

^{1/} Excludes "occupations not reported" from 1960 census and "allocated" and "not specified" from 1970 census data. 1960 census includes persons 14 years old and over.

^{2/} Includes the 1970 census classifications, "operatives, except transport", and "transport equipment operatives".

TABLE 9
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL GROUP,
1960 AND 1970 AND PROJECTED 1980

Occupational Group	1960	1970	1980
Total ^{1/}	100.0	100.0	100.0
White-Collar Workers	36.4	44.4	47.9
Professional and technical workers	8.8	12.6	13.6
Managers and administrators	8.6	8.9	10.2
Sales workers	6.9	7.2	7.6
Clerical workers	42.1	15.7	16.6
Blue-Collar Workers	40.6	39.2	37.7
Craftsmen and kindred workers	12.1	14.2	14.5
Operatives ^{2/}	22.1	20.4	18.9
Nonfarm laborers	6.4	4.6	4.3
Service Workers	14.6	12.8	12.4
Private household workers	6.6	5.2	2.1
Other service workers	8.0	9.6	10.3
Farm Workers	8.4	3.6	2.0

^{1/} Excludes "occupations not reported" from 1960 census and "allocated" and "not specified" from 1970 census. Percents may not add to 100.0 due to rounding. 1960 census includes persons 14 and over.

^{2/} Includes the 1970 census classifications, "operatives, except transport", and transport equipment operatives.

Many factors will cause changes in employment levels of major occupational groups and specific occupations. One of the greatest will be variation in growth rates among industries. Each has a different occupational structure. For example, the health services industry employs mostly physicians, nurses, hospital attendants, and other health workers. A rapid growth in this industry would logically result in rapid growth of health occupations.

Another factor that affects occupational employment is changes in the occupational structure within an industry. These may be caused by technological innovations in machines or procedures. As a result, individual occupations may expand or contract and new occupations often emerge. For example, the computer resulted in the emergence of programmers, systems analysts, and computer operators but contributed to the decline in relative importance of payroll and inventory clerks and a variety of other clerical occupations. Changes in business operations, such as a shift to self-service in stores and supply-demand conditions in an occupation, can also alter the occupational structure of industries. For example, technicians have been substituted for engineers during periods of engineering shortages.

Growth Among White-Collar Groups

Professional and technical. Employment growth in this major group will continue to be faster than most, rising from 199,500 in 1970 to about 269,500 in 1980. This is more than one and one-third times the annual rate of employment increases projected for all occupations combined. (See Table 10). Despite this, the projected 1970-80 growth is slower than it was between 1960 and 1970. A major reason for this is the expected slowdown in the growth of jobs for elementary and secondary school teachers and engineers (which together accounted for about one-third of all professional workers in 1970). Opportunities for teachers will slow because growth in the number of pupils will moderate. The rate of increase in engineers' jobs, rapid in the 1960's largely as a result of an expansion of the aerospace industry and increased research and development, will be reduced because these activities are not expected to have a comparable effect through the 1970's.

Growth in demand for goods and services, resulting from population growth and rising business and personal incomes, will continue to be a major reason underlying job growth among these highly trained workers. As the population continues to concentrate in metropolitan areas, requirements are expected to increase for professional and technical workers in environmental protection, urban renewal, and mass transportation. Requirements for professional workers also should increase because of continuing growth of research in the natural and social sciences, although the rate of growth in these activities as a whole is likely to slow from the very rapid pace of the 1960's. Demand for professional workers to develop and use computer resources also is expected to grow rapidly in the 1970-80 period.

Managers and administrators. Employment growth in this major group will be the fastest of all major groups. Employment is projected to reach 202,100 in 1980, up 60,500 from 1970. This represents an average increase of 3.6 percent, compared to 2.3 for all employment, and is a much higher rate of growth than occurred during the 1960-70 period. However, a large part of the future growth reflects a catchup because little change in managerial and administrative employment occurred in the late 60's although total employment increased.

Changes in business size and organization have caused the number of salaried managers to go up while numbers of self-employed managers have declined. Requirements for the salaried are expected to continue to grow rapidly as industry and government increasingly depend on them. Technology will also contribute to their employment growth. For example, an increasing number of technically trained managers will be needed to administer research and development programs and to make decisions on the installation and use of automated machinery and automatic data processing systems.

By contrast, the number of self-employed managers (proprietors) are projected to continue to decline as the trend toward larger firms continues. The expansion of quick-service grocery stores, self-service laundries and drycleaners, and hamburger and frozen custard drive-ins, however, is expected to slow the rate of decline.

TABLE 10
 AVERAGE ANNUAL RATE OF EMPLOYMENT CHANGE
 BY MAJOR OCCUPATIONAL GROUP, 1960-70
 (ACTUAL) AND 1970-80 (PROJECTED) ^{1/}

Occupational Group,	1960-70	1970-80
Total ^{2/}	1.7	2.3
White-Collar Workers	3.8	3.1
Professional and technical workers	5.4	3.1
Managers and administrators	2.1	3.6
Sales workers	2.2	2.8
Clerical workers	4.4	2.8
Blue-Collar Workers	1.4	1.9
Craftsmen and kindred workers	3.4	2.5
Operatives ^{3/}	0.9	1.5
Nonfarm laborers	-1.5	1.4
Service Workers	0.5	1.9
Private household workers	-5.4	-1.9
Other service workers	3.7	2.9
Farm Workers	-6.6	-3.6

^{1/} Compound interest rates between terminal years.

^{2/} Excludes 1960 census item for "occupations not reported" and 1970 census items for "allocated" and "not specified". 1960 census includes persons 14 years old and over.

^{3/} Includes 1970 census classifications for "operatives, except transport" and "transport equipment operatives".

Clerical workers. Employment in clerical jobs is expected to grow faster than total employment, rising to about 330,400 in 1980 from 249,700 in 1970. The rate of increase is higher than that expected in total employment. As a result, their share of total employment is expected to increase from 15.7 to 16.6. Nevertheless, the clerical rate of growth is slower than that during 1960-70.

Clerical workers, the largest of the white-collar major occupational groups and second only to operatives for all groups in 1970, will be greatly affected by developments in computers, office equipment, and communication devices -- all of which are expected to retard the growth of employment for some clerical occupations and increase it for others. For example, the use of computers and bookkeeping machines to handle routine, repetitive work is expected to reduce the utilization of clerks in filing, payroll computation, inventory control, and customer billing. On the other hand, the number of clerical workers needed to prepare material for the computer is projected to increase greatly.

Other types of clerical workers, however, are unlikely to be affected significantly by technology. For example, secretaries, typists, and receptionists and others whose tasks involve contact with the public should not be greatly affected.

Sales workers. The anticipated expansion of trade is expected to increase the need for sales workers, while changing techniques in merchandising are expected to hold down some of the increase. Employment is projected to rise about 36,200 from 1970 to 1980. The rate of increase will be 2.8 percent per year compared to 2.3 percent for all employment. As a result, their share of total employment is expected to increase (0.4 percent). As stores remain open longer and expand into suburban areas, an increase in demand is expected for retail sales workers who account for more than half of all workers in the group. However, changes in merchandising techniques, such as increased use of self-service, checkout counters, and vending machines will retard the increase.

Growth Among Blue-Collar Groups

Craftsmen and kindred workers. Employment in these highly skilled blue-collar occupations is expected to rise from about 225,600 in 1970 to 288,200 in 1980, a slower rate of growth than over the 1960-70 period. Although demand during the current recession is down, it is expected to pick up in the late 70's due in part to construction of the Metropolitan Atlanta Rapid Transit Authority's rapid rail transportation system. Expansions in manufacturing also will account for part of the demand.

Operatives. More Georgia workers are in this group than in any other. Employment of operatives is projected to rise from 323,300 in 1970 to 376,700 in 1980, a much slower rate of increase than that for total employment. Consequently, the proportion of operatives relative to total employment is expected to slide downward about one-and-a-half percentage points by 1980. This reflects the expected slowing down of the growth rate in manufacturing. About seven of every ten semi-skilled workers in 1970 were employed as operatives in manufacturing. Large numbers were assemblers or inspectors, and many worked as operators of material-moving equipment such as powered forklift trucks. Among the operatives employed outside factories, drivers of trucks, buses, and taxicabs made up the largest group. Through the projected period, sophisticated technological advances are expected to greatly slow employment growth for operatives.

Nonfarm laborers. Employment requirements for laborers are expected to increase slowly between 1970 and 1980 despite the employment rise anticipated in manufacturing and construction, the two industries which employ half of laborers.

Increases in demand for laborers are expected to be offset roughly by rising output per worker resulting from the continuing substitution of machinery for manual labor. For example, power-driven equipment such as forklift trucks, derricks, cranes, hoists, and conveyor belts will take over more of the handling of materials in factories, at freight terminals, and in warehouses. Other power-driven machines will do excavating, ditch digging, and similar work. In addition, integrated systems for processing and handling materials and equipment will be installed in an increasing number of plants.

Service Workers

A growing population, expanding business activity, increasing leisure time, and rising levels of disposable personal income are the major factors underlying increased needs for service workers. These occupations encompass a wide variety of jobs and skills. They include such diverse jobs as FBI agent, policeman, beauty operator, and janitor.

Employment of service workers is projected to rise from 203,400 in 1970 to 246,600 in 1980, a somewhat slower rate of growth than that projected for total employment. Employment of private household workers, however, which make up a large part of this major group, is projected to decline from 50,400 to 41,800. If private household workers are excluded from the calculations, service workers show a faster average annual rate of growth than total employment (2.9 percent compared to 2.3).

Farm Workers

These workers are expected to decline nearly one-third (from 57,100 in 1970 to 39,500 in 1980). Their share of total employment is expected to drop from 3.6 percent in 1970 to 2.0. The annual rate of decline, however, is expected to be somewhat less than the 1960-70 rate (3.6 percent compared to 6.6 percent in the earlier decade).

Declining needs for farm workers continue to be related to rising productivity on farms. Improved machinery, fertilizers, seeds, and feed will permit farmers to increase output with fewer employees. For example, improved mechanical harvesters for vegetables and fruits will decrease the need for seasonal or other hired labor. Developments in packing, inspection, and sorting systems for fruits, vegetables, and other farm products also will reduce employment requirements. (An unknown factor is the effect of potential shortages of fertilizers and fuel if the energy crisis is not solved. Also, if the use of chemical insecticides and herbicides are restricted because of federal anti-pollution restrictions, productivity could decline.)

Conversion To DOT and Vocational Education Program Codes

More occupational groups are shown in Table 11 than were included in the preceding tables. Estimates in this table are rounded to tens. Even greater detail may be found in Appendix A.

BLS is presently preparing a conversion table relating the 1970 Census occupational titles to the Dictionary of Occupational Titles (DOT) and vocational education program codes and titles. In the meantime, use can be made of the conversion table, Table 1, in Tomorrow's Manpower Needs, Supplement 3. (See Appendix D). Table 1 of the document relates 1960 Census occupational titles to DOT titles. However, approximately 100 detailed occupations in the table are marked with an asterisk to indicate that these occupations are generally the same for both the 1960 and 1970 censuses.

TABLE 11
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATIONAL GROUP 1/

Occupational Group	1970 Employment		Projected 1980 Requirements		Abs
	Number 2/	Percent 3/	Number 2/	Percent 3/	
Total, All Occupations	1,587,800	100.0	1,987,990	100.0	400
Professional, Technical and Kindred Workers	199,470	12.6	269,480	13.6	70
Engineers, technical	18,380	1.2	23,190	1.2	4
Life and physical scientists	2,600	0.2	3,270	0.2	4
Mathematical specialists	500	•	650	•	4
Engineering and science technicians	12,840	0.8	18,830	1.0	5
Medical and health workers, except technicians	26,300	1.7	35,920	1.8	9
Health technologists and technicians	5,290	0.3	9,190	0.5	2
Technicians, except health, engineering and science	5,340	0.3	7,490	0.4	2
Computer specialists	3,530	0.2	4,800	0.2	1
Social scientists	1,490	0.1	2,560	0.1	1
Teachers	65,190	4.1	82,400	4.1	17
Writers, artists and entertainers	10,970	0.7	14,910	0.8	1
Other professional, technical and kindred workers	47,040	3.0	66,270	3.3	15
Managers, Officials and Proprietors, Except Farm	141,640	8.9	202,060	10.2	60
Buyers, sales managers and loan managers	25,980	1.6	38,510	1.9	12
Administrators and inspectors; public administration	14,920	0.9	19,570	1.0	4
Other managers, officials and proprietors	100,740	6.3	143,980	7.2	43
Sales Workers	114,160	7.2	150,420	7.6	30
Clerical and Kindred Workers	249,750	15.7	330,410	16.6	80
Stenographers, typists and secretaries	73,580	4.6	104,290	5.3	30
Office machine operators	10,080	0.6	11,080	0.6	4
Other clerical workers	166,090	10.5	215,040	10.8	46
Craftsmen, Foremen and Kindred Workers	225,650	14.2	288,150	14.5	60
Construction craftsmen	70,530	4.4	96,940	4.9	20
Foremen, n.e.c.	37,740	2.4	47,180	2.4	10
Metalworking craftsmen, except mechanics	13,520	0.9	16,430	0.8	4
Mechanics, repairmen and installers	63,760	4.0	77,820	3.9	10
Printing trade craftsmen	6,500	0.4	8,070	0.4	1
Transportation and public utility craftsmen	11,020	0.7	14,550	0.7	1
Other craftsmen and kindred workers	22,580	1.4	27,160	1.4	4

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TABLE 11
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATIONAL GROUP 1/

Occupational Group	1970 Employment		Projected 1980 Requirements		Change 1970 - 1980	
	Number 2/	Percent 3/	Number 2/	Percent 3/	Absolute 2/	Percent 3/
Professions	1,587,800	100.0	1,987,990	100.0	400,190	25
Technical and Kindred Workers	199,470	12.6	269,480	13.6	70,010	35
Technical	18,380	1.2	23,190	1.2	4,810	26
Biological scientists	2,600	0.2	3,270	0.2	670	26
Specialists	500	*	650	*	150	31
Engineering and science technicians	12,840	0.8	18,830	1.0	5,990	47
Health workers, except technicians	26,300	1.7	35,920	1.8	9,620	37
Biologists and technicians	5,290	0.3	9,190	0.5	3,900	74
Except health, engineering and science	5,340	0.3	7,490	0.4	2,150	40
Scientists	3,530	0.2	4,800	0.2	1,270	36
Mathematicians	1,490	0.1	2,560	0.1	1,070	72
Physicists	65,190	4.1	82,400	4.1	17,210	26
Chemists and entertainers	10,970	0.7	14,910	0.8	3,940	36
Non-technical, technical and kindred workers	47,040	3.0	66,270	3.3	19,230	41
Managers and Proprietors, Except Farm	141,640	8.9	202,060	10.2	60,420	43
Managers and loan managers	25,980	1.6	38,510	1.9	12,530	48
Inspectors and inspectors: public-administration	14,920	0.9	19,570	1.0	4,650	31
Managers, officials and proprietors	100,740	6.3	143,980	7.2	43,240	43
	114,160	7.2	150,420	7.6	36,260	32
Production Workers	249,750	15.7	330,410	16.6	80,660	32
Typists and secretaries	73,580	4.6	104,290	5.3	30,710	42
Machine operators	10,080	0.6	11,080	0.6	1,000	10
Production workers	166,090	10.5	215,040	10.8	48,950	29
Non-Production and Kindred Workers	225,650	14.2	288,150	14.5	62,500	28
Craftsmen	70,530	4.4	96,940	4.9	26,410	37
	37,740	2.4	47,180	2.4	9,440	25
Craftsmen, except mechanics	13,520	0.9	16,430	0.8	2,910	22
Millwrights and installers	63,760	4.0	77,820	3.9	14,060	22
Craftsmen	6,500	0.4	8,070	0.4	1,570	24
Electricians and public utility craftsmen	11,020	0.7	14,550	0.7	3,530	32
Non-technical and kindred workers	22,580	1.4	27,160	1.4	4,580	20

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TABLE 11 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATIONAL GROUP ^{1/}

Occupational Group	1970 Employment		Projected 1980 Requirements		Absa
	Number ^{2/}	Percent ^{3/}	Number ^{2/}	Percent ^{3/}	
Operatives and Kindred Workers	323,290	20.4	376,720	19.0	53,
Operatives, except transport	255,600	16.1	293,480	14.8	37,
Transport equipment operatives	67,690	4.3	83,240	4.2	15,
Service Workers	203,380	12.8	246,600	12.4	43,
Cleaning service workers	38,620	2.4	52,260	2.6	13,
Food service workers	48,230	3.0	60,000	3.0	11,
Health service workers	21,830	1.4	31,130	1.6	9,
Personal service workers	25,510	1.6	33,530	1.7	8,
Protective service workers	18,840	1.2	27,850	1.4	9,
Private household workers	50,350	3.2	41,830	2.1	-8,
Laborers, Except Farm	73,350	4.6	84,650	4.3	11,
Farmers and Farm Workers	57,110	3.6	39,500	2.0	-17,
Farmers and farm managers	27,060	1.7	19,260	1.0	-7,
Farm laborers and farm foremen	30,050	1.9	20,240	1.0	-9,

^{1/} This table summarizes information found in greater detail in Appendix Table 2.

^{2/} Estimates were rounded to ten's.

^{3/} Percents were computed from unrounded data. Percent change figures are shown as whole numbers.

^{4/} The 1970 and 1980 "Total, All Industries" employment in Table 6 and the "Total, All Occupations" employment in Table 11 differ because developed from different data sources. The 1970 occupational employment levels are those reported in the 1970 Census for the specific (after rounding) and are based on place of residence. (Table 11 excludes 158,972 "Not Specified" and "Allocated" cases which were census.) The 1970 industry employment estimates, based on place of work, were developed from Georgia Department of Labor, Employment Agency records, supplemented to include self-employed persons, unpaid family workers, private household workers, and persons with a and adjusted to exclude the secondary job of multiple job holders.

"n.e.c." denotes "not elsewhere classified."

*Less than 0.05.

TABLE 11 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATIONAL GROUP 1/

	1970		Projected 1980		Change	
	Employment		Requirements		1970 - 1980	
	Number 2/	Percent 3/	Number 2/	Percent 3/	Absolute 2/	Percent 3/
Transportation workers	323,290	20.4	376,720	19.0	53,430	17
Transportation operators	255,600	16.1	293,480	14.8	37,880	15
Transportation operatives	67,690	4.3	83,240	4.2	15,550	23
Manufacturing workers	203,380	12.8	246,600	12.4	43,220	21
Manufacturing operators	38,620	2.4	52,260	2.6	13,640	35
Manufacturing workers	48,230	3.0	60,000	3.0	11,770	24
Manufacturing operatives	21,830	1.4	31,130	1.6	9,300	43
Manufacturing workers	25,510	1.6	33,530	1.7	8,020	31
Manufacturing workers	18,840	1.2	27,850	1.4	9,010	48
Manufacturing workers	50,350	3.2	41,830	2.1	-8,520	-17
Manufacturing workers	73,350	4.6	84,650	4.3	11,300	15
Manufacturing workers	57,110	3.6	39,500	2.0	-17,610	-31
Manufacturing managers	27,060	1.7	19,260	1.0	-7,800	-29
Manufacturing farm foremen	30,050	1.9	20,240	1.0	-9,810	-33

1/ Provides information found in greater detail in Appendix Table 2.

2/ Rounded to ten's.

3/ Computed from unrounded data. Percent change figures are shown as whole numbers.

"Total, All Industries" employment in Table 6 and the "Total, All Occupations" employment in Table 11 differ because each was derived from different data sources. The 1970 occupational employment levels are those reported in the 1970 Census for the specified occupations and are based on place of residence. (Table 11 excludes 158,972 "Not Specified" and "Allocated" cases which were included in the 1970 industry employment estimates, based on place of work, were developed from Georgia Department of Labor, Employment Security Commission. Supplemental to include self-employed persons, unpaid family workers, private household workers, and persons with a job but not at work, and to include the secondary job of multiple job holders.

elsewhere classified."

Net Occupational Openings

Projections of growth of occupations provide only partial insight into the story of future manpower requirements. Of equal (if not greater) importance is the demand for new workers created by the necessity of replacing workers who retire or die. Over the 1970-80 period more than one-and-a-half times as many openings will result from replacements as from growth. Almost 1,050,000 openings will occur due to occupational growth and replacement needs during 1970-80, an average of about 105,000 annually. Of these, replacements will account for more than 6 of every 10 job openings.

TABLE 12
JOB OPENINGS BY MAJOR OCCUPATIONAL GROUP, 1970-1980
(In Thousands)

Occupational Group	Total	Growth	Replacement ^{1/}
Total	1,049.8	400.2	649.6
White-Collar Workers	586.7	247.4	339.3
Professional and technical	156.8	70.0	86.8
Managers, officials and proprietors	108.8	60.4	48.4
Sales workers	84.7	36.3	48.4
Clerical and kindred	236.4	80.7	155.7
Blue-Collar Workers	300.3	127.2	173.1
Craftsmen and kindred	109.1	62.5	46.6
Operatives	162.7	53.4	109.3
Nonfarm laborers	28.5	11.3	17.2
Service Workers	160.6	43.2	117.4
Private household workers	22.4	-8.5	30.9
Other service workers	138.2	51.7	86.5
Farm Workers	2.2	-17.6	19.8

^{1/} Replacements for the 1970-80 period were computed by multiplying by ten the Lawrence Berkeley Laboratory's estimates of average openings due to labor force separations.

Replacement needs will be the most significant source of job openings in each of the major occupational areas -- white collar, blue collar, service and farm. However, in individual occupations expected to increase rapidly, growth requirements are likely to exceed those for replacement. On the other hand, replacement needs are likely to exceed the average in those occupations that (a) employ many women, who frequently leave the labor force to assume family responsibilities, and (b) have a large proportion of older workers who have relatively few years of working life remaining.

For more details about Georgia's average annual job openings see the next section and Appendix A.

INTERPOLATED EMPLOYMENT BY INDUSTRY AND OCCUPATION,
1975 AND 1976, AND ANNUAL AVERAGE JOB OPENINGS ..

One of the purposes of the Interim Manpower Projections Program is to provide manpower and vocational education planners with detailed industry and occupational employment and manpower requirement projections for use in the Fiscal Year 1975 planning cycle. Accordingly, we are presenting summary tables here, with greater detail in Appendix A, of employment by industry and occupation for 1975 with change to 1976 and 1980 and average annual job openings.

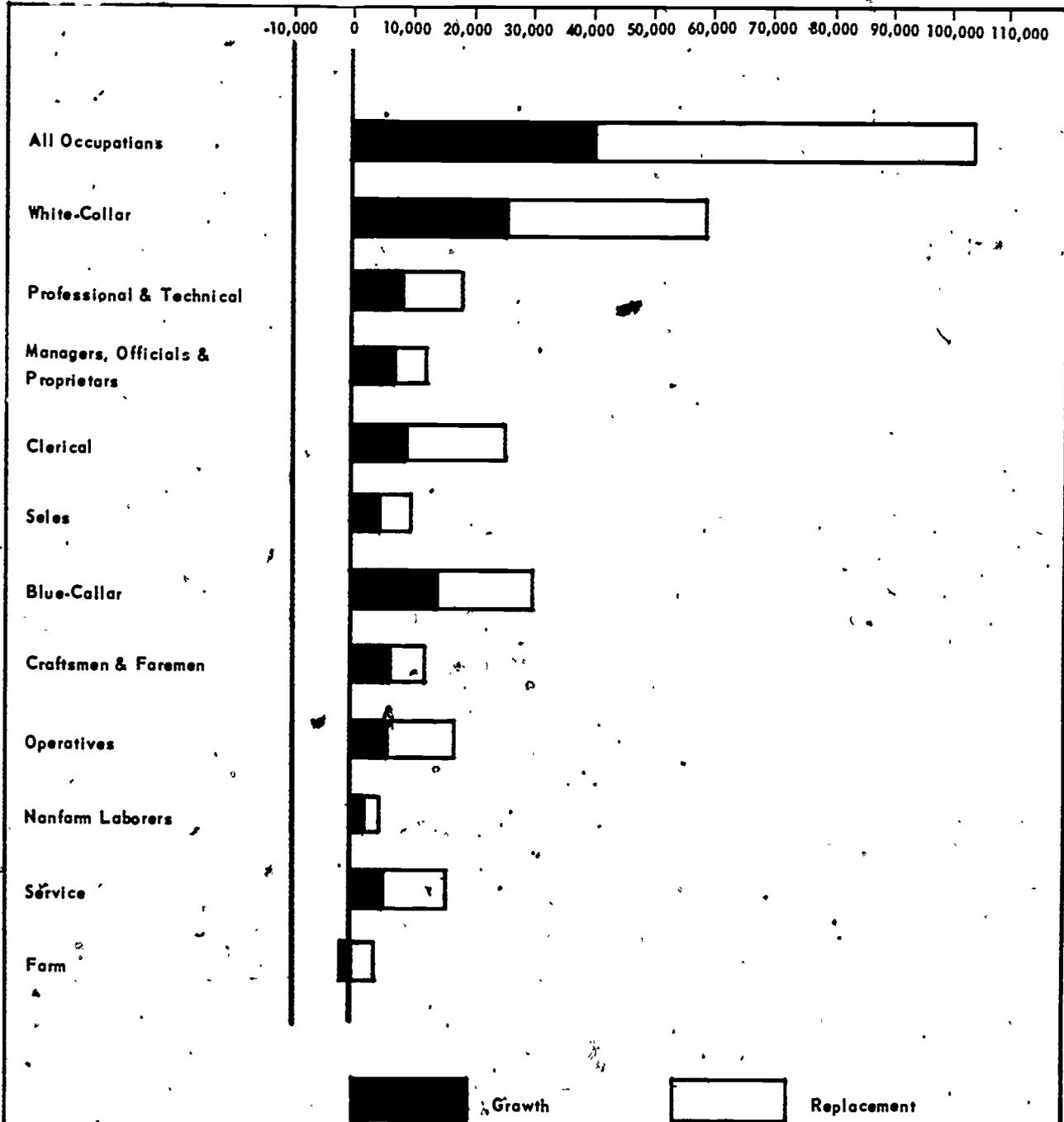
Because the nation is in a recession at the time of this writing, the warning that appears in the Introduction is repeated here. Caution should be used in the interpretation and use of the projections in this section. Estimates of employment for 1975 and 1976 were obtained by linear interpolation of 1970 and 1980 data. The projections method thus does not take into account cyclical, seasonal, and such exogenous factors as sudden and large plant openings or closings. Moreover, the national projections used in the development of state projections do not reflect the potentially serious implications of the "energy crisis" and its effect on future employment.

No analysis is presented of the 1975 and 1976 employment data because they are simple interpolations. As mentioned previously, total employment for all industries is different from the total for all occupations because they are derived from different data sources.

Replacement demand (openings due to separations from the labor force because of death or retirement for various reasons) are average data, therefore, if data for replacements are needed for the full 10-year (1970-80 period), the averages should be multiplied by 10. If needed for 5 years, multiply the averages by 5.

CHART 6
 AVERAGE ANNUAL JOB OPENINGS^{1/} IN
 MAJOR OCCUPATIONAL CATEGORIES AND GROUPS

See Table 15



^{1/} Job openings data reflect annual average changes in employment over the 1970-80 period as well as separations estimated on the basis of the average annual employment level during the period and estimated 1976 labor force separations rates.

TABLE 13
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Industry Group	Interpolated 1975 Employment:		Change F 1976 2/
	Number 2/	Percent of Total 3/	
Total, All Industries	2,007,550	100.0	44,000
Agriculture, Forestry and Fisheries	75,920	3.8	-1,850
Agriculture	72,040	3.6	-1,900
Forestry	3,280	0.2	50
Fisheries	600	.	
Mining 4/	7,580	0.4	110
Metal Mining	430	.	20
Nonmetallic Mining and Quarrying	7,010	0.4	80
Construction	135,380	6.7	4,630
General Building Contractors	37,040	1.8	1,400
General Contractors, except building	39,870	2.0	1,290
Special Trade Contractors	58,470	2.9	1,940
Manufacturing	513,860	25.6	9,140
Durable Goods	178,160	8.9	3,740
Nondurable Goods	335,700	16.7	5,400
Transportation and Public Utilities	133,110	6.6	3,270
Transportation	74,760	3.7	1,650
Communications	29,900	1.5	820
Electric, Gas and Sanitary Services	28,450	1.4	800
Trade	423,980	21.1	11,530
Wholesale	118,750	5.9	3,540
Retail	305,230	15.2	7,990
Finance, Insurance and Real Estate	97,930	4.9	2,960
Finance	45,690	2.3	2,020
Insurance	32,670	1.6	630
Real Estate and combinations of real estate, insurance, loan and law offices	19,570	1.0	310
Services 4/	504,590	25.1	11,820
Hotels and lodging places	22,590	1.1	880
Other personal services	35,900	1.8	440
Miscellaneous business services	33,310	1.7	1,290

TABLE 13
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
es	2,007,550	100.0	44,000	220,200
stry and Fisheries	75,920	3.8	-1,850	-9,220
	72,040	3.6	-1,900	-9,500
	3,280	0.2	50	260
	600			20
	7,580	0.4	110	570
	430		20	100
ining and Quarrying	7,010	0.4	80	410
	135,380	6.7	4,630	23,190
ing Contractors	37,040	1.8	1,400	7,010
ctors, except building'	39,870	2.0	1,290	6,460
Contractors	58,470	2.9	1,940	9,720
	513,860	25.6	9,140	45,730
	178,160	8.9	3,740	18,690
ds'	335,700	16.7	5,400	27,040
Public Utilities	133,110	6.6	3,270	16,360
	74,760	3.7	1,650	8,220
	29,900	1.5	820	4,140
nd Sanitary Services	28,450	1.4	800	4,000
	423,980	21.1	11,530	57,700
	158,750	7.9	3,540	17,710
	305,230	15.2	7,990	39,990
and Real Estate	97,930	4.9	2,960	14,800
	45,690	2.3	2,020	10,090
	32,670	1.6	630	3,160
combinations of real estate, an and law offices'	19,570	1.0	310	1,550
	504,590	25.1	11,820	59,110
ing places	22,590	1.1	880	4,420
services	35,900	1.8	440	2,200
usiness services	33,310	1.7	1,290	6,430

TABLE 13 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 ^{1/}

Industry Group	Interpolated 1975 Employment		Change From 1976 ^{2/}
	Number ^{2/}	Percent of Total ^{3/}	
Automobile repair services	13,760	0.7	190
Other repair services	7,190	0.4	90
Motion pictures, theaters	3,680	0.2	-
Miscellaneous entertainment	8,270	0.4	260
Medical and other health services	105,790	5.3	3,790
Legal services	7,250	0.4	160
Educational services	142,980	7.1	4,870
Nonprofit organizations	31,510	1.6	1,010
Private households	77,190	3.8	-1,620
Other professional and related services	15,060	0.8	460
Public Administration ^{5/}	115,200	5.7	2,390
Federal	68,570	3.4	80
State	12,220	0.6	360
Local	34,410	1.7	1,950

- ^{1/} This table summarizes information found in greater detail in Appendix Table 2. Industry employment levels for 1975 and the change from 1975 to 1976 and 1980 are the result of simple interpolations of the projected long-run (1970-1980) labor market trend and should not be interpreted as cyclical fluctuations in the economy. (See Table 6 for 1970 and projected 1980 industry employment levels.)
- ^{2/} Estimates were rounded to tens.
- ^{3/} Percents were computed from unrounded data and may not add to 100.0.
- ^{4/} The sum of components will not equal the total shown due to the withholding of information for industries with less than 100 workers in order to avoid disclosure of individual establishment data.
- ^{5/} Includes public administration only. Government agencies engaged in educational and medical services and in activities commonly carried out by private enterprises, such as agriculture, construction, transportation, etc., are classified in their appropriate industry.

*Less than 0.05 percent.

" - " denotes "zero."

TABLE 13 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
er services	13,760	0.7	190	950
ices	7,190	0.4	90	470
theaters	3,680	0.2	-	-20
entertainment	8,270	0.4	260	1,300
er health services	105,790	5.3	3,790	18,960
	7,250	0.4	160	790
ices	142,980	7.1	4,870	24,380
tations	31,510	1.6	1,010	5,060
ds	77,190	3.8	-1,620	-8,120
al and related services	15,060	0.8	460	2,290
on 5/	115,200	5.7	2,390	11,960
	68,570	3.4	80	420
	12,220	0.6	360	1,820
	34,410	1.7	1,950	9,720

summarizes information found in greater detail in Appendix Table 2. Industry employment levels for 1975 and the change from 1975 to 1976 are the result of simple interpolations of the projected long-run (1970-1980) labor market trend and should not be interpreted as representing actual conditions in the economy. (See Table 6 for 1970 and projected 1980 industry employment levels.)

rounded to tens.

computed from unrounded data and may not add to 100.0.

Components will not equal the total shown due to the withholding of information for industries with less than 100 workers in 1970 or to the unavailability of individual establishment data.

Government agencies engaged in educational and medical services and in activities commonly carried on by other industries, such as agriculture, construction, transportation, etc., are classified in their appropriate industry.

percent.

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TABLE 14
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Group	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Total, All Occupations	1,787,920	100.0	39,990
Professional, Technical and Kindred Workers	234,480	13.1	7,000
Engineers, technical	20,790	1.2	480
Life and physical scientists	2,940	0.2	70
Mathematical specialists	580	.	10
Engineering and science technicians	15,840	0.9	600
Medical and health workers, except technicians	31,090	1.7	960
Health technologists and technicians	7,250	0.4	390
Technicians, except health, engineering and science	6,420	0.4	220
Computer specialists	4,160	0.2	130
Social scientists	2,020	0.1	110
Teachers	73,800	4.1	1,720
Writers, artists and entertainers	12,940	0.7	390
Other professional, technical and kindred workers	56,650	3.2	1,920
Managers, Officials and Proprietors, except Farm	171,850	9.6	6,040
Buyers, sales managers, and loan managers	32,250	1.8	1,250
Administrators and inspectors; public administration	17,240	1.0	470
Other managers, officials and proprietors	122,360	6.8	4,320
Sales Workers	132,780	7.4	3,630
Clerical and Kindred Workers	290,080	16.2	8,070
Stenographers, typists and secretaries	88,940	5.0	3,070
Office machine operators	10,570	0.6	110
Other clerical workers	190,570	10.7	4,890
Craftsmen, Foremen and Kindred Workers	256,910	14.4	6,240
Construction craftsmen	83,740	4.7	2,640
Foremen, n.e.c.	42,460	2.4	940
Metalworking craftsmen, except mechanics	14,980	0.8	290
Mechanics, repairmen and installers	70,790	4.0	1,400
Printing trade craftsmen	7,290	0.4	150
Transportation and public utility craftsmen	13,790	0.7	350
Other craftsmen and kindred workers	24,860	1.4	470

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TABLE 14
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
	1,787,920	100.0	39,990	200,070
and Kindred Workers	234,480	13.1	7,000	35,000
Scientists	20,790	1.2	480	2,400
Lists	2,940	0.2	70	330
Science technicians	580	.	10	70
Workers, except technicians	15,840	0.9	600	2,990
and technicians	31,090	1.7	960	4,830
Health, engineering and science	7,250	0.4	390	1,940
	6,420	0.4	220	1,070
	4,160	0.2	130	640
	2,020	0.1	110	540
Entertainers	73,800	4.1	1,720	8,600
Technical and kindred workers	12,940	0.7	390	1,970
	56,650	3.2	1,920	9,620
Proprietors, except Farm	171,850	9.6	6,040	30,210
ers, and loan managers	32,250	1.8	1,250	6,260
Inspectors; public administration	17,240	1.0	470	2,330
Cials and proprietors	122,360	6.8	4,320	21,620
	132,280	7.4	3,630	18,140
Workers	290,080	16.2	8,070	40,330
s and secretaries	88,940	5.0	3,070	15,350
tors	10,570	0.6	110	510
s	190,570	10.7	4,890	24,470
Kindred Workers,	256,910	14.4	6,240	31,240
en	83,740	4.7	2,640	13,200
	42,460	2.4	940	4,720
en, except mechanics	14,980	0.8	290	1,450
and installers	70,790	4.0	1,400	7,030
en	7,290	0.4	150	780
Public utility craftsmen	12,790	0.7	350	1,760
Kindred workers	24,860	1.4	470	2,300

TABLE 14 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Group	Interpolated 1975 Employment		Change F 1976 2/
	Number 2/	Percent of Total 3/	
Operators and Kindred Workers	350,040	19.6	5,310
Operatives, except transport	274,570	15.4	3,760
Transport equipment operatives	75,470	4.2	1,550
Service Workers	224,980	12.6	4,330
Cleaning service workers	45,440	2.5	1,360
Food service workers	54,120	3.0	1,180
Health service workers	26,460	1.5	940
Personal service workers	29,520	1.6	800
Protective service workers	23,350	1.3	900
Private household workers	46,090	2.6	-850
Laborers, except Farm	78,990	4.4	1,140
Farmers and Farm Workers	48,310	2.7	-1,770
Farmers and farm managers	23,160	1.3	-780
Farm laborers and farm foremen	25,150	1.4	-990

1/ This table summarizes information found in greater detail in Appendix Table 4. Occupational employment levels for 1975 and the change to 1976 and 1980 are the result of simple interpolations of the projected long-run (1970-1980) labor market trend and should not be interpreted as representing cyclical fluctuations in the economy. (See Table 11 for 1970 and 1980 occupational employment levels.)

2/ Estimates were rounded to tens.

3/ Percents were computed from unrounded data and may not add to 100.0.

*Less than 0.05 percent.

"n.e.c." denotes "not elsewhere classified."

TABLE 14 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
ired Workers	350,040	19.6	5,310	26,680
ept transport	274,570	15.4	3,760	18,910
ment operatives	75,470	4.2	1,550	7,770
	224,980	12.6	4,330	21,620
e workers	45,440	2.5	1,360	6,820
orkers	54,120	3.0	1,180	5,880
orkers	26,460	1.5	940	4,670
e workers	29,520	1.6	800	4,010
ce workers	23,350	1.3	900	4,500
ld workers	46,090	2.6	-850	-4,260
orm	78,990	4.4	1,140	5,660
Workers	48,310	2.7	-1,770	-8,810
o managers	23,160	1.3	-780	-3,400
ad farm foremen	25,150	1.4	990	-4,910

summarizes information found in greater detail in Appendix Table 4. Occupational employment levels for 1975 and the change from 1975 to 1976 and 1980 are the result of simple interpolations of the projected long-run (1970-1980) labor market trend and should not be interpreted as cyclical fluctuations in the economy. (See Table 11 for 1970 and 1980 occupational employment levels.)

rounded to tens.

computed from unrounded data and may not add to 100.0.

cent.

not elsewhere classified."

TABLE 15
 GEORGIA 1976 ANNUAL AVERAGE EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATIONAL GROUP 1/

Occupational Group	Estimated 1976 Employment 2/		Total Job Openings, 1976 3/			Openings Growth
	Number 4/	Percent of Total 5/	Number 4/	Percent of Total 5/	Percent of Employment 5/	
Total, All Occupations	1,827,910	100.0	104,950	100.0	5.7	39,990
Professional, Technical and Kindred Workers	241,480	13.2	15,680	14.9	6.5	7,000
Engineers, technical	21,270	1.2	780	0.7	3.7	480
Life and physical scientists	3,010	0.2	120	0.1	4.1	70
Mathematical specialists	590	•	30	•	5.6	10
Engineering and science technicians	16,440	0.9	840	0.8	5.1	600
Medical and health workers, except technicians	32,050	1.8	2,450	2.3	7.7	960
Health technologists and technicians	7,640	0.4	760	0.7	9.9	390
Technicians, except health, engineering and science	6,640	0.4	290	0.3	4.4	220
Computer specialists	4,290	0.2	220	0.2	5.1	130
Social scientists	2,130	0.1	150	0.1	6.9	110
Teachers	75,520	4.1	5,430	5.2	7.2	1,720
Writers, artists and entertainers	13,330	0.7	790	0.8	5.9	390
Other professional, technical and kindred workers	58,570	3.2	3,820	3.6	6.5	1,920
Managers, Officials and Proprietors, Except Farm	177,890	9.7	10,880	10.4	6.1	6,040
Buyers, sales managers and loan managers	33,500	1.8	1,970	1.9	5.9	1,250
Administrators and inspectors; public administration	17,710	1.0	1,040	1.0	5.9	470
Other managers, officials and proprietors	126,680	6.9	7,870	7.5	6.2	4,320
Sales Workers	135,910	7.4	8,470	8.1	6.2	3,630
Clerical and Kindred Workers	298,150	16.3	23,640	22.5	7.9	8,070
Stenographers, typists and secretaries	92,010	5.0	9,140	8.7	9.9	3,070
Office machine operators	10,680	0.6	660	0.6	6.2	110
Other clerical workers	195,460	10.7	13,840	13.2	7.1	4,890
Craftsmen, Foremen and Kindred Workers	263,150	14.4	10,900	10.4	4.1	6,240
Construction craftsmen	86,380	4.7	4,240	4.0	4.9	2,640
Foremen, n.e.c.	43,400	2.4	1,790	1.7	4.1	940
Metalworking craftsmen, except mechanics	15,270	0.8	540	0.5	3.5	290
Mechanics, repairmen and installers	72,190	4.0	2,450	2.3	3.4	1,400
Printing trade craftsmen	7,440	0.4	300	0.3	4.1	150
Transportation and public utility craftsmen	13,140	0.7	490	0.5	3.8	350
Other craftsmen and kindred workers	25,330	1.4	1,090	1.0	4.2	470

TABLE 15
 GEORGIA 1976 ANNUAL AVERAGE EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATIONAL GROUP 1/

	Estimated 1976 Employment 2/		Total Job Openings, 1976 3/			Openings Due To	
	Number 4/	Percent of	Number 4/	Percent of	Percent of	Growth 4/	Labor Force
		Total 5/		Total 5/	Employment 5/		Separations 4/
	1,827,910	100.0	104,950	100.0	5.7	39,990	64,960
and Kindred Workers	241,480	13.2	15,680	14.9	6.5	7,000	8,680
	21,270	1.2	780	0.7	3.7	480	4300
Scientists	3,010	0.2	120	0.1	4.1	70	50
Lists	590		30		5.6	10	20
ence technicians	16,440	0.9	840	0.8	5.1	600	240
workers, except technicians	32,050	1.8	2,450	2.3	7.7	960	1,490
s and technicians	7,640	0.4	760	0.7	9.9	390	370
t health, engineering and science	6,640	0.4	290	0.3	4.4	220	70
s	4,290	0.2	220	0.2	5.1	130	90
	2,130	0.1	150	0.1	6.9	110	40
	75,520	4.1	5,430	5.2	7.2	1,720	3,710
entertainers	13,330	0.7	790	0.8	5.9	390	400
technical and kindred workers	58,570	3.2	3,820	3.6	6.5	1,920	1,900
Proprietors, Except Form	177,890	9.7	10,880	10.4	6.1	6,040	4,840
ers and loan managers	33,500	1.8	1,970	1.9	5.9	1,250	720
inspectors; public administration	17,710	1.0	1,040	1.0	5.9	470	570
ocials and proprietors	126,680	6.9	7,870	7.5	6.2	4,320	3,550
	135,910	7.4	8,470	8.1	6.2	3,630	4,840
orkers	298,150	16.3	23,640	22.5	7.9	8,070	15,570
ts and secretaries	92,010	5.0	9,140	8.7	9.9	3,070	6,070
ators	10,680	0.6	660	0.6	6.2	110	550
rs	195,460	10.7	13,840	13.2	7.1	4,890	8,950
nd Kindred Workers	263,150	14.4	10,900	10.4	4.1	6,240	4,660
en	86,380	4.7	4,240	4.0	4.9	2,640	1,600
	43,400	2.4	1,790	1.7	4.1	940	850
en, except mechanics	15,270	0.8	540	0.5	3.5	290	250
n and installers	72,190	4.0	2,450	2.3	3.4	1,400	1,050
men	7,440	0.4	300	0.3	4.1	150	150
ublic utility craftsmen	13,140	0.7	490	0.5	3.8	350	140
kindred workers	25,330	1.4	1,090	1.0	4.2	470	620

TABLE 15 - continued
 GEORGIA 1976 ANNUAL AVERAGE EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATIONAL GROUP 1/

Occupational Group	Estimated 1976 Employment 2/		Total Job Openings, 1976 3/			Growth
	Percent of .		Percent of		Percent of	
	Number 4/	Total 5/	Number 4/	Total 5/	Employment 5/	
Operatives and Kindred Workers	355,350	19.4	16,240	15.5	4.6	5,310
Operatives, except transport	278,330	15.2	13,450	12.8	4.8	3,760
Transport equipment operatives	77,020	4.2	2,790	2.7	3.6	1,550
Service Workers	229,310	12.5	16,070	15.3	7.0	4,330
Cleaning service workers	46,800	2.6	3,350	3.2	7.2	1,360
Food service workers	55,300	3.0	3,850	3.7	7.0	1,180
Health service workers	27,400	1.5	2,440	2.3	8.9	940
Personal service workers	80,320	1.7	2,580	2.5	8.5	800
Protective service workers	24,250	1.3	1,610	1.5	6.7	900
Private household workers	45,240	2.5	2,240	2.1	5.0	-850
Laborers, Except Farm	80,130	4.4	2,860	2.7	3.6	1,140
Formers and Farm Workers	46,540	2.6	210	0.2	0.5	-1,770
Farmers and farm managers	22,380	1.2	280	0.3	1.2	-780
Farm laborers and farm foremen	24,160	1.3	-70	-0.1	-0.3	-990

1/ This table summarizes information found in greater detail in Appendix Table 5.

2/ Occupational employment levels are simple interpolations of the projected long-run (1970-1980) labor market trend and should not be representing cyclical fluctuations in the economy.

3/ Job openings data reflect annual average changes in employment over the 1970-1980 period as well as separations estimated on the basis of average annual employment level during the period and estimated 1976 labor force separation rates.

4/ Estimates were rounded to ten's.

5/ Percents were computed from unrounded data and may not add to 100.0.

"n.e.c." denotes "not elsewhere classified".

* Denotes less than 0.05.

TABLE 15 - continued
 GEORGIA 1976 ANNUAL AVERAGE EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATIONAL GROUP 1/

	Estimated 1976 Employment 2/		Total Job Openings, 1976 3/			Openings Due To	
	Number 4/	Percent of	Number 4/	Percent of	Percent of	Growth 4/	Labor Force,
		Total 5/		Total 5/	Employment 5/		Separations 4/
red Workers	356,350	19.4	16,240	15.5	4.6	5,310	10,930
transport	278,330	15.2	13,450	12.8	4.8	3,760	9,690
ent operatives	77,020	4.2	2,790	2.7	3.6	1,550	1,240
	229,310	12.5	16,070	15.3	7.0	4,330	11,740
workers	46,800	2.6	3,350	3.2	7.2	1,360	1,990
ers	55,300	3.0	3,850	3.7	7.0	1,180	2,670
rkers	27,400	1.5	2,440	2.3	8.9	940	1,500
workers	30,320	1.7	2,580	2.5	8.5	800	1,780
e workers	24,250	1.3	1,610	1.5	6.7	900	710
workers	45,240	2.5	2,240	2.1	5.0	-850	3,090
m	80,130	4.4	2,860	2.7	3.6	1,140	1,720
rkers	46,540	2.6	210	0.2	0.5	-1,770	1,980
managers	22,380	1.2	280	0.3	1.2	-780	1,060
farm foremen	24,160	1.3	-70	-0.1	-0.3	-990	920

Summarizes information found in greater detail in Appendix Table 5.

Employment levels are simple interpolations of the projected long-run (1970-1980) labor market trend and should not be interpreted as cyclical fluctuations in the economy.

These figures reflect annual average changes in employment over the 1970-1980 period as well as separations estimated on the basis of the employment level during the period and estimated 1976 labor force separation rates.

Rounded to ten's.

Computed from unrounded data and may not add to 100.0.

Not elsewhere classified.

0.05.

METHODOLOGY

The estimates and projections in this report are the product of a cooperative Federal-State effort funded by the U.S. Department of Labor, Manpower Administration (MA). The Bureau of Labor Statistics (BLS) was responsible for planning, design, and technical coordination of the program. The MA, in consultation with BLS, was responsible for providing an outside contractor (Lawrence Berkeley Laboratory) to process input submitted by the States.

Working under guidelines furnished by BLS, the Georgia Department of Labor, Employment Security Agency, furnished data inputs on 1970 industry employment by class of worker in the detail required for the National Industry Occupational Matrix. The State Agency also furnished a historical series of nonagricultural wage and salary employment estimates which was regressed against national projections to produce State wage and salary projections. After review by the State Agency, the wage and salary projections were incorporated into projections of total employment by industry. The 1980 industry projections were then applied, through the use of the computer, to Georgia's 1970 Census occupational employment levels to produce 1980 employment projections.

In addition to the long-term projections, the Georgia Agency was furnished computer-processed interpolations for 1975 and 1976 of the 1970-80 trend in industry and occupational employment and a tabulation of average annual job openings by occupation.

The Georgia Department of Labor, Employment Security Agency, has final responsibility for the estimates and projections and for this report. Users are cautioned to read the limitations set forth in the Introduction and the other sections of this report, especially those that apply to the 1975 and 1976 data.

APPENDIX A

DETAILED GEORGIA INTERIM MANPOWER PROJECTIONS TABLES

Table 1. Georgia Total Employment by Industry, 1970 and Projected to 1980.

Table 2. Georgia Industry Employment Interpolated to 1975 and Change to 1976 and 1980

Table 3. Georgia 1970 Employment and Projected 1980 Requirements by Occupation

Table 4. Georgia Occupational Employment Interpolated to 1975 and Change to 1976 and 1980

Table 5. Georgia 1976 Employment and Job Openings by Occupation

TABLE I
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

Industry Title	1970		Projected 1980		Absolute
	Employment		Employment		
	Number 1/	Percent 2/	Number 1/	Percent 2/	
Total, All Industries 3/	1,787,350	100.0	2,227,750	100.0	-440,400
Agriculture, Forestry, Fisheries	85,140	4.8	66,700	3.0	-18,440
Agriculture	81,550	4.6	62,540	2.8	-19,010
Agricultural production	73,310	4.1	52,130	2.3	-21,180
Agricultural services, except horticultural	5,050	0.3	6,380	0.3	1,330
Horticultural services	3,190	0.2	4,030	0.2	840
Forestry	3,010	0.2	3,540	0.2	530
Fisheries	580	.	620	.	40
Mining 4/	7,020	0.4	8,150	0.4	1,130
Metal Mining	330	.	540	.	210
Nonmetallic Mining, Quarrying	6,600	0.4	7,430	0.3	830
Construction	112,180	6.3	158,570	7.1	46,390
General Building Contractors	30,010	1.7	44,050	2.0	14,040
General Contractors, except building	33,410	1.9	46,330	2.1	12,920
Special Trade Contractors	48,760	2.7	68,190	3.1	19,430
Manufacturing	468,130	26.2	559,590	25.1	91,460
Durable Goods	159,480	8.9	196,850	8.8	37,370
Lumber and wood products, except furniture	27,360	1.5	30,220	1.4	2,860
Logging	6,960	0.4	7,160	0.3	200
Sawmills, planing mills, millwork	16,070	0.9	18,160	0.8	2,090
Miscellaneous wood products	4,330	0.2	4,900	0.2	570
Furniture and fixtures	9,530	0.5	12,690	0.6	3,160
Stone, clay and glass products	13,830	0.8	18,570	0.8	4,740
Cement, concrete, plaster	5,920	0.3	8,450	0.4	2,530
Structural clay products	3,040	0.2	3,720	0.2	680
Pottery and related products	220	.	280	.	60
Miscellaneous nonmetallic mineral and stone products	2,930	0.2	3,560	0.2	630
Primary metal industries 5/	8,130	0.5	12,190	0.6	4,060
Ferrous metal industries	3,730	0.2	4,760	0.2	1,030
Nonferrous metal industries	4,400	0.3	7,430	0.3	3,030
Fabricated metal products	16,900	1.0	29,490	1.3	12,590
Cutlery, other hardware	290	.	500	.	210
Fabricated structural metal products	9,250	0.5	16,130	0.7	6,880
Metal stamping	2,800	0.2	4,890	0.2	2,090
Miscellaneous fabricated metal products	4,480	0.3	7,830	0.4	3,350

TABLE 1
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Employment		Absolute	Percent 2'
	Number 1'	Percent 2'	Number 1'	Percent 2'		
	1,787,350	100.0	2,227,750	100.0	440,400	25
Wholesale and retail trade	85,140	4.8	66,700	3.0	-18,440	-22
Food and kindred products	81,550	4.6	62,540	2.8	-19,010	-23
Textile millinery	73,310	4.1	52,130	2.3	-21,180	-29
Other services, except horticultural	5,050	0.3	6,380	0.3	1,330	26
Transportation	3,190	0.2	4,030	0.2	840	26
Communications	3,010	0.2	3,540	0.2	530	18
Electric, gas, and water supply	580	•	620	•	40	7
Construction	7,020	0.4	8,150	0.4	1,130	16
Government	330	•	540	•	210	65
Quarrying	6,600	0.4	7,430	0.3	830	13
Chemical and allied products	112,180	6.3	158,570	7.1	46,390	41
Textile millinery	30,010	1.7	44,050	2.0	14,040	47
Other nonmetallic mineral products	33,410	1.9	46,330	2.1	12,920	39
Other metal products	48,760	2.7	68,190	3.1	19,430	40
Food and kindred products	468,130	26.2	559,590	25.1	91,460	20
Textile millinery	159,480	8.9	196,850	8.8	37,370	23
Other services, except horticultural	27,360	1.5	30,220	1.4	2,860	10
Transportation	6,960	0.4	7,160	0.3	200	3
Textile millinery	16,070	0.9	18,160	0.8	2,090	13
Food products	4,330	0.2	4,900	0.2	570	13
Other services	9,530	0.5	12,690	0.6	3,160	33
Textile products	13,830	0.8	18,570	0.8	4,740	34
Other, plaster	5,920	0.3	8,450	0.4	2,530	43
Other products	3,040	0.2	3,720	0.2	680	22
Other products	220	•	280	•	60	25
Nonmetallic mineral and stone products	2,930	0.2	3,560	0.2	630	22
Chemical products	8,130	0.5	12,190	0.6	4,060	50
Other industries	3,730	0.2	4,760	0.2	1,030	28
Other industries	4,400	0.3	7,430	0.3	3,030	69
Other products	16,900	1.0	29,490	1.3	12,590	75
Hardware	290	•	500	•	210	73
Other metal products	9,250	0.5	16,130	0.7	6,880	74
Other products	2,800	0.2	4,890	0.2	2,090	75
Other fabricated metal products	4,480	0.3	7,830	0.4	3,350	75

TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

Industry Title	1970		Projected 1980		Absolute
	Number 1/	Percent 2/	Number 1/	Percent 2/	
Machinery, except electrical	14,240	0.8	20,380	0.9	6,140
Farm machinery and equipment	2,290	0.1	3,290	0.2	1,000
Construction and related machinery	1,450	0.1	2,080	0.1	630
Metalworking machinery	1,320	0.1	1,900	0.1	580
Office, accounting machines	450	•	640	•	190
Machinery, n.e.c.	8,380	0.5	11,980	0.5	3,600
Electrical machinery, equipment and supplies	11,860	0.7	17,910	0.8	6,050
Household appliances	430	•	650	•	220
Radio, TV, communication equipment	980	0.1	1,480	0.1	500
Electrical machinery, n.e.c.	10,450	0.6	15,780	0.7	5,330
Transportation equipment	47,720	2.7	42,880	1.9	-4,840
Motor vehicles and equipment	14,250	0.8	16,680	0.8	2,430
Aircraft and parts	25,640	1.4	14,820	0.7	-10,820
Ship and boat building and repairing	1,230	0.1	1,070	0.1	-160
Mobile dwellings	6,010	0.3	9,380	0.4	3,370
Cycles, miscellaneous transportation equipment	420	•	660	•	240
Instruments and related products	2,840	0.2	4,700	0.2	1,860
Optical, health services supplies	1,230	0.1	2,020	0.1	790
Miscellaneous manufacturing industries	5,940	0.3	7,600	0.3	1,660
Nondurable Goods 4/	308,650	17.3	362,740	16.3	54,090
Food and-kindred products	52,640	2.9	58,630	2.6	5,990
Meat products	16,260	0.9	19,430	0.9	3,170
Dairy products	5,020	0.3	5,370	0.2	350
Canning and preserving	5,250	0.3	5,110	0.2	-140
Grain mill products	2,840	0.2	2,620	0.1	-220
Bakery products	8,510	0.5	9,700	0.4	1,190
Beverage industries	7,470	0.4	9,150	0.4	1,680
Miscellaneous food preparation	4,830	0.3	4,810	0.2	-20
Textile mill products	115,020	6.4	129,010	5.8	13,990
Knitting mills	9,690	0.5	10,870	0.5	1,180
Dyeing, finishing, textiles	4,530	0.3	5,080	0.2	550
Floor coverings	26,470	1.5	29,680	1.3	3,210
Yarn, fabric mills	66,170	3.7	74,230	3.3	8,060
Miscellaneous textile mill products	8,160	0.5	9,150	0.4	990
Apparel and other finished textile products	70,470	3.9	81,470	3.8	11,000
Apparel and accessories	63,670	3.6	77,240	3.5	13,570
Miscellaneous fabricated products	6,800	0.4	8,230	0.4	1,430
Paper and allied products	25,040	1.4	29,790	1.3	4,750

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TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

	1970		Projected 1980		Change,	
	Employment		Employment		1970 - 1980	
	Number 1/	Percent 2/	Number 1/	Percent 2/	Absolute	Percent 2/
Electrical	14,240	0.8	20,380	0.9	6,140	43
Trucks and equipment	2,290	0.1	3,290	0.2	1,000	44
Trucks and related machinery	1,450	0.1	2,080	0.1	630	44
Machinery	1,320	0.1	1,900	0.1	570	43
Printing machines	450	•	640	•	190	43
Trucks, n.e.c.	8,380	0.5	11,980	0.5	3,600	43
Trucks, equipment and supplies	11,860	0.7	17,910	0.8	6,050	51
Trucks	430	•	650	•	220	50
Communication equipment	980	0.1	1,480	0.1	500	51
Machinery, n.e.c.	10,450	0.6	15,780	0.7	5,330	51
Equipment	47,720	2.7	42,880	1.9	-4,840	-10
Trucks and equipment	14,250	0.8	16,680	0.8	2,430	17
Trucks	25,640	1.4	14,820	0.7	-10,820	-42
Building and repairing	1,230	0.1	1,070	0.1	-160	-13
Trucks	6,010	0.3	9,380	0.4	3,370	56
Miscellaneous transportation equipment	420	•	660	•	240	55
Related products	2,840	0.2	4,700	0.2	1,860	66
Trucks services supplies	1,230	0.1	2,020	0.1	790	64
Manufacturing industries	5,940	0.3	7,600	0.3	1,660	28
/	308,650	17.3	362,740	16.3	54,090	18
Products	52,640	2.9	58,630	2.6	5,990	11
	16,260	0.9	19,430	0.9	3,170	20
	5,020	0.3	5,370	0.2	350	7
Reserving	5,250	0.3	5,110	0.2	-140	-3
Products	2,840	0.2	2,620	0.1	-220	-8
Trucks	8,510	0.5	9,700	0.4	1,190	14
Trucks	7,470	0.4	9,150	0.4	1,680	22
Food preparation	4,830	0.3	4,810	0.2	-20	0
Trucks	115,020	6.4	129,010	5.8	13,990	12
	9,690	0.5	10,870	0.5	1,180	12
Printing textiles	4,530	0.3	5,080	0.2	550	12
Trucks	26,470	1.5	29,680	1.3	3,210	12
Trucks	66,170	3.7	74,230	3.3	8,060	12
Textile mill products	8,160	0.5	9,150	0.4	990	12
Finished textile products	70,470	3.9	85,470	3.8	15,000	21
Accessories	63,670	3.6	77,240	3.5	13,570	21
Fabricated products	6,800	0.4	8,230	0.4	1,430	21
Trucks	25,040	1.4	29,790	1.3	4,750	19

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TABLE 1. continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

Industry Title	1970		Projected 1980		Absolute
	Employment		Employment		
	Number 1	Percent 2	Number 1	Percent 2	
Pulp, paper, paperboard mills	13,820	0.8	15,030	0.7	1,210
Paperboard containers, boxes	7,440	0.4	9,260	0.4	1,820
Miscellaneous paper and pulp products	3,780	0.2	5,500	0.2	1,720
Printing and publishing	15,960	0.9	20,870	0.9	4,910
Newspaper publishing, printing	6,400	0.4	8,220	0.4	1,820
Printing and publishing, except news	9,560	0.5	12,650	0.6	3,090
Chemical and allied products	13,340	0.8	17,140	0.8	3,800
Industrial chemicals	2,420	0.1	3,000	0.1	580
Drugs and medicines	810	0.1	1,320	0.1	510
Soaps and cosmetics	2,770	0.2	3,430	0.2	660
Paints, varnishes	1,590	0.1	2,260	0.1	670
Agricultural chemicals	2,400	0.1	2,970	0.1	570
Miscellaneous chemicals	1,980	0.1	2,470	0.1	490
Petroleum and coal products	940	0.1	1,550	0.1	610
Rubber, miscellaneous plastic products	9,710	0.5	14,930	0.7	5,220
Rubber products	6,030	0.3	8,050	0.4	2,020
Miscellaneous plastic products	3,680	0.2	6,880	0.3	3,200
Leather and leather products	4,800	0.3	4,670	0.2	-130
Footwear, except rubber	3,760	0.2	3,660	0.2	-100
Transportation and Public Utilities	116,750	6.5	149,470	6.7	32,720
Transportation, Total	66,560	3.7	82,980	3.7	16,420
Railroads, railway express	13,460	0.8	13,110	0.6	-350
Local and interurban passenger transit	4,710	0.3	6,690	0.3	1,980
Street railways, bus lines	3,730	0.2	5,630	0.3	1,900
Taxicab service	980	0.1	1,060	0.1	80
Trucking and warehousing	28,550	1.6	36,550	1.6	8,000
Trucking service	26,340	1.5	33,780	1.5	7,440
Warehousing and storage	2,210	0.1	2,770	0.1	560
Water transportation	3,030	0.2	4,190	0.2	1,160
Air transportation	15,050	0.8	19,940	0.9	4,890
Pipelines	450	0.0	560	0.0	110
Transportation services	1,310	0.1	1,940	0.1	630
Communications, Electric, Gas and Sanitary Services	50,190	2.8	66,490	3.0	16,300
Communications	25,760	1.4	34,040	1.5	8,280
Telephone (wire and radio)	21,590	1.2	29,650	1.3	8,060
Telegraph, miscellaneous communication services	1,060	0.1	960	0.0	-100
Radio broadcasting, TV	3,110	0.2	3,430	0.2	320

TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Employment		Absolute	Percent 2'
	Number 1'	Percent 2'	Number 1'	Percent 2'		
Paperboard mills	13,820	0.8	15,030	0.7	1,210	9
Containers, boxes	7,440	0.4	9,260	0.4	1,820	25
Other paper and pulp products	3,780	0.2	5,500	0.2	1,720	46
Printing	15,960	0.9	20,870	0.9	4,910	31
Publishing, printing	6,400	0.4	8,220	0.4	1,820	28
Publishing, except news	9,560	0.5	12,650	0.6	3,090	32
Food products	13,340	0.8	17,140	0.8	3,800	28
Chemicals	2,420	0.1	3,000	0.1	580	24
Medicines	810	0.1	1,320	0.1	510	63
Cosmetics	2,770	0.2	3,430	0.2	660	24
Drugs	1,590	0.1	2,260	0.1	670	42
Chemicals	2,400	0.1	2,970	0.1	570	24
Chemicals	1,980	0.1	2,470	0.1	490	24
Plastic products	940	0.1	1,550	0.1	610	65
Other plastic products	9,710	0.5	14,920	0.7	5,220	54
Textiles	6,030	0.3	8,050	0.4	2,020	34
Other plastic products	3,680	0.2	6,880	0.3	3,200	87
Other products	4,800	0.3	4,670	0.2	-130	-3
Leather and rubber	3,760	0.2	3,660	0.2	-100	-3
Public Utilities	116,750	6.5	149,470	6.7	32,720	28
Electric	66,560	3.7	82,980	3.7	16,420	25
Express	13,460	0.8	13,110	0.6	-350	-3
Urban passenger transit	4,710	0.3	6,690	0.3	1,980	42
Inter-city, bus lines	3,730	0.2	5,630	0.3	1,900	51
Trucking	980	0.1	1,060	0.1	80	8
Warehousing	28,550	1.6	36,550	1.6	8,000	28
Trucking	26,340	1.5	33,780	1.5	7,440	28
Freight storage	2,210	0.1	2,770	0.1	560	25
Communication	3,030	0.2	4,190	0.2	1,160	39
Telephone	15,050	0.8	19,940	0.9	4,890	32
Other services	450	0.0	560	0.0	110	24
Other services	1,310	0.1	1,940	0.1	630	48
Electric, Gas and Sanitary Services	50,190	2.8	66,490	3.0	16,300	32
Radio and television	25,760	1.4	34,040	1.5	8,280	32
Radio and television (excluding radio and radio)	21,590	1.2	29,650	1.3	8,060	37
Miscellaneous communication services	1,060	0.1	960	0.0	-100	-9
Printing, TV	3,110	0.2	3,430	0.2	320	10

TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

Industry Title	1970		Projected 1980		Absol
	Number 1	Percent 2	Number 1	Percent 2	
Electric, gas and sanitary services	24,430	1.4	32,450	1.5	8,
Electric light and power	10,790	0.6	13,450	0.6	2,
Electric - gas utilities	110		160		
Gas, steam supply systems	3,350	0.2	4,170	0.2	
Water supply	2,750	0.2	3,990	0.2	1,
Sanitary services	7,380	0.4	10,610	0.5	3,
Wholesale and Retail Trade	366,270	20.5	481,680	21.6	115,
Wholesale Trade	101,040	5.7	136,460	6.1	35,
Wholesale, except miscellaneous wholesalers	70,680	4.0	98,260	4.4	27,
Motor vehicles and equipment	9,540	0.5	14,900	0.7	5,
Drugs, chemicals, allied products	6,140	0.3	8,720	0.4	2,
Dry goods and apparel	3,710	0.2	4,270	0.2	
Food and related products	12,510	0.7	13,510	0.6	1,
Farm products raw materials	4,060	0.2	5,190	0.2	1,
Electrical goods	10,100	0.6	14,540	0.7	4,
Hardware, plumbing and heating equipment	5,200	0.3	7,460	0.3	2,
Machinery, equipment and supplies	19,420	1.1	29,670	1.3	10,
Miscellaneous wholesale trade	30,360	1.7	38,200	1.7	7,
Metals and minerals, n.e.c.	2,740	0.2	3,480	0.2	
Petroleum products	4,200	0.2	5,240	0.2	1,
Strap and waste material	1,920	0.1	2,340	0.1	
Alcoholic beverages	1,730	0.1	2,200	0.1	
Paper and its products	3,300	0.2	4,560	0.2	
Lumber, construction materials	4,520	0.3	5,720	0.3	1,
Wholesalers, n.e.c.	11,670	0.7	14,660	0.7	2,
Retail Trade	265,230	14.8	345,220	15.5	79,
Building materials	12,020	0.7	14,100	0.6	2,
Lumber and other building materials	6,650	0.4	7,800	0.4	1,
Hardware and farm equipment	5,370	0.3	6,300	0.3	
General merchandise, total	62,280	3.5	86,450	3.9	24,
Department and mail order stores	39,330	2.2	57,980	2.6	18,
Limited price stores	6,020	0.3	5,600	0.3	
Vending machine operators	1,840	0.1	2,680	0.1	
Direct selling	6,250	0.4	8,520	0.4	
Miscellaneous merchandise stores	8,840	0.5	11,670	0.5	7,
Food and dairy stores	41,440	2.3	53,050	2.4	1,
Grocery stores	39,210	2.2	50,280	2.3	1,

