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ABSTRACT

In fall 1981, 74 of Brevard County's major manufacturing firms and related industries were asked to provide detailed figures reflecting their 1982 employment, annual job vacancies, and projections for 1985 employment by job category, division, and title. Survey findings, based on responses from firms representing 75% of the employment within the sample, included the following: (1) employment opportunities within manufacturing and related industries will increase from about 24,700 in 1982 to nearly 30,500 by 1985, representing a 23% increase; (2) most job opportunities will occur in professional, technical, and managerial positions; (3) the second highest demand will be in benchwork occupations, i.e., those involving the fabrication, assembly, and repair of electronic communications, engineering, and scientific products; (4) many job opportunities will occur as new position openings, but most will result from attrition, turnover, and promotions; (5) little or no growth will occur in several areas, including industrial engineers, sales and distribution managers, truck drivers, and motor freight operators; and (6) employment projections reflect the national growth trend in high technology fields. The study report includes a description of Florida's position among the states with respect to employment, population growth, educational attainment, and educational funding. The position of Brevard among Florida's counties is also assessed. The survey instrument is provided. (KL)

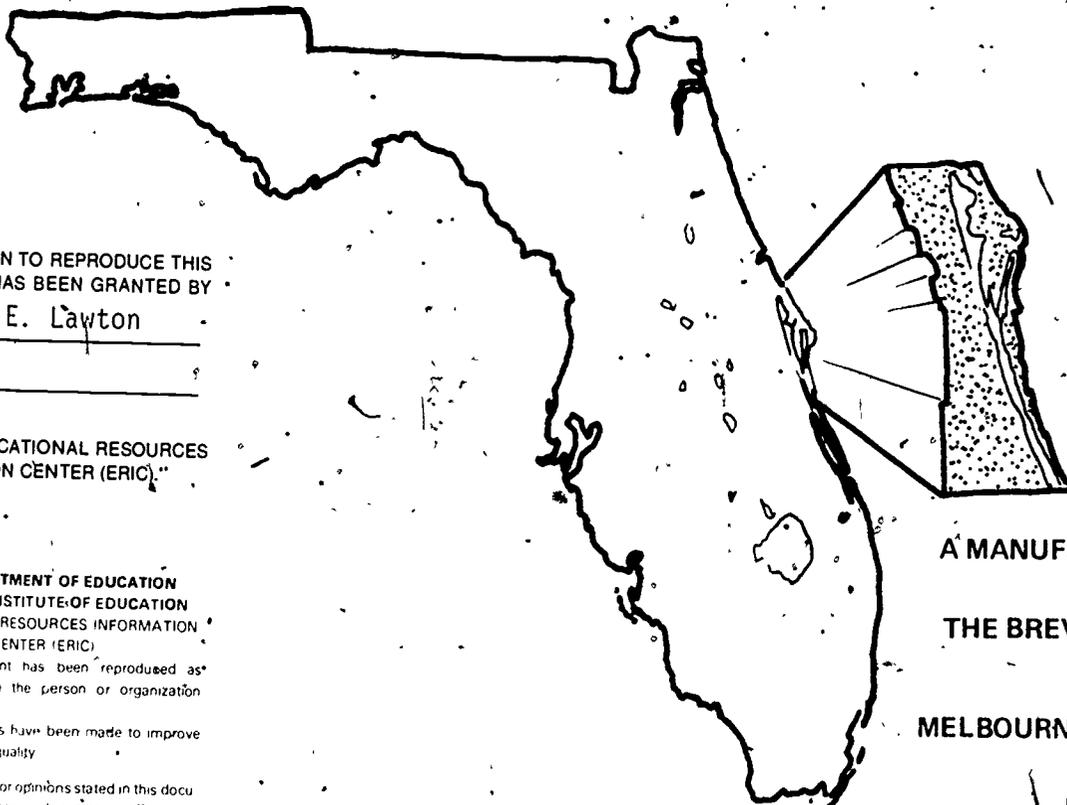
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ED215723

# BREVARD COUNTY

## Labor Pool Resource Study

### 1981 - 1985



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A MANUFACTURING INDUSTRY NEEDS ASSESSMENT  
COORDINATED BY  
THE BREVARD ECONOMIC DEVELOPMENT COUNCIL

INITIATED BY THE  
MELBOURNE AND PALM BAY AREA COMMITTEE OF 100.  
IN COOPERATION WITH  
BREVARD COMMUNITY COLLEGE

MARCH 1982

JC 820 186

BREVARD COUNTY LABOR POOL RESOURCE STUDY  
1981 - 1985

BREVARD COMMUNITY COLLEGE  
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T H E  
LABOR POOL RESOURCE STUDY

R E P O R T

*In the fall of 1981, 74 of Brevard's major manufacturing and related industrial firms were asked to provide exceptionally detailed figures reflecting their 1982 employment, annual job vacancies, and projections for 1985 employment. The results of that survey, organized, analyzed and refined to ensure corporate confidentiality, are presented in this report.*

BREVARD COMMUNITY COLLEGE

MARCH 1982

## FOREWORD

Florida's population is projected by the U. S. Census Bureau to be the nation's fastest growing for the next twenty years. That prospect, coupled with the rapidly increasing influx of industry should raise concerned eyebrows throughout the state. In Brevard County, because of a combination of unique geographic, economic and demographic factors, the future ought to be contemplated with excitement and constructive preparation. Caught napping, Brevard may wake up feeling more panic than enthusiasm in attempting to meet emerging needs.

There is little doubt that the County will continue to exhibit strong economic growth during the 1980s. This growth, however, will be influenced by periods of turbulent change in the national economy and by sudden shifts in employment needs. To continue to control and direct the shape of the area's economic future in such times, it is important to project, from sound research, the nature and scope of countywide manpower needs. It is the purpose of this research to address a portion of those needs.

This study provides clear and detailed information that will assist community agencies and institutions in assessing the durable goods manufacturing employment picture as portrayed by the group of major manufacturing and related industries included in the survey.

Manpower needs and changes in employment levels reported here reveal a strong consensus of the employers that there will be a continuation of relatively rapid increases in manufacturing in Brevard County. By describing those increases by specific job designations, the study can assist educational institutions and other agencies to ascertain the kinds of programs, support and funding requirements necessary to assure an adequate, well-trained work force for participating industries.

## ACKNOWLEDGMENTS

This study would not have been possible without the cooperation and assistance of countless unnamed administrators and personnel professionals representing most of the 74 selected employers invited to participate in this effort. A list of these employers appears on the following page.

Especial appreciation is expressed to President Maxwell C. King and the Office of Educational Research and Planning at Brevard Community College for data collection, analysis and reporting; to Mr. John E. McCauley, Executive Director, and his staff at Brevard Economic Development Council, for mailings, follow-up and clerical assistance; and finally, to Mr. Jack A. Heinzelman, Chairman of the Melbourne and Palm Bay Area Chambers of Commerce Committee of 100, for initiating, supporting and encouraging the successful completion of this project.

# LABOR POOL RESOURCE STUDY - 1981

## LIST OF COMPANIES ASKED TO PARTICIPATE

ARK Electronic Products, Inc.  
Abbott Industries  
Acopian Manufacturing Company  
Advanced Board Circuitries, Inc.  
Allis-Chalmers Corporation  
Amértron, Inc.  
Armorflite Southeast, Inc.  
Boeing Services International, Inc.  
Cadillac Gage Company  
Camair Corporation  
Cape Publications  
Climatrol Florida Corporation  
Collins General Aviation Div.  
(Rockwell)  
Computer Sciences Corporation  
Coyson Crystals, Inc.  
DBA Systems, Inc.  
Dictaphone Corporation  
Documation (Storage Technology)  
Eckler's Corvette Parts  
Electronic Systems Products, Inc.  
Einstce Tool Grind. & Sales, Inc.  
Fairchild Camera & Instrument Corp.  
Florida Data Corporation  
Florida Division, Victoreen, Inc.  
Fujitsu America, Inc.

General Dynamics Corp. (Convair Div.)  
Harris Corporation (All Divisions)  
Hetra  
ITT North (Telecom Switching Div.)  
ITT Defense Communications Division  
International Business Machines Corp.  
J.E.T. Industries, Inc.  
Lazy Day Products, Inc.  
Lockheed Missiles & Space Company  
MTC Engineering Company  
Marshall Manufacturing Corporation  
Martin Marietta Aerospace (Ext. Tank)  
Martin Marietta Aerospace Canaveral  
Operations  
McDonnell Douglas Astro-Fla. Test Ctr.  
McDonnell Douglas Astro-Titusville  
McGregor & Werner, Inc.  
Norsk-Hydro Aluminum, Inc.  
Optical Business Machines, Inc.  
Opto Mechanik, Inc.  
PCM Products, Inc.  
PRC Systems Services Company  
Pan American World Services, Inc.  
Aerospace Services Division  
Technical & Base Support Svcs. Div.  
Pouliot Designs Corporation

Precision Fabricating & Cleaning, Inc.  
Precision Shapes, Inc.  
Q-Bit Corporation  
RCA Int'l Service Corp.  
Missile Test Project  
RGM Industries Company  
Realtime Associates, Inc.  
Regency Communications, Inc.  
Rockwell Int'l Space Opns. & SDD  
The Rovac Corporation  
Scientific Systems Services, Inc.  
Sea Ray Boats, Inc.  
Sunset Wire & Cable, Inc.  
Systems Engineering Lab., Inc. (Gould)  
TRW Defense & Space Systems Group  
TRW-Vidar  
Technicolor Graphic Services, Inc.  
Terry Corporation  
Thompson Trawler, Inc.  
Titusville Tool & Engineering, Inc.  
Townsend's Ceramics & Glass, Inc.  
Transformers, Inc.  
U. S. Games, Inc.  
United Space Boosters, Inc. (UTC)  
Westinghouse Electric Corporation  
Printed Circuits Operations (AES)

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## OVERVIEW

During the past decade, Brevard County made the transition from dependence on one industry (i.e., support of the nation's space and missile programs), to a more diversified economic base. A continuing feature of this change is the rapid growth of the high-technology manufacturing industry.

Brevard now leads all 67 Florida counties in the employment of non-agricultural workers by manufacturers. Manufacturing accounts for 21.5 percent of non-agricultural employment, compared to a statewide average of 14 percent. The percentage of total income generated by manufacturing in Brevard is 24.1 while the statewide average is only 13.6 percent. (See Table 7, Chapter II.)

Between 1975 and 1980, Brevard manufacturing employment doubled, from 10,800 to 21,700. (See Table 8, Chapter II.) The current study provides a partial update of employment for 1982 and focuses on projections to 1985.

### HIGHLIGHTS OF FINDINGS

Among the selected industries participating in the study, the following findings emerge:

- Employment opportunities within these industries will increase from about 24.7 thousand in 1982, to nearly 30.5 thousand by 1985; an increase of 23% in the next three years.
- Most job opportunities between 1982 and 1985 will occur in professional, technical and managerial positions. Electronic engineers, computer scientists, systems analysts,

- drafters, and mechanical engineers will be the most sought after. Next will be administrative specializations, including accountants, auditors, personnel directors, purchasing agents, and information systems analysts.
- The second highest demand will be in the benchwork occupations. These are jobs involving the fabrication, assembly and repair of electronic communications, engineering and scientific products.
  - Many job opportunities will occur as new position openings, but, by a nearly three to one margin, vacancies will primarily result from attrition, turnover, and promotions.
  - This survey reveals little or no growth in employment of industrial engineers, sales and distribution managers; truck drivers and motor freight operators; welders and cutters; engine, machine, and lighting repair persons; shipping and receiving clerks; and computing and account recording personnel.
  - Employment projections based on the selected industries in this study reflect and exemplify the national (and worldwide) growth trend in high technology and the general movement toward the creation of an "information society."

## CHAPTER I

### PROCEDURES

This section describes the procedures used to (1) select the study participants, (2) construct the survey instrument, (3) collect the data, and (4) analyze and report the data.

#### Selection of the Participants

The rapid increase in manufacturing employment in Brevard County since 1975 gives rise to the need to accurately define this growth for at least two reasons. First, one must understand the nature of this growth to project future needs; and second, it must be understood in order to ensure that provisions are made to provide an adequately trained work force to support it. It was the intent of this study, therefore, to focus on those employers whose nature and recent development seemed to typify Brevard's emerging manufacturing base.

The Brevard Economic Development Council's publication, Manufacturing and Related Industries, was the principal source document used to identify potential study participants. The BEDC listings are organized under twenty standard industrial classification groups. Approximately half of these groups were selected for study, and after eliminating the smaller firms (less than eight employees), 74 representative participants (firms) were identified.