TABLE 1 --continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

	1970		Projected 1980		Change, 1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
Sanitary services	24,430	1.4	32,450	1.5	8,020	33
and power	10,790	0.6	13,450	0.6	2,660	25
Utilities	110		160		50	43
ply systems	3,350	0.2	4,170	0.2	820	24
	2,750	0.2	3,990	0.2	1,240	45
es	7,380	0.4	10,610	0.5	3,230	44
ode	366,270	20.5	481,680	21.6	115,410	32
	101,040	5.7	136,460	6.1	35,420	35
miscellaneous wholesalers	70,680	4.0	98,260	4.4	27,580	39
and equipment	9,540	0.5	14,900	0.7	5,360	56
ls, allied products	6,140	0.3	8,720	0.4	2,580	42
pparel	3,710	0.2	4,270	0.2	560	15
ed products	12,510	0.7	13,510	0.6	1,000	8
w materials	4,060	0.2	5,190	0.2	1,130	28
	10,100	0.6	14,540	0.7	4,440	44
bing and heating equipment	5,200	0.3	7,460	0.3	2,260	43
ipment and supplies	19,420	1.1	29,670	1.3	10,250	53
olesale trade	30,360	1.7	38,200	1.7	7,840	26
erals, n.e.c.	2,740	0.2	3,480	0.2	740	27
ucts	4,200	0.2	5,240	0.2	1,040	25
e material	1,920	0.1	2,340	0.1	420	22
ages	1,730	0.1	2,200	0.1	470	27
roducts	3,580	0.2	4,560	0.2	980	27
action materials	4,520	0.3	5,720	0.3	1,200	27
e.c.	11,670	0.7	14,660	0.7	2,990	26
	265,230	14.8	345,220	15.5	79,990	30
	12,020	0.7	14,100	0.6	2,080	17
er building materials	6,650	0.4	7,800	0.4	1,150	17
arm equipment	5,370	0.3	6,300	0.3	930	17
ae, total	62,280	3.5	86,450	3.9	24,170	39
mail order stores	39,330	2.2	57,980	2.6	18,650	47
tores	6,020	0.3	5,600	0.3	-420	-7
e operators	1,840	0.1	2,680	0.1	840	46
	6,250	0.4	8,520	0.4	2,270	36
erchandise stores	8,840	0.5	11,670	0.5	2,830	32
res	41,440	2.3	53,050	2.4	11,610	28
	39,210	2.2	50,280	2.3	11,070	28

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TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

Industry Title	1970 Employment		Projected 1980 Employment		Absolute
	Number 1'	Percent 2'	Number 1'	Percent 2'	
Retail bakeries	920	0.1	1,170	0.1	25
Food stores, n.e.c.	1,220	0.1	1,490	0.1	27
Automotive dealers and service stations	45,030	2.5	52,270	2.4	7,240
Motor vehicle dealers	20,150	1.1	24,220	1.1	4,070
Tire, battery and accessory dealers	6,910	0.4	8,090	0.4	1,180
Gasoline service stations	16,240	0.9	17,990	0.8	1,750
Miscellaneous vehicle dealers	1,730	0.1	1,970	0.1	240
Apparel and accessories	15,300	0.9	18,180	0.8	2,880
Apparel, accessory stores	12,210	0.7	14,500	0.7	2,290
Shoe stores	3,090	0.2	3,680	0.2	590
Furniture and appliances	12,650	0.7	14,570	0.7	1,920
Home furnishing stores	9,410	0.5	10,840	0.5	1,430
Appliance, TV, radio stores	3,240	0.2	3,730	0.2	490
Eating and drinking places	45,430	2.5	69,090	3.1	23,660
Miscellaneous retail stores	31,080	1.7	37,510	1.7	6,430
Drug stores	10,530	0.6	13,520	0.6	2,990
Liquor stores	2,070	0.1	2,430	0.1	360
Farm and garden supply stores	3,830	0.2	4,630	0.2	800
Jewelry stores	2,410	0.1	2,870	0.1	460
Fuel and ice dealers	2,940	0.2	3,650	0.2	710
Retail florists	1,810	0.1	1,830	0.1	20
Miscellaneous retail stores	7,490	0.4	8,580	0.4	1,090
Finance, Insurance and Real Estate	83,130	4.7	112,730	5.1	29,600
Finance, Total	35,600	2.0	55,780	2.5	20,180
Banking	19,340	1.1	30,000	1.4	10,660
Credit agencies other than banks	12,490	0.7	18,660	0.8	6,170
Stock brokers, investment	3,770	0.2	7,120	0.3	3,350
Insurance	29,510	1.7	35,830	1.6	6,320
Real estate and Combinations of Real Estate, Insurance, Loans, Law Offices	18,020	1.0	21,120	1.0	3,100
Services, Total 4/	445,490	24.9	563,700	25.3	118,210
Hotels and Lodging Places	18,170	1.0	27,010	1.2	8,840
Hotels and motels	15,470	0.9	23,700	1.1	8,230
Lodging places, except hotels and motels	2,700	0.2	3,310	0.1	610
Other Personal Services	33,720	1.9	38,100	1.7	4,380
Laundry and dry cleaning plants	17,110	1.0	17,750	0.8	640

TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Employment		Absolute	Percent 2'
	Number 1'	Percent 2'	Number 1'	Percent 2'		
	920	0.1	1,170	0.1	250	27
e.c.	1,220	0.1	1,490	0.1	270	22
s and service stations	45,030	2.5	52,270	2.4	7,240	16
dealers	20,150	1.1	24,220	1.1	4,070	20
nd accessory dealers	6,910	0.4	8,090	0.4	1,180	17
ce stations	16,240	0.9	17,990	0.8	1,750	11
ehicle dealers	1,730	0.1	1,970	0.1	240	14
ssories	15,300	0.9	18,180	0.8	2,880	19
sory stores	12,210	0.7	14,500	0.7	2,290	19
	3,090	0.2	3,680	0.2	590	19
liances	12,650	0.7	14,570	0.7	1,920	15
g stores	9,410	0.5	10,840	0.5	1,430	15
, radio stores	3,240	0.2	3,730	0.2	490	15
g places	45,430	2.5	69,090	3.1	23,660	52
ail stores	31,080	1.7	37,510	1.7	6,430	21
	10,530	0.6	13,520	0.6	2,990	28
	2,070	0.1	2,430	0.1	360	17
en supply stores	3,830	0.2	4,630	0.2	800	21
	2,410	0.1	2,870	0.1	460	19
dealers	2,940	0.2	3,650	0.2	710	24
	1,810	0.1	1,830	0.1	20	1
retail stores	7,490	0.4	8,580	0.4	1,090	15
Real Estate	83,130	4.7	112,730	5.1	29,600	36
	35,600	2.0	55,780	2.5	20,180	57
	19,340	1.1	30,000	1.4	10,660	55
her than banks	12,490	0.7	18,660	0.8	6,170	49
vestment	3,770	0.2	7,120	0.3	3,350	89
	29,510	1.7	35,830	1.6	6,320	21
binations of Real Estate, w Offices	18,020	1.0	21,120	1.0	3,100	17
	445,490	24.7	563,700	25.3	118,210	27
Places	18,170	1.0	27,010	1.2	8,840	49
	15,470	0.9	23,700	1.1	8,230	53
cept hotels and motels	2,700	0.2	3,310	0.1	610	23
ces	33,720	1.9	38,100	1.7	4,380	13
leaning plants	17,110	1.0	17,750	0.8	640	4

TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

Industry Title	1970		Projected 1980		Absolute
	Employment		Employment		
	Number 1/	Percent 2/	Number 1/	Percent 2/	
Beauty shops	8,930	0.1	10,550	0.5	1,6
Barber shops	2,840	0.2	3,340	0.2	5
Shoe repair shops	450	•	610	•	1
Dressmaking shops	960	0.1	1,460	0.1	5
Other personal services	3,430	0.2	4,390	0.2	9
Miscellaneous Business Services	26,880	1.5	39,740	1.8	12,8
Advertising	1,740	0.1	2,320	0.1	5
Business management services	2,590	0.1	3,590	0.2	1,0
Commercial research and development	300	•	450	•	1
Computer programming	1,170	0.1	1,810	0.1	6
Detective and protective services	1,820	0.1	2,780	0.1	9
Employment and temporary help supply services	2,860	0.2	4,360	0.2	1,5
Services to buildings	8,050	0.5	12,200	0.6	4,1
Other miscellaneous business services	8,350	0.5	12,230	0.6	3,8
Automobile Repair Services	12,810	0.7	14,710	0.7	1,9
Automobile repair	8,260	0.5	8,830	0.4	5
Automobile services, except repair	4,550	0.3	5,880	0.3	1,3
Other Repair Services	6,740	0.4	7,660	0.3	9
Electrical repair shops	2,870	0.2	3,310	0.2	4
Other repair services	3,870	0.2	4,350	0.2	5
Motion Pictures, Theaters	3,710	0.2	3,660	0.2	4
Miscellaneous Entertainment	6,970	0.4	9,570	0.4	2,6
Bowling alleys, billiards	870	0.1	1,240	0.1	3
Miscellaneous entertainment	6,100	0.3	8,330	0.4	2,3
Medical and Other Health Services	86,840	4.9	124,750	5.6	37,9
Offices of physicians	11,480	0.6	18,340	0.8	6,8
Offices of dentists	4,530	0.3	7,370	0.3	2,8
Offices of chiropractors	470	•	820	•	3
Hospitals	55,540	3.1	74,570	3.4	19,0
Convalescent institutions	8,210	0.5	14,430	0.7	6,2
Health practitioners, n.e.c.	670	•	1,190	0.1	5
Health services, n.e.c.	5,940	0.3	8,030	0.4	2,1
Legal Services	6,450	0.4	8,040	0.4	1,6

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TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Employment		Absolute	Percent 2'
	Number 1'	Percent 2'	Number 1'	Percent 2'		
	8,930	0.1	10,550	0.5	1,620	18
	2,840	0.2	3,340	0.2	500	18
shops	450	•	610	•	160	36
shops	960	0.1	1,460	0.1	500	52
al services	3,430	0.2	4,390	0.2	960	28
Business Services	26,880	1.5	39,740	1.8	12,860	48
	1,740	0.1	2,320	0.1	580	33
management services	2,590	0.1	3,590	0.2	1,000	38
research and development	300	•	450	•	150	50
programming	1,170	0.1	1,810	0.1	640	55
and protective services	1,820	0.1	2,780	0.1	960	53
and temporary help supply services	2,860	0.2	4,360	0.2	1,500	52
buildings	8,050	0.5	12,200	0.6	4,150	52
aneous business services	8,350	0.5	12,230	0.6	3,880	47
Air Services	12,810	0.7	14,710	0.7	1,900	15
repair	8,260	0.5	8,830	0.4	570	7
services, except repair	4,550	0.3	5,880	0.3	1,330	29
Services	6,740	0.4	7,660	0.3	920	14
pair shops	2,870	0.2	3,310	0.2	440	15
services	3,870	0.2	4,350	0.2	480	12
Theaters	3,710	0.2	3,660	0.2	-50	-1
entertainment	6,970	0.4	9,570	0.4	2,600	37
s, billiards	870	0.1	1,240	0.1	370	42
s entertainment	6,100	0.3	8,330	0.4	2,230	36
er Health Services	86,840	4.9	124,750	5.6	37,910	44
ysicians	11,480	0.6	18,340	0.8	6,860	60
ntists	4,530	0.3	7,370	0.3	2,840	63
ropractōrs	470	•	820	•	350	75
	55,540	3.1	74,570	3.4	19,030	34
institutions	8,210	0.5	14,430	0.7	6,220	76
ioners, n.e.c.	670	•	1,190	0.1	520	78
es, n.e.c.	5,940	0.3	8,030	0.4	2,090	35
	6,450	0.4	8,040	0.4	1,590	25

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TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

Industry Title	1970		Projected 1980		Absolute
	Number 1	Percent 2	Number 1	Percent 2	
Educational Services	118,600	6.6	167,360	7.5	48,760
Elementary and secondary schools	83,740	4.7	120,890	5.4	37,150
Colleges and universities	28,290	1.6	38,940	1.8	10,650
Libraries	680	.	950	.	270
Educational services, n.e.c.	5,890	0.3	6,580	0.3	690
Nonprofit Organizations	26,440	1.5	36,570	1.6	10,130
Religious organizations	13,530	0.8	18,510	0.8	4,980
Welfare services	5,950	0.3	8,010	0.4	2,060
Residential welfare	560	.	780	.	220
Nonprofit membership organizations, n.e.c.	6,400	0.4	9,270	0.4	2,870
Private Households	85,300	4.8	69,070	3.1	-16,230
Other Professional and Related Services	12,770	0.7	17,350	0.8	4,580
Engineering and architectural services	5,360	0.3	7,840	0.4	2,480
Accounting, auditing	5,750	0.3	7,850	0.4	2,100
Miscellaneous professional services	1,660	0.1	1,660	0.1	.
Government, Total 5/	103,240	5.8	127,160	5.7	23,920
Federal Public Administration	68,150	3.8	68,990	3.1	840
Postal service	14,040	0.8	15,020	0.7	980
Other federal	54,110	3.0	53,970	2.4	-140
State Public Administration	10,400	0.6	14,040	0.6	3,640
Local Public Administration	24,690	1.4	44,130	2.0	19,440

1/ Estimates were rounded to ten's.

2/ Percents were computed from unrounded data. Percent change figures are shown as whole numbers.

3/ The 1970 and 1980 "Total, All Industries" employment in Table 1 and the "Total, All Occupations" employment shown in Table 3 differ was developed from different data sources. The occupational levels are those reported in the 1970 decennial census and are based on place of residence. The 1970 industry employment estimates, based on place of work, were developed from Georgia Department of Labor, Employment Agency records, supplemented to include self-employed persons, unpaid family workers, private household workers, and persons with a second job and adjusted to exclude the secondary job of multiple job holders.

4/ The sum of components will not equal the total shown due to the withholding of information for industries with less than 100 workers or disclosure of individual establishment data. Information was withheld for all industries which had been deleted from the U.S. Department of Commerce publication, County Business Patterns, 1972, for disclosure reasons.

5/ Includes public administration only. Government agencies engaged in educational and medical services and in activities commonly carried on by private enterprises, such as agriculture, construction, transportation, etc., are classified in their appropriate industry.

"n.e.c." denotes "not elsewhere classified."

" - " denotes "zero."

*Denotes less than 0.05.

TABLE 1 - continued
 GEORGIA TOTAL EMPLOYMENT BY INDUSTRY, 1970
 AND PROJECTED TO 1980

	1970		Projected 1980		Change,	
	Employment		Employment		1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
es	118,600	6.6	167,360	7.5	48,760	41
secondary schools	83,740	4.7	120,890	5.4	37,150	44
universities	28,290	1.6	38,940	1.8	10,650	38
	680	.	950	.	270	40
services, n.e.c.	5,890	0.3	6,580	0.3	690	12
itions	26,440	1.5	36,570	1.6	10,130	38
izations	13,530	0.8	18,510	0.8	4,980	37
	5,950	0.3	8,010	0.4	2,060	35
fare	560	.	780	.	220	39
ership organizations, n.e.c.	6,400	0.4	9,270	0.4	2,870	45
	85,300	4.8	69,070	3.1	-16,230	-19
and Related Services	12,770	0.7	17,350	0.8	4,580	36
architectural services	5,360	0.3	7,840	0.4	2,480	46
iting	5,750	0.3	7,850	0.4	2,100	36
professional services	1,660	0.1	1,660	0.1	.	.
	103,240	5.8	127,160	5.7	23,920	23
administration	68,150	3.8	68,990	3.1	840	1
	14,040	0.8	15,020	0.7	980	7
	54,110	3.0	53,970	2.4	-140	.
istration	10,400	0.6	14,040	0.6	3,640	35
istration	24,690	1.4	44,130	2.0	19,440	79

ounded to ten's.

puted from unrounded data. Percent change figures are shown as whole numbers.

"Total, All Industries" employment in Table 1 and the "Total, All Occupations" employment shown in Table 3 differ because each in different data sources. The occupational levels are those reported in the 1970 decennial census and are based on place of 70 industry employment estimates, based on place of work, were developed from Georgia Department of Labor, Employment Security supplemented to include self-employed persons, unpaid family workers, private household workers, and persons with a job but not at work, include the secondary job of multiple job holders.

ments will not equal the total shown due to the withholding of information for industries with less than 100 workers or to avoid individual establishment data. Information was withheld for all industries which had been deleted from the U.S. Department of Commerce by Business Patterns, 1972, for disclosure reasons.

administration only. Government agencies engaged in educational and medical services and in activities commonly carried on by private is agriculture, construction, transportation, etc., are classified in their appropriate industry.

elsewhere classified."

TABLE 2
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE* TO 1976 AND 1980 1/

Industry Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	*Percent of Total 3/	
Total, All Industries	2,007,550	100.0	44,000
Agriculture, Forestry, Fisheries	75,920	3.8	-1,850
Agriculture	72,040	3.6	-1,900
Agricultural production	62,720	3.1	-2,120
Agricultural services, except horticultural	5,710	0.3	140
Horticultural services	3,610	0.2	80
Forestry	3,280	0.2	50
Fisheries	600	.	.
Mining 4/	7,580	0.4	110
Metal Mining	430	.	20
Nonmetallic Mining, Quarrying	7,010	0.4	80
Construction	135,380	6.7	4,630
General Building Contractors	37,040	1.8	1,400
General Contractors, except building	39,870	2.0	1,290
Special Trade Contractors	58,470	2.9	1,940
Manufacturing	513,860	25.6	9,140
Durable Goods 4/	178,160	8.9	3,740
Lumber and wood products, except furniture	28,780	1.4	290
Logging	7,060	0.4	20
Sawmills, planing mills, millwork	17,110	0.8	210
Miscellaneous wood products	4,610	0.2	60
Furniture and fixtures	11,110	0.6	320
Stone, clay and glass products 4/	16,200	0.8	470
Cement, concrete, plaster	7,190	0.4	250
Structural clay products	3,380	0.2	70
Pottery and related products	250	.	.
Miscellaneous nonmetallic mineral and stone products	3,240	0.2	70
Primary metal industries	10,160	0.5	410
Ferrous metal industries	4,250	0.2	100
Nonferrous metal industries	5,910	0.3	310
Fabricated metal products 4/	23,190	1.2	1,260
Cutlery, other hardware	400	.	20
Fabricated structural metal products	12,690	0.6	690
Metal stamping	3,840	0.2	210
Miscellaneous fabricated metal products	6,160	0.3	330

TABLE 2
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
	2,007,550	100.0	44,000	220,200
Fisheries	75,920	3.8	-1,850	-9,220
Food processing	72,040	3.6	-1,900	-9,500
Textile mill	62,720	3.1	-2,120	-10,590
Services, except horticultural	5,710	0.3	140	670
Trucks	3,610	0.2	80	420
Tractors	3,280	0.2	50	260
	600	.	-	20
	7,580	0.4	110	570
Quarrying	430	.	20	100
	7,010	0.4	80	410
	135,380	6.7	4,630	23,190
Contractors	37,040	1.8	1,400	7,010
except building	39,870	2.0	1,290	6,460
Contractors	58,470	2.9	1,940	9,720
	513,860	25.6	9,140	45,730
Chemical products, except furniture	178,160	8.9	3,740	18,690
	28,780	1.4	290	1,440
	7,060	0.4	20	100
Grain mills, millwork	17,110	0.8	210	1,050
Wood products	4,610	0.2	60	290
Leather goods	11,110	0.6	320	1,580
Plastic products 4/	16,200	0.8	470	2,370
Cement, plaster	7,190	0.4	250	1,260
Other products	3,380	0.2	70	340
Paints and allied products	250	.	-	30
Nonmetallic mineral and stone products	3,240	0.2	70	320
Chemical industries	10,160	0.5	410	2,030
Food industries	4,250	0.2	100	510
Textile industries	5,910	0.3	310	1,520
Other products 4/	23,190	1.2	1,260	6,300
Hardware	400	.	20	100
Structural metal products	12,690	0.6	690	3,440
	3,840	0.2	210	1,050
Fabricated metal products	6,160	0.3	330	1,670

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TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Industry Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Machinery, except electrical 4/	17,310	0.9	610
Farm machinery and equipment	2,790	0.1	100
Construction and related machinery	1,770	0.1	60
Metalworking machinery	1,610	0.1	60
Office accounting machines	540	.	20
Machinery, n.e.c.	10,180	0.5	360
Electrical machinery, equipment and supplies	14,890	0.7	600
Household appliances	540	.	20
Radio, television, communications equipment	1,230	0.1	50
Electrical machinery, n.e.c.	13,120	0.6	530
Transportation equipment 4/	45,300	2.3	-480
Motor vehicles and equipment	15,470	0.8	240
Aircraft and parts	20,230	1.0	-1,080
Ship and boat building and repairing	1,150	0.1	-20
Mobile dwellings	7,700	0.4	330
Cycles, miscellaneous transportation equipment	540	.	20
Instruments and related products 4/	3,770	0.2	180
Optical, health services supplies	1,620	0.1	80
Miscellaneous manufacturing industries	6,770	0.3	170
Nondurable Goods 4/	335,700	16.7	5,400
Food and kindred products 4/	55,630	2.8	600
Meat products	17,850	0.9	320
Dairy products	5,190	0.3	40
Canning and preserving	5,180	0.3	-20
Grain mill products	2,720	0.1	-20
Bakery products	9,110	0.4	120
Beverage industries	8,310	0.4	170
Miscellaneous food preparation	4,820	0.2	
Textile mill products	122,020	6.1	1,390
Knitting mills	10,270	0.5	120
Dyeing, finishing textiles	4,810	0.3	50
Floor coverings	28,080	1.4	320
Yarn, fabric mills	70,200	3.5	800
Miscellaneous textile mill products	8,660	0.4	100
Apparel and other finished textile products	77,970	3.9	1,500
Apparel and accessories	70,450	3.5	1,360
Miscellaneous fabricated products	7,520	0.4	140
Paper and allied products	27,410	1.4	470

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
Electrical 4/	17,310	0.9	610	3,070
Machinery and equipment	2,790	0.1	100	500
and related machinery	1,770	0.1	60	310
Machinery	1,610	0.1	60	290
Printing machines	540	•	20	100
n.e.c.	10,180	0.5	360	1,800
Machinery, equipment and supplies	14,890	0.7	600	3,020
Appliances	540	•	20	110
Radio, communications equipment	1,230	0.1	50	250
Machinery, n.e.c.	13,120	0.6	530	2,660
Equipment 4/	45,300	2.3	-480	-2,420
Tools and equipment	15,470	0.8	240	1,210
Parts	20,230	1.0	-1,080	-5,410
Construction building and repairing	1,150	0.1	-20	-80
Trucks	7,700	0.4	330	1,680
Miscellaneous transportation equipment	540	•	20	120
Related products 4/	3,770	0.2	180	930
Health services supplies	1,620	0.1	80	400
Manufacturing industries	6,770	0.3	170	830
4/	335,700	16.7	5,400	27,040
Food products 4/	55,630	2.8	600	3,000
Meats	17,850	0.9	320	1,580
Dairy	5,190	0.3	40	180
Preserving	5,180	0.3	-20	-70
Food products	2,720	0.1	-20	-100
Textile mills	9,110	0.4	120	590
Textile industries	8,310	0.4	170	840
Food preparation	4,820	0.2	-	-10
Food products	122,020	6.1	1,390	6,990
Textile mills	10,270	0.5	120	600
Textile finishing	4,810	0.3	50	270
Textile mills	28,080	1.4	320	1,600
Textile mills	70,200	3.5	800	4,030
Textile mill products	8,660	0.4	100	490
Other finished textile products	77,970	3.9	1,500	7,500
Textile accessories	70,450	3.5	1,360	6,790
Textile fabricated products	7,520	0.4	140	710
Textile products	27,410	1.4	470	2,380

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 ^{1/}

Industry Title	Interpolated 1975 Employment		Change From 1976 ^{2/}
	Number ^{2/}	Percent of Total ^{3/}	
Pulp, paper, paperboard mills	14,420	0.7	120
Paperboard containers, boxes	8,350	0.4	180
Miscellaneous paper and pulp products	4,640	0.2	170
Printing and publishing	18,410	0.9	500
Newspaper publishing, printing	7,310	0.4	190
Printing and publishing, except news	11,100	0.5	310
Chemical and allied products ^{4/}	15,240	0.8	380
Industrial chemicals	2,710	0.1	60
Drugs and medicines	1,070	0.1	50
Soaps and cosmetics	3,100	0.2	70
Paints, varnishes	1,920	0.1	70
Agricultural chemicals	2,690	0.1	60
Miscellaneous chemicals	2,230	0.1	40
Petroleum and coal products	1,250	0.1	60
Rubber, miscellaneous plastic products	12,320	0.6	520
Rubber products	7,040	0.4	200
Miscellaneous plastic products	5,280	0.3	320
Leather and leather products ^{4/}	4,740	0.2	-20
Footwear, except rubber	3,710	0.2	-10
Transportation, Other Public Utilities ^{4/}	133,110	6.6	3,270
Transportation, Total	74,760	3.7	1,650
Railroads, railway express	13,290	0.7	-40
Local and interurban passenger transit	5,700	0.3	200
Street railways, bus lines	4,680	0.2	190
Taxicab service	1,020	0.1	10
Trucking and warehousing	32,550	1.6	800
Trucking service	30,060	1.5	740
Warehousing and storage	2,490	0.1	60
Water transportation	3,610	0.2	120
Air transportation	17,490	0.9	490
Pipelines	500	.	10
Transportation services	1,620	0.1	70
Communications, Electric, Gas and Sanitary ^{4/} Services ⁸²	58,350	2.9	1,620
Communications	29,900	1.5	820
Telephone (wire and radio)	25,620	1.3	800
Telegraph, miscellaneous communication services	1,010	0.1	-10
Radio broadcasting, television	3,270	0.2	30

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TABLE 2- continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
Paperboard mills	14,420	0.7	120	610
Containers & boxes	8,350	0.4	180	910
Paper and pulp products	4,640	0.2	170	860
Fishing	18,410	0.9	500	2,460
Printing, publishing	7,310	0.4	190	910
Publishing, except news	11,100	0.5	310	1,550
Food products 4/	15,240	0.8	380	1,900
Drugs, chemicals	2,710	0.1	60	290
Medicines	1,070	0.1	50	250
Chemicals	3,100	0.2	70	330
Plastics	1,920	0.1	70	340
Chemicals	2,690	0.1	60	280
Chemicals	2,230	0.1	40	240
Aluminum products	1,250	0.1	60	300
Nonferrous plastic products	12,320	0.6	520	2,610
Plastics	7,040	0.4	200	1,010
Plastic products	5,280	0.3	320	1,600
Leather products 4/	4,740	0.2	-20	-70
Textile products except rubber	3,710	0.2	-10	-50
Public Utilities 4/	133,110	6.6	3,270	16,360
Electric	74,760	3.7	1,650	8,220
Truck, bus, trolley express	13,290	0.7	40	-180
Urban passenger transit	5,700	0.3	200	990
Truck, bus lines	4,680	0.2	190	950
Truck, bus lines	1,020	0.1	10	40
Warehousing	32,550	1.6	800	4,000
Truck, bus lines	30,060	1.5	740	3,720
Truck, bus lines	2,490	0.1	60	280
Truck, bus lines	3,610	0.2	120	580
Truck, bus lines	17,490	0.9	490	2,450
Truck, bus lines	500	0.0	10	60
Truck, bus lines	1,620	0.1	70	320
Electric, Gas and Sanitary Services 4/	58,350	2.9	1,620	8,140
Electric, Gas and Sanitary Services 4/	29,900	1.5	820	4,140
Telephone and radio	25,620	1.3	800	4,030
Miscellaneous communication services	1,010	0.1	-10	-50
Printing, television	3,270	0.2	30	160

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Industry Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Electric, gas and sanitary services 4/	28,450	1.4	800
Electric light and power	12,120	0.6	260
Electric - gas utilities	140		
Gas, steam supply systems	3,760	0.2	80
Water supply	3,370	0.2	120
Sanitary services	8,990	0.4	320
Wholesale and Retail Trade	423,980	21.1	11,530
Wholesale Trade	118,750	5.9	3,540
Wholesale, except miscellaneous wholesalers	84,470	4.2	2,750
Motor vehicles and equipment	12,220	0.6	540
Drugs, chemicals, allied products	7,430	0.4	250
Dry goods and apparel	3,990	0.2	-60
Food and related products	13,010	0.7	100
Farm product raw materials	4,630	0.2	110
Electrical goods	12,320	0.6	440
Hardware, plumbing and heating equipment	6,320	0.3	230
Machinery, equipment and supplies	24,550	1.2	1,020
Miscellaneous wholesale trade	34,280	1.7	790
Metals and minerals, n.e.c.	3,110	0.2	80
Petroleum products	4,720	0.2	110
Scrap and waste material	2,130	0.1	40
Alcoholic beverages	1,970	0.1	40
Paper and its products	4,070	0.2	100
Lumber, construction materials	5,120	0.3	120
Wholesalers, n.e.c.	13,160	0.7	300
Retail Trade	305,230	15.2	7,990
Building materials	13,060	0.7	200
Lumber and other building materials	7,230	0.4	110
Hardware and farm equipment	5,830	0.3	90
General merchandise, total	74,360	3.7	2,420
Department and mail order stores	48,650	2.4	1,870
Limited price stores	5,810	0.3	-40
Vending machine operators	2,260	0.1	80
Direct selling	7,390	0.4	220
Miscellaneous merchandise stores	10,250	0.5	290
Food and dairy stores 4/	47,250	2.4	1,160
Grocery stores	44,740	2.2	1,110

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
and sanitary services 4/	28,450	1.4	800	4,000
and power	12,120	0.6	260	1,330
utilities	140	.		20
supply systems	3,760	0.2	80	410
	3,370	0.2	120	620
ices	8,990	0.4	320	1,620
Trade	423,980	21.1	11,530	57,700
	118,750	5.9	3,540	17,710
ret miscellaneous wholesalers	84,470	4.2	2,750	13,790
machines and equipment	12,220	0.6	540	2,680
chemicals, allied products	7,430	0.4	250	1,290
clothing and apparel	3,990	0.2	60	280
printed products	13,010	0.7	100	500
raw materials	4,630	0.2	110	560
foods	12,320	0.6	440	2,220
refrigerating and heating equipment	6,320	0.3	230	1,140
equipment and supplies	24,550	1.2	1,020	5,120
wholesale trade	34,280	1.7	790	3,920
minerals, n.e.c.	3,110	0.2	80	370
products	4,720	0.2	110	520
plastic material	2,130	0.1	40	210
beverages	1,970	0.1	40	230
products	4,070	0.2	100	490
construction materials	5,120	0.3	120	600
n.e.c.	13,160	0.7	300	1,500
	305,230	15.2	7,990	39,990
alls	13,060	0.7	200	1,040
other building materials	7,230	0.4	110	570
farm equipment	5,830	0.3	90	470
disc, total	74,360	3.7	2,420	12,090
and mail order stores	48,650	2.4	1,870	9,330
stores	5,810	0.3	40	210
line operators	2,260	0.1	80	420
	7,390	0.4	220	1,130
merchandise stores	10,250	0.5	290	1,420
stores 4/	47,250	2.4	1,160	5,800
	44,740	2.2	1,110	5,540

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Industry Title	Interpolated 1975 Employment		Change Fra 1976 2/
	Number 2/	Percent of Total 3/	
Retail bakeries	1,090	0.1	20
Food stores, n.e.c.	1,350	0.1	30
Automotive dealers and service stations	48,650	2.4	730
Motor vehicle dealers	22,190	1.1	400
Tire, battery and accessory dealers	7,900	0.4	120
Gasoline service stations	17,110	0.9	180
Miscellaneous vehicle dealers	1,850	0.1	30
Apparel and accessories	16,740	0.8	290
Apparel, accessory stores	13,350	0.7	230
Shoe stores	3,390	0.2	60
Furniture and appliances	13,610	0.7	190
Home furnishing stores	10,130	0.5	140
Appliance, television, radio stores	3,480	0.2	50
Eating and drinking places	57,260	2.9	2,360
Miscellaneous retail stores	34,300	1.7	640
Drug stores	12,030	0.6	300
Liquor stores	2,260	0.1	30
Farm and garden supply stores	4,230	0.2	80
Jewelry stores	2,640	0.1	50
Fuel and ice dealers	3,290	0.2	70
Retail florists	1,820	0.1	
Miscellaneous retail stores	8,030	0.4	110
Finance, Insurance and Real Estate	97,930	4.9	2,960
Finance, Total	45,690	2.3	2,020
Banking	24,670	1.2	1,070
Credit agencies other than banks	15,570	0.8	620
Stock brokers, investment	5,450	0.3	330
Insurance	32,670	1.6	630
Real Estate and Combinations of real estate, insurance, loans, law offices	19,570	1.0	310
Services, Total 4/	504,590	25.1	11,820
Hotels and Lodging Places	22,590	1.1	880
Hotels and motels	19,590	1.0	820
Lodging places, except hotels and motels	3,000	0.1	60
Other Personal Services	35,900	1.8	440
Laundry and dry cleaning plants	17,430	0.9	70

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number <u>2/</u>	Percent of Total <u>3/</u>	1976 <u>2/</u>	1980 <u>2/</u>
s	1,050	0.1	20	120
a.e.c.	1,350	0.1	30	140
rs and service stations	48,650	2.4	730	3,620
dealers	22,190	1.1	400	2,030
and accessory dealers	7,500	0.4	120	590
ice stations	17,110	0.9	180	880
vehicle dealers	1,850	0.1	30	120
ssories	16,740	0.8	290	1,440
ssory stores	13,350	0.7	230	1,150
	3,390	0.2	60	290
liances	13,610	0.7	190	960
g stores	10,130	0.5	140	710
vision, radio stores	3,480	0.2	50	250
g places	57,260	2.9	2,360	11,830
ail stores	34,300	1.7	640	3,210
	12,030	0.6	300	1,490
	2,260	0.1	30	170
en supply stores	4,230	0.2	80	400
	2,640	0.1	50	230
dealers	3,290	0.2	70	360
	1,820	0.1	-	10
retail stores	8,030	0.4	110	550
Real Estate	97,930	4.9	2,960	14,800
	45,690	2.3	2,020	10,090
	24,670	1.2	1,070	5,330
ther than banks	15,570	0.8	620	3,090
vestment	5,450	0.3	330	1,670
	32,670	1.6	630	3,160
binations of real estate, insurance, loans, law offices	19,570	1.0	310	1,550
	504,590	25.1	11,820	59,110
laces	22,590	1.1	880	4,420
	19,590	1.0	820	4,110
cept hotels and motels	3,000	0.1	60	310
es	35,900	1.8	440	2,200
leaning plants	17,430	0.9	70	320

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Industry Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Beauty shops	9,740	0.5	160
Barber shops	3,090	0.2	50
Shoe repair shops	530	.	10
Dressmaking shops	1,200	0.1	50
Other personal services	3,910	0.2	100
Miscellaneous Business Services	33,310	1.7	1,290
Advertising	2,030	0.1	60
Business management services	3,090	0.2	100
Commercial research and development	380	.	20
Computer programming	1,490	0.1	60
Detective and protective services	2,300	0.1	90
Employment and temporary help supply services	3,610	0.2	150
Services to buildings	10,120	0.5	420
Other miscellaneous business services	10,290	0.5	390
Automobile Repair Services	13,760	0.7	190
Automobile repair	8,550	0.4	50
Automobile services, except repair	5,210	0.3	140
Other Repair Services	7,190	0.4	90
Electrical repair shops	3,090	0.2	40
Other repair services	4,100	0.2	50
Motion Pictures, Theaters	3,680	0.2	-
Miscellaneous Entertainment	8,270	0.4	260
Bowling alleys, billiards	1,050	0.1	40
Miscellaneous entertainment	7,220	0.4	220
Medical and Other Health Services	105,790	5.3	3,790
Offices of physicians	14,910	0.7	690
Offices of dentists	5,950	0.3	280
Offices of chiropractors	650	.	40
Hospitals	65,050	3.2	1,900
Convalescent institutions	11,320	0.6	620
Health practitioners, n.e.c.	930	0.1	50
Health services, n.e.c.	6,980	0.4	210
Legal Services	7,250	0.4	10

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
	9,740	0.5	160	810
	3,090	0.2	50	250
shops	530	0.0	10	80
shops	1,200	0.1	50	260
l services	3,910	0.2	100	480
Business Services	33,310	1.7	1,290	6,430
	2,030	0.1	60	290
agement services	3,090	0.2	100	500
Research and development	380	0.0	20	70
rogramming	1,490	0.1	60	320
protective services	2,300	0.1	90	480
nd temporary help supply services	3,610	0.2	150	750
uildings	10,120	0.5	420	2,080
aneous business services	10,290	0.5	390	1,940
ir Services	13,760	0.7	190	950
pair	8,550	0.4	50	280
ervices, except repair	5,210	0.3	140	670
ervices	7,190	0.4	90	470
air shops	3,090	0.2	40	220
ervices	4,100	0.2	50	250
Theaters	3,680	0.2		-20
ertainment	8,270	0.4	260	1,300
e, billiards	1,050	0.1	40	190
entertainment	7,220	0.4	220	1,110
r Health Services	105,790	5.3	3,790	18,960
sicians	14,910	0.7	690	3,430
tists	5,950	0.3	280	1,420
opracitors	650	0.0	40	170
	65,050	3.2	1,900	9,520
institutions	11,320	0.6	620	3,110
ioners, n.e.c.	930	0.1	50	260
s, n.e.c.	6,980	0.4	210	1,050
	7,250	0.4	160	790

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Industry Title	Interpolated 1975 Employment		Change 1976 2/
	Number 2/	Percent of Total 3/	
Educational Services	142,980	7.1	4,870
Elementary and secondary schools	102,320	5.1	3,710
Colleges and universities	33,620	1.7	1,060
Libraries	810	.	30
Educational services, n.e.c.	6,230	0.3	70
Nonprofit Organizations	31,510	1.6	1,010
Religious organizations	16,020	0.8	500
Welfare services	6,980	0.4	200
Residential welfare	680	.	20
Nonprofit membership organizations, n.e.c.	7,830	0.4	290
Private Households	77,190	3.8	-1,620
Other Professional and Related Services	15,060	0.8	460
Engineering and architectural services	6,600	0.3	250
Accounting auditing	6,800	0.3	210
Miscellaneous professional services	1,660	0.1	.
Government, Total 5/	115,200	5.7	2,390
Federal Public Administration	68,570	3.4	80
Postal service	14,530	0.7	100
Other federal	54,040	2.7	-20
State Public Administration	12,220	0.6	360
Local Public Administration	34,410	1.7	1,950

1/ Industry employment levels for 1975 and the change from 1975 to 1976 and 1980 are the result of simple interpolations of the projected labor market and should not be interpreted as representing cyclical fluctuations in the economy. (See Table 1 for 1970 and projected employment levels.)

2/ Estimates were rounded to tens.

3/ Percents were computed from unrounded data and may not add to 100.0.

4/ The sum of components will not equal the total shown due to the withholding of information for industries with less than 100 workers in disclosure of individual establishment data.

5/ Includes public administration only. Government agencies engaged in educational and medical services and in activities commonly carried on by private enterprises, such as agriculture, construction, transportation, etc., are classified in their appropriate industry.

"n.e.c." denotes "not elsewhere classified."

"." denotes "less than 0.05 percent."

"-" denotes "zero."

TABLE 2 - continued
 GEORGIA INDUSTRY EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To:	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
es	142,980	7.1	4,870	24,380
secondary schools	102,320	5.1	3,710	18,570
iversities	33,620	1.7	1,060	5,320
	810	•	30	140
ices, n.e.c.	6,230	0.3	70	350
ions	31,510	1.6	1,010	5,060
izations	16,020	0.8	500	2,490
	6,980	0.4	200	1,030
are	680	•	20	100
ership organizations, n.e.c.	7,830	0.4	290	1,440
	77,190	3.8	-1,620	-8,120
and Related Services*	15,060	0.8	460	2,290
architectural services	6,600	0.3	250	1,240
ing	6,800	0.3	210	1,050
ofessional services	1,660	0.1		
	115,200	5.7	2,390	11,960
inistration	68,570	3.4	80	420
	14,530	0.7	100	490
	54,040	2.7	-20	-70
stration	12,220	0.6	360	1,820
istration	34,410	1.7	1,950	9,720

ent levels for 1975 and the change from 1975 to 1976 and 1980 are the result of simple interpolations of the projected long-run (1970-1980) and should not be interpreted as representing cyclical fluctuations in the economy. (See Table 1 for 1970 and projected 1980 industry

ended to tens.
 computed from unrounded data and may not add to 100.0.

ments will not equal the total shown due to the withholding of information for industries with less than 100 workers in 1970 or to avoid individual establishment data.

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 administration only. Government agencies engaged in educational and medical services and in activities commonly carried on by private as agriculture, construction, transportation, etc., are classified in their appropriate industry.

TABLE 3
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absor
	Number 1	Percent 2	Number 1	Percent 2	
Total, All Occupations 3/	1,587,800	100.0	1,987,990	100.0	400,
Professional, Technical and Kindred Workers	199,470	12.6	269,480	13.6	70,
Engineers, Technical	18,380	1.2	23,190	1.2	4,
Aeronautical and astronautical	2,360	0.2	2,050	0.1	-
Chemical	530	•	650	•	
Civil	3,770	0.2	4,960	0.3	1,
Electrical and electronic	3,480	0.2	4,560	0.2	1,
Industrial	3,140	0.2	4,070	0.2	-
Mechanical	1,680	0.1	2,090	0.1	
Metallurgical and materials	180	•	250	•	
Mining	10	•	10	•	
Petroleum	20	•	30	•	
Sales	1,080	0.1	1,570	0.1	
Other engineers	2,130	0.1	2,950	0.2	
Life and Physical Scientists	2,600	0.2	3,270	0.2	
Agricultural	360	•	410	•	
Atmospheric and space	100	•	120	•	
Biological	630	•	800	•	
Chemists	1,270	0.1	1,650	0.1	
Geologists	80	•	100	•	
Marine	40	•	70	•	
Physicists and astronomers	80	•	90	•	
Life and physical scientists, n.e.c.	40	•	30	•	
Mathematical Specialists	500	•	650	•	
Actuaries	100	•	130	•	
Mathematicians	40	•	50	•	
Statisticians	360	•	470	•	
Engineering and Science Technicians	12,840	0.8	18,830	1.0	5,
Agriculture and biological technicians, except health	720	•	1,070	0.1	
Chemical technicians	810	0.1	1,050	0.1	
Draftsmen	3,780	0.2	5,580	0.3	1,
Electrical and electronic technicians	2,100	0.1	2,760	0.1	
Industrial engineering technicians	510	•	490	•	
Mathematical technicians	10	•	10	•	

TABLE 3
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 Employment		Projected 1980 Requirements		Change, 1970 - 1980	
	Number 1'	Percent 2'	Number 1'	Percent 2'	Absolute	Percent 2'
	1,587,800	100.0	1,987,990	100.0	400,190	25
al and Kindred Workers	199,470	12.6	269,480	13.6	70,010	35
al	18,380	1.2	23,190	1.2	4,810	26
d astronautical	2,360	0.2	2,050	0.1	-310	-13
	530	.	650	.	120	23
lectronic	3,770	0.2	4,960	0.3	1,190	32
	3,480	0.2	4,560	0.2	1,080	31
	3,140	0.2	4,070	0.2	930	30
	1,680	0.1	2,090	0.1	410	25
d materials	180	.	250	.	70	41
	10	.	10	.	-	-12
	20	.	30	.	10	16
	1,080	0.1	1,570	0.1	490	45
	2,130	0.1	2,950	0.2	820	38
Scientists	2,600	0.2	3,270	0.2	670	26
	360	.	410	.	50	15
space	100	.	120	.	20	17
	630	.	800	.	170	26
	1,270	0.1	1,650	0.1	380	30
	80	.	100	.	20	32
	40	.	70	.	30	56
astronomers	80	.	90	.	10	6
al scientists, n.e.c.	40	.	30	.	-10	-14
alists	500	.	650	.	150	31
	100	.	130	.	30	28
	40	.	50	.	10	31
	360	.	470	.	110	32
ence Technicians	12,840	0.8	18,830	1.0	5,990	47
biological technicians, except health	720	.	1,070	0.1	350	50
icians	810	0.1	1,050	0.1	240	30
	3,780	0.2	5,580	0.3	1,800	48
lectronic technicians	2,100	0.1	2,760	0.1	660	32
ering technicians	510	.	490	.	-20	-4
hnicians	10	.	10	.	-	-30

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absol
	Number 1/	Percent 2/	Number 1/	Percent 2/	
Mechanical engineering technicians	140	•	120	•	
Surveyors	1,570	0.1	2,200	0.1	
Engineering and science technicians, n.e.c.	3,200	0.2	5,550	0.3	2.3
Medical and Health Workers, except Technicians	26,300	1.7	35,920	1.8	9.3
Chiropractors	230	•	410	•	
Dentists	1,460	0.1	2,290	0.1	
Dietitians	1,130	0.1	1,480	0.1	
Optometrists	260	•	410	•	
Pharmacists	2,300	0.1	2,830	0.1	
Physicians, medical and osteopathic	4,600	0.3	6,170	0.3	1.5
Podiatrists	50	•	80	•	
Registered nurses	14,670	0.9	19,120	1.0	4.4
Therapists	1,040	0.1	1,750	0.1	
Veterinarians	540	•	1,350	0.1	
Other medical and health	20	•	30	•	
Health Technologists and Technicians	5,290	0.3	9,190	0.5	3.9
Clinical laboratory technologists and technicians	2,370	0.2	4,000	0.2	1.6
Dental hygienists	470	•	1,110	0.1	
Health record technologists and technicians	240	•	530	•	
Radiologic technologists and technicians	930	0.1	1,360	0.1	
Therapy assistants	60	•	110	•	
Other health technologists and technicians	1,220	0.1	2,080	0.1	
Technicians, except Health, and Engineering and Science	5,340	0.3	7,490	0.4	2.1
Airplane pilots	2,260	0.1	3,020	0.2	
Air traffic controllers	1,080	0.1	1,210	0.1	
Embalmers	150	•	150	•	
Flight engineers	350	•	480	•	
Radio operators	610	•	900	0.1	
Tool programmers, numerical control	40	•	40	•	
Technicians, n.e.c.	850	0.1	1,690	0.1	
Computer Specialists	3,530	0.2	4,800	0.2	1.3
Computer programmers	2,360	0.2	3,120	0.2	
Computer systems analysts	970	0.1	1,410	0.1	
Computer specialists, n.e.c.	200	•	270	•	

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 Employment		Projected 1980 Requirements		Change, 1970 - 1980	
	Number 1/	Percent 2/	Number 1/	Percent 2/	Absolute	Percent 2/
Engineering technicians	140	•	120	•	-20	-13
Science technicians, n.e.c.	1,570	0.1	2,200	0.1	630	40
	3,200	0.2	5,550	0.3	2,350	73
Workers, except Technicians	26,300	1.7	35,920	1.8	9,620	37
	230	•	410	•	180	78
	1,460	0.1	2,290	0.1	830	57
	1,130	0.1	1,480	0.1	350	31
	260	•	410	•	150	59
	2,300	0.1	2,830	0.1	530	23
Medical and osteopathic	4,600	0.3	6,170	0.3	1,570	34
	50	•	80	•	30	55
es	14,670	0.9	19,120	1.0	4,450	30
	1,040	0.1	1,750	0.1	710	68
and health	540	•	1,350	0.1	810	150
	20	•	30	•	10	107
ts and Technicians	5,290	0.3	9,190	0.5	3,900	74
ry technologists and technicians	2,370	0.2	4,000	0.2	1,630	69
s	470	•	1,110	0.1	640	135
chnologists and technicians	240	•	530	•	290	122
ologists and technicians	930	0.1	1,360	0.1	430	46
ats	60	•	110	•	50	78
anologists and technicians	1,220	0.1	2,080	0.1	860	71
Health, and Engineering and Science	5,340	0.3	7,490	0.4	2,150	40
	2,260	0.1	3,020	0.2	760	34
llers	1,080	0.1	1,210	0.1	130	12
	150	•	150	•	-	-1
	350	•	480	•	130	38
	610	•	900	0.1	290	49
numerical control	40	•	40	•	-	-8
c.	850	0.1	1,690	0.1	840	98
	3,530	0.2	4,800	0.2	1,270	36
ers	2,360	0.2	3,120	0.2	760	32
s analysts	970	0.1	1,410	0.1	440	45
ists, n.e.c.	200	•	270	•	70	36

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TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absolute
	Number 1	Percent 2	Number 1	Percent 2	
Social Scientists	1,490	0.1	2,560	0.1	1,070
Economists	950	0.1	1,480	0.1	530
Political scientists	20	•	30	•	10
Psychologists	220	•	430	•	210
Sociologists	40	•	50	•	10
Urban and regional planners	200	•	470	•	270
Social scientists, n.e.c.	60	•	100	•	40
Teachers	65,190	4.1	82,400	4.1	17,210
Adult education teachers	1,430	0.1	1,590	0.1	160
Agriculture teachers	120	•	140	•	20
Art, drama, music teachers	410	•	580	•	170
Atmospheric, earth, marine	70	•	110	•	40
Biology teachers	360	•	570	•	210
Business, commerce teachers	230	•	350	•	120
Chemistry teachers	250	•	280	•	30
Coaches, physical education	290	•	340	•	50
Economics teachers	200	•	270	•	70
Education teachers	90	•	100	•	10
Elementary school teachers	31,450	2.0	39,960	2.0	8,510
Engineering teachers	210	•	240	•	30
English teachers	590	•	710	•	120
Foreign language teachers	330	•	500	•	170
Health specialties teachers	580	•	1,080	0.1	500
History teachers	320	•	340	•	20
Home economics teachers	90	•	120	•	30
Law teachers	80	•	120	•	40
Mathematics teachers	510	•	700	•	190
Physics teachers	220	•	200	•	20
Preschool, kindergarten teachers	3,320	0.2	4,550	0.2	1,230
Psychology teachers	280	•	470	•	190
Secondary school teachers	17,430	1.1	20,450	1.0	3,020
Sociology teachers	120	•	240	•	120
Social science teachers, n.e.c.	190	•	300	•	110
Miscellaneous college and university	310	•	510	•	200
College, university, n.e.c.	2,600	0.2	3,920	0.2	1,320
Theology teachers	60	•	100	•	40
Trade, industrial teachers	60	•	110	•	50
Teachers, n.e.c., except college, university	2,990	0.2	3,490	0.2	500

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970		Projected 1980		Change,	
	Employment		Requirements		1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
	1,490	0.1	2,560	0.1	1,070	72
	950	0.1	1,480	0.1	530	56
	20	.	30	.	10	69
	220	.	430	.	210	94
	40	.	50	.	10	50
planners	200	.	470	.	270	128
e.c.	60	.	100	.	40	62
	65,190	4.1	82,400	4.1	17,210	26
chers	1,430	0.1	1,590	0.1	160	11
	120	.	140	.	20	18
teachers	410	.	580	.	170	40
marine	70	.	110	.	40	59
	360	.	530	.	170	48
teachers	230	.	350	.	120	50
	250	.	280	.	30	10
education	290	.	340	.	50	19
	200	.	270	.	70	34
	90	.	100	.	10	17
teachers	31,450	2.0	39,960	2.0	8,510	27
s	210	.	240	.	30	14
	590	.	710	.	120	21
teachers	330	.	500	.	170	50
teachers	580	.	1,080	0.1	500	86
	320	.	340	.	20	5
chers	90	.	120	.	30	41
	80	.	120	.	40	61
s	510	.	700	.	190	38
	220	.	200	.	-20	-10
ten teachers	3,320	0.2	4,550	0.2	1,230	37
	280	.	470	.	190	68
achers	17,430	1.1	20,450	1.0	3,020	17
	120	.	240	.	120	104
ers, n.e.c.	190	.	300	.	110	61
ge and university	310	.	520	.	200	62
n.e.c.	2,600	0.2	3,920	0.2	1,320	50
	60	.	100	.	40	68
chers	60	.	110	.	50	77
cept college, university	2,990	0.2	3,490	0.2	500	17

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absolute
	Number 1/	Percent 2/	Number 1/	Percent 2/	
Writers, Artists and Entertainers	10,970	0.7	14,910	0.8	3,940
Actors	70	•	70	•	•
Athletes and kindred workers	890	0.1	1,290	0.1	400
Authors	210	•	230	•	20
Dancers	90	•	130	•	40
Designers	1,190	0.1	1,660	0.1	470
Editors and reporters	1,880	0.1	2,690	0.1	810
Musicians and composers	1,430	0.1	1,860	0.1	430
Painters and sculptors	1,530	0.1	1,910	0.1	380
Photographers	1,100	0.1	1,470	0.1	370
Public relations men and publicity writers	1,230	0.1	1,770	0.1	540
Radio and television announcers	640	•	740	•	100
Writers, artists and entertainers, n.e.c.	710	•	1,090	0.1	380
Other Professional, Technical and Kindred Workers	47,040	3.0	66,270	3.3	19,230
Accountants	13,900	0.9	17,910	0.9	4,010
Architects	1,070	0.1	1,660	0.1	590
Archivists and curators	70	•	90	•	20
Clergymen	5,700	0.4	7,640	0.4	1,940
Religious workers, except clergymen	720	0.1	970	0.1	250
Farm management advisors	300	•	260	•	•
Foresters and conservationists	1,870	0.1	2,450	0.1	580
Home management advisors	190	•	180	•	•
Judges	250	•	300	•	50
Lawyers	4,100	0.3	5,490	0.3	1,390
Librarians	2,660	0.2	3,640	0.2	980
Operations and system researchers and analysts	1,270	0.1	1,980	0.1	710
Personnel and labor relations workers	6,180	0.4	9,780	0.5	3,600
Research workers, n.e.c.	1,870	0.1	2,820	0.1	950
Recreation workers	980	0.1	1,500	0.1	520
Social workers	3,980	0.3	5,850	0.3	1,870
Vocational and educational counselors	1,930	0.1	3,750	0.2	1,820
Managers, Officials and Proprietors, except Farm	141,640	8.9	202,060	10.2	60,420
Buyers, Sales and Loan Managers	25,980	1.6	38,510	1.9	12,530
Bank and financial managers	7,410	0.5	11,920	0.6	4,510
Creditmen	1,550	0.1	2,080	0.1	530
Buyers and shippers, farm products	210	•	230	•	20

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 Employment		Projected 1980 Requirements		Change, 1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
Entertainers	10,970	0.7	14,910	0.8	3,940	36
	70	•	70	•		-1
Food workers	890	0.1	1,290	0.1	400	45
	210	•	230	•	20	8
	90	•	130	•	40	39
	1,190	0.1	1,660	0.1	470	39
Teachers	1,880	0.1	2,690	0.1	810	43
Composers	1,430	0.1	1,860	0.1	430	30
Actors	1,530	0.1	1,910	0.1	380	25
	1,100	0.1	1,470	0.1	370	34
Men and publicity writers	1,230	0.1	1,770	0.1	540	44
Radio announcers	640	•	740	•	100	16
Radio entertainers, n.e.c.	710	•	1,090	0.1	380	54
Technical and Kindred Workers	47,040	3.0	66,270	3.3	19,230	41
	13,900	0.9	17,910	0.9	4,010	29
	1,070	0.1	1,660	0.1	590	55
Operators	70	•	90	•	20	26
	5,700	0.4	7,640	0.4	1,940	34
Managers, except clergymen	720	0.1	970	0.1	250	34
Advisors	300	•	260	•	-40	-14
Observationists	1,870	0.1	2,450	0.1	580	31
Advisors	190	•	180	•	-10	-7
	250	•	300	•	50	19
	4,100	0.3	5,490	0.3	1,390	34
	2,660	0.2	3,640	0.2	980	37
System researchers and analysts	1,270	0.1	1,980	0.1	710	56
Public relations workers	6,180	0.4	9,780	0.5	3,600	58
n.e.c.	1,870	0.1	2,820	0.1	950	51
	980	0.1	1,500	0.1	520	53
	3,980	0.3	5,850	0.3	1,870	47
Educational counselors	1,930	0.1	3,750	0.2	1,820	94
Proprietors, except Farm	141,640	8.9	202,060	10.2	60,420	43
Business Managers	25,980	1.6	38,510	1.9	12,530	48
Managers	7,410	0.5	11,920	0.6	4,510	61
	1,550	0.1	2,080	0.1	530	34
Managers, farm products	210	•	230	•	20	9

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TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements	
	Number 1	Percent 2	Number 1	Percent 2
Buyers, wholesale and retail trade	2,930	0.2	4,230	0.2
Purchasing agents and buyers, n.e.c.	2,900	0.2	3,760	0.2
Sales managers and department heads, retail trade	4,340	0.3	6,510	0.3
Sales managers, except retail trade	6,640	0.4	9,780	0.5
Administrators and Inspectors, public administration	14,920	0.9	19,570	1.0
Assessors, controllers and treasurers, local public administration	500	.	760	.
Construction inspectors, public administration	380	.	540	.
Health administrators	1,460	0.1	2,340	0.1
Inspectors, except construction; public administration	1,980	0.1	2,670	0.1
Officials and administrators, public administration, n.e.c.	5,870	0.4	6,560	0.3
Postmasters and mail superintendents	580	.	510	.
School administrators, college	730	0.1	1,260	0.1
School administrators, elementary and secondary	3,420	0.2	4,930	0.3
Other Managers, Officials and Proprietors	100,740	6.3	143,980	7.2
Funeral directors	960	0.1	1,210	0.1
Managers and superintendents, building	1,510	0.1	2,130	0.1
Office managers, n.e.c.	4,880	0.3	7,870	0.4
Officers, pilots and pursers, ship	210	.	260	.
Officials of lodges, societies and unions	860	0.1	1,120	0.1
Railroad conductors	880	0.1	1,090	0.1
Restaurant, cafeteria and bar managers	6,910	0.4	9,140	0.5
Other managers and administrators	84,530	5.3	121,160	6.1
Sales Workers	114,160	7.2	150,420	7.6
Advertising Agents and Salesmen	1,060	0.1	1,550	0.1
Auctioneers	70	.	80	.
Demonstrators	820	0.1	960	0.1
Hucksters and Peddlers	2,090	0.1	2,780	0.1
Insurance Agents, Brokers and Underwriters	12,670	0.8	15,880	0.8
Newsboys	1,010	0.1	980	0.1
Real Estate Agents and Brokers	5,320	0.3	6,430	0.3
Stock and Bond Salesmen	1,410	0.1	2,390	0.1
Sales Representatives, manufacturing industries	10,060	0.6	13,670	0.7
Sales Representatives, wholesale trade	15,750	1.0	22,560	1.1
Sales Clerks, retail trade	48,350	3.1	63,000	3.2
Salesmen, retail trade	10,730	0.7	13,430	0.7
Salesmen of Services and Construction	4,820	0.3	6,710	0.3

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 Employment		Projected 1980 Requirements		Change, 1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
Wholesale and retail trade	2,930	0.2	4,230	0.2	1,300	45
Agents and buyers, n.e.c.	2,900	0.2	3,760	0.2	860	29
Managers and department heads, retail trade	4,340	0.3	6,510	0.3	2,170	50
Managers, except retail trade	6,640	0.4	9,780	0.5	3,140	47
Police and Inspectors: public administration	14,920	0.9	19,570	1.0	4,650	31
Comptrollers and treasurers, local public administration	500	.	760	.	260	54
Police inspectors, public administration	380	.	540	.	160	43
Administrators	1,460	0.1	2,340	0.1	880	60
Administrators except construction; public administration	1,980	0.1	2,670	0.1	690	35
Administrators and administrators; public administration, n.e.c.	5,870	0.4	6,560	0.3	690	12
Post offices and mail superintendents	580	.	510	.	-70	-13
Administrators, college	730	0.1	1,260	0.1	530	73
Administrators, elementary and secondary	3,420	0.2	4,930	0.3	1,510	44
Managers, Officials and Proprietors	100,740	6.3	143,980	7.2	43,240	43
Managers and inspectors	960	0.1	1,210	0.1	250	26
Managers and superintendents, building	1,510	0.1	2,130	0.1	620	41
Managers, n.e.c.	4,880	0.3	7,870	0.4	2,990	61
Boatswains and pursers, ship	210	.	260	.	50	22
Managers, lodges, societies and unions	860	0.1	1,120	0.1	260	31
Managers and conductors	880	0.1	1,090	0.1	210	24
Managers, cafeteria and bar managers	6,910	0.4	9,140	0.5	2,230	32
Managers and administrators	84,530	5.3	121,160	6.1	36,630	43
	114,160	7.2	150,420	7.6	36,260	32
Managers and Salesmen	1,060	0.1	1,550	0.1	490	46
	70	.	80	.	10	20
	820	0.1	960	0.1	140	18
Peddlers	2,090	0.1	2,780	0.1	690	33
Managers, Agents, Brokers and Underwriters	12,670	0.8	15,880	0.8	3,210	25
	1,010	0.1	980	0.1	-30	-3
Managers and Brokers	5,320	0.3	6,430	0.3	1,110	21
Managers and Salesmen	1,410	0.1	2,390	0.1	980	70
Managers and representatives, manufacturing industries	10,060	0.6	13,670	0.7	3,610	36
Managers and representatives, wholesale trade	15,750	1.0	22,560	1.1	6,810	43
Managers and representatives, retail trade	48,350	3.1	63,000	3.2	14,650	30
Managers and representatives, mail trade	10,730	0.7	13,430	0.7	2,700	25
Managers and representatives, services and construction	4,820	0.3	6,710	0.3	1,890	39

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements	
	Number 1	Percent 2	Number 1	Percent 2
Clerical and Kindred Workers	249,750	15.7	330,410	16.6
Stenographers, Typists and Secretaries	73,580	4.6	104,290	5.3
Secretaries, legal	1,060	0.1	1,630	0.1
Secretaries, medical	1,030	0.1	1,750	0.1
Secretaries, other	52,560	3.3	77,720	3.9
Stenographers	2,560	0.2	1,860	0.1
Typists	16,370	1.0	21,330	1.1
Office Machine Operators	10,080	0.6	11,080	0.6
Bookkeeping and billing machine	970	0.1	1,250	0.1
Calculating machine	500		560	
Computer and peripheral equipment	2,030	0.1	3,260	0.2
Duplicating machine	260		350	
Keypunch	5,710	0.4	4,870	0.3
Tabulating machine	110		50	
Other office machine operators	500		740	
Other Clerical Workers	166,090	10.5	215,040	10.8
Bank tellers	4,640	0.3	6,920	0.4
Billing clerks	2,320	0.2	3,820	0.2
Bookkeepers	32,260	2.0	40,450	2.0
Cashiers	17,440	1.1	23,150	1.2
Clerical assistants, social welfare	30		50	
Clerical supervisors, n.e.c.	2,880	0.2	3,680	0.2
Collectors, bill and account	1,460	0.1	2,150	0.1
Counter clerks, except food	5,270	0.3	8,010	0.4
Dispatchers and starters, vehicle	1,110	0.1	1,540	0.1
Enumerators and interviewers	1,940	0.1	1,660	0.1
Estimators and investigators, n.e.c.	5,170	0.3	7,240	0.4
Expeditors and production controllers	3,720	0.2	4,330	0.2
File clerks	6,380	0.4	7,620	0.4
Insurance adjustors, examiners and investigators	1,620	0.1	2,080	0.1
Library attendants and assistants	2,010	0.1	2,720	0.1
Mail carriers, post office	4,870	0.3	5,070	0.3
Mail handlers, except post office	2,460	0.2	3,320	0.2
Messengers and office boys	510		500	
Meter readers, utilities	880	0.1	1,050	0.1
Payroll and timekeeping clerks	3,320	0.2	4,530	0.2

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TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Requirements		Absolute	Percent 2'
	Number 1	Percent 2'	Number 1	Percent 2'		
Red Workers	249,750	15.7	330,410	16.6	80,660	32
Typists and Secretaries	3,580	4.6	104,290	5.3	30,710	42
Legal	1,060	0.1	1,630	0.1	570	53
Medical	1,030	0.1	1,750	0.1	720	70
Other	52,560	3.3	77,720	3.9	25,160	48
ers	2,560	0.2	1,860	0.1	-700	-27
	16,370	1.0	21,330	1.1	4,960	30
Operators						
and billing machine	10,080	0.6	11,080	0.6	1,000	10
machine	970	0.1	1,250	0.1	280	30
and peripheral equipment	500	.	560	.	60	12
machine	2,030	0.1	3,260	0.2	1,230	60
	260	.	350	.	90	33
machine	5,710	0.4	4,870	0.3	-840	-15
machine operators	110	.	50	.	-60	-53
	500	.	740	.	240	47
Workers	166,090	10.5	215,040	10.8	48,950	29
ss	4,640	0.3	6,920	0.4	2,280	49
	2,320	0.2	3,820	0.2	1,500	65
	32,260	2.0	40,450	2.0	8,190	25
	17,440	1.1	23,150	1.2	5,710	33
istants, social welfare	30	.	50	.	20	62
ervisors, n.e.c.	2,880	0.2	3,680	0.2	800	28
bill and account	1,460	0.1	2,150	0.1	690	47
ks, except food	5,270	0.3	8,010	0.4	2,740	52
and starters, vehicle	1,110	0.1	1,540	0.1	430	39
and interviewers	1,940	0.1	1,660	0.1	-280	-14
nd investigators, n.e.c.	5,170	0.3	7,240	0.4	2,070	40
nd production controllers	3,720	0.2	4,330	0.2	610	16
	6,380	0.4	7,620	0.4	1,240	19
gustors, examiners and investigators	1,620	0.1	2,080	0.1	460	28
dants and assistants	2,010	0.1	2,720	0.1	710	35
post office	4,870	0.3	5,070	0.3	200	4
y, except post office	2,460	0.2	3,320	0.2	860	35
nd office boys	510	.	580	.	70	14
utilities	880	0.1	1,050	0.1	170	19
imekeeping clerks	3,320	0.2	4,530	0.2	1,210	36