#### Construction of the Instrument

The survey required an instrument incorporating a standardized and comprehensive list of job classifications and titles. To develop such a form, standard industrial classification terminology was derived from the U.S. Department of Commerce Standard Occupational Classification Manual, published by The Office of Federal Statistical Policy and Standards and the Department of Labor's Dictionary of Occupational Titles.

The survey instrument is structured on a three-level system: category, division and job title. Each level represents groupings in successively finer detail, enabling the user to tabulate or analyze data on different levels of aggregation. Residual categories are established at each level to handle occupations that do not warrant separate classification or do not fit into one of the specific groups or titles listed.

The structure described is an abbreviation of the format underlying the standard industrial classification system. Its simplified nature allows employers to avoid the complexities of greater detail, and increases the likelihood of survey response. It still preserves the utility of the mechanism for cross-referencing and analyzing data in relation to other occupational information collected for a variety of purposes by federal and state agencies, professional associations, or other public and private research organizations.

To assist employers in accurately filling out the survey instrument, instructions were furnished with each set of forms. Two attachments were also designed and furnished as an aid to completing the form. These included a numerical listing of job titles by occupational group code and a cross-referenced alphabetical listing of job titles. Copies are included as an appendix to this report.

#### Collecting the Data

Any survey will only be as valid and reliable as the conscientious cooperation of those chosen to participate will permit. To encourage the maximum assistance in this task, the Brevard Economic Development Council identified the Chief Executive Officer of each firm, enclosed a cover letter and personal

endorsements with the survey instrument, and mailed these to each CEO. The endorsements included letters supporting the BEDC Executive Director's request for assistance, from the President of Brevard Community College and, in many cases, from the firms' respective Chamber of Commerce or Committee of 100 representative (see appendix).

Telephone follow-up was initiated several weeks after the initial mailing and continued for several additional weeks, until responses were received from firms representing about three-fourths of the total employment within the survey group.

Confidentiality in the data collection process was a major concern from the outset, and in spite of assurances to concerned firms, nevertheless proved to be a barrier to a more complete response in the end. All possible precautions were taken to ensure that no individual corporate data would be compromised, no compromises occurred, and none will be possible inasmuch as the original data was destroyed as soon as aggregate figures were compiled. The Brevard Community College Office of Educational Research and Planning was identified as a neutral and "disinterested" party to collect, analyze and report survey results. Instructions at the top of each instrument read: "Information on this form is strictly confidential and is not to be revealed to any unauthorized person, nor published in such a manner that data relating to individual companies can be identified." No provisions were made for any firm to put its name on the survey form or return envelope. This created some problems in the follow-up process because the BCC office compiling the data was frequently unable to determine which firms had not responded. Additional actions taken that also protect individual corporate data are cited in the following discussion of the analysis and reporting process.

Firms from which no response was obtained ultimately turned out to be either those whose concern for confidentiality remained overriding, or (more frequently) those whose relatively small size may have exempted them from as intense a follow-up effort as accorded the larger companies.

### Analysis and Reporting

Once the individual survey instruments were tallied and the various job, division and category aggregate totals were compiled, the general employment patterns for 1982 and the projections for 1985 emerged quite clearly. General findings have been highlighted in the overview section of this report. A wealth of more detailed information is available through closer inspection, cross tabulations, and other examination or manipulations of the data. Some observations of this nature are offered later in this report.

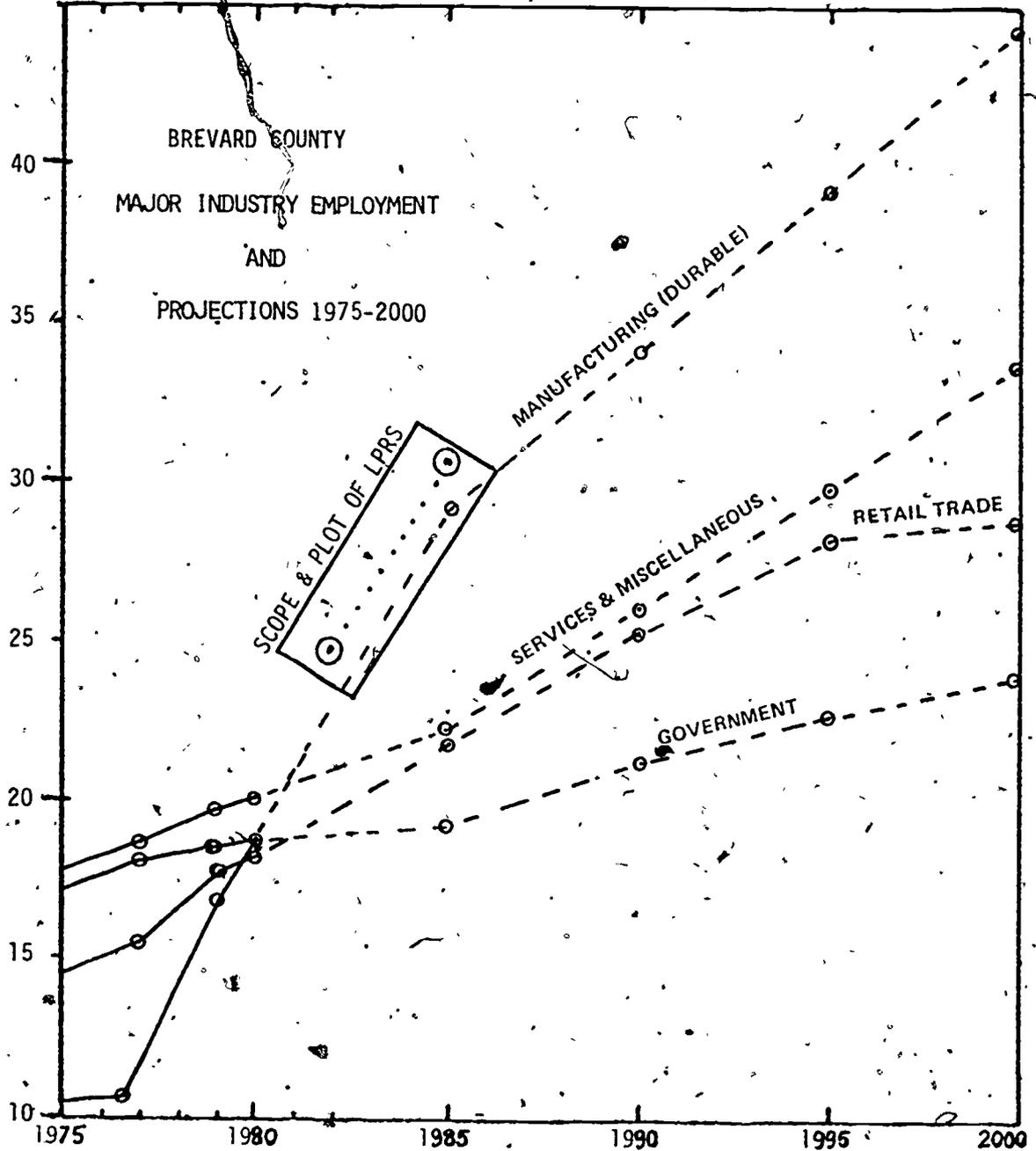
Because of the requirement for confidentiality of individual corporate data, adjustments have been made to all figures used in the aggregate listings provided in this report. These adjustments are intended to disguise the actual data while preserving the essential relationships and fidelity of information as representative of both the respondents and non-respondents among the 74 firms asked to participate. The adjustments were made by a process which included both mathematical computations to change the figures, and the introduction of data outside the scope of the survey instrument itself. Both of these procedures were made to fill in gaps left by non-respondents. The research analyst describes this as analagous to "computer enhancement" of the data to produce optimum clarity in the employment picture presented by all the firms asked to participate, including those who chose not to do so.

As the foregoing suggests, this is not intended to be a full-scale labor market survey for Brevard County. It does, however, portray quite accurately, and in considerable detail, the durable

manufacturing segment of the county's work force. It also reinforces earlier studies that have described manufacturing as the fastest growing sector of major industry employment and it almost exactly replicates numerical projections arrived at by other agencies through independently different processes. Figure 1, Major Industry and Employment Projections 1975 - 2000, based on Brevard County Planning Department figures released in 1981, is annotated to show the focus and numerical projection of the Labor Pool Resource Study. The LPRS plot parallels the slope of the county projection almost perfectly while the total employment figures track slightly higher.

Thousands  
of Employees

FIGURE I



## CHAPTER II

### A PERSPECTIVE ON NATIONAL, STATE AND LOCAL FACTORS

In the midst of great national economic change and uncertainty if not gloom, Florida must be recognized as an island of bright prospects, and Brevard County as one of its most brilliant jewels.

The following factors, based upon federal and state documentation, help place Brevard County in perspective:

- Florida is the leading state in the Southeast and third in the nation in the number of manufacturing jobs won in the last decade (Table 1 and Figure 2).
- Florida, the seventh largest state, is the fastest growing of the ten largest and ranks third in the nation in the pace of population growth during the last decade (Table 2).
- Florida is projected by the Bureau of the Census to be the fastest growing state in the nation for the next twenty years. By the year 2000, it could grow from its current seventh ranking to the fourth most populous state in the country (Table 3 and Figure 3).
- Florida has the highest level of educational attainment in the Southeast; the 11th largest increase in the number of high school graduates during the past five years and the ninth highest level of enrollment in higher education in the nation. These factors indicate that a large and better qualified work force will be available in Florida in future years (Tables 4 and 5).

- Florida leads the nation in per capita spending for vocational education programs - the type of programs designed primarily to train the labor force to serve the state's rapid industrial growth (Table 6 and Figure 4).

As for Brevard County, Florida, the following factors emerge from a variety of sources as cited in a recent survey published by Brevard Community College: Facilities Survey, October 1981.

- Brevard leads all 67 Florida counties in the employment of non-agricultural workers by manufacturers and its percentage of total income generated by manufacturing is 24.1% compared to a statewide average of 13.6% (Table 7).
- From 1975 to 1980, Brevard's manufacturing employment doubled from 10,800 to 21,700 and is forecast to pass 30,000 by 1985 (Table 8).
- Brevard's high-technology manufacturing industry includes the Harris Corporation, Florida's largest industrial employer, and a major factor in electronics nationally and internationally.
- Brevard's population growth is paced by Palm Bay, whose 63 miles of incorporated land area ranks it geographically as the second largest city in the state. Palm Bay grew 158.6% during the past decade as a direct result of the high technology companies locating in its area. This growth may be compared to a statewide average of 43.4% during the same period.

TABLE 1

## MANUFACTURING EMPLOYMENT AND JOBS WON/LOST, 1970 to 1980

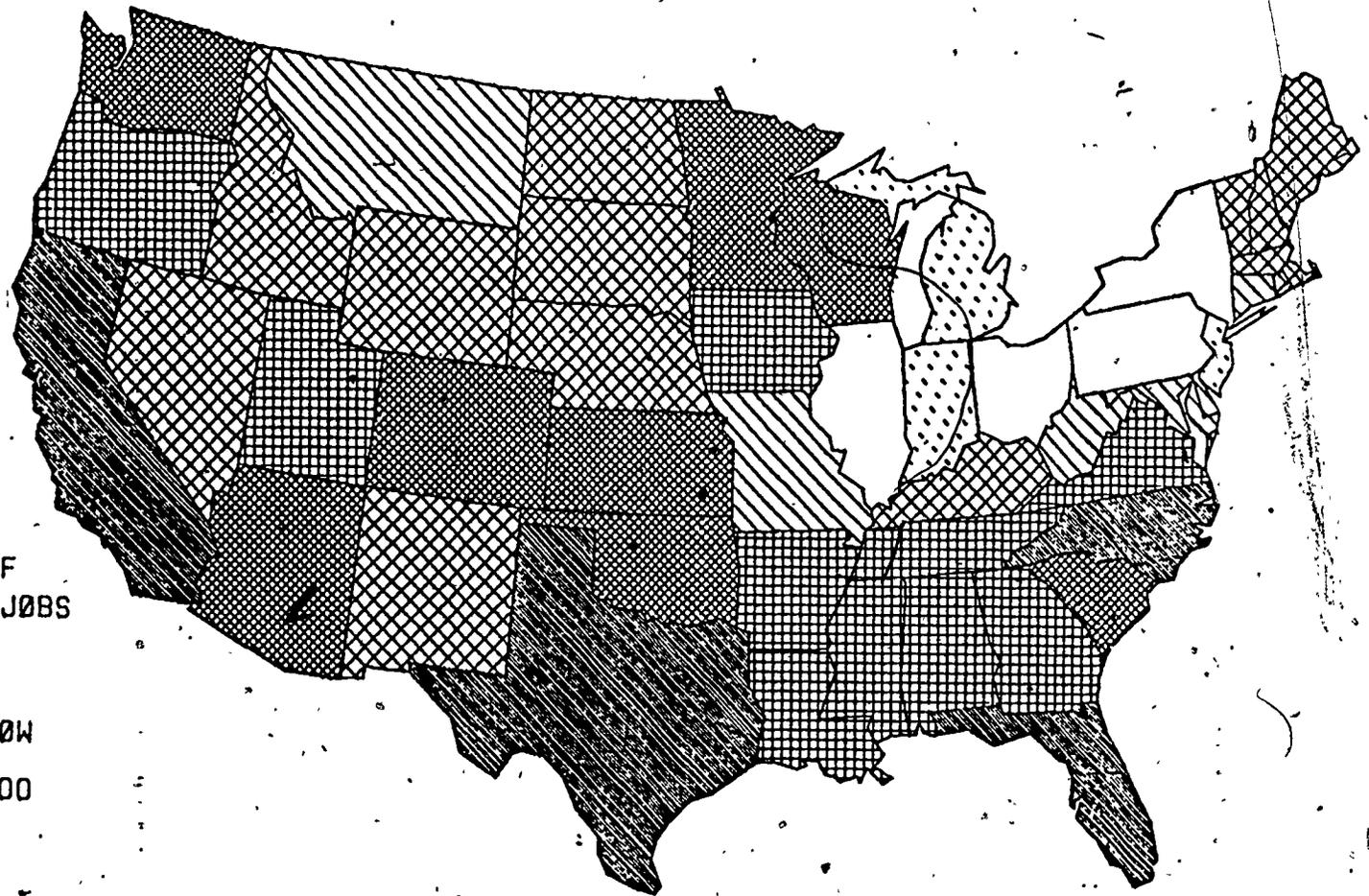
Competition among the states for locating new industry continues to be intense because firms make site selections only after long and deliberate evaluation of factors such as location suitability, tax structure, training facilities, labor availability and wage rates. Over time, the ability to attract new industry can be measured in terms of its increase in manufacturing jobs. Using this as a criteria, the data below show Florida is the leading state in the Southeast and ranks 3rd in the nation in the number of jobs won.