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970		Projected 1980		Absolute
	Number 1	Percent 2	Number 1	Percent 2	
Postal clerks	5,350	0.3	5,320	0.3	-
Proofreaders	390	.	620	.	23
Real estate appraisers	390	.	560	.	17
Receptionists	5,070	0.3	6,800	0.3	1,730
Shipping and receiving clerks	12,050	0.8	15,070	0.8	3,020
Statistical clerks	4,740	0.3	5,790	0.3	1,050
Stock clerks and storekeepers	11,960	0.8	14,990	0.8	3,030
Teacher aides, except school monitors	1,980	0.1	4,310	0.2	2,330
Telegraph messengers	20	.	10	.	-
Telegraph operators	260	.	220	.	-
Telephone operators	8,950	0.6	10,340	0.5	1,390
Ticket, station and express agents	3,380	0.2	4,400	0.2	1,020
Weighers	1,300	0.1	1,380	0.1	80
Miscellaneous clerical workers, n.e.c.	9,960	0.6	15,340	0.8	5,380
Craftsmen, Foremen and Kindred Workers	225,650	14.2	288,150	14.5	62,500
Construction Craftsmen	70,530	4.4	96,940	4.9	26,410
Brickmasons and stonemasons	6,210	0.4	8,840	0.4	2,630
Brickmason and stonemason apprentices	80	.	90	.	10
Bulldozer operators	3,360	0.2	4,490	0.2	1,130
Carpenters	22,490	1.4	30,060	1.5	7,570
Carpenter apprentices	100	.	150	.	50
Cement and concrete finishers	1,700	0.1	2,870	0.1	1,170
Electricians	10,010	0.6	14,410	0.7	4,400
Electrician apprentices	320	.	490	.	170
Excavating, grading and road machine operators, except bulldozer	5,200	0.3	7,110	0.4	1,910
Floor layers, except tile setters	700	.	1,020	0.1	320
Painters, construction and maintenance	8,530	0.5	9,820	0.5	1,290
Painter apprentices	20	.	30	.	10
Paperhangers	230	.	340	.	110
Plasterers	320	.	400	.	80
Plasterer apprentices	10	.	.	.	-
Plumbers and pipefitters	7,050	0.4	10,250	0.5	3,200
Plumber and pipefitter apprentices	240	.	360	.	120
Roofers and slaters	1,690	0.1	2,940	0.2	1,250
Structural metal craftsmen	1,240	0.1	1,940	0.1	700
Tile setters	1,030	0.1	1,330	0.1	300

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Requirements		Absolute	Percent 2'
	Number 1'	Percent 2'	Number 1'	Percent 2'		
	5,350	0.3	5,320	0.3	-30	-1
	390	.	620	.	230	58
raisers	390	.	560	.	170	46
	5,070	0.3	6,800	0.3	1,730	34
leaving clerks	12,050	0.8	15,070	0.8	3,020	25
	4,740	0.3	5,790	0.3	1,050	22
storekeepers	11,960	0.8	14,990	0.8	3,030	25
except schedlmonitors	1,980	0.1	4,310	0.2	2,330	117
ngers	20	.	10	.	-10	-57
ors	260	.	220	.	-40	-15
ors	8,950	0.6	10,340	0.5	1,390	16
nd express agents	3,380	0.2	4,400	0.2	1,020	30
	1,300	0.1	1,380	0.1	80	7
erical workers, n.e.c.	9,960	0.6	15,340	0.8	5,380	54
nd Kindred Workers	225,650	14.2	288,150	14.5	62,500	28
men	70,530	4.4	96,940	4.9	26,410	37
stonemasons	6,210	0.4	8,840	0.4	2,630	42
stonemason apprentices	80	.	90	.	10	15
ors	3,360	0.2	4,490	0.2	1,130	34
	22,490	1.4	30,060	1.5	7,570	34
ities	100	.	150	.	50	51
rete finishers	1,700	0.1	2,870	0.1	1,170	69
	10,010	0.6	14,410	0.7	4,400	44
ntices	320	.	490	.	170	55
ling and road machine operators, except bulldozer	5,200	0.3	7,110	0.4	1,910	37
cept tile setters	700	.	1,020	0.1	320	46
ction and maintenance	8,530	0.5	9,820	0.5	1,290	15
ees	20	.	30	.	10	13
	230	.	340	.	110	50
	320	.	400	.	80	24
ities	10	.	.	.	-10	-20
efitters	7,050	0.4	10,250	0.5	3,200	45
ofitter apprentices	240	.	360	.	120	51
ers	1,690	0.1	2,940	0.2	1,250	74
craftsmen	1,240	0.1	1,940	0.1	700	57
	1,030	-0.1	1,330	0.1	300	29

TABLE 3_a - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absor
	Number 1/	Percent 2/	Number 1/	Percent 2/	
Foremen, n.e.c.	37,740	2.4	47,180	2.4	9,
Metalworking Craftsmen, except Mechanics	13,520	0.9	16,430	0.8	2,
Blacksmiths	150	•	160	•	
Boilermakers	640	•	920	0.1	
Heat treaters, annealers and temperers	60	•	60	•	
Forgemen and hammermen	120	•	150	•	
Job and die setters, metal	260	•	370	•	
Machinists	5,770	0.4	7,080	0.4	1,
Machinist apprentices	100	•	110	•	
Millwrights	760	0.1	950	0.1	
Molders, metal	520	•	660	•	
Molder apprentices	10	•	10	•	
Pattern and model makers, except paper	330	•	340	•	
Rollers and finishers, metal	170	•	260	•	
Sheetmetal workers and tinsmiths	3,060	0.2	3,520	0.2	
Sheetmetal worker apprentices	100	•	160	•	
Tool and die makers	1,440	0.1	1,640	0.1	
Tool and die maker apprentices	30	•	40	•	
Mechanics, Repairmen and Installers	63,760	4.0	77,820	3.9	14,
Air conditioning, heating and refrigeration	3,410	0.2	6,210	0.3	2,
Aircraft	7,300	0.5	8,820	0.4	1,
Automobile accessories installers	250	•	230	•	
Automobile body repairmen	2,500	0.2	2,430	0.1	
Automobile mechanics	20,440	1.3	22,330	1.1	1,
Automobile mechanic apprentices	40	•	50	•	
Data processing machine repairmen	600	•	1,110	0.1	
Farm implement	490	•	600	•	
Heavy equipment mechanics, including diesel	14,600	0.9	19,350	1.0	4,
Household appliance mechanics	2,990	0.2	4,240	0.2	1,
Loom fixers	2,250	0.1	2,240	0.1	
Office machine repairmen	800	0.1	1,070	0.1	
Radio and television repairmen	3,460	0.2	3,760	0.2	
Railroad and car shop repairmen	1,140	0.1	1,300	0.1	
Mechanic, except automobile, apprentices	140	•	210	•	
Other mechanics and repairmen	3,350	0.2	3,870	0.2	

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TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Title	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Requirements		Absolute	Percent 2'
	Number 1'	Percent 2'	Number 1'	Percent 2'		
Electricians	37,740	2.4	47,180	2.4	9,440	25
Craftsmen, except Mechanics	13,520	0.9	16,430	0.8	2,910	22
Electricians	150	•	160	•	10	3
Electricians	640	•	920	0.1	280	44
Electricians, annealers and temperers	60	•	60	•	-5	-5
Electricians and hammermen	120	•	150	•	30	29
Electricians, setters, metal	260	•	370	•	110	43
Electricians	5,770	0.4	7,080	0.4	1,310	23
Electricians apprentices	100	•	110	•	10	7
Electricians	760	0.1	950	0.1	190	26
Electricians	520	•	660	•	140	26
Electricians	10	•	10	•	-	29
Electricians, model makers, except paper	330	•	340	•	10	3
Electricians, finishers, metal	170	•	260	•	90	50
Electricians, workers and tinsmiths	3,060	0.2	3,520	0.2	460	15
Electricians, worker apprentices	100	•	160	•	60	60
Electricians, die makers	1,440	0.1	1,640	0.1	200	14
Electricians, die maker apprentices	30	•	40	•	10	38
Electricians, repairmen and installers	63,760	4.0	77,820	3.9	14,060	22
Electricians, wiring, heating and refrigeration	3,410	0.2	6,210	0.3	2,800	82
Electricians	7,300	0.5	8,820	0.4	1,520	21
Electricians, accessories installers	250	•	230	•	-20	-9
Electricians, body repairmen	2,500	0.2	2,430	0.1	-70	-2
Electricians, mechanics	20,440	1.3	22,330	1.1	1,890	9
Electricians, mechanic apprentices	40	•	50	•	10	21
Electricians, pressing, machine repairmen	600	•	1,110	0.1	510	84
Electricians, repairment	490	•	600	•	110	21
Electricians, equipment mechanics, including diesel	14,600	0.9	19,350	1.0	4,750	33
Electricians, appliance mechanics	2,990	0.2	4,240	0.2	1,250	42
Electricians	2,250	0.1	2,240	0.1	-10	-
Electricians, machine repairmen	800	0.1	1,070	0.1	270	34
Electricians, television repairmen	3,460	0.2	3,760	0.2	300	9
Electricians, and car shop repairmen	1,140	0.1	1,300	0.1	160	15
Electricians, except automobile, apprentices	140	•	210	•	70	51
Electricians, mechanics and repairmen	3,350	0.2	3,870	0.2	520	16

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TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970		Projected 1980		Absolute
	Number 1	Percent 2	Number 1	Percent 2	
Printing Trade Craftsmen	6,500	0.4	8,070	0.4	1,570
Bookbinders	480	.	570	.	90
Compositors and typesetters	2,750	0.2	3,250	0.2	500
Electrotypers and stereotypers	70	.	70	.	0
Engravers, except photoengravers	50	.	170	.	120
Photoengravers and lithographers	400	.	600	.	200
Pressmen and plate printers	1,510	0.2	3,230	0.2	1,720
Pressman apprentices	80	.	130	.	50
Printing trade apprentices, except pressman	60	.	50	.	-10
Transportation and Public Utility Craftsmen	11,020	0.7	14,550	0.7	3,530
Electric power linemen and cablemen	2,330	0.2	3,030	0.2	700
Locomotive engineers	1,090	0.1	1,360	0.1	270
Locomotive firemen	140	.	120	.	-20
Power station operators	340	.	360	.	20
Telephone installers and repairmen	5,820	0.4	8,160	0.4	2,340
Telephone linemen and splicers	1,300	0.1	1,520	0.1	220
Other Craftsmen and Kindred Workers	22,580	1.4	27,160	1.4	4,580
Bakers	1,600	0.1	1,830	0.1	230
Cabinetmakers	1,990	0.1	2,290	0.1	300
Carpet installers	1,130	0.1	1,570	0.1	440
Cranemen, derrickmen and hoistmen	2,260	0.1	3,090	0.2	830
Decorators and window dressers	1,650	0.1	1,970	0.1	320
Dental laboratory technicians	450	.	520	.	70
Furniture and wood finishers	420	.	430	.	10
Furriers	20	.	10	.	-10
Glaziers	630	.	930	0.1	300
Inspectors, scalers and graders; log and lumber	540	.	630	.	90
Inspectors, n.e.c.	1,890	0.1	2,460	0.1	570
Jewelers and watchmakers	660	.	780	.	120
Millers, grain, flour and feed	170	.	180	.	10
Motion picture projectionists	310	.	260	.	-50
Opticians and lens grinders and polishers	330	.	530	.	200
Piano and organ tuners and repairmen	150	.	150	.	0
Shipfitters	40	.	30	.	-10
Shoe repairmen	590	.	560	.	-30
Sign painters and letterers	390	.	390	.	0

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 - Employment		Projected 1980 Requirements		Change, 1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
Liftsmen	6,500	0.4	8,070	0.4	1,570	24
	480	•	570	•	90	20
and typesetters	2,750	0.2	3,250	0.2	500	18
and stereotypers	70	•	70	•	•	5
except photoengravers	150	•	170	•	20	14
and lithographers	400	•	600	•	200	49
plate printers	2,510	0.2	3,230	0.2	720	29
entices	80	•	130	•	50	57
apprentices, except pressman	60	•	50	•	-10	-27
Public Utility Craftsmen	11,020	0.7	14,550	0.7	3,530	32
linemen and cablemen	2,330	0.2	3,030	0.2	700	30
engineers	1,090	0.1	1,360	0.1	270	25
emen	140	•	120	•	-20	-17
operators	340	•	360	•	20	5
allers and repairmen	5,820	0.4	8,160	0.4	2,340	40
men and splicers	1,300	0.1	1,520	0.1	220	17
and Kindred Workers	22,580	1.4	27,160	1.4	4,580	20
	1,600	0.1	1,830	0.1	230	14
	1,990	0.1	2,290	0.1	300	15
s	1,130	0.1	1,570	0.1	440	39
ackmen and hoistmen	2,260	0.1	3,090	0.2	830	37
window dressers	1,650	0.1	1,970	0.1	320	20
ty technicians	450	•	520	•	70	16
ood finishers	120	•	430	•	10	2
	20	•	10	•	-10	-31
	630	•	930	0.1	300	48
lers and graders; log and lumber	540	•	630	•	90	18
c.	1,890	0.1	2,460	0.1	570	30
archmakers	660	•	780	•	120	18
flour and feed	170	•	180	•	10	8
projectionists	310	•	260	•	-50	-16
ens grinders and polishers	330	•	530	•	200	58
n tuners and repairmen	150	•	150	•	•	1
	40	•	30	•	-10	-25
	590	•	560	•	-30	-6
nd letterers	390	•	390	•	•	2

TABLE 3
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absolute
	Number 1	Percent 2	Number 1	Percent 2	
Stationary engineers	2,390	0.2	2,810	0.1	42
Stone cutters and stone carvers	440	.	490	.	50
Tailors	1,630	0.1	1,840	0.1	210
Upholsterers	1,520	0.1	1,790	0.1	270
Craftsmen and kindred workers, n.e.c.	1,200	0.1	1,390	0.1	190
Craftsman apprentices, n.e.c.	180	.	230	.	50
Operatives and Kindred Workers	323,290	20.4	376,720	19.0	53,430
Operatives, except Transport	255,600	16.1	293,480	14.8	37,880
Semiskilled metalworking	14,960	0.9	20,930	1.1	5,970
Drill press operatives	480	.	520	.	40
Furnacemen, smelters and pourers	490	.	740	.	250
Grinding machine operatives	690	.	840	.	150
Heaters, metal	40	.	40	.	0
Lathe and milling machine operatives	800	0.1	870	.	70
Metal platers	250	.	320	.	70
Precision machine operatives, n.e.c.	560	.	690	.	130
Punch and stamping press operatives	1,330	0.1	1,700	0.1	370
Solderers	90	.	60	.	-30
Welders and flame cutters	10,230	0.6	15,150	0.8	4,920
Semiskilled textile	48,420	3.1	47,070	2.4	-1,350
Carding, lapping and combing operatives	2,400	0.2	1,750	0.1	-650
Knitters, loopers and toppers	870	0.1	860	.	-10
Spinners, twisterts and winders	20,230	1.3	20,950	1.1	720
Weavers	5,620	0.4	4,680	0.2	-940
Textile operatives, n.e.c.	19,300	1.2	18,830	1.0	-470
Semiskilled packing and inspecting	34,470	2.2	44,520	2.2	10,050
Checkers, examiners and inspectors; manufacturing	17,120	1.1	22,460	1.1	5,340
Graders and sorters, manufacturing	1,180	0.1	1,340	0.1	160
Meat wrappers, retail trade	750	0.1	1,020	0.1	270
Packers and wrappers, except meat and produce	14,640	0.9	18,780	0.9	4,140
Produce graders and packers, except factory and farm	780	0.1	920	0.1	140
Other Operatives, except Transport	157,750	9.9	180,960	9.1	23,210
Asbestos and insulation workers	550	.	770	.	220
Assemblers	15,860	1.0	19,100	1.0	3,240

TABLE 3
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 Employment		Projected 1980 Requirements		Change, 1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
Teachers	2,390	0.2	2,810	0.1	420	18
And stone carvers	440	•	490	•	50	10
	1,630	0.1	1,840	0.1	210	13
	1,520	0.1	1,790	0.1	270	18
Hundred workers, n.e.c.	1,200	0.1	1,390	0.1	190	16
Artificers, n.e.c.	180	•	230	•	50	28
Workers	323,290	20.4	376,720	19.0	53,430	17
Transport	255,600	16.1	293,480	14.8	37,880	15
Working	14,960	0.9	20,930	1.1	5,970	40
Operatives	480	•	520	•	40	9
Smeltermen and pourers	490	•	740	•	250	52
Machine operatives	690	•	840	•	150	22
	40	•	40	•	•	5
Rolling machine operatives	800	0.1	870	•	70	8
	250	•	320	•	70	29
Machine operatives, n.e.c.	560	•	690	•	130	23
Stamping press operatives	1,330	0.1	1,700	0.1	370	28
	90	•	60	•	-30	-35
Flame cutters	10,230	0.6	15,150	0.8	4,920	48
	48,420	3.1	47,070	2.4	-1,350	-3
Shipping and bombing operatives	2,400	0.2	1,750	0.1	-650	-27
Boilers and toppers	870	0.1	860	•	-10	-1
Reelers and winders	20,230	1.3	20,950	1.1	720	4
	5,620	0.4	4,680	0.2	-940	-17
Operatives, n.e.c.	19,300	1.2	18,830	1.0	-470	-2
Shipping and inspecting	34,470	2.2	44,520	2.2	10,050	29
Examiners and inspectors; manufacturing	17,120	1.1	22,460	1.1	5,340	31
Porters, manufacturing	1,180	0.1	1,340	0.1	160	14
Workers, retail trade	750	0.1	1,020	0.1	270	36
Wrappers, except meat and produce	14,640	0.9	18,780	0.9	4,140	28
Workers and packers, except factory and farm	780	0.1	920	0.1	140	18
Except Transport	157,750	9.9	180,960	9.1	23,210	15
Insulation workers	550	•	770	•	220	40
	15,860	1.0	19,100	1.0	3,240	20

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Abolished
	Number 1	Percent 2	Number 1	Percent 2	
Blasters and powdermen	70	.	80	.	
Bottling and canning operatives	770	0.1	910	0.1	
Chainmen, rodmen and axmen; surveying	300	.	390	.	
Clothing ironers and pressers	6,190	0.4	5,620	0.3	-5
Cutting operatives, n.e.c.	4,930	0.3	6,030	0.3	1,1
Dressmakers and seamstresses, except factory	2,120	0.1	2,470	0.1	3
Drillers, earth	780	0.1	890	.	1
Drywall installers and lathers	1,250	0.1	2,160	0.1	9
Dyers	2,110	0.1	2,730	0.1	6
Filers, polishers, sanders and buffers	1,990	0.1	1,890	0.1	-1
Garage workers and gas station attendants	10,380	0.7	11,030	0.6	6
Laundry and dry cleaning operatives, n.e.c.	3,650	0.2	3,940	0.2	2
Meat cutters and butchers, except manufacturing	3,900	0.3	4,020	0.2	1
Meat cutters and butchers, manufacturing	2,220	0.1	2,610	0.1	3
Milliners	20	.	10	.	
Mine operatives, n.e.c.	1,910	0.1	1,650	0.1	-2
Mixing operatives	1,930	0.1	2,290	0.1	3
Oilers and greasers, except auto	930	0.1	970	0.1	
Painters, manufactured articles	2,280	0.1	2,390	0.1	
Photographic process workers	890	0.1	1,200	0.1	
Riveters and fasteners	530	.	530	.	
Sailors and deckhands	200	.	200	.	
Sawyers	3,680	0.2	4,600	0.2	
Sewers and stitchers	46,500	2.9	55,710	2.8	9,
Shoemaking machine operatives	940	0.1	640	.	
Stationary firemen	1,870	0.1	1,960	0.1	
Winding operatives, n.e.c.	1,560	0.1	1,860	0.1	
Miscellaneous machine operatives	20,450	1.3	24,340	1.2	3,
Operatives; n.e.c.	16,990	1.1	17,950	0.9	
Transport Equipment Operatives	67,690	4.3	83,240	4.2	15,
Boatmen and canalmen	50	.	50	.	
Bus drivers	5,210	0.3	7,840	0.4	2,
Conductors and motormen, urban rail transit	50	.	60	.	
Deliverymen and routemen	13,110	0.8	16,850	0.9	3,
Fork lift and tow motor operatives	6,230	0.4	7,840	0.4	1,
Motormen; mine, factory, logging camp, etc.	50	.	70	.	
Parking attendants	520	.	580	.	

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 Employment		Projected 1980 Requirements		Change, 1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
powdermen	70	•	80	•	10	20
canning operatives	770	0.1	910	0.1	140	18
men and axmen; surveying	300	•	390	•	90	28
ers and pressers	6,190	0.4	5,620	0.3	-570	-9
ives, n.e.c.	4,930	0.3	6,030	0.3	1,100	22
and seamstresses, except factory	2,120	0.1	2,470	0.1	350	17
	780	0.1	890	•	110	14
lers and lathers	1,250	0.1	2,160	0.1	910	73
	2,110	0.1	2,730	0.1	620	29
ers, sanders and buffers	1,990	0.1	1,890	0.1	-100	-5
s and gas station attendants	10,380	0.7	11,030	0.6	650	6
ry cleaning operatives, n.e.c.	3,650	0.2	3,940	0.2	290	8
nd butchers, except manufacturing	3,900	0.3	4,020	0.2	120	3
nd butchers, manufacturing	2,220	0.1	2,610	0.1	390	18
	20	•	10	•	-10	-44
s, n.e.c.	1,910	0.1	1,650	0.1	-260	-13
ives	1,930	0.1	2,290	0.1	360	18
agers, except auto	930	0.1	970	0.1	40	5
ufactured articles	2,280	0.1	2,390	0.1	110	5
rocess workers	890	0.1	1,200	0.1	310	34
asteners	530	•	550	•	20	3
ckhands	200	•	200	•	-	2
	3,680	0.2	4,600	0.2	920	25
tchers	46,500	2.9	55,710	2.8	9,210	20
achine operatives	940	0.1	640	•	-300	-32
men	1,870	0.1	1,960	0.1	90	5
ives, n.e.c.	1,560	0.1	1,860	0.1	300	19
achine operatives	20,450	1.3	24,340	1.2	3,890	19
e.c.	16,990	1.1	17,950	0.9	960	6
ent Operatives	67,690	4.3	83,240	4.2	15,550	23
analmen	50	•	50	•	-	8
	5,210	0.3	7,840	0.4	2,630	50
nd motormen, urban rail transit	50	•	60	•	10	30
nd routemen	13,110	0.8	16,850	0.9	3,740	29
ow motor operatives	6,230	0.4	7,840	0.4	1,610	26
e, factory, logging camp, etc.	50	•	70	•	20	38
ants	520	•	580	•	60	10

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		1970 Absolute
	Number 1	Percent 2	Number 1	Percent 2	
Railroad brakemen	770	0.1	890	0.1	120
Railroad switchmen	1,390	0.1	1,640	0.1	250
Taxicab drivers and chauffeurs	3,010	0.2	2,900	0.2	-110
Truck drivers	37,300	2.4	44,520	2.2	7,220
Service Workers	203,380	12.8	246,600	12.4	43,220
Cleaning Service Workers	38,620	2.4	52,260	2.6	13,640
Chambermaids and maids, except private household	6,430	0.4	9,540	0.5	3,110
Cleaners and charwomen	9,530	0.6	11,160	0.6	1,630
Janitors and sextons	22,660	1.4	31,560	1.6	8,900
Food Service Workers	48,230	3.0	60,000	3.0	11,770
Bartenders	1,120	0.1	1,430	0.1	310
Busboys	850	0.1	970	0.1	120
Cooks, except private household	20,240	1.3	24,980	1.3	4,740
Dishwashers	2,300	0.1	2,960	0.2	660
Food counter and fountain workers	2,320	0.2	2,330	0.1	10
Waiters	16,130	1.0	20,520	1.0	4,390
Food service workers, n.e.c., except private household	5,270	0.3	6,810	0.3	1,540
Health Service Workers	21,830	1.4	31,130	1.6	9,300
Dental assistants	1,370	0.1	2,230	0.1	860
Health aides, except nursing	2,030	0.1	3,610	0.2	1,580
Health trainees	480	•	130	•	-350
Lay midwives	10	•	10	•	0
Nursing aides, orderlies and attendants	13,490	0.9	18,040	0.9	4,550
Practical nurses	4,450	0.3	7,110	0.4	2,660
Personal Service Workers	25,510	1.6	33,530	1.7	8,020
Airline stewardesses	1,460	0.1	2,470	0.1	1,010
Attendants, recreation and amusement	850	0.1	1,140	0.1	290
Attendants, personal service, n.e.c.	740	0.1	810	•	70
Baggage porters and bellhops	540	•	400	•	-140
Barbers	3,760	0.2	4,050	0.2	290
Boarding and lodging housekeepers	180	•	40	•	-140
Bootblacks	90	•	50	•	-40
Child care workers, except private household	3,310	0.2	4,740	0.2	1,430
Elevator operators	380	•	220	•	-160

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970		Projected 1980		Change, 1970 - 1980	
	Employment		Requirements		Absolute	Percent 2'
	Number 1'	Percent 2'	Number 1'	Percent 2'		
	770	0.1	890	•	120	15
en	1,390	0.1	1,640	0.1	250	18
nd chauffeurs	3,010	0.2	2,900	0.2	-110	-4
	37,300	2.4	44,520	2.2	7,220	19
	203,380	12.8	246,600	12.4	43,220	21
kers	38,620	2.4	52,260	2.6	13,640	35
l maids, except private household	6,430	0.4	9,540	0.5	3,110	48
women	9,530	0.6	11,160	0.6	1,630	17
ons	22,660	1.4	31,560	1.6	8,900	39
	48,230	3.0	60,000	3.0	11,770	24
	1,120	0.1	1,430	0.1	310	28
	850	0.1	970	0.1	120	14
ivate household	20,240	1.3	24,980	1.3	4,740	23
	2,300	0.1	2,960	0.2	660	29
fountain workers	2,320	0.2	2,330	0.1	10	•
	16,130	1.0	20,520	1.0	4,390	27
ers, n.e.c., except private household	5,270	0.3	6,810	0.3	1,540	29
rs	21,830	1.4	31,130	1.6	9,300	43
	1,370	0.1	2,230	0.1	860	63
cept nursing	2,030	0.1	3,610	0.2	1,580	78
	480	•	130	•	-350	-73
	10	•	10	•	•	•
edics and attendants	13,490	0.9	18,040	0.9	4,550	34
	4,450	0.3	7,110	0.4	2,660	60
kers	25,510	1.6	33,530	1.7	8,020	31
ees	1,460	0.1	2,470	0.1	1,010	69
tion and amusement	850	0.1	1,140	0.1	290	34
al service, n.e.c.	740	0.1	810	•	70	10
nd bellhops	540	•	400	•	-140	-26
	3,760	0.2	4,050	0.2	290	8
ing housekeepers	180	•	40	•	-140	-76
	90	•	50	•	-40	-43
, except private household	3,310	0.2	4,740	0.2	1,430	43
	380	•	220	•	-160	-42

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absolute
	Number 1	Percent 2	Number 1	Percent 2	
Hairdressers and cosmetologists	11,440	0.7	15,040	0.8	3,9
Housekeepers, except private household	2,450	0.2	3,660	0.2	1,2
Personal service apprentices	60	.	30	.	.
School monitors	60	.	110	.	.
Ushers, recreation and amusement	130	.	110	.	.
Welfare service aides	360	.	660	.	.
Protective Service Workers	18,840	1.2	27,850	1.4	9,0
Crossing guards and bridge tenders	720	0.1	1,010	0.1	.
Firemen, fire protection	3,430	0.2	6,130	0.3	2,7
Guards and watchmen	7,070	0.5	8,160	0.4	1,0
Marshals and constables	140	.	220	.	.
Policemen and detectives	6,530	0.4	10,680	0.5	4,1
Sheriffs and bailiffs	950	0.1	1,650	0.1	.
Private Household Workers	50,350	3.2	41,830	2.1	-8,
Child care workers	4,510	0.3	3,770	0.2	.
Cooks, private household	1,910	0.1	1,700	0.1	.
Housekeepers, private household	2,750	0.2	2,360	0.1	.
Laundresses, private household	480	.	320	.	.
Maids and servants, private household	40,700	2.6	33,680	1.7	-7,
Laborers, except Farm	73,350	4.6	84,650	4.3	11,
Animal Caretakers, except Farm	1,180	0.1	1,460	0.1	.
Carpenters' Helpers	1,620	0.1	1,290	0.1	.
Construction Laborers, except Carpenters' Helpers	15,100	1.0	18,700	0.9	3,
Fishermen and Oystermen	300	.	310	.	.
Freight and Material Handlers	15,630	1.0	18,400	0.9	2,
Garbage Collectors	2,650	0.2	4,550	0.2	1,
Gardeners and Groundskeepers, except Farm	6,760	0.4	6,970	0.4	.
Longshoremen and Stevedores	690	.	880	.	.
Lumbermen, Raftsmen and Woodchoppers	5,560	0.4	4,850	0.2	.
Stock Handlers	12,800	0.8	15,960	0.8	3,
Teamsters	340	.	190	.	.
Vehicle Washers and Equipment Cleaners	3,080	0.2	3,180	0.2	.
Warehousemen, n.e.c.	2,660	0.2	2,840	0.1	.
Other Laborers, except Farm	4,980	0.3	5,070	0.3	.

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970		Projected 1980		Change,	
	Employment		Requirements		1970 - 1980	
	Number 1	Percent 2	Number 1	Percent 2	Absolute	Percent 2
Cosmetologists	11,140	0.7	15,040	0.8	3,900	35
Except private household	2,450	0.2	3,660	0.2	1,210	49
Apprentices	60	.	30	.	-30	-50
	60	.	110	.	50	73
and amusement	130	.	110	.	-20	-12
es	360	.	660	.	300	84
Workers	18,840	1.2	27,850	1.4	9,010	48
and bridge tenders	720	0.1	1,010	0.1	290	41
ction	3,430	0.2	6,130	0.3	2,700	79
en	7,070	0.5	8,160	0.4	1,090	15
ables	140	.	220	.	80	60
tives	6,530	0.4	10,680	0.5	4,150	64
	950	0.1	1,650	0.1	700	73
rkets	50,350	3.2	41,830	2.1	-8,520	-17
	4,510	0.3	3,770	0.2	-740	-16
shold	1,910	0.1	1,700	0.1	-210	-11
ate household	2,750	0.2	2,360	0.1	-390	-14
te household	480	.	320	.	-160	-33
, private household	40,700	2.6	33,680	1.7	-7,020	-17
	73,350	4.6	84,650	4.3	11,300	15
cept Farm	1,180	0.1	1,460	0.1	280	24
	1,620	0.1	1,290	0.1	-330	-21
, except Carpenters' Helpers	15,100	1.0	18,700	0.9	3,600	24
men	300	.	310	.	10	4
handlers	15,630	1.0	18,400	0.9	2,770	18
	2,650	0.2	4,550	0.2	1,900	71
sketchers, except Farm	6,760	0.4	6,970	0.4	210	3
vedores	690	.	880	.	190	28
and Woodchoppers	5,560	0.4	4,850	0.2	-710	-13
	12,800	0.8	15,960	0.8	3,160	25
	340	.	190	.	-150	-45
Equipment Cleaners	3,080	0.2	3,180	0.2	100	3
	2,660	0.2	2,840	0.1	180	7
t Farm	4,980	0.3	5,070	0.3	90	2

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

Occupational Title	1970 Employment		Projected 1980 Requirements		Absolute Change
	Number 1/	Percent 2/	Number 1/	Percent 2/	
Farmers and Farm Workers	57,110	3.6	39,500	2.0	-17,610
Farmers and Farm Managers	27,060	1.7	19,260	1.0	-7,800
Farmers (owners and tenants)	25,720	1.6	17,320	0.9	-8,400
Farm managers†	1,340	0.1	1,940	0.1	600
Farm Laborers and Farm Foremen	30,050	1.9	20,240	1.0	-9,810
Farm foremen	730	0.1	650	0.	-80
Farm laborers, wage workers	27,880	1.8	18,520	0.9	-9,360
Farm laborers, unpaid family workers	1,370	0.1	970	0.1	-400
Farm service laborers, self-employed	70	.	100	.	30

1/ Estimates were rounded to ten's.

2/ Percents were computed from unrounded data. Percent change figures are shown as whole numbers.

3/ The 1970 and 1980 "Total, All Industries" employment in Table 1 and the "Total, All Occupations" employment in Table 3 differ because developed from different data sources. The 1970 occupational employment levels are those reported in the 1970 decennial census for the occupations (after rounding) and are based on place of residence. (Table 3 excludes 158,972 "Not Specified" and "Allocated" cases included in the Census.) The 1970 industry employment estimates, based on place of work, were developed from Georgia Department of Employment Security Agency records, supplemented to include self-employed persons, unpaid family workers, private household workers a job but not at work, and adjusted to exclude the secondary job of multiple job holders.

"n.e.c." denotes "not elsewhere classified."

*Less than 0.05.

" - " denotes "zero."

TABLE 3 - continued
 GEORGIA 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION

	1970 Employment		Projected 1980 Requirements /		Change, 1970 - 1980	
	Number 1/	Percent 2/	Number 1/	Percent 2/	Absolute	Percent 2/
rs	57,110	3.6	39,500	2.0	-17,610	-31
managers	27,060	1.7	19,260	1.0	-7,800	-29
and tenants)	25,720	1.6	17,320	0.9	-8,400	-33
	1,340	0.1	1,940	0.1	600	45
arm Foremen	30,050	1.9	20,240	1.0	-9,810	-33
	730	0.1	650	0	-80	-11
te workers	27,880	1.8	18,520	0.9	-9,360	-34
aid family workers	1,370	0.1	970	0.1	-400	-29
ens, self-employed	70	0	100	0	30	43

ded to ten's.

derived from unrounded data. Percent change figures are shown as whole numbers.

"Total, All Industries" employment in Table 1 and the "Total, All Occupations" employment in Table 3 differ because each was derived from different data sources. The 1970 occupational employment levels are those reported in the 1970 decennial census for the specified occupation (by place of residence) and are based on place of residence. (Table 3 excludes 158,972 "Not Specified" and "Allocated" cases which were not classified.) The 1970 industry employment estimates, based on place of work, were developed from Georgia Department of Labor, Bureau of Employment Agency records, supplemented to include self-employed persons, unpaid family workers, private household workers, and persons with multiple jobs, and adjusted to exclude the secondary job of multiple job holders.

sewhere classified."

TABLE 4
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/4	
Total, All Occupations	1,787,920	100.0	39,990
Professional, Technical and Kindred Workers	234,480	13.1	7,000
Engineers, Technical	20,790	1.2	480
Aeronautical and astronautical	2,200	0.1	-30
Chemical	590	.	10
Civil	4,360	0.2	120
Electrical and electronic	4,020	0.2	110
Industrial	3,610	0.2	90
Mechanical	1,890	0.1	40
Metallurgical and materials	210	.	10
Mining	10	.	.
Petroleum	30	.	.
Sales	1,320	0.1	50
Other engineers	2,550	0.1	80
Life and Physical Scientists	2,940	0.2	70
Agricultural	380	.	10
Atmospheric and space	110	.	.
Biological	720	.	20
Chemists	1,460	0.1	40
Geologists	90	.	.
Marine	60	.	.
Physicists and astronomers	80	.	.
Life and physical scientists, n.e.c.	40	.	.
Mathematical Specialists	580	.	10
Actuaries	120	.	.
Mathematicians	40	.	.
Statisticians	420	.	10
Engineering and Science Technicians	15,840	0.9	600
Agricultural and biological technicians, except health	890	0.1	40
Chemical technicians	930	0.1	20
Draftsmen	4,680	0.3	180
Electrical and electronic technicians	2,430	0.1	170
Industrial engineering technicians	500	.	.
Mathematical technicians	10	.	.

TABLE 1
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
	1,787,920	100.0	39,990	200,070
and Kindred Workers	234,480	13.1	7,000	35,000
	20,790	1.2	480	2,400
astronautical	2,200	0.1	-30	-150
	590	.	10	60
	4,360	0.2	120	600
ctronic	4,020	0.2	110	540
	3,610	0.2	90	460
	1,890	0.1	40	200
aterials	210	.	10	40
	10	.	.	.
	30	.	.	.
	1,320	0.1	50	250
	2,550	0.1	80	400
entists	2,940	0.2	70	330
	380	.	10	30
pace	110	.	.	10
	720	.	20	80
	1,460	0.1	40	190
	90	.	.	10
	60	.	.	10
ronomers	80	.	.	10
cientists, n.e.c.	40	.	.	-10
sts	580	.	10	70
	120	.	.	10
	40	.	.	10
	420	.	10	50
nce, technicians	15,840	0.9	600	2,990
ological technicians, except health	890	0.1	40	180
ans	930	0.1	20	120
	4,680	0.3	-180	900
ctronic technicians	2,430	0.1	70	330
ring technicians	500	.	.	-10
icians	10	.	.	.

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change F 1976 2/
	Number 2/	Percent of Total 3/	
Mechanical engineering technicians	130	•	-
Surveyors	1,890	0.1	60
Engineering and science technicians, n.e.c.	4,380	0.2	230
Medical and Health Workers, except Technicians	31,090	1.7	960
Chiropractors	310	•	20
Dentists	1,880	0.1	80
Dietitians	1,300	0.1	40
Optometrists	340	•	10
Pharmacists	2,560	0.1	50
Physicians, medical and osteopathic	5,380	0.3	160
Podiatrists	70	•	-
Registered Nurses	16,900	0.9	450
Therapists	1,390	0.1	70
Veterinarians	940	0.1	80
Other medical and health	20	•	-
Health Technologists and Technicians	7,250	0.4	390
Clinical lab technologists and technicians	3,190	0.2	160
Dental hygienists	790	•	60
Health record technologists and technicians	390	•	30
Radiologic technologists and technicians	1,150	0.1	40
Therapy assistants	80	•	10
Other health technologists and technicians	1,650	0.1	90
Technicians, except Health, and Engineering and Science	6,420	0.4	220
Airplane pilots	2,640	0.2	80
Air traffic controllers	1,150	0.1	10
Embalmers	150	•	-
Flight engineers	400	•	20
Radio operators	760	•	30
Tool programmers, numerical control	40	•	-
Technicians, n.e.c.	1,280	0.1	80
Computer Specialists	4,160	0.2	130
Computer programmers	2,730	0.1	80
Computer systems analysts	1,200	0.1	40
Computer specialists, n.e.c.	230	•	10

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
Engineering technicians	130	.	-	-10
	1,890	0.1	60	310
Life science technicians, n.e.c.	4,380	0.2	230	1,170
Machine Workers, except Technicians	31,090	1.7	960	4,830
	310	.	20	100
	1,880	0.1	80	410
	1,300	0.1	40	180
	340	.	10	70
	2,560	0.1	50	270
Medical and osteopathic	5,380	0.3	160	790
	70	.	-	10
Pharmacies	16,900	0.9	450	2,220
	1,390	0.1	70	360
	940	0.1	80	410
Physical and health	20	.	-	10
Scientists and Technicians	7,250	0.4	390	1,940
Technologists and technicians	3,190	0.2	160	810
Technicians	790	.	60	320
Technologists and technicians	390	.	30	140
Technologists and technicians	1,150	0.1	40	210
Technicians	80	.	10	30
Technologists and technicians	1,650	0.1	90	430
Transport, Health, and Engineering and Science	6,420	0.4	220	1,070
	2,640	0.2	80	380
Truck Drivers	1,150	0.1	10	60
	150	.	-	-
	400	.	20	80
	760	.	30	140
Truck Drivers, numerical control	40	.	-	-
n.e.c.	1,280	0.1	80	410
Truck Drivers	4,160	0.2	130	640
Truck Drivers	2,730	0.1	80	390
Truck Drivers analysts	1,200	0.1	40	210
Truck Drivers analysts, n.e.c.	230	.	10	40

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Social Scientists	2,020	0.1	110
Economists	1,210	0.1	60
Political scientists	20	.	.
Psychologists	330	.	20
Sociologists	50	.	.
Urban and regional planners	330	.	30
Social scientists, n.e.c.	80	.	.
Teachers	73,800	4.1	1,720
Adult education teachers	1,510	0.1	20
Agriculture teachers	130	.	.
Art, drama, music teachers	490	.	20
Atmospheric, earth, marine	100	.	.
Biology teachers	440	.	20
Business, commerce teachers	290	.	10
Chemistry teachers	270	.	.
Coaches, physical education	320	.	.
Economics teachers	230	.	10
Education teachers	100	.	.
Elementary school teachers	35,710	2.0	850
Engineering teachers	220	.	.
English teachers	650	.	10
Foreign language teachers	420	.	20
Health specialties teachers	830	0.1	50
History teachers	330	.	.
Home economics teachers	110	.	.
Law teachers	100	.	10
Mathematics teachers	600	.	20
Physics teachers	200	.	.
Preschool, kindergarten teachers	3,940	0.2	120
Psychology teachers	370	.	20
Secondary school teachers	18,940	1.1	800
Sociology teachers	180	.	10
Social science teachers, n.e.c.	250	.	10
Miscellaneous college and university	410	.	20
College, university, n.e.c.	3,260	0.2	130
Theology teachers	80	.	10
Trade, industrial teachers	80	.	10
Teachers, n.e.c., except college and university	3,240	0.2	50

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
	2,020	0.1	110	540
	1,210	0.1	60	270
ists	20	.	-	10
	330	.	20	100
	50	.	-	-
onal planners	330	.	30	140
s, n.e.c.	80	.	-	20
	73,800	4.1	1,720	8,600
teachers	1,510	0.1	20	80
chers	130	.	-	10
ic teachers	490	.	20	90
arth, marine/	100	.	-	10
s	440	.	20	90
erage teachers	290	.	10	60
ers	270	.	-	10
cal education	320	.	-	20
bers	230	.	10	40
ers	100	.	-	-
ool teachers	35,710	2.0	850	4,250
chers	220	.	-	20
s	650	.	10	60
ge teachers	420	.	20	80
ies teachers	830	0.1	50	250
s	330	.	-	10
s teachers	110	.	-	10
	100	.	10	20
chers	600	.	20	100
s	200	.	-	-
ergarten teachers	3,940	0.2	120	610
chers	370	.	20	100
ol teachers	18,140	1.1	300	1,510
ers	180	.	10	60
teachers, n.e.c.	250	.	10	50
college and university	410	.	20	100
ity, n.e.c.	3,260	0.2	130	660
ers	80	.	10	20
al teachers	80	.	10	30
, except college and university	3,240	0.2	50	250

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Writers, Artists and Entertainers	12,940	0.7	390
Actors	70	•	-
Athletes and kindred workers	1,090	0.1	40
Authors	220	•	-
Dancers	110	•	-
Designers	1,420	0.1	50
Editors and reporters	2,280	0.1	80
Musicians and composers	1,650	0.1	40
Painters and sculptors	1,720	0.1	40
Photographers	1,280	0.1	40
Public relations men and publicity writers	1,510	0.1	50
Radio and television announcers	690	•	10
Writers, artists and entertainers, n.e.c.	900	0.1	40
Other Professional, Technical and Kindred Workers	56,650	3.2	1,920
Accountants	15,910	0.9	400
Architects	1,360	0.1	60
Archivists and curators	80	•	-
Clergymen	6,680	0.4	190
Religious workers, except clergymen	850	0.1	20
Farm management advisors	270	•	-
Foresters and conservationists	2,150	0.1	60
Home management advisors	190	•	-
Judges	270	•	10
Lawyers	4,800	0.3	140
Librarians	3,150	0.2	100
Operations and systems researchers and analysts	1,620	0.1	70
Personnel and labor relations workers	7,980	0.5	360
Research workers, n.e.c.	2,350	0.1	90
Recreation workers	1,240	0.1	50
Social workers	4,910	0.3	190
Vocational and educational counselors	2,840	0.2	180
Managers, Officials and Proprietors, except Farm	171,850	9.6	6,040
Buyers, Sales and Loan Managers	32,250	1.8	1,250
Bank and financial managers	9,660	0.5	450
Buyers and shippers, farm products	220	•	-
Buyers, wholesale and retail trade	3,580	0.2	130

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
Entertainers	12,940	0.7	390	1,970
	70	•	-	-
Printed workers	1,090	0.1	40	200
	220	•	-	10
	110	•	-	20
	1,420	0.1	50	240
Actors	2,280	0.1	80	410
Composers	1,650	0.1	40	210
Directors	1,720	0.1	40	190
	1,280	0.1	40	190
Men and publicity writers	1,510	0.1	50	260
Radio announcers	690	•	10	50
and entertainers, n.e.c.	900	0.1	40	190
Technical and Kindred Workers	56,650	3.2	1,920	9,620
	15,910	0.9	400	2,000
	1,360	0.1	60	300
Operators	80	•	-	10
	6,680	0.4	190	960
, except clergymen	850	0.1	20	120
Advisors	270	•	-	-10
Observationists	2,150	0.1	60	300
Advisors	190	•	-	-10
	270	•	10	30
	4,800	0.3	140	690
	3,150	0.2	100	490
Systems researchers and analysts	1,620	0.1	70	360
Public relations workers	7,980	0.5	360	1,800
, n.e.c.	2,350	0.1	90	470
	1,240	0.1	50	260
	4,910	0.3	190	940
Educational counselors	2,840	0.2	180	910
Proprietors, except Farm	171,850	9.6	6,040	30,210
Plant Managers	32,250	1.8	1,250	6,260
Retail managers	9,660	0.5	450	2,260
Managers, farm products	220	•	-	10
Wholesale and retail trade	3,580	0.2	130	900

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TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Creditmen	1,820	0.1	50
Purchasing agents and buyers, n.e.c.	3,330	0.2	90
Sales managers and department heads, retail trade	5,420	0.3	220
Sales managers, except retail trade	8,220	0.5	310
Administrators and Inspectors; public administration	17,240	1.0	470
Assessors, controllers and treasurers; local public administration	620	.	30
Construction inspectors; public administration	450	.	20
Health administrators	1,900	0.1	90
Inspectors, except construction; public administration	2,330	0.1	70
Officials and administrators; public administration, n.e.c.	6,210	0.4	70
Postmasters and mail superintendents	550	.	-10
School administrators, college	1,000	0.1	50
School administrators, elementary and secondary	4,180	0.2	150
Other Managers, Officials and Proprietors	122,360	6.8	4,320
Funeral directors	1,080	0.1	30
Managers and superintendents, building	1,820	0.1	60
Office managers, n.e.c.	6,370	0.4	300
Officers, pilots and pursers; ship	230	.	.
Officials of lodges, societies and unions	990	0.1	30
Railroad conductors	990	0.1	20
Restaurant, cafeteria and bar managers	8,030	0.4	220
Other managers and administrators	102,850	5.7	3,660
Sales Workers	132,280	7.4	3,630
Advertising Agents and Salesmen	1,300	0.1	50
Auctioneers	80	.	.
Demonstrators	880	.	20
Hucksters and Peddlers	2,430	0.1	70
Insurance Agents, Brokers and Underwriters	14,270	0.8	320
Newsboys	990	0.1	.
Real Estate Agents and Brokers	5,880	0.3	110
Stock and Bond Salesmen	1,900	0.1	100
Sales Representatives, manufacturing industries	11,860	0.7	360
Sales Representatives, wholesale trade	19,160	1.1	680
Sales Clerks, retail trade	55,680	3.1	1,460
Salesmen, retail trade	12,080	0.7	270
Salesmen of Services and Construction	5,770	0.3	190

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
agents and buyers, n.e.c.	1,820	0.1	50	260
managers and department heads, retail trade	3,330	0.2	90	180
managers, except retail trade	5,420	0.3	220	1,090
	8,220	0.5	310	1,570
inspectors; public administration	17,240	1.0	470	2,330
controllers and treasurers; local public administration	620	•	30	140
inspectors; public administration	450	•	20	-90
inspectors	1,900	0.1	90	440
inspectors except construction; public administration	2,330	0.1	70	340
administrators; public administration, n.e.c.	6,210	0.4	70	350
post office and mail superintendents	550	•	-10	-40
superintendents, college	1,000	0.1	50	260
superintendents, elementary and secondary	4,180	0.2	150	750
officials and proprietors	122,360	6.8	4,320	21,620
managers	1,080	0.1	30	130
superintendents, building	1,820	0.1	60	310
managers, n.e.c.	6,370	0.4	300	1,500
managers and pursers; ship	230	•	•	30
managers, societies and unions	990	0.1	30	130
managers	990	0.1	20	100
managers, restaurants and bar managers	8,030	0.4	220	1,110
managers and administrators	102,850	5.7	3,660	18,310
	132,280	7.4	3,630	18,140
agents and salesmen	1,300	0.1	50	250
	80	•	•	•
	880	•	20	80
handlers	2,430	0.1	70	350
brokers and underwriters	14,270	0.8	320	1,610
	990	0.1	•	-10
agents and brokers	5,880	0.3	110	550
salesmen	1,900	0.1	100	490
salesmen, manufacturing industries	11,860	0.7	360	1,810
salesmen, wholesale trade	19,160	1.1	680	3,400
wholesale trade	35,680	3.1	1,460	7,320
retail trade	12,080	0.7	270	1,350
services and construction	5,770	0.3	490	940
			1,179	

TABLE 4-- continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Clerical and Kindred Workers	290,080	16.2	8,070
Stenographers, Typists and Secretaries	88,940	5.0	3,070
Secretaries, legal	1,340	0.1	60
Secretaries, medical	1,400	0.1	70
Secretaries, other	65,150	3.6	2,510
Stenographers	2,210	0.1	-70
Typists	18,840	1.1	500
Office Machine Operators	10,570	0.6	110
Bookkeeping and billing machine	1,110	0.1	30
Calculating machine	540	.	-
Computer and peripheral equipment	2,640	0.2	120
Duplicating machine	300	.	10
Keypunch	5,290	0.3	-80
Tabulating machine	70	.	-
Other office machine operators	620	.	30
Other Clerical Workers	190,570	10.7	4,890
Bank tellers	5,780	0.3	230
Billing clerks	3,070	0.2	150
Bookkeepers	36,350	2.0	820
Cashiers	20,290	1.1	570
Clerical assistants, social welfare	40	.	-
Clerical supervisors, n.e.c.	3,280	0.2	80
Collectors, bill and account	1,810	0.1	70
Counter clerks, except food	6,650	0.4	270
Dispatchers and starters, vehicle	1,330	0.1	40
Enumerators and interviewers	1,800	0.1	-30
Estimators and investigators, n.e.c.	6,200	0.4	210
Expeditors and production controllers	4,030	0.2	60
File clerks	7,000	0.4	120
Insurance adjusters, examiners and investigators	1,850	0.1	50
Library attendants and assistants	2,360	0.1	70
Mail carriers, post office	4,970	0.3	20
Mail handlers, except post office	2,890	0.2	90
Messengers and office boys	500	.	-
Meter readers, utilities	970	0.1	20
Payroll and timekeeping clerks	3,930	0.2	120

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TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
red Workers	290,080	16.2	8,070	40,330
Typists and Secretaries	88,940	5.0	3,070	15,350
Legal	1,340	0.1	60	290
Medical	1,400	0.1	70	350
Other	65,150	3.6	2,510	12,570
rs	2,210	0.1	-70	-350
	18,840	1.1	500	2,490
Operators	10,570	0.6	110	510
g and billing machine	1,110	0.1	30	140
e-machine	540	.	-	20
ad peripheral equipment	2,640	0.2	120	620
machine	300	.	10	50
	5,290	0.3	-80	-420
machine	70	.	-	-20
machine operators	620	.	30	120
Workers	190,570	10.7	4,890	24,470
	5,780	0.3	230	1,140
ks	3,070	0.2	150	750
	36,350	2.0	820	4,100
	20,290	1.1	570	2,860
istants, social welfare	40	.	-	10
ervisors, n.e.c.	3,280	0.2	80	400
bill and account	1,810	0.1	70	340
ks, except food	6,650	0.4	270	1,360
and starters, vehicle	1,330	0.1	40	210
and interviewers	1,800	0.1	-30	-140
and investigators, n.e.c.	6,200	0.4	210	1,040
and production controllers	4,030	0.2	60	300
	7,000	0.4	120	620
adjusters, examiners and investigators	1,850	0.1	50	230
ndants and assistants	2,360	0.1	70	360
, post office	4,970	0.3	20	100
s, except post office	2,890	0.2	90	430
and office boys	500	.	-	-
s, utilities	970	0.1	20	80
timekeeping clerks	3,930	0.2	120	600

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TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Postal clerks	5,330	0.3	
Proofreaders	510	.	20
Real estate appraisers	470	.	20
Receptionists	5,940	0.3	170
Shipping and receiving clerks	13,560	0.8	300
Statistical clerks	5,270	0.3	100
Stock clerks and storekeepers	13,480	0.8	300
Teacher aides, except school monitors	3,150	0.2	230
Telegraph messengers	10	.	
Telegraph operators	230	.	
Telephone operators	9,640	0.5	140
Ticket, station and express agents	3,890	0.2	100
Weighers	1,340	0.1	10
Miscellaneous clerical workers, n.e.c.	12,650	0.7	540
Craftsmen, Foremen and Kindred Workers	256,910	14.4	6,240
Construction Craftsmen	83,740	4.7	2,640
Brickmasons and stonemasons	7,530	0.4	260
Brickmason and stonemason apprentices	90	.	
Bulldozer operators	3,930	0.2	110
Carpenters	26,280	1.5	760
Carpenter apprentices	120	.	10
Cement and concrete finishers	2,280	0.1	120
Electricians	12,210	0.7	440
Electrician apprentices	400	.	20
Excavating, grading and road machine operators, except bulldozer	6,160	0.3	190
Floor layers, except tile setters	860	0.1	30
Painters, construction and maintenance	9,170	0.5	130
Painter apprentices	30	.	
Paperhangers	280	.	10
Plasterers	360	.	10
Plasterer apprentices			
Plumbers and pipefitters	8,650	0.5	320
Plumber and pipefitter apprentices	300	.	10
Roofers and slaters	2,320	0.1	120
Structural metal craftsmen	1,590	0.1	70
Tile setters	1,180	0.1	30

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
	5,330	0.3	.	-10
	510	.	20	110
raisers	470	.	20	90
	5,940	0.3	170	860
ceiving clerks	13,560	0.8	300	1,510
ks	5,270	0.3	100	520
d storekeepers	13,480	0.8	300	1,510
except school monitors	3,150	0.2	230	1,160
engers	10	.	.	.
tors	230	.	.	-10
tors	9,640	0.5	140	700
and express agents	3,890	0.2	100	510
	1,340	0.1	10	40
clerical workers, n.e.c.	12,650	0.7	540	2,690
and Kindred Workers	256,910	14.4	6,240	31,240
smen	83,740	4.7	2,640	13,200
d stonemasons	7,530	0.4	260	1,310
stonemason apprentices	90	.	.	.
tors	3,930	0.2	110	560
	26,280	1.5	760	3,780
entices	120	.	10	30
crete finishers	2,280	0.1	120	590
	12,210	0.7	440	2,200
rentices,	400	.	20	90
ding and load machine operators, except bulldozer	6,160	0.3	190	950
cept tile setters	860	0.1	30	160
struction and maintenance	9,170	0.5	130	650
ices	30	.	.	.
	280	.	10	60
	360	.	10	40
ntices,	.	.	.	.
ipefitters	8,650	0.5	320	1,600
pefitter apprentices	300	.	10	60
ters	2,320	0.1	120	620
craftsmen	1,590	0.1	70	350
	1,180	0.1	30	150

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Foremen, n.e.c.	42,460	2.4	940
Metalworking Craftsmen, except Mechanics	14,980	0.8	290
Blacksmiths	160	•	•
Boilermakers	780	•	30
Heat treaters, annealers and temperers	60	•	•
Forgemen and hammermen	140	•	•
Job and die setters, metal	310	•	10
Machinists	6,430	0.4	130
Machinist apprentices	100	•	•
Millwrights	860	0.1	20
Molders, metal	590	•	10
Molder apprentices	10	•	•
Pattern and model makers, except paper	330	•	•
Rollers and finishers, metal	210	•	10
Sheetmetal workers and tinsmiths	3,290	0.2	50
Sheetmetal worker apprentices	130	•	10
Tool and die makers	1,540	0.1	20
Tool and die maker apprentices	40	•	•
Mechanics, Repairmen and Installers	70,790	4.0	1,400
Air conditioning, heating and refrigeration	4,810	0.3	280
Aircraft	8,060	0.4	150
Automobile accessories installers	230	•	•
Automobile-body repairmen	2,460	0.1	•
Automobile mechanics	21,380	1.2	190
Automobile mechanic apprentices	50	•	•
Data processing machine repairmen	860	0.1	50
Farm implement	540	•	10
Heavy equipment mechanics, including diesel	16,980	1.0	470
Household appliance mechanics	3,620	0.2	120
Loom fixers	2,250	0.1	•
Office machine repairmen	940	•	20
Radio and television repairmen	3,610	0.2	30
Railroad and car shop repairmen	1,220	0.1	20
Mechanic, except automobile, apprentice	170	•	10
Other mechanics and repairmen	3,610	0.2	50

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TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
	42,460	2.4	940	4,720
men, except Mechanics	14,980	0.8	290	1,450
	160	.	.	.
	780	.	30	140
annealers and temperers	60	.	.	.
hammermen	140	.	.	10
ers, metal	310	.	10	60
	6,430	0.4	130	650
ntices	100	.	.	10
	860	0.1	20	90
	590	.	10	70
ces	10	.	.	.
el makers, except paper	330	.	.	10
shers, metal	210	.	10	50
ers and tinsmiths	3,290	0.2	50	230
er apprentices	130	.	10	30
kers	1,540	0.1	20	100
ker apprentices	40	.	.	.
men and Installers	70,790	4.0	1,400	7,030
, heating and refrigeration	4,810	0.3	280	1,400
	8,060	0.4	150	760
ssories installers	230	.	.	.
y repairmen	2,460	0.1	.	-30
hanics	21,380	1.2	190	950
hanic apprentices	50	.	.	.
machine repairmen	860	0.1	50	250
	540	.	10	60
x mechanics, including diesel	16,980	1.0	470	2,370
ance mechanics	3,620	0.2	120	620
	2,250	0.1	.	-10
repairmen	940	.	20	130
sion, repairmen	3,610	0.2	30	150
shop repairmen	1,220	0.1	20	80
t automobile, apprentice	170	.	10	40
and repairmen	3,610	0.2	50	260

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TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Printing Trade Craftsmen	7,290	0.4	150
Bookbinders	520	.	10
Compositors and typesetters	3,000	0.2	50
Electrotypers and stereotypers	70	.	.
Engravers, except photoengravers	170	.	.
Photoengravers and lithographers	500	.	20
Pressmen and plate printers	2,870	0.2	70
Pressmen apprentices	110	.	.
Printing trade apprentices, except pressman)	50	.	.
Transportation and Public Utility Craftsmen	12,790	0.7	350
Electric power linemen and cablemen	2,680	0.2	70
Locomotive engineers	1,220	0.1	30
Locomotive firemen	130	.	.
Power station operators	350	.	.
Telephone installers and repairmen	6,990	0.3	230
Telephone linemen and splicers	1,420	0.1	20
Other Craftsmen and Kindred Workers	24,860	1.4	470
Bakers	1,720	.	20
Cabinetmakers	2,140	.	30
Carpet installers	1,350	0.1	40
Cranemen, derrickmen and hoistmen	2,670	0.2	90
Decorators and window dressers	1,820	0.1	30
Dental laboratory technicians	480	.	10
Furniture and wood finishers	430	.	.
Furriers	10	.	.
Glaziers	780	.	30
Inspectors, scalers and graders; log and lumber	590	.	10
Inspectors, n.e.c.	2,170	0.1	60
Jewelers and watchmakers	720	.	10
Millers, grain, flour and feed	180	.	.
Motion picture projectionists	280	.	.
Opticians and lens grinders and polishers	430	.	20
Piano and organ tuners and repairmen	150	.	.
Shipfitters	30	.	.
Shoe repairmen	580	.	.
Sign painters and letterers	390	.	.

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To:	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
men	7,290	0.4	150	780
typesetters	520	.	10	50
stereotypers	3,000	0.2	50	250
photoengravers	70	.	-	.
and lithographers	170	.	-	.
re printers	500	.	20	100
ices	2,870	0.2	70	360
rentices, except pressman	110	.	-	20
	50	.	-	-
Public Utility Craftsmen	12,790	0.7	350	1,760
men and cablemen	2,680	-0.2	70	350
cers	1,220	0.1	30	140
n	130	.	-	-10
rators	350	.	-	10
ers and repairmen	6,99	0.3	230	1,170
a and splicers	1,420	0.1	20	100
Kindred Workers	24,860	1.4	470	2,300
	1,720	.	20	110
	2,140	.	30	150
men and hoistmen	1,350	0.1	40	220
ndow dressers	2,670	0.2	90	420
technicians	1,820	0.1	30	150
d finishers	480	.	10	40
	430	.	-	-
	10	.	-	-
	780	.	30	150
s and graders; log and lumber	590	.	10	40
	2,170	0.1	60	290
makers	720	.	10	60
r and feed	180	.	-	-
ectionists	280	.	-	-20
grinders and polishers	430	.	20	100
ners and repairmen	150	.	-	-
	30	.	-	-
	580	.	-	-20
letterers	390	.	-	-

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Stationary engineers	2,600	0.2	40
Stone cutters and stone carvers	470	.	.
Tailors	1,730	0.1	20
Upholsterers	1,650	0.1	30
Craftsmen and kindred workers, n.e.c.	1,290	0.1	20
Craftsman apprentices, n.e.c.	200	.	10
Operatives and Kindred Workers	350,040	19.6	5,310
Operatives, except Transport	274,570	15.4	3,760
Semiskilled metalworking	17,950	1.0	590
Drill press operatives	500	.	.
Furnacemen, smeltermen and pourers	620	.	20
Grinding machine operatives	770	.	10
Heaters, metal	40	.	.
Lathe and milling machine operatives	830	0.1	10
Metal platers	280	.	10
Precision machine operatives, n.e.c.	630	.	10
Punch and stamping press operatives	1,510	0.1	40
Solderers		.	.
Welders and flame cutters	12	0.7	490
Semiskilled textile	47,750	2.7	-140
Cadging, lapping and combing operatives	2,080	0.1	-70
Knitters, loopers and toppers	860	0.1	.
Spinners, twistors and winders	20,590	1.1	70
Weavers	5,150	0.3	-90
Textile operatives, n.e.c.	19,070	1.1	-50
Semiskilled packing and inspecting	39,490	2.2	1,000
Checkers, examiners and inspectors; manufacturing	19,790	1.1	530
Graders and sorters; manufacturing	1,260	0.1	20
Meat wrappers, retail trade	880	0.1	30
Packers and wrappers, except meat and produce	16,710	0.9	410
Produce graders and packers, except factory and farm	850	0.1	10
Other Operatives, except Transport	169,380	9.5	2,310
Asbestos and insulation workers	660	.	20
Assemblers	17,480	1.0	320

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
peers	2,600	0.2	40	210
nd stone carvers	470	.	-	20
	1,730	0.1	20	110
	1,650	0.1	30	140
hundred workers, n.e.c.	1,290	0.1	20	100
entices, n.e.c.	200	.	10	30
nd Workers	350,040	19.6	5,310	26,680
Transport	274,570	15.4	3,760	18,910
alworking	17,950	1.0	590	2,980
peratives	500	.	-	20
smeltermen and pourers	620	.	20	120
chine operatives	770	.	10	70
al	40	.	-	-
lling machine operatives	830	0.1	10	40
	280	.	10	40
chine operatives, n.e.c.	630	.	10	60
amping press operatives	1,510	0.1	40	190
	70	.	-	-10
flame cutters	12,700	0.7	490	2,450
ile	47,750	2.7	-140	-680
ing and combing operatives	2,080	0.1	-70	-330
pers and toppers	860	0.1	-	-
sters and winders	20,590	1.1	70	360
	5,150	0.3	-90	-470
atives, n.e.c.	19,070	1.1	-50	-240
king and inspecting	39,490	2.2	1,000	5,030
aminers and inspectors; manufacturing	19,790	1.1	530	2,670
orters, manufacturing	1,260	0.1	20	80
s, retail trade	880	0.1	30	140
wrappers, except meat and produce	16,710	0.9	410	2,070
ers and packers, except factory and farm	850	0.1	10	70
except Transport	169,380	9.5	2,310	11,580
ulation workers	660	.	20	110
	17,480	1.0	320	1,620

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Blasters and powdermen	80	•	-
Bottling and canning operatives	850	0.1	10
Chainmen, rodmen and axmen; surveying	350	•	10
Clothing ironers and pressers	5,910	0.3	-60
Cutting operatives, n.e.c.	5,480	0.3	110
Dressmakers and seamstresses, except factory	2,300	0.1	40
Drillers, earth	840	0.1	10
Drywall installers and lathers	1,700	0.1	90
Dyers	2,420	0.1	60
Filers, polishers; sanders and buffers	1,940	0.1	-10
Garage workers and gas station attendants	10,710	0.6	70
Laundry and dry cleaning operatives, n.e.c.	3,790	0.2	30
Meat cutters and butchers, except manufacturing	3,960	0.2	10
Meat cutters and butchers, manufacturing	2,420	0.1	40
Milliners	10	•	-
Mine operatives, n.e.c.	1,780	0.1	-30
Mixing operatives	2,100	0.1	40
Oilers and greasers, except auto	960	0.1	-
Painters, manufactured articles	2,340	0.1	10
Photographic process workers	1,040	0.1	30
Riveters and fasteners	540	•	-
Sailors and deckhands	200	•	-
Sawyers	4,140	0.2	90
Sewers and stitchers	51,110	2.9	920
Shoemaking machine operatives	790	•	-30
Stationary firemen	1,910	0.1	10
Winding operatives, n.e.c.	1,710	0.1	30
Miscellaneous machine operatives	22,390	1.3	390
Operatives, n.e.c.	17,470	1.0	100
Transport Equipment Operatives	75,470	4.2	1,550
Boatmen and canalmen	50	•	-
Bus drivers	6,530	0.4	260
Conductors and motormen, urban rail transit	70	•	-
Deliverymen and routemen	14,970	0.8	380
Fork lift and tow motor operatives	7,040	0.4	160
Motormen: mine, factory, logging, camp, etc.	60	•	-
Parking attendants	550	•	10

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
men	80	.	-	-
operatives	850	0.1	10	60
axmen; surveying	350	.	10	40
pressers	5,910	0.3	-60	-290
e.c.	5,480	0.3	110	550
stresses, except factory	2,300	0.1	40	170
	840	0.1	10	50
lathers	1,700	0.1	90	460
	2,420	0.1	60	310
ders and buffers	1,940	0.1	-10	-50
as station attendants	10,710	0.6	70	320
ning operatives, n.e.c.	3,790	0.2	30	150
hers, except manufacturing	3,960	0.2	10	60
hers, manufacturing	2,420	0.1	40	190
	10	.	-	-
	1,780	0.1	-30	-130
	2,100	0.1	40	190
except auto	960	0.1	-	10
d articles	2,340	0.1	10	50
workers	1,040	0.1	30	160
	540	.	-	10
	200	.	-	-
	4,140	0.2	90	460
	51,110	2.9	920	4,600
operatives	790	.	-30	-150
	1,910	0.1	10	50
e.c.	1,710	0.1	30	150
ic operatives	22,390	1.3	390	1,950
	17,470	1.0	100	480
eratives	75,470	4.2	1,550	7,770
n	50	.	-	-
	6,530	0.4	260	1,310
men, urban rail transit	50	.	-	10
emen	14,970	0.8	380	1,880
or operatives	7,040	0.4	160	800
ory, logging, camp, etc.	60	.	-	10
	550	.	10	30

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Railroad brakemen	840	0.1	10
Railroad switchmen	1,520	0.1	20
Taxicab drivers and chauffeurs	2,950	0.2	-10
Truck drivers	40,910	2.3	720
Service Workers	224,980	12.6	4,330
Cleaning Service Workers	45,440	2.5	1,360
Chambermaids and maids, except private household	7,980	0.4	310
Cleaners and charwomen	10,350	0.6	160
Janitors and sextons	27,110	1.5	890
Food Service Workers	54,120	3.0	1,180
Bartenders	1,280	0.1	30
Busboys	910	0.1	10
Cooks, except private household	22,620	1.3	470
Dishwashers	2,630	0.1	70
Food counter and fountain workers	2,320	0.1	-
Waiters	18,320	1.0	440
Food service workers, n.e.c., except private household	6,040	0.3	160
Health Service Workers	26,460	1.5	940
Dental assistants	1,800	0.1	90
Health aides, except nursing	2,810	0.2	160
Health trainees	300	.	-30
Lay midwives	10	.	-
Nursing aides, orderlies and attendants	15,770	0.9	450
Practical nurses	5,770	0.3	270
Personal Service Workers	29,520	1.6	800
Airline stewardesses	1,960	0.1	100
Attendants, recreation and amusement	990	0.1	30
Attendants, personal service, n.e.c.	770	.	10
Baggage porters and bellhops	470	.	-20
Barbers	3,910	0.2	30
Boarding and lodging housekeepers	110	.	-10
Bootblacks	70	.	-
Child care workers, except private household	4,030	0.2	140
Elevator operators	300	.	-20

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
men	840	0.1	10	50
men	1,520	0.1	20	120
and chauffeurs	2,950	0.2	-10	+50
	40,910	2.3	720	3,610
	224,980	12.6	4,330	21,620
Workers	45,440	2.5	1,360	6,820
and maids, except private household	7,980	0.4	310	1,560
barwomen	10,350	0.6	160	810
extons	27,110	1.5	890	4,450
ers	54,120	3.0	1,180	5,880
	1,280	0.1	30	150
	910	0.1	10	60
private household	22,620	1.3	470	2,360
	2,670	0.1	70	330
nd fountain workers	2,320	0.1	-	10
	18,320	1.0	440	2,200
orkers, n.e.c., except private household	6,040	0.3	160	770
orkers	26,460	1.5	940	4,670
ts	1,800	0.1	90	430
except nursing	2,810	0.2	160	800
	300	•	-30	-170
	10	•	-	-
orderlies and attendants	15,770	0.9	450	2,270
	5,770	0.3	270	1,340
orkers	29,520	1.6	800	4,010
esses	1,960	0.1	100	510
reation and amusement	990	0.1	30	150
sonal service, n.e.c.	770	•	10	40
and bellhops	470	•	-20	-70
	5,910	0.2	30	140
ding housekeepers	110	•	-10	-70
	70	•	-	-20
ers, except private household	4,030	0.2	140	710
ors	300	•	-20	-80

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TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Hairdressers and cosmetologists	19,090	0.7	390
Housekeepers, except private household	3,060	0.2	120
Personal service apprentices	40	.	.
School monitors	90	.	.
Ushers, recreation and amusement	120	.	.
Welfare service aides	510	.	30
Protective Service Workers	23,350	1.3	900
Crossing guards and bridge tenders	860	0.1	30
Firemen, fire protection	4,790	0.3	270
Guards and watchmen	7,610	0.4	110
Marshals and constables	180	.	10
Policemen and detectives	8,610	0.5	410
Sheriffs and bailiffs	1,300	0.1	70
Private Household Workers	46,090	2.6	-850
Child care workers	4,130	0.2	-70
Cooks, private household	1,800	0.1	-20
Housekeepers, private household	2,560	0.1	-40
Laundresses, private household	410	.	-20
Maids and servants, private household	37,190	2.1	-700
Laborers, except Farm	78,990	4.4	1,140
Animal caretakers, except Farm	1,320	0.1	30
Carpenters' Helpers	1,450	0.1	-30
Construction Laborers, except Carpenters' Helpers	16,900	0.9	360
Fishermen and Oystermen	310	.	.
Freight and Material Handlers	17,010	1.0	280
Garbage Collectors	3,600	0.2	190
Gardeners and Groundskeepers, except Farm	6,870	0.4	20
Longshoremen and Stevedores	780	.	20
Lumbermen, Raftsmen and Woodchoppers	5,200	0.3	-70
Stock Handlers	4,380	0.8	320
Teamsters	270	.	-20
Vehicle Washers and Equipment Cleaners	3,130	0.2	10
Warehousemen, n.e.c.	2,750	0.1	20
Other Laborers, except Farm	5,020	0.3	10

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number 2/	Percent of Total 3/	1976 2/	1980 2/
d cosmetologists	13,090	0.7	390	1,950
except private household	3,060	0.2	120	600
e apprentices	40	.	-	-10
	90	.	-	20
on and amusement	120	.	-	-10
aides	510	.	30	150
Workers	23,350	1.3	900	4,500
and bridge tenders	860	0.1	30	150
rection	4,790	0.3	270	1,340
hmen	7,610	0.4	110	550
nstables	180	.	10	40
etectives	8,610	0.5	410	2,070
iffs	1,300	0.1	70	350
Workers	46,090	2.6	-850	-4,260
ers	4,130	0.2	-70	-360
household	1,800	0.1	-20	-100
private household	2,560	0.1	-40	-200
private household	410	.	-20	-90
nts, private household	37,190	2.1	-700	-3,510
	78,990	4.4	1,140	5,666
except Farm	1,320	0.1	30	140
	1,450	0.1	-30	-160
ets, except Carpenters' Helpers	16,900	0.9	360	1,800
ermen	310	.	-	-
l-Handlers	17,010	1.0	280	1,390
	3,600	0.2	190	950
ndskeepers, except Farm	6,870	0.4	20	100
tevedores	780	.	20	100
en and Woodchoppers	5,200	0.3	-70	-350
	4,380	0.8	320	1,580
	270	.	-20	-80
d Equipment Cleaners	3,130	0.2	10	50
c.	2,750	0.1	20	90
cept Farm	5,020	0.3	10	50

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 1/

Occupational Title	Interpolated 1975 Employment		Change From 1976 2/
	Number 2/	Percent of Total 3/	
Formers and Farm Workers	48,310	2.7	-1,770
Farmers and Farm Managers	23,160	1.3	-780
Farmers (owners and tenants)	21,520	1.2	-840
Farm managers	1,640	0.1	60
Farm Laborers and Farm Foremen	25,150	1.4	-990
Farm foremen	690	.	-10
Farm laborers, wage workers	23,200	1.3	-940
Farm laborers, unpaid family workers	1,170	0.1	-40
Farm service laborers, self-employed	90	.	..

1/ Occupational employment levels for 1975 and the change from 1975 to 1976 and 1980 are the result of simple interpolations of the projected (1970-1980) labor market trend and should not be interpreted as representing cyclical fluctuations in the economy. (See Table 3 for 1970 and 1980 occupational employment levels.)

2/ Estimates were rounded to tens.

3/ Percents were computed from unrounded data and may not add to 100.0

"n.e.c." denotes "not elsewhere classified."

*Denotes "less than 0.05 percent."

" - " denotes "zero."

TABLE 4 - continued
 GEORGIA OCCUPATIONAL EMPLOYMENT INTERPOLATED TO 1975 AND
 CHANGE TO 1976 AND 1980 ^{1/}

	Interpolated 1975 Employment		Change From 1975 To: -	
	Number ^{2/}	Percent of Total ^{3/}	1976 ^{2/}	1980 ^{2/}
ers	48,310	2.7	-1,770	-8,810
managers	23,160	1.3	-780	-3,900
and tenants)	21,520	1.2	-840	-4,200
	1,640	0.1	60	300
arm Foremen	25,150	1.4	-990	-4,910
	690	•	-10	-40
ge workers	23,200	1.3	-940	-4,680
paid family workers	1,170	0.1	-40	-200
ers, self-employed	90	•	-	10

Employment levels for 1975 and the change from 1975 to 1976 and 1980 are the result of simple interpolations of the projected long-run market trend and should not be interpreted as representing cyclical fluctuations in the economy. (See Table 3 for 1970 and projected employment levels.)

rounded to tens.

Computed from unrounded data and may not add to 100.0

elsewhere classified."

5 percent.

TABLE 5
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Growth
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Total, All Occupations	1,827,910	100.0	104,950	100.0	5.7	39,990
Professional, Technical and Kindred Workers	241,480	13.2	15,680	14.9	6.5	7,000
Engineers, Technical	21,270	1.2	780	0.7	3.7	480
Aeronautical and astronautical	2,170	0.1	-10	•	0.4	-30
Chemical	600	•	20	•	3.2	10
Civil	4,480	0.3	200	0.2	4.4	120
Electrical and electronic	4,130	0.2	160	0.2	4.0	110
Industrial	3,700	0.2	140	0.1	3.7	90
Mechanical	1,930	0.1	70	0.1	3.5	40
Metallurgical and materials	220	•	10	•	4.5	10
Mining	10	•	•	•	•	•
Petroleum	30	•	•	•	•	•
Sales	1,370	0.1	70	0.1	5.0	50
Other engineers	2,630	0.1	120	0.1	4.5	80
Life and Physical Scientists	3,010	0.2	120	0.1	4.1	70
Agricultural	390	•	20	•	3.4	10
Atmospheric and space	110	•	•	•	3.6	•
Biological	740	•	40	•	4.8	20
Chemists	1,500	0.1	60	0.1	4.3	40
Geologists	90	•	•	•	3.3	•
Marine	60	•	•	•	3.5	•
Physicists and astronomers	80	•	•	•	1.2	•
Life and physical scientists, n.e.c.	40	•	•	•	•	•
Mathematical Specialists	590	•	30	•	5.6	10
Actuaries	120	•	•	•	3.3	•
Mathematicians	40	•	•	•	2.4	•
Statisticians	430	•	30	•	6.3	10
Engineering and Science Technicians	16,440	0.9	840	0.8	5.1	600
Agriculture and biological technicians, except health	930	0.1	60	0.1	6.3	40
Chemical technicians	950	0.1	40	•	4.3	20
Draftsmen	4,860	0.3	240	0.2	5.0	180
Electrical and electronic technicians	2,500	0.1	90	0.1	3.6	70
Industrial engineering technicians	500	•	10	•	1.0	•
Mathematical technicians	10	•	•	•	•	•

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TABLE 5
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of	Number 3	Percent of	Percent of	Growth 4	Labor Force
		Total 4		Total 4	Employment 4		Separations 3
	1,827,910	100.0	104,950	100.0	5.7	39,990	64,960
and Kindred Workers	241,480	13.2	15,680	14.9	6.5	7,000	8,680
	21,270	1.2	780	0.7	3.7	480	300
Aeronautical	2,170	0.1	-10	0.1	0.4	-30	20
	600	0.3	20	0.2	3.2	10	10
Electronic	4,480	0.3	200	0.2	4.4	120	80
	4,130	0.2	160	0.2	4.0	110	50
	3,700	0.2	140	0.1	3.7	90	50
	1,930	0.1	70	0.1	3.5	40	30
Materials	220	0.0	10	0.0	4.5	10	-
	10	0.0	-	0.0	0.0	-	-
	30	0.0	-	0.0	0.0	-	-
	1,370	0.1	70	0.1	5.0	50	20
	2,630	0.1	120	0.1	4.5	80	40
Scientists	3,010	0.2	120	0.1	4.1	70	50
	390	0.0	20	0.0	3.4	10	10
Space	110	0.0	-	0.0	3.6	-	-
	740	0.0	40	0.0	4.8	20	20
	1,500	0.1	60	0.1	4.3	40	20
	90	0.0	-	0.0	3.3	-	-
	60	0.0	-	0.0	3.5	-	-
Astronomers	80	0.0	-	0.0	1.2	-	-
Scientists, n.e.c.	40	0.0	-	0.0	0.0	-	-
Arts	590	0.0	30	0.0	5.6	10	20
	120	0.0	-	0.0	3.3	-	-
	40	0.0	-	0.0	2.4	-	-
	430	0.0	30	0.0	6.3	10	20
Aviation Technicians	16,440	0.9	840	0.8	5.1	600	240
Biological technicians, except health	930	0.1	60	0.1	6.3	40	20
Chemists	950	0.1	40	0.0	4.3	20	20
	4,860	0.3	240	0.2	5.0	180	60
Electronic technicians	2,500	0.1	90	0.1	3.6	70	20
Engineering technicians	500	0.0	10	0.0	1.0	-	10
Physicians	10	0.0	-	0.0	0.0	-	-

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Growth
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Mechanical engineering technicians	130	•	-	•	•	
Surveyors	1,950	0.1	80	0.1	4.2	6
Engineering and science technicians, n.e.c.	4,610	0.3	320	0.3	7.0	23
Medical and Health Workers, except Technicians	32,050	1.8	2,450	2.3	7.7	96
Chiropractors	330	•	20	•	6.6	2
Dentists	1,960	0.1	140	0.1	7.3	8
Dietitians	1,340	0.1	120	0.1	8.6	4
Optometrists	350	•	20	•	6.5	1
Pharmacists	2,610	0.1	130	0.1	5.0	5
Physicians, medical and osteopathic	5,540	0.3	300	0.3	5.3	16
Podiatrists	70	•	-	•	4.6	
Registered nurses	17,350	1.0	1,480	1.4	8.5	45
Therapists	1,460	0.1	140	0.1	9.5	7
Veterinarians	1,020	0.1	100	0.1	9.9	8
Other medical and health	20	•	-	•	8.1	
Health Technologists and Technicians	7,640	0.4	760	0.7	9.9	39
Clinical lab technologists and technicians	3,350	0.2	330	0.3	9.7	16
Dental hygienists	850	0.1	100	0.1	12.3	6
Health record technologists and technicians	420	•	60	0.1	13.4	3
Radiologic technologists and technicians	1,190	0.1	110	0.1	9.1	4
Therapy assistants	90	•	10	•	7.9	1
Other health technologists and technicians	1,740	0.1	150	0.1	8.6	9
Technicians, except Health, Engineering and Science	6,640	0.4	290	0.3	4.4	22
Airplane pilots	2,720	0.2	100	0.1	3.5	8
Air traffic controllers	1,160	0.1	20	•	2.3	
Embalmers	150	•	-	•	•	
Flight engineers	420	•	20	•	3.8	
Radio operators	790	•	50	0.1	6.4	
Tool programmers, numerical control	40	•	-	•	•	
Technicians, n.e.c.	1,360	0.1	100	0.1	7.3	
Computer Specialists	4,290	0.2	220	0.2	5.1	15
Computer programmers	2,810	0.2	140	0.1	4.9	
Computer systems analysts	1,240	0.1	70	0.1	5.4	
Computer specialists, n.e.c.	240	•	10	•	4.9	

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of	Number 3	Percent of	Percent of	Growth 4	Labor Force
		Total 4		Total 4	Employment 4		Separations 3
Engineering technicians	130	.	.	.	.	.	.
	1,950	0.1	80	0.1	4.2	60	20
Science technicians, n.e.c.	4,610	0.3	320	0.3	7.0	230	90
Workers, except Technicians	32,050	1.8	2,450	2.3	7.7	960	1,490
	330	.	20	.	6.6	20	.
	1,960	0.1	140	0.1	7.3	80	60
	1,340	0.1	120	0.1	8.6	40	80
	350	.	20	.	6.5	10	10
	2,610	0.1	130	0.1	5.0	50	80
Medical and osteopathic	5,540	0.3	300	0.3	5.3	160	140
	70	.	.	.	4.6	.	.
es	17,350	1.0	1,480	1.4	8.5	450	1,030
	1,460	0.1	140	0.1	9.5	70	70
	1,020	0.1	100	0.1	9.9	80	20
and health	20	.	.	.	8.1	.	.
ts and Technicians	7,640	0.4	760	0.7	9.9	390	370
anologists and technicians	3,350	0.2	330	0.3	9.7	160	170
s	850	0.1	100	0.1	12.3	60	40
chnologists and technicians	420	.	60	0.1	13.4	30	30
ologists and technicians	1,190	0.1	110	0.1	9.1	40	70
nts	90	.	10	.	7.9	10	.
hnologists and technicians	1,740	0.1	150	0.1	8.6	90	60
e Health, Engineering and Science	6,640	0.4	290	0.3	4.4	220	70
	2,720	0.2	100	0.1	3.5	80	20
ollers	1,160	0.1	20	.	2.3	10	10
	150	.	.	.	.	.	.
	420	.	20	.	3.8	20	.
	790	.	50	0.1	6.4	30	20
s, numerical control	40	.	.	.	.	.	.
.c.	1,360	0.1	100	0.1	7.3	80	20
s	4,290	0.2	220	0.2	5.1	130	90
ppers	2,810	0.2	140	0.1	4.9	80	60
s analysts	1,240	0.1	70	0.1	5.4	40	30
ists, n.e.c.	240	.	10	.	4.9	10	.

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Open Growth 4
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Social Scientists	2,130	0.1	150	0.1	6.9	110
Economists	1,270	0.1	80	0.1	5.9	60
Political scientists	20	.	.	.	.	.
Psychologists	350	.	30	.	8.3	20
Sociologists	50	.	.	.	4.3	.
Urban and regional planners	360	.	40	.	8.9	30
Social scientists, n.e.c.	80	.	.	.	7.2	.
Teachers	79,520	4.1	5,430	5.2	7.2	1,720
Adult education teachers	1,530	0.1	70	0.1	4.6	20
Agriculture teachers	130	.	.	.	3.8	.
Art, drama, music teachers	510	.	30	.	4.9	20
Atmospheric, earth, marine	100	.	.	.	5.2	.
Biology teachers	460	.	30	.	6.1	20
Business, commerce teachers	300	.	20	.	5.6	10
Chemistry teachers	270	.	.	.	1.9	.
Coaches, physical education	320	.	10	.	4.1	.
Economics teachers	240	.	10	.	3.8	10
Education teachers	100	.	.	.	2.0	.
Elementary school teachers	36,560	2.0	3,000	2.9	8.2	850
Engineering teachers	220	.	.	.	2.7	.
English teachers	660	.	30	.	4.4	10
Foreign language teachers	440	.	40	.	7.6	20
Health specialties teachers	880	0.1	80	0.1	8.7	50
History teachers	330	.	10	.	2.1	.
Home economics teachers	110	.	10	.	8.2	.
Law teachers	110	.	10	.	5.7	10
Mathematics teachers	620	.	40	.	6.3	20
Physics teachers	200	.	.	.	0.5	.
Preschool, kindergarten teachers	4,060	0.2	320	0.3	8.0	120
Psychology teachers	390	.	30	.	6.6	20
Secondary school teachers	19,240	1.1	1,160	1.1	6.0	300
Sociology teachers	190	.	20	.	8.9	10
Social Science teachers, n.e.c.	260	.	10	.	5.4	10
Miscellaneous college and university	430	.	30	.	6.5	20
College, university, n.e.c.	3,390	0.2	230	0.2	6.9	130
Theology teachers	90	.	10	.	6.9	10
Trade, industrial teachers	90	.	10	.	6.7	10
Teachers, n.e.c., except college, university	3,290	0.2	220	0.2	6.6	50

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	Growth 4	Labor Force Separations 3
sts	2,130	0.1	150	0.1	6.9	110	40
	1,270	0.1	80	0.1	5.9	60	20
	20	.	.	.	.	.	.
	350	.	30	.	8.3	20	10
	50	.	.	.	4.3	.	.
al planners	360	.	40	.	8.9	30	10
n.e.c.	80	.	.	.	7.2	.	.
	75,520	4.1	5,430	5.2	7.2	1,720	3,710
teachers	1,530	0.1	70	0.1	4.6	20	50
ers	130	.	.	.	3.8	.	.
teachers	510	.	30	.	4.9	20	10
h, marine	100	.	.	.	5.2	.	.
	460	.	30	.	6.1	20	10
ce teachers	300	.	20	.	5.6	10	10
rs	270	.	.	.	1.9	.	.
l education	320	.	10	.	4.1	.	10
rs	240	.	10	.	3.8	10	.
rs	100	.	.	.	2.0	.	.
l teachers	36,560	2.0	3,000	2.9	8.2	850	2,150
rs	220	.	.	.	2.7	.	.
	660	.	30	.	4.4	10	20
teachers	440	.	40	.	7.6	20	20
s teachers	880	0.1	80	0.1	8.7	50	30
	330	.	10	.	2.1	.	10
teachers	110	.	10	.	8.2	.	10
	110	.	10	.	7.7	10	.
rs	620	.	40	.	6.3	20	20
	200	.	.	.	0.5	.	.
garten teachers	4,060	0.2	320	0.3	8.0	120	200
rs	390	.	30	.	6.6	20	10
teachers	19,240	1.1	1,160	1.1	6.0	300	860
	190	.	20	.	8.9	10	10
chers, n.e.c.	260	.	10	.	5.4	10	.
llege and university	430	.	30	.	6.5	20	10
y, n.e.c.	3,390	0.2	230	0.2	6.9	130	100
	90	.	10	.	6.9	10	.
teachers	90	.	10	.	6.7	10	.
except college, university	3,290	0.2	220	0.2	6.6	50	170

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Growth
	Number 3	Percent of	Number 3	Percent of	Percent of	
		Total 4		Total 4	Employment 4	
Writers, Artists and Entertainers	13,330	0.7	790	0.8	5.9	39
Actors	70	.	.	.	2.7	
Athletes and kindred workers	1,130	0.1	70	0.1	5.9	4
Authors	220	.	10	.	4.0	
Dancers	110	.	10	.	9.7	
Designers	1,470	0.1	100	0.1	6.2	5
Editors and reporters	2,360	0.1	170	0.2	7.4	8
Musicians and composers	1,690	0.1	80	0.1	5.0	4
Printers and sculptors	1,760	0.1	110	0.1	6.0	4
Photographers	4,320	0.1	70	0.1	4.9	4
Public relations men and publicity writers	1,560	0.1	100	0.1	6.7	5
Radio and television announcers	700	.	10	.	2.0	1
Writers, artists, and entertainers, n.e.c.	940	0.1	60	0.1	6.5	4
Other Professional, Technical and Kindred Workers	58,570	3.2	3,820	3.6	6.5	1,92
Accountants	16,310	0.9	920	0.9	5.7	40
Architects	1,420	0.1	90	0.1	6.0	6
Archivists and curators	80	.	.	.	2.5	
Clergymen	6,870	0.4	400	0.4	5.8	19
Religious workers, except clergymen	870	0.1	70	0.1	7.9	2
Farm management advisors	270	.	.	.	.
Foresters and conservationists	2,210	0.1	100	0.1	4.4	6
Home management advisors	190	.	10	.	5.9	
Judges	280	.	20	.	6.7	
Lawyers	4,940	0.3	290	0.3	5.8	18
Librarians	3,250	0.2	280	0.3	8.6	10
Operations and systems researchers and analysts	1,690	0.1	90	0.1	5.3	
Personnel and labor relations workers	8,340	0.5	580	0.6	6.9	3
Research workers, n.e.c.	2,440	0.1	150	0.1	6.2	
Recreation workers	1,290	0.1	90	0.1	7.1	
Social workers	5,100	0.3	450	0.4	8.8	1
Vocational and educational counselors	3,020	0.2	280	0.3	9.3	1
Managers, Officials and Proprietors, except Farm	177,890	9.7	10,880	10.4	6.1	6,0
Buyers, Sales and Loan Managers	33,500	1.8	1,970	1.9	5.9	1,2
Bank and financial managers	10,110	0.6	660	0.6	6.6	4
Buyers and shippers, farm products	220	.	10	.	3.2	
Buyers, wholesale and retail trade	5,710	0.2	250	0.2	6.7	1

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	Growth 4	Labor Force Separations 3
Entertainers	13,330	0.7	790	0.8	5.9	390	400
	70				2.7		
Food workers	1,130	0.1	70	0.1	5.9	40	30
	220		10		4.0		10
	110		10		9.7		10
	1,470	0.1	100	0.1	6.2	50	50
Porters	2,360	0.1	170	0.2	7.4	80	90
Composers	1,690	0.1	80	0.1	5.0	40	40
Subtractors	1,760	0.1	110	0.1	6.0	40	70
	1,320	0.1	70	0.1	4.9	40	30
Men and publicity writers	1,560	0.1	100	0.1	6.7	50	50
Radio announcers	700		10		2.0	10	
and entertainers, n.e.c.	940	0.1	60	0.1	6.5	40	20
Technical and Kindred Workers	58,570	3.2	3,820	3.6	6.5	1,920	1,900
	16,310	0.9	920	0.9	5.7	400	520
	1,420	0.1	90	0.1	6.0	60	30
Curators	80				2.5		
	6,870	0.4	400	0.4	5.8	190	210
Teachers, except clergymen	870	0.1	70	0.1	7.9	20	50
Management advisors	270						
Conservationists	2,210	0.1	100	0.1	4.4	60	40
Management advisors	190		10		5.9		10
	280		20		6.7	10	10
	4,940	0.3	290	0.3	5.8	140	150
	3,250	0.2	280	0.3	8.6	100	180
Systems researchers and analysts	1,690	0.1	90	0.1	5.3	70	20
Labor relations workers	8,340	0.5	580	0.6	6.9	360	220
Teachers, n.e.c.	2,440	0.1	150	0.1	6.2	90	60
Teachers	1,290	0.1	90	0.1	7.1	50	40
	5,100	0.3	450	0.4	8.8	190	260
Educational counselors	3,020	0.2	280	0.3	9.3	180	100
Proprietors, except Farm	177,890	9.7	10,880	10.4	6.1	6,040	4,840
Loan Managers	33,500	1.8	1,970	1.9	5.9	1,250	720
Real estate managers	10,110	0.6	660	0.6	6.6	450	210
Managers, farm products	220		10		3.2		10
Wholesale and retail trade	3,710	0.2	250	0.2	6.7	130	120

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Growth 4
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Creditmen	1,870	0.1	100	0.1	5.5	50
Purchasing agents and buyers, n.e.c.	3,420	0.2	170	0.2	4.8	90
Sales managers and department heads, retail trade	5,640	0.3	340	0.3	6.1	220
Sales managers, except retail trade	8,530	0.5	440	0.4	5.2	310
Administrators and Inspectors; public administration	17,710	1.0	1,040	1.0	5.9	470
Assessors, controllers and treasurers; local public administration	650	•	60	0.1	8.7	30
Construction inspectors; public administration	470	•	30	•	6.6	20
Health administrators	1,990	0.1	150	0.1	7.7	90
Inspectors, except construction; public administration	2,400	0.1	140	0.1	5.6	70
Officials and administrators; public admn., n.e.c.	6,280	0.3	260	0.3	4.2	70
Postmasters and mail superintendents	540	•	20	•	4.1	-10
School administrators, college	1,050	0.1	90	0.1	8.8	50
School administrators, elementary and secondary	4,330	0.2	290	0.3	6.6	150
Other Managers, Officials and Proprietors	126,680	6.9	7,870	7.5	6.2	4,320
Funeral directors	1,110	0.1	70	0.1	5.9	30
Managers and superintendents, building	1,880	0.1	160	0.2	8.4	60
Office managers, n.e.c.	6,670	0.4	490	0.5	7.4	300
Officers, pilots and pursers; ship	230	•	10	•	3.8	•
Officials of lodges, societies and unions	1,020	0.1	60	0.1	5.4	30
Railroads conductors	1,010	0.1	50	0.1	4.8	20
Restaurant, cafeteria and bar managers	8,250	0.5	500	0.5	6.1	1,220
Other managers and administrators	106,510	5.8	6,530	6.2	6.1	3,660
Sales Workers	135,910	7.4	8,470	8.1	6.2	3,630
Advertising Agents and Salesmen	1,350	0.1	90	0.1	6.5	50
Auctioneers	80	•	•	•	3.8	•
Demonstrators	900	0.1	70	0.1	7.2	20
Hucksters and Peddlers	2,500	0.1	200	0.2	8.1	70
Insurance Agents, Brokers and Underwriters	14,590	0.8	640	0.6	4.4	320
Newsboys	990	0.1	30	•	2.8	•
Real Estate Agents and Brokers	5,990	0.3	330	0.3	5.5	110
Stock and Bond Salesmen	2,000	0.1	150	0.1	7.4	100
Sales Representatives, manufacturing industries	12,220	0.7	590	0.6	4.8	360
Sales Representatives, wholesale trade	19,840	1.1	1,060	1.0	5.4	680
Sales Clerks, retail trade	57,140	3.1	4,370	4.2	7.7	1,460
Salesmen, retail trade	12,350	0.7	570	0.5	4.6	270
Salesmen of Services and Construction	5,960	0.3	370	0.4	6.2	190

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Percent of		Number 3	Percent of		Labor Force	
	Number 3	Total 4		Total 4	Employment 4	Growth 4	Separations 3
Agents and buyers, n.e.c.	1,870	0.1	100	0.1	5.5	50	50
Managers and department heads, retail trade	3,420	0.2	170	0.2	4.8	90	80
Managers, except retail trade	5,640	0.3	340	0.3	6.1	220	120
Inspectors and Inspectors; public administration	8,530	0.5	440	0.4	5.2	310	130
Controllers and treasurers; public administration	17,710	1.0	1,040	1.0	5.9	470	570
Administrators	650	0.0	60	0.1	8.7	30	30
Inspectors; public administration	470	0.0	30	0.0	6.6	20	10
Administrators	1,990	0.1	150	0.1	7.7	90	60
Administrators, except construction; public administration	2,400	0.1	140	0.1	5.6	70	70
Administrators; public admn., n.e.c.	6,280	0.3	260	0.3	4.2	70	190
Post office and mail superintendents	540	0.0	0	0.0	4.1	-10	30
Administrators, college	1,050	0.1	90	0.1	8.8	50	40
Administrators, elementary and secondary	4,330	0.2	290	0.3	6.6	150	140
Officials and Proprietors	126,680	6.9	7,870	7.5	6.2	4,320	3,550
Managers	1,110	0.1	70	0.1	5.9	30	40
Managers, building	1,880	0.1	160	0.2	8.4	60	100
Managers, n.e.c.	6,670	0.4	490	0.5	7.4	300	190
Boats and purser; ship	230	0.0	10	0.0	3.8	-	10
Managers, societies and unions	1,020	0.1	60	0.1	5.4	30	30
Managers	1,010	0.1	50	0.1	4.8	20	30
Managers, cafeteria and bar managers	8,250	0.5	500	0.5	6.1	220	280
Managers and administrators	106,510	5.8	6,530	6.2	6.1	3,660	2,870
Managers and Salesmen	135,910	7.4	8,470	8.1	6.2	3,630	4,840
Managers	1,350	0.1	90	0.1	6.5	50	40
Managers	80	0.0	-	0.0	3.8	-	-
Managers	900	0.1	70	0.1	7.2	-20	50
Managers	2,500	0.1	200	0.2	8.1	70	130
Managers, Brokers and Underwriters	-14,590	0.8	640	0.6	4.4	320	320
Managers	990	0.1	30	0.0	2.8	-	30
Managers and Brokers	5,990	0.3	330	0.3	5.5	110	220
Salesmen	2,000	0.1	150	0.1	7.4	100	50
Managers, manufacturing industries	12,220	0.7	590	0.6	4.8	360	230
Managers, wholesale trade	19,840	1.1	1,060	1.0	5.4	680	380
Managers, retail trade	57,140	3.1	4,370	4.2	7.7	1,460	2,910
Managers, trade	12,350	0.7	570	0.5	4.6	270	300
Managers, Services and Construction	5,960	0.3	370	0.4	6.2	190	180

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Growth 3
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Clerical and Kindred Workers	298,150	16.3	23,640	22.5	7.9	8,070
Stenographers, Typists and Secretaries	92,010	5.0	9,140	8.7	9.9	3,070
Secretaries, legal	1,400	0.1	140	0.1	10.0	60
Secretaries, medical	1,470	0.1	170	0.2	11.4	70
Secretaries, other	67,660	3.7	6,860	6.5	10.2	2,510
Stenographers	2,140	0.1	90	0.1	4.1	-70
Typists	19,340	1.1	1,880	1.8	9.7	500
Office Machine Operators	10,680	0.6	660	0.6	6.2	110
Bookkeeping and billing machine	1,140	0.1	100	0.1	9.0	30
Calculating machine	540	•	30	•	6.1	-
Computer and peripheral equipment	2,760	0.2	190	0.2	6.7	120
Duplicating machine	310	•	20	•	6.7	10
Keypunch	5,210	0.3	260	0.3	5.0	-80
Tabulating machine	70	•	•	•	2.8	-
Other office machine operators	650	•	60	0.1	8.4	30
Other Clerical Workers	195,460	10.7	13,840	13.2	7.1	4,890
Bank tellers	6,010	0.3	590	0.6	9.8	230
Billing clerks	3,220	0.2	330	0.3	10.1	150
Bookkeepers	37,170	2.0	2,820	2.7	7.6	820
Cashiers	20,860	1.1	1,770	1.7	8.5	570
Clerical assistants, social welfare	40	•	•	•	10.1	-
Clerical supervisors, n.e.c.	3,360	0.2	180	0.2	5.4	80
Collectors, bill and account	1,880	0.1	130	0.1	6.8	70
Counter clerks, except food	6,920	0.4	620	0.6	9.0	270
Dispatchers and starters, vehicle	1,370	0.1	80	0.1	5.7	40
Enumerators and interviewers	1,770	0.1	60	0.1	3.4	-30
Estimators and investigators, n.e.c.	6,410	0.4	460	0.4	7.2	210
Expeditors and production controllers	4,090	0.2	150	0.1	3.7	60
File clerks	7,120	0.4	560	0.5	7.9	120
Insurance adjusters, examiners and investigators	1,900	0.1	100	0.1	5.3	50
Library attendants and assistants	2,430	0.1	220	0.2	8.9	70
Mail carriers, post office	4,990	0.3	100	0.1	2.0	20
Mail handlers, except post office	2,980	0.2	200	0.2	6.6	90
Messengers and office boys	500	•	10	•	2.6	-
Meter readers, utilities	990	0.1	30	•	3.1	20
Payroll and timekeeping clerks	4,050	0.2	310	0.3	7.8	120

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of	Number 3	Percent of	Percent of	Growth 4	Labor Force
		Total 4		Total 4	Employment 4		Separations 3
Workers	298,150	16.3	23,640	22.5	7.9	8,070	15,570
Administrative and Secretaries	92,010	5.0	9,140	8.7	9.9	3,070	6,070
Accounting	1,400	0.1	140	0.1	10.0	60	80
General	1,470	0.1	170	0.2	11.4	70	100
Professional	67,660	3.7	6,860	6.5	10.2	2,510	4,350
Technical	2,140	0.1	90	0.1	4.1	-70	160
Other	19,340	1.1	1,880	1.8	9.7	500	1,380
Manufacturing	10,680	0.6	660	0.6	6.2	110	550
Accounting machine	1,140	0.1	100	0.1	9.0	30	70
Electrical	540	•	30	•	6.1	-	30
Other peripheral equipment	2,760	0.2	190	0.2	6.7	120	70
Other	310	•	20	•	6.7	10	10
Other	5,210	0.3	260	0.3	5.0	-80	340
Other	70	•	-	•	2.8	-	-
Other	650	•	60	0.1	8.4	30	30
Other	195,460	10.7	13,840	13.2	7.1	4,890	8,950
Other	6,010	0.3	590	0.6	9.8	230	360
Other	3,220	0.2	330	0.3	10.1	150	180
Other	37,170	2.0	2,820	2.7	7.6	820	2,000
Other	20,860	1.1	1,770	1.7	8.5	570	1,200
Other	40	•	-	•	10.1	-	-
Other, social welfare	3,360	0.2	180	0.2	5.4	80	100
Other, n.e.c.	1,880	0.1	130	0.1	6.8	70	60
Other, account	6,920	0.4	620	0.6	9.0	270	350
Other, except food	1,370	0.1	80	0.1	5.7	40	40
Other, bartenders, vehicle	1,770	0.1	60	0.1	3.4	-30	90
Other, interviewers	6,410	0.4	460	0.4	7.2	210	250
Other, investigators, n/e.c.	4,090	0.2	150	0.1	3.7	60	90
Other, production controllers	7,120	0.4	560	0.5	7.9	120	440
Other, examiners and investigators	1,900	0.1	100	0.1	5.3	50	50
Other, and assistants	2,430	0.1	220	0.2	8.9	70	150
Other, office	4,990	0.3	100	0.1	2.0	20	80
Other, except post office	2,980	0.2	200	0.2	6.6	90	110
Other, office boys	500	•	10	•	2.6	-	10
Other, utilities	990	0.1	30	•	3.1	20	10
Other, typing clerks	4,050	0.2	310	0.3	7.8	120	190

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Totl. Job Openings, 1976 2			Growth
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Postal clerks	5,330	0.3	150	0.1	2.8	-
Proofreaders	530	•	50	0.1	9.3	20
Real estate appraisers	490	•	30	•	6.3	20
Receptionists	6,110	0.3	600	0.6	9.8	170
Shipping and receiving clerks	13,860	0.8	570	0.5	4.1	300
Statistical clerks	5,370	0.3	380	0.4	7.0	100
Stock clerks and storekeepers	13,780	0.8	630	0.6	4.5	300
Teacher aides, except school monitors	3,380	0.2	410	0.4	12.1	230
Telegraph messengers	10	•	-	•	-7.3	-
Telegraph operators	230	•	10	•	3.4	-
Telephone operators	9,780	0.5	860	0.8	8.8	140
Ticket, station and express agents	3,990	0.2	220	0.2	5.6	100
Weighers	1,350	0.1	50	0.1	3.7	10
Miscellaneous clerical workers, n.e.c.	13,190	0.7	1,160	1.1	8.8	540
Craftsmen, Foremen and Kindred Workers	263,150	14.4	10,900	10.4	4.1	6,240
Construction Craftsmen	86,380	4.7	4,240	4.0	4.9	2,640
Brickmasons and stonemasons	7,790	0.4	370	0.4	4.8	260
Brickmason and stonemason apprentices	90	•	-	•	2.3	-
Bulldozer operators	4,040	0.2	170	0.2	4.3	110
Carpenters	27,040	1.5	1,430	1.4	5.3	760
Carpenter apprentices	130	•	10	•	3.8	10
Cement and concrete finishers	2,400	0.1	160	0.2	6.4	120
Electricians	12,650	0.7	600	0.6	4.7	440
Electrician apprentices	420	•	20	•	4.1	20
Excavating, grading and road machine operators, except bulldozer	6,350	0.4	300	0.3	4.7	190
Floor layers, except tile setters	890	0.1	40	•	5.3	30
Painters, construction and maintenance	9,300	0.5	350	0.3	3.7	130
Painter apprentices	30	•	-	•	•	-
Paperhangers	290	•	20	•	6.5	10
Plasterers	370	•	10	•	3.5	10
Plasterer apprentices	-	•	-	•	•	-
Plumbers and pipefitters	8,970	0.5	470	0.4	5.2	320
Plumber and pipefitter apprentices	310	•	10	•	4.2	10
Roofers and slaters	2,440	0.1	150	0.1	6.1	120
Structural metal craftsmen	1,660	0.1	90	0.1	5.5	70
Tile setters	1,210	0.1	40	•	3.4	30

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of	Number 3	Percent of	Percent of	Growth 4	Labor Force
		Total 4		Total 4	Employment 4		Separations 3
	5,320	0.3	150	0.1	2.8	-	150
	530	.	50	0.1	9.3	20	30
raisers	490	.	30	.	6.3	20	10
ceiving clerks	6,110	0.3	600	0.6	9.8	170	430
	13,860	0.8	570	0.5	4.1	300	270
	5,370	0.3	380	0.4	7.0	100	280
storekeepers	13,780	0.8	630	0.6	4.5	300	330
except school monitors	3,380	0.2	410	0.4	12.1	230	180
engers	10	.	-	.	-7.3	-	-
tors	230	.	10	.	3.4	-	10
tors	9,780	0.5	860	0.8	8.8	140	720
and express agents	3,990	0.2	220	0.2	5.6	100	120
	1,350	0.1	50	0.1	3.7	10	40
erical workers, n.e.c.	13,190	0.7	1,160	1.1	8.8	540	620
nd Kindred Workers	263,150	14.4	10,900	10.4	4.1	6,240	4,660
men	86,380	4.7	4,240	4.0	4.9	2,640	1,600
stonemasons	7,790	0.4	370	0.4	4.8	260	110
stonemason apprentices	90	.	-	.	2.3	-	-
ors	4,040	0.2	170	0.2	4.3	110	60
	27,040	1.5	1,430	1.4	5.3	760	670
ntices	130	.	10	.	3.8	10	-
rete finishers	2,400	0.1	160	0.2	6.4	120	40
	12,650	0.7	600	0.6	4.7	440	160
ntices	420	.	20	.	4.1	20	-
ing and road machine operators,							
izer	6,350	0.4	300	0.3	4.7	190	110
Sept tile setters	890	0.1	40	.	5.3	30	10
ction and maintenance	9,300	0.5	350	0.3	3.7	130	220
es	30	.	-	.	.	-	-
	290	.	20	.	6.5	10	10
	370	.	10	.	3.5	10	-
ices	-	.	-	.	.	-	-
efitters	8,970	0.5	470	0.4	5.2	320	150
fitter apprentices	310	.	10	.	4.2	10	-
ers	2,440	0.1	150	0.1	6.1	120	30
craftsmen	1,660	0.1	90	0.1	5.5	70	20
	1,210	0.1	40	.	3.4	30	10

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1'		Total Job Openings, 1976 2'			Open Growth 4'
	Number 3'	Percent of Total 4'	Number 3'	Percent of Total 4'	Percent of Employment 4'	
Foremen, n.e.c.	43,400	2.4	1,790	1.7	4.1	940
Metalworking Craftsmen, except mechanics	15,270	0.8	540	0.5	3.5	290
Blacksmiths	160	•	10	•	4.5	-
Boilermakers	810	•	40	•	5.0	30
Heat treaters, annealers and temperers	60	•	-	•	3.3	-
Forgemen and hammermen	140	•	10	•	3.6	-
Job and die setters, metal	320	•	10	•	4.3	10
Machinists	6,560	0.4	250	0.2	3.8	130
Machinist apprentices	100	•	-	•	•	-
Millwrights	880	0.1	30	•	3.7	20
Molders, metal	600	•	20	•	3.6	10
Molder apprentices	10	•	-	•	•	-
Pattern and model makers, except paper	330	•	10	•	2.7	-
Rollers and finishers, metal	220	•	10	•	5.0	10
Sheetmetal workers and tinsmiths	3,340	0.2	90	0.1	2.6	50
Sheetmetal worker apprentices	140	•	10	•	4.4	10
Tool and die makers	1,560	0.1	50	•	3.0	20
Tool and die maker apprentices	40	•	-	•	5.1	-
Mechanics, Repairmen and Installers	72,190	4.0	2,450	2.3	3.4	1,400
Air conditioning, heating and refrigeration	5,090	0.3	330	0.3	6.5	280
Aircraft	8,210	0.5	250	0.2	3.1	150
Automobile accessories installers	230	•	-	•	•	-
Automobile body repairmen	2,460	0.1	20	•	0.7	-
Automobile mechanics	21,570	1.2	490	0.5	2.3	190
Automobile mechanic apprentices	50	•	-	•	•	-
Data processing machine repairmen	910	0.1	50	0.1	6.0	50
Farm implement	550	•	20	•	3.2	10
Heavy equipment mechanics, including diesel	17,450	1.0	770	0.7	4.4	470
Household appliance mechanics	3,740	0.2	170	0.2	4.6	120
Loom fixers	2,250	0.1	50	0.1	2.1	-
Office machine repairmen	960	0.1	30	•	3.3	20
Radio and television repairmen	3,640	0.2	90	0.1	2.4	30
Railroad and car shop repairmen	1,240	0.1	50	•	3.5	20
Mechanic, except automobile, apprentices	180	•	10	•	4.9	10
Other mechanics and repairmen	3,660	0.2	120	0.1	3.3	50

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment, 1'		Total Job Openings, 1976 2'			Openings Due To: -	
	Number 3'	Percent of Total 4'	Number 3'	Percent of Total 4'	Percent of Employment 4'	Growth 4'	Separations 3'
men, except mechanics	43,400	2.4	1,790	1.7	4.1	940	850
	15,270	0.8	540	0.5	3.5	290	250
	160	.	10	.	4.5	.	10
	810	.	40	.	5.0	30	10
nealers and temperers	60	.	.	.	3.3	.	.
mmermen	140	.	10	.	3.6	.	10
ers, metal	320	.	10	.	4.3	10	.
	6,560	0.4	250	0.2	3.8	130	120
tics	100	.	.	.	.	.	.
	880	0.1	30	.	3.7	20	10
	600	.	20	.	3.6	10	10
es	10	.	.	.	.	.	.
el makers, except paper	330	.	10	.	2.7	.	10
hers, metal	220	.	10	.	5.0	10	.
rs and tinsmiths	3,340	0.2	90	0.1	2.7	50	40
r apprentices	140	.	10	.	4.4	10	.
ers	1,560	0.1	50	.	3.0	20	30
er apprentices	40	.	.	.	5.1	.	.
en and Installers	72,190	4.0	2,450	2.3	3.4	1,400	1,050
heating and refrigeration	5,090	0.3	330	0.3	6.5	280	50
	8,210	0.5	250	0.2	3.1	150	100
sories installers	230	.	.	.	.	.	.
rcpairmen	2,460	0.1	20	.	0.7	.	20
anics	21,570	1.2	490	0.5	2.3	190	300
anic apprentices	50	.	.	.	.	.	.
nachine repairmen	910	0.1	50	0.1	6.0	50	.
	550	.	20	.	3.2	10	10
mechanics, including diesel	17,450	1.0	770	0.7	4.4	470	300
nce mechanics	3,740	0.2	170	0.2	4.6	120	50
	2,250	0.1	50	0.1	2.1	.	50
pairmen	960	0.1	30	.	3.3	20	10
ion repairmen	3,640	0.2	90	0.1	2.4	30	60
shop repairmen	1,240	0.1	50	.	3.5	20	30
utomobile, apprentices	180	.	10	.	4.9	10	.
and repairmen	3,660	0.2	120	0.1	3.3	50	70

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Growth
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Printing Trade Craftsmen	7,440	0.4	300	0.3	4.1	150
Bookbinders	530	•	30	•	6.4	10
Compositors and typesetters	3,050	0.2	110	0.1	3.7	50
Electrotypers and stereotypers	70	•	-	•	1.5	-
Engravers, except photoengravers	170	•	10	•	3.0	-
Photoengravers and lithographers	520	•	30	•	5.2	20
Pressmen and plate printers	2,940	0.2	120	0.1	4.1	70
Pressmen apprentices	110	•	-	•	3.6	-
Printing trade apprentices, except pressman	50	•	-	•	1.9	-
Transportation and Public Utility Craftsmen	13,140	0.7	490	0.5	3.8	350
Electric power linemen and cablemen	2,750	0.2	90	0.1	3.4	70
Locomotive engineers	1,250	0.1	70	0.1	5.7	30
Locomotive firemen	130	•	-	•	2.3	-
Power station operators	350	•	10	•	1.7	-
Telephone installers and repairmen	7,220	0.4	290	0.3	4.1	230
Telephone linemen and splicers	1,440	0.1	30	•	2.0	20
Other Craftsmen and Kindred Workers	25,330	1.4	1,090	1.0	4.2	470
Bakers	1,740	0.1	70	0.1	3.8	20
Cabinetmakers	2,170	0.1	70	0.1	3.2	30
Carpet installers	1,390	0.1	50	0.1	3.8	40
Cranemen, derrickmen and hoistmen	2,760	0.2	120	0.1	4.2	90
Decorators and window dressers	1,850	0.1	110	0.1	6.2	30
Dental laboratory technicians	490	•	20	•	3.5	10
Furniture and wood finishers	430	•	10	•	3.3	-
Furriers	10	•	-	•	•	-
Glaziers	810	•	40	•	4.6	30
Inspectors, scalers and graders; log and lumber	600	•	30	•	4.4	10
Inspectors, n.e.c.	2,230	0.1	120	0.1	5.4	60
Jewelers and watchmakers	730	•	40	•	4.9	10
Millers; grain, flour and feed	180	•	10	•	5.0	-
Motion picture projectionists	280	•	-	•	0.7	-
Opticians and lens grinders and polishers	450	•	40	•	7.8	20
Piano and organ tuners and repairmen	150	•	10	•	3.3	-
Shipfitters	30	•	-	•	3.3	-
Shoe repairmen	580	•	20	•	3.7	-
Sign painters and letterers	390	•	20	•	4.1	-

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of	Number 3	Percent of	Percent of	Growth 4	Labor Force Separations 3
		Total 4		Total 4			
Printers	7,440	0.4	300	0.3	4.1	150	150
Setters	530	•	30	•	6.4	10	20
and typesetters	3,050	0.2	110	0.1	3.7	50	60
and stereotypers	70	•	-	•	1.5	-	-
except photoengravers	170	•	10	•	3.0	-	10
and lithographers	520	•	30	•	5.2	20	10
plate printers	2,940	0.2	120	0.1	4.1	70	50
apprentices	110	•	-	•	3.6	-	-
apprentices, except pressman	50	•	-	•	1.9	-	-
Public Utility Craftsmen	13,140	0.7	490	0.5	3.8	350	140
linemen and cablemen	2,750	0.2	90	0.1	3.4	70	20
linemen	1,250	0.1	70	0.1	5.7	30	40
men	130	•	-	•	2.3	-	-
operators	350	•	10	•	1.7	-	10
towers and repairmen	7,220	0.4	290	0.3	4.1	230	60
men and splicers	1,440	0.1	30	•	2.0	20	10
Other Kindred Workers	25,330	1.4	1,090	1.0	4.2	470	620
carpenters	1,740	0.1	70	0.1	3.8	20	50
carpenters and joiners	2,170	0.1	70	0.1	3.2	30	40
carpenters and joiners	1,390	0.1	50	0.1	3.8	40	10
carpenters and hoistmen	2,760	0.2	120	0.1	4.2	90	30
window dressers	1,850	0.1	110	0.1	6.2	30	80
carpentry technicians	490	•	20	•	3.5	10	10
wood finishers	430	•	10	•	3.3	-	10
carpenters	10	•	-	•	•	-	-
carpenters and graders; log and lumber	810	•	40	•	4.6	30	10
carpenters	600	•	30	•	4.4	10	20
carpenters	2,230	0.1	120	0.1	5.4	60	60
carpenters	730	•	40	•	4.9	10	30
carpenters and feed	180	•	10	•	5.0	-	10
carpenters and projectionists	280	•	-	•	0.7	-	-
carpenters and grinders and polishers	450	•	40	•	7.8	20	20
carpenters and repairmen	150	•	10	•	3.3	-	10
carpenters	30	•	-	•	3.3	-	-
carpenters	580	•	20	•	3.7	-	20
carpenters and letterers	390	•	20	•	4.1	-	20

TABLE 5 - continued
 GEORGIA-1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Growth
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Stationary engineers	2,640	0.1	100	0.1	3.8	40
Stone cutters and stone carvers	470	•	10	•	2.4	-
Tailors	1,750	0.1	80	0.1	4.6	20
Upholsterers	1,680	0.1	70	0.1	4.1	30
Craftsmen and kindred workers, n.e.c.	1,310	0.1	40	•	3.4	20
Craftsmen apprentices, n.e.c.	210	•	10	•	2.9	10
Operatives and Kindred Workers	355,350	19.4	16,240	15.5	4.6	5,310
Operatives, except Transport	278,330	5.2	13,450	12.8	4.8	3,760
Semiskilled metalworking	18,540	1.0	840	0.8	4.5	590
Drill press operatives	900	•	10	•	2.4	-
Furnacemen, smeltermen and pourers	640	•	30	•	5.2	20
Grinding machine operatives	780	•	30	•	4.0	10
Heaters, metal	40	•	-	•	5.1	-
Lathe and milling machine operatives	840	0.1	20	•	2.3	10
Metal platers	290	•	20	•	5.1	10
Precision machine operatives, n.e.c.	640	•	30	•	3.9	10
Punch and stamping press operatives	1,550	0.1	60	0.1	4.0	40
Solderers	70	•	-	•	2.8	-
Welders and flame cutters	13,190	0.7	640	0.6	4.9	490
Semiskilled textile	47,610	2.6	1,620	1.5	3.4	-140
Carding, lapping and combing operatives	2,010	0.1	10	•	0.4	-70
Knitters, loopers and toppers	860	0.1	40	•	4.6	-
Spinners, twistors and winders	20,660	1.1	890	0.9	4.3	70
Weavers	5,060	0.3	110	0.1	2.2	-90
Textile operatives, n.e.c.	19,020	1.0	590	0.6	3.1	-50
Semiskilled packing and inspecting	40,490	2.2	2,590	2.5	6.4	1,000
Checkers, examiners and inspectors; manufacturing	20,320	1.1	1,320	1.3	6.5	530
Graders and sorters, manufacturing	1,280	0.1	80	0.1	5.8	20
Meat wrappers, retail trade	910	0.1	70	0.1	7.3	30
Packets and wrappers, except meat and produce	17,120	0.9	1,070	1.0	6.3	410
Produce graders and packers, except factory & farm	860	0.1	50	0.1	6.4	10
Other Operatives, except Transport	171,690	9.4	8,400	8.0	4.9	2,310
Asbestos and insulation workers	680	•	30	•	4.0	20
Assemblers	17,800	1.0	670	0.6	3.8	320

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of	Number 3	Percent of	Percent of	Growth 4	Labor Force
		Total 4		Total 4	Employment 4		Separations 3
ers	2,640	0.1	100	0.1	3.8	40	60
stone carvers	470	•	10	•	2.4	-	10
	1,750	0.1	80	0.1	4.6	20	60
	1,680	0.1	70	0.1	4.1	30	40
ndred workers, n.e.c.	1,310	0.1	40	•	3.4	20	20
ntices, n.e.c.	210	•	10	••	2.9	10	-
Workers	355,350	19.4	16,240	15.5	4.6	5,310	10,930
Transport	278,330	5.2	13,450	12.8	4.8	3,760	9,690
Working	18,540	1.0	840	0.8	4.5	590	250
eratives	500	•	10	••	2.4	-	10
smeltermen and pourers	640	•	30	•	5.2	20	10
line operatives	780	•	30	•	4.0	10	20
	40	•	-	•	5.1	-	-
ling machine operatives	840	0.1	20	•	2.3	10	10
	290	•	20	•	5.1	10	10
hine operatives, n.e.c.	640	•	30	•	3.9	10	20
mping press operatives	1,550	0.1	60	0.1	4.0	40	20
	70	•	-	•	2.8	-	-
ame cutters	13,190	0.7	640	0.6	4.9	490	150
e	47,610	2.6	1,620	1.5	3.4	-140	1,760
ng and combing operatives	2,010	0.1	-10	•	0.4	-70	60
ers and toppers	860	0.1	40	•	4.6	-	40
ters and winders	20,660	1.1	890	0.9	4.3	70	820
	5,060	0.3	110	0.1	2.2	-90	200
ves, n.e.c.	19,020	1.0	590	0.6	3.1	-50	640
ng and inspecting	40,490	2.2	2,590	2.5	6.4	1,000	1,590
ainers and inspectors; manufacturing	20,320	1.1	1,320	1.3	6.5	530	790
rters, manufacturing	1,280	0.1	80	0.1	5.8	20	60
etail trade	910	0.1	70	0.1	7.3	30	40
rappers, except meat and produce	17,120	0.9	1,070	1.0	6.3	410	660
s and packers, except factory & farm	860	0.1	50	0.1	6.4	10	40
cept Transport	171,690	9.4	8,400	8.0	4.9	2,310	6,090
lation workers	680	•	30	•	4.0	20	10
	17,800	1.0	670	0.6	3.8	320	350

TABLE 5 - Continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Growth 4
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Blasters and powdermen	80	•	•	•	3.8	•
Bottling and canning operatives	860	0.1	30	•	3.4	10
Chainmen, rodmen and axmen, surveying	360	•	20	•	4.8	10
Clothing ironers and pressers	5,850	0.3	220	0.2	3.8	-60
Cutting operatives, n.e.c.	5,590	0.3	270	0.3	4.9	110
Dressmakers and seamstresses, except factory	2,340	0.1	220	0.2	9.2	40
Drillers, earth	850	0.1	20	•	3.0	10
Drywall installers and lathers	1,790	0.1	100	0.1	5.6	90
Dyers	2,480	0.1	100	0.1	4.0	60
Filers, polishers, sanders and buffers	1,930	0.1	30	•	1.8	-10
Garage workers and gas station attendants	10,780	0.6	280	0.3	2.6	70
Laundry and dry cleaning operatives, n.e.c.	3,820	0.2	220	0.2	5.7	30
Meat cutters and butchers, except manufacturing	3,970	0.2	90	0.1	2.2	10
Meat cutters and butchers, manufacturing	2,460	0.1	140	0.1	5.7	40
Milliners	10	•	•	•	•	•
Mine operatives, n.e.c.	1,750	0.1	•	•	0.2	-30
Mixing operatives	2,140	0.1	70	0.1	3.1	40
Oilers and greasers, except auto	960	0.1	20	•	2.7	•
Painters, manufactured articles	2,350	0.1	50	0.1	2.2	10
Photographic process workers	1,070	0.1	70	0.1	6.4	30
Riveters and fasteners	540	•	10	•	2.2	•
Sailors and deckhands	200	•	•	•	1.0	•
Sawyers	4,230	0.2	180	0.2	4.3	90
Sewers and stitchers	52,030	2.9	3,820	3.6	7.3	920
Shoemaking machine operatives	760	•	•	•	-0.1	-30
Stationary firemen	1,920	0.1	70	0.1	3.3	10
Winding operatives, n.e.c.	1,740	0.1	90	0.1	5.0	30
Miscellaneous machine operatives	22,780	1.3	980	0.9	4.3	390
Operatives, n.e.c.	17,570	1.0	600	0.6	3.4	100
Transport Equipment Operatives	77,020	4.2	2,790	2.7	3.6	1,550
Boatmen and canalmen	50	•	•	•	1.9	•
Bus drivers	6,790	0.4	490	0.5	7.2	260
Conductors and motormen, urban rail transit	50	•	•	•	1.8	•
Deliverymen and routemen	15,350	0.8	590	0.6	3.8	380
Forklift and tow motor operatives	7,200	0.4	230	0.2	3.2	160
Motormen: mine, factory, logging camp, etc.	60	•	•	•	3.5	•
Parking attendants	560	•	40	•	6.1	10

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Number 3	Percent of	Number 3	Percent of	Percent of	Growth 4	Labor Force Separations 3
		Total 4		Total 4	Employment 4		
Welders	80	•	-	•	3.8	-	-
Machining operatives	860	0.1	30	•	3.4	10	20
Electricians and axmen; surveying	360	•	20	•	4.8	10	10
Lathe and pressers	5,850	0.3	220	0.2	3.8	-60	280
Painters, n.e.c.	5,590	0.3	270	0.3	4.9	110	160
Seamstresses, except factory	2,340	0.1	220	0.2	9.2	40	180
Millwrights	850	0.1	20	•	3.0	10	10
Electricians and lathers	1,790	0.1	100	0.1	5.6	90	10
Electricians	2,480	0.1	100	0.1	4.0	60	40
Grinders, sanders and buffers	1,930	0.1	30	•	1.8	-10	40
Automotive and gas station attendants	10,780	0.6	280	0.3	2.6	70	210
Cleaning operatives, n.e.c.	3,820	0.2	220	0.2	5.7	30	190
Butchers, except manufacturing	3,970	0.2	90	0.1	2.2	10	80
Butchers, manufacturing	2,460	0.1	140	0.1	5.7	40	100
Millwrights	10	•	-	•	•	-	-
n.e.c.	1,750	0.1	-	•	0.2	-30	30
Electricians	2,140	0.1	70	0.1	3.1	40	30
Electricians, except auto	960	0.1	20	•	2.7	-	20
Manufactured articles	2,350	0.1	50	0.1	2.2	10	40
Process workers	1,070	0.1	70	0.1	6.4	30	40
Electricians	540	•	10	•	2.2	-	10
Electricians	200	•	-	•	1.0	-	-
Electricians	4,230	0.2	180	0.2	4.3	90	90
Electricians	52,030	2.9	3,820	3.6	7.3	920	2,900
Machine operatives	760	•	-	•	-0.1	-30	30
Electricians	1,920	0.1	70	0.1	3.3	10	60
Electricians, n.e.c.	1,740	0.1	90	0.1	5.0	30	60
Machine operatives	22,780	1.3	980	0.9	4.3	390	590
Electricians	17,570	1.0	600	0.6	3.4	100	500
Operatives	77,020	4.2	2,790	2.7	3.6	1,550	1,240
Electricians	50	•	-	•	1.9	-	-
Electricians	6,790	0.4	490	0.5	7.2	260	230
Electricians	50	•	-	•	1.8	-	-
Electricians, urban rail transit	15,350	0.8	590	0.6	3.8	380	210
Motor operatives	7,200	0.4	230	0.2	3.2	160	70
Electricians, factory, logging camp; etc.	60	•	-	•	3.5	-	-
Electricians	560	•	40	•	6.1	10	30

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Growth
	Number 3	Percent of Total 4	Number 3	Percent of Total 4	Percent of Employment 4	
Railroad brakemen	850	0.1	20	•	2.6	1
Railroad switchmen	1,540	0.1	40	•	2.8	2
Taxicab drivers and chauffeurs.	2,940	0.2	90	0.1	3.0	-1
Truck drivers	41,630	2.3	1,290	1.2	3.1	72
Service Workers	229,310	12.5	16,070	15.3	7.0	4,33
Cleaning Service Workers	46,800	2.6	3,350	3.2	7.2	1,36
Chambermaids and maids, except private household	8,290	0.5	780	0.7	9.4	31
Cleaners and charwomen	10,510	0.6	630	0.6	6.0	16
Janitors and sextons	28,000	1.5	1,940	1.9	6.9	89
Food Service Workers	55,300	3.0	3,850	3.7	7.0	1,18
Bartenders	1,310	0.1	60	0.1	4.7	3
Busboys	920	0.1	30	•	3.3	1
Cooks, except private household	23,090	1.3	1,510	1.4	6.6	47
Dishwashers	2,700	0.2	180	0.2	6.7	7
Food counter and fountain workers	2,320	0.1	120	0.1	5.0	•
Waiters	18,760	1.0	1,470	1.4	7.8	44
Food service workers, n.e.c., except private hhd.	6,200	0.3	480	0.5	7.7	16
Health Service Workers	27,400	1.5	2,440	2.3	8.9	94
Dental assistants	1,890	0.1	220	0.2	11.6	9
Health aides, except nursing	2,970	0.2	330	0.3	11.0	16
Health trainees	270	•	•	•	-1.5	-3
Lay midwives	10	•	•	•	•	•
Nursing aides, orderlies and attendants	16,220	0.9	1,280	1.2	7.9	45
Practical nurses	6,040	0.3	610	0.6	10.1	27
Personal Service Workers	30,320	1.7	2,580	2.5	8.5	80
Airline stewardesses	2,060	0.1	320	0.3	15.4	10
Attendants, recreation and amusement	1,020	0.1	60	0.1	6.2	3
Attendants, personal service, n.e.c.	780	•	-50	0.1	6.3	1
Baggage porters and bellhops	450	•	-10	•	-1.3	-2
Barbers	3,940	0.2	200	0.2	5.0	3
Boarding and lodging housekeepers	100	•	•	•	-3.0	-1
Boatblacks	70	•	•	•	-1.5	•
Childcare workers, except private household	4,170	0.2	420	0.4	10.0	14
Elevator operators	280	•	•	•	•	-2

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1'		Total Job Openings, 1976 2'			Openings Due To: -	
	Number 3'	Percent of	Number 3'	Percent of	Percent of	Growth 4'	Labor Force
		Total 4'		Total 4'	Employment 4'		Separations 3'
Men	850	0.1	20	.	2.6	10	10
Women	1,540	0.1	40	.	2.8	20	20
Drivers and chauffeurs	2,940	0.2	90	0.1	3.0	-10	100
	41,630	2.3	1,290	1.2	3.1	720	570
	229,310	12.5	16,070	15.3	7.0	4,330	11,740
Workers	46,800	2.6	3,350	3.2	7.2	1,360	1,990
Hand maids, except private household	8,290	0.5	780	0.7	9.4	310	470
Barwomen	10,510	0.6	630	0.6	6.0	160	470
Attendants	28,000	1.5	1,940	1.9	6.9	890	1,050
Waiters	55,300	3.0	3,850	3.7	7.0	1,180	2,670
	1,310	0.1	60	0.1	4.7	30	30
Private household	920	0.1	30	.	3.3	10	20
	23,090	1.3	1,510	1.4	6.6	470	1,040
Food fountain workers	2,700	0.2	180	0.2	6.7	70	110
	2,320	0.1	120	0.1	5.0	-	120
Workers, n.e.c., except private hhd.	18,760	1.0	1,470	1.4	7.8	440	1,030
	6,200	0.3	480	0.5	7.7	160	320
Teachers	27,400	1.5	2,440	2.3	8.9	940	1,500
Nurses	1,890	0.1	220	0.2	11.6	90	130
Except nursing	2,970	0.2	330	0.3	11.0	160	170
	270	.	-	.	-1.5	-30	30
	10	.	-	.	.	-	-
Elderlies and attendants	16,220	0.9	1,280	1.2	7.9	450	830
	6,040	0.3	610	0.6	10.1	270	340
Workers	30,320	1.7	2,580	2.5	8.5	800	1,780
Amusement	2,060	0.1	320	0.3	15.4	100	220
Personal service, n.e.c.	1,020	0.1	60	0.1	6.2	30	30
And bellhops	780	.	50	0.1	6.3	10	40
	450	.	-10	.	-1.3	-20	10
Living housekeepers	3,940	0.2	200	0.2	-5.0	30	170
	100	.	-	.	-3.0	-10	10
	70	.	-	.	-1.5	-	-
, except private household	4,170	0.2	420	0.4	10.0	140	280
	280	.	-	.	.	-20	20

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1'		Total Job Openings, 1976 2'			Growth
	Number 3'	Percent of Total 4'	Number 3'	Percent of Total 4'	Percent of Employment 4'	
Hairdressers and cosmetologists	13,480	0.7	1,200	1.2	8.9	390
Housekeepers, except private household	3,180	0.2	280	0.3	8.9	120
Personal service apprentices	40	•	-	•	-2.3	-
School monitors	90	•	10	•	11.0	-
Ushers, recreation and amusement	120	•	-	•	1.6	-
Welfare service aides	540	•	50	0.1	9.9	30
Protective Service Workers	24,250	1.3	1,610	1.5	6.7	900
Crossing guards and bridge tenders	890	0.1	60	0.1	7.3	30
Firemen, fire protection	5,060	0.3	330	0.3	6.5	270
Guards and watchmen	7,720	0.4	530	0.5	6.8	110
Marshals and constables	190	•	10	•	7.0	10
Policemen and detectives	9,020	0.5	560	0.5	6.2	410
Sheriffs and bailiffs	1,370	0.1	120	0.1	8.7	70
Private Household Workers	45,240	2.5	2,240	2.1	5.0	-850
Child care workers	4,060	0.2	250	0.2	6.2	-70
Cooks, private household	1,780	0.1	110	0.1	6.1	-20
Housekeepers, private household	2,520	0.1	130	0.1	5.3	-40
Laundresses, private household	390	•	20	•	4.4	-20
Majds and servants, private household	36,490	2.0	1,730	1.7	4.8	-700
Laborers, except Farm	80,130	4.4	2,860	2.7	3.6	1,140
Animal caretakers, except farm	1,350	0.1	70	0.1	5.0	30
Carpenters' Helpers	1,420	0.1	-	•	-0.3	-30
Construction Laborers, except carpenters' helpers	17,260	0.9	690	0.7	4.0	360
Fishermen and Oystermen	310	•	10	•	3.0	-
Freight and Material Handlers	17,290	1.0	560	0.5	3.2	280
Garbage Collectors	3,790	0.2	260	0.3	7.0	190
Gardeners and Groundskeepers, except farm	6,890	0.4	340	0.3	4.9	20
Longshoremen and Stevedores	800	•	30	•	4.3	20
Lumbermen, Raftsmen and Woodchoppers	5,130	0.3	10	•	0.2	-70
Stock Handlers	14,700	0.8	600	0.6	4.1	320
Teamsters	250	•	-10	•	-4.0	-20
Vehicle Washers and Equipment Cleaners	3,140	0.2	90	0.1	2.8	10
Warehousemen, n.e.c.	2,770	0.2	70	0.1	2.5	20
Other Laborers, except farm	5,030	0.3	140	0.1	2.8	10

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TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1		Total Job Openings, 1976 2			Openings Due To: -	
	Percent of		Percent of			Labor Force	
	Number 3	Total 4	Number 3	Total 4	Percent of Employment 4	Growth 4	Separations 3
and cosmetologists	13,480	0.7	1,200	1.2	8.9	390	810
except private household	3,180	0.2	280	0.3	8.9	120	160
ee apprentices	40	.	.	.	-2.3	.	.
	90	.	10	.	11.0	.	10
tion and amusement	120	.	.	.	1.6	.	.
aides	540	.	50	0.1	9.9	30	20
Workers	24,250	1.3	1,610	1.5	6.7	900	710
s and bridge tenders	890	0.1	60	0.1	7.3	30	30
rotection	5,060	0.3	330	0.3	6.5	270	60
chmen	7,720	0.4	530	0.5	6.8	110	420
onstables	190	.	10	.	7.0	10	.
etectives	9,020	0.5	560	0.5	6.2	410	150
liffs	1,370	0.1	120	0.1	8.7	70	50
Workers	45,240	2.5*	2,240	2.1	5.0	-850	3,090
ers	4,060	0.2	250	0.2	6.2	-70	320
household	1,780	0.1	110	0.1	6.1	-20	120
private household	2,520	0.1	130	0.1	5.3	-40	170
ivate household	390	.	20	.	4.4	-20	40
nts, private household	36,490	2.0	1,730	1.7	4.8	-700	2,430
	80,130	4.4	2,860	2.7	3.6	1,140	1,720
except farm	1,350	0.1	70	0.1	5.0	30	40
	1,420	0.1	.	.	-0.3	-30	30
ers, except carpenters' helpers	17,260	0.9	690	0.7	4.0	360	330
termen	310	.	10	.	3.0	.	10
l Handlers	17,290	1.0	560	0.5	3.2	280	280
	3,790	0.2	260	0.3	7.0	190	70
ndskeepers, except farm	6,890	0.4	340	0.3	4.9	20	320
Stevedores	800	.	30	.	4.3	20	10
en and Woodchoppers	5,130	0.3	10	.	0.2	-70	80
	14,700	0.8	600	0.6	4.1	320	280
	250	.	-10	.	-4.0	-20	10
d Equipment Cleaners	3,140	0.2	90	0.1	2.8	10	80
c.	2,770	0.2	70	0.1	2.5	20	50
cept farm	5,030	0.3	140	0.1	2.8	10	130

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

Occupational Title	Estimated 1976 Employment 1'		Total Job Openings, 1976 2'			Growth
	Number 3'	Percent of	Number 3'	Percent of	Percent of	
		Total 4'		Total 4'	Employment 4'	
Farmers and Farm Workers	46,540	2.6	210	0.2	-0.5	-1.77
Farmers and Farm Managers	22,380	1.2	280	0.3	1.2	-78
Farmers (owners and tenants)	20,680	1.1	180	0.2	0.9	-84
Farm managers	1,700	0.1	100	0.1	5.9	6
Farm Laborers and Farm Foremen	24,160	1.3	-70	0.1	-0.3	-99
Farm foremen	680	*	20	*	2.6	-1
Farm laborers, wage workers	22,260	1.2	-80	0.1	-0.4	-94
Farm laborers, unpaid family workers	1,130	0.1	-10	*	-0.8	-4
Farm service laborers, self-employed	90	*	*	*	4.6	

1/ Occupational employment levels are simple interpolations of the projected long-run (1970-1980) labor market trend and should not be interpreted as representing cyclical fluctuations in the economy. (Note: The 1970 data in Table 3 excludes 158,972 "not specified" and "allocated" occupations which had been shown in the 1970 Census occupational employment tables.)