	Manufacturing Employment (000's)		Jobs Won/Lost (000's)		Manufacturing Employment (000's)		Jobs Won/Lost (000's)
	1970	1980			1970	1980	
United States	19,367.0	20,365.0	998.0				
California	1,558.0	2,001.1	443.1	Idaho	40.3	64.9	14.6
Texas	734.3	1,048.9	314.6	New Mexico	21.4	34.3	12.9
FLORIDA	322.5	457.2	134.7	Nebraska	84.5	96.1	11.6
North Carolina	713.0	824.2	111.2	Nevada	8.6	19.4	10.8
Washington	239.5	307.4	67.9	South Dakota	15.8	26.0	10.2
Arizona	71.2	152.6	61.4	Vermont	40.5	50.6	10.1
Colorado	120.8	181.4	60.6	Rhode Island	120.9	127.8	6.9
Wisconsin	500.9	560.2	59.3	North Dakota	9.9	15.5	5.6
Oklahoma	134.1	190.1	56.0	Alaska	8.6	13.4	4.8
Minnesota	318.7	372.5	53.8	Wyoming	7.4	10.5	3.1
Kansas	137.2	189.5	52.3	Maine	110.4	113.2	2.8
South Carolina	340.3	392.3	52.0	Delaware	71.1	71.0	-.1
Georgia	467.1	516.2	49.1	Montana	23.9	23.6	-.3
Virginia	366.0	410.5	44.5	Connecticut	443.7	441.8	-1.9
Oregon	172.3	214.2	41.9	Hawaii	25.6	23.5	-2.1
Arkansas	168.6	210.4	41.8	West Virginia	126.5	117.2	-9.3
Tennessee	463.8	504.6	40.8	Missouri	449.4	435.9	-13.5
Mississippi	182.1	221.4	39.3	Maryland	271.4	237.9	-33.5
Alabama	327.2	362.0	34.8	Indiana	710.2	658.0	-52.2
Louisiana	179.0	212.2	33.2	Michigan	1,071.5	1,007.2	-64.3
Utah	56.0	88.6	32.6	New Jersey	863.0	783.4	-79.6
Iowa	326.0	243.5	27.5	Illinois	1,358.6	1,222.3	-136.3
New Hampshire	91.8	116.8	25.0	Ohio	1,409.9	1,267.5	-142.4
Massachusetts	648.3	673.1	24.8	Pennsylvania	1,528.8	1,328.0	-200.8
Kentucky	255.2	276.1	20.9	New York	1,760.6	1,451.1	-309.5

SOURCE: Employment and Earnings, U.S. Dept. of Commerce, Bureau of Labor Statistics.  
Tenn. data furnished by Atlanta Regional Office, Bureau of Labor Statistics.

FIGURE 2

MANUFACTURING JOBS WON OR LOST, 1970 to 1980



NET NUMBER OF  
MANUFACTURING JOBS

-  -100,000 AND BELOW
-  -99,999 TO -50,000
-  -49,000 TO 0
-  1 TO 25,000
-  25,000 TO 49,999
-  50,000 TO 99,999
-  100,000 OR MORE

MINIMUM VALUE: -309,500  
MAXIMUM VALUE: 443,100

TABLE 2

## POPULATION GROWTH TRENDS, 1970 to 1980.

Population size provides an indicator of a state's existing markets; historical shifts in population provide insight into the growth potential of a specific state or region. Areas which have experienced rapid population increases are prime locations for industrial, retail, and service trade development. Florida is the 7th largest state in the nation. It is the fastest growing of the ten largest states, and ranks 3rd overall in the pace of population growth.

	Population		Percent Change		Population		Percent Change
	1970	1980			1970	1980	
United States	203,302,031	226,504,825	11.41%				
Nevada	488,738	799,184	63.52	Kentucky	3,220,711	3,661,433	13.68
Arizona	1,775,399	2,717,866	53.08	Montana	694,409	786,690	13.29
FLORIDA	6,791,418	9,739,992	43.42	Maine	993,722	1,124,660	13.18
Wyoming	332,416	470,816	41.63	Alabama	3,444,354	3,890,061	12.94
Utah	1,059,273	1,461,037	37.93	West Virginia	1,744,237	1,949,644	11.78
Idaho	713,015	943,935	32.39	Delaware	548,104	595,225	8.60%
Alaska	302,583	400,000	32.20	Maryland	3,923,897	4,216,446	7.46
Colorado	2,209,596	2,888,834	30.74	Minnesota	3,806,103	4,077,148	7.12
New Mexico	1,017,055	1,299,968	27.82	Wisconsin	4,417,821	4,705,335	6.51
Texas	11,198,655	14,228,383	27.05	Nebraska	1,485,333	1,570,006	5.70
Oregon	2,091,533	2,632,663	25.87	Indiana	5,195,392	5,490,179	5.67
Hawaii	769,913	965,000	25.34	North Dakota	617,792	652,695	5.65
New Hampshire	737,681	920,610	24.80	Missouri	4,677,623	4,917,444	5.13
Washington	3,413,244	4,130,163	21.00	Kansas	2,249,071	2,363,208	5.07
South Carolina	2,590,713	3,119,208	20.40	Michigan	8,881,826	9,258,344	4.24
Georgia	4,587,930	5,464,265	19.10	South Dakota	662,257	690,178	4.22
Arkansas	1,923,322	2,285,513	18.83	Iowa	2,825,368	2,913,387	3.12
California	19,975,069	23,668,562	18.49	Illinois	11,110,258	11,418,461	2.77
Oklahoma	2,559,463	3,025,266	18.20	New Jersey	7,171,112	7,364,158	2.69
Tennessee	3,926,018	4,590,750	16.93	Connecticut	3,032,217	3,107,576	2.49
North Carolina	5,084,411	5,874,429	15.54	Ohio	10,657,423	10,797,419	1.31
Louisiana	3,644,637	4,203,972	15.35	Massachusetts	5,689,170	5,737,037	.84
Vermont	444,732	511,456	15.00	Pennsylvania	11,800,766	11,866,728	.56
Virginia	4,651,448	5,346,279	14.94	Rhode Island	949,723	947,154	-.27
Mississippi	2,216,994	2,520,638	13.70	New York	18,236,967	17,557,288	-3.73

SOURCE: U.S. Department of Labor, Employment and Training Administration, Unemployment Insurance Service, Division of Actuarial Services, unpublished data.

TABLE 3

## PROJECTIONS OF POPULATION GROWTH, 1980 to-2000

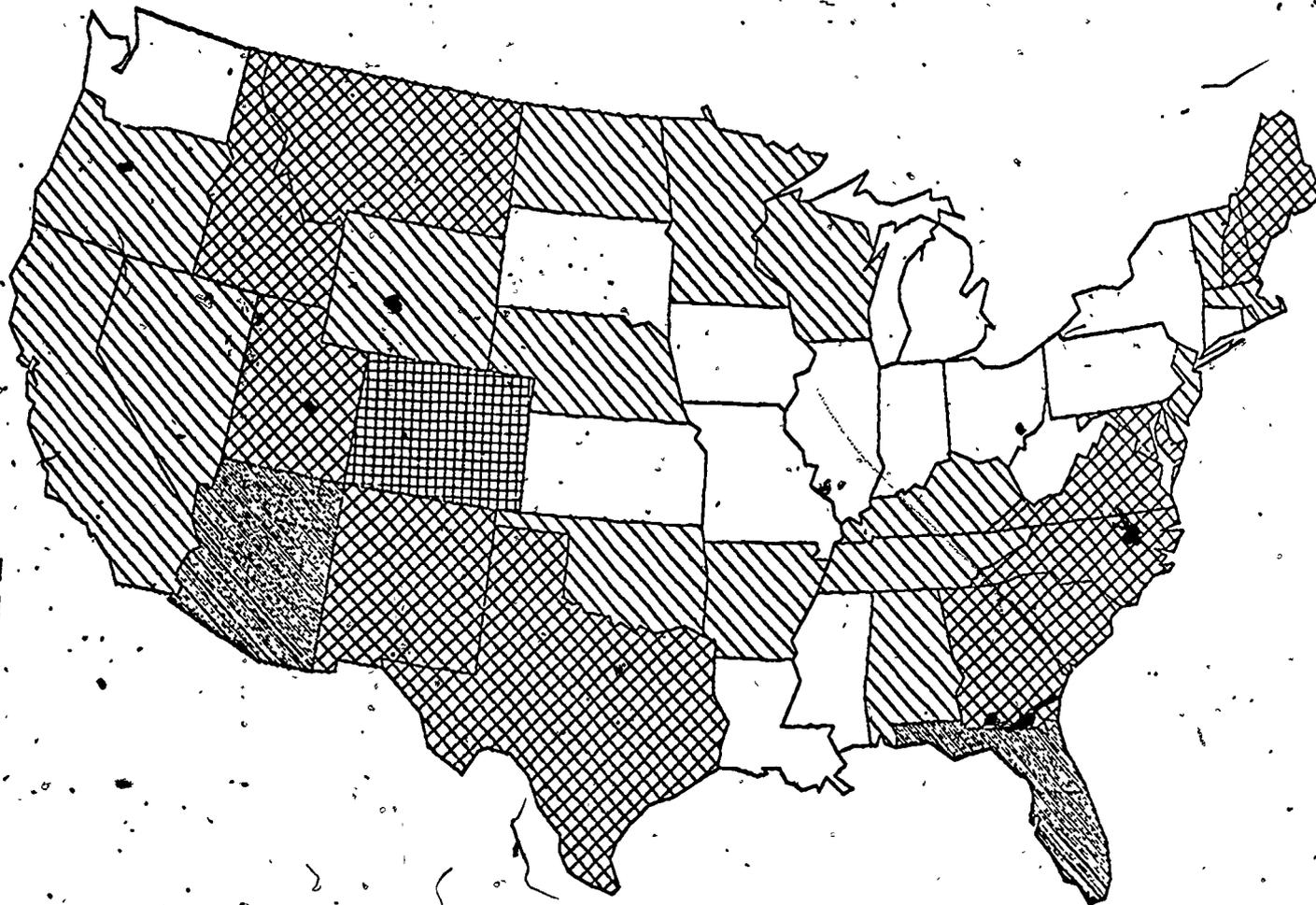
Population projections indicate whether historical growth trends are expected to continue or be modified in the future. Growth in Florida's population is projected to lead the country during the next two decades, ensuring continued growth in the state's consumer markets. During this time, Florida could grow from its current ranking of the 7th most populous state to the 4th largest state.

	Population		Percent Change		Population		Percent Change
	1980	2000			1980	2000	
United States	226,504,825	259,869,000	14.73%				
California	23,668,562	27,309,000	15.38	Arizona	2,717,866	3,822,000	40.63
New York	17,557,288	17,961,000	2.30	Oklahoma	3,025,266	3,449,000	14.01
Texas	14,228,383	17,167,000	20.65	Connecticut	3,107,576	3,386,000	8.96
FLORIDA	9,739,992	14,394,000	47.78	Iowa	2,913,387	3,131,000	7.47
Pennsylvania	11,866,728	12,317,000	3.79	Oregon	2,632,663	3,070,000	16.61
Illinois	11,418,461	11,923,000	4.42	Mississippi	2,520,638	2,763,000	9.62%
Ohio	10,797,419	11,051,000	2.35	Arkansas	2,285,513	2,690,000	17.70
Michigan	9,258,344	10,148,000	9.61	Kansas	2,363,208	2,540,000	7.48
New Jersey	8,364,158	8,425,000	14.41	West Virginia	1,949,644	2,076,000	6.48
North Carolina	5,874,429	7,226,000	23.01	Nebraska	1,570,006	1,851,000	17.90
Massachusetts	5,737,037	6,842,000	19.26	Utah	1,461,037	1,775,000	21.49
Georgia	5,464,265	6,840,000	25.18	New Mexico	1,299,968	1,636,000	25.85
Virginia	5,346,279	6,768,000	26.59	Maine	1,124,660	1,405,000	24.93
Indiana	5,490,179	5,731,000	4.39	Idaho	943,935	1,195,000	26.60
Wisconsin	4,705,335	5,545,000	17.84	Hawaii	965,000	1,193,000	23.63
Maryland	4,216,446	5,436,000	28.92	Rhode Island	947,154	1,117,000	17.93
Missouri	4,917,444	5,346,000	8.72	New Hampshire	920,610	1,113,000	20.90
Tennessee	4,590,750	5,183,000	12.90	Montana	786,690	977,000	24.19
Minnesota	4,077,148	4,561,000	11.87	Nevada	799,184	908,000	13.62
Louisiana	4,203,972	4,486,000	6.71	South Dakota	690,178	748,000	8.38
Alabama	3,890,061	4,425,000	13.75	North Dakota	652,695	732,000	12.15
Kentucky	3,661,433	4,290,000	17.17	Delaware	595,225	689,000	15.75
Washington	4,130,163	4,161,000	.75	Vermont	511,456	586,000	14.57
South Carolina	3,119,208	3,893,000	24.81	Alaska	400,000	544,000	36.00
Colorado	2,888,834	3,892,000	34.73	Wyoming	470,816	527,000	11.93

SOURCE: Current Population Reports (Series P-25, No. 796) and Census of Population and Housing, 1980: P.L. 94-171. Population Counts (machine-readable data file), U.S. Department of Commerce, Bureau of the Census.

FIGURE 3

POPULATION CHANGE, 1980 - 2000



PERCENT CHANGE IN  
TOTAL POPULATION

-  0 TO 9.99 PCT
-  10.00 TO 19.99 PCT
-  20.00 TO 29.99 PCT
-  30.00 TO 39.99 PCT
-  40.00 PCT OR MORE

MINIMUM VALUE: .75 PERCENT  
MAXIMUM VALUE: 47.78 PERCENT

## TOTAL ENROLLMENT IN INSTITUTIONS OF HIGHER EDUCATION, FALL 1979

A state's enrollment in institutions of higher education gives a firm some measure of the future availability of managers, highly trained professional and technical personnel, and skilled production workers. Florida has the 9th highest level of enrollment in the U.S., indicating that skilled labor will be available in sufficient quantities to assure ease of recruitment in Florida in future years.

United States	11,569,899		
California	1,698,668	Louisiana	153,812
New York	970,168	Oklahoma	152,683
Texas	676,047	Kentucky	135,179
Illinois	612,916	Kansas	133,360
Michigan	503,839	Iowa	132,599
Pennsylvania	481,347	South Carolina	131,459
Ohio	463,548	Mississippi	100,272
Massachusetts	396,267	Utah	90,398
FLORIDA	395,233	Nebraska	86,446
New Jersey	312,460	West Virginia	81,335
Washington	303,469	Arkansas	74,701
Virginia	270,599	Rhode Island	64,435
North Carolina	269,065	New Mexico	56,189
Wisconsin	255,907	Hawaii	47,204
Indiana	228,397	Maine	42,912
Missouri	222,046	New Hampshire	42,112
Maryland	218,745	Idaho	40,661
Tennessee	199,654	Nevada	35,935
Minnesota	193,830	Delaware	32,308
Arizona	188,976	Montana	31,906
Georgia	178,017	North Dakota	31,904
Alabama	159,784	South Dakota	31,294
Colorado	156,100	Vermont	29,550
Connecticut	156,067	Alaska	20,052
Oregon	154,597	Wyoming	19,490

SOURCE: Rankings of the States, 1981, National Education Association, Washington, D.C.

TABLE 5

## PERCENT CHANGE IN NUMBER OF PUBLIC HIGH SCHOOL GRADUATES, 1975-76 to 1980-81

An increase in the number of high school graduates is indicative of a larger and/or better qualified labor force. Both of these are true of Florida. Florida has the highest level of educational attainment in the Southeast, and has the 11th largest increase in the number of high school graduates in the U.S.

United States	-3.45%		
Alaska	26.71	North Carolina	-1.79
Arizona	15.30	Washington	-1.98
Idaho	15.25	Minnesota	-2.28
Nevada	15.13	Connecticut	-2.34
New Hampshire	14.58	Nebraska	-2.82
Wyoming	8.3	Kansas	-2.98
Arkansas	8.27	Kentucky	-3.02
Texas	6.03	Louisiana	-3.05
Oklahoma	4.35	North Dakota	-3.85
Rhode Island	4.22	New Jersey	-4.07
<u>FLORIDA</u>	3.57	Tennessee	-4.18
Iowa	3.27	Alabama	-4.44
Colorado	2.66	South Dakota	-4.79
South Carolina	2.21	Oregon	-4.86
Delaware	2.06	California	-5.22
New Mexico	1.72	West Virginia	-6.47
Georgia	0.89	Hawaii	-6.54
Wisconsin	0.31	Missouri	-7.42
Utah	0.22	New York	-7.74
Indiana	0.21	Massachusetts	-7.74
Vermont	0.02	Michigan	-7.85
Maine	0.00	Montana	-11.20
Mississippi	-0.06	Pennsylvania	-11.23
Maryland	-0.11	Ohio	-11.73
Virginia	-0.27	Illinois	-11.75

SOURCE: Rankings of the States, 1981, National Education Association, Washington, D.C.

TABLE 6

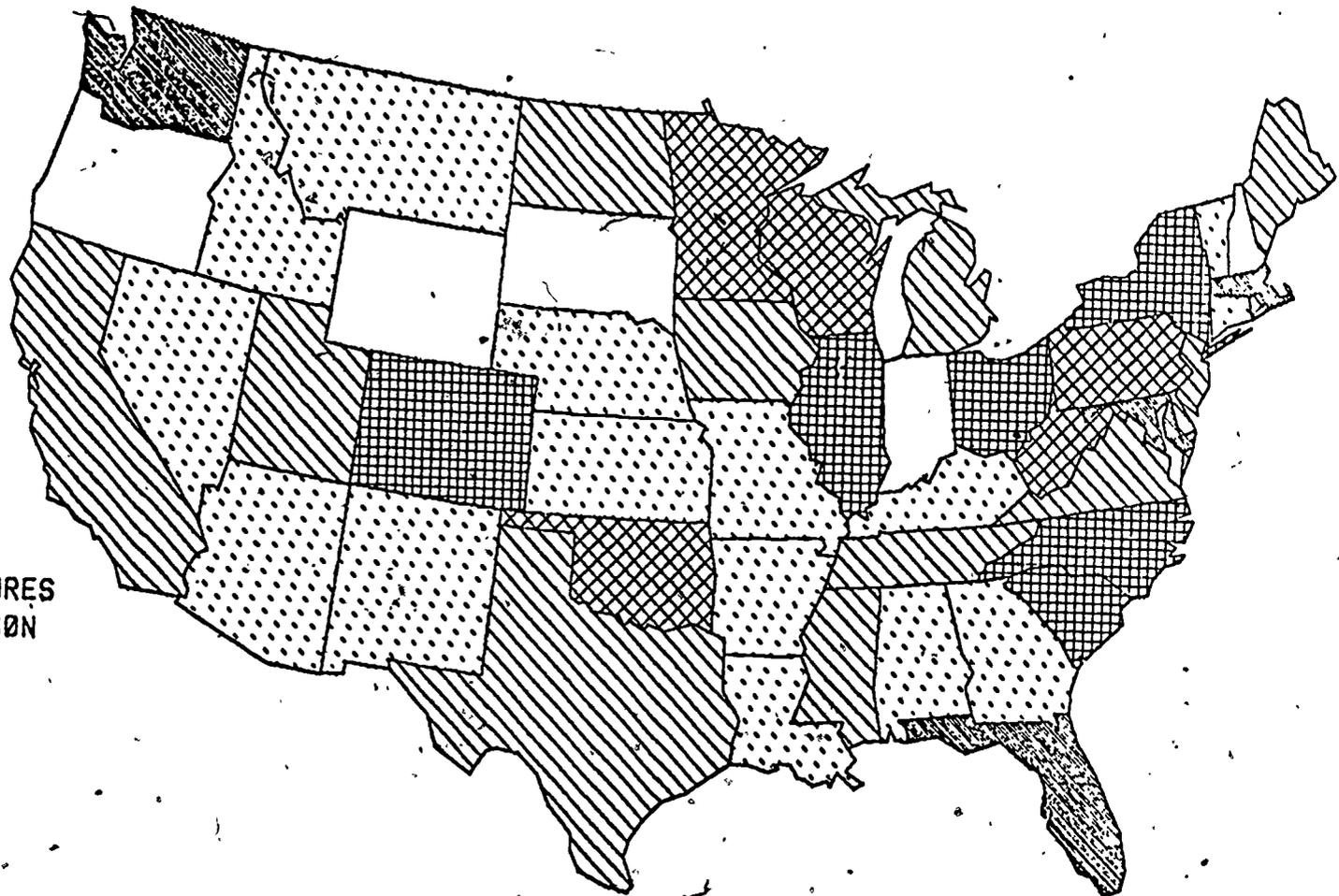
## PER CAPITA EXPENDITURES FOR VOCATIONAL EDUCATION, FISCAL YEAR 1978

The availability of programs for vocational education can ensure that a skilled work force exists or can be quickly trained to meet the staffing needs of a new facility. The funding level of vocational programs is one measure of the importance which is placed on vocational training. Florida leads the nation in per capita spending for vocational education programs.

United States	\$ 25.59		
<b>FLORIDA</b>	40.73	Maine	\$ 22.70
Washington	37.73	Tennessee	21.55
Maryland	37.58	Mississippi	20.34
Massachusetts	36.64	New Mexico	19.92
Illinois	33.54	Georgia	19.48
Colorado	32.52	Alaska	19.38
North Carolina	32.49	Idaho	19.26
South Carolina	31.35	Nevada	18.09
New York	31.15	Kentucky	18.06
Ohio	30.95	Missouri	17.94
Minnesota	28.83	Vermont	17.82
Oklahoma	28.59	Alabama	17.80
Wisconsin	27.00	Kansas	17.06
Rhode Island	25.35	Arizona	16.95
West Virginia	25.31	Montana	16.82
Pennsylvania	25.22	Arkansas	16.57
Michigan	24.98	Hawaii	16.42
Virginia	24.90	Louisiana	16.15
North Dakota	24.13	Connecticut	15.70
New Jersey	23.45	Nebraska	15.23
Iowa	22.98	New Hampshire	14.68
California	22.52	South Dakota	14.48
Delaware	22.44	Wyoming	13.92
Texas	22.34	Indiana	13.43
Utah	22.21	Oregon	6.65

SOURCE: Digest of Education Statistics-1980, National Center for Education Statistics.