2/ Job openings data reflect annual average changes in employment over the 1970-1980 period as well as separations estimated on the basis of the average annual employment level during the period and estimated 1976 labor force separation rates.

3/ Estimates were rounded to ten's.

4/ Percents were computed from unrounded data and may not add to 100.0.

" - " denotes "zero".

* denotes less than 0.05.

"n.e.c." denotes "not elsewhere classified."

TABLE 5 - continued
 GEORGIA 1976 EMPLOYMENT AND
 JOB OPENINGS BY OCCUPATION

	Estimated 1976 Employment 1'		Total Job Openings, 1976 2'			Openings Due To: -	
	Number 3'	Percent of	Number 3'	Percent of	Percent of	Growth 4'	Labor Force Separations 3'
		Total 4'		Total 4'	Employment 4'		
Workers	46,540	2.6	210	0.2	0.5	-1,770	1,980
Managers	22,380	1.2	280	0.3	1.2	-780	1,060
Proprietors and tenants)	20,680	1.1	180	0.2	0.9	-840	1,020
Partners	1,700	0.1	100	0.1	5.9	60	40
and Farm Foremen	24,160	1.3	-70	0.1	-0.3	-990	920
	680	*	20	*	2.6	-10	30
Wage workers	22,260	1.2	-80	0.1	-0.4	-940	860
Unpaid family workers	1,130	0.1	-10	*	-0.8	-40	30
Laborers, self-employed	90	*	-	*	4.6	-	-

Employment levels are simple interpolations of the projected long-run (1970-1980) labor market trend and should not be interpreted as cyclical fluctuations in the economy. (Note: The 1970 data in Table 3 excludes 158,972 "not specified" and "allocated" cases which are in the 1970 Census occupational employment tables.

Data reflect annual average changes in employment over the 1970-1980 period as well as separations estimated on the basis of the employment level during the period and estimated 1976 labor force separation rates.

Rounded to ten's.

Computed from unrounded data and may not add to 100.0.

0.05.

Not elsewhere classified."

APPENDIX B

NATIONAL INDUSTRY AND OCCUPATION PROJECTIONS TABLES

Table 1. National Total Employment by Industry, 1970 and Projected to 1980

Table 2. National 1970 Employment and Projected 1980 Requirements by Occupation

Table 3. National 1970 Employment, Projected 1980 Requirements and Annual Average Openings, 1970-80, by Occupation

TABLE 1
 NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED 1980
 (IN THOUSANDS)

Industry	1970	1980	Absolute Change
Total, All Industries	78,627.3	95,817.0	17,189.7
Agriculture, Forestry, Fisheries	3,561.1	2,418.2	-1,142.9
Agriculture	3,463.4	2,326.0	-1,137.4
Agricultural production	3,137.0	2,106.8	-1,030.2
Services, except horticulture	169.0	113.5	-55.5
Horticulture services	157.4	105.7	-51.7
Forestry	53.4	55.5	2.1
Fisheries	44.3	36.7	7.6
Mining	634.0	629.7	-4.3
Metal mining	93.7	103.3	9.6
Coal mining	144.8	149.6	4.8
Crude petroleum and natural gas	279.2	251.7	-27.5
Nonmetallic mining, quarrying	116.3	125.0	8.7
Construction	4,673.2	5,736.7	964.5
General building contractors	1,138.0	1,265.0	127.0
General contractors, except building	1,401.8	1,765.5	363.7
Special trade contractors	2,133.4	2,607.2	473.8
Manufacturing	19,635.3	22,880.1	3,244.8
Durable Goods	11,410.3	13,631.1	2,220.8
Ordnance	296.3	252.0	-44.3
Lumber and wood products	620.5	680.6	60.1
Logging	110.8	110.2	-0.6
Sawmill, planing mill, mill works	388.3	433.4	45.1
Miscellaneous wood products	121.4	136.9	15.5
Furniture and fixtures	464.3	614.4	150.1
Stone, clay, glass products	644.1	797.7	153.6
Glass and glass products	185.2	239.8	54.6
Cement, concrete, plaster	221.8	290.6	68.8
Structural clay products	59.1	52.6	-6.5
Pottery and related products	43.9	38.8	-5.1
Miscellaneous nonmetallic, stone	134.1	175.8	41.7
Primary metal industries	1,303.3	1,325.7	22.4
Blast furnaces, steel works	556.0	529.6	-26.4
Other primary steel	367.7	391.0	23.3
Primary aluminum industries	156.4	166.9	10.5
Other primary nonferrous	223.2	238.1	14.9

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1977

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TABLE I
 NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED 1980
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
	78,627.3	95,817.0	17,189.7	21.9
Fisheries	3,561.1	2,418.2	-1,142.9	-32.1
Agriculture	3,463.4	2,326.0	-1,137.4	-32.8
Horticulture	3,137.0	2,106.8	-1,030.2	-32.8
Forestry	169.0	113.5	-55.5	-32.8
Other	157.4	105.7	-51.7	-32.8
	53.4	55.5	2.1	3.9
	44.3	36.7	7.6	-17.2
	634.0	629.7	-4.3	-0.7
	93.7	103.3	9.6	10.2
	144.8	149.6	4.8	3.3
Natural gas	279.2	251.7	-27.5	-9.8
Quarrying	116.3	125.0	8.7	7.5
	4,673.2	5,736.7	964.5	20.6
Tractors	1,138.0	1,265.0	127.0	11.2
Except building	1,401.8	1,765.5	363.7	25.9
Tractors	2,133.4	2,607.2	473.8	22.2
	19,635.3	22,880.1	3,244.8	16.5
	11,410.3	13,631.1	2,220.8	19.5
Products	296.3	252.0	-44.3	-15.0
	620.5	680.6	60.1	9.7
	110.8	110.2	-0.6	-0.5
g mill, mill works	388.3	433.4	45.1	11.6
Wood products	121.4	136.9	15.5	12.8
Resins	464.3	614.4	150.1	32.3
Products	644.1	797.7	153.6	23.8
Products	185.2	239.8	54.6	29.5
ce, plaster	221.8	290.6	68.8	31.0
Products	59.1	52.6	-6.5	-11.0
ated products	43.9	38.8	-5.1	-11.6
Nonmetallic, stone	134.1	175.8	41.7	31.1
Industries	1,303.3	1,325.7	22.4	1.7
Steel works	556.0	529.6	-26.4	-4.7
Steel	367.7	391.0	23.3	6.3
Chemical industries	156.4	166.9	10.5	6.7
Nonferrous	223.2	238.1	14.9	6.7

TABLE 1
 NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

Industry	1970	1980	Absolute Change
Fabricated metal products	1,387.3	1,830.1	442.8
Cutlery, other hardware	151.6	196.7	45.1
Fabricated metal products	431.4	563.2	131.8
Screw machine products	104.8	129.9	25.1
Metal stamping	232.3	317.1	84.8
Miscellaneous fabricated metal products	467.2	623.0	155.8
Machinery, except electrical	1,978.4	2,558.4	580.0
Engines and turbines	110.0	156.0	46.0
Farm machinery, equipment	128.6	145.8	17.2
Construction machines	293.3	348.4	55.1
Metalworking machinery	317.8	382.0	64.2
Office, accounting machines	90.9	100.0	9.1
Electronic computing equipment	187.9	387.3	199.4
Machinery, n.e.c.	849.9	1,038.8	188.9
Electrical machinery	1,919.5	2,286.4	366.9
Household appliances	184.7	204.7	20.0
Radio, TV, communication equipment	630.3	636.5	6.2
Electrical machinery, n.e.c.	1,104.5	1,445.2	340.7
Transportation equipment	1,907.0	2,224.7	317.7
Motor vehicle equipment	804.6	1,028.8	224.2
Aircraft and parts	665.9	561.9	-104.0
Ship, boat building, repair	275.6	419.3	143.7
Railroad equipment	50.6	55.4	4.8
Mobile dwelling	85.2	118.2	33.0
Cycles, miscellaneous transportation equipment	25.1	41.0	15.9
Professional, scientific instruments	453.9	600.6	146.7
Scientific instruments	177.3	229.0	51.7
Optical, health services supplies	136.4	181.3	44.9
Photo equipment and supplies	108.9	152.4	43.5
Watches and clock devices	31.3	37.9	6.6
Miscellaneous manufacturing	435.5	460.5	25.0
Nondurable Goods	8,225.0	9,249.0	1,024.0
Food and kindred products	1,784.1	1,777.4	-6.7
Meat products	344.2	363.6	19.4
Dairy products	244.6	175.3	-69.3
Canning and preserving	284.1	336.3	52.2
Grain-mill products	138.1	138.9	0.8
Bakery products	273.6	244.4	-29.2
Confectionery products	82.7	86.4	3.7

TABLE 1
 NATIONAL TOTAL 1/ EMPLOYMENT BY INDUSTRY
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
products	1,387.3	1,830.1	442.8	31.9
hardware	151.6	196.7	45.1	29.7
metal products	431.4	563.2	131.8	30.6
metal products	104.8	129.9	25.1	24.0
metal products	232.3	317.1	84.8	36.9
metal products	467.2	623.0	155.8	33.3
metal electrical	1,978.4	2,558.4	580.0	29.3
turbines	110.0	156.0	46.0	41.8
ery, equipment	128.6	145.8	17.2	13.4
machines	293.3	348.4	55.1	18.8
machinery	317.8	382.0	64.2	20.2
printing machines	90.9	100.0	9.1	10.0
computing equipment	187.9	387.3	199.4	106.1
n.e.c.	848.9	1,038.8	188.9	22.2
inery	1,919.5	2,286.4	366.9	19.1
oliances	184.7	204.7	20.0	10.8
ommunication equipment	630.3	636.5	6.2	1.0
achinery, n.e.c.	1,104.5	1,445.2	340.7	30.8
equipment	1,907.0	2,224.7	317.7	16.7
equipment	804.6	1,028.8	224.2	27.9
arts	665.9	561.9	-104.0	-15.6
lding, repair	275.6	419.3	143.7	52.1
oment	50.6	55.4	4.8	9.5
ng	85.2	118.2	33.0	38.7
ellaneous transportation equipment	25.1	41.0	15.9	63.3
cientific instruments	453.9	600.6	146.7	32.3
truments	177.3	229.0	51.7	29.2
h services supplies	136.4	181.3	44.9	32.9
ent and supplies	108.9	152.4	43.5	39.9
lock devices	31.3	37.9	6.6	21.4
anufacturing	435.5	460.5	25.0	5.7
	8,225.0	9,249.0	1,024.0	12.4
products	1,784.1	1,777.4	-6.7	-0.4
	344.2	363.6	19.4	5.6
	244.6	175.3	-69.3	-28.3
preserving	284.1	336.3	52.2	18.4
ducts	138.1	138.9	0.8	0.6
cts	273.6	244.4	-29.2	-10.7
	82.7	86.4	3.7	4.5

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TABLE 1
 NATIONAL TOTAL 1/ EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

Industry	1970	1980	Absolute Change
Beverage industries	236.1	248.5	12.4
Miscellaneous food preparation	180.7	183.8	3.1
Tobacco manufacturing	81.7	68.1	-13.6
Textile mill products	978.4	1,038.9	60.5
Knitting mills	247.3	274.8	27.5
Dyeing, finishing textiles	83.2	90.7	7.5
Floor coverings	57.1	65.2	8.1
Yarn, fabric mills	515.9	531.1	15.2
Miscellaneous textile mill products	74.9	77.0	2.1
Apparel, textile products	1,392.3	1,582.7	190.4
Apparel and accessories	1,224.5	1,364.9	140.4
Miscellaneous fabricated products	167.8	217.8	50.0
Paper and allied products	707.4	853.7	146.3
Pulp, paper, paperboard mills	291.6	290.4	-1.2
Paperboard containers, boxes	226.1	298.3	72.2
Miscellaneous paper and pulp products	189.7	264.9	75.2
Printing and publishing	1,161.1	1,366.4	205.3
Newspaper publishing, printing	417.2	468.8	51.6
Printing, publishing except newspaper	743.9	897.5	153.6
Chemical and allied products	1,031.2	1,235.9	204.7
Industrial chemicals	318.9	369.7	50.8
Plastics, synthetics ²	101.7	145.5	43.8
Synthetic fibers	108.6	125.7	17.1
Drugs and medicines	143.1	189.5	46.4
Soaps and cosmetics	124.8	156.1	31.3
Paints, varnishes	68.4	78.1	9.7
Agricultural chemicals	55.0	58.8	3.8
Miscellaneous chemicals	110.7	112.4	1.7
Petroleum and coal products	190.1	164.9	-25.2
Petroleum refining	153.5	129.0	-24.5
Miscellaneous petroleum, coal products	36.6	35.9	-0.7
Rubber, miscellaneous plastic products	577.8	850.1	272.3
Rubber products	288.1	367.0	78.9
Miscellaneous plastic products	289.7	483.0	193.3
Leather products	320.7	310.9	-9.8
Leather tanning, finishing	26.1	20.9	-5.2
Footwear, except rubber	225.5	221.0	-4.5
All other leather products	69.1	69.0	-0.1
Transportation, Other Public Utilities	5,025.6	5,199.4	173.8

TABLE 1
 NATIONAL TOTAL 1/ EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
Industries	236.1	248.5	12.4	5.3
Food preparation	180.7	183.8	3.1	1.7
Manufacturing	81.7	68.1	-13.6	-16.6
Products	978.4	1,038.9	60.5	6.2
Textiles	247.3	274.8	27.5	11.1
Woolen and shing textiles	83.2	90.7	7.5	9.0
Knit goods	57.1	65.2	8.1	14.2
Spinning mills	515.9	531.1	15.2	2.9
Woolen textile mill products	74.9	77.0	2.1	2.8
Woolen products	1,392.3	1,582.7	190.4	13.7
Woolen accessories	1,224.5	1,364.9	140.4	11.5
Woolen fabricated products	167.8	217.8	50.0	29.8
Woolen products	707.4	853.7	146.3	20.7
Paper and paperboard mills	291.6	290.4	-1.2	-0.4
Containers, boxes	226.1	298.3	72.2	31.9
Woolen paper and pulp products	189.7	264.9	75.2	39.6
Printing and publishing	1,161.1	1,366.4	205.3	17.7
Printing, publishing, and bookbinding	417.2	468.8	51.6	12.4
Printing and publishing except newspaper	743.9	897.5	153.6	20.6
Chemical and allied products	1,031.2	1,235.9	204.7	19.9
Chemicals	318.9	369.7	50.8	15.9
Synthetic fibers	101.7	145.5	43.8	43.1
Drugs	108.6	125.7	17.1	15.7
Medicines	143.1	189.5	46.4	32.4
Cosmetics	124.8	156.1	31.3	25.1
Paints and varnishes	68.4	78.1	9.7	14.2
Chemical products	55.0	58.8	3.8	6.9
Woolen chemicals	110.7	112.4	1.7	1.5
Coal products	190.1	164.9	-25.2	-13.3
Refining	153.5	129.0	-24.5	-16.0
Woolen petroleum, coal products	36.6	35.9	-0.7	-1.9
Woolen miscellaneous plastic products	577.8	850.1	272.3	47.1
Plastic products	288.1	367.0	78.9	27.4
Woolen plastic products	289.7	483.0	193.3	66.7
Woolen products	320.7	310.9	-9.8	-3.1
Woolen finishing, finishing	26.1	20.9	-5.2	-19.9
Woolen except rubber	225.5	221.0	-4.5	-2.0
Woolen other products	69.1	69.0	-0.1	-0.1
Public Utilities	5,025.6	5,789.4	763.8	15.2

TABLE 1
 NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

Industry	1970	1980	Absolute Change
Transportation, Total	2,867.6	3,266.9	399.3
Railroads railway express	615.2	440.9	-174.3
Local, interurban transit	385.5	463.9	78.4
Street railways, bus line	289.8	373.8	84.0
Taxicab service	95.7	90.1	-5.6
Trucking and warehousing	1,162.9	1,511.1	348.2
Trucking services	1,074.4	1,423.6	349.2
Warehousing and storage	88.5	87.5	-1.0
Water transportation	236.2	245.6	9.4
Air transportation	344.0	472.0	128.0
Pipelines	16.9	13.2	-3.7
Transportation services	106.9	120.2	13.3
Communications, Utilities, Sanitary	2,158.0	2,522.5	364.5
Communications	1,081.7	1,251.2	169.5
Telephone (wire and radio)	904.6	1,051.3	146.7
Telegraph, miscellaneous communication services	47.5	54.4	6.9
Radio broadcasting, TV	129.6	145.5	15.9
Utilities, sanitary services	1,076.3	1,271.3	195.0
Electric light and power	327.0	362.2	35.2
Electric-gas utilities	196.0	201.6	5.6
Gas, steam supply systems	166.1	171.3	5.2
Water supply	133.0	183.8	50.8
Sanitary services	247.5	343.1	95.6
Other utilities, n.e.c.	6.7	9.2	2.5
Wholesale and Retail Trade	16,366.6	20,371.9	4,005.3
Wholesale Trade	3,937.4	4,733.5	796.1
Wholesale, except miscellaneous wholesale	2,644.1	3,284.9	640.8
Motor vehicles and equipment	332.5	484.5	152.0
Drugs, chemicals, allied products	233.3	285.2	51.9
Dry goods and apparel	157.0	175.8	18.8
Food and related products	581.6	605.8	24.2
Farm products - raw materials	104.8	90.8	-14.0
Electrical goods	316.8	472.1	155.3
Hardware, plumbing	171.1	189.1	18.0
Machinery equipment, supplies	747.0	981.5	234.5
Miscellaneous wholesale trade	1,293.2	1,448.6	155.4
Metals and minerals, n.e.c.	134.4	152.2	17.8
Petroleum products	200.3	230.9	30.6

TABLE 1
 NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
Total	2,867.6	3,266.9	399.3	13.9
Way express	615.2	440.9	-174.3	-28.3
Rail transit	385.5	463.9	78.4	20.3
Trucks, bus line	289.8	373.8	84.0	29.0
Service	95.7	90.1	-5.6	-5.0
Warehousing	1,162.9	1,511.1	348.2	29.9
Services	1,074.4	1,423.6	349.2	32.5
Printing and storage	88.5	87.5	-1.0	-1.1
Information	236.2	245.6	9.4	4.0
Education	344.0	472.0	128.0	37.2
Health services	16.9	13.2	-3.7	-21.9
Other services	106.9	120.2	13.3	12.4
Utilities, Sanitary	2,158.0	2,522.5	364.5	16.9
Electric	1,081.7	1,251.2	169.5	15.7
Telephone (wire and radio)	904.6	1,051.3	146.7	16.2
Miscellaneous communication services	47.5	54.4	6.9	14.5
Broadcasting, TV	129.6	145.5	15.9	12.3
Postal services	1,076.3	1,271.3	195.0	18.1
Light and power	327.0	362.2	35.2	10.8
Water utilities	196.0	201.6	5.6	2.9
Gas supply systems	166.1	171.5	5.2	3.1
Sanitary services	133.0	183.8	50.8	38.2
Other services, n.e.c.	247.5	343.1	95.6	38.6
	6.7	9.2	2.5	37.3
Trade	16,366.6	20,371.9	4,005.3	24.5
Wholesale	3,937.4	4,733.5	796.1	20.2
Except miscellaneous wholesale	2,644.1	3,284.9	640.8	24.2
Machinery and equipment	332.5	484.5	152.0	45.7
Chemicals, allied products	233.3	285.2	51.9	22.2
Food and apparel	157.0	175.8	18.8	12.0
Textile products	581.6	605.8	24.2	4.2
Metals - raw materials	104.8	90.8	-14.0	-13.4
Other goods	316.8	472.1	155.3	49.0
Printing and publishing	171.1	189.1	18.0	10.5
Transportation equipment, supplies	747.0	981.5	234.5	31.4
Wholesale trade	1,293.2	1,448.6	155.4	12.0
Minerals, n.e.c.	134.4	152.2	17.8	13.2
Food	200.3	230.9	30.6	15.3

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TABLE 1
 NATIONAL TOTAL $\frac{1}{2}$ EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

Industry	1970	1980	Absolute Change
Scrap and waste material	101.0	102.5	1.5
Alcoholic beverages	98.4	110.6	12.2
Paper and its products	133.0	150.6	17.6
Lumber, construction materials	160.9	181.6	20.7
Wholesale, n.e.c.	465.2	520.1	54.9
Retail Trade	12,429.3	15,638.4	3,209.1
Building materials	595.3	596.4	1.1
Lumber, building materials	363.2	364.1	0.9
Hardware and farm equipment	232.1	232.2	0.1
General merchandise, total	2,567.8	3,326.5	758.7
Department, mail order	1,562.9	2,098.8	535.9
Limited price stores	309.8	295.8	-14.0
Vending machine operators	67.6	403.7	26.1
Direct selling	324.5	414.4	89.9
Miscellaneous merchandise stores	303.0	423.7	120.7
Food and dairy stores	1,959.8	2,407.9	448.1
Grocery stores	1,680.9	2,068.4	387.5
Dairy product stores	36.8	45.4	8.6
Retail bakeries	118.8	147.4	28.6
Food stores, n.e.c.	123.3	146.7	23.4
Auto dealers, gas stations	1,807.4	2,280.4	473.0
Motor vehicle dealers	767.3	957.0	189.7
Tire, battery accessory	182.1	264.1	82.0
Gasoline service stations	781.7	951.0	169.3
Miscellaneous vehicle dealers	76.3	108.2	31.9
Apparel and accessories	769.1	886.2	117.1
Apparel, accessories stores	618.5	707.5	89.0
Shoe stores	150.6	178.7	28.1
Furniture and appliances	553.3	602.8	49.5
Home furnishing stores	344.1	378.7	34.6
Appliance, TV, radio stores	209.2	224.0	14.8
Eating and drinking places	2,698.7	3,709.8	1,011.1
Miscellaneous retail trade stores	1,477.8	1,828.5	350.7
Drug stores	466.8	587.3	120.5
Liquor stores	125.7	163.4	37.7
Farm, garden supply stores	118.8	144.4	25.6
Jewelry stores	104.6	124.1	19.5
Fuel and ice dealers	116.0	109.2	-6.8
Retail florists	84.8	123.4	38.6

TABLE 1
 NATIONAL TOTAL 1/ EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
ite material	101.0	102.5	1.5	1.5
erages	98.4	110.6	12.2	12.4
products	133.0	150.6	17.6	13.2
struction materials	160.9	181.6	20.7	12.9
e.c.	465.2	520.1	54.9	11.8
	12,429.3	15,638.4	3,209.1	25.8
s	595.3	596.4	1.1	0.2
ng materials	363.2	364.1	0.9	0.2
farm equipment	232.1	232.2	0.1	0
ise, total	2,567.8	3,326.5	758.7	29.5
ail order	1,562.9	2,098.8	535.9	34.3
Stores	309.8	295.8	-14.0	-4.5
ine operators	67.6	93.7	26.1	38.6
	324.5	414.4	89.9	27.7
merchandise stores	303.0	423.7	120.7	39.8
ores	1,959.8	2,407.9	448.1	22.9
	1,680.9	2,068.4	387.5	23.1
stores	36.8	45.4	8.6	23.4
	118.8	147.4	28.6	24.1
e.c.	123.3	146.7	23.4	19.0
stations	1,807.4	2,280.4	473.0	26.2
dealers	767.3	957.0	189.7	24.7
ccessory	182.1	264.1	82.0	45.0
ce stations	781.7	951.0	169.3	21.7
vehicle dealers	76.3	108.2	31.9	41.8
ssories	769.1	886.2	117.1	15.2
ssories stores	618.5	707.5	89.0	14.4
	150.6	178.7	28.1	18.7
iances	553.3	602.8	49.5	8.9
g stores	344.1	378.7	34.6	10.1
radio stores	209.2	224.0	14.8	7.1
g places	2,698.7	3,709.8	1,011.1	37.5
ill trade stores	1,477.8	1,828.5	350.7	23.7
	466.8	587.3	120.5	25.8
	125.7	163.4	37.7	30.0
upply stores	118.8	144.4	25.6	21.5
	104.6	124.1	19.5	18.6
dealers	116.0	109.2	-6.8	-5.9
	84.8	123.4	38.6	45.5

TABLE 1
 NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

Industry	1970	1980	Absolute Change
Miscellaneous retail trade stores	461.1	576.6	115.5
Finance, Insurance, Real Estate	3,820.6	5,071.5	1,250.9
Finance, Total	1,613.9	2,323.6	709.7
Banking	990.8	1,436.0	445.2
Credit agencies	358.0	487.8	129.8
Stock brokers, investment	265.1	399.8	134.7
Insurance	1,350.9	1,661.2	310.3
Real Estate, including law insurance	855.8	1,086.8	231.0
Services, Total	20,651.5	27,798.7	7,147.2
Hotels and Lodging Places	836.1	1,120.6	284.5
Hotels and motels	701.3	919.2	217.9
Lodging places, except hotels	134.8	201.4	66.6
Other Personal Services	1,476.0	1,509.1	33.1
Laundry, cleaning	602.0	576.1	-25.9
Beauty shops	470.5	517.8	47.3
Barber shops	157.1	162.0	4.9
Shoe repair shops	29.0	28.5	-0.5
Dressmaking shops	38.9	37.6	-1.3
Other personal services	178.5	187.1	8.6
Miscellaneous Business Services	1,648.7	2,901.9	1,253.2
Advertising	130.3	150.4	20.1
Business management services	181.4	314.1	132.7
Commercial R and D	87.6	166.2	78.6
Computer programming	112.3	213.0	100.7
Detective and protective	139.1	261.5	122.4
Employment, temporary help	215.9	405.6	189.7
Services buildings	303.3	528.4	225.1
Other miscellaneous services	478.8	862.9	384.1
Automobile Repair Services	515.3	722.3	207.0
Auto repair	345.2	451.8	106.6
Auto services, except repair	170.1	270.5	100.4
Other Repair Services	328.9	386.9	58.0
Electric repair shops	129.5	157.4	27.9
Other repair services	199.4	229.5	30.1

TABLE 1
 NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
us retail trade stores	461.1	576.6	115.5	25.0
Real Estate	3,820.6	5,071.5	1,250.9	32.7
	1,613.9	2,323.6	709.7	44.0
	990.8	1,436.0	445.2	44.9
	358.0	487.8	129.8	36.3
Investment	265.1	399.8	134.7	50.8
	1,350.9	1,661.2	310.3	23.0
ding law insurance	855.8	1,086.8	231.0	27.0
	20,651.5	27,798.7	7,147.2	34.6
g Places	836.1	1,120.6	284.5	34.0
els	701.3	919.2	217.9	31.1
, except hotels	134.8	201.4	66.6	49.4
ervices	1,476.0	1,509.1	33.1	2.2
ng	602.0	576.1	-25.9	-4.3
	470.5	517.8	47.3	10.1
	157.1	162.0	4.9	3.1
ps	29.0	28.5	-0.5	-1.7
ops	38.9	37.6	-1.3	-3.3
services	178.5	187.1	8.6	4.8
Business Services	1,648.7	2,901.9	1,253.2	76.0
	130.3	150.4	20.1	15.4
ement services	181.4	314.1	132.7	73.2
nd D	87.6	166.2	78.6	89.7
mming	112.3	213.0	100.7	89.7
rotective	139.1	261.5	122.4	88.0
mporary help	215.9	405.6	189.7	87.9
gs	303.3	528.4	225.1	74.2
eous-services	478.8	862.9	384.1	80.2
Services	515.3	722.3	207.0	40.2
	345.2	451.8	106.6	30.9
except repair	170.1	270.5	100.4	59.0
ces	328.9	386.9	58.0	17.6
shops	129.5	157.4	27.9	21.5
vi	199.4	229.5	30.1	15.1

TABLE 1
NATIONAL TOTAL 1/ EMPLOYMENT BY INDUSTRY,
1970 AND PROJECTED TO 1980 - continued
(IN THOUSANDS)

Industry	1970	1980	Absolute Change
Motion Pictures, Theaters	244.5	313.7	69.2
Miscellaneous Entertainment	429.9	616.3	186.4
Bowling alleys, billiards	93.1	95.5	2.4
Miscellaneous entertainment	336.8	520.8	184.0
Medical, Other Health	4,662.5	7,107.7	2,445.2
Offices of physicians	579.1	954.1	375.0
Offices of dentists	261.6	369.5	107.9
Offices of chiropractors	23.5	25.7	2.2
Hospitals	2,962.4	4,306.0	1,343.6
Convalescent institutions	508.5	937.3	428.8
Health practitioners, n.e.c.	49.7	64.2	14.5
Health services, n.e.c.	277.8	450.9	173.1
Legal Services	404.2	512.1	107.9
Educational Services	6,024.1	7,992.9	1,968.8
Elementary, secondary	4,110.0	5,120.8	1,010.8
Colleges and universities	1,575.9	2,270.5	694.6
Libraries	81.6	119.6	38.0
Educational services, n.e.c.	256.7	482.0	225.3
Museums, Art Galleries, Zoos	29.0	44.9	15.9
Nonprofit Organization	1,432.6	1,945.1	512.5
Religious organizations	572.6	671.6	99.0
Welfare services	429.5	672.9	243.4
Residential welfare	48.5	61.2	12.7
Nonprofit membership	382.0	539.4	157.4
Private Households	1,780.5	1,441.0	-339.5
Other Professional and Related Services	839.2	1,184.2	345.0
Engineering and architectural services	321.6	443.4	121.8
Accounting, auditing	305.8	454.7	148.9
Miscellaneous professional services	211.8	286.2	74.4
Government, Total	4,259.4	5,219.9	960.5
Federal Public Administration	2,262.8	2,433.6	170.8
Postal services	712.8	778.7	65.9
Federal public administration	1,550.0	1,654.8	104.8
State Public Administration	615.8	875.8	260.0
Local Public Administration	1,380.8	1,910.5	529.7

Footnote appear on the next page.

TABLE 1
 NATIONAL TOTAL 1/ EMPLOYMENT BY INDUSTRY,
 1970 AND PROJECTED TO 1980 - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
aters	244.5	313.7	69.2	28.3
ertainment	429.9	616.3	186.4	43.4
billiards	93.1	95.5	2.4	2.6
entertainment	336.8	520.8	184.0	54.6
th	4,662.5	7,107.7	2,445.2	52.4
icians	579.1	954.1	375.0	64.8
ots	261.6	369.5	107.9	41.2
ractors	23.5	25.7	2.2	9.4
	2,962.4	4,306.0	1,343.6	45.4
stitutions	508.5	937.3	428.8	84.3
ers, n.e.c.	49.7	64.2	14.5	29.2
n.e.c.	277.8	450.9	173.1	62.3
	404.2	512.1	107.9	26.7
s	6,024.1	7,992.9	1,968.8	32.7
ndary	4,110.0	5,120.8	1,010.8	24.6
versities	1,575.9	2,270.5	694.6	44.1
	81.6	119.6	38.0	46.6
ices, n.e.c.	256.7	482.0	225.3	87.8
ies, Zoos	29.0	44.9	15.9	54.8
on	1,432.6	1,945.1	512.5	35.8
zations	572.6	671.6	99.0	17.3
	429.5	672.9	243.4	56.7
are	48.5	61.2	12.7	26.2
bership	382.0	539.4	157.4	41.2
	1,780.5	1,441.0	-339.5	-19.1
nd Related Services	839.2	1,184.2	345.0	41.1
architectural services	321.6	443.4	121.8	37.9
ing	305.8	454.7	148.9	48.7
ofessional services	211.8	286.2	74.4	35.1
	4,259.4	5,219.9	960.5	22.6
ministration	2,262.8	2,433.6	170.8	7.5
	712.8	778.7	65.9	9.2
ministration	1,550.0	1,654.8	104.8	6.8
stration	615.8	875.8	260.0	42.2
stration	1,380.8	1,910.5	529.7	38.4

next page.

TABLE 1
NATIONAL TOTAL EMPLOYMENT BY INDUSTRY,
1970 AND PROJECTED TO 1980 - continued
(IN THOUSANDS)

1 Data include self-employed persons, unpaid family workers, and wage and salary workers. Persons holding two or more jobs are shown only once, as of their primary job. Following the classifications system used in the 1970 Census of Population, government employment was separated into administration and other activities such as education, hospitals, public utilities, and government construction and manufacturing. The latter is combined with their counterparts in the private sector.

SOURCE: Bureau of Labor Statistics

TABLE I
NATIONAL TOTAL ¹/ EMPLOYMENT BY INDUSTRY,
1970 AND PROJECTED TO 1980 - continued
(IN THOUSANDS)

employed persons, unpaid family workers, and wage and salary workers. Persons holding two or more jobs are shown only in the industry job. Following the classifications system used in the 1970 Census of Population, government employment was separated into public and other activities such as education, hospitals, public utilities, and government construction and manufacturing. The latter have been their counterparts in the private sector.

Labor Statistics

* TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Total, All Occupations	78,627.3	95,817.0	17,189.7
Professional, Technical, Kindred	10,939.3	14,751.2	3,811.9
Engineers, Technical	1,104.0	1,415.5	311.5
Engineers, aero-astronautic	61.0	70.0	9.0
Engineers, chemical	50.0	57.0	7.0
Engineers, civil	167.0	205.0	38.0
Engineers, electrical	281.0	365.0	84.0
Engineers, industrial	159.0	223.0	64.0
Engineers, mechanical	185.0	225.0	40.0
Engineers, metallurgical	15.0	19.4	4.4
Engineers, mining	3.0	4.7	-0.3
Engineers, petroleum	12.0	13.4	1.4
Engineers, sales	39.0	46.0	7.0
Engineers, other	130.0	187.0	57.0
Life and Physical Scientists	207.0	275.7	68.7
Agricultural scientists	13.0	15.0	2.0
Atmospheric, space scientists	6.0	8.0	2.0
Biological scientists	29.0	39.0	10.0
Chemists	100.0	150.0	41.0
Geologists	24.0	30.0	6.0
Marine scientists	3.0	5.0	2.0
Physicists and astronomers	21.0	26.5	5.5
Life, physical scientists, n.e.c.	2.0	2.2	0.2
Mathematical Specialists	34.0	48.7	14.7
Actuaries	5.0	7.2	2.2
Mathematicians	8.0	11.5	3.5
Statisticians	21.0	30.0	9.0
Engineers, Science Technicians	865.0	1,278.5	413.5
Agricultural, biological technicians, except health	36.0	52.0	16.0
Chemical technicians	77.9	94.9	17.0
Draftsmen	316.0	425.0	109.0
Electrical, electronic technicians	154.0	237.0	83.0
Industrial engineering technicians	20.0	23.0	3.0
Mathematical technicians	1.0	1.0	0

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
	78,627.3	95,817.0	17,189.7	21.9
ded	10,939.3	14,751.2	3,811.9	34.8
utic	1,104.0	1,415.5	311.5	28.2
	61.0	70.0	9.0	14.8
	50.0	57.0	7.0	14.0
	167.0	205.0	38.0	22.8
	281.0	365.0	84.0	29.9
	159.0	223.0	64.0	40.3
	185.0	225.0	40.0	21.6
	15.0	19.4	4.4	29.3
	5.0	4.7	-0.3	-06.0
	12.0	13.4	1.4	11.7
	39.0	46.0	7.0	17.9
	130.0	187.0	57.0	43.8
ts	207.0	275.7	68.7	33.2
entists	13.0	19.0	2.0	15.4
	6.0	8.0	2.0	3.3
	29.0	39.0	10.0	34.5
	100.0	150.0	41.0	37.6
	24.0	30.0	6.0	25.0
	3.0	5.0	2.0	66.7
ers	21.0	26.5	5.5	26.2
, n.e.c.	2.0	2.2	0.2	10.0
	34.0	48.7	14.7	43.2
	5.0	7.2	2.2	44.0
	8.0	11.5	3.5	43.8
	21.0	30.0	9.0	42.9
icians	865.0	1,278.5	413.5	47.8
technicians, except health	36.0	52.0	16.0	44.4
	77.9	94.9	17.0	21.8
chnicians	316.0	425.0	109.0	34.5
chnicians	154.0	237.0	83.0	53.9
	20.0	23.0	3.0	15.0
	1.0	1.0	0	0

TABLE 2
NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
REQUIREMENTS BY OCCUPATION - continued
(IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Mechanical engineering technicians	12.0	14.5	2.5
Surveyors	59.0	76.0	17.0
Engineering, science technicians, n.e.c.	190.0	355.0	165.0
Medical Workers, except Technicians	1,369.0	1,944.2	575.2
Chiropractors	16.0	18.2	2.2
Dentists	94.1	130.0	35.9
Dietitians	30.0	42.0	12.0
Optometrists	18.0	22.0	4.0
Pharmacists	129.0	156.9	27.9
Physicians, medical and osteopaths	290.0	405.0	115.0
Podiatrists	7.0	8.3	1.3
Registered nurses	680.0	980.0	300.0
Therapists	81.6	147.0	65.4
Veterinarians	22.6	33.0	10.4
Other medical and health	1.0	1.7	0.7
Health Technologists and Technicians	273.8	501.8	228.0
Clinical lab technologists and technicians	130.0	240.0	110.0
Dental hygienists	16.0	34.0	18.0
Health record technologists and technicians	12.3	30.0	17.7
Radiologic technologists and technicians	52.0	81.0	29.0
Other health technologists and technicians	60.0	110.0	50.0
Technicians, except Health	155.0	231.1	76.1
Airplane pilots	49.0	67.0	18.0
Air traffic controllers	25.0	30.0	5.0
Embalmers	5.0	4.1	-0.9
Flight engineers	6.0	9.0	3.0
Radio operators	30.0	40.0	10.0
Tool programmers, numerical	3.0	4.0	1.0
Other technicians, except health	37.0	77.0	40.0
Therapy assistants	3.5	6.8	3.3
Computer Specialists	279.2	455.0	175.8
Computer programmers	176.5	250.0	73.5
Computer systems analysts	88.1	142.0	53.9
Other computer specialists	14.6	23.0	8.4

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TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
Engineering technicians	12.0	14.5	2.5	20.8
Electronics technicians, n.e.c.	59.0	76.0	17.0	28.8
Electronics technicians	190.0	355.0	165.0	86.8
Electronics Technicians	1,369.0	1,944.2	575.2	42.0
	16.0	18.2	2.2	13.8
	94.1	130.0	35.9	38.2
	30.0	42.0	12.0	40.0
	18.0	22.0	4.0	22.2
Medical and osteopaths	129.0	156.9	27.9	21.6
	290.0	405.0	115.0	39.7
	7.0	-8.3	-1.3	18.6
	680.0	980.0	300.0	44.1
	81.6	147.0	65.4	80.1
Health	22.6	33.0	10.4	46.0
	1.0	1.7	0.7	70.0
Health and Technicians	273.8	501.8	228.0	83.3
Biologists and technicians	130.0	240.0	110.0	84.6
	16.0	34.0	18.0	112.5
Biologists and technicians	12.3	90.0	17.7	143.9
Biologists and technicians	52.0	81.0	29.0	55.8
Biologists and technicians	60.0	110.0	50.0	83.3
Health	155.0	231.1	76.1	49.1
	49.0	67.0	18.0	36.7
Health	25.0	30.0	5.0	20.0
	5.0	4.1	-0.9	-18.0
	-6.0	9.0	3.0	50.0
	30.0	40.0	10.0	33.3
Numerical	3.0	4.0	1.0	33.3
except health	37.0	77.0	40.0	108.1
	3.5	6.8	3.3	94.3
	279.2	415.0	135.8	48.6
	176.5	250.0	73.5	41.6
Analysts	88.1	142.0	53.9	61.2
Specialists	14.6	23.0	8.4	57.5

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Social Scientists	115.2	206.5	91.3
Economists	66.0	110.0	44.0
Political scientists	1.9	3.5	1.6
Psychologists	30.0	60.5	30.5
Sociologists	1.3	2.0	0.7
Urban and regional planners	9.0	18.0	9.0
Other social scientists	7.0	12.5	5.5
Teachers	3,383.5	3,927.3	589.8
Adult education teachers	58.0	85.0	27.0
Agriculture teachers	5.0	6.2	1.2
Art, drama, music teachers	30.0	44.1	14.1
Atmospheric, earth, marine teachers	4.5	7.5	3.0
Biology teachers	21.0	32.6	11.6
Business, commerce teachers	14.0	22.1	8.1
Chemistry teachers	16.0	18.5	2.5
Coaches, physical education teachers	17.0	21.2	4.2
Economics teachers	10.0	14.1	4.1
Education teachers	7.2	8.8	1.6
Elementary school teachers	1,400.0	1,537.0	135.0
Engineering teachers	17.0	20.3	3.3
English teachers	39.0	49.4	10.4
Foreign language teachers	20.7	32.6	11.9
Health specialties teachers	28.0	54.7	26.7
History teachers	16.0	17.6	1.6
Home economics teachers	4.2	6.2	2.0
Law teachers	2.9	4.9	2.0
Mathematics teachers	26.0	37.5	11.5
Physics teachers	14.0	13.2	-0.8
Preschool and kindergarten teachers	193.0	160.0	27.0
Psychology teachers	13.0	22.9	9.9
Secondary school teachers	1,037.0	1,050.0	13.0
Sociology teachers	7.0	15.0	8.0
Social science teachers, n.e.c.	12.0	20.3	8.3
Miscellaneous college and university teachers	19.0	32.2	13.2
College and university teachers, n.e.c.	148.0	233.0	85.0
Theology teachers	5.0	8.8	3.8
Trade, industrial and technical teachers	3.0	5.6	2.6
Teachers, n.e.c., except college and university teachers	209.9	348.0	138.1

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
	115.2	206.5	91.3	79.3
	66.0	110.0	44.0	66.7
	1.9	3.5	1.6	84.2
	30.0	60.5	30.5	101.7
	1.3	2.0	0.7	53.8
planners	9.0	18.0	9.0	100.0
lists	7.0	12.5	5.5	78.6
	3,337.5	3,927.3	589.8	17.7
achers	58.0	85.0	27.0	46.6
s	5.0	6.2	1.2	24.0
teachers	30.0	44.1	14.1	47.0
marine teachers	4.5	7.5	3.0	66.7
	21.0	32.6	11.6	55.2
teachers	14.0	22.1	8.1	57.9
	16.0	18.5	2.5	15.6
education teachers	17.0	21.2	4.2	24.7
	10.0	14.1	4.1	41.0
	7.2	8.8	1.6	22.2
teachers	1,400.0	1,535.0	135.0	9.6
rs	17.0	20.3	3.3	19.4
	39.0	49.4	10.4	26.7
teachers	20.7	32.6	11.9	57.5
teachers	28.0	54.7	26.7	95.4
	16.0	17.6	1.6	10.0
teachers	4.2	6.2	2.0	47.6
	2.9	4.9	2.0	69.0
ers	26.0	37.5	11.5	44.2
	14.0	13.2	-0.8	-5.7
ergarten teachers	133.0	160.0	27.0	20.3
rs	13.0	22.9	9.9	76.2
teachers	1,037.0	1,050.0	13.0	1.3
	7.0	15.0	8.0	114.3
chers, p.e.c.	12.0	20.3	8.3	69.2
ge and university teachers	19.0	32.2	13.2	69.5
city teachers, n.e.c.	148.0	233.0	85.0	57.4
	5.0	8.8	3.8	76.0
nd technical teachers	3.0	5.6	2.6	86.7
xcept college and university teachers	209.9	348.0	138.1	65.8

TABLE 2*
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Writers, Artists, Entertainers	821.6	1,135.8	314.2
Actors	10.7	13.6	2.9
Athletes and kindred workers	55.7	83.0	27.3
Authors	26.0	30.0	4.0
Dancers	6.0	8.3	2.3
Designers	120.0	164.0	44.0
Editors and reporters	150.0	205.0	55.0
Musicians and composers	105.0	135.0	30.0
Painters and sculptors	105.0	146.0	41.0
Photographers	70.2	88.0	17.8
Public relations men, writers	82.0	119.0	37.0
Radio and TV announcers	21.0	24.9	3.9
Writers, artists and entertainers, n.e.c.	70.0	119.0	49.0
Other Professional, Technical and Kindred Workers	2,378.0	3,371.0	993.0
Accountants	686.0	875.0	189.0
Architects	62.0	91.0	29.0
Archivists and curators	6.0	9.5	3.5
Clergymen	228.0	265.0	37.0
Religious, except clergymen	43.0	50.0	7.0
Farm management advisors	7.0	6.1	-0.9
Foresters, conservationists	43.0	53.5	10.5
Home management advisors	5.2	5.1	-0.1
Judges	13.7	15.0	1.3
Lawyers	287.0	385.0	98.0
Librarians	115.0	145.7	30.7
Operations, systems research	79.0	135.0	56.0
Personnel labor relations	286.0	478.0	192.0
Research workers, n.e.c.	115.0	195.0	80.0
Recreation workers	60.0	92.0	32.0
Social workers	230.0	360.0	130.0
Vocational education counselors	112.0	210.0	98.0
Managers, Officials, Proprietors	7,484.0	10,149.0	2,665.0
Buyers, Sales, Loan Managers	1,360.0	1,909.9	549.9
Bank, financial managers	398.0	600.0	202.0
Buyers, shippers, farm products	25.0	20.1	-4.9
Buyers, wholesale, retail products	155.0	210.0	55.0

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TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
Entertainers	821.6	1,135.8	314.2	38.2
Dancers	10.7	13.6	2.9	27.1
Hand workers	55.7	83.0	27.3	49.0
Carpenters	26.0	30.0	4.0	15.4
Electricians	6.0	8.3	2.3	38.3
Painters	120.0	164.0	44.0	36.7
Plumbers	150.0	205.0	55.0	36.7
Composers	105.0	135.0	30.0	28.6
Sculptors	105.0	146.0	41.0	39.0
Musicians	70.2	88.0	17.8	25.4
Men, writers	82.0	119.0	37.0	45.1
Announcers	21.0	24.9	3.9	18.6
and entertainers, n.e.c.	70.0	119.0	49.0	70.0
Technical and Kindred Workers	2,378.0	3,371.0	993.0	41.8
Agricultural workers	686.0	875.0	189.0	27.6
Laborers	62.0	91.0	29.0	46.8
Machinists	6.0	9.5	3.5	58.3
Miners	228.0	265.0	37.0	16.2
Pastors	43.0	50.0	7.0	16.3
Police officers	7.0	6.1	-0.9	-12.9
Religionists	43.0	53.5	10.5	24.4
Social workers	5.2	5.1	-0.1	-1.9
Teachers	13.7	15.0	1.3	9.5
Truck drivers	287.0	385.0	98.0	34.1
Systems research	115.0	145.7	30.7	26.7
Public relations	79.0	135.0	56.0	70.9
Sales, n.e.c.	286.0	478.0	192.0	67.1
Scientists	115.0	195.0	80.0	69.6
Social workers	60.0	92.0	32.0	53.3
Vocational counselors	230.0	360.0	130.0	56.6
Writers	112.0	210.0	98.0	87.5
Proprietors	7,484.0	10,149.0	2,665.0	35.6
Managers	1,360.0	1,909.9	549.9	40.4
Manufacturers	398.0	600.0	202.0	50.8
Farm products	25.0	20.1	-4.9	-19.6
Retail products	155.0	210.0	55.0	35.5

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Creditmen	68.0	85.8	17.8
Purchasing agents, buyers, n.e.c.	175.0	234.0	59.0
Sales manager, retail trade	275.0	390.9	115.9
Sales manager, except retail trade	264.0	369.1	105.1
Administrators, Public Inspectors	752.0	990.4	238.4
Assessors, controllers, and treasurers; local public administration	30.0	35.7	5.7
Construction inspector, public	21.0	26.5	5.5
Health administrators	100.0	176.1	76.1
Inspectors, except construction and public	89.0	130.0	41.0
Officials and public administrators	263.0	301.8	38.8
Postmasters and mail supervisors	39.0	31.2	-3.8
School administrators, college	40.0	72.3	32.3
School administrators, elementary and secondary	174.0	216.8	42.8
Other Managers, Officials and Proprietors	5,372.0	7,248.7	1,876.7
Funeral directors	40.0	41.2	1.2
Managers, superintendants, building	100.0	150.3	50.3
Office managers, n.e.c.	288.0	447.4	159.4
Officers, pilots, pursers, ship	32.0	32.2	0.2
Officials of lodges, unions	65.0	82.9	17.9
Railroad conductors	40.0	36.4	-3.6
Restaurant, cafe and bar manager	463.0	552.6	89.6
Other managers and administrators	4,344.0	5,905.7	1,561.7
Sales Workers	5,012.9	6,340.0	1,327.1
Advertising Agents, Salesmen	63.5	86.0	22.5
Auctioneers	5.5	7.0	1.5
Demonstrators	55.5	61.0	5.5
Hucksters and Peddlers	210.0	262.9	52.9
Insurance Agents, Brokers, Etc.	412.0	522.9	110.9
Newsboys	72.0	61.6	-10.4
Real Estate Agents, Brokers	316.0	413.5	97.5
Stock and Bond Salesmen	101.8	140.5	38.7
Sales Representatives, manufacturing	394.0	476.1	82.1
Sales Representatives, wholesale trade	635.0	810.3	175.3
Sales Clerks, retail trade	2,190.0	2,782.1	592.1
Salesmen, retail trade	407.0	497.3	90.3
Salesmen, service and construction	151.2	218.8	67.6

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
Agents, buyers, n.e.c.	68.0	85.8	17.8	26.2
Fr, retail trade	175.0	234.0	59.0	33.7
er, except retail trade	275.0	390.9	115.9	42.1
	264.0	369.1	105.1	39.8
Public Inspectors	752.0	990.4	238.4	31.7
Controllers, and treasurers; local public administration	30.0	35.7	5.7	19.0
Inspector, public	21.0	26.5	5.5	26.2
Administrators	100.0	176.1	76.1	76.1
Except construction and public	89.0	130.0	41.0	46.1
Public administrators	263.0	301.8	38.8	14.8
and mail supervisors	35.0	31.2	-3.8	-10.9
Administrators, college	40.0	72.3	32.3	80.8
Administrators, elementary and secondary	174.0	216.8	42.8	24.6
Officials and Proprietors	5,372.0	7,248.7	1,876.7	34.9
ors	40.0	41.2	1.2	3.0
Superintendants, building	100.0	150.3	50.3	50.3
ers, n.e.c.	288.0	447.4	159.4	55.3
ts, pursers, ship	32.0	32.2	0.2	0.6
dges, unions	65.0	82.9	17.9	27.5
uctors	40.0	36.4	-3.6	-9.0
afe and bar, amager	463.0	552.6	89.6	19.4
ts and administrators	4,344.0	5,905.7	1,561.7	36.0
	5,012.9	6,340.0	1,327.1	26.5
ts, Salesmen	63.5	86.0	22.5	35.4
	5.5	7.0	1.5	27.3
	55.5	61.0	5.5	9.9
iddleis	210.0	262.9	52.9	25.2
, Brokers, Etc.	412.0	522.9	110.9	26.9
	72.0	61.6	-10.4	-14.4
ts, Brokers	316.0	413.5	97.5	30.9
alesmen	101.8	140.5	38.7	38.0
ives, manufacturing	394.0	476.1	82.1	20.8
ives, wholesale trade	635.0	810.3	175.3	27.6
ail trade	2,190.0	2,782.1	592.1	27.0
rade	407.0	497.3	90.3	22.2
e and construction	151.2	218.8	67.6	44.7

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Clerical Workers			
Stenographers, Typists and Secretaries	13,732.2	18,100.1	4,367.9
Secretaries, legal	3,886.1	5,401.6	1,515.5
Secretaries, medical	104.0	162.5	58.5
Secretaries, other	79.0	140.2	61.2
Stenographers	2,602.1	3,738.9	1,136.8
Typists	128.0	96.0	-32.0
	973.0	1,264.0	291.0
Office Machine Operators			
Bookkeeping, billing operators	632.5	741.3	108.8
Calculating machine operators	68.5	85.4	16.9
Computer, peripheral equipment operators	34.0	36.6	2.6
Duplicating machine operators	150.0	246.1	96.1
Keypunch operators	19.0	26.6	7.6
Tabulating machine operators	300.0	265.0	-35.0
Other office machine operators	9.0	4.4	-4.6
	52.0	77.2	25.2
Other Clerical Workers			
Bank tellers	9,213.6	11,957.2	2,743.6
Billing clerks	287.0	400.0	113.0
Bookkeepers	123.0	193.3	70.3
Cashiers	1,540.0	1,850.0	310.0
Clerical assistants, social welfare workers	969.0	1,250.0	281.0
Clerical supervisors, n.e.c.	1.5	3.0	1.5
Collectors, bill and account	192.0	248.8	56.8
Counter clerks, except food	60.0	85.2	25.2
Dispatcher, starter, vehicle	309.0	443.2	134.2
Enumerators and interviewers	64.0	84.9	20.9
Estimators, investigators, n.e.c.	65.0	65.0	0
Expeditors, production controllers	329.0	449.7	120.7
File clerks	200.0	250.0	50.0
Insurance adjusters, examiners, and investigators	270.0	320.0	50.0
Library attendants, assistants	105.0	136.7	31.7
Mail carriers, post office	120.0	167.0	47.0
Mail handlers, except post office	268.0	285.0	17.0
Messenger and office boys	130.0	175.4	45.4
Meter readers, utilities	56.0	56.2	0.2
Payroll, time keeping clerks	37.0	38.4	1.4
	175.0	222.5	47.5

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
Typists and Secretaries	13,732.2	18,100.1	4,367.9	31.8
Legal	3,886.1	5,401.6	1,515.5	39.0
Medical	104.0	162.5	58.5	56.3
Other	79.0	140.2	61.2	77.5
	2,602.1	3,738.9	1,136.8	43.7
	128.0	96.0	-32.0	-25.0
	973.0	1,264.0	291.0	29.9
Operators	632.5	741.3	108.8	17.2
Billing operators	68.5	85.4	16.9	24.7
Machine operators	34.0	36.6	2.6	7.6
Peripheral equipment operators	150.0	246.1	96.1	64.1
Machine operators	19.0	26.6	7.6	40.0
Operators	300.0	265.0	-35.0	-11.7
Machine operators	9.0	4.4	-4.6	-51.1
Machine operators	52.0	77.2	25.2	48.5
Workers	9,213.6	11,957.2	2,743.6	29.8
	287.0	400.0	113.0	39.4
	123.0	193.3	70.3	57.2
	1,540.0	1,850.0	310.0	20.1
	969.0	1,250.0	281.0	29.0
Attendants, social welfare workers	1.5	3.0	1.5	100.0
Advisors, n.e.c.	192.0	248.8	56.8	29.6
Mail and account	60.0	85.2	25.2	42.0
Managers, except food	309.0	443.2	134.2	43.4
Managers, vehicle	64.0	84.9	20.9	32.7
Managers and interviewers	65.0	65.0	0	0
Investigators, n.e.c.	329.0	449.7	120.7	36.7
Production controllers	200.0	250.0	50.5	25.3
	270.0	320.0	50.0	18.5
Inspectors, examiners, and investigators	105.0	136.7	31.7	30.2
Attendants, assistants	120.0	167.0	47.0	39.2
Post office	268.0	285.0	17.0	6.3
Post office except post office	130.0	175.4	45.4	34.9
Office boys	56.0	56.2	0.2	0.4
Utilities	37.0	38.4	1.4	3.8
Typing clerks	175.0	222.5	47.5	27.1

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Postal clerks	315.0	320.0	5.0
Proofreaders	27.0	37.3	10.3
Real estate appraisers	24.0	33.6	9.6
Receptionists	423.0	570.0	147.0
Shipping, receiving clerks	438.0	500.0	62.0
Statistical clerks	291.0	350.0	59.0
Stock clerks, store keepers	496.0	625.7	129.7
Teacher aides, except monitors	150.0	286.4	136.4
Telegraph messengers	2.9	1.5	-1.0
Telegraph operators	12.0	8.8	-3.2
Telephone operators	388.0	404.4	16.4
Ticket station, express agents	94.0	115.1	21.1
Weighters	46.0	47.6	1.6
Miscellaneous clerical workers, n.e.c.	1,206.5	-1,931.9	725.4
Craftsmen, Foremen, Kindred Workers	10,400.8	12,237.2	1,836.4
Construction Craftsmen	3,093.3	3,739.2	645.9
Carpenters	985.0	1,125.0	140.0
Carpenter apprentices	8.9	11.0	2.1
Brickmasons and stonemasons	172.0	205.0	33.0
Brickmason and stonemason apprentices	-4.5	4.4	-0.1
Bulldozer operators	100.0	121.0	21.0
Cement and concrete finishers	65.0	94.1	29.1
Electricians	450.0	581.4	131.4
Electrician apprentice	21.3	29.9	8.6
Excavating, grading, machine operators	280.0	846.2	66.2
Floor layers, except tile setters	23.5	29.9	6.4
Painters, construction, and maintenance	400.0	435.6	35.6
Painter apprentices	1.6	1.7	0.1
Paperhangers	10.0	13.7	3.7
Plasterers	28.0	30.0	2.0
Plasterer apprentices	0.5	0.4	-0.1
Plumbers and pipefitters	355.0	460.0	105.0
Plumber, pipefitter apprentices	14.0	18.9	4.9
Roofers and slaters	63.0	95.0	32.0
Structural metal craftsmen	79.0	100.0	21.0
Tilersetters	32.0	36.0	4.0

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
	315.0	320.0	5.0	1.6
Appraisers	27.0	37.3	10.3	38.1
	24.0	33.6	9.6	40.0
Living clerks	423.0	570.0	147.0	34.8
Arks	438.0	500.0	62.0	14.2
Store keepers	291.0	350.0	59.0	20.3
except monitors	496.0	625.7	129.7	26.1
messengers	150.0	286.4	136.4	90.9
ators	2.5	1.5	-1.0	-40.0
ators	12.0	8.8	-3.2	-26.7
ators	388.0	404.4	16.4	4.2
express agents	94.0	115.1	21.1	22.4
	46.0	47.6	1.6	3.5
clerical workers, n.e.c.	1,206.5	1,931.9	725.4	60.1
Kindred Workers	10,400.8	12,237.2	1,836.4	17.7
tsmen	3,093.3	3,739.2	645.9	20.9
	985.0	1,125.0	140.0	14.2
entices	8.9	11.0	2.1	23.6
nd stonemasons	172.0	205.0	33.0	19.2
d stonemason apprentices	4.5	4.4	-0.1	-2.2
ators	100.0	121.0	21.0	21.0
concrete finishers	65.0	94.1	29.1	44.8
	450.0	581.4	131.4	29.2
rentice	21.3	29.9	8.6	40.4
ading, machine operators	280.0	846.2	66.2	23.6
except tile setters	23.5	29.9	6.4	27.2
struction, and maintenance	400.0	435.6	35.6	8.9
ices	1.6	1.7	0.1	6.3
	10.0	13.7	3.7	37.0
	28.0	30.0	2.0	7.1
ntices	0.5	0.4	-0.1	-20.0
pipefitters	355.0	460.0	105.0	29.6
lter apprentices	14.0	18.9	4.9	35.0
aters	63.0	95.0	32.0	50.8
l craftsmen	79.0	100.0	21.0	26.6
	32.0	36.0	4.0	12.5

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Foremen, n.e.c.	1,375.0	1,562.4	187.4
Metalworking Craftsmen, except Mechanical	1,092.8	1,212.0	119.2
Blacksmiths	10.0	9.6	-0.4
Boilermakers	30.0	35.5	5.5
Heat treaters, annealers, etc.	23.0	21.7	-1.3
Forgemen and hammermen	18.0	21.2	3.2
Job and die setters, metal	100.0	135.1	35.1
Machinists	361.0	400.0	39.0
Machinist apprentices	10.0	11.2	1.2
Millwrights	81.0	90.7	9.7
Molders, metal	55.0	56.5	1.5
Molder apprentices	0.8	0.9	0.1
Pattern and model makers	42.0	40.8	-1.2
Rollerstand finishers, metal	23.0	24.5	1.5
Sheet metal workers, fitters	155.0	162.1	7.1
Sheet metal worker apprentices	6.0	8.2	2.2
Tool and diemakers	168.0	180.0	12.0
Tool and diemaker apprentices	10.0	14.0	4.0
Mechanics, Repairmen, Installers	2,648.4	3,267.6	619.2
Air conditioning, heating, refrigeration	130.0	215.0	85.0
Aircrafts	120.0	160.0	40.0
Automobile accessories installers	6.0	6.2	0.2
Automobile body repairmen	159.0	175.0	16.0
Automobile mechanics	837.0	975.0	138.0
Automobile mechanic apprentices	2.6	3.5	0.9
Data processing machine repairmen	36.0	72.6	36.6
Farm implement	46.3	50.0	3.7
Heavy equipment mechanics, including diesel	687.0	875.4	188.4
Household appliance mechanics	120.0	156.9	36.9
Loom fixers	18.0	17.2	-0.8
Office machine repairmen	64.5	85.0	20.5
Radio, television repairmen	137.0	150.0	13.0
Railroad, car shop repairmen	54.0	48.2	-5.8
Mechanics, except automobile apprentice	7.0	9.9	2.9
Other mechanics and repairmen	224.0	267.8	43.8

TABLE 2
 NATIONAL 1970 EMPLOYMENT, AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
	1,375.0	1,562.4	187.4	13.6
men, except Mechanical	1,092.8	1,212.0	119.2	10.9
	10.0	9.6	-0.4	-4.0
	30.0	35.5	5.5	18.3
anealers, etc.	23.0	21.7	-1.3	-5.7
hammermen	18.0	21.2	3.2	17.8
ers, metal	100.0	135.1	35.1	35.1
	361.0	400.0	39.0	10.8
atices	10.0	11.2	1.2	12.0
	81.0	90.7	9.7	12.0
	55.0	56.5	1.5	2.7
es	0.8	0.9	0.1	12.5
el makers	42.0	40.8	-1.2	-2.9
hers, metal	23.0	24.5	1.5	6.5
ers, tinsmiths	155.0	162.1	7.1	4.6
er apprentices	6.0	8.2	2.2	36.7
ers	168.0	180.0	12.0	7.1
er apprentices	10.0	14.0	4.0	40.0
en, Installers	2,648.4	3,267.6	619.2	23.4
heating, refrigeration	130.0	215.0	85.0	65.4
	120.0	160.0	40.0	33.3
essorie's installers	6.0	6.2	0.2	3.3
repairmen	159.0	175.0	16.0	10.1
anics	837.0	975.0	138.0	16.5
anic apprentices	2.6	3.5	0.9	34.6
machine repairmen	36.0	72.6	36.6	101.7
	46.3	50.0	3.7	8.0
mechanics, including diesel	687.0	875.4	188.4	27.4
nce mechanics	120.0	156.9	36.9	30.8
	18.0	17.2	-0.8	-4.4
epairmen	64.5	85.0	20.5	31.8
epairmen	137.0	150.0	13.0	9.5
p repairmen	54.0	48.2	-5.8	-10.7
ot automobile apprentice	7.0	9.9	2.9	41.4
and repairmen	224.0	267.8	43.8	19.6

TABLE 2
NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
REQUIREMENTS-BY OCCUPATION - continued
(IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Printing Trade Craftsmen	399.6	446.7	47.1
Bookbinders	32.0	35.7	3.7
Compositors and typesetters	170.0	176.4	6.4
Electrotypers, stereotypers	7.0	6.9	-0.1
Engravers, except photoengravers	9.3	9.8	0.5
Photoengravers, lithographers	33.5	45.8	12.3
Pressmen and plate printers	139.0	165.0	26.0
Pressmen and apprentices	2.8	4.1	1.3
Printing apprentices, except press	6.0	4.0	-2.0
Transportation, Public Utilities Craftsmen	504.8	567.9	63.1
Electric power linemen, cablemen	100.0	113.4	13.4
Locomotive engineers	37.5	34.9	-2.6
Locomotive firemen	18.0	11.2	-6.8
Power station operators	17.3	16.3	-1.0
Telephone installers, repairmen	280.0	339.1	59.1
Telephone linemen, splicers	52.0	53.0	1.0
Other Craftsmen/Kindred Workers	1,287.1	1,441.5	154.4
Bakers	125.0	128.4	3.4
Cabinet makers	75.0	83.1	8.1
Carpet installers	47.0	60.9	13.9
Cranemen, derrickmen, hoistmen	170.0	193.5	23.5
Decorators, window dressers	70.0	96.4	26.4
Dental laboratory technicians	30.0	38.5	8.5
Furniture and wood finishers	23.0	23.7	0.7
Furriers	2.6	1.9	-0.7
Glaziers	25.0	33.1	8.1
Inspectors, log and lumber	17.0	19.1	2.1
Inspectors, other	128.0	147.6	19.6
Jewelers and watchmakers	41.5	44.0	2.5
Millers, grain, flour, feed	8.8	10.0	1.2
Motion picture projectionists	16.0	17.4	1.4
Opticians, lens grinder, polisher	27.0	37.0	10.0
Piano and organ tuners and repairmen	7.0	7.0	0
Shipfitters	11.0	13.7	2.7
Shoe repairmen	31.0	23.0	-8.0
Sign painters and letterers	20.0	23.0	3.0

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
raftsmen	399.6	446.7	47.1	11.8
ad typesetters	32.0	35.7	3.7	11.6
stereotypers	170.0	175.4	5.4	3.2
cept photoengravers	7.0	6.9	-0.1	-1.4
, lithographers	9.3	9.8	0.5	5.4
late printers	33.5	45.8	12.3	36.7
pprentices	139.0	165.0	26.0	18.7
ices, except press	2.8	4.1	1.3	46.4
	6.0	4.0	-2.0	-33.3
ublic Utilities Craftsmen	504.8	567.9	63.1	12.5
linemen, cablemen	100.0	113.4	13.4	13.4
lineers.	37.5	34.9	-2.6	-6.9
men	18.0	11.2	-6.8	-37.8
perators	17.3	16.3	-1.0	-5.8
illers, repairmen	280.0	339.1	59.1	21.1
en, splicers	52.0	53.0	1.0	1.9
undred Workers	1,287.1	1,441.5	154.4	12.0
	125.0	128.4	3.4	2.7
	75.0	83.1	8.1	10.8
	47.0	60.9	13.9	29.6
ckmen, hoistmen	170.0	193.5	23.5	13.8
ow dressers	70.0	96.4	26.4	37.7
y technicians	30.0	38.5	8.5	28.3
ood finishers	23.0	23.7	0.7	3.0
	2.6	1.9	-0.7	-26.9
	25.0	33.1	8.1	32.4
nd lumber	17.0	19.1	2.1	12.4
	128.0	147.6	19.6	15.3
echmakers	41.5	44.0	2.5	6.0
our, feed	8.8	10.0	1.2	13.6
rojectionists	16.0	17.4	1.4	8.8
grinder, polisher	27.0	37.0	10.0	37.0
tuners and repairmen	7.0	7.0	0	0
	11.0	13.7	2.7	24.5
	31.0	23.0	-8.0	-25.8
letterers	20.0	23.0	3.0	15.0

TABLE 2
NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
REQUIREMENTS BY OCCUPATION - continued
(IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Stationary engineers	178.0	180.0	2.0
Stone cutters, stone carvers	7.0	8.2	1.1
Tailor	68.0	69.9	1.9
Upholsterers	68.0	81.2	13.2
Craftsmen, kindred workers, n.e.c.	80.0	88.9	8.9
Former armed forces members	5.0	-	-
Craft apprentices, n.e.c.	10.7	12.0	1.3
Operatives	13,396.7	15,039.2	1,642.5
Operatives, except Transportation	10,384.9	11,556.7	1,171.8
Semiskilled metalworking	1,330.8	1,618.0	287.2
Drill press operatives	76.0	87.8	11.8
Furnacemen, smeltermen, pourers	74.4	84.9	10.5
Grinding machine operatives	145.0	180.9	35.9
Hearers, metal	-7.5	6.8	-0.7
Lathe, milling machine operatives	155.0	181.8	26.8
Metal platers	36.0	43.5	7.5
Other precision machine operatives	76.5	100.2	23.7
Punch stamping press operatives	180.0	214.0	34.0
Solderers	42.4	29.4	-13.0
Welders and flame cutters	538.0	688.7	150.7
Semiskilled textile operatives	438.4	404.9	-33.5
Carding, clapping, combing operatives	17.8	11.8	-6.0
Knitters, loopers and toppers	34.6	29.6	-5.0
Spinners, twistors, winders	150.0	147.3	-2.7
Weavers	46.0	38.3	-7.7
Other textile operatives	190.0	177.9	-12.1
Semiskilled packing and inspecting	1,456.2	1,702.5	246.3
Checkers, examiners, etc., manufacturing	690.0	811.1	121.1
Graders and sorters, manufacturing	45.3	50.9	5.6
Meat wrappers, retail trade	46.5	60.3	13.8
Packers, wrappers, except meat, produce	649.0	751.9	102.9
Produce graders, packers, except factory, farm	25.4	28.3	2.9
Other Operatives, except Transportation	7,159.6	7,831.3	671.7
Asbestos, insulation workers	27.0	33.2	6.2

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued ()
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
1511	178.0	180.0	2.0	1.1
casers	7.0	8.2	1.1	15.7
	68.0	69.9	1.9	2.8
	68.0	81.2	13.2	19.4
workers, n.e.c.	80.0	88.9	8.9	11.1
s members	-5.0			
n.e.c.	10.7	12.0	1.3	12.1
	13,396.7	15,039.2	1,642.5	12.3
transportation	10,384.9	11,556.7	1,171.8	11.3
orking	1,330.8	1,618.0	287.2	21.6
atives	76.0	87.8	11.8	15.5
eltermen, pourers	74.4	84.9	10.5	14.1
e operatives	145.0	180.9	35.9	24.8
	7.5	6.8	-0.7	-9.3
achine operatives	155.0	181.8	26.8	17.3
	36.0	43.5	7.5	20.8
achine operatives	76.5	100.2	23.7	31.0
press operatives	180.0	214.0	34.0	18.9
	42.4	29.4	-13.0	-30.7
ic cutters	538.0	688.7	150.7	28.0
operatives	438.4	404.9	-33.5	-7.6
, combing operatives	17.8	11.8	-6.0	-33.7
and toppers	34.6	29.6	-5.0	-14.5
s, winders	150.0	147.3	-2.7	-1.8
	46.0	38.3	-7.7	-16.7
ratives	190.0	177.9	-12.1	-6.4
and inspecting	1,456.2	1,702.5	246.3	16.9
ners, etc., manufacturing	690.0	811.1	121.1	17.6
ers, manufacturing,	45.3	50.9	5.6	12.4
etail trade	46.5	60.3	13.8	29.7
rs, except meat, produce,	649.0	751.9	102.9	15.9
packers, except factory, farm	25.4	28.3	2.9	11.4
pt Transportation	7,159.6	7,831.3	671.7	9.4
n workers	27.0	33.2	6.2	23.0

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION--continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Assemblers	944.0	1,068.0	124.0
Blasters and powdermen	7.1	7.2	0.1
Bottling, canning operatives	60.0	64.8	4.8
Chainmen, rodmen, axmen, surveying	11.0	12.5	1.5
Clothing ironers and pressers	200.0	173.0	-27.0
Cutting operatives, n.e.c.	239.0	288.1	49.1
Dressmaker, seamstress, except factory	110.0	106.6	-3.4
Drillers, earth	57.5	56.5	-1.0
Dry wall installers, lathes	47.0	68.7	21.7
Dryers	28.0	34.0	6.0
Files, polisher, sander, buffer	126.0	125.1	-0.9
Garage workers, gas station attendants	499.0	575.0	76.0
Laundry, dry cleaning operatives, n.e.c.	190.0	214.6	24.6
Meat cutters, butchers, except manufacturing	202.0	200.0	-2.0
Meat cutters, butchers	88.0	91.9	3.9
Milleners	2.0	1.3	-0.7
Mine operatives, n.e.c.	165.0	133.2	-31.8
Mixing operatives	80.7	89.6	8.9
Oilers, greasers, except automobile	51.0	49.0	-2.0
Painters, manufacturing articles	178.0	190.0	12.0
Photographic process workers	69.0	97.8	28.8
Riveters and fasteners	29.0	32.4	3.4
Sailors and deckhands	35.0	29.0	-6.0
Sawyers	120.0	143.8	23.8
Sewers and stitchers	926.0	1,044.8	118.8
Shoemaking machine operatives	67.0	45.5	-21.5
Stationary firemen	94.0	90.0	-4.0
Winding operatives, n.e.c.	69.0	89.4	20.4
Miscellaneous machine operatives	1,307.0	1,500.0	193.0
Operatives, n.e.c.	1,131.4	1,176.4	45.0
Transportation Equipment Operatives	3,011.9	3,482.6	470.7
Boatmen and canalmen	6.0	5.7	-0.3
Bus drivers	229.0	297.2	68.2
Conductors, motormen, urban rail	8.4	9.5	1.1
Deliverymen and routemen	817.0	965.0	148.0
Fork lift, tow motor operatives	281.0	340.0	59.0
Motormen, mine, factory, logging	10.0	9.5	-0.5

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
powdermen	944.0	1,068.0	124.0	13.1
ing operatives	7.1	7.2	0.1	1.4
men, axmen, surveying	60.0	64.8	4.8	8.0
s and pressers	11.0	12.5	1.5	13.6
yes, n.e.c.	200.0	173.0	-27.0	-13.5
amstress, except factory	239.0	288.1	49.1	20.5
	110.0	106.6	-3.4	-3.1
ers, lathes	57.5	56.5	-1.0	-1.7
	47.0	68.7	21.7	46.2
sander, buffer	28.0	34.0	6.0	21.4
gas station attendants	126.0	125.1	-0.9	-0.7
eaning operatives, n.e.c.	499.0	575.0	76.0	15.2
chers, except manufacturing	190.0	214.6	24.6	12.9
others	202.0	200.0	-2.0	-1.0
	88.0	91.9	3.9	4.4
n.e.c.	2.0	1.3	-0.7	-35.0
s*	165.0	133.2	-31.8	-19.3
, except automobile	80.7	89.6	8.9	11.0
ufacturing articles	51.0	49.0	-2.0	-3.9
rocess workers	178.0	190.0	12.0	6.7
teners	69.0	97.8	28.8	41.7
hands	29.0	32.4	3.4	11.7
	35.0	29.0	-6.0	-17.1
hers	120.0	143.8	23.8	19.8
ine operatives	926.0	1,044.8	118.8	12.8
n	67.0	45.5	-21.5	-32.1
es, n.e.c.	94.0	90.0	-4.0	-4.3
achine operatives	69.0	89.4	20.4	29.6
	1,307.0	1,500.0	193.0	14.8
	1,131.4	1,176.4	45.0	4.0
pmment Operatives	3,011.9	3,482.6	470.7	15.6
almen	6.0	5.7	-0.3	-5.0
	229.0	297.2	68.2	29.8
rmen, urban rail	8.4	9.5	1.1	13.1
outemen	817.0	965.0	148.0	18.1
tor operatives	281.0	340.0	59.0	21.0
actory, logging	10.0	9.5	-0.5	-5.0

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Parking attendants	30.5	37.5	7.0
Railroad brakemen	49.0	42.4	-6.6
Railroad switchmen	53.0	48.2	-4.8
Taxicab drivers, chauffeurs	150.0	146.4	-3.6
Truck drivers	1,378.0	1,581.2	203.2
Service Workers	10,357.3	12,700.3	2,343.0
Cleaning Service Workers	1,992.5	2,620.7	628.2
Chambermaid, maid, except private	218.5	285.7	67.2
Cleaners and charwomen	611.0	735.0	124.0
Janitors and sextons	1,163.0	1,600.0	437.0
Food Service Workers	3,094.1	3,575.9	481.8
Bartenders	189.0	221.5	32.5
Busboys	110.0	115.7	5.7
Cooks, except private	821.0	950.0	129.0
Dishwashers	207.0	252.8	45.8
Food counter, fountain workers	282.0	264.1	-17.9
Waiters	1,096.0	1,288.4	192.4
Food workers, n.e.c., except private	389.0	483.4	94.4
Health Service Workers	1,456.9	2,245.3	788.4
Dental assistants	100.0	145.0	45.0
Health aides, except nursing	133.0	249.4	116.4
Health trainees	19.0	5.5	-13.5
Lay midwives	0.8	1.1	0.3
Nurses aides, orderlies	834.0	1,203.4	369.4
Practical nurses	370.0	640.9	270.9
Personal Service Workers	1,398.8	1,756.2	357.4
Airline stewardesses	34.2	59.7	25.5
Attendant, recreation, amusement	80.0	102.8	22.8
Attendant, personal service, n.e.c.	62.0	65.8	3.8
Baggage porters and bellhops	21.0	14.3	-6.7
Barbers	158.0	150.0	-8.0
Boarding, lodging housekeepers	9.6	2.9	-6.7
Bootblacks	3.2	1.5	-1.7
Child care workers, except private	339.0	482.9	143.9

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TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
dants	30.5	37.5	7.0	23.0
emen	49.0	42.4	-6.6	-13.5
chmen	53.0	48.2	-4.8	-9.1
rs, chauffeurs	150.0	146.4	-3.6	-2.4
	1,378.0	1,581.2	203.2	14.7
	10,357.3	12,700.3	2,343.0	22.6
Workers	1,992.5	2,620.7	628.2	31.5
maid, except private	218.5	285.7	67.2	30.8
charwomen	611.0	735.0	124.0	20.3
extons	1,163.0	1,600.0	437.0	37.6
kers	3,094.1	3,575.9	481.8	15.6
	189.0	221.5	32.5	17.2
private	110.0	115.7	5.7	5.2
	821.0	950.0	129.0	15.7
fountain workers	207.0	252.8	45.8	22.1
	282.0	264.1	-17.9	-6.3
n.e.c., except private	1,096.0	1,288.4	192.4	17.6
	389.0	483.4	94.4	24.3
orkers	1,456.9	2,245.3	788.4	54.1
nts	100.0	145.0	45.0	45.0
except nursing	133.0	249.4	116.4	87.5
	19.0	5.5	-13.5	-71.1
orderlies	0.8	1.1	0.3	37.5
s	834.0	1,203.4	369.4	44.3
	370.0	640.9	270.9	73.2
Workers	1,398.8	1,756.2	357.4	25.6
esses	34.2	59.7	25.5	74.6
enion, amusement	80.0	102.8	22.8	28.5
onal service, n.e.c.	62.0	65.8	3.8	6.1
s and bellhops	21.0	14.3	-6.7	-31.9
	158.0	150.0	-8.0	-5.1
ng housekeepers	9.6	2.9	-6.7	-0.7
	3.2	1.5	-1.7	-53.1
ers, except private	339.0	482.9	143.9	42.4

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Elevator operators	39.0	20.2	-18.8
Hairdressers, cosmetologists	480.0	600.0	120.0
Housekeepers, except private	111.0	160.8	49.8
Personal service apprentice	1.0	0.5	-0.5
School monitors	26.5	40.0	13.5
Ushers, recreation, amusement	16.3	18.0	1.7
Welfare service aides	18.0	36.8	18.8
Protective Service Workers	1,046.9	1,362.4	315.5
Crossing guards, bridgetenders	46.0	52.0	6.0
Firemen, fire protection	181.0	258.4	77.4
Guards and watchmen	386.0	470.0	84.0
Marshalls and constables	5.9	8.0	2.1
Policemen and detectives	388.0	520.0	132.0
Sheriffs and bailiffs	40.0	54.0	14.0
Private Household Workers	1,368.0	1,139.7	-228.3
Child care workers	517.0	432.0	-85.0
Cooks, private	36.0	32.0	-4.0
Housekeepers, private	107.0	92.0	-15.0
Laundresses, private	12.0	8.0	-4.0
Maids, servants, private	696.0	575.7	-120.3
Laborers, except Farm	4,175.0	4,499.9	324.9
Animal Caretakers, except Farm	71.0	71.7	0.7
Carpenters, Helpers	117.0	80.6	-36.4
Construction Laborers, except Carpenter Helpers	805.0	855.6	50.6
Fishermen and Oystermen	34.0	27.8	-6.2
Freight, Material Handlers	748.0	846.7	98.7
Garbage Collectors	84.0	139.1	55.1
Gardeners, Groundkeepers, except Farm	537.0	550.4	13.4
Longshoremen and Stevedores	56.0	55.5	-0.5
Lumbermen, Raftsmen, Woodchoppers	82.0	68.9	-13.1
Stock Handlers	718.0	870.3	152.3
Teamsters	7.0	3.9	-3.1
Vehicle Washer, Equipment Cleaners	176.0	200.1	24.1
Warehousemen, n.e.c.	149.0	149.6	0.6
Other Laborers	591.0	579.8	-11.2

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
ors	39.0	20.2	-18.8	-48.2
cosmetologists	480.0	600.0	120.0	25.0
except private	111.0	160.8	49.8	44.9
ce apprentice	1.0	0.5	-0.5	-50.0
tion, amusement	26.5	40.0	13.5	50.9
aides	16.3	18.0	1.7	10.4
	18.0	36.8	18.8	104.4
Workers	1,046.9	1,362.4	315.5	30.1
s, budgetenders	46.0	52.0	6.0	13.0
rotection	181.0	258.4	77.4	42.8
chmen	386.0	470.0	84.0	21.8
constables	5.9	8.0	2.1	35.6
detectives	388.0	520.0	132.0	34.0
liffs	40.0	54.0	14.0	35.0
Workers	1,368.0	1,139.7	-228.3	-16.7
ers	517.0	432.0	-85.0	-16.4
	36.0	32.0	-4.0	-11.1
private	107.0	92.0	-15.0	-14.0
private	12.0	8.0	-4.0	-33.3
, private	696.0	575.7	-120.3	-17.3
	4,175.0	4,499.9	324.9	7.8
except Farm	71.0	71.7	0.7	1.0
s	117.0	80.6	-36.4	-31.1
ers, except Carpenter Helpers	805.0	855.6	50.6	6.3
termen	34.0	27.8	-6.2	-18.2
handlers	748.0	846.7	98.7	13.2
keepers, except Farm	84.0	139.1	55.1	65.6
Stevedores	537.0	550.4	13.4	2.5
en, Woodchoppers	56.0	55.5	-0.5	-0.9
	82.0	68.9	-13.1	-16.0
	718.0	870.3	152.3	21.2
Equipment Cleaners	7.0	3.9	-3.1	-44.3
c.	176.0	200.1	24.1	13.7
	149.0	149.6	0.6	0.4
	591.0	579.8	-11.2	-1.9

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TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

Occupation	1970	1980	Absolute Change
Formers and Farm Workers:	3,129.0	2,000.0	-1,129.0
Farmers and Farm Managers	1,723.0	1,118.3	-604.7
Farmers (owners and tenants)	1,690.0	1,073.4	-616.6
Farm managers	33.0	44.9	11.9
Farm Laborers, Farm Foremen	1,406.0	881.7	-524.3
Farm foremen	31.0	26.5	-4.5
Farm laborers, wage workers	897.0	535.7	-361.3
Farm laborers, unpaid family	474.0	315.6	-158.4
Farm laborers, self-employed	4.0	3.9	-0.1

SOURCE: Bureau of Labor Statistics

TABLE 2
 NATIONAL 1970 EMPLOYMENT AND PROJECTED 1980
 REQUIREMENTS BY OCCUPATION - continued
 (IN THOUSANDS)

	1970	1980	Absolute Change	Percent Change
Professionals	3,329.0	2,000.0	-1,129.0	-36.1
Managers	1,723.0	1,118.3	-604.7	-35.1
(and tenants)	1,690.0	1,073.4	-616.6	-36.5
	33.0	44.9	11.9	36.1
Foremen	1,406.0	881.7	-524.3	-37.3
	31.0	26.5	-4.5	-14.5
Machine workers	897.0	535.7	-361.3	-40.3
Unpaid family	474.0	315.6	-158.4	-33.4
Self-employed	4.0	3.9	-0.1	-2.5

Labor Statistics

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATIONS

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	Employment Change
Professional, Technical, Kindred					
Engineers, Technical					
Engineers, aero-astronautic	61.0	70.0	14.8	1,630	900
Engineers, chemical	50.0	57.0	14.0	1,360	700
Engineers, civil	167.0	205.0	22.8	7,630	3,800
Engineers, electrical	281.0	365.0	29.9	12,400	8,400
Engineers, industrial	159.0	223.0	40.3	9,360	6,400
Engineers, mechanical	185.0	225.0	21.6	7,220	4,000
Engineers, metallurgical	15.0	19.4	29.3	690	440
Engineers, mining	5.0	4.7	-6.0	90	-30
Engineers, petroleum	12.0	13.4	11.7	860	140
Engineers, sales	39.0	46.0	17.9	1,450	700
Engineers, other	130.0	187.0	43.8	8,390	5,700
Life and Physical Scientists					
Agricultural scientists	13.0	15.0	15.4	540	200
Atmospheric, space scientists	6.0	8.0	33.3	1,540	200
Biological scientists	29.0	39.0	34.5	2,010	1,000
Chemists	109.0	150.0	37.6	6,610	4,100
Geologists	24.0	30.0	25.0	1,950	600
Marine scientists	3.0	5.0	66.7	270	-200
Physicists and astronomers	21.0	26.5	26.2	3,290	550
Life, physical scientists, n.e.c.	2.0	2.2	10.0	60	20
Mathematical Specialists					
Actuaries	5.0	7.2	44.0	390	220
Mathematicians	8.0	11.5	43.8	560	350
Statisticians	21.0	30.0	42.9	1,860	900
Engineers, Science Technicians					
Agriculture, biological technicians, except health	36.0	52.0	44.4	2,980	1,600
Chemical technicians	77.0	94.9	21.8	3,340	1,700
Draftsmen	316.0	425.0	34.5	16,380	10,900
Electrical, electronic technicians	154.0	237.0	53.9	10,430	8,300
Industrial engineering technicians	20.0	23.0	15.0	680	300
Mathematical technicians	1.0	1.0	0	10	0
Mechanical engineering technicians	12.0	14.5	20.8	450	250
Surveyors	59.0	76.0	28.8	2,660	1,700
Engineering, science technicians, n.e.c.	190.0	355.0	86.8	22,330	16,500

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATIONS

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
Medical, Kindred						
Medical						
Aero-astronautic	61.0	70.0	14.8	1,630	900	730
Chemical	50.0	57.0	14.0	1,360	700	660
Civil	167.0	205.0	22.8	7,630	3,800	3,830
Electrical	281.0	365.0	29.9	12,400	8,400	4,000
Industrial	159.0	223.0	40.3	9,360	6,400	2,960
Mechanical	185.0	225.0	21.6	7,220	4,000	3,220
Metallurgical	15.0	19.4	29.3	690	440	230
Mining	5.0	4.7	-6.0	90	-30	120
Petroleum	12.0	13.4	11.7	860	140	720
Plastics	39.0	46.0	17.9	1,450	700	750
Other	130.0	187.0	43.8	8,390	5,700	2,690
Scientists						
Scientists	13.0	15.0	15.4	540	200	340
Space scientists	6.0	8.0	33.3	1,540	200	1,340
Scientists	29.0	39.0	34.5	2,010	1,000	1,010
	109.0	150.0	37.6	6,610	4,100	2,510
	24.0	30.0	25.0	1,050	600	450
Astronomers	3.0	5.0	66.7	270	200	70
Scientists, n.e.c.	21.0	26.5	26.2	3,290	550	2,740
	2.0	2.2	10.0	60	20	40
Specialists						
	5.0	7.2	44.0	390	220	170
	8.0	11.5	43.8	560	350	210
	21.0	30.0	42.9	1,860	900	960
Technicians						
Biological technicians, except health	36.0	52.0	44.4	2,980	1,600	1,380
Technicians	77.9	94.9	21.8	3,340	1,700	1,640
	316.0	425.0	34.5	16,380	10,900	5,480
Electronic technicians	154.0	237.0	53.9	10,430	8,300	2,130
Engineering technicians	20.0	23.0	15.0	680	300	380
Technicians	1.0	1.0	0	10	0	0
Engineering technicians	12.0	14.5	20.8	450	250	200
	59.0	76.0	28.8	2,660	1,700	960
Science technicians, n.e.c.	190.0	355.0	86.8	22,330	16,500	5,830

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average 1970-80	
				Total	Employment Change
Medical Workers, except Technicians					
Chiropractors	16.0	18.2	13.8	960	220
Dentists	94.1	130.0	38.2	7,890	3,590
Dietitians	30.0	42.0	40.0	3,310	1,200
Optometrists	18.0	22.0	22.2	1,070	400
Pharmacists	129.0	156.9	21.6	8,380	2,790
Physicians, MD osteopaths	290.0	405.0	39.7	23,250	11,500
Podiatrists	7.0	8.3	18.6	430	130
Registered nurses	680.0	980.0	44.1	79,550	30,000
Therapists	81.6	147.0	80.1	12,130	6,540
Veterinarians	22.6	33.0	46.0	1,590	1,040
Other medical and health	1.0	1.7	70.0	350	70
Health Technologists and Technicians					
Clinical lab technologists and technicians	130.0	240.0	84.6	20,820	11,000
Dental hygienists	16.0	34.0	112.5	3,600	1,800
Health record technologists and technicians	12.3	30.0	143.9	3,070	1,770
Radiologic technologists and technicians	52.0	81.0	55.8	6,750	2,900
Other health technologists and technicians	60.0	110.0	83.8	8,760	5,000
Technicians, except Health					
Airplane pilots	49.0	67.0	36.7	2,320	1,800
Air traffic controllers	25.0	30.0	20.0	820	500
Embalmers	5.0	4.1	-18.0	10	-90
Flight engineers	6.0	9.0	50.0	380	300
Radio operators	30.0	40.0	33.3	2,140	1,000
Tool programmers, numerical	3.0	4.0	33.3	160	100
Other technicians, except health	37.0	77.0	108.1	5,290	4,000
Therapy assistants	3.5	6.8	94.3	590	330
Computer Specialists					
Computer programmers	176.5	250.0	41.6	11,740	7,350
Computer systems analysts	88.1	142.0	61.2	7,010	5,390
Social Scientists					
Economists	66.0	110.0	66.7	6,190	4,400
Political scientists	1.9	3.5	84.2	240	160
Psychologists	30.0	60.5	101.7	4,280	3,050
Sociologists	1.3	2.0	53.8	130	70

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
cept Technicians	16.0	18.2	13.8	960	220	740
	94.1	130.0	38.2	7,890	3,590	4,300
	30.0	42.0	40.0	3,310	1,200	2,110
	18.0	22.0	22.2	1,070	400	670
	129.0	156.9	21.6	8,380	2,790	5,590
osteopaths	290.0	405.0	39.7	23,250	11,500	11,750
	7.0	8.3	18.6	430	130	300
	680.0	980.0	44.1	79,550	30,000	49,550
	81.6	147.0	80.1	12,130	6,540	5,590
d health	22.6	33.0	46.0	1,590	1,040	550
	1.0	1.7	70.0	350	70	280
Technicians						
ologists and technicians	130.0	240.0	84.6	20,820	11,000	9,820
	16.0	34.0	112.5	3,600	1,800	1,800
hnologists and technicians	12.3	30.0	143.9	3,070	1,770	1,300
ologists and technicians	52.0	81.0	55.8	6,750	2,900	3,850
ologists and technicians	60.0	110.0	83.8	8,760	5,000	3,760
Health						
ers	49.0	67.0	36.7	2,320	1,800	520
	25.0	30.0	20.0	820	500	320
	5.0	4.1	-18.0	10	-90	100
	6.0	9.0	50.0	380	300	80
	30.0	40.0	33.3	2,140	1,000	1,140
numerical	3.0	4.0	33.3	160	100	60
, except health	37.0	77.0	108.1	5,290	4,000	1,290
s	3.5	6.8	94.3	590	330	260
ers						
analysts	176.5	250.0	41.6	11,740	7,350	4,390
	88.1	142.0	61.2	7,010	5,390	1,620
	66.0	110.0	66.7	6,190	4,400	1,790
	1.9	3.5	84.2	240	160	80
	30.0	60.5	101.7	4,280	3,050	1,230
	1.3	2.0	53.8	130	70	60

TABLE 3
 NATIONAL-1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	Employment Change
Urban and regional planners	9.0	18.0	100.0	1,130	900
Other social scientists	7.0	12.5	78.6	920	550
Teachers					
Adult education teachers	58.0	85.0	46.6	5,300	2,700
Agriculture teachers	5.0	6.2	24.0	230	120
Art, drama, music teachers	30.0	44.1	47.0	2,570	1,410
Atmospheric, earth, marine	4.5	7.5	66.7	400	300
Biology teachers	21.0	32.6	55.2	1,830	1,160
Business, commerce teachers	14.0	22.1	57.9	1,340	810
Chemistry teachers	16.0	18.5	15.6	590	250
Coaches, physical education teachers	17.0	21.2	24.7	880	420
Economics teachers	10.0	14.1	41.0	640	410
Education teachers	7.2	8.8	22.2	420	160
Elementary school teachers	1,400.0	1,535.0	9.6	98,910	13,500
Engineering teachers	17.0	20.3	19.4	700	330
English teachers	39.0	49.4	26.7	2,480	1,040
Foreign language teachers	20.7	32.6	57.5	2,250	1,190
Health specialties teachers	28.0	54.7	95.4	3,960	2,670
History teachers	16.0	17.6	10.0	540	160
Home economics teachers	4.2	6.2	47.6	480	200
Law teachers	2.9	4.9	69.0	290	200
Mathematics teachers	26.0	37.5	44.2	1,900	1,150
Physics teachers	14.0	13.2	-5.7	120	-80
Preschool, kindergarten teachers	133.0	160.0	20.3	10,790	2,700
Psychology teachers	13.0	22.9	76.2	1,420	990
Secondary school teachers	1,037.0	1,050.0	1.3	41,160	1,300
Sociology teachers	7.0	15.0	114.3	1,060	800
Social science teachers, n.e.c.	12.0	20.3	69.2	1,200	830
Miscellaneous college and university teachers	19.0	32.2	69.5	2,020	1,320
College, university teachers, n.e.c.	148.0	233.0	57.4	14,350	8,500
Theology teachers	5.0	8.8	76.0	550	380
Trade, industrial teachers	3.0	5.6	86.7	360	260
Teachers, n.e.c., except college and university	209.9	348.0	65.8	29,040	13,810
Writers, Artists, Entertainers					
Actors	10.7	13.6	27.1	730	290
Athletes and kindred workers	55.7	83.0	49.0	4,810	2,730
Authors	26.0	30.0	15.4	1,340	400

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
Regional planners	9.0	18.0	100.0	1,130	900	230
Scientists	7.0	12.5	78.6	920	550	370
Education teachers	58.0	85.0	46.6	5,300	2,700	2,600
Elementary teachers	5.0	6.2	24.0	230	120	110
Music teachers	30.0	44.1	47.0	2,570	1,410	1,160
Physical, earth, marine	4.5	7.5	66.7	400	300	100
Others	21.0	32.6	55.2	1,830	1,160	670
Commerce teachers	14.0	22.1	57.9	1,340	810	530
Foreign language teachers	16.0	18.5	15.6	590	250	340
Physical education teachers	17.0	21.2	24.7	880	420	460
Art teachers	10.0	14.1	41.0	640	410	230
Health teachers	7.2	8.8	22.2	420	160	260
Elementary school teachers	1,400.0	1,535.0	9.6	98,910	13,500	85,410
Secondary school teachers	17.0	20.3	19.4	700	330	370
Language teachers	39.0	49.4	26.7	2,480	1,040	1,440
Foreign language teachers	20.7	32.6	57.5	2,250	1,190	1,060
Health teachers	28.0	54.7	95.4	3,960	2,670	1,290
Physical education teachers	16.0	17.6	10.0	540	160	380
Art teachers	4.2	6.2	47.6	480	200	280
Health teachers	2.9	4.9	69.0	290	200	90
Elementary school teachers	26.0	37.5	44.2	1,900	1,150	750
Secondary school teachers	14.0	13.2	-5.7	120	-80	200
Kindergarten teachers	133.0	160.0	20.3	10,790	2,700	8,090
Elementary school teachers	13.0	22.9	76.2	1,420	990	430
Elementary school teachers	1,037.0	1,050.0	1.3	41,160	1,300	39,860
Elementary school teachers	7.0	15.0	114.3	1,060	800	260
Elementary school teachers, n.e.c.	12.0	20.3	69.2	1,200	830	370
Elementary school teachers, college and university teachers	19.0	32.2	69.5	2,020	1,320	700
Elementary school teachers, n.e.c.	148.0	233.0	57.4	14,350	8,500	5,850
Elementary school teachers	5.0	8.8	76.0	550	380	170
Elementary school teachers	3.0	5.6	86.7	360	260	100
Elementary school teachers, except college and university	209.9	348.0	65.8	29,040	13,810	15,230
Entertainers	10.7	13.6	27.1	730	290	440
Kindred workers	55.7	83.0	49.0	4,810	2,730	2,080
Kindred workers	26.0	30.0	15.4	1,340	400	940

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average Of	
				Total	1970-80 Employment Change
Dancers	6.0	8.3	38.3	780	230
Designers	120.0	164.0	36.7	8,270	4,400
Editors and reporters	150.0	205.0	36.7	12,130	5,500
Musicians and composers	105.0	135.0	28.6	7,030	3,000
Painters and sculptors	105.0	146.0	39.0	8,620	4,100
Photographers	70.2	88.0	25.4	3,730	1,780
Public relations men, writers	82.0	119.0	45.1	7,000	3,700
Radio, TV announcers	21.0	24.9	18.6	640	390
Writers, artists, entertainers, n.e.c.	70.0	119.0	70.0	7,630	4,900
Other Professional, Technical and Kindred Workers					
Accountants	686.0	875.0	27.6	43,880	18,900
Architects	62.0	91.0	46.8	4,680	2,900
Archivists and curators	6.0	9.5	58.3	670	350
Clergymen	228.0	265.0	10.2	11,860	3,700
Religious, except clergymen	43.0	50.0	16.3	3,220	700
Farm management advisors	7.0	6.1	-12.9	1,440	-90
Foresters, conservationists	43.0	53.5	24.4	2,030	1,050
Home management advisors	5.2	5.1	-1.9	320	-10
Judges	13.7	15.0	9.5	1,120	130
Lawyers	287.0	385.0	34.1	21,160	9,800
Librarians	115.0	145.7	26.7	10,680	3,070
Operations, systems research	79.0	135.0	70.9	7,240	5,600
Personnel labor relations	286.0	478.0	67.1	30,120	19,200
Research workers, n.e.c.	115.0	195.0	69.6	12,290	8,000
Recreation workers	60.0	92.0	53.3	6,100	3,200
Social workers	230.0	360.0	56.6	27,010	13,000
Vocational education counselors	112.0	210.0	87.5	15,520	9,800
Managers, Officials, Proprietors					
Buyers, Sales, Loan Managers					
Bank, financial managers	398.0	600.0	50.8	33,920	20,200
Buyers, shippers, farm products	25.0	20.1	-19.6	320	-490
Buyers, wholesale, retail products	155.0	210.0	35.5	12,490	5,500
Creditmen	68.0	85.8	26.2	4,090	1,780
Purchasing agents, buyers, n.e.c.	175.0	234.0	33.7	11,090	5,900
Sales manager, retail trade	275.0	390.9	42.1	20,150	11,590
Sales manager, except retail trade	264.0	369.1	39.8	16,170	10,510

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
	6.0	8.3	38.3	780	230	550
	120.0	164.0	36.7	8,270	4,400	3,870
Reporters	150.0	205.0	36.7	12,130	5,600	6,630
Composers	105.0	135.0	28.6	7,030	3,000	4,030
Sculptors	105.0	146.0	39.0	8,620	4,100	4,520
	70.2	88.0	25.4	3,730	1,780	1,950
Design men, writers	82.0	119.0	45.1	7,000	3,700	3,300
Designers	21.0	24.9	18.6	640	390	250
Designers, entertainers, n.e.c.	70.0	119.0	70.0	7,630	4,900	2,730
Professional, Technical and Kindred Workers						
	686.0	875.0	27.6	43,880	18,900	24,980
	62.0	91.0	46.8	4,680	2,900	1,780
Curators	6.0	9.5	58.3	670	350	320
	228.0	265.0	10.2	11,860	3,700	8,160
Deputy clergymen	43.0	50.0	16.3	3,220	700	2,520
Deputy advisors	7.0	6.1	-12.9	1,440	-90	1,530
Observationists	43.0	53.5	24.4	2,030	1,050	980
Deputy advisors	5.2	5.1	-1.9	320	-10	330
	13.7	15.0	9.5	1,120	130	990
	287.0	385.0	34.1	21,160	9,800	11,360
	115.0	145.7	26.7	10,680	3,070	7,610
Systems research	79.0	135.0	70.9	7,240	5,600	1,640
Relations	286.0	478.0	67.1	30,120	19,200	10,920
Designers, n.e.c.	115.0	195.0	69.6	12,290	8,000	4,290
Designers	60.0	92.0	53.3	6,100	3,200	2,900
	230.0	360.0	56.6	27,010	13,000	14,010
Education counselors	112.0	210.0	87.5	15,520	9,800	5,720
Proprietors						
Business Managers						
Business managers	398.0	600.0	50.8	33,920	20,200	13,720
Business, farm products	25.0	20.1	-19.6	320	-490	810
Business, retail products	155.0	210.0	35.5	12,490	5,500	6,990
	68.0	85.8	26.2	4,090	1,780	2,310
Business, buyers, n.e.c.	175.0	234.0	33.7	11,090	5,900	5,190
Retail trade	275.0	390.9	42.1	20,150	11,590	8,560
Except retail trade	264.0	369.1	39.8	16,170	10,510	5,660

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	1970-80 Employment Change
Administrators, Public Inspectors					
Assessors, controllers and treasurers; local public admn.	30.0	35.7	19.0	2,580	570
Construction inspectors, public	21.0	26.5	26.2	1,480	550
Health administrators	100.0	176.1	76.1	13,290	7,610
Inspectors, except construction and public	89.0	130.0	46.1	7,090	4,100
Officials, administrators, public	263.0	301.8	14.8	13,790	3,880
Postmasters and mail supervisors	35.0	31.2	-10.9	1,120	-380
School administrators, college	40.0	72.3	80.8	4,950	3,230
School administrators, elementary and secondary	174.0	216.8	24.6	10,220	4,280
Other Managers, Officials, Proprietors					
Funeral directors	40.0	41.2	3.0	1,540	120
Managers, superintendants; building	100.0	150.3	50.3	12,820	5,030
Office managers, n.e.c.	288.0	447.4	55.3	28,510	15,940
Officers, pilots, pursers; ship	32.0	32.2	0.6	750	20
Officials of lodges, unions	65.0	82.9	27.5	4,350	1,790
Railroad conductors	40.0	36.4	-9.0	770	-360
Restaurant, cafe and bar managers	463.0	552.6	19.4	26,580	8,960
Other managers and administrators	4,344.0	5,905.7	36.0	311,450	156,170
Sales Workers					
Advertising Agents, Salesmen	63.5	86.0	35.4	4,540	2,250
Auctioneers	5.5	7.0	27.3	380	150
Demonstrators	55.5	61.0	9.9	3,640	550
Hucksters and Peddlers	210.0	262.9	25.2	17,510	5,290
Insurance Agents, Brokers, Etc.	412.0	522.9	26.9	23,810	11,090
Newsboys	72.0	61.6	-14.4	370	-1,040
Real Estate Agents, Brokers	316.0	413.5	30.9	27,620	9,750
Stock and Bond Salesmen	101.8	140.5	38.0	7,550	3,870
Sales Representatives, manufacturing	394.0	476.1	20.8	18,780	8,210
Sales Representatives, wholesale trade	635.0	810.3	27.6	35,880	17,530
Sales Clerks, retail trade	2,190.0	2,782.1	27.0	194,450	59,210
Salesmen, retail trade	407.0	497.3	22.2	23,000	9,030
Salesmen, service and construction	151.2	218.8	44.7	13,810	6,760
Clerical Workers					
Stenographers, Typists, Secretaries					
Secretaries, legal	104.0	162.5	56.3	15,250	5,850
Secretaries, medical	79.0	140.2	77.5	13,530	6,120

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TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
Public Inspectors						
Controllers and treasurers; local public admn.	30.0	35.7	19.0	2,580	570	2,010
Inspectors, public	21.0	26.5	26.2	1,480	550	930
Administrators, except construction and public	100.0	176.1	76.1	13,290	7,610	5,680
Administrators, public	89.0	130.0	46.1	7,090	4,100	2,990
Post office and mail supervisors	263.0	301.8	14.8	13,790	3,880	9,910
Administrators, college	35.0	31.2	-10.9	1,120	-380	1,500
Administrators, elementary and secondary	40.0	72.3	80.8	4,950	3,230	1,720
	174.0	216.8	24.6	10,220	4,280	5,940
Officials, Proprietors						
Managers, general	40.0	41.2	3.0	1,540	120	1,420
Superintendents, building	100.0	150.3	50.3	12,820	5,030	7,790
Managers, n.e.c.	288.0	447.4	55.3	28,510	15,940	12,570
Managers, purser; ship	32.0	32.2	0.6	750	20	730
Managers, unions	65.0	82.9	27.5	4,350	1,790	2,560
Managers, conductors	40.0	36.4	-9.0	770	-360	1,130
Managers, cafe and bar managers	463.0	552.6	19.4	26,580	8,960	17,620
Managers, sales and administrators	4,344.0	5,905.7	36.0	311,450	156,170	155,280
Managers, Salesmen						
Managers, salesmen	63.5	86.0	35.4	4,540	2,250	2,290
Managers, salesmen	5.5	7.0	27.3	380	150	230
Managers, salesmen	55.5	61.0	9.9	3,640	550	3,090
Managers, salesmen	210.0	262.9	25.2	17,510	5,290	12,220
Managers, salesmen, Brokers, Etc.	412.0	522.9	26.9	23,810	11,090	12,720
Managers, salesmen	72.0	61.6	-14.4	370	-1,040	1,410
Managers, salesmen, Brokers	316.0	413.5	30.9	27,620	9,750	17,870
Managers, salesmen	101.8	140.5	38.0	7,550	3,870	3,680
Managers, salesmen, manufacturing	394.0	476.1	20.8	18,780	8,210	10,570
Managers, salesmen, wholesale trade	635.0	810.3	27.6	35,880	17,530	18,350
Managers, salesmen, retail trade	2,190.0	2,782.1	27.0	194,450	59,210	135,240
Managers, salesmen, trade	407.0	497.3	22.2	23,000	9,030	13,970
Managers, salesmen, and construction	151.2	218.8	44.7	13,810	6,760	7,050
Managers, Typists, Secretaries						
Managers, typists, legal	104.0	162.5	56.3	15,250	5,850	9,400
Managers, typists, medical	79.0	140.2	77.5	13,530	6,120	7,410

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	Employment Change
Secretaries, other	2,602.1	3,738.9	43.7	330,220	113,680
Stenographers	128.0	96.0	-25.0		
Typists	973.0	1,264.0	29.9			4,620	-3,200
				108,960	29,100
Office Machine Operators					
Bookkeeping, billing operators	68.5	85.4	24.7	6,610	1,690
Calculating machine operators	34.0	36.6	7.6		
Computer, peripheral equipment	150.0	246.1	64.1	2,450	260
Duplicating machine operators	19.0	26.6	40.0	14,310	9,610
Key punch operators	300.0	265.0	-11.7	1,860	460
Tabulating machine operators	9.0	4.4	-51.1	15,400	-3,500
Other office machine operators	52.0	77.2	48.5	-210	-460
				5,950	2,520
Other Clerical Workers					
Bank tellers	287.0	400.0	39.4	31,810	11,300
Billing clerks	123.0	193.3	57.2		
Bookkeepers	1,540.0	1,850.0	20.1	16,480	7,030
Cashiers	969.0	1,250.0	29.0	125,750	31,000
Clerical assistants, social welfare workers	1.5	3.0	100.0	93,780	28,100
Clerical supervisors, n.e.c.	192.0	248.8	29.6	2,760	1,500
Collectors, bill and account	60.0	85.2	42.0	13,200	5,680
Counter clerks, except food	309.0	443.2	43.4	5,370	2,520
Dispatcher, starter, vehicle	64.0	84.9	32.7	34,330	13,420
Enumerators and interviewers	65.0	65.0	0	4,110	2,090
Estimators, investigators, n.e.c.	329.0	449.7	36.7	3,150	0
Expeditors, production controllers	200.0	250.5	25.3	27,490	12,070
File clerks	270.0	320.0	18.5	10,840	5,050
Insurance adjusters, examiners and investigators	105.0	136.7	30.2	24,680	3,000
Library attendants, assistants	120.0	167.0	39.2	6,740	3,170
Mail carriers, post office	268.0	285.0	6.3	13,780	4,700
Mail handlers, except post office	130.0	175.4	34.9	6,980	1,700
Messengers and office boys	56.0	56.2	0.4	11,490	4,540
Meter readers, utilities	37.0	38.4	3.8	2,890	20
Payroll, time keeping clerks	175.0	222.5	27.1	730	140
Postal clerks	315.0	320.0	1.6	14,750	4,750
Proofreaders	27.0	37.3	38.1	10,060	500
Real estate appraisers	24.0	33.6	40.0	5,070	1,030
Receptionists	423.0	570.0	34.8	2,030	960
Shipping, receiving clerks	438.0	500.0	14.2	50,300	14,700
				17,310	6,200

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings		
				Total	1970-80 Employment Change	Replacement, Needs
Other.	2,602.1	3,738.9	43.7	330,220	113,680	216,540
	128.0	96.0	-25.0	4,620	-3,200	7,820
	973.0	1,264.0	29.9	108,960	29,100	79,860
Operators						
Billing operators	68.5	85.4	24.7	6,610	1,690	4,920
Machine operators	34.0	36.6	7.6	2,450	260	2,190
Peripheral equipment	150.0	246.1	64.1	14,310	9,610	4,700
Machine operators	19.0	26.6	40.0	1,860	760	1,100
Operators	300.0	265.0	-11.7	15,400	-3,500	18,900
Machine operators	9.0	4.4	-51.1	-210	-460	250
Machine operators	52.0	77.2	48.5	5,950	2,520	3,430
Workers						
	287.0	400.0	39.4	31,810	11,300	20,510
	123.0	193.3	57.2	16,480	7,030	9,450
	1,540.0	1,850.0	20.1	125,750	31,000	94,750
	969.0	1,250.0	29.0	93,780	28,100	65,680
Attendants, social welfare workers	1.5	3.0	100.0	2,760	1,500	1,260
Advisors, n.e.c.	192.0	248.8	29.6	13,200	5,680	7,520
Mail and account	60.0	85.2	42.0	5,370	2,520	2,850
Except food	309.0	443.2	43.4	34,330	13,420	20,910
Tractor, vehicle	64.0	84.9	32.7	4,110	2,090	2,020
And interviewers	65.0	65.0	0	3,150	0	3,150
Investigators, n.e.c.	329.0	449.7	36.7	27,490	12,070	15,420
Production controllers	200.0	250.5	25.3	10,840	5,050	5,790
	270.0	320.0	18.5	24,680	3,000	19,680
Inspectors, examiners and investigators	105.0	136.7	30.2	6,740	3,170	3,570
Attendants, assistants	120.0	167.0	39.2	13,780	4,700	9,080
Post office	268.0	285.0	6.3	6,980	1,700	5,280
Except post office	130.0	175.4	34.9	11,490	4,540	6,950
Mail office boys	56.0	56.2	0.4	2,820	20	2,870
Utilities	37.0	38.4	3.8	730	140	590
Shipping clerks	175.0	222.5	27.1	14,750	4,750	10,000
	315.0	320.0	1.6	10,060	500	9,560
	27.0	37.3	38.1	5,070	1,030	4,040
Crafts	24.0	33.6	40.0	2,030	960	1,070
	423.0	570.0	34.8	50,300	14,700	35,600
Carpenters	438.0	500.0	14.2	17,310	6,200	11,110

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average Op-	
				Total	Employment Change
Statistical clerks	291.0	350.0	20.3	22,410	5,900
Stock clerks, store keepers	496.0	625.7	26.1	28,620	12,970
Teacher aides, except monitors	150.0	286.4	90.9	23,760	13,640
Telegraph messengers	2.5	1.5	-40.0	-60	-100
Telegraph operators	12.0	8.8	-26.7	60	-320
Telephone operators	388.0	404.4	4.2	29,250	1,640
Ticket station, express agents	94.0	115.1	22.4	5,930	2,110
Weighters	46.0	47.6	3.5	1,680	160
Miscellaneous clerical workers, n.e.c.	1,206.5	1,931.9	60.1	153,670	72,540
Craftsmen, Foremen, Kindred Workers					
Construction Craftsmen					
Carpenters	985.0	1,125.0	14.2	40,790	14,000
Carpenter apprentices	8.9	11.0	23.6	250	210
Brickmasons and stonemasons	172.0	205.0	19.2	6,540	3,300
Brickmason and stonemason apprentices	4.5	4.4	-2.2	30	-10
Bulldozer operators	100.0	121.0	21.0	3,990	2,100
Cement and concrete finishers	65.0	94.1	44.8	4,230	2,910
Electricians	450.0	581.4	29.2	22,830	13,140
Electrician apprentices	21.3	29.9	40.4	870	860
Excavating, grading, machine operators	280.0	346.2	23.6	12,250	6,620
Floor layers, except tile setters	23.5	29.9	27.2	1,100	640
Painters, construction, maintenance	400.0	435.6	8.9	15,460	3,560
Painter apprentices	1.6	1.7	6.3	30	10
Paperhangers	10.0	13.7	37.0	890	370
Plasterers	28.0	30.0	7.1	900	200
Plasterer apprentices	0.5	0.4	-20.0	0	-10
Plumbers and pipefitters	355.0	460.0	29.6	19,260	10,500
Plumber and pipefitter apprentices	14.0	18.9	35.0	560	490
Roofers and slayers	63.0	95.0	50.8	4,280	3,200
Structural metal craftsmen	79.0	100.0	26.6	3,520	2,100
Tiles setters	32.0	36.0	12.5	910	400
Foremen, n.e.c.	1,375.0	1,562.4	13.6	50,900	18,740
Metalworking Craftsmen, except Mechanic					
Blacksmiths	10.0	9.6	-4.0	390	-40
Boilermakers	30.0	35.5	18.3	1,320	550
Heat treaters, annealers, etc.	23.0	21.7	-5.7	360	-130
Foremen and hammermen	18.0	21.2	17.8	680	320
Job and die setters, metal	100.0	135.1	35.1	5,580	3,510

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings		
				Total	Employment Change	Replacement Needs
ks.	291.0	350.0	20.3	22,410	5,900	16,510
store keepers	496.0	625.7	26.1	28,620	12,970	15,650
except monitors	150.0	286.4	90.9	23,760	13,640	10,120
engers	2.5	1.5	-40.0	-60	-100	40
ators	12.0	8.8	-26.7	60	-320	380
ators	388.0	404.4	4.2	29,250	1,640	27,610
express agents	94.0	115.1	22.4	5,930	2,110	3,820
	46.0	47.6	3.5	1,680	160	1,520
clerical workers, n.e.c.	1,206.5	1,931.9	60.1	153,670	72,540	81,130
Kindred Workers						
smen						
	985.0	1,125.0	14.2	40,790	14,000	26,790
ntices	8.9	11.0	23.6	250	210	40
id stonemasons	172.0	205.0	19.2	6,540	3,300	3,240
stonemason apprentices	4.5	4.4	-2.2	30	-10	40
tors	100.0	121.0	21.0	3,990	2,100	1,890
crete finishers	65.0	94.1	44.8	4,230	2,910	1,320
	450.0	581.4	29.2	22,830	13,140	9,690
ntices	21.3	29.9	40.4	870	60	10
ding, machine operators	280.0	346.2	23.6	12,250	70	5,630
cept tile setters	23.5	29.9	27.2	1,100	640	460
ruction, maintenance	400.0	435.6	8.9	15,460	3,560	11,900
ces	1.6	1.7	6.3	30	10	20
	10.0	13.7	37.0	890	370	520
	28.0	30.0	7.1	900	200	700
ntices	0.5	0.4	-20.0	0	-10	10
pefitters	355.0	460.0	29.6	19,260	10,500	8,760
efitter apprentices	14.0	18.9	35.0	560	490	70
ers	63.0	95.0	50.8	4,280	3,200	1,080
craftsmen	79.0	100.0	26.6	3,520	2,100	1,420
	32.0	36.0	12.5	910	400	510
men, except Mechanic	1,375.0	1,562.4	13.6	50,900	18,740	32,160
	10.0	9.6	-4.0	390	-40	430
ngalers, etc.	30.0	35.5	18.3	1,320	550	770
hammermen	23.0	21.7	-5.7	360	-130	490
ers, metal	18.0	21.2	17.8	680	320	360
	100.0	135.1	35.1	5,580	3,510	2,070

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	Employment Change
Machinists	361.0	400.0	10.8	11,960	3,900
Machinist apprentices	10.0	11.2	12.0	183	120
Millwrights	81.0	90.7	12.0	2,730	970
Molders, metal	55.0	56.5	2.7	1,200	150
Molder apprentices	0.8	0.9	12.5	10	10
Pattern and model makers	42.0	40.8	-2.9	880	-120
Rollers and finishers, metal	23.0	24.5	6.5	670	150
Sheet metal workers, tinsmiths	155.0	162.1	4.6	3,390	710
Sheet metal apprentices	6.0	8.2	36.7	240	220
Tool and diemakers	168.0	180.0	7.1	4,890	1,200
Tool and diemaker apprentices	10.0	14.0	40.0	440	400
Mechanics, Repairmen, Installers					
Air conditioning, heating, refrigeration	130.0	215.0	65.4	11,460	8,500
Aircrafts	120.0	160.0	33.3	5,990	4,000
Automobile accessories installers	6.0	6.2	3.3	100	20
Automobile body repairmen	159.0	175.0	10.1	3,750	1,600
Automobile mechanics	837.0	975.0	16.5	28,750	13,800
Automobile mechanic apprentices	2.6	3.5	34.6	100	90
Data processing machine repairmen	36.0	72.6	101.7	3,990	3,660
Farm implement	46.3	50.0	8.0	1,470	370
Heavy equipment mechanics, including diesel	687.0	875.4	27.4	33,760	18,840
Household appliance mechanics	120.0	156.9	30.8	6,260	3,690
Loom fixers	18.0	17.2	-4.4	320	-80
Office machine repairmen	64.5	85.0	31.8	2,940	2,050
Radio, television repairmen	137.0	150.0	9.5	3,700	1,300
Railroad, car shop repairmen	54.0	48.2	-10.7	730	-580
Mechanics, except automobile apprentice	7.0	9.9	41.4	940	290
Other mechanics and repairmen	224.0	267.8	19.6	9,720	4,380
Printing Trade Craftsmen					
Bookbinders	32.0	35.7	11.6	1,840	370
Compositors and typesetters	170.0	175.4	3.2	5,670	540
Electrotypers, stereotypers	7.0	6.9	-1.4	210	-10
Engravers, except photoengravers	9.3	9.8	5.4	360	50
Photoengravers, lithographers	33.5	45.8	36.7	2,100	1,230
Pressmen and plate printers	139.0	165.0	18.7	5,400	2,600
Pressmen and apprentices	2.8	4.1	46.4	140	130
Printing apprentices, except press	6.0	4.0	-33.3	-160	-200

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TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
Apprentices	361.0	400.0	10.8	11,960	3,900	8,060
Metal	10.0	11.2	12.0	183	120	63
Apprentices	81.0	90.7	12.0	2,730	970	1,760
Model makers	55.0	56.5	2.7	1,200	150	1,050
Finishers, metal	0.8	0.9	12.5	10	10	0
Workers, tinsmiths	42.0	40.8	-2.9	880	-120	1,000
Apprentices	23.0	24.5	6.5	670	150	520
Makers	155.0	162.1	4.6	3,390	710	2,680
Apprentices	6.0	8.2	36.7	240	220	20
Makers	168.0	180.0	7.1	4,890	1,200	3,690
Apprentices	10.0	14.0	40.0	440	400	40
Painters, installers						
Painting, heating, refrigeration	130.0	215.0	65.4	11,460	8,500	2,960
Accessories installers	120.0	160.0	33.3	5,990	4,000	1,990
Body repairmen	6.0	6.2	3.3	100	20	80
Mechanics	159.0	175.0	10.1	3,750	1,600	2,150
Mechanic apprentices	837.0	975.0	16.5	28,750	13,800	14,950
Painting machine repairmen	2.6	3.5	34.6	100	90	10
Paint	36.0	72.6	101.7	3,990	3,660	330
Paintment mechanics, including diesel	46.3	50.0	8.0	1,470	370	1,100
Appliance mechanics	687.0	875.4	27.4	33,760	18,840	14,920
Appliance mechanics	120.0	156.9	30.8	6,260	3,690	2,570
Auto repairmen	18.0	17.2	-4.4	320	-80	400
Automobile repairmen	64.5	85.0	31.8	2,940	2,050	890
Automobile repairmen	137.0	150.0	9.5	3,700	1,300	2,400
Automobile repairmen	54.0	48.2	-10.7	730	-580	1,310
Automobile repairmen except automobile apprentice	7.0	9.9	41.4	940	290	650
Automobile repairmen and apprentices	224.0	267.8	19.6	9,720	4,380	5,340
Craftsmen						
Printers and typesetters	32.0	35.7	11.6	1,840	370	1,470
Printers, stereotypers	170.0	175.4	3.2	5,670	540	5,130
Printers, except photoengravers	7.0	6.9	-1.4	210	-10	220
Printers, lithographers	9.3	9.8	5.4	360	50	310
Printers, lithographers	33.5	45.8	36.7	2,100	1,230	870
Printers, plate printers	139.0	165.0	18.7	5,460	2,600	2,860
Printers, plate printers	2.8	4.1	46.4	140	130	10
Printers, except press	6.0	4.0	-33.3	-160	-200	40

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TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average O	
				Total	1970-80 Employment Change
Transportation, Public Utilities Craftsmen					
Electric power linemen, cablemen	100.0	113.4	13.4	2,460	1,340
Locomotive engineers	37.5	34.9	-6.9	980	-260
Locomotive firemen	18.0	11.2	-37.8	440	-680
Power station operators	17.3	16.3	-5.8	260	-100
Telephone installers, repairmen	280.0	339.1	21.1	8,850	5,910
Telephone linemen, splicers	52.0	53.0	1.9	460	100
Other Craftsmen, Kindred Workers					
Bakers	125.0	128.4	2.7	4,770	340
Cabinetmakers	75.0	83.1	10.8	3,220	810
Carpet installers	47.0	60.9	29.6	1,910	1,390
Cranemen, derrickmen, hoistmen	170.0	193.5	13.8	5,620	2,350
Decorators, window dressers	70.0	96.4	37.7	6,420	2,640
Dental laboratory technicians	30.0	38.5	28.3	1,920	850
Furniture and wood finishers	23.0	23.7	3.0	880	70
Furriers	2.6	1.9	-26.9	70	-70
Glaziers	25.0	33.1	32.4	1,280	810
Inspectors, log and lumber	17.0	19.1	12.4	720	210
Inspectors, other	128.0	147.6	15.3	5,800	1,960
Jewelers and watchmakers	41.5	44.0	6.0	2,060	250
Millers, grain, flour, seed	8.8	10.0	13.6	370	120
Motion picture projectionists	16.0	17.4	8.8	950	140
Opticians, lens grinder, polisher	27.0	37.0	37.0	1,940	1,000
Piano, organ tuners, repairmen	7.0	7.0	0	340	-10
Shipfitters	11.0	13.7	24.5	490	270
Shoe repairmen	31.0	23.0	-25.8	780	-800
Sign painters and letterers	20.0	23.0	15.0	1,130	300
Stationary engineers	178.0	180.0	1.1	5,320	200
Stone cutters, stone carvers	7.0	8.2	15.7	320	120
Tailors	68.0	69.9	2.8	3,610	190
Upholsterers	68.0	81.2	19.4	3,590	1,320
Craftsmen, kindred workers, n.e.c.	80.0	88.9	16.1	3,020	890
Former armed forces members	5.0	-	-	110	-
Craft apprentices, n.e.c.	10.7	12.0	12.1	180	130
Operatives					
Operatives, except Transport					
Semiskilled metalworking					

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
Public Utilities Craftsmen						
Electric linemen, cablemen	100.0	113.4	13.4	2,460	1,340	1,120
Engineers	37.5	34.9	-6.9	980	-260	1,240
Firemen	18.0	11.2	-37.8	-440	-680	240
Machine operators	17.4	16.3	-5.8	260	-100	360
Installers, repairmen	280.0	339.1	21.1	8,850	5,910	2,940
Telephone men, splicers	52.0	53.0	1.9	460	100	360
Kindred Workers						
Assemblers	125.0	128.4	2.7	4,770	340	4,430
Electricians	75.0	83.1	10.8	3,220	810	2,410
Painters	47.0	60.9	29.6	1,910	1,390	520
Rickmen, hoistmen	170.0	193.5	13.8	5,620	2,350	3,270
Window dressers	70.0	96.4	37.7	6,420	2,640	3,780
Laboratory technicians	30.0	38.5	28.3	1,920	850	1,070
Wood finishers	23.0	23.7	3.0	880	70	810
Painters	2.6	1.9	-26.9	70	-70	140
Textile mill workers	25.0	33.1	32.4	1,280	810	470
Shoemakers	17.0	19.1	12.4	720	210	510
Watchmakers	128.0	147.6	15.3	5,800	1,960	3,840
Grain mill workers	41.5	44.0	6.0	2,060	250	1,810
Flour, seed	8.8	10.0	13.6	370	120	250
Projectionists	16.0	17.4	8.8	950	140	810
Grinder, polisher	27.0	37.0	37.0	1,940	1,000	940
Instrument tuners, repairmen	7.0	7.0	0	340	-10	350
Machine operators	11.0	13.7	24.5	490	270	220
Printers and letterers	31.0	23.0	-25.8	780	-800	1,580
Engineers	20.0	23.0	15.0	1,130	300	830
Stone carvers	178.0	180.0	1.1	5,320	200	5,120
Machine operators	7.0	8.2	15.7	320	120	200
Machine operators	68.0	69.9	2.8	3,610	190	3,420
Machine operators	68.0	81.2	19.4	3,590	1,320	2,270
Machine operators, n.e.c.	80.0	88.9	16.1	3,020	890	2,130
Force members	5.0			110		110
Machine operators, n.e.c.	10.7	12.0	12.1	180	130	50
Motor Transport						
Auto working						

TABLE 3
NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
AND ANNUAL AVERAGE OPENINGS 1970-1980
BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	Employment Change
Drill press operatives	76.0	87.8	15.5	3,250	1,180
Furnacemen, smeltersmen, pourers	74.4	84.9	14.1	2,510	1,050
Grinding machine operatives	145.0	180.9	24.8	6,950	3,590
Heaters metal	7.5	6.8	-9.3	80	-70
Lathe, milling machine operatives	155.0	181.8	17.3	5,910	2,680
Metal platers	36.0	43.5	20.8	1,490	750
Other precision machine operatives	76.5	100.2	31.0	4,160	2,370
Punch stamping press operatives	180.0	214.0	18.9	8,600	3,400
Solderers	42.4	29.4	-30.7	410	-1,300
Welders and flame cutters	538.0	688.7	28.0	25,430	15,070
Semiskilled textile					
Carding, lapping, combing	17.8	11.8	-33.7	-140	-600
Knitters, loopers and toppers	34.6	29.6	-14.5	900	-500
Spinners, twistors, winders	150.0	147.3	-1.8	6,050	-270
Weavers	46.0	38.3	-16.7	930	-770
Other textile operatives	190.0	177.9	-6.4	5,690	-1,210
Semiskilled packing, inspecting					
Checkers, examiners, etc., manufacturing	690.0	811.1	17.6	38,600	12,110
Graders and sorters, manufacturing	45.3	50.9	12.4	35,300	560
Meat wrappers, retail trade	46.5	60.3	29.7	3,840	1,380
Packers, wrappers, except meat, produce	649.0	751.9	15.9	39,010	10,290
Produce graders, packers, except factory farm	25.4	28.3	11.4	1,610	290
Other Operatives, except Transport					
Asbestos, insulation workers	27.0	33.2	23.0	1,020	620
Assemblers	944.0	1,068.0	13.1	47,000	12,400
Blasters and powdermen	7.1	7.2	1.4	150	10
Bottling, canning operatives	60.0	64.8	8.0	2,470	480
Chainmen, rodmen, axmen surveying	11.0	12.5	13.6	290	150
Clothing ironers and pressers	200.0	173.0	-13.5	6,530	-2,700
Cutting operatives, n.e.c.	239.0	288.1	20.5	12,580	4,910
Dressmaker, seamstress, except factory	110.0	106.6	-3.1	7,720	-340
Drillers, earth	57.8	56.5	-1.7	960	-110
Dry wall installers, lathes	47.0	68.7	46.2	2,670	2,170
Dryers	28.0	34.0	21.4	1,220	600
Filer, polisher, sander, buffer	126.0	25.1	-0.7	3,420	-90
Garage workers, gas station attendants	499.0	575.0	15.7	15,760	7,600