EXPENDITURES FOR VOCATIONAL EDUCATION, 1978



VOCATIONAL EXPENDITURES  
IN DOLLARS PER PERSON

-  LESS THAN \$15.00
-  \$15.00 TO \$19.99
-  \$20.00 TO \$24.99
-  \$25.00 TO \$29.99
-  \$30.00 TO \$34.99
-  OVER \$35.00

MINIMUM VALUE: \$ 6.65  
MAXIMUM VALUE: \$40.78

TABLE 7

LABOR & PROPRIETORS INCOME <sup>1</sup> BY INDUSTRIAL SECTOR							
(PERCENT OF TOTAL)							
1978							
	BREVARD	LAKE	ORANGE	OSCEOLA	SEMINOLE	VOLUSIA	FLORIDA
TOTAL LABOR & PROPRIETORS INCOME	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
FARM	1.3	26.7	3.6	9.0	3.1	3.3	3.1
NON-FARM	98.7	73.3	96.4	91.0	96.9	96.7	96.9
PRIVATE	76.0	61.6	78.3	76.0	80.8	81.1	78.4
Ag. Serv., For., Fish, & Other	0.4	7.1	(D)	(D)	(D)	0.7	0.9
Mining	0.0	(D)	0.0	0.0	0.0	(L)	0.4
Construction	6.3	5.7	6.4	(D)	(D)	8.0	7.1
Manufacturing	24.1	9.8	13.6	12.1	19.9	12.6	13.6
Trans. & Public Utilities	5.9	(D)	(D)	2.3	(D)	5.6	8.7
Wholesale Trade	2.4	(D)	8.6	(D)	(D)	3.5	6.5
Retail Trade	10.6	11.8	11.1	15.2	16.5	18.2	13.1
Finance, Ins., & Real Estate	3.8	3.8	7.2	4.4	6.2	6.7	7.4
Services	22.5	13.9	23.7	28.7	15.8	25.8	20.7
GOVERNMENT <sup>2</sup>	22.7	11.7	18.1	15.0	16.1	15.6	18.5

<sup>1</sup>Income by place of work

(D) Not shown to avoid disclosure of confidential information.

(L) Less than \$50,000

SOURCE: U.S. Bureau of Economic Analysis, Regional Economics Information System.

TABLE 8

<u>BREVARD COUNTY:</u>		<u>INDUSTRY EMPLOYMENT</u> (thousands)				
	1975	1976	1977	1978	1979	1980
Total All Industries	74.4	75.5	80.2	89.0	97.1	101.4
Manufacturing	10.8	11.8	14.4	16.9	19.9	21.7
Mfg: Durable	9.8	10.8	13.4	15.8	18.6	20.3
Mfg: Non-Durable	1.0	1.0	1.0	1.1	1.3	1.4
Construction	3.4	3.4	4.2	5.4	6.4	6.1
Trans., Comm., Utilities	3.9	4.0	3.9	4.0	4.4	4.6
Trade	16.3	16.5	17.0	19.3	21.1	22.4
Wholesale	2.0	2.0	1.9	2.1	2.4	2.3
Retail	14.3	14.5	13.9	17.2	18.7	20.1
Fins., Ins., & R.E.	3.0	3.0	3.2	3.7	3.9	4.1
Services, Misc., & Mining	18.3	18.4	18.9	20.7	23.0	23.8
Hotels & Lodging	1.5	1.5	1.4	1.4	1.5	1.6
Business Services	4.2	3.3	2.9	2.4	3.3	3.3
Health Services	3.4	3.7	3.9	4.2	4.5	3.6
Government	18.7	18.4	18.5	19.0	18.4	18.7
Federal	5.5	5.5	5.5	5.5	5.5	5.4

SOURCE: U.S. Department of Labor

## CHAPTER III

### AGGREGATE EMPLOYER RESPONSES

A facsimile of the survey instrument (Table 9) is presented here, showing in detail the tally of responses after "statistical enhancement adjustments" were made as described in the preceding section.

A master summary, Table 10, summarizes the data, shows the extent of changes between 1982 and 1985, and combines annual vacancies with new jobs to project annual job opportunities by category.

It is obvious from Table 10, and as reported in the overview section of this report, that the overwhelming numbers of job opportunities (2,838 per year) fall into the professional, technical and managerial category. These are followed by the benchwork occupations, category 7 (1,767 per year), and clerical and sales occupations, category 2, (1,125 per year).

To determine the division and job title specifics of these and other job opportunities, one need only consult the facsimile survey data. For example, the nature of job opportunities within category 1 obviously do not provide encouragement for librarians *within the manufacturing firms covered here.*

Caution must be exercised in interpreting the data because, again, *within the scope of this study,* there is no sign of opportunities in the Medicine and Health Division, but studies of these fields would involve a significantly different population of employers and would yield much different results.

Another area where caution must be exercised and the tabulations watched closely relates to the differences in job opportunities between new openings and vacancies occasioned by annual turnover. An example may help to illustrate the point. A substantial number of job opportunities appear to be available in sales and distribution management due to vacancies (category 1, SIC Code 163). However, inspection of the total

employment change forecast between 1982 and 1985 shows a drop from 613 to 347. Vacancies here will probably be filled from within, and there will still be a net loss of 91 such jobs. Attention to this kind of detail becomes crucial if the data are being used in a search for career opportunities or job placement within the study industries. To assist in this kind of activity, Figure 5 provides a rough graphic representation of the data. This is followed by more detailed alphabetical and rank ordered listings of job titles indicating the net job opportunities for each between 1982 and 1985, (Table 11). Individual firms may find it instructive to compare their own corporate experience with the data presented below. An area of particular interest might be the annual vacancy rates shown in Table 10. Here it may be noted for example that benchwork occupations, with the second highest number of new job opportunities, has over twice as high a vacancy rate as the professional, technical, and managerial area which ranks number one in job opportunities.

NOTE to TABLE 9 - An addendum page was attached to the original survey instrument, on which respondents could identify positions they did not find among the categories, divisions or jobs listed. In compiling the final tally presented here, those positions were forced into one of the nine basic categories under a job title that closely approximated the specific title identified.

TABLE 9  
(10 pages)  
BREVARD COUNTY LABOR POOL RESOURCE STUDY - 1981

INFORMATION REPORTED ON THIS FORM IS STRICTLY CONFIDENTIAL AND IS NOT TO BE REVEALED TO ANY UNAUTHORIZED PERSON NOR PUBLISHED IN SUCH A MANNER THAT DATA RELATING TO INDIVIDUAL COMPANIES CAN BE IDENTIFIED.

CATEGORY	DIVISION	DIVISION TOTAL		SIC* CODE	JOB TITLE	# OF EMPLOYEES		Annual Vacancies	
		1982	1985			1982	1985		
1 PROFESSIONAL, TECHNICAL & MANAGERIAL CATEGORIES	00/01 Architecture, engineering, & surveying			001	Architectural	25	29	3	
				002	Aeronautical engineering	88	104	19	
				003	Electrical/electronic engineering	3977	4268	534	
				005	Civil engineering	72	95	19	
				006	Ceramic engineering	3	4	-	
				007	Mechanical engineering	311	868	90	
				008	Chemical engineering	114	183	32	
				009	Computer science	684	1199	180	
				010	Systems analyst (Engineering & Scientific)	350	456	57	
				011	Metallurgy & metallurgical engineering	112	152	17	
				012	Industrial engineering	653	394	49	
				017	Drafters	245	343	49	
				019	Occupations in architectural, engineering & surveying (not elsewhere classified)	753	672	145	
			02 Mathematics & physical sciences	324	487	020	Mathematics	127	206
	1982	1985		023	Physics	165	256	35	
				029	Mathematics & physical science (not elsewhere classified)	32	25	1	
			65						
			Annual Vacancies						
	04 Life science	48	48	041	Biological sciences	48	48	4	
		1982	1985						
				4					
			Annual Vacancies						
	07 Medicine & health	143	83	075	Registered nurses	31	39	5	
		1982	1985	076	Physical therapists	-	-	-	
				11	077	Dieticians	-	-	-
			Annual Vacancies	078	Medical technicians	43	43	6	
				079	Medicine & health (not elsewhere classified)	69	-	-	

\*SIC: Standard Industrial Classification

LPRS '81



TABLE 9  
(Page 2 of 10)

PROFESSIONAL,  
TECHNICAL &  
MANAGERIAL  
CATEGORIES  
(CONT'D)

	1982	1985	Annual Vacancies
09 Education	<u>29</u>	<u>68</u>	
	1982	1985	
	<u>17</u>		
	Annual Vacancies		
10 Library & archival sciences	<u>5</u>	<u>5</u>	
	1982	1985	
	<u>-</u>		
	Annual Vacancies		
11 Law	<u>21</u>	<u>31</u>	
	1982	1985	
	<u>4</u>		
	Annual Vacancies		
14 Art	<u>229</u>	<u>282</u>	
	1982	1985	
	<u>44</u>		
	Annual Vacancies		
16 Administrative specializations	<u>2876</u>	<u>3234</u>	
	1982	1985	
	<u>408</u>		
	Annual Vacancies		
099 Education occupations (not otherwise classified)	<u>29</u>	<u>68</u>	<u>17</u>
100 Librarians	<u>5</u>	<u>5</u>	<u>-</u>
110 Lawyers	<u>21</u>	<u>31</u>	<u>4</u>
141 Commercial artists, designers, illustrators & graphic arts	<u>229</u>	<u>282</u>	<u>44</u>
160 Accountants & auditors	<u>529</u>	<u>673</u>	<u>91</u>
161 Systems analyst (Acctg. & Info. Systems)	<u>243</u>	<u>288</u>	<u>34</u>
162 Purchasing management	<u>292</u>	<u>334</u>	<u>42</u>
163 Sales and distribution management	<u>613</u>	<u>457</u>	<u>65</u>
165 Public relations management	<u>12</u>	<u>22</u>	<u>2</u>
166 Personnel administration	<u>235</u>	<u>289</u>	<u>40</u>
168 Inspectors and investigators	<u>123</u>	<u>153</u>	<u>9</u>
169 Administrative specializations (not elsewhere classified)	<u>829</u>	<u>1020</u>	<u>125</u>

TABLE 9  
(Page 3 of 10)

PROFESSIONAL,  
TECHNICAL &  
MANAGERIAL  
CATEGORIES

(CONT'D)

TOTALS:

12,750    15,164  
1982        1985  
  
2,033  
Annual Vacancies

18 Managers & officials  
(not elsewhere  
classified)

956    1091  
1982        1985  
  
86  
Annual Vacancies

19 Miscellaneous  
professional,  
technical &  
managerial

712    1168  
1982        1985  
  
200  
Annual Vacancies

184 Transportation, communication,  
industry managers & officials

	1982	1985	Annual Vacancies
184	<u>391</u>	<u>385</u>	<u>29</u>

189 Miscellaneous managers & officials  
(not elsewhere classified)

189	<u>565</u>	<u>706</u>	<u>57</u>
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199 Miscellaneous professional, technical  
& managerial occupations (not  
elsewhere classified)

199	<u>712</u>	<u>1168</u>	<u>200</u>
-----	------------	-------------	------------

\*\*\*\*\*

2  
CLERICAL &  
SALES  
CATEGORIES

20 Stenographic,  
typing, filing,  
& related  
occupations

2370    2828  
1982        1985  
  
405  
Annual Vacancies

21 Computing &  
account-recording

793    1101  
1982        1985  
  
278  
Annual Vacancies

22 Production and  
stock clerks, &  
related occupations

953    982  
1982        1985  
  
93  
Annual Vacancies

201 Secretaries  
202 Stenographers  
203 Typists & typewriter machine operators  
209 Stenographic, typing, filing & related  
occupations (not elsewhere classified)

201	<u>939</u>	<u>1268</u>	<u>168</u>
202	<u>230</u>	<u>221</u>	<u>38</u>
203	<u>1005</u>	<u>1109</u>	<u>160</u>
209	<u>196</u>	<u>230</u>	<u>39</u>

210 Bookkeeper & bookkeeping machine operators  
213 Electronic & electro-mechanical data  
processors

210	<u>91</u>	<u>138</u>	<u>24</u>
-----	-----------	------------	-----------

215 Payroll, timekeeping & duty-roster clerks  
216 Accounting & statistical clerks  
219 Computing & account-recording occupations  
(not elsewhere classified)

215	<u>259</u>	<u>373</u>	<u>66</u>
216	<u>54</u>	<u>74</u>	<u>12</u>
219	<u>277</u>	<u>411</u>	<u>74</u>
219	<u>112</u>	<u>105</u>	<u>12</u>

222 Shipping-receiving, stock & related  
clerical

222	<u>953</u>	<u>982</u>	<u>93</u>
-----	------------	------------	-----------

TABLE 9  
(Page 4 of 10)

		1982	1985	Annual Vacancies
CLERICAL & SALES CATEGORIES	23 Information & message distribution	<u>109</u> 1982	<u>175</u> 1985	
		<u>30</u>		Annual Vacancies
	237 Information & reception clerks	<u>86</u> <u>23</u>	<u>143</u> <u>32</u>	<u>25</u> <u>5</u>
(CONT'D)	29 Miscellaneous sales occupations	<u>45</u> 1982	<u>88</u> 1985	
TOTALS:		<u>18</u>		Annual Vacancies
	292 Route sales and delivery occupations	<u>45</u>	<u>88</u>	<u>18</u>
		<u>4270</u> 1982	<u>5174</u> 1985	
		<u>824</u>		
*****				
3 SERVICE OCCUPATION CATEGORIES	37 Protective service occupations	<u>417</u> 1982	<u>5458</u> 1985	
		<u>28</u>		Annual Vacancies
	372 Security guards 373 Fire fighters	<u>338</u> <u>79</u>	<u>379</u> <u>79</u>	<u>22</u> <u>6</u>
TOTALS:	38 Building & related service occupations	<u>65</u> 1982	<u>124</u> 1985	
		<u>31</u>		Annual Vacancies
	381 Porters & cleaners 382 Janitors	<u>9</u> <u>56</u>	<u>16</u> <u>108</u>	<u>2</u> <u>29</u>
		<u>59</u>		Annual Vacancies
*****				