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
operatives	76.0	87.8	15.5	3,250	1,180	2,070
smelters, smelters, pourers	74.4	84.9	14.1	2,510	1,050	1,460
machine operatives	145.0	180.9	24.8	6,950	3,590	3,360
al	7.5	6.8	-9.3	80	-70	150
ing machine operatives	155.0	181.8	17.3	5,910	2,680	3,230
s	36.0	43.5	20.8	1,490	750	740
ion machine operatives	76.5	100.2	31.0	4,160	2,370	1,790
ping press operatives	180.0	214.0	18.9	8,600	3,400	5,200
flame cutters	42.4	29.4	-30.7	410	-1,300	1,710
	538.0	688.7	28.0	25,430	15,070	10,360
tile						
ping, combing	17.8	11.8	-33.7	-140	-600	460
ppers and toppers	34.6	29.6	-14.5	900	-500	1,400
isters, winders	150.0	147.3	-1.8	6,050	-270	6,320
	46.0	38.3	-16.7	930	-770	1,700
operatives	190.0	177.9	-6.4	5,690	-1,210	6,900
king, inspecting						
aminers, etc., manufacturing	690.0	811.1	17.6	38,600	12,110	26,490
sorters, manufacturing	45.3	50.9	12.4	35,300	560	34,740
s, retail trade	46.5	60.3	29.7	3,840	1,380	2,460
ppers, except meat, produce	649.0	751.9	15.9	39,010	10,290	28,720
ers, packers, except factory farm	25.4	28.3	11.4	1,610	290	1,320
except Transport						
ation workers	27.0	33.2	23.0	1,020	620	400
	944.0	1,068.0	13.1	47,000	12,400	34,600
ndermen	7.1	7.2	1.4	150	10	140
g operatives	60.0	64.8	8.0	2,470	480	1,990
en, axmen surveying	11.0	12.5	13.6	290	150	140
and pressers	200.0	173.0	-13.5	6,530	-2,700	9,230
es, n.e.c.	239.0	288.1	20.5	12,580	4,910	7,670
mistress, except factory	110.0	106.6	-3.1	7,720	-340	8,060
	57.8	56.5	-1.7	960	-110	1,070
rs, lathes	47.0	68.7	46.2	2,670	2,170	500
	28.0	34.0	21.4	1,220	600	620
ander, buffer	126.0	125.1	-0.7	3,420	-90	3,510
ga attendants	499.0	575.0	15.7	15,760	7,600	8,160

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average 1970-80	
				Total Employment	Change
Laundry, dry cleaning operatives, n.e.c.	190.0	214.6	12.9	12,700	2,460
Meat cutters, butchers, except manufacturing	202.0	200.0	-1.0	4,860	-200
Meat cutters, butchers	88.0	91.9	4.4	2,800	390
Milleners	2.0	1.3	-35.0	50	-70
Mine operatives, n.e.c.	165.0	133.2	-19.3	820	-3,180
Mixing operatives	80.7	89.6	11.0	2,340	890
Oilers, greasers, except automobile	51.0	49.0	-3.9	930	-200
Painters, manufacturing articles	178.0	190.0	6.7	5,040	1,200
Photographic process workers	69.0	97.8	41.7	8,070	2,150
Riveters and fasteners	29.0	32.4	11.7	1,320	340
Sailors and deckhands	35.0	29.0	-17.1	50	-600
Sawyers	120.0	143.8	19.8	5,620	2,380
Sewers and stitchers	926.0	1,044.8	12.8	69,620	11,880
Shoemaking machine operatives	67.0	45.5	-32.1	400	-2,150
Stationary firemen	94.0	90.0	-4.3	2,370	-400
Winding operatives, n.e.c.	69.0	89.4	29.6	4,880	2,040
Miscellaneous machine operatives	1,307.0	1,500.0	14.8	57,610	19,300
Operatives, n.e.c.	1,131.4	1,176.4	4.0	38,190	4,500
Transport Equipment Operatives					
Boatmen and canalmen	6.0	5.7	-5.0	120	-30
Bus drivers	229.0	297.2	29.8	15,030	6,820
Conductors, motormen, urban rail	8.4	9.5	13.1	270	110
Deliverymen and routemen	817.0	965.0	18.1	29,690	14,800
Fork lift, tow motor operatives	281.0	340.0	21.0	9,780	5,900
Motormen, mine, factory, logging	10.0	9.5	-5.0	130	-50
Parking attendants	30.5	37.5	23.0	3,900	700
Railroad brakemen	49.0	42.4	-13.5	130	-660
Railroad switchmen	53.0	48.2	-9.1	420	-480
Taxicab drivers, chauffeurs	150.0	146.4	-2.4	4,530	-360
Truck drivers	1,378.0	1,581.2	14.7	43,250	20,320
Service Workers					
Cleaning Service Workers					
Chambermaid, maid, except private	218.5	285.7	30.8	38,130	6,720
Cleaners and charwomen	611.0	735.0	20.3	46,920	12,400
Janitors and sextons	1,163.0	1,600.0	37.6	103,240	43,700
Food Service Workers					
Bartenders	189.0	221.5	17.2	10,600	3,250

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
cleaning operatives, n.e.c.	190.0	214.6	12.9	12,700	-2,460	10,240
butchers, except manufacturing	202.0	200.0	-1.0	4,860	-200	5,060
butchers	88.0	91.9	4.4	2,800	390	2,410
	2.0	1.3	-35.0	50	-70	120
... n.e.c.	165.0	133.2	-19.3	-820	-3,180	2,360
... es	80.7	89.6	11.0	2,340	890	1,450
... s, except automobile	51.0	49.0	-3.9	930	-200	1,130
... facturing articles	178.0	190.0	6.7	5,040	1,200	3,840
... process workers	69.0	97.8	41.7	8,070	2,150	3,190
... steniers	29.0	32.4	11.7	1,320	340	980
... khands	35.0	29.0	-17.1	-50	-600	550
	120.0	143.8	19.8	5,620	2,380	3,240
... chers	926.0	1,044.8	12.8	69,620	11,880	57,740
... chine operatives	67.0	45.5	-32.1	400	-2,150	2,550
... en	94.0	90.0	-4.3	2,370	-400	2,770
... ves, n.e.c.	69.0	89.4	29.6	4,880	2,040	2,340
... machine operatives	1,307.0	1,500.0	14.8	57,610	19,300	38,310
... c.	1,131.4	1,176.4	4.0	38,190	4,500	33,690
nt Operatives						
... nalmen	6.0	5.7	-5.0	120	-30	150
	229.0	297.2	29.8	15,030	6,820	8,210
... tormen, urban rail	8.4	9.5	13.1	270	110	160
... d routemen	817.0	965.0	18.1	29,690	14,800	14,790
... otor operatives	281.0	340.0	21.0	9,780	5,900	3,880
... factory, logging	10.0	9.5	-5.0	130	-50	180
... nts	30.5	37.5	23.0	3,900	700	3,200
... en	49.0	42.4	-13.5	130	-660	790
... men	53.0	48.2	-9.1	420	-480	900
... chauffeurs	150.0	146.4	-2.4	4,530	-360	4,890
	1,378.0	1,581.2	14.7	43,250	20,320	22,930
orkers						
... aid, except private	218.5	285.7	30.8	38,130	6,720	31,410
... arwomen	611.0	735.0	20.3	46,920	12,400	34,520
... tons	1,163.0	1,600.0	37.6	103,240	43,700	59,540
... ts	189.0	221.5	17.2	10,600	3,250	7,350

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS, 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	Employment Change
Busboys	110.0	115.7	5.2	2,300	570
Cooks, except private	821.0	950.0	15.7	53,190	12,900
Dishwashers	207.0	252.8	22.1	12,860	4,580
Food counter, fountain workers	282.0	264.1	-6.3	13,340	-1,790
Waiters	1,096.0	1,288.4	17.6	89,810	19,240
Food workers, n.e.c., except private	389.0	483.4	24.3	32,510	9,440
Health Service Workers					
Dental assistants	100.0	145.0	45.0	13,860	4,500
Health aides, except nursing	133.0	249.4	87.5	23,190	11,640
Health trainees	19.0	5.5	-71.1	110	-1,350
Lay midwives	0.8	1.1	37.5	80	30
Nurses aides, orderlies	834.0	1,203.4	44.3	96,020	36,940
Practical nurses	370.0	640.9	73.2	59,900	27,090
Personal Service Workers					
Airline stewardesses	34.2	59.7	74.6	7,220	2,550
Attendant, recreation, amusement	80.0	102.8	28.5	5,630	2,280
Attendant, personal service, n.e.c.	62.0	65.8	6.1	4,460	380
Baggage porters and bellhops	21.0	14.3	-31.9	-210	-670
Barbers	158.0	150.0	-5.1	5,710	800
Boarding, lodging housekeepers	9.6	2.9	-69.8	-160	-670
Bootblacks	3.2	1.5	-53.1	-30	-170
Child care workers, except private	332.0	482.9	42.4	42,460	14,390
Elevator operators	39.0	20.2	-48.2	-100	-1,880
Hairdressers, cosmetologists	480.0	600.0	25.0	48,070	12,000
Housekeepers, except private	111.0	160.8	44.9	12,770	4,980
Personal service apprentices	1.0	0.5	-50.0	-20	-50
School monitors	26.5	40.0	50.9	2,610	1,350
Ushers, recreation, amusement	16.3	18.0	10.4	700	170
Welfare service aides	18.0	36.8	104.4	3,180	1,880
Protective Service Workers					
Crossing guards, bridgetenders	46.0	52.0	13.0	4,010	600
Firemen, fire protection	181.0	258.4	42.8	10,310	7,740
Guards and watchmen	386.0	470.0	21.8	30,180	8,400
Marshalls and constables	5.9	8.0	35.6	530	210
Policemen and detectives	388.0	520.0	34.0	19,100	13,200
Sheriffs and bailiffs	40.0	54.0	35.0	2,850	1,400

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
private	110.0	115.7	5.2	2,300	570	1,730
	821.0 ⁴	950.0	15.7	53,190	12,900	40,290
fountain workers	207.0	252.8	22.1	12,860	4,580	8,280
n.e.c., except private	282.0	264.1	-6.3	13,340	-1,790	15,130
	1,096.0	1,288.4	17.6	89,810	19,240	70,570
	389.0	483.4	24.3	32,510	9,440	23,070
workers						
ants	100.0	145.0	45.0	13,860	4,500	9,360
except nursing	133.0	249.4	87.5	23,190	11,640	11,550
	19.0	5.5	-71.1	-110	-1,350	1,240
orderlies	0.8	1.1	37.5	80	30	50
s	834.0	1,203.4	44.3	96,020	36,040	59,080
	370.0	640.9	73.2	59,900	27,090	32,810
Workers						
esses	34.2	59.7	74.6	7,220	2,550	4,670
ation, amusement	80.0	102.8	28.5	5,630	2,280	3,350
onal service, n.e.c.	62.0	65.8	6.1	4,460	380	4,080
and bellhops	21.0	14.3	-31.9	-210	-670	460
ng housekeepers	158.0	150.0	-5.1	5,710	-800	6,510
	9.6	2.9	-69.8	-160	-670	510
	-3.2	1.5	-53.1	-30	-170	140
ers, except private	339.0	482.9	42.4	42,460	14,390	28,070
ors	39.0	20.2	-48.2	-100	-1,880	1,780
osmetologists	480.0	600.0	25.0	48,070	12,000	36,070
except private	111.0	160.8	44.9	12,770	4,980	7,790
e apprentices	1.0	0.5	-50.0	-20	-50	30
	26.5	40.0	50.9	2,610	1,350	1,260
on, amusement	16.3	18.0	10.4	700	170	530
maides	18.0	36.8	104.4	3,180	1,880	1,300
Workers						
bridgetenders	46.0	52.0	13.0	4,010	600	3,410
tection	181.0	258.4	42.8	10,310	7,740	2,570
hmen	386.0	470.0	21.8	30,180	8,400	21,780
onstable	5.9	8.0	35.6	530	210	320
etective	388.0	520.0	34.0	19,100	13,200	5,900
iff	40.0	54.0	35.0	2,850	1,400	1,450

TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

Occupation	1970 Employment	1980 Employment	Percent Change	Annual Average	
				Total	Openings 1970-80
Private Household Workers					
Child care workers	517.0	432.0	-16.4	30,400	-8,500
Cooks, private	36.0	32.0	-11.1	2,320	-400
Housekeepers, private	107.0	92.0	-14.0	6,230	-1,500
Laundresses, private	12.0	8.0	-33.3	8,260	-400
Maids, servants, private	696.0	575.7	-17.3	33,120	-12,030
Laborers, except Farm					
Animal Caretaker, except Farm	71.0	71.7	1.0	2,790	70
Carpenters, Helpers	117.0	80.6	-31.1	-1,970	-3,640
Construction Laborers, except Carpenter Helpers	805.0	855.6	6.3	2,034	5,060
Fishermen and Oystermen	34.0	27.8	-18.2	190	-620
Freight, Material Handlers	748.0	846.7	13.2	23,740	9,870
Garbage Collectors	84.0	139.1	65.6	7,570	5,510
Gardeners, Groundkeepers, except Farm	537.0	550.4	2.5	23,200	1,340
Longshoremen and Stevedores	56.0	55.5	-0.9	1,170	-50
Lumbermen, Raftsmen, Woodchoppers	82.0	68.9	-16.0	20	-1,310
Stock Handlers	718.0	870.3	21.2	29,360	15,230
Teamsters	7.0	3.9	-44.3	-200	-310
Vehicle Washers, Equipment Cleaners	176.0	200.1	13.7	6,130	2,410
Warehousemen, n.e.c.	149.0	149.6	0.4	2,600	60
Other Laborers	591.0	579.8	-1.9	14,160	-1,120
Farmers and Farm Workers					
Farmers and Farm Managers					
Farmers (owners and tenants)	1,690.0	1,073.4	-36.5	6,600	-61,660
Farm managers	33.0	44.9	36.1	2,520	1,190
Farm Laborers, Farm Foremen					
Farm foremen	31.0	26.5	-14.5	410	-450
Farm laborers, wage workers	897.0	535.7	-40.3	-13,060	-36,130
Farm laborers, unpaid family	474.0	315.6	-33.4	-1,980	-15,840
Farm laborers, self-employed	4.0	3.9	-2.5	120	-10

SOURCE: Bureau of Labor Statistics

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TABLE 3
 NATIONAL 1970 EMPLOYMENT, PROJECTED 1980 REQUIREMENTS
 AND ANNUAL AVERAGE OPENINGS 1970-1980
 BY OCCUPATION - continued

	1970 Employment	1980 Employment	Percent Change	Annual Average Openings 1970-80		
				Total	Employment Change	Replacement Needs
Workers	517.0	432.0	-16.4	30,400	-8,500	38,900
Private	36.0	32.0	-11.1	2,320	-400	2,720
Private	107.0	92.0	-14.0	6,230	-1,500	7,730
Private	12.0	8.0	-33.3	8,260	-400	8,660
Private	696.0	575.7	-17.3	33,120	-12,030	45,150
Except Farm	71.0	71.7	1.0	2,790	70	2,720
rs, except Carpenter	117.0	80.6	-31.1	-1,970	-3,640	1,670
Helpers	805.0	855.6	6.3	2,034	5,060	15,280
ermen	34.0	27.8	-18.2	190	-620	810
ndlers	748.0	846.7	13.2	23,740	9,870	13,870
	84.0	139.1	65.6	7,570	5,510	2,060
epers, except Farm	537.0	550.4	2.5	23,200	1,340	21,860
vedores	56.0	55.5	-0.9	1,170	-50	1,220
n, Woodchoppers	82.0	68.9	-16.0	20	-1,310	1,330
	718.0	870.3	21.2	29,360	15,230	14,130
	7.0	3.9	-44.3	-200	-310	110
quipment Cleaners	176.0	200.1	13.7	6,130	2,410	3,720
	149.0	149.6	0.4	2,600	60	2,540
	591.0	579.8	-1.9	14,160	-1,120	15,280
ers						
anagers						
and tentants)	1,690.0	1,073.4	-36.5	6,600	-61,660	68,260
	33.0	44.9	36.1	2,520	1,190	1,330
Foremen	31.0	26.5	-14.5	410	-450	860
ge workers	897.0	535.7	-40.3	-13,060	-36,130	23,070
paid family	474.0	315.6	-33.4	-1,980	-15,840	13,860
lf-employed	4.0	3.9	-2.5	120	-10	130

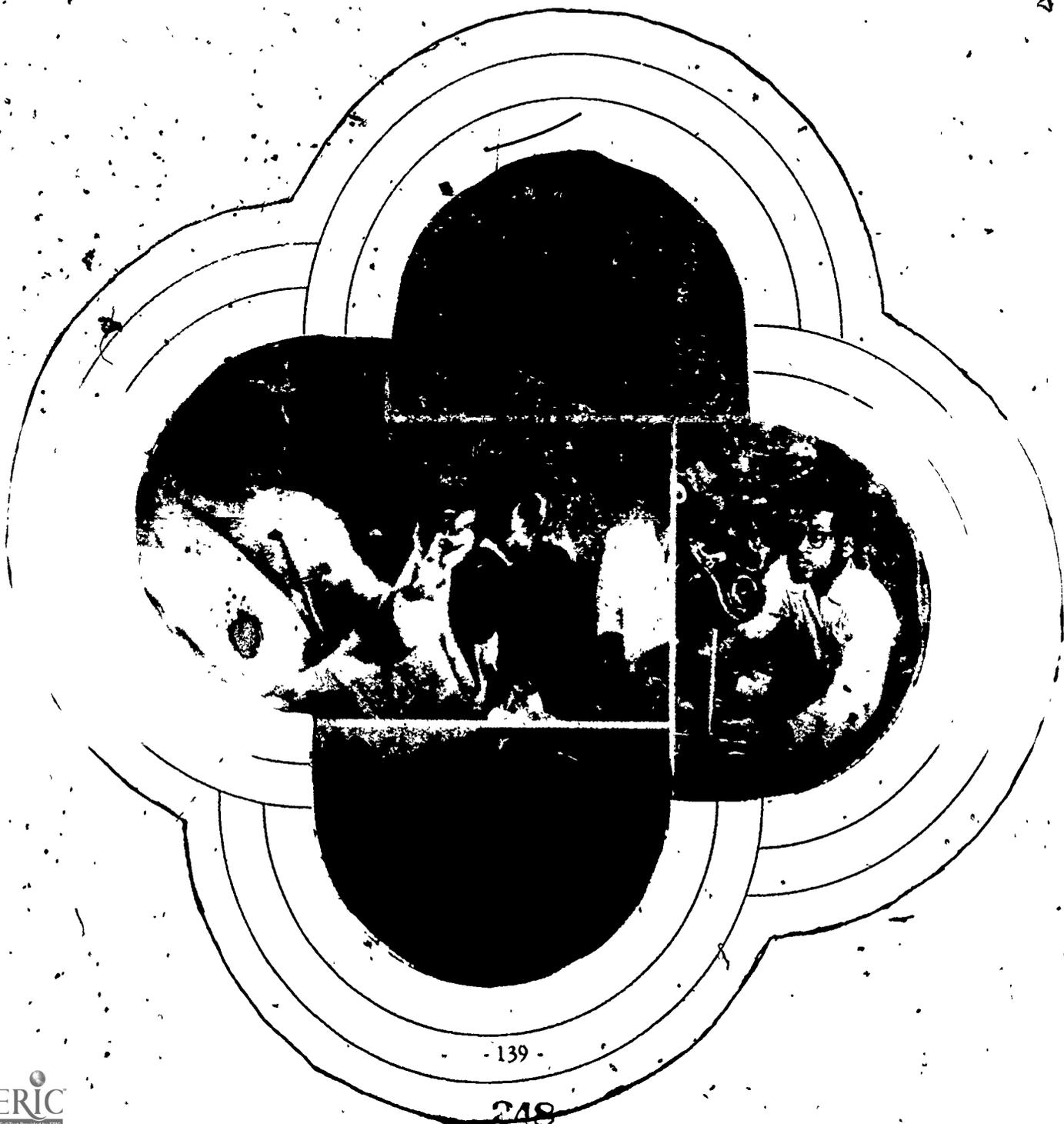
bor Statistics

APPENDIX C

Reprint of "Occupational Outlook Handbook in Brief, 1974-75
Edition" from the Summer 1974 edition of Occupational Outlook
Quarterly.

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Occupational Outlook Handbook In Brief 1974-75 Edition



More than 60 million jobs will open up between 1972 and 1985. Here is a capsule view of where the opportunities will be.

by Joan Slowitsky*



The choice of a career is an important decision. A young person's interests, values, and aptitudes must be blended into a job market that is becoming increasingly complex and uncertain. Uncertainty cannot be eliminated, of course, but it can be reduced. That's why the 1974-75 edition of the *Occupational Outlook Handbook* can be a valuable aid to the young job seeker. It describes in detail many of the important criteria in picking a career—nature of the work, training requirements, earnings, working conditions, places of employment, and employment outlook. The "Occupational Outlook Handbook in Brief" is a summary of one important aspect of job evaluation—the employment outlook.

The Economy in 1985. The Bureau of Labor Statistics estimates that around 101.5 million workers will be employed in hundreds of different occupations by 1985, a 24 percent increase over 1972.

*Joan Slowitsky is a labor economist, Division of Manpower and Occupational Outlook, BLS.

While employment prospects will be as varied as the jobs themselves, definite overall patterns of opportunity will emerge. White-collar occupations—including professional, technical, managerial, clerical, and sales—in general will grow the fastest. Throughout recent years, white-collar workers have continuously increased their proportion of total employment. This trend is expected to continue, although growth will not be as rapid as it was during the 1960's.

Employment of craft workers, operatives, and nonfarm laborers, commonly known as blue-collar workers, is expected to increase through the mid-1980's but at a much slower rate than that of white-collar workers. Employment in the service occupations, which include a variety of diverse jobs such as FBI agent, police officer, beauty operator, and janitor, is expected to increase slightly faster than that of blue-collar workers. The number of farm laborers is expected to decline by nearly one-half.

The overall 1985 employment picture and the individual occupational projections developed by the Bureau of Labor Statistics are based on a set of assumptions about the status of the country in the mid-1980's. The assumptions are that

- High levels of employment and manpower utilization will prevail in the mid-1980's,
- No major events such as energy shortages that are of long duration or are widespread will alter substantially the rate of economic growth. Although energy shortages were being experienced as the *Handbook* went to press, no conclusive assessments could be made of the magnitude nor duration of the shortages nor their long-run effect on employment as a factor

either stimulating or restricting employment opportunities in specific industries or occupations. Future editions of the *Handbook* and the *Occupational Outlook Quarterly* will incorporate the significant findings of special studies and reports in this area.

- Economic, social, and educational trends will continue according to recent patterns,
- Scientific and technological advances will continue at about the same rate as they have in recent years, and
- The United States will not be engaged in a war, but that there will be no substantial cutbacks in the defense budget from its present level.

Employment Prospects. Many of the statements on employment outlook in the "Occupational Outlook Handbook in Brief" are explained in terms of total employment growth. To distinguish the degree of expansion or decline between one occupation and another, words describing growth are used—little or no change, slow, moderate, rapid, or very rapid increase or decrease. Between two occupations with approximately equal numbers of workers, the faster growing one will generally offer the better employment possibilities. However, a large occupation with a slow growth rate generally offers more openings than a smaller, faster growing occupation because there are more deaths and retirements. For example, projections indicate that the number of those employed as actuaries should increase by about 60 percent from 1972 to 1985—from 5,500 to 9,000. Estimated openings will be 500 each year—300 from growth and 200 from deaths and retirements. The number of telephone operators, on the other

Occupational Outlook Handbook In Brief

hand, is expected to increase by only 1 percent, to 232,000. However, many more annual openings will occur—15,800 for workers to replace those who die, retire, or leave the labor force for family or other reasons but only 200 from growth. For this occupation, the need for replacements is actually a much more important factor in the number of openings than growth. For the economy as a whole, about twice as many openings will result from replacements as from growth during the 1972-85 period. (See chart.)

The number of people who move from one occupation to another are not included in the figure for annual openings in each occupation. Such transfers, however, can account for a significant number of job openings so that the totals could be well above those presented in this article.

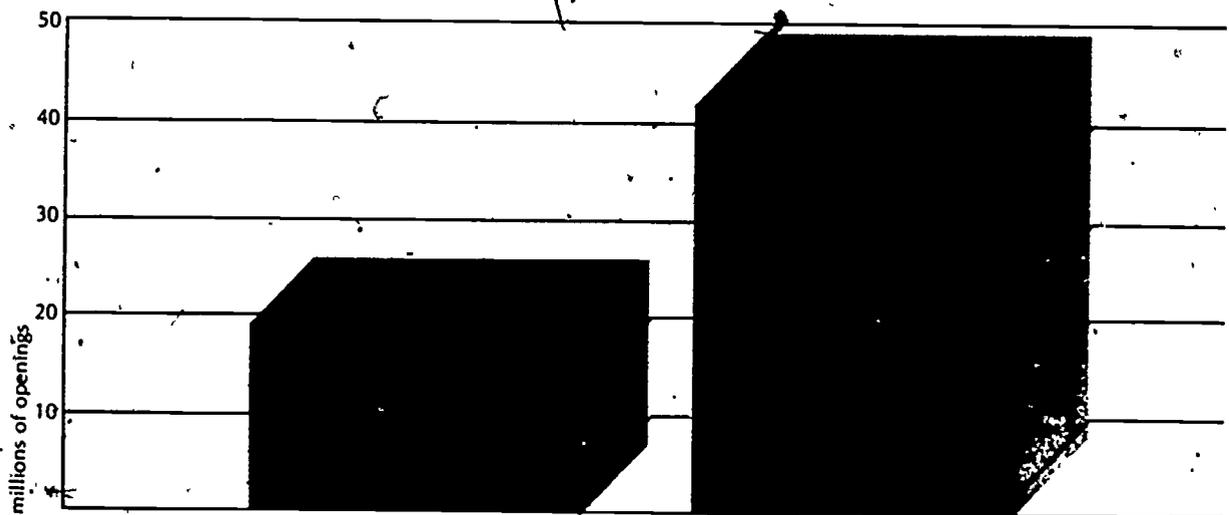
Whenever possible, another factor is described in the outlook analysis—the competitiveness for positions. This con-

sideration usually is limited to those in the professional and technical fields, where some information can be gathered (1) about the number of qualified entrants to the field or (2) about those jobs where past trends would indicate a continual overabundance or shortage of applicants. If the statement indicates that there is an "excellent outlook," this generally means that there would be more positions than qualified applicants and entry into the field would be relatively easy, based on current trends in the work and study patterns of young people. "Keen competition" would reflect the opposite situation. For example, although thousands of openings will arise each year for teachers, trends in the number of persons taking training and entering this field of work indicate that, if these trends continue, competition for teaching positions will be very severe. Cluster Groupings. The occupations in the brief are grouped by related jobs into 13 clusters. These groupings enable

young people interested in a broad field to locate easily the employment prospects for a large number of related specific occupations. For example, a young person interested in a health career can find information about 35 occupations in this field having different educational and training requirements.

The brief, however, does not contain information about some major industries, such as restaurants and the atomic energy field. Material about such industries can be found in the *Occupational Outlook Handbook*. The *Handbook*. The 1974-75 edition of the *Occupational Outlook Handbook* includes information about 850 occupations and more than 30 industries. Copies of the *Handbook* usually are available in school counselors' offices and in school and public libraries. The volume may also be purchased for \$6.85 a copy from regional offices of the Bureau of Labor Statistics, listed on the inside front cover of this issue.

DEATH AND RETIREMENTS WILL ACCOUNT FOR TWICE AS MANY OPENINGS AS GROWTH BETWEEN 1972 TO 1985



Source: Bureau of Labor Statistics

OCCUPATIONAL OUTLOOK HANDBOOK IN BRIEF

1974-75 Edition*

Occupation	Estimated employ- ment 1972	Average annual openings ¹	Employment trends and prospects
INDUSTRIAL PRODUCTION AND RELATED OCCUPATIONS			
Foundry Occupations			
Coremen	23,000	450	Little or no change in employment due to the growing use of machine-made cores.
Molders	56,000	1,100	Trend toward greater use of machine molding and permanent and shell molds will limit growth.
Patternmakers	19,000	450	Relatively stable employment due to greater use of reusable metal patterns. Most of the relatively small number of openings from death and retirements will be for metal patternmakers.
Machining Occupations			
All-Round Machinists	320,000	13,100	Moderate employment growth due to rising demand for machined goods such as automobiles, household appliances, and industrial products.
Instrument Makers (Mechanical)	5,000	200	Moderate employment growth due to the growing use of instruments in manufacturing processes and in research and development work.
Machine Tool Operators	546,000	25,600	Moderate employment increase due to expansion of metal-working activities.
Setup Men (Machine Tools)	43,000	2,200	Rapid employment growth due to increasing consumer and industrial demand for machined goods.
Tool-and-Die Makers	172,000	4,200	Slow employment growth. Most openings will occur as workers retire, die, or transfer to other fields of work.
Printing Occupations			
Bookbinders and Related Workers	32,000	550	Moderate employment increase.
Composing Room Occupations	170,000	4,300	Slowly declining employment due to more efficient typesetting equipment. A few thousand openings are expected yearly to replace workers who retire or die.
Electrotypers and Stereotypers	7,000	100	Slow employment decline resulting from greater use of lithographic (offset) printing and other labor-saving techniques. Some openings will result from retirements and deaths.

*The occupational titles used here are those contained in the Occupational Outlook Handbook, which went to press before the Bureau of the Census occupational classification system was changed to remove titles that denote or connotate sex stereotypes.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Lithographic Occupations	81,000	5,100	Very rapid employment increase as a result of the greater use of lithographic (offset) printing.
Photoengravers	16,000	200	Slowly declining employment as a result of improved photographic equipment and the increasing use of lithographic (offset) printing which requires no photoengraving. Some openings will stem from the need to replace workers who die or retire.
Printing Pressmen	142,000	6,100	Slow employment growth due to the use of faster and more efficient presses.
Other Industrial and Related Occupations			
Assemblers	1,017,000	40,500	Slow employment growth, but thousands of openings will occur each year from deaths and retirements in this large field.
Automobile Painters	25,000	800	Moderate employment increase because of the growing number of automobiles damaged in traffic accidents.
Blacksmiths	10,000	350	Mass-production of metal parts previously made by blacksmiths should reduce employment. Some openings from deaths and retirements.
Boilermaking Occupations	33,000	1,300	Moderate employment increase due to expansion of industries that use boilers.
Electroplaters	17,000	900	Moderate employment increase because of expanding use of electroplating and the growth of the metalworking industries.
Foremen	1,400,000	58,000	Moderate employment growth resulting from industrial expansion and the need for increased supervision as production processes become increasingly complex.
Furniture Upholsterers	35,000	1,400	Slow employment growth because of the use of durable fabrics and the trend toward buying new furniture instead of reupholstering the old.
Inspectors (Manufacturing)	725,000	44,700	Moderate employment increase due to industrial expansion and the growing complexity of manufactured goods.
Millwrights	83,000	3,300	Moderate employment increase as a result of the construction of new plants, changes in plant layouts, and the increasing amount of complex machinery.
Motion Picture Projectionists	16,000	1,000	Slow employment growth. Most openings will occur as workers retire, die, or transfer to other fields of work.
Photographic Laboratory Occupations	38,000	2,700	Rapid employment increase resulting from growth of amateur photography and increasing use of photography in business and government.

See footnotes at end of table.

Occupation	Estimated employment 1972	Annual openings	Employment trends and prospects
Power Train Operators	300,000	9,100	Moderate employment growth due to industrial expansion.
Production Painters	180,000	5,000	Greater use of automatic sprayers and other labor-saving innovations should limit growth to a slow employment increase.
Stationary Engineers	178,000	4,600	Relatively stable employment because large boilers and automatic controls make possible increased capacity without corresponding increases in employment. However, there will be a few thousand openings yearly from deaths and retirements.
Stationary Firemen	93,000	2,100	Trend toward use of larger boilers and centralized equipment should result in a slow decrease in employment. However, many jobs will have to be filled yearly because of deaths and retirements.
Wastewater Treatment Plant Operators (Sewage Plant Operators)	20,000	1,200	Rapid employment growth as more treatment plants are constructed to process the increasing amount of domestic and industrial wastewater.
Welders and Filament Cutters	554,000	27,200	Rapid employment increase due to growth of metalworking industries and wider use of welding.

OFFICE OCCUPATIONS

Clerical Occupations

Bookkeeping Workers	1,584,000	112,000	Limited employment growth because of increasing automation of recordkeeping. Most job openings will result from deaths and retirements.
Cashiers	998,000	95,000	Rapid growth in employment. Best prospects for persons with typing and bookkeeping skills. Favorable opportunities for part-time work.
File Clerks	272,000	22,800	Increased demand for adequate recordkeeping should result in many job openings. Limited growth due to the increasing use of computers to store and retrieve data.
Hotel Front Office Clerks	49,000	4,800	Rapid employment growth as the number of hotels, motels, and motor hotels increases.
Office Machine Operators	195,000	13,700	Despite expected growth in the volume of office work, employment growth should be slow due to the expansion of automated recordkeeping.
Postal Clerks	286,000	10,500	Slow employment growth with most openings resulting from deaths and retirements.
Receptionists	436,000	55,100	Very rapid employment growth due to the expansion of businesses employing receptionists. Because this work is of a personal nature, prospects should not be affected by office automation.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings	Employment trends and prospects
Shipping and Receiving Clerks	451,600	13,800	Slow employment growth as labor-saving equipment enables clerks to handle a greater volume of merchandise.
Statistical Clerks	299,000	23,000	Moderate increase in employment as more numerical information is used by business and government organizations. The use of computers will eliminate some routine positions.
Stenographers and Secretaries	3,074,000	411,000	The increasing use of dictating machines will limit opportunities for office stenographers. Excellent prospects for secretaries and short-hand reporters.
Stock Clerks	511,000	34,800	Very rapid employment growth as manufacturing firms, wholesale establishments, and retail stores continue to expand. Some competition for jobs can be expected because many young people seek this work as a first job.
Typists	1,021,000	115,700	Rapid employment growth with good opportunities for competent typists, especially those familiar with automatic typewriters.
Computer and Related Occupations			
Computer Operating Personnel	480,000	27,000	Rapid rise in employment of console and auxiliary equipment operators as the number of computer installations increases. Declining demand for keypunch operators because of improved methods of data entry.
Programmers	186,000	13,000	Rapid employment growth as computers are increasingly used in business and government operations. Best opportunities for persons qualified in both programming and systems analysis.
Systems Analysts	103,000	8,300	Very rapid employment growth as requirements for data processing systems expand because of increased use of computers.
Banking Occupations			
Bank Clerks	473,000	43,200	Rapid employment growth as new and existing banks expand their services. Best prospects for data processing workers.
Bank Officers	219,000	13,600	Rapid employment gains as the number of banks increases and the services they offer expand.
Bank Tellers	248,000	25,000	Rapid employment growth as banks expand their services. Favorable opportunities for part-time work during peak business hours.
Insurance Occupations			
Actuaries	5,500	500	Favorable job opportunities for graduates with strong backgrounds in mathematics and statistics who have passed one or two actuarial examinations while still in school. The large number of graduates with degrees in mathematics and of students who have passed actuarial examination, however, could result in competition for jobs.

See footnotes at end of table

Occupation	Estimated employment in 1972	Annual growth rate	Employment trends and prospects
Claim Adjusters	11,000	5.0%	Moderate employment increase due to expanding insurance sales and resulting claims. Declining opportunities for adjusters who specialize in automobile claims as more States adopt no-fault insurance plans. Very good prospects for other types of adjusters.
Claim Examiners	31,000	(5.0)	Limited opportunities. Fewer examiners will be needed to process claims due to the increasing use of computers, also, fewer automobile claims will arise as more States adopt no-fault insurance plans.
Underwriters	61,000	2.5%	Many opportunities as the demand for insurance protection increases. Best prospects for those with college training.
Administrative and Related Occupations			
Accountants	714,000	41,900	Good opportunities. Because of the growing complexity of business accounting requirements, accountants with college degrees will be in greater demand than those without degrees.
Advertising Workers	152,000	(2)	Employment should grow moderately due to greater emphasis businesses place on advertising. Although competition may be keen for entry level applicants with good academic preparation should find many opportunities.
City Managers	2,500	150	Very rapid employment growth, but supply of qualified persons expected to grow faster. Those without a master's degree in public administration are likely to face the keenest competition for jobs.
College Student Personnel Workers	35-40,000	(1)	Current financial problems of colleges and universities may limit immediate growth. Over the short run, most openings will be due to replacement needs.
Credit Officials	114,000	7,500	Rapid employment growth as number of loans and volume of purchases on credit increase.
Hotel Managers and Assistants	110,000	7,500	Very good prospects especially for those who have degrees in hotel administration.
Industrial Traffic Managers	20,500	(1)	Slow employment increase. Best opportunities for those with college training.
Lawyers	103,000	16,500	Moderate employment rise due to the growth of legal action in such areas as consumer protection and the environment and the greater use of attorneys by low and middle-income groups. Prospects for establishing a new practice probably will be best in small towns and growing suburban areas, most salaried positions will become available in urban areas. Keen competition for salaried positions.
Marketing Research Workers	23,500	(1)	Very rapid employment growth as existing marketing organizations expand and new ones are established. Best opportunities for those with advanced degrees.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Personnel Workers	240,000	(1)	Excellent opportunities. Particularly good job prospects for persons trained in psychological testing and in handling work-related problems. Limited chances to enter field from clerical or subprofessional jobs.
Public Relations Workers	87,000	(1)	Moderate employment increase due to growth in importance of public relations.
Purchasing Agents	181,000	(1)	Moderate employment growth. Strongest demand for business administration graduates who have had courses in purchasing. Engineering and science graduates will be needed by firms manufacturing technical products.

SERVICE OCCUPATIONS

Cleaning and Related Occupations

Building Custodians	1,835,000	136,000	Moderate employment growth due to construction of apartment houses, motels, and other buildings that use custodial services. Maintenance needs of condominiums also will contribute to employment growth.
Exterminators	25,000	1,300	Rapid employment increase. Because pests reproduce rapidly and tend to develop immunity to pesticides, their control is a never-ending problem.
Hotel Housekeepers and Assistants	17,000	1,700	Rapid employment growth as the number of hotels increases. The best opportunities will be in new hotels and luxury motels.

Food Service Occupations

Bartenders	200,000	8,800	Moderate employment increase as new restaurants, bars, and hotels open.
Cooks and Chefs	866,600	52,000	Moderate growth in employment. Most starting jobs will be in small restaurants and other eating places where food preparation is fairly simple.
Meatcutters	200,000	4,400	Although total employment is expected to show little or no change, thousands of openings will become available from deaths and retirements.
Waiters and Waitresses	1,121,000	86,000	Moderate employment increase due to the construction of new hotels and restaurants. Most openings, however, will stem from high turnover.

Personal Service Occupations

Bartenders	157,000	5,000	Little or no employment change with most openings resulting from deaths and retirements.
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See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Bellmen and Bell Captains	16,000	600	Little employment change. Although some openings will result as new hotels and motor hotels are built, the fast growing motel business, with its emphasis on informality, will continue to employ only a few bellmen.
Cosmetologists	500,000	51,000	Very good job opportunities for experienced workers and newcomers. Good prospects also for those seeking part-time work.
Funeral Directors and Embalmers	45,000	1,300	Little or no change in employment is expected. Prospects are nevertheless good, as replacement needs will create many openings.
Private Household Service Occupations			
Private Household Workers	1,437,000	51,000	Despite the expected employment decline, job opportunities will be very good. Many openings will result as persons discouraged by low wages seek employment in other fields.
Protective and Related Service Occupations			
Construction Inspectors ² (Government)	23,000	1,500	Rapid employment growth through the mid-1980's. Best outlook for those with experience in construction work and some college or vocational education related to engineering or construction.
FBI Agents	8,600	(³)	Rising employment as FBI responsibilities grow. Turnover rate traditionally low.
Firefighters	200,000	11,600	Rapid employment growth as fire departments enlarge their staffs and paid firefighters replace volunteers. Keen competition for jobs in large cities.
Guards and Watchmen	250,000	19,300	Moderate employment growth due to the mounting incidence of crime and the increasing numbers of plants, offices, and stores requiring protection.
Health and Regulatory Inspectors (Government)	25,000	1,700	Very rapid employment growth, particularly at the State government level, in response to pressures for consumer protection.
Police Officers	370,000	14,300	Increased demand for protective services should create very good employment opportunities, specialized training will become increasingly important.
State Police Officers	44,000	2,300	Very rapid employment growth. As population grows and becomes more mobile, the greatest need will be for officers in highway patrols.
Other Service Occupations			
Postal Mail Carriers	263,000	7,900	Slow employment growth. Most openings will arise as workers retire or die.
Telephone Operators	230,000	16,000	Although direct dialing and other automatic devices will restrict growth, there will be thousands of openings each year as operators retire, die, or leave the labor force for other reasons.

See footnote 1 at end of table.

Occupation	Estimated Employment in 1972	Available Openings	Employment Trends and Prospects
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EDUCATION AND RELATED OCCUPATIONS

Teaching Occupations

College and University Teachers	525,000	24,000	Entrants may face keen competition through the mid-1980's. New doctoral and master's degree holders, the main source of supply, are expected to exceed the expanding demand for college and university teachers.
Kindergarten and Elementary School Teachers	1,274,000	105,000	Competition is expected through the mid-1980's. If patterns of entry and reentry continue, the number of persons qualified to teach in elementary schools will exceed the number of openings.
Secondary School Teachers	1,673,000	40,000	In past years of entry continue through the mid-1980's, the supply will greatly exceed long-range requirements. Keen competition for prospective teachers, although a recent survey found teacher shortages in mathematics, industrial arts, special education, and some vocational-technical subjects.

Library Occupations

Librarians	120,000	11,200	Favorable overall opportunities, but some librarians may have to compete for jobs of their choice. Best employment prospects in public and special libraries.
Library Technical Assistants	2,000	(1)	Good employment prospects particularly for graduates of academic programs. Especially favorable opportunities in large public and college and university libraries.

SALES OCCUPATIONS

Automobile Parts Countermen	72,000	3,400	Rapid employment increase as result of the growing number of motor vehicles.
Automobile Salesworkers	131,000	4,600	Moderate employment growth as car sales increase. There may, however, be some fluctuations in employment from year to year.
Automobile Service Advisers	21,000	900	Rapid employment increase resulting from the increasing number of automobiles and their complexity.
Gasoline Service Station Attendants	435,000	15,400	The increasing demand for gasoline and other service station products is expected to cause employment to increase. However, job opportunities, especially for part-time work, may be adversely affected if fuel shortages continue.
Insurance Agents and Brokers	385,000	16,000	Moderate employment growth. Despite an expected increase in sales volume, selling is expected to remain keenly competitive.
Manufacturers' Salesworkers	423,000	20,600	Greater business competition should stimulate employment of manufacturers' salesworkers. Most favorable opportunities for those trained to sell technical products.

Occupation	Estimated membership	Average openings	Employment trends and prospects
Advertising Salesworkers	7,300	(9)	Moderate employment increase, but competition for available jobs will be keen.
Department Store Salesworkers	349,000	25,000	Moderate employment increase to result from the growing demand for home purchases and rentals. Mature workers, including those transferring from other kinds of saleswork, are likely to find many job opportunities.
Retail Salesworkers	2,770,000	190,000	Good employment opportunities for full- and part-time workers as income levels rise and stores continue to remain open longer.
Real Estate Salesworkers	190,000	3,700	Although little change in overall employment is expected, many job openings will result from deaths and retirements.
Specialty Salesworkers	220,000	11,900	Moderate employment growth as funds available for investment increase. Many openings will also result from deaths and retirements. Managers of salesworkers who have left their jobs because they were unable to establish a successful clientele should also create many additional opportunities.
Wholesale Trade Salesworkers	500,000	11,000	Moderate employment growth resulting from expansion of wholesaler's customer services, the duties of salesworkers, and business in general.

CONSTRUCTION OCCUPATIONS

Assistant and Insulating Workers	30,000	1,200	Rapid employment growth due to greater construction activity.
Bricklayers	180,000	6,600	Moderate growth in employment as result of increasing construction activity and the growing use of ornamental brickwork.
Carpenters	1,000,000	67,000	Moderate employment growth from increased construction and greater demand for carpenters in the maintenance departments of factories, stores, and large apartment and government buildings.
Cement Workers (Concrete Finishers)	75,000	4,100	Very rapid growth in employment due to the anticipated growth in construction and the increasing use of concrete and concrete products.
Construction Laborers	876,000	24,500	Slow employment increase because of the widespread use of mechanized equipment. However, there will be many openings due to deaths and retirements.
Electrician (Construction)	240,000	11,100	Rapid employment increase as construction expands and more electric outlets, switches, and wiring are needed for appliances, air-conditioning systems, electronic data processing equipment, and electrical control devices.
Elevator Constructors	17,000	1,000	Very rapid employment growth as a result of the anticipated expansion in industrial, commercial, and large residential buildings and the modernization of older elevators.

See footnote at end of table

Occupation	Estimated employment 1973	Average annual openings	Employment trends and prospects
Floor Covering Installers	75,000	3,200	Rapid employment increase due to more widespread use of resilient floor coverings and carpeting.
Glaziers	12,000	700	Very rapid employment increase as more glass is used in new buildings.
Lathers	30,000	1,100	Rapid employment growth because of rising construction activity, increasing use of new kinds of plasters, and improved methods of applying plaster.
Operators, Engineers (Construction Machinery Operators)	435,000	18,500	Rapid employment increase as more bulldozers, cranes, and other heavy machines are used in construction work.
Painters and Paperhangers	420,000	14,700	While most openings will be for painters, several hundred jobs for paperhangers are expected to become available yearly.
Plasterers	30,000	900	Slow employment growth. Most openings will occur as workers retire, die, or transfer to other fields of work.
Plumbers and Pipefitters	400,000	15,000	Moderate employment increase due to rising construction activity and growth of industries which use extensive pipework in their processes, such as chemical and petroleum refining. Also, the trend toward more bathroom, kitchen and more central air-conditioning will result in increased demand for these workers.
Roofers	80,000	3,500	Rapid employment increase due to the use in construction activity.
Sheet-Metal Workers	65,000	2,300	Moderate employment rise as more workers are needed to install air-conditioning and heating ducts and other sheet-metal products in new houses, stores, offices, and other buildings.
Structural, Ornamental, and Reinforcing Iron Workers, Riggers, and Machine Movers	95,000	3,400	The growing use of structural steel in buildings is expected to create a need for more structural ironworkers. Opportunities for ornamental ironworkers should expand because of the growing popularity of ornamental panels for large buildings and the use of metal frames to hold large panes of glass. More riggers and machine movers will be needed to handle the increasing amount of heavy construction machinery, while the growing demand for prestressed concrete should create additional jobs for reinforcing-ironworkers.

OCCUPATIONS IN TRANSPORTATION ACTIVITIES

Air Transportation Occupations

Air Traffic Controllers	19,500	800	Expected increase in the number of airplanes should result in a rapid employment increase.
Aircraft Mechanics	123,000	7,000	Very rapid employment growth as number of aircraft increases. Employment in the Federal Government, however, may fluctuate with changes in defense spending. Continued fuel shortages may adversely affect employment growth.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Airline Dispatchers	800	20	Little or no employment change due to improved communications equipment.
Flight Attendants	39,000	8,000	Very rapid employment increase as aircraft become larger and increase in number. Many additional openings also will occur as attendants transfer to other occupations. Continued fuel shortages may adversely affect employment growth.
Flight Engineers	7,000	300	Rapid employment growth due to expected increase in the number of aircraft. Continued fuel shortages may adversely affect employment growth.
Ground Radio Operators and Teletypists	5,700	100	Slow employment decline due to automatic communications systems and improvements in two-way radios that permit direct communications between pilots and air traffic controllers.
Pilots and Copilots	54,000	2,000	Very rapid employment increase due to growth in the number of aircraft. Continued fuel shortages may adversely affect employment growth.
Traffic Agents and Clerks	59,000	7,000	Very rapid employment increase because of the anticipated growth of passenger and cargo traffic.
Merchant Marine Occupations			
Merchant Marine Officers	15,000	200	A decline in employment is anticipated as ships become more automated and mechanized. Some openings will result from deaths and retirements.
Merchant Seamen	42,000	100	A decline in employment is anticipated as ships become more automated and mechanized. Some openings will result from deaths and retirements.
Railroad Occupations			
Brakemen	73,000	400	Employment is expected to decline, but some openings will arise from deaths and retirements.
Bridge and Building Workers	10,500	200	Slowly declining employment, but a few openings will arise from deaths and retirements.
Clerks	82,600	2,700	Moderately declining employment. Some openings will occur from deaths and retirements.
Conductors	38,000	700	Slow employment decline due to reduced passenger traffic and the use of electric and electronic communications equipment. Some openings will arise from deaths and retirements.
Locomotive Engineers	35,000	1,000	Employment is expected to show little or no change. Nearly all openings will arise from deaths and retirements.
Locomotive Firemen	14,900	(2)	Employment should decline rapidly. Some openings, however, will develop as experienced workers retire, die, or are promoted to engineer positions.

See footnotes at end of table

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Shop Trades	78,000	900	Slow employment decline, but a few openings will arise from deaths and retirements.
Signal Department Workers	11,000	(?)	Improved signaling and communications systems that require less maintenance will reduce the need for workers.
Station Agents	8,700	(?)	Moderate employment decline. There will be, however, a limited number of job openings to replace workers who retire or die.
Telegraphers, Telephoners, and Towermen	11,200	(?)	Rapid decline in employment because of the wider use of automatic signaling systems. A few new workers, however, will still be needed to replace those who retire or die.
Track Workers	54,000	900	Slow employment decline. Although several thousand workers may be hired each summer to do maintenance jobs that cannot be done during the winter, few will be hired for year-round jobs.
Driving Occupations			
Intercity Busdrivers	25,000	500	Little or no change in employment is expected, but hundreds of job openings will become available yearly from deaths and retirements.
Local Transit Busdrivers	68,000	1,600	Slow employment rise as bus service is improved and expanded in urban areas.
Local Truckdrivers	1,600,000	46,000	Moderate employment increase because of growth in the volume of freight.
Long Distance Truckdrivers	570,000	16,600	The additional amount of freight carried long distances by truck and the location of new stores, factories, and warehouses in suburban or semirural areas where rail facilities are limited are expected to result in a moderate employment increase.
Parking Attendants	33,000	1,600	Slow employment growth. Most openings will be in large commercial parking lots in urban areas.
Taxi Drivers	92,000	1,600	Slow decline in employment because of the increased use of private and rented cars and buses and subways. There will, however, be many openings each year from deaths and retirements. Transfer to other occupations will create additional openings.

SCIENTIFIC AND TECHNICAL OCCUPATIONS

Conservation Occupations

Foresters	22,000	900	The annual number of forestry graduates could exceed the number of annual openings, resulting in keen competition for jobs. Opportunities also will be affected by the number of qualified entrants from other sources and the increasing use of technicians and forestry aides.
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See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Forestry Aides	14,500	800	Favorable employment opportunities especially for those with specialized posthigh school technical training in forestry.
Range Managers	4,000	150	Slow employment increase. However, because hiring needs are dependent on Federal legislation, public concern for environmental protection could create additional opportunities.
Engineering Occupations	1,100,000	53,000	
Aerospace Engineers	62,000	1,700	Moderate employment growth because of ongoing or planned programs to develop more versatile and sophisticated aircraft, missiles, space vehicles, and ground transportation systems. Opportunities depend on the level of defense and space spending, which can rise or fall sharply.
Agricultural Engineers	12,000	500	Rapidly growing job opportunities because of modernization of farm operations, increasing emphasis on conservation, and the use of agricultural products and wastes as industrial raw materials.
Biomedical Engineers	3,000	200	Favorable job opportunities since the number of graduates is expected to be smaller than the number of openings. Those with advanced degrees will be in strong demand to teach and to develop devices such as artificial hearts.
Ceramic Engineers	12,000	500	Very good employment opportunities. Engineers will be needed to develop ceramic materials for electronics and medical science fields and to improve traditional ceramic products.
Chemical Engineers	47,000	1,500	Moderate employment growth as a result of industrial expansion, especially in the chemical industries, where workers will be needed to design, build, and maintain plants and equipment for more complex chemical processes.
Civil Engineers	177,000	8,500	Opportunities should expand rapidly as a result of urban construction projects for housing, water supply, highway construction, sewage disposal, and rapid transit systems.
Electrical Engineers	231,000	11,000	Very rapid employment growth due to demand for electrical equipment to automate and mechanize production processes, especially computers and numerical controls for machine tools. Growing demand for electrical and electronic consumer goods also will spur employment.
Industrial Engineers	125,000	7,400	Very rapid growth in job opportunities as more emphasis is placed on scientific management and safety. More complex industrial operations and expansion of automated processes also will require more industrial engineers.
Mechanical Engineers	209,000	8,900	Very rapid employment growth due to demand for industrial machinery and machine tools and the increasing technological complexity of industrial machinery and processes.

¹See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings	Employment trends and prospects
Metallurgical Engineers	10,000	500	Rapid growth in job opportunities resulting from the need to develop metals and new alloys, especially for aircraft, spacecraft, and computers.
Mining Engineers	5,000	100	Favorable opportunities since the number of graduates each year is expected to be smaller than replacement needs. The need to develop new mining techniques to recover fuel resources will create additional jobs.
Environmental Science Occupations			
Geologists	23,000	1,100	Favorable opportunities at all degree levels if past patterns of entry into the field continue. Those with only the bachelor's degree will have better opportunities if they have training in techniques of geophysical exploration.
Geophysicists	8,000	400	Good employment opportunities for new graduates. As in the past, the number of new geophysics graduates should be smaller than that of openings.
Meteorologists	5,000	200	Favorable employment opportunities especially for those with advanced degrees to conduct research, teach, and engage in management and consulting work. The use of weather satellites, manned spacecraft and electronic computers has expanded the work of meteorologists.
Oceanographers	4,500	200	Favorable employment prospects for oceanographers with the Ph. D. degree, especially those in ocean engineering. Those with less education may face competition for entry jobs and find opportunities limited to doing routine analytical work as research assistants.
Life Science Occupations			
Biochemists	12,500	700	Favorable opportunities for graduates with advanced degrees primarily due to increased research and development expenditures, especially for medical research.
Life Scientists	160,000	9,200	New graduates may face severe competition since the number of graduates is expected to grow more rapidly than employment opportunities. However, those with advanced degrees, especially the Ph. D., will experience the least competition. Medical scientists should find the best opportunities due to the emphasis on research of cancer, heart, and other diseases. Those with only an undergraduate degree may be limited to research assistant or technician jobs.
Mathematics Occupations			
Mathematicians	76,000	4,200	The number of entrants may exceed openings, creating competition. Those with Ph. D. may have less difficulty finding jobs than persons with less education.
Statisticians	23,000	1,700	Favorable employment prospects for persons who can combine training in statistics with knowledge of a field where it can be applied, such as economics. Statisticians will be needed by government and private industry, especially to forecast trends and modernize accounting procedures.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Physical Science Occupations			
Astronomers	2,000	100	Some competition may exist for beginning jobs, even for those with a Ph. D. degree. Despite the small number receiving the doctorate each year, there may be even fewer openings. Opportunities are heavily dependent on Federal funds for basic research in astronomy. Funds are expected to increase but more slowly than during the 1960's.
Chemists	134,000	6,800	Favorable employment opportunities. Demand for industrial products, further research on urgent pollution and fuel shortage problems, and the need for health-related research will contribute to the need for additional chemists.
Food Scientists	7,500	300	Favorable job opportunities. Increased research and development will require food scientists with advanced degrees. More scientists with the bachelor's degree will be needed to ensure quality and safety of processed products.
Physicists	49,000	1,500	Favorable job opportunities for those with advanced degrees, primarily in applied research and development. Limited opportunities for those with bachelor's degrees although they may find openings in other occupations that utilize their training. For example, they may become high school teachers once they have completed the required educational courses and obtained a State teaching certificate.
Technicians Occupations			
Broadcast Technicians	23,000	700	Slow employment growth, with most openings resulting from deaths and retirements. Some openings will occur as new radio and television stations open, but labor-saving devices will limit demand.
Draftsmen	327,000	17,900	Skilled draftsmen, especially those with posthigh school training, are expected to have favorable employment opportunities.
Engineering and Science Technicians	707,000	39,600	Favorable employment opportunities, especially for graduates of postsecondary training programs. Rapid growth will result from industrial expansion and increasing opportunities in the fields of atomic energy, environmental control, and urban development.
Food Processing Technicians	4,500	200	Favorable employment opportunities especially for those with posthigh school training in food technology. The demand for convenience foods and the requirements for higher quality and safety standards in food processing will require more technicians.
Surveyors	58,000	2,700	Good employment opportunities especially for those with posthigh school training, because of increased development of land for public, commercial, and residential use.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Mechanic and Repair Occupations			
Telephone Craft Occupations			
Central Office Craft Occupations	105,000	2,000	Moderate increase in employment as the demand for telephone service grows.
Central Office Equipment Installers	30,000	1,200	Moderate employment increase anticipated because of the need to install equipment in new central offices and replace obsolete equipment in existing offices.
Linemen and Cable Splicers	50,000	700	Because of labor-saving improvements in equipment, employment of linemen is expected to show little or no change. Some openings, however, will occur from deaths and retirements. Moderate employment growth of cable splicers to keep pace with the high levels of cable installation and maintenance.
Telephone Servicemen	108,000	2,000	Moderate employment increase due to the growing demand for telephones and private branch exchange (PBX) and automatic switching (CENTREX) systems. Technological advances that have increased the efficiency of servicemen, however, will limit growth.
Other Mechanics and Repairers Occupations			
Air-Conditioning, Refrigeration, and Heating Mechanics	135,000	13,100	Rapid employment growth with most openings for air-conditioning and refrigeration mechanics. Rapid employment growth also of furnace installers and gas burner mechanics, while the number of oil burner mechanics should remain fairly stable.
Appliance Servicemen	130,000	6,100	Rapid growth in employment because of the increase in the number and variety of household appliances.
Automobile Body Repairmen	161,000	4,100	Moderate employment growth because of the rising number of automobiles damaged in traffic accidents.
Automobile Mechanics	1727,000	22,300	Moderate employment increase as a result of more automobiles and added features that increase maintenance requirements, such as pollution control devices.
Boat-Motor Mechanics	10,300	500	The growth in the number of boats and machinery with small gasoline engines should result in a moderate employment increase.
Bowling-Pin-Machine Mechanics	6,000	200	Improved pinsetting machines are expected to limit growth. Most openings will occur due to deaths and retirements.
Business Machine Servicemen	69,000	3,000	Very rapid employment increase. Opportunities particularly good for those who have training in electronics.
Computer Service Technicians	45,000	4,100	Expanding use of computers should result in a very rapid growth in employment.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings	Employment trends and prospects
Diesel Mechanics	92,000	4,500	Rapid employment increase due to the expansion of industries that are major users of diesel engines.
Dispensing Opticians and Optical Mechanics	30,000	2,000	Very rapid employment increase due to growth in demand for prescription lenses.
Electric Sign Servicemen	8,000	500	Anticipated large increase in the number of signs should cause employment to grow very rapidly.
Farm Machinery Mechanics	47,000	1,400	Slow employment increase. Trend toward bigger, more mechanized farms and the increased reliability of farm machinery will limit growth.
Industrial Machinery Repairmen	430,000	44,000	Rapid employment increase because of the growing amount of factory machinery needing maintenance and repair.
Instrument Repairmen	100,000	4,800	Anticipated increase in use of instruments in such areas as oceanography, pollution monitoring, and medical diagnosis should result in rapid employment increase.
Jewelers	18,000	800	Little or no employment change. While demand for jewelry is growing, most is for costume jewelry which is mass produced and seldom worth repairing. Some openings, however, will arise from deaths and retirements.
Locksmiths	9,200	500	Moderate employment growth in this relatively small occupation. Best opportunities will be for those who can install and service electronic security systems.
Maintenance Electricians	260,000	9,800	Moderate employment increase due to the growing amount of electrical and electronic equipment in industry.
Motorcycle Mechanics	9,600	800	Rapid employment increase due to the growing popularity of motorcycles, minibikes, and snowmobiles. There may be some seasonal fluctuations in employment because cycling activity increases in summer.
Piano and Organ Servicemen	7,000	320	Little growth is expected in the number of piano tuners, piano technicians, and pipe organ technicians. Moderate employment increase for technicians to service electric organs.
Shoe Repairmen	30,000	1,200	Slowly declining employment, but some openings will arise from deaths and retirements.
Television and Radio Service Technicians	144,000	4,400	Moderate employment growth is anticipated because of the growing number of radios, televisions, phonographs, and other home entertainment products.
Truck Mechanics and Bus Mechanics	130,000	5,100	Rapid employment increase of truck mechanics while the number of bus mechanics is not expected to change significantly in both occupations. Many openings will arise from deaths and retirements.

See also OCS 10-10-72

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Vending Machine Mechanics	29,000	1,500	Rapid employment increase to keep pace with the growing number of vending machines.
Watch Repairmen	16,000	700	Little or no change in employment because most watches now made will cost little more to replace than repair. Some openings will result from deaths and retirements.
HEALTH OCCUPATIONS			
Dental Occupations			
Dental Assistants	115,000	13,000	Excellent employment prospects for dental assistants especially for graduates of approved training programs.
Dental Hygienists	17,000	4,800	Demand for dental hygienists is likely to continue to outstrip supply. Very good opportunities for both full- and part-time workers.
Dental Laboratory Technicians	32,000	2,000	Very good employment prospects for experienced technicians. Very favorable opportunities for recent graduates of approved training programs, also.
Dentists	105,000	5,300	Favorable employment opportunities through the mid-1980's. Newly added teaching facilities in dental schools should allow the supply of dentists to approach needs by 1985.
Medical Practitioner Occupations			
Chiropractors	16,000	1,000	Favorable opportunities. Population growth and inclusion of chiropractic services in many insurance programs are expected to result in a moderate increase in demand.
Optometrists	18,700	900	Favorable employment outlook for this moderately growing occupation. Most openings will result from deaths and retirements.
Physicians and Osteopathic Physicians	330,000	19,000	Very good employment opportunities for physicians.
Podiatrists	7,300	400	Favorable opportunities for new graduates to establish their own practices as well as to enter salaried positions.
Veterinarians	26,000	1,400	Favorable employment outlook. Supply is expected to increase more rapidly than in the past, however, because of increased capacity of veterinary schools.
Medical Technician, Technologist, and Assistant Occupations			
Electrocardiographic Technicians	10,000	900	Very rapid employment growth is expected due to increased use of electrocardiographs in diagnosis and in routine physical checkups.

See footnotes at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Electroencephalographic Technicians	3,500	400	A very rapid increase in employment is expected as electroencephalographs become widely used to diagnose brain diseases and monitor patients with brain disorders and those undergoing surgery.
Medical Assistants	More than 200,000	25,000	Excellent employment opportunities due to the very rapid growth in the number of physicians, the principal employers of medical assistants. Graduates of 2-year college programs will be especially in demand.
Medical Laboratory Workers	165,000	13,000	Moderate employment expansion as a result of wide use of laboratory services by physicians.
Medical Record Technicians and Clerks	47,000	10,500	Very good employment prospects for medical record clerks. Favorable outlook for medical record technicians with an associate degree. Technicians with less education may face competition by 1985.
Operating Room Technicians	25,000	(¹)	Excellent employment opportunities as operating room technicians increasingly assume more of routine tasks formerly performed by nurses in the operating room.
Optometric Assistants	11,000	1,700	Very rapid employment increase due to the growing number of optometrists, the increasing size of their practices, and the trend toward delegating more of the optometrists' technical duties to well-trained assistants. Best opportunities for those who have completed formal training programs.
Radiologic Technologists	55,000	6,500	Favorable outlook for both full- and part-time workers due to expansion in the use of X-ray equipment and the growing demand for medical services in general.
Respiratory Therapists	17,000	2,000	Very good opportunities for well-qualified respiratory therapists in this rapidly growing new field.
Nursing Occupations			
Licensed Practical Nurses	425,000	70,000	Very good opportunities as health facilities continue to expand and as practical nurses are increasingly utilized to lighten the loads of registered nurses.
Nursing Aides, Orderlies, and Attendants	900,000	100,000	Very rapid employment rise. Most openings will occur from the need to replace workers who die or retire.
Registered Nurses	748,000	75,000	Favorable employment prospects especially for nurses with graduate training seeking positions as teachers and administrators.
Therapy and Rehabilitation Occupations			
Occupational Therapists	7,500	1,100	Favorable employment prospects for the growing number of graduates. The success of occupational therapy programs has spurred demand in this field.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
Occupational Therapy Assistants	6,000	1,200	Very good employment outlook for graduates of approved occupational therapy assistant programs. Anticipated very rapid growth in the occupation also should create many openings for those receiving on the job training.
Physical Therapists	18,000	2,200	Favorable employment outlook for the rapidly growing number of new therapists. Increased recognition of the importance of rehabilitation and the growth of nursing homes will result in very rapid employment growth.
Physical Therapist Assistants and Aides	10,500	2,000	The expected very rapid growth in the field should result in excellent employment opportunities for both assistants and aides.
Speech Pathologists and Audiologists	27,000	2,200	Moderate employment increase. Outlook good for those who have completed graduate study. However, opportunities are limited at the bachelor degree level.
Other Health Occupations			
Dietitians	33,000	3,100	Rapid employment growth to meet the needs for management in the nutrition and food fields in hospitals and extended care facilities, schools, industrial plants, and commercial eating places.
Hospital Administrators	17,000	1,600	Favorable employment prospects for new graduates of programs at the master's degree level in health and hospital administration. Positions will be available for administrative assistants in hospitals, in nursing homes, and other health care facilities.
Medical Record Administrators	11,600	1,400	Excellent opportunities for graduates of approved programs for medical record administrators. Increased medical insurance coverage will enable more people to use health facilities, adding to the volume of medical records and the importance of well-administered medical record systems.
Pharmacists	131,000	7,700	Very good outlook due to moderate employment growth and openings from deaths and retirements. Many openings are expected in pharmacies in new communities and through the more extensive use of pharmacists' services in hospitals and clinics.
Sanitarians	17,000	1,600	Very good employment opportunities for sanitarians having a B.S. degree in environmental health especially in private industry. Favorable outlook for those having degrees in life, physical, or environmental science.
SOCIAL SCIENCE OCCUPATIONS			
Anthropologists	3,600	400	Ph. D.'s may face keen competition for choice professional positions. Persons with a master's degree in anthropology will have very keen competition but may find positions as college instructors.