TABLE 9  
(Page 6 of 10)

PROCESSING  
OCCUPATIONS  
CATEGORIES  
(CONT'D)

TOTALS:

997    1922  
1982    1985

415

Annual Vacancies

6

MACHINE  
TRADES  
OCCUPATIONS  
CATEGORIES

57 Stone, clay, glass  
& related products

3    3  
1982    1985

Annual Vacancies

59 Processing occupa-  
tions (not elsewhere  
classified)

869    1821  
1982    1985

385  
Annual Vacancies

570 Crushing, grinding & mixing operations  
575 Forming operations  
579 Stone, clay, glass & related products  
occupations (not elsewhere classified)

1982	1985	Annual Vacancies
-	-	-
-	-	-
3	3	-

590 Assorted materials processing products  
occupations

1982	1985	Annual Vacancies
869	1821	385

\*\*\*\*\*

60 Metal machining  
occupations

777    1120  
1982    1985

99  
Annual Vacancies

600 Machinists & related occupations  
601 Toolmakers & related occupations  
605 Milling, shaping & planing occupations  
609 Metal machining occupations (not  
elsewhere classified)

1982	1985	Annual Vacancies
203	260	14
42	61	4
74	170	42
458	629	39

61 Metalworking  
occupations (not  
elsewhere classified)

163    165  
1982    1985

25  
Annual Vacancies

614 Extruding & drawing occupations  
615 Punching & shearing occupations  
616 Fabricating machine occupations  
617 Forming occupations (not else-  
where classified)  
619 Miscellaneous metalworking occupations  
(not elsewhere classified)

1982	1985	Annual Vacancies
41	27	14
28	43	2
68	85	7
5	5	1
21	5	1

62/63 Mechanics &  
machinery repairs

580    220  
1982    1985

47  
Annual Vacancies

620 Engineering equipment mechanics &  
repairs  
621 Aircraft mechanics & repairs  
625 Engine & transmission repairs  
638 Machine installation & repairs

1982	1985	Annual Vacancies
150	168	33
2	5	1
104	1	1
324	47	12

57

TABLE 9  
(Page 7 of 10)

MACHINE  
TRADES  
OCCUPATIONS  
CATEGORIES

(CONT'D)

TOTALS:

1,759 1,810  
1982 1985

206  
Annual Vacancies

65 Printing occupations  
161 211  
1982 1985  
34  
Annual Vacancies

69 Machine trades  
78 94  
1982 1985  
1  
Annual Vacancies

650 Typesetters & composers  
651 Printing press occupations  
652 Printing machine occupations  
8 8 2  
96 128 19  
57 75 13

691 Fabrication of insulated wire & cable  
78 94 1

\*\*\*\*\*

7  
BENCHWORK  
OCCUPATIONS  
CATEGORIES

70 Fabrication, assembly & repair of metal products  
156 146  
1982 1985  
7  
Annual Vacancies

71 Fabrication/repair of scientific, optical, & related products occupations  
484 606  
1982 1985  
93  
Annual Vacancies

703 Sheet metal products assembly & repair  
704 Engravers, etchers, & related occupations  
705 Cleaning & polishing occupations  
706 Metal unit assemblers & adjusters (not elsewhere classified)  
83 103 5  
8 13 -  
25 30 2  
40 - -

710 Fabrication/repair of physical characteristic instruments occupations  
711 Fabrication/repair of optical instruments occupations  
714 Fabrication/repair of photographic instruments occupations  
716 Fabrication/repair of engineering & scientific instruments & equipment (not elsewhere classified)  
- - -  
6 7 1  
2 2 1  
476 597 91

TABLE 9  
(Page 8 of 10)

BENCHWORK  
OCCUPATIONS  
CATEGORIES  
(CONT'D)

TOTALS:

<u>3,244</u>	<u>4,648</u>
1982	1985
<u>1,299</u>	
Annual Vacancies	

72	Assembly/repair of electrical equipment	<u>2,418</u>	<u>3,634</u>
		1982	1985
		<u>1,165</u>	
		Annual Vacancies	
74	Painting, decorating & related occupations	<u>131</u>	<u>144</u>
		1982	1985
		<u>17</u>	
		Annual Vacancies	
75	Fabrication & repair of plastic products occupations	<u>26</u>	<u>78</u>
		1982	1985
		<u>13</u>	
		Annual Vacancies	
77	Fabrication & repair of sand, stone, clay & glass products occupations	<u>29</u>	<u>40</u>
		1982	1985
		<u>4</u>	
		Annual Vacancies	
78	Textile, leather & related products fabrication & repair	<u>—</u>	<u>—</u>
		1982	1985
		<u>—</u>	
		Annual Vacancies	

		<u>1,399</u>	<u>516</u>	<u>480</u>
722	Communications equipment assembly & repair	1982	1985	Annual Vacancies
723	Electrical fixtures assembly & repair	<u>108</u>	<u>152</u>	<u>31</u>
726	Assembly/repair of electronic components & accessories (not elsewhere classified)	<u>1,789</u>	<u>2,730</u>	<u>614</u>
729	Assembly/repair of electrical equipment (not elsewhere classified)	<u>122</u>	<u>236</u>	<u>40</u>
741	Spray painters	<u>30</u>	<u>43</u>	<u>6</u>
749	Painting, decorating & related occupations (not elsewhere classified)	<u>101</u>	<u>101</u>	<u>11</u>
754	Fabrication & repair of miscellaneous plastic products	<u>26</u>	<u>78</u>	<u>13</u>
777	Model makers & patternmaker	<u>29</u>	<u>40</u>	<u>4</u>
785	Uniformer	<u>—</u>	<u>—</u>	<u>—</u>

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TABLE 9  
(Page 9 of 10)

8  
STRUCTURAL  
WORK  
OCCUPATIONS  
CATEGORIES  
TOTALS:  
835    902  
1982    1985  
132

	1982	1985	Annual Vacancies	1982	1985	Annual Vacancies
80 Metal Fabricating	<u>162</u>	<u>244</u>	<u>47</u>	-	-	-
	1982	1985	Annual Vacancies			
81 Welders, cutters, & related occupations	<u>71</u>	<u>71</u>	<u>12</u>	35	24	1
	1982	1985	Annual Vacancies	56	47	11
82 Electrical assembling, installing & repair	<u>442</u>	<u>497</u>	<u>54</u>	-	-	-
	1982	1985	Annual Vacancies	270	252	27
84 Painting, plastering, waterproofing & related occupation	<u>63</u>	<u>2</u>	-	172	245	27
	1982	1985	Annual Vacancies	63	2	-
86 Construction occupations (not elsewhere classified)	<u>97</u>	<u>88</u>	<u>19</u>	-	-	-
	1982	1985	Annual Vacancies	87	88	19
801 Fitting & bolting occupations	-	-	-	10	-	-
804 Sheet metal workers	105	149	10	-	-	-
806 Transportation equipment assemblers	51	86	34	-	-	-
807 Transportation body worker	6	9	3	-	-	-
810 Arc welders and cutters	-	-	-	-	-	-
819 Welders, cutters and related occupations (not elsewhere classified)	-	-	-	-	-	-
823 Avionics	-	-	-	-	-	-
824 Lighting & wiring, assembly, installation & repair	-	-	-	-	-	-
828 Electrical & electronics products fabrication, installation & repair	-	-	-	-	-	-
843 Protective coating & related occupations	-	-	-	-	-	-
844 Concrete finishing & related occupations	-	-	-	-	-	-
860 Carpenters & related occupations	-	-	-	-	-	-
861 Brick & stone masons	-	-	-	-	-	-

63

63

TABLE 9  
(Page 10 of 10)

		1982	1985	Annual Vacancies
9 MISCELLANEOUS OCCUPATIONS CATEGORIES TOTALS:	90 Motor freight occupations	<u>168</u>	<u>82</u>	
		1982	1985	
		<u>10</u>		Annual Vacancies
	92 Packaging & materials handling occupations	<u>69</u>	<u>89</u>	
		1982	1985	
		<u>17</u>		Annual Vacancies
	95 Production & distribution of utilities occupations	<u>40</u>	<u>22</u>	
		1982	1985	
		<u>40</u>		Annual Vacancies
	97 Graphic art work occupations	<u>86</u>	<u>95</u>	
	1982	1985		
	<u>22</u>		Annual Vacancies	
	900 Concrete-mixing-truck drivers	<u>-</u>	<u>-</u>	<u>-</u>
	902 Dump-truck drivers	<u>-</u>	<u>-</u>	<u>-</u>
	904 Trailer-truck drivers	<u>74</u>	<u>35</u>	<u>-</u>
	905 Truck-drivers, heavy	<u>17</u>	<u>20</u>	<u>3</u>
	906 Truck-drivers, light	<u>25</u>	<u>27</u>	<u>7</u>
	909 Motor freight operations (not elsewhere classified)	<u>52</u>	<u>-</u>	<u>-</u>
	920 Packaging occupations	<u>38</u>	<u>58</u>	<u>14</u>
	921 Hoisting & conveying occupations	<u>31</u>	<u>31</u>	<u>3</u>
	955 Refuse & sewage disposal occupations	<u>40</u>	<u>22</u>	<u>-</u>
	970 Art work occupations	<u>24</u>	<u>35</u>	<u>9</u>
	976 Darkroom occupations (not elsewhere classified)	<u>62</u>	<u>60</u>	<u>13</u>

363 288  
1982 1985  
49  
Annual Vacancies



TABLE 10  
Job Opportunity Projections in Selected Categories

CATEGORY & TITLE	1982 <sup>a</sup>	1985	CHANGE 1982-85		VAGANCIES		NEW #/Yr	TOTAL #/Yr
			# Δ	% Δ	#/Yr	%/Yr		
1 Professional, Technical & Managerial	12,750	15,164	2,414	19	2,033	15	805	2,838
2 Clerical & Sales Occupations	4,270	5,174	904	21	824	17	301	1,125
3 Service Occupations	482	582	100	21	59	11	33	92
4 Fisheries & Related Occupations	Not germane to this study							
5 Processing Occupations	997	1,922	925	93	415	28	308	723
6 Machine Trades Occupations	1,752	1,810	58	3	206	12	19	225
7 Benchwork Occupations	3,244	4,648	1,404	43	1,299	33	468	1,767
8 Structural Work Occupations	835	902	67	8	132	15	22	154
9 Miscellaneous Occupations	363	288	(-75)	(-21)	49	15	(-25)	24
TOTALS	24,693	30,490	5,797	23	5,017	21	1,931	6,948

NOTE: Figures are extrapolations from a selected group of Brevard Industries.

The group of firms was not randomly selected nor stratified to portray the categories in proportion to their current existence, hence conclusions from this data can only be interpreted in reference to the specific group of companies surveyed.

FIGURE 5  
 BREVARD LPRS MANUFACTURING FIRMS  
 ANNUAL JOB OPPORTUNITIES BY CATEGORY  
 1982 - 1985

NEW JOBS - 1,931

VACANCIES IN EXISTING JOBS - 5,017

01- PROFESSIONAL, TECHNICAL  
 AND MANAGERIAL

07- BENCHWORK  
 OCCUPATIONS

05- PROCESSING  
 OCCUPATIONS

ALL OTHER  
 CATEGORIES

01- PROFESSIONAL, TECHNICAL  
 AND MANAGERIAL

Engineering

Administrative

Other Professional Technical  
 and Managerial

07- BENCHWORK OCCUPATIONS

02- CLERICAL AND SALES

05- PROCESSING OCCUPATIONS

ALL OTHER CATEGORIES

TOTAL (NEW AND VACANCIES)  
 ANNUAL JOB OPPORTUNITIES:

6,948

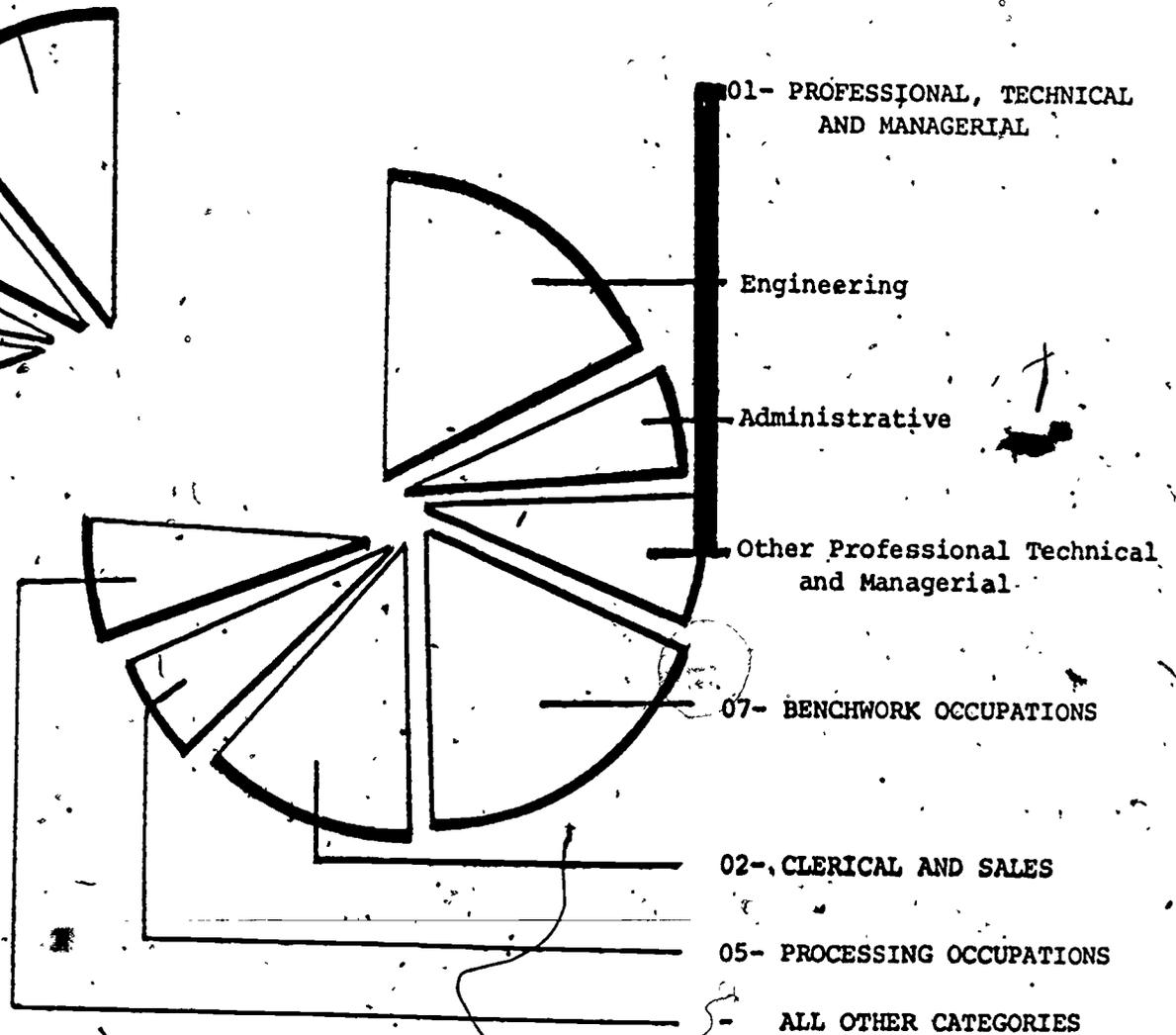


TABLE 11  
(4 pages)

JOB OPPORTUNITIES IN RANK ORDER WITHIN BREVARD MANUFACTURING SECTOR SURVEYED

RANK	NET JOBS	SIC CODE	OCCUPATIONS
1	961	726	Assembly and repair of electronic components
2	702	590	Assorted materials processing (NEC)*
3	631	003	Electrical/electronic engineering
4	519	722	Communications equipment assembly and repair
5	352	199	Miscellaneous professional, technical and managerial (NEC)
6	318	009	Computer science
7	278	201	Secretaries
8	276	007	Mechanical engineering
9	195	203	Typists and typewriter machine operators
10	189	169	Administrative specializations (NEC)
11	187	210	Bookkeeper and bookkeeping machine operators
12	139	160	Accountants and auditors
13	131	716	Fabrication and repair of scientific instruments & equip. (NEC)
14	118	019	Architectural and engineering (NEC)
15	104	213	Electronic and electro-mechanical data processors
16	103	222	Shipping-receiving stock and related clerical
17	101	189	Miscellaneous managers and officials (NEC)
18	96	609	Metal machining (NEC)
19	92	010	Systems analyst (engineering and scientific)
20	82	017	Drafters
21	78	729	Assembly/repair of electrical equipment (NEC)
22	74	605	Milling, shaping and planing
23	65	023	Physics
24	62	141	Commercial artists, designers, illustrators, and graphic arts
25	57	166	Personnel administration

\*(NEC) Not elsewhere classified

JOB OPPORTUNITIES IN RANK ORDER WITHIN BREVARD MANUFACTURING SECTOR SURVEYED (Cont'd)

RANK	NET JOBS	SIC CODE	OCCUPATIONS
26	56	162	Purchasing management
27T	55	008	Chemical engineering
27T	55	020	Mathematics
28	52	828	Elec and electronics products fabrication installation & repair
29	50	209	Steno, typing, filing and related (NEC)
30	49	161	Systems analyst (Accounting and informations systems)
31T	46	382	Janitors.
31T	46	723	Electrical fixtures assembly and repair
31T	46	806	Transportation equipment assemblers
32	44	237	Information & reception clerks
33	39	620	Engineering equipment mechanics and repair
34T	35	202	Stenographers
34T	35	372	Security guards
35	33	600	Machinists and related occupations
36	32	292	Route sales and delivery
37T	30	011	Metalurgy and metalurgical engineering
37T	30	099	Education (NEC)
37T	30	651	Printing press
37T	30	754	Fabrication and repair of miscellaneous plastic products
38	27	184	Transportation, communication, industry managers and officials
39	25	804	Sheet metal workers
40	24	002	Aeronautical engineering
41	23	500	Electroplating
42T	21	824	Lighting and wiring assembly installation and repair
42T	21	920	Packing.
43	20	005	Civil engineering
44T	19	168	Inspectors and investigators
44T	19	216	Accounting and statistical clerks
44T	19	651	Printing machine occupations
44T	19	860	Carpenters and related occupations
45	14	219	Computing and account recording (NEC)

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## JOB OPPORTUNITIES IN RANK ORDER WITHIN BREVARD MANUFACTURING SECTOR SURVEYED (Cont'd)

RANK	NET JOBS	SIC CODE	OCCUPATIONS
46T	13	163	Sales and distribution management
46T	13	616	Fabricating machine occupations
46T	13	970	Art work
47T	12	703	Sheet metal products assembly and repair
47T	12	976	Darkroom occupations (NEC)
48	11	749	Painting, decorating and related occupations
49T	10	601	Toolmakers and related occupations
49T	10	741	Spray painters
50	9	614	Extruding and drawing
51	8	075	Registered nurses
51T	8	237	Information and reception clerks
51T	8	777	Modelmakers and patternmakers
51T	8	819	Welders, cutters and related occupations (NEC)
51T	8	906	Truck drivers, light
52T	7	110	Lawyers
52T	7	615	Punching and shearing occupations
53T	6	078	Medical technicians
53T	6	373	Firefighters
53T	6	691	Fabrication of insulated wire and cable
54	4	165	Public relations management
55T	4	001	Architectural
55T	4	041	Biological sciences
55T	4	381	Porters and cleaners
55T	4	705	Cleaning and polishing (metal products)
55T	4	807	Transportation body worker
55T	4	905	Truck drivers, heavy
56	3	921	Hoisting and conveying
57T	2	621	Aircraft mechanics and repairs
57T	2	650	Typesetters and composers (printing)
57T	2	704	Engravers, etchers, and related (metal)
58T	1	077	Dieticians
58T	1	505	Metal spraying, coating and related occupations
58T	1	617	Forming (metal) (NEC)
58T	1	711	Fabrication/repair of optical instruments
58T	1	714	Fabrication/repair of photographic instruments

JOB OPPORTUNITIES IN RANK ORDER WITHIN BREVARD MANUFACTURING SECTOR SURVEYED (Cont'd)

RANK	NET JOBS	SIC CODE	OCCUPATIONS
59T	0	006	Ceramic engineering
59T	0	005	Librarians
59T	0	579	Stone glass and related products processing (NEC)
60	-1	029	Math and physical science (NEC)
61T	-3	529	Food and related products processing
61T	-3	810	Arc Welders and cutters
61T	-3	861	Brick and stone masons
62	-4	619	Miscellaneous metalworking (NEC)
63	-6	955	Refuse and sewage disposal
64T	-13	706	Metal unit assemblers and adjusters (NEC)
64T	-13	904	Trailer truck drivers
65	-17	909	Motor freight operations (NEC)
66	-20	843	Protective coating and related (structural work)
67	-23	079	Medicine and health (NEC)
68	-34	625	Engine and transmission repairs
69	-37	012	Industrial engineering
70	-80	638	Machine installation and repairs (machine trades)

## SUMMARY AND RECOMMENDATIONS

Brevard's present and forecast durable manufacturing industry is accurately and confidentially assessed by the employers included in this study. There has been, however, no attempt to account for those new employers who will undoubtedly come to Brevard and further expand the figures included in this report. Yet, with past experience as a guide, the trend toward expansion of the high-technology industry in Brevard can be expected to continue as such companies tend to follow one another into the area.

Findings of this study lend support to the thesis that Brevard's durable manufacturing expansion will continue to be a leading development factor within Florida, even as the state paces the nation in population growth and other factors outlined in the report. This conclusion is merited by the expected growth rates reported by the participating firms, without even allowing for potential newcomers. That rate stands at 23% over the next three years.

The implications for education and training are readily apparent. With some seven thousand manufacturing job opportunities per year identified by the study, employers may well face critical shortages of personnel possessing the necessary and desired skills. Because good indications of the kinds of jobs forecast to be most in demand are provided in this report, corporations and educational institutions will be able to plan appropriate programs with more precision than in the past.

Nevertheless, several large groups of job opportunities do emerge which are not clearly defined. For example, the second largest number of net job openings and three of the top ten occupations ranked

are in the "catch-all" standard industrial classification codes identified as (NEC), "not elsewhere classified." This indicates a need to refine and extend certain categories such as processing occupations and administrative specializations on the survey instrument to obtain more complete job specification.

## RECOMMENDATIONS

1. In view of the expressed interest and continuing need to update and assess Brevard's labor resources, the initial efforts represented by this report should be refined and expanded. Some directions to be considered should include:
  - a. Identification of an agency and funding source(s) to support future reports on a routine annual or bi-annual basis.
  - b. Extension of this type of investigation to other major segments of the labor market such as government, retail trade, services (hotels, business, health), transportation, construction, etc.
  - c. Increased job specification within the survey instrument to the extent that participants will continue to respond at an acceptable rate.
2. Acting in meaningful ways upon the information provided by this study will require that industry, education and other interested agencies integrate the information into their planning processes and cooperative relationships. For example:

- a. Corporate and institutional leaders should, therefore, establish increased cooperative relationships such as an industry-education council. Such a group would be made up of a cross-section of representatives from large and small firms and both the public and private sector, including educational institutions from K-12 through the post-secondary vocational and academic studies at the post-graduate university level.
  - b. Information from this report should be shared among all interested members of industry and education and reviewed by other county agencies such as the County Planning Department, where it may be considered in relation to similar or corollary data.
  - c. All educational institutions in Brevard should review their program offerings and career counseling activities in the light of this information. In so doing, decisions to expand or delete offerings should take into account the limitations of the study as mentioned throughout this report.
3. Because of the extreme care with which this study was organized to protect the confidentiality of individual corporate information, the fears evidenced by some firms should be put aside in the future. To the extent that this is done, survey completeness, validity and reliability can be greatly enhanced.

4. Ways should be explored which could enable future studies of this nature to include data from firms considering future operations in Brevard. Again, protection of the corporate data and disclosure of corporate identification need not be a problem. Without such forecast data, educational institutions cannot adequately prepare appropriate offerings.
5. Finally, those jobs which are most difficult for industry to fill because of a shortage of qualified personnel are also the most difficult for educational institutions to find qualified instructors to teach. As it identifies many of those areas, this report concludes by recommending that steps be taken by industry to help meet education's requirements for scarce instructors and equipment. Provisions for sharing both hardware and personnel will be necessary to ensure that training is available for those seeking it, that the labor pool is increased where needed and that the subject matter covered encompasses the latest changes in technology, methodology and equipment.

## APPENDIX

Included here are sample transmittal letters, instructions for completing the survey and cross-referenced listings of job titles to assist participants in completing the survey form. For a facsimile copy of the survey instrument, see Table 9, pages 24 through 33 in the text of the report.