Occupation	Estimated employment 1972	Average annual openings	Employment trends and prospects
Economists	36,000	1,500	Economists with master's and doctorate degrees may find keen competition for better jobs in colleges and universities and private industry. Basic research will offer the best opportunities for those with a bachelor's degree.
Geographers	7,500	450	Favorable employment opportunities for geographers with Ph. D. degrees. Those with master's and bachelor's degrees in geography can expect competition for jobs. The largest number of employment opportunities will be in colleges and universities, although some opportunities will be available in environmental quality control, biogeography, and urban planning.
Historians	24,000	1,500	Experienced Ph. D.'s are expected to face keen competition for college teaching. New Ph. D. recipients and those with lesser degrees are likely to face very keen competition. High school teaching positions may be available for those meeting certification requirements.
Political Scientists	10,000	500	Ph. D.'s may face considerable competition for choice academic positions. Those with master's degrees are expected to face stiff competition for instructor positions but, with specialized training, may find jobs in government and industry. Limited opportunities for those with only a bachelor's degree.
Sociologists	15,000	1,200	Employment opportunities for Ph. D.'s are expected to be favorable though they may face some competition for choice academic jobs. Those with master's degrees are likely to face some competition for academic positions, but jobs in government and private industry will be available.

SOCIAL SERVICE OCCUPATIONS

Counselors

College Career Planning and Placement Counselors	3,800	200	Favorable overall outlook for well-qualified workers. Rapid growth may be moderated by financial problems in colleges and universities. Best prospects are in junior and community colleges.
Employment Counselors	8,500	800	Favorable opportunities for those with a master's degree or experience in a related field. Employment growth is largely dependent on money from the Federal Government and State allocation of this money to the employment service.
Rehabilitation Counselors	16,000	1,700	Favorable opportunities. Those with graduate work have the best prospects. Employment growth depends to a great extent on Federal funding.
School Counselors	43,000	2,800	Favorable employment opportunities in the long run due mainly to the Federal Government's Career Education Program. A decline in school enrollments until the late 1970's will moderate immediate growth.

Occupation	Estimated employment 1972	Average annual openings	Employment trends and prospects
Clergy			
Protestant Ministers	325,000	13,000	Keen competition in some denominations. Many members of the clergy, however, will find employment in education, social work, and as chaplains with the armed forces.
Rabbis	5,800	300	Possible shortage. Growth in Jewish religious affiliation and in the number of synagogues should continue with growing demand for rabbis to work in social welfare and with Jewish affiliated organizations.
Roman Catholic Priests	58,500	2,200	Growing number needed. Number of priests ordained insufficient to meet the needs of the growing Catholic population.
Other Social Service Occupations			
Home Economists	120,000	9,200	Despite an anticipated slow growth in employment, many job openings will be available due to deaths and retirements. Home economists wishing to teach in high schools may face competition, but those with graduate degrees should find good employment prospects in college and university teachings.
Psychologists	57,000	4,300	Good job outlook for clinical and counseling psychologists. Those wishing to teach or do research in large colleges and universities may face some competition.
Recreation Workers	55,000	5,500	Excellent employment opportunities for young people with a bachelor's degree in recreation. There will be many opportunities for part-time work.
Social Service Aides	100,000	10,000	Very rapid employment growth. Favorable opportunities for part-time work.
Social Workers	185,000	17,500	Excellent employment opportunities for those with graduate degrees. Favorable outlook through the 1970's for those with bachelor's degrees although competition may increase in the 1980's.

ART, DESIGN, AND COMMUNICATIONS RELATED OCCUPATIONS

Performing Arts Occupations

Actors and Actresses	10,000	800	Aspiring artists are expected to vastly exceed the number of jobs. Acting is an unsure business, and many performers are employed for only a small portion of the year.
Dancers	5,000	500	The number of prospective dancers is expected to greatly exceed the number of jobs. Highly talented ballet dancers should continue to be in short supply, however. Teaching offers the best job opportunities in the field.

See footnote at end of table.

Occupation	Estimated employment 1972	Average annual openings	Employment trends and prospects
Musicians	85,000	5,200	This field is very overcrowded causing keen competition among performers. However, there is always a demand in the symphonic area for musicians of high caliber. Best prospects are in teaching.
Singers	36,000	2,400	The singing field is highly competitive. A few opportunities should result from expanded use of video tape cassettes and cable TV, but the best prospects remain in teaching.
Design Occupations			
Architects	37,000	3,300	Favorable employment opportunities. Most rapid increases in employment in new areas such as urban redevelopment and environmental design and planning projects. Number of job openings in established architectural firms and opportunities for starting a private practice should grow more slowly.
Commercial Artists	60,000	3,400	Favorable employment prospects for those well-qualified. Young people with only average ability and little specialized training should face keen competition and have limited opportunities for advancement.
Display Design (Retail Trade)	33,000	2,000	Moderate employment increase.
Floral Designers	30,000	2,500	Very rapid employment increase due to rising demand for floral arrangements.
Industrial Designers	10,000	400	Those with a degree in designing may face competition from other talented persons with engineering or architectural backgrounds. Employers, however, are expected to actively seek applicants with a design degree and outstanding talent.
Interior Designers	18,000	1,000	Competition for beginning jobs. Best job prospects for talented art school or college graduates majoring in interior design. Those with less talent or without formal training likely to face keen competition.
Landscape Architects	12,000	1,100	Favorable employment opportunities for those with professional training. More emphasis on urban and regional environmental planning and a better standard of living for an increasing segment of the population should expand opportunities.
Photographers	77,000	2,750	Good opportunities in the rapidly growing technical fields, such as scientific or industrial photography and photojournalism. Portrait and commercial photographers should face keen competition.
Urban Planners	12,000	800	Very good prospects for those with training in city and regional planning. Construction of new cities and towns and urban renewal projects are expected to spur demand for these workers.

See footnote, at end of table.

Occupation	Estimated employment 1972	Average annual openings ¹	Employment trends and prospects
COMMUNICATIONS AND RELATED OCCUPATIONS			
Interpreters	600	(²)	Competition should be expected for the limited number of positions. Favorable employment opportunities for only the highly qualified.
Newspaper Reporters	39,000	2,600	Favorable employment prospects for young people with exceptional writing talent and ability to handle highly specialized subjects. Newspapers in small towns and suburban areas will offer the most opportunities for beginners.
Radio and Television Announcers	21,000	500	Moderate employment increase. Opportunities are likely to be better in radio than in television. Young people will face stiff competition because of the large number of persons interested in this type of work.
Technical Writers	20,000	1,100	Favorable opportunities for experienced technical writers and beginners with writing ability, a bachelor's degree, and technical knowledge. Those with the minimum qualifications, however, are likely to face stiff competition.

Footnotes

¹ Due to growth and death, retirement, and other separations from the labor force. Does not include transfers out of the occupations.

² For the Nation as a whole, the projected decline in employment is expected to be greater than the number of openings resulting from deaths and retirements. However, in some localities the decline in employment may be less than the national average. In such cases, job openings resulting from deaths and retirements may be greater than the decline in employment. In some areas, employment growth may occur.

³ Estimate not available.

Educational Grants Available

A little short on cash for tuition? Apply for a Basic Educational Opportunity Grant from the U.S. Office of Education. The \$122 million available is expected to benefit a half-million students who might otherwise be unable to continue their education.

Grants will be made only to full time high school graduates in need of

financial help, who plan to attend any approved college, institute, or hospital school of nursing. How much a student or his family can contribute affects the amount of his basic grant, which is determined according to a U.S. Office of Education formula.

To request a grant, students must submit an "Application for Determination of Expected Family Contribution," obtained from high school guidance offices, financial aid offices at post-secondary institutions, or any post office or State employment office. Within a month, the student is notified of the amount of his family's expected con-

tribution. He then submits the notification to the school of his choice, which calculates the amount of the basic grant to which he is entitled.

Nursing Without Diploma

A diploma from an accredited school of nursing is no longer required to take New York State's licensing examination to become a registered nurse. It is now possible to qualify for the test by passing a series of examinations that test academic knowledge and on-the-job performance. For details, New York State Department of Education, Albany, N.Y. 12225.

APPENDIX D

Supplement 3 to Tomorrow's Manpower Needs

Matching Occupation Classifications to Vocational
Education Program Codes

TOMORROW'S MANPOWER NEEDS

**National manpower projections and a guide
to their use as a tool in developing
State and area manpower projections**

Supplement 3

**Matching Occupational Classifications to
Vocational Education Program Codes**



**U.S. DEPARTMENT OF LABOR
Peter J. Brennan, Secretary
BUREAU OF LABOR STATISTICS
Julius Shiskin, Commissioner**

1973

Preface

The manpower and educational legislation enacted during the last decade has continuously underscored the need for manpower planning and information on current and projected occupational requirements. To help guide educators and manpower planners, the Bureau of Labor Statistics (BLS), in cooperation with the Manpower Administration, prepared *Tomorrow's Manpower Needs*, BLS Bulletin 1606. This four-volume report presented detailed national manpower projections by occupation and industry, together with a guide to their use in developing similar reports at the State and local levels. Since the procedures outlined require that local manpower analysts have the most recent and accurate national manpower information available, BLS has periodically revised and updated its data and refined its methods. The full series of publications is as follows:

Tomorrow's Manpower Needs:

- Vol. I Developing Area Manpower Projections, Bulletin 1606 (1969).
- Vol. II National Trends and Outlook: Industry Employment and Occupational Structure, Bulletin 1606 (1969).
- Vol. III National Trends and Outlook: Occupational Employment, Bulletin 1606 (1969).
- Vol. IV The National Industry-Occupational Matrix and Other Manpower Data, Bulletin 1606 (1969).
- Supplement No. 1 Revised Projections of Construction Manpower Requirements, Bulletin 1606 (1970).
- Supplement No. 2 New and Revised National Industry Projections to 1975 and Procedures for Adjusting Wage and Salary Employment to Total Employment, Bulletin 1606, (1970).
- Vol. IV Revised 1971 The National Industry-Occupational Matrix and Other Manpower Data, BLS Bulletin 1737 (1972).
- Research Report on Manpower Projection Methods, Bulletin 1769 (1973).

The following report seeks to improve the usefulness of these publications for vocational educators and others interested in manpower planning by providing a link between the occupational classification system used in *Tomorrow's Manpower Needs* and the categories which identify vocational education instructional programs.

This report was prepared by David P. Evans in the Division of Manpower and Occupational Outlook, Office of Manpower Structure and Trends.

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Matching Occupational Classifications to Vocational Education Program Codes

Introduction

In the course of meetings between staff members of the Bureau of Labor Statistics and vocational educators seeking to use BLS data for planning purposes, it has become clear that a link is needed between data published by the Bureau on projected employment by occupation and data published by the Office of Education on enrollments in vocational programs. The inability to translate the occupational projections into specific curriculum needs apparently has hindered the efficient use of the projections for educational planning.

This report offers a bridge between the system used to classify occupations in the BLS study *Tomorrow's Manpower Needs* (TMN) and the system used by the Office of Education of the U.S. Department of Health, Education, and Welfare to classify instructional programs. This bridge, in the form of a conversion table, may enable educators, employment security agencies, and others to make better use of BLS manpower projections for educational planning. For example, it may be helpful in translating the information State employment agencies provide to vocational educators as directed under the Reports and Analysis Letter #685 (May 15, 1970), "Annual Report on State and Area Occupational Requirements for Vocational Education."

Unfortunately, the classification systems as they are presently constructed do not permit a clear-cut matching of categories on a one-to-one basis. But in most localities the supply of trained workers in specific occupations is not so close to the estimated demand that precise matching is required for judicious planning. In fact, relative measures of unmet need, that is, a ranking of the differences between demand and supply in each instructional program, may be a less risky method for setting planning priorities.¹

The conversion table developed in this report is intended only as an interim solution. The clarification of occupational classification systems awaits the comple-

¹ This approach has been suggested by many vocational education researchers. For example, see Robert C. Young, William V. Clive, and Benton E. Miles, *Vocational Education Planning. Manpower, Priorities, and Dollars* (Columbus, Ohio State University, Center for Vocational and Technical Education, 1972).

tion of the *Standard Occupational Classification System* sponsored by the Office of Management and Budget² or the revision of the vocational education codes.

Occupational Classification Systems

Perhaps the fundamental barrier to a perfect matching of manpower projections and instructional programs is that the various classification systems were developed for different purposes. The vocational education instructional program codes were created primarily to facilitate educational planning, to standardize terminology, and to simplify reporting of educational statistics. The instructional programs are composites of subject matter organized to facilitate the teaching of certain skills that often encompass a variety of jobs. On the other hand, the occupational classification schemes incorporated in manpower projections were designed primarily to enumerate jobs which require extensive formal or specialized training or in which large numbers of people are employed. In short, the problem is that the cluster of jobs in an instructional program frequently differs from the cluster of jobs in an occupational title.

Nevertheless, a conversion table can be developed which can relate many of the elements of the classification systems. The conversion table presented in this study (table 1, p. 8) was developed by first relating the TMN occupational classification system to the *Dictionary of Occupational Titles* (DOT) and then relating the DOT to the vocational education program codes. The first step was made possible by a table that converts the 1960 Census occupational classification to the DOT.³ The second step was made possible through a table that links the DOT to vocational education programs.⁴ Thus, the bridge between the two systems is the DOT.

² The Office of Management and Budget is preparing a new occupational classification system such that each of the various agencies' classification systems will be comparable with the new system as well as with each of the other classifications. The project is scheduled for public review in early 1974.

³ *Conversion Table. Bureau of the Census - Dictionary of Occupational Titles* (U.S. Department of Labor, 1970).

⁴ *Vocational Education and Occupations* (U.S. Department of Health, Education, and Welfare and U.S. Department of Labor, 1969).

Inasmuch as an understanding of the various classification systems and their limitations is essential to the effective use of the conversion table, the following sections outline the major characteristics of each system.

The Tomorrow's Manpower Needs occupational classification

The occupational classification used in the TMN system is based primarily on the Census Bureau's classification.⁵ The 1960 Census is used because it is the basis for the more than 40 published State manpower projections using the TMN method. A conversion table based on the occupation categories of the 1970 Census will be developed as the States begin to use the 1970 Census information to date their current, or develop new, manpower projections and as comparisons are made of the content of the 1960 and 1970 Censuses. Preliminary research indicates that over 100 (62 percent) of the 1960-Census-based TMN occupational titles are strictly comparable with the 1970 Census. These TMN occupational titles are marked with an asterisk in the conversion table.

The BLS matrix and the Census both classify occupations into broad socioeconomic groups — professional and technical, clerical, operatives, etc. Both include residual categories for each socioeconomic group so that the sum of all categories will equal total employment.

In spite of these similarities, however, there are certain differences between the BLS and Census occupational classification schemes. First, the BLS matrix is limited to 163 occupations, or occupational groups, out of 296 listings in the 1960 Census. The matrix was limited primarily to occupations that require extensive formal or specialized training or employ large numbers of people. Moreover, some of the Census occupational titles were not included because they were "new" occupations and, with no historical data, could not be used for projection purposes.

To supplement data from the 1960 Census of Population, the BLS matrix uses a number of other sources which provide information on employment in one or a few occupations or on the occupational composition of particular industries.⁶ Sources other than the Census are used when they are more reliable.

⁵ See *Occupation by Industry*, U.S. Census of Population PC(2)-7C (Bureau of the Census, 1963).

⁶ For an explanation of how the various sources are used in the national matrix, consult *Occupational Employment Patterns for 1960 and 1975*, Bulletin 1599 (Bureau of Labor Statistics, 1968).

The major supplemental sources are Federal regulatory and nonregulatory agencies, professional societies, the U.S. Civil Service Commission, and BLS occupational wage surveys. In some cases, data were used from other sources for which there are no comparable Census titles. For example, the matrix title *Assemblers, metal working, class B* comes from BLS-sponsored wage surveys and does not appear in the Census occupational classification. Instead, it is contained within the very broad Census title *Assemblers*.

The content of the occupational groups remains, however, virtually identical to those used in the Census. For example, the statistics on employment of engineers taken from the BLS survey of employers differ from Census data, but the job content of this occupation in the BLS survey is, with only minor differences, the same as that in the Census category.

On the whole, then, the Census data, with only a few exceptions, are the basis for the national matrix. Moreover, the Census generally is the only source of data for State TMN reports. As a result, the conversion table in this report is shown in terms of Census categories.

The Census occupational classification

In the 1960 Census of Population, every fourth household was asked to supply information about the social and economic characteristics of its members, including their occupation and industry of employment. The responses were classified into 296 occupations or occupational groups and cross-tabulated for 149 industries.⁷

The 296 occupational categories were arranged into 11 major groups and identified by 3-digit and single-letter codes as follows:

000	to 195	Professional, technical, and kindred workers
N	and 222	Farmers and farm managers
R	and 250 to 285	Managers, officials, and proprietors, except farm
Y, Z	and 301 to 360	Clerical and kindred workers
S	and 380 to 395	Salesworkers
Q	and 401 to 555	Craftsmen, foremen, and kindred workers
T, W	and 601 to 721	Operatives and kindred workers
P	and 801 to 803	Private household workers
810	to 890	Service workers, except private household
U, V	and 901 & 905	Farm laborers and foremen
X	and 960 to 973	Laborers, except farm and mine

⁷ The list of occupational categories is shown on pp. XIX-XXIV of the *Alphabetical Index of Occupations and Industries*, (Bureau of the Census, 1960).

The *Classified Index of Occupations and Industries*⁸ presents, for each category in the Census occupational and industrial classification system, the individual titles that constitute the particular category. The list of titles for each category provided the basis for the definition of Census categories in terms of DOT.⁹

Dictionary of Occupational Titles (DOT)
classification and codes

Nearly 22,000 occupations are defined in the *Dictionary of Occupational Titles*.¹⁰ Each occupation in the DOT is given a 6-digit code number to reflect the kind and level of work performed, and three additional digits may be assigned to further differentiate occupations.¹¹ The 6-digit code numbers are used primarily by State employment services for classifying applicants and job openings and for other operating purposes. They also may be used by educators for defining job duties, career ladders, and occupational skills and training requirements.

The first three digits of the DOT code arrange jobs according to some combination of work field, purpose, material, product, service, subject matter, generic term, and/or industry. The first digit arranges jobs into nine broad categories:

- 0 } Professional, technical, and managerial occupations
- 1 }
- 2 Clerical and sales occupations
- 3 Service occupations
- 4 Farming, fishery, forestry, and related occupations
- 5 Processing occupations
- 6 Machine trades occupations
- 7 Benchwork occupations
- 8 Structural work occupations
- 9 Miscellaneous occupations

These categories are divided into 84 2-digit divisions, and the divisions are divided into 603 separate 3-digit groups. Each additional digit adds greater specificity to the

⁸ U.S. Census of Population, 1960. *Classified Index of Occupations and Industries* (Bureau of the Census, 1960).

⁹ *Conversion Table. Bureau of the Census - Dictionary of Occupational Titles* (U.S. Department of Labor, 1970).

¹⁰ For a detailed explanation of the classification structure, see pp. XV - XXIV of Volume I of the *Dictionary of Occupational Titles, Third Edition* (U.S. Department of Labor, 1965).

¹¹ *Suffix Codes for Jobs Defined in the Dictionary of Occupational Titles, Third Edition* (U.S. Department of Labor, 1967).

category. For example, the three digits of the code 201 indicate:

- First digit: category 2 (clerical and sales occupations)
- Second digit: division 20 (stenography, typing, filing, and related occupations)
- Third digit: group 201 (secretaries)

The fourth, fifth, and sixth digits of the code numbers specify the worker functions in relation to data, people, and things. Each one of the job requirements is arranged in a hierarchy. Each job is identified with the highest appropriate relationship for each of the three job requirement classifications. Together, the second three digits of the code number are designed to express the level of complexity at which the worker is required to function for each job.

The worker function relationships are:

Data (4th digit)	People (5th digit)	Things (6th digit)
0 synthesizing	0 mentoring	0 setting up
1 coordinating	1 negotiating	1 precision working
2 analyzing	2 instructing	2 operating-controlling
3 compiling	3 supervising	3 driving-operating
4 computing	4 diverting	4 manipulating
5 copying	5 persuading	5 tending
6 comparing	6 speaking-signaling	6 feeding-offbearing
7 } no significant	7 serving	7 handling
8 } relationship	8 no significant	8 no significant
	relationship	relationship

For example, the second three digits of the code for *Secretary* (.368) indicate:

Fourth digit: the worker function "compiling"-(3) in the "data" hierarchy

Fifth digit: the worker function "speaking-signaling"-(6) in the "people" hierarchy

Sixth digit: no significant relationship-(8) in the "things" hierarchy

In addition, the three digits indicate that secretaries must report and/or carry out prescribed actions; gather, collate, or classify information; exchange information; and give assignments and/or directions to assistants.¹²

The third group of three digits (seventh, eighth, and ninth) provides a unique suffix code for each job title defined in the DOT. The suffix code differentiates particular jobs within 6-digit job titles. Where a 6-digit

¹² The relationships of worker functions within the data, people, and things hierarchies are explained and defined more fully on pp. 649-50 in Appendix A in Volume II of the *Dictionary of Occupational Titles*.



code number is applied to only one job title, the suffix code is 010. Jobs that have identical 6-digit *Dictionary* codes begin with the 010 suffix code and progress in additive steps of 4: i.e., 014, 018, 022. For example, the 6-digit DOT title *Secretary* (201.368) is further differentiated into the following 9-digit job titles.

201.368-010	<i>Legal secretary</i>
201.368-014	<i>Medical secretary</i>
201.368-018	<i>Secretary</i>

Office of Education classification

The codes for the instructional programs in the Office of Education classification system were intended to help local and State education agencies identify, classify, and describe information about subject matter and curriculum activities. Twenty subject-matter areas plus one area for cocurricular activities and one area for general elementary and general secondary education were identified in *Standard Terminology for Curriculum and Instruction in Local and State School Systems*.¹³

Seven of the 22 areas are frequently referred to as vocational-technical, and are:

- 01. Agriculture
- 06. Distributive education
- 07. Health occupations education
- 09. Home economics
- 14. Office occupations
- 16. Technical education
- 17. Trade and industrial occupations

The selection of the vocational-technical education areas, including the subject matter in them, was determined by (1) an extensive study of record and report forms of local school systems and State education agencies, (2) an extensive review of a wide range of professional literature concerned with subject-matter areas and cocurricular activities, and (3) conferences with numerous persons in State education agencies, local school systems, colleges and universities, and the U.S. Office of Education.

The Office of Education classification system was intended to provide a distinct identity for each program area and for each instructional program within it. Although the handbook of standard terminology contains 10-digit codes, the vocational-technical instructional programs have been limited largely to six digits. In several subject-matter areas, 8-digit codes were

provided for greater detail. The interpretation of each position in the codes is as follows:

First 2-digit position: subject-matter area (e.g., 14, office occupations)

Second 2-digit position: principal segment of subject matter (e.g., 1402, business data processing systems occupations)

Third 2-digit position: division of principal segment (e.g., 14.0202, peripheral equipment operators)

Fourth 2-digit position: first-level detail of division of principal segment (e.g., 14.020201, key-punch and coding equipment operators)

Fifth 2-digit position: second-level detail of division of principal segment (no vocational education examples in office occupations, however, there are a few 10-digit codes in agriculture).

The vocational education instructional programs specified by the codes are defined in *Vocational Education and Occupations*.¹⁴ The descriptions of the instructional programs are actually composites of subject matter rather than well-defined courses. Students may have to take courses in other areas of vocational and/or general education to round out their training. Moreover, the programs are not associated with any particular level of education and are, instead, general descriptions which may be related to several educational levels.

Vocational Education and Occupations also relates the instructional programs in the seven vocational-technical areas to DOT codes and titles. As indicated earlier, this relationship serves as the link between the BLS matrix and the vocational education codes.¹⁵ The other 15 instructional areas have not been defined in terms of their job content.

The Conversion Table

Structure of the table

The conversion table which was developed for this report is organized by TMN occupational title. Each TMN occupational title is related to the corresponding vocational education instructional program(s). The instructional programs are, in turn, related to the corresponding DOT codes and titles that are included in the TMN occupational category. For example, as shown in the illustration, the TMN occupational title

¹³ State Educational Records and Report Series Handbook VI (U.S. Department of Health, Education, and Welfare, 1970).

¹⁴ (U.S. Department of Health, Education, and Welfare and U.S. Department of Labor, 1969).

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Title	Code	Title
414	Compositors and typesetters	17.1901	Composition, makeup, and typesetting	973.381 973.381 650.582	Compositor Job printer Linotype operator
		17.1902	Printing press occupations	651.782	Offset-pressman

Compositors and typesetters has two major vocational education instructional programs: "Composition, makeup, and typesetting"; and "Printing press occupations". The first instructional program has three major DOT titles associated with it, while the instructional program "Printing press occupations" has one major DOT title related to it (Offset-pressman). All of the vocational education and DOT codes shown in the table are contained in the TMN occupational title (Census code 414).

Ranking by employment. Both the vocational education program codes and titles and the DOT codes and titles are listed in the conversion table in order of their percentage contribution to the total estimated employment in the TMN occupational title. For each TMN occupational title, the related DOT and vocational education codes are ranked vertically in their respective columns, so that the code that appears first contributes a relatively greater amount to the total estimated employment in that occupational title.

The listing of codes and titles in order of their percentage contribution to total estimated employment provides the vocational education administrator with some rough notion of the relative importance to be attached to the various instructional programs and their job content. For example, in the illustration above, the planner is informed that workers in occupations for which "Composition, makeup, and typesetting" trains students are relatively more numerous in that matrix title than workers in occupations for which "Printing press occupations" trains students. In addition, the ranking indicates that compositors are relatively more numerous in "Composition, makeup, and typesetting" than job printers and linotype operators. Planners should be cautioned, however, that they cannot make comparisons between job titles in different programs. For example, the table does *not* show that linotype operators are more numerous than offset-pressmen. Job titles and codes are ranked by percentage contribution to estimated total employment in the matrix title only for purposes of comparison within an instructional program.

Only those titles and codes that are estimated to include 5 percent or more of the employment in the related matrix occupational title are listed in the table.

Listing the large number of codes and titles associated with each TMN title would be unwieldy.

The source of data for the rankings was a special tabulation from a sample household enumeration conducted in October 1966 by the Bureau of the Census as part of its regular Current Population Survey (CPS).¹⁵ Industry entries from the survey of 35,000 households were coded to the Census occupational classification by Census personnel and into the DOT classification by experts of the employment service. The 1966 CPS has some shortcomings, but it was used because it was the only source of estimated DOT employment in the Census.

A major problem is that the schedules of the CPS include only limited data on the characteristics of a worker's job and the industry of employment. It is clear that in many cases the employment service coders had to exercise a considerable amount of judgment in allocating jobs to the very detailed DOT code structure. For example, the job title Offset-pressman is only listed in Census code 512 in the 1960 Census *Classified Index of Occupations and Industries*, but the DOT code (651.782) was assigned to four Census codes (503, Phot engravers and lithographers; 512; Pressmen and plate printers; 414, Compositors and typesetters; W, Operatives and kindred workers not elsewhere classified) in the 1966 CPS. This report assumes that the judgments made in the 1966 CPS allocation of the DOT codes to the Census are correct and, even if they are not correct, typical of the judgments made in the 1960 Census. In effect, it is assumed that the same coding problems existed in classifying job titles in the 1960 Census. The aim here is to reveal the classification problem rather than mislead educational planners into the belief that the data are without error.

¹⁵ Unpublished data developed in 1968 for the Interdepartmental Committee on Occupational Classification, Office of Management and Budget, Executive Office of the President. An outgrowth of the study was *Occupations of the Labor Force According to the Dictionary of Occupational Titles*, Statistical Evaluation Report No. 9 (Statistical Policy and Management Information Systems Division, Office of Management and Budget, Executive Office of the President, 1971).

Since the 1966 CPS survey was only a snapshot of employment in 1 month 6 years ago, and the distribution of employment may have changed sufficiently to render the CPS estimates inaccurate today, the information incorporated in the conversion table must be used with caution. The tabulation should be considered as only an approximate ranking of DOT code by employment.

Limitations

The DOT titles in the table are more specific than the DOT codes. There are over 14,000 9-digit DOT codes, far too many to list in the table. For most of the matrix occupations in the table, only 6-digit DOT codes are listed, and then only if the employment associated with that code is more than 5 percent of the estimated employment in the related matrix occupational title. Since 6-digit DOT codes have no summary title associated with them, the DOT titles listed in the table are the 9-digit DOT titles with the largest estimated employment. For example, the DOT code 973.381, in the illustration of the matrix title *Compositors and typesetters*, has seven 9-digit titles (Compositor, Compositor apprentice, Correction man, Imposer, Job printer, Job-printer apprentice, Make-up man) from which the two titles listed, Compositor and Job printer, meet the criterion of 5 percent or more of the estimated employment in the TMN occupational group. All of the 9-digit titles are included in the 6-digit code, but only those 9-digit titles are listed which have more than 5 percent of the total estimated employment. The other related 6-digit codes within the 3-digit code (973.) are excluded (973.Y38, Foreman, composing room; and 973.388, Typographer-proofer) in the illustration.

A 3-digit DOT code is listed in the few instances where all of the 6-digit codes are included in the TMN occupational title. A 9-digit code may be listed when no other jobs can be included in the matrix title.

A single DOT or vocational education program code may appear a number of times in the conversion table because it may be related to more than one matrix occupation. For two reasons, the program codes tend to appear over a wider range of TMN occupational titles than do the DOT codes: First, the Bureau of the Census included specific job titles under the Census occupational titles that were not germane to the DOT structure. For example, Advertising lay-out man, a professional occupation in the DOT, (DOT code 141.081) is included in the Census titles *Compositors and typesetters* (Census 414), a craft occupation, and *Artists and art teachers* (Census 014), a professional occupation. Second, the vocational education instructional programs are often

composites of subject matter and train students for clusters of occupations that have similar skills but may lie in different DOT classifications. For example, the job content of the instructional program "Composition, makeup, and typesetting" (17.1901) has six different 3-digit DOT codes (650., 654., 659., 973., 974., 979.) that span two DOT occupational divisions (machine trades occupations and miscellaneous occupations). As a result, the projected demand for any specific vocational education program or any specific DOT code may be distributed over a number of matrix occupational titles. To facilitate the understanding of the relationships between vocational education codes and DOT codes, table 2 provides a listing of vocational educational programs showing the TMN occupational titles they comprise.

While some of the vocational education programs are for clusters of jobs and applicable to a number of TMN occupational titles, others are not broad enough to match the TMN occupational titles. These titles tend to be for jobs whose skills may be taught as part of the subject matter of several instructional programs. For example, there is no single vocational program for patternmakers, the skills of patternmakers are introduced in several programs, e.g., "Metal trades, combined" (17.2304); and "Woodworking", (17.3699).

Another, somewhat complementary, barrier to matching vocational education programs and matrix projections results from the limited scope of the occupational spectrum covered by vocational education curriculums. The BLS matrix covers all occupations, while the instructional programs provide vocational training for a limited proportion of the labor force. In particular, most occupations of the professional, technical, and kindred group in the BLS matrix require a college education, rather than vocational training and, as a result, have no corresponding vocational education instructional program.¹⁶ Although vocational programs do train technicians (and have corresponding codes), vocational education generally is not directly applicable to most professional occupations and it would be inaccurate to relate vocational education codes to professional occupations.

The large number of jobs in the matrix residual titles presents another major barrier. Approximately one-third of the total employment in the 1960 Census was included in general (residual) categories and was not

¹⁶ While there is a classification system for higher education, it has not been defined in terms of its jobs or occupations, and as a result, cannot be converted into any of the occupational classification schemes of this report. See *A Taxonomy of Instructional Programs in Higher Education* (U.S. Department of Health, Education, and Welfare, 1970).

identified by specific occupation. For a variety of reasons noted earlier, the TMN classification of occupations was limited to 163 occupational titles, expanding even further the number of jobs in the residual occupational titles.

The residuals are too broad to classify into specific vocational education programs, even though many of the occupations in these large groups have relatively uniform skill or training requirements. (For example, the skill requirements for all jobs in the TMN title *Sales workers* are quite similar, and the training for these jobs appears to be different only insofar as it is aimed at different products and industries.) Since many of the vocational education training programs are buried in the residuals, the matrix cannot be used to make projections for individual vocational education programs. Moreover, the many jobs included in the residual may have widely differing growth rates and one over all projection would be of limited value to planners.

Even if the match between the matrix occupational title and the vocational education instructional program is perfect (no other program codes matched with the occupational title, and no other occupational title matched with the vocational education instructional program), the matrix manpower projection does not necessarily include all the occupations in that instructional program. For example, the instructional program 17.1007 "Plumbing and pipefitting" is matched with the matrix title *Plumbers and pipefitters*, and has no other match with a specific matrix occupational title (other than a residual). Nevertheless, there are other job

titles for which "Plumbing and pipefitting" is the appropriate instructional program that are included in the residual Census title *Craftsmen and kindred workers, not elsewhere classified*, e.g., *Lawn-sprinkler installer* (DOT 869.884).

In short, a perfect match of BLS matrix occupational titles and instructional programs is impossible without serious modification of one of the classification systems because some matrix occupational titles have no vocational education codes, some vocational education codes have no matrix occupational titles, and a number of vocational codes are too broad, or too specific, to match the content of the matrix occupational titles.

Needed improvements

Several improvements are needed if occupational requirements information is ever to be perfectly matched with enrollment data by vocational education program. In the short run, TMN data could be matched with enrollments if there were a more reliable measure of the relative importance of the instructional programs. If some measure were available, education planners could sum the percentage that each instructional program represents of each TMN occupational title into an index of the projected manpower needs by instructional program. But in the long run, the problems of matching classification systems will be solved only by the development of a standard occupational classification system.

Table 1. Conversion of TMN occupational titles to vocational education classification system

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
	Professional, technical, and kindred workers				
080	*Engineers, aeronautical	NA	NA	002.081 002.081 002.081	Aeronautical engineer Aircraft designer Research engineer, aeronautical
081	*Engineers, chemical	NA	NA	008.081 008.081	Chemical engineer Measurement and control engineer
082	*Engineers, civil	NA	NA	005.081 005.081	Civil engineer Construction engineer
083	*Engineers, electrical	NA	NA	003.081 003.081 003.187	Electrical engineer Electronic engineer Electrical engineer, power
084	*Engineers, industrial	NA	NA	012.188 012.188	Industrial engineer Quality control engineer
086	*Engineers, mechanical	NA	NA	007.081	Mechanical engineer
090	Engineers, metallurgical	NA	NA	011.081	Metallurgist, physical
091	Engineers, mining	NA	NA	010.081	Petroleum engineer
092 093	Other engineers, technical	NA	NA	(1)	(1)
021	*Chemists	NA	NA	022.081 022.081 022.081 041.081	Chemist, organic Chemist, inorganic Chemist, analytical Biochemist
130, 103 part	Agricultural scientists	NA	NA	040.081 040.081 040.081 040.081	Forester Agronomist Forest ecologist Soil scientist
131	*Biological scientists	NA	NA	041.081 041.081 041.081 041.081 041.081	Entomologist Medical bacteriologist Microbiologist Physiologist Plant pathologist
134	*Geologists and geophysicists	NA	NA	024.081 024.081 024.081 024.081 024.081	Geologist Geophysicist Geomorphologist Hydrologist Oceanographer, geological
135	*Mathematicians	NA	NA	020.088	Mathematician
140	*Physicists	NA	NA	023.081	Physicist
145	Other natural scientists	NA	NA	(1)	(1)
674	*Draftsmen	17:13	Drafting	007.281 006.281 001.281 017.281	Draftsman, mechanical Draftsman, civil Draftsman, architectural Draftsman, map
181	*Surveyors	NA	NA	018.188 018.687	Surveyor Chainman

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
(2)	*Air traffic controllers	17.0403	Ground operations	193.168	Air traffic coordinator
164	*Radio operators	04.19	Transportation	379.368 193. (exc. 193.168)	Dispatcher, radio Radio operator
190 191 192	Technicians, other	(1)	(1)	(1)	(1)
071	*Dentists	NA	NA	072.108	Dentist
073	*Dietitians and nutritionists	NA	NA	077.168 077.128	Dietitian Dietary consultant
150	*Nurses, professional	07.0301	Nursing	075.378 075.128	Nurse, general duty Nurse supervisor
152	*Optometrists	NA	NA	079.108 -026	Optometrist
153	Osteopaths	NA	NA	071.108 -010	Osteopathic physician
160	*Pharmacists	NA	NA	074.181	Pharmacist
162	*Physicians and surgeons	NA	NA	070.108 070.101	Physician, general practice Surgeon
173	*Psychologists	NA	NA	045.108 045.108	Psychologist, clinical Psychologist, counseling
185	Technicians, medical and dental	07.0203	Medical laboratory assisting	078.381	Medical laboratory assistant
		07.0204	Hematology	078.281	Medical technologist
		07.0404	Orthotics	078.381	Hematology technologist
		07.0102	Dental hygiene	078.368	Radiologic technologist
		07.0103	Dental laboratory technology	078.368 712.381	Dental hygienist Dental laboratory technician
194	*Veterinarians	NA	NA	073.108 -014	Veterinarian
193, 022	Other medical, health workers	NA	NA	079.378 079.128 079.128 079.108	Physical therapist Occupational therapist Recreational therapist Chiropractor
182	*Teachers, elementary	NA	NA	092.228 092.228	Elementary teacher Kindergarten teacher
183	*Teachers, secondary	NA	NA	091.228 091.118	Teacher, secondary school Principal
030 to 060	Teachers, college	NA	NA	090.228 -090.999	Faculty member, college or university Graduate assistant
184	Teachers, other	NA	NA	(1)	(1)
172	*Economists	NA	NA	050.688	Economist
174	Statisticians and actuaries	NA	NA	020.188 020.188	Statistician Actuary
175	Other social scientists	NA	NA	(1)	(1)

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
000	*Accountants and auditors	NA	NA	160.188 160.188	Accountant Auditor
012	Airplane pilots and navigators	16 0601	Commercial pilot training	196.283	Airplane pilot, commercial
013	*Architects	NA	NA	001.081	Architect
010 014	Workers in the arts and entertainment	17.07	Commercial art occupations	141. 970. 3099.	Commercial artist Art work occupations, Occupations in education, not elsewhere classified
015 020		(3)	(3)	130 3131.	Freelance writer Writer and editor, motion picture, radio, TV
070 101				139.	Occupations in writing, not elsewhere classified
120				148.	Sculptor and related occupations
180				149.	Occupations in art, not elsewhere classified
				150.	Occupations in dramatics
				151.	Occupations in dancing
				152.	Occupations in music
				153.	Occupations in athletics and sports
				159.	Occupations in entertain- ment and recreation
023	*Clergymen	NA	NA	120.108	Clergyman
072	*Designers, except design draftsmen	17.0703	Product design	142.081	Clothes designer
		17.0701	Interior decorating	142.081 142.051	Furniture designer Interior designer and decorator
		17.07	Commercial art occupations	142.081	Commercial designer
075	*Editors and reporters	NA	NA	132.268 132.088 132.038 132.018 132.068	Reporter, Copy writer Editor, department Editor, newspaper Columnist
106	Lawyers and judges	NA	NA	110.108 111.108	Lawyer Judge
111	*Librarians	NA	NA	100.168 100.168 100.388	Librarian Librarian, reference Cataloger
154	*Personnel and labor relations workers	14.0603	Personnel assistants	166.118 166.118	Manager, personnel Director, industrial relations
		14.0602	Interview and test technicians	205.368	Personnel clerk
		14.0601	Educational assistants and training specialists	166.268 166.228	Employment interviewer Training representative
161	*Photographers	NA	NA	143.062 143.062 143.062	Photographer, commercial Photographer, portrait Photographer, news
171	*Social and welfare workers	NA	NA	195.108	Caseworker

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
030 part, 102, 103 part, 104, 163, 165, 170, 195	Professional and technical workers, not elsewhere classified	(1)	(1)	(1)	(1)
	Managers, officials, and proprietors				
252	*Conductors, railroad	NA	NA	198.168	Conductor
253	*Creditmen	14.0899	Supervisory and administrative management occupations, other	168.168	Manager, credit and collection
		14.0499	Information, communication occupations, other	249.368	Credit clerk
265	Officers, pilots, engineers, ship	17.0802	Ship and boat operation and maintenance	197.130 911.138	Engineer Barge captain
280	*Postmasters and assistants	(3)	(3)	197.133,	Tugboat captain
		NA	NA	188.168 -086	Postmaster and assistant postmaster
285	*Purchasing agents	04.99	Distributive education, other	162.158	Purchasing agent
250, 251, 254, 260, 262, 270, 275, R	Managers, officials and proprietors, not elsewhere classified	(1)	(1)	(1)	(1)
	Clerical and kindred workers				
345 } 360 } Z }	Stenographers, typists, and secretaries	14.0702	Secretaries	201.368	Secretary
		14.0901	Clerk-typists	209.388	Clerk-typist
		14.0902	Typists	203.588	Typist
		14.0703	Stenographers	202.388	Stenographer
		14.0399	Filing, office machine, and general office clerical occupations, other	(4)	(4)
325	Office machine operators	14.020201	Keypunch and coding equipment operators	213.582	Keypunch operator
		14.0104	Machine operators, billing, bookkeeping, and computing	216.488 214.488 215.388	Calculating-machine operator Billing-machine operator Bookkeeping-machine operator
		14.0201	Computer and console operators	213.382	Digital-computer operator
		14.0301	Duplicating machine operators	207.782 207.885	Duplicating-machine operator Duplicating-machine operator
		14.0404	Mail-preparing and mail-handling machine operators	(4)	(4)
		14.0202	Peripheral equipment operators	(4)	(4)
		14.02	Business data processing systems occupations	(4)	(4)
		14.0399	Filing, office machine, and general office clerical occupations, other	(4)	(4)
310	Accounting clerks	14.0303	General office clerks	219.448	Accounting clerk
310	Bookkeepers, hand	14.0102	Bookkeepers	210.388	Bookkeeper
305	*Bank tellers	14.0105	Tellers	212.368	Teller
312	*Cashiers	04.06	Food distribution	211.468	Cashier
		14.0103	Cashiers	299.468 211.368	Cashier-checker Cashier
323	*Mail carriers	14.0403	Mail and postal clerks	233.388	Mail carrier

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
340	*Postal clerks	14.0403	Mail and postal clerks	232.368	Post office clerk
343	*Shipping and receiving clerks	14.0503	Shipping and receiving clerks	222.587 222.387	Shipping clerk Shipping and receiving clerk
		14.0505	Traffic, rate and transportation clerks	222.138 222.687 (4)	Shipping clerk Shipping checker (4)
353	*Telephone operators	14.0401	Communications system clerks and operators	235.862	Telephone operator
		14.0499	Information communication occupations, other	235.138 (4)	Telephone operator, chief (4)
301,302,303, 304,313,314, 315,320,321, 324,333,341, 350,351,352 354 and Y	Clerical and kindred workers, not elsewhere classified	(1)	(1)	(1)	(1)
380 to 385, 390,393,395, and S	*Salesworkers	(1)	(1)	(1)	(1)
	Craftsmen, foremen, and kindred workers				
0	*Carpenters	17.1001	Carpentry	860.381 860.281	Carpenter Carpenter, maintenance
405	Brickmasons and tile setters	17.1004	Masonry	861.381 861.781	Bricklayer Tile setter
413	*Cement and concrete finishers	17.1099	Construction and maintenance trades, other	844.884	Cement mason
		17.100302	Operation, heavy equipment	852.884	Concrete paver-operator helper
421	*Electricians	17.1002	Electricity	824.281	Electrician
		17.14	Electrical occupations	829.281	Electrical repairman
		17.1401	Industrial electrician	(4)	(4)
425	Excavating, grading machine operators	17.100302	Operation, heavy equipment	859.883 850.883 850.883	Operating engineer Bulldozer operator Power-shovel operator
495,501	Painters and paperhangers	17.1005	Painting and decorating	840.781 841.781	Painter Paperhanger
505	*Plasterers	17.1006	Plastering	842.781 842.381	Plasterer Stucco mason
		17.1008	Dry-wall installation	842.884	Dry-wall applicator
510	*Plumbers and pipefitters	17.1007	Plumbing and pipefitting	862.381 862.381	Plumber Pipefitter
514	*Roofers and slaters	17.1010	Roofing	866.381	Roofer
523	Structural metal workers	17.1099	Construction and maintenance trades, other	801.781 809.381	Structural-steel worker Lay-out man
		17.2304	Metal trades, combined	(4)	(4)
430	*Foremen, not elsewhere classified	(1)	(1)	(1)	(1)
465	Machinists	17.2302	Machine shop	600.280 600.380	Machinist Jobsetter
		17.2303	Machine tool operation	(4)	(4)
		17.2304	Metal trades, combined	616.380	Set-up man

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1980 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
431,402	Blacksmiths, forgemen, and hammermen	17.2399	Metalworking, other	610.381 610.782 611.782 611.885 612.782	Blacksmith Drop-hammer operator Forging-press operator Forging-press operator Header-machine operator
403	*Boilermakers	17.1099	Construction and maintenance trades, other	805.281 805.381 805.781	Boilermaker Boilerhouse repairman Boilermaker mechanic
435	*Heat treaters, annealers	17.24	Metallurgy	504.782 504.782 504.131	Heat treater Annealer Heat-treat foreman
401	*Millwrights	17.1099	Construction and maintenance trades, other	638.281	Millwright
402	Molders, metal (except coremakers)	17.2301	Foundry	618.381	Molder
502	*Patternmakers, metal and wood	17.2302 17.3699	Machine shop Woodworking, other	600.280 661.380	Patternmaker, metal Model maker, wood
513	*Rollers and roll hands	17.2399 17.2304 (3)	Metalworking, other Metal trades, combined (3)	613.782 (4) 613.885	Roller, primary mill (4) Rolling mill operator helper
526	*Sheet metal workers	17.2305 17.2304	Sheet metal Metal trades, combined	804.281 (4)	Sheet-metal worker (4)
530	*Toolmakers and diemakers	17.2307	Tool-and-diemaking	601.280 601.281 601.381 601.130	Tool-and-diemaker Diemaker, bench, stamping Plastic tool maker Tool-and-die foreman
414	*Compositors and typesetters	17.1901 17.1902	Composition, makeup, and typesetting Printing press occupations	973.381 973.381 650.582 651.782	Compositor Job printer Linotype operator Offset-pressman
423	*Electrotypers and stereotypers	17.1901 17.1903 (3)	Composition, makeup, and typesetting Lithography, photography, and platemaking (3)	974.381 (4) 3 975.782	Electrotypewriter (4) Stereotyper
424	*Engravers, except phot engravers	17.2399	Metalworking, other	704.381 704.884	Engraver Engraver, machine
503	*Phot engravers and lithographers	17.1904 17.1902 17.1903	Photoengraving Printing press occupations Lithography, photography, and platemaking	971.381 651.782 972.382	Photoengraver Cylinder-pressman Photographer lithographic
512	*Pressmen and plate printers	17.1902 17.1903 17.1901	Printing press occupations Lithography, photography, and platemaking Composition, makeup and typesetting	651.782 651.782 651.782 972.381 973.381 (4)	Offset-pressman Web-pressman Cylinder-pressman Transferrer Job printer (4)
453	Linemen and servicemen	17.1402 17.1501	Linemen Communications	821.381 829.381 822.381 822.281 822.281	Lineman Cable splicer Station installer Private-branch-exchange repairman Central-office repairman

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
454	*Locomotive engineers	NA	NA	910.383	Locomotive engineer
460	*Locomotive firemen	NA	NA	910.383	Locomotive fireman
471	*Airplane mechanics and repairmen	17.0401	Aircraft maintenance	621.281	Aircraft-and-engine mechanic
472	Motor vehicle mechanics	17.0302 17.0301	Mechanics Body and fender	620.281 807.381	Automobile mechanic Automobile-body repairman
473	Office machine mechanics	17.06	Business machine maintenance	833.281 633.281	Office-machine serviceman Cash-register serviceman
474	*Radio and TV mechanics	16.0108 17.1503	Electronic technology Radio/television	828.281 720.281 720.281	Electronics mechanic Television service and repairman Radio repairman
475	Railroad and car shop mechanics	(3) 17.1402 17.12 (3) (1)	(3) Linemen Diesel mechanics (3) (1)	3 823.281 822.281 625.281 3 622.381 (1)	Radio mechanic Signal maintainer Diesel mechanic Carmen (1)
470	Other mechanics and repairmen	(1)	(1)	(1)	(1)
401	*Bakers	17.2901	Baker	526.781	Baker
410	*Cabinetmakers	17.3601 17.35	Millwork and cabinetmaking Upholstering	660.280 780.381	Cabinetmaker Furniture upholsterer
415	*Cranemen, derrickmen, hoistmen	17.100302 (3)	Operation, heavy equipment (3)	921.883 859.883 3 921.883	Truck-crane operator Operating engineer Electric monorail-crane operator
434	*Glaziers	17.1009	Glazing	865.781 865.884	Glazier Glass installer
451	*Jewelers and watchmakers	17.2102 (3)	Watchmaking and repair (3)	715.281 3 700.381	Watchmaker Stone setter
461	*Loom fixers	17.3399	Textile production and fabrication, other	683.280 681.280	Loom fixer Machine fixer
494	*Opticians, lens grinders, polishers	17.2101	Instruments (other than watches and clocks)	713.381 711.781 711.884 713.251	Optician Lens grinder Lens polisher Optician, dispensing
444	*Inspectors, scalers, and graders, log and lumber	17.3699 (3)	Woodworking, other (3)	781.381 3 669.587	Stock maker, custom Grader
450	*Inspectors, other	(1)	(1)	(1)	(1)
535	*Upholsterers	17.35 17.34	Upholstering Leatherworking	780.381 780.884	Furniture upholsterer Upholsterer
404,420,432, 490,493,504, 515,520,521, 545	Craftsmen and kindred workers, not elsewhere classified	(1)	(1)	(1)	(1)

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
	Operatives and kindred workers				
641, T	Drivers, bus, truck, tractor	04.19 (3)	Transportation (3)	913.463 905.883 906.883 904.883	Bus driver Truck driver, heavy Truck driver, light Tractor-trailer-truck driver
714, 650	Deliverymen and route-men	04.19 (3)	Transportation (3)	913.463 906.883 292.358 905.883	Taxi driver Truck driver, light Salesman-driver Truck driver, heavy
640, 713	Brakemen and switchmen men	17.1402 (3) (3) (3)	Linemen (3) (3) (3)	822.281 910.884 910.887 910.782	Signal maintainer Brakeman Switch tender Towerman
701	*Power station operatives	17.3201 17.32	Electric power generating plants Stationary energy source occupations	952.782 952.782 952.782	Substation operator Switchboard operator Power-plant operator
703	*Sailors and deckhands	17.0801 (3)	Seamanship (3)	911.887 911.884	Deckhand Able seaman
670	*Furnacemen, smeltersmen, pourers	17.2301	Foundry	514.884 512.782 613.782	Pourer, metal Furnace operator Furnace operator
672	*Heaters, metal	17.2399	Metalworking, other	619.782	Heater
721	*Welders and flame cutters	17.230602 17.230603 17.230601 17.230603 17.230604	Electric welding Combination welding Gas welding Welding and cutting Brazing and soldering	810.884 810.782 812.884 816.884 (4) (4)	Welder, arc Welder, spot Welder, combination Flame cutter, hand (4) (4)
(2)	Assemblers, metalworking, class A	17.2399	Metalworking, other	(1)	(1)
(2)	Assemblers, metalworking, class B	17.2399	Metalworking, other	(1)	(1)
643	Inspectors, metalworking, class B	17.24	Metallurgy	(1)	(1)
(2)	Machine tool operators, metalworking, class B	17.2302 17.2303	Machine shop Machine tool operation	609. 602. 603. 604. 605.	Metal machining occupations Gear machining occupations Abrading occupations Turning occupations Milling and planing occupations
		17.2304 17.2307 17.2399	Metal trades, combined Tool-and-diemaking Metalworking, other	606. (4) (4) (4)	Boring occupations (4) (4) (4)
(2)	*Electroplaters	17.2399	Metalworking, other	500.	Electroplating occupations (except helpers)
(2)	Electroplaters' helpers	17.2399	Metalworking, other	500.886	Electroplating laborer
673	*Knitters, loopers, and toppers	17.3399	Textile production and fabrication, other	685.885 684.885 689.782 684.782	Knitting-machine operator Seamless-hosiery knitter Looper Knitting-machine operator, full-fashioned hosiery

*See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
710	Spinners, textile	17.3399 (3)	Textile production and fabrication, other (3)	682.885 882.885 3 557.886	Spinner, frame Twister Spinner
720	Weavers, textile	17.3399	Textile production and fabrication, other	683.782	Weaver
706	Sewers and stitchers	17.3399	Textile production and fabrication, other	786.782 787.782	Sewing-machine operator, regular equipment Sewing-machine operator, regular equipment
		09.0204 (3)	Home furnishings, equipment and services (3)	782.884	Sewer, hand
		(3)	(3)	3 890.782	3 890.782
		(3)	(3)	3 785.361	3 785.361
630	Asbestos, insulation workers	17.1099	Construction and maintenance trades, other	863.884 863.884 863.884 863.381	Insulation installer Insulation worker Sider Pipe coverer and insulator
632	Attendants, auto service, parking	04.16	Petroleum	915.878	Automobile self-service station attendant
		04.03 (3)	Automotive (3)	915.878 3 915.867	Parking-lot attendant Automobile-service station attendant
634	Blasters and powdermen	17.1099	Construction and maintenance trades, other	(4)	(4)
674	Laundry, dry cleaning operatives	17.16 17.1602	Fabric maintenance service Laundering	363.782 381.887 389.887 361.886 363.886	Presser, machine Laundry laborer Folder Laundryman Press operator
		17.1801	Dry cleaning	(4)	(4)
		17.1699	Fabric maintenance service, other	(4)	(4)
675	Meat cutters, except meat packing	17.2903 04.08	Meat cutter Food distribution	316.884 299.138	Meat cutter Department head, super-market
685	Mine operatives and laborers	(3) (3)	(3) (3)	3 932.883 3 930.782 939.887 939.281	Shuttle-car operator Rotary driller Laborer Miner
601-606, 610, 612 to 615, 620, 621, 631 part, 635, 642, 643 part, 645, 651, 652, 653, 654, 671, 680, 690, 691, 692, 693, 694, 695, 704, 712, and W	Other operatives and kindred workers, not elsewhere classified	(1)	(1)	(1)	(1)

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
	Service workers				
801	*Private household workers	09.0201	Care and guidance of children,	307.878	Nursemaid
802		09.0202	Clothing management, production, services	(4)	(4)
803		09.0203	Food management, production, services	(4)	(4)
P		09.0205	Institutional and home manage- ment and supporting services	306.878	Homemaker
		(3)	(3)	306.878	Maid, general
				301.887	Day worker
850	*Firemen	17.2801	Firemen training	373.884	Fire-fighter
		07.0907	Medical emergency technician	373.168	Fire captain
				(4)	(4)
851,	Guards, watchmen, and	17.2802	Law enforcement training	(4)	(4)
860	doorkeepers	(3)	(3)	372.868	Guard
		(3)	(3)	372.868	Watchmen
		(3)	(3)	372.888	Correction officer
		(3)	(3)	371.868	School-crossing guard
862,	Policemen and other law	17.2802	Law enforcement training	375.268	Detective
863,	enforcement officials			375.268	Patrolman
864				375.268	State-highway patrolman
815	*Bartenders	04.07	Food services	(4)	(4)
		(3)	(3)	312.878	Bartender
825	*Cooks, except private	17.2802	Cook/chef	313.381	Cook
	household			314.381	Cook, short order
830	*Counter and fountain	17.2904	Waiter/waitress	311.878	Counterman, cafeteria
	workers			311.878	Counterman, lunchroom or coffee shop
		(3)	(3)	319.878	Fountain man
				318.887	Kitchen helper
875	*Waiters and waitresses	17.2904	Waiter/waitress	(4)	(4)
		04.07	Food services	(4)	(4)
832 part	*Airline stewards and	04.19	Transportation	352.878	Airplane stewardess
	stewardesses			-010	
810	*Attendants, hospital	07.0303	Nursing assistant	355.878	Nurse aid
	and other institutions	07.0804	Psychiatric aid	355.878	Psychiatric aid
		(3)	(3)	355.878	Orderly
824	Charwomen and cleaners	17.11	Custodial services	381.887	Porter
		09.0205	Institutional and home manage- ment and supporting services	381.887	Charwoman
		(3)	(3)	(4)	(4)
		(3)	(3)	323.887	Maid
				389.887	Window cleaner
834	Janitors and sextons	17.11	Custodial services	382.884	Janitor
		17.10	Construction and maintenance trades	381.887	Porters
				(4)	(4)
802	*Practical nurses	07.0907	Medical emergency technician	(4)	(4)
		07.0302	Practical nursing	(4)	(4)
		(3)	(3)	354.878	Practical nurse

See footnotes at end of table.

Table 1. Conversion of TMN occupational titles to vocational education classification system—Continued

1960 Census code	TMN occupational title	Vocational education classification system		Dictionary of Occupational Titles	
		Code	Program title	Code	Title
812,813,814, 821,820,823, 831,843,832 part, 835,840,841, 874,890	Other service workers, not elsewhere classified	(1)	(1)	(1)	(1)
960 to 973, and X	*Laborers, except farm and mine	(1)	(1)	(1)	(1)
901, U, V, 905, N, and 222	Farmers and farm workers	(1)	(1)	(1)	(1)

- NA — not applicable.
- 1960 matrix title comparable to 1970 Census title.
- 1 Too broad for specific comparability.
- 2 Data developed by BLS from sources other than the Census.
- 3 The DOT code has more than 5 percent of the total

estimated employment in the TMN occupational title but there is no corresponding specifically detailed vocational education instructional program code.

4 The vocational education instructional program has no corresponding DOT code with more than 5 percent of the total estimated employment in the TMN occupational title.

Table 2. Vocational education instructional programs and related TMN occupational titles

Instructional program		TMN occupational title
Code	Title	
04.	Distributive education	
04.03	Automotive	Attendants, auto service, parking
04.06	Food distribution	Cashiers Meat cutters, except meat packing
04.07	Food services	Bartenders Waiters and waitresses
04.16	Patroleum	Attendants, auto service, parking
04.19	Transportation	Radio operators Airlina stewards and stewardesses Drivers, bus, truck, tractor Deliverymen and routemen
04.99	Distributive education, other	Purchasing agents
07.	Health occupations education	
07.0102	Dental hygiene	Technicians, medical and dental
07.0103	Dental laboratory technology	Technicians, medical and dental
07.0203	Medical laboratory assisting	Technicians, medical and dental
07.0204	Hematology	Technicians, medical and dental
07.0301	Nursing	Nurses, professional
07.0302	Practical nursing	Practical nurses
07.0303	Nursing assistance	Attendants, hospital and other institutions
07.0304	Psychiatric aid	Attendants, hospital and other institutions
07.0404	Orthotics	Technicians, medical and dental
07.0907	Medical emergency technician	Firemen Practical nurses
09.	Home economics	
09.0201	Care and guidance of children	Private household workers
09.0202	Clothing management, production, services	Private household workers
09.0203	Food management, production, services	Private household workers
09.0204	Home furnishings equipment and services	Sewers and stitchers
09.0205	Institutional and home management and supporting services	Charwomen and cleaners Private household workers
14.	Office occupations	
14.0102	Bookkeepers	Bookkeepers, hand
14.0103	Cashiers	Cashiers
14.0104	Machine operators: billing, bookkeeping, and computing	Office machine operators
14.0105	Tellers	Bank tellers
14.02	Business data processing systems occupations	Office machine operators
14.0201	Computer and console operators	Office machine operators
14.0202	Peripheral equipment operators	Office machine operators
14.020201	Keypunch and coding equipment operators	Office machine operators
14.0301	Duplicating machine operators	Office machine operators

Table 2. Vocational education instructional programs and related TMN occupational titles—Continued

Instructional program		TMN occupational title
Code	Title	
14.0303	General office clerks	Accounting clerks
14.0399	Filing, office machine, and general office clerical occupations, other	Stenographers, typists, and secretaries Office machine operators
14.0401	Communications system clerks and operators	Telephone operators
14.0403	Mail and postal clerks	Mail carriers Postal clerks
14.0404	Mail-preparing and mail-handling machine operators	Office machine operators
14.0499	Information communication occupations, other	Creditmen Telephone operators
14.0503	Shipping and receiving clerks	Shipping and receiving clerks
14.0505	Traffic, rate and transportation clerks	Shipping and receiving clerks
14.0601	Education assistants and training specialists	Personnel and labor relations workers
14.0602	Interview and test technicians	Personnel and labor relations workers
14.0603	Personnel assistants	Personnel and labor relations workers
14.0702	Secretaries	Stenographers, typists, and secretaries
14.0703	Stenographers	Stenographers, typists, and secretaries
14.0899	Supervisory and administrative management occupations, other	Creditmen
14.0901	Clerk-typists	Stenographers, typists, and secretaries
14.0902	Typists	Stenographers, typists, and secretaries
16.	Technical education	
16.0108	Electronic technology	Office machine mechanics
16.0601	Commercial pilot training	Airplane pilots and navigators
17.	Trade and industrial occupations	
17.0301	Body and fender	Motor vehicle mechanics
17.0302	Mechanics	Motor vehicle mechanics
17.0401	Aircraft maintenance	Airplane mechanics and repairmen
17.0403	Ground operations	Air traffic controllers Radio operators
17.06	Business machine maintenance	Office machine mechanics
17.07	Commercial art occupations	Workers in the arts and entertainment Designers, except design draftsmen
17.0701	Interior decorating	Designers, except design draftsmen
17.0703	Product design	Designers, except design draftsmen
17.0801	Seamanship	Sailors and deckhands
17.0802	Ship and boat operation and maintenance	Officers, pilots, engineers, ship
17.10	Construction and maintenance trades	Janitors and sextons
17.1001	Carpentry	Carpenters
17.1002	Electricity	Electricians
17.100302	Operation, heavy equipment	Cement and concrete finishers Cranemen, derrickmen, hoistmen Excavating, grading machine operators

Table 2. Vocational education instructional programs and related TMN occupational titles—Continued

Instructional program		TMN occupational title
Code	Title	
17.1004	Masonry	Brickmasons and tile setters
17.1005	Painting and decorating	Painters and paperhangers
17.1006	Plestering	Plasterers
17.1007	Plumbing and pipefitting	Plumbers and pipefitters
17.1008	Dry-wall installation	Plasterers
17.1009	Glazing	Glaziers
17.1010	Roofing	Roofers and slaters
17.1099	Construction and maintenance trades, other	Asbestos, insulation workers Blasters and powdermen Cement and concrete finishers Structural metalworkers Boilermakers Millwrights
17.11	Custodial services	Cleaners and janitors Janitors and sextons
17.12	Diesel mechanics	Railroad and car shop mechanics
17.13	Drafting	Draftsmen
17.14	Electrical occupations	Electricians
17.1401	Industrial electrician	Electricians
17.1402	Linemen	Linemen and servicemen, Railroad and car shop mechanics Brakemen and switchmen
17.1501	Communications	Linemen and servicemen
17.1503	Radio/television	Radio and TV mechanics
17.16	Fabric maintenance service	Laundry, drycleaning operators
17.1601	Drycleaning	Laundry, drycleaning operators
17.1602	Laundering	Laundry, drycleaning operators
17.1699	Fabric maintenance service, other	Laundry, drycleaning operators
17.1901	Composition, makeup, and typesetting	Compositors and typesetters Electrotypers and stereotypers Pressmen and plate printers
17.1902	Printing press occupations	Compositors and typesetters Photoengravers and lithographers Pressmen and plate printers
17.1903	Lithography, photography, and platemaking	Electrotypers and stereotypers Photoengravers and lithographers Pressmen and plate printers
17.1904	Photoengraving	Photoengravers and lithographers
17.2101	Instruments (other than watches and clocks)	Opticians, lens grinders, polishers
17.2102	Watchmaking and repair	Jewelers and watchmakers
17.2301	Foundry	Furnacemen, smeltermen, pourers Molders, metal (except coremakers)
17.2302	Machine shop	Patternmakers, metal and wood Machine tool operators, metalworking, class B Machinists
17.2303	Machine tool operation	Machinists Machine tool operators, metalworking, class B

Table 2 Vocational education instructional programs and related TMN occupational titles—Continued

Instructional program		TMN occupational title
Code	Title	
17.2304	Metal trades, combined	Rollers and roll hands Sheet metal workers Structural metal workers Machinists Machine tool operators, metalworking, class B
17.2305	Sheet metal	Sheet metal workers
17.2306	Welding and cutting	Welders and flamecutters
17.230601	Gas welding	Welders and flamecutters
17.230602	Electric welding	Welders and flamecutters
17.230603	Combination welding	Welders and flamecutters
17.230604	Brazing and soldering	Welders and flamecutters
17.2307	Tool-and-die-making	Toolmakers and diemakers Machine tool operators, metalworking, class B
17.2399	Metalworking, other	Rollers and roll hands Engravers, except photoengravers Heat treaters, metal Assemblers, metalworking, class A Assemblers, metalworking, class B Electroplaters Electroplaters' helpers Blacksmiths, forgemen, and hammermen
17.24	Metallurgy	Heat treaters, annealers Inspectors, metalworking, class B
17.2801	Firemen training	Firemen
17.2802	Law enforcement training	Guards, watchmen, and doorkeepers Policemen and other law enforcement officials
17.2901	Baker	Bakers
17.2902	Cook/chef	Cooks, except private household
17.2903	Meat cutter	Meat cutters, except meat packing
17.2904	Waiter/waitress	Counter and fountain workers Waiters and waitresses
17.32	Stationary energy source occupations	Power station operatives
17.3201	Electric power generating plants	Power station operatives
17.3399	Textile production and fabrication, other	Loom fixers Knitters, loopers, and toppers Spinners, textile Weavers, textile Sewers and stitchers
17.34	Leatherworking	Upholsterers
17.35	Upholstering	Upholsterers Cabinetmakers
17.3601	Millwork and cabinet making	Cabinetmakers
17.3699	Woodworking, other	Inspectors, scalars, and graders, log and lumber Patternmakers, metal and wood