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BREVARD COMMUNITY COLLEGE

August 28, 1981

Dear

An accurate projection of the employment needs in Brevard County during the next several years will be an extremely valuable management tool for all of us in industry and education alike. Because this is so, we at Brevard Community College are devoting a significant research effort toward helping to compile this data--and we are joining with the Brevard Economic Development Council and others in asking that you also direct some valuable time and effort toward providing the essential elements for this type of forecast.

Your willingness to provide the best possible estimates of employee requirements in your company through 1985 will determine the accuracy and credibility of the enclosed labor survey. In turn, this will determine the ability of the educational community serving Brevard to obtain resources and facilities sufficient to provide an appropriately trained labor pool to meet your needs.

In urging your participation, I wish to assure you that individual survey responses will be held in strict confidence by our research office and resulting reports will be organized to avoid compromising your trust.

Many thanks for your cooperation in this effort.

Sincerely,

Maxwell C. King  
President

Cocoa Campus, Clearlake Road, Cocoa, Florida 32922 (305) 632-1111  
a Multi-Campus College Serving Brevard County

OFFICE OF THE PRESIDENT

MCK:mb

Enclosures



BREVARD ECONOMIC DEVELOPMENT COUNCIL

September 1, 1982

WILLIAM C. POTTER  
Chairman

ROBERT W. HOLINA  
1st Vice Chairman

HAROLD J. STAUB  
2nd Vice Chairman

M. ROBY BUCKA, LAW, IV  
Past Chairman

DR. W. G. YOUNG  
Past Chairman

Dear

A great many of your new employees this year and in the years to follow will probably be trained right here in Brevard County - product of our schools and our vocational training programs, plus higher education.

In order that those who are charged with the responsibility for vocational and academic programs may have the best knowledge available of what is going to be needed, the enclosed survey has been prepared and forwarded to you, an employer of significance in Brevard County. We believe this is a most worthwhile project and will, perhaps, presage continuation of similar reviews in the future.

While the form is somewhat detailed, this is necessary to permit the kind of hard information which is needed for academic and vocational training programs and will be used by the institutions involved in proportion to the coverage obtained, which could involve over 80 percent of the manufacturing employment in Brevard County.

An addressed envelope is provided for your returning the completed forms to Brevard Community College. In no way will these records of the initial information be available for any use other than, by the Brevard Community College analyst who will be reviewing and compiling the data for further dissemination in total rather than with reference to the individual contributors. Please call Mr. Lawton at BCC (636-1111, Ext. 224) for any needed assistance with the form.

Compilation of this survey has been handled under the auspices of the Committee of 100 of the Melbourne and Palm Bay Area Chambers of Commerce, Florida Institute of Technology, individual representatives of industry and this agency, BEDC.

Thank you for your cooperation in this matter - it will, hopefully, benefit the major employers of Brevard County and thus the Brevard County economy and its people.

Very truly yours,

*William C. Potter*  
William C. Potter

MCP:mf

Enclosures

7575 W. COURTNEY PARKWAY MERRITT ISLAND FLORIDA 32952 PHONE 305/453-9519

## SURVEY PURPOSE AND INSTRUCTIONS

The purpose of this survey is to gather information for projecting county-wide manpower needs and changes in employment levels precipitated by rapid increases in manufacturing in Brevard. This information will help the Educational Delivery System to ascertain the support and funding requirements to assure an adequate well-trained work force for industry. It will also be used to assist in obtaining the needed State or other funding to maintain these programs or establish new programs.

The survey to be completed is divided into nine occupational categories. Within each of these categories are subordinate two-digit occupational divisions, and projected employment requirements for each job title. The form should be completed from right to left, completing summation of employment projections for each division and compiling the totals at the end of each category.

The last page of the survey is an addendum. Jobs/positions peculiar to your company's operation, and which are not elsewhere identified, should be included on this page.

The two attachments accompanying the survey, NUMERICAL LISTING BY OCCUPATIONAL GROUP CODES and ALPHABETICAL LISTING OF JOB TITLES, are provided as an aid to completing the survey, they identify job/position titles which should be included, where appropriate to your firm, in each specific group code. These two attachments are not to be returned with the completed employment projection survey.

ALPHABETICAL LISTING OF JOB TITLES

Accountant 160  
 Accounting clerk 216  
 Administrative assistant 169  
 Administrative clerk 219  
 Administrator, contract 162  
 Aerodynamicist 002  
 Aeronautical engineer 002  
 Agent, purchasing 162  
 Air conditioning tech 007  
 Analyst, computer 020  
 Analyst, cost engineering 002  
 Analyst, engineering 020  
 Analyst, environmental 029  
 Analyst, job 166  
 Analyst, occupational 166  
 Analyst, operations research 020  
 Analyst, stress 002  
 Analyst, systems (Mathematical) 020  
 Anodizer 500  
 Architect 001  
 Architectural drafter 001  
 Arc welder 810  
 Artist 970  
 Artist, graphic 141  
 Assembler 706  
 Assembler, electronics 726  
 Assembler, metal units 706  
 Assembler, optical instruments 711  
 Assembler, pump 801  
 Assistant, administrative 219  
 Assistant, medical 079  
 Assistant, planning 199  
 Attendant, bottling line 920  
 Attendant, tool crib 222  
 Attorney 110  
 Audit clerk 210  
 Auditor 160  
 Auto body customizer 807  
 Automotive mechanic 620  
 Avionics tech 823  
 Benefits & compensation clerk 219  
 Biologist 041  
 Boat builder 860  
 Bookkeeper 210  
 Bottle washer 529  
 Bottling line attendant 920  
 Bottling line supervisor 920  
 Brake operator 617  
 Brick molder 575  
 Budget record clerk 216  
 Builder, boat 860  
 Buyer 162

\* Analyst, systems (Acctg. & Info Systems) 161  
 Analyst, systems (Engineering & Scientific) 010

Camera repairman 714  
 Ceramic capacitor processor 590  
 Ceramic engineer 006  
 Chemical engineering tech 008  
 Cleaner, industrial 381  
 Cleaner, metal 503  
 Clerk, accounting 216  
 Clerk, administrative 219  
 Clerk, audit 210  
 Clerk, benefits & compensation 219  
 Clerk, mail 209  
 Clerk, payroll 215  
 Clerk, personnel 209  
 Clerk, shipping & receiving 222  
 Clerk, stenographic 202  
 Clerk, stock 222  
 Clerk, typist 203  
 Combination welder 819  
 Computer analyst 020  
 Computer laboratory technician 003  
 Computer operator 213  
 \* Computer programmer 007  
 Concrete batch-plant operator 570  
 Concrete block mason 861  
 Concrete finisher/polisher 844  
 Concrete mixer operator 579  
 Concrete mixing truck driver 900  
 Coordinator, quality control 168  
 Cosmetics worker 550  
 Customizer, auto body 807  
 Cutter, fish 525  
 Data processing technician 020  
 Decorator, lamp 749  
 Detailer, drafter 017  
 Developmental electronics assembler 726  
 Diesel mechanic 625  
 Dietitian 077  
 Drafter, architectural 001  
 Drafter, civil 005  
 Drafter, detailer 017  
 Drafter, electrical 003  
 Drafter, electronics 003  
 Drafter, layout 007  
 Drafter, mechanical 007  
 Dresser, fish 525  
 Driver, concrete mixing truck 900  
 Driver, garbage collector 905  
 Driver, truck (general) 904  
 Driver, truck (heavy) 905  
 Driver, truck (light) 906  
 Dump-truck driver 902  
 Education & training specialist 099  
 Electrical engineer 003  
 Electrical tech 003  
 Electrician 824  
 Electroless plater 505  
 Electromechanical instrument tech 710  
 Electronic-component processor 590  
 Electronics engineer 003  
 \* Computer science (software) 009

Electronics inspector	726	Illustrator, tech	141
Electronics instrument inspector	722	Impregator	590
Electronics mechanics	828	Industrial cleaner	381
Electronics tech	003	Industrial engineer	012
Electronics tester	726	Industrial engineering tech	012
Electronics worker	726	Inspector, electronics	726
Electroplating laborer	500	Inspector, electronics instruments	722
Electroplating production plater	500	Inspector, metal fabricating	619
Employee assistant program counselor	166	Inspector, metal finish	703
Employment interviewer	166	Inspector, optical	711
Encapsulator	726	Inspector, quality control	726
Engineer, aeronautical	002	Inspector, safety	168
Engineer, ceramic	006	Instrument maker	600
Engineer, chemical	008	Instrument mechanic	710
Engineer, computer applications	028	Interviewer, employment	166
Engineer, cost analyst	002		
Engineer, electrical	003	Janitor	382
Engineer, electronics	003	Job analyst	166
Engineer, industrial	012		
Engineer, mechanical	007	Keypunch operator	203
Engineer, optical	019	Laboratory technician, computer	003
Engineer, optomechanical	007	Laborer, electroplating	500
Engineer, ordnance	019	Laborer, shop	609
Engineer, plant	007	Labor relations consultant	166
Engineer, procurement	162	Laminator, fiberglass	806
Engineer, production	012	Lamp decorator	749
Engineer, quality control	012	Lamp wiper	723
Engineer, safety	012	Layout drafter	007
Engineer, systems (EDP)	003	Layout worker	600
Engineering analyst	020	Leader assembler	691
Engraver, lettering	704	Librarian	100
Etched circuit processor	590	Licensed practical nurse	079
Etcher, printed circuit	590		
Expeditor	222	Machine operator	616
		Machine operator, photocomposing	650
Fabricator, metal	619	Machinist	600
Fiberglass laminator	806	Mail clerk	209
Film laboratory tech	976	Mailroom supervisor	209
Finisher, concrete	844	Maintenance mechanic	638
Finisher, metal	705	Maintenance supervisor	184
Fire fighter	373	Maker, instruments	600
Fish cutter	525	Maker, tools	601
Fish dresser	525	Maker, tools & dies	601
Fishhouse worker	920	Manager, sales	163
Fish packer	920	Mason, concrete block	861
Forming processing worker	590	Mechanical assembler	754
		Mechanical drafter	007
Garbage collector	909	Mechanical engineer	007
Garbage collector driver	905	Mechanical engineering tech	007
Grader, fruit	529	Mechanic, automotive	620
Graphic artist	141	Mechanic, diesel	625
Grinder, precision lens	716	Mechanic, electronics	828
Guards, security	372	Mechanic, instrument	710
		Mechanic, maintenance	638
Helper, metal fabricating shop	619	Mechanic, research	621
Hot dip plater	501		
Hydraulic press operator	617		

Medical assistant	079	Phototypesetter	650
Medical tech	078	Physical therapist	076
Metal cleaner	503	Physicist	023
Metal extrusion operator	614	Picker, fruit	403
Metal fabricating shop helper	619	Plater, electroless	505
Metal fabricator	619	Plater, electroplating production	500
Metal finisher	705	Plater, hot dip	501
Metal finish inspector	703	Planer, milling	605
Metal polisher	381	Planner	012
Metal pourer	514	Planning assistant	199
Metal protective coating sprayer	843	Plant engineer	007
Metalizing supervisor	505	Polisher, concrete	844
Metallurgist	011	Polisher, metal	381
Model maker	777	Pourer, metal	514
Molder, brick	575	Precision lens grinder	716
Multi-operations forming machine operator	616	Press room operator	651
Nurse	075	Press room supervisor	651
Occupational analyst	166	Printed circuit etcher	590
Officer, security	189	Printer	652
Operations research analyst	020	Printing press operator	651
Operator, computer	213	Process worker, forming	590
Operator, concrete batch plant	670	Processor	012
Operator, concrete mixer	579	Processor, ceramic capacitor	590
Operator, hydraulic press	617	Processor, electronic components	590
Operator, keypunch	203	Processor, etched circuit	590
Operator, machine	616	Processor, semiconductor	590
Operator, metal extrusion	614	Procurement engineer	162
Operator, mill	605	Production engineer	012
Operator, milling machine	605	Program, employee assistance, counselor	166
Operator, multi-operations forming machine	616	Programmer	012
Operator, photocomposing machine	650	Programmer, computer	007
Operator, phototypesetter	650	Public relations representative	165
Operator, printing press	651	Pump assembler	801
Operator, press room	651	Punch press operator	615
Operator, punch press	615	Purchasing agent	162
Operator, sanitary landfill	955	Quality control coordinator	168
Operator, shear	615	Quality control inspector	726
Operator, steno type	202	Quality control engineer	012
Operator, terminal	203	Quality control tech	012
Optical engineer	019	Receptionist	237
Optical inspector	711	Relations, industrial representative	166
Optical instrument assembler	711	Relations, labor consultant	166
Optomechanical engineer	007	Repairman, camera	714
Optomechanical tech	007	Representative, public relations	165
Ordnance engineer	019	Research mechanic	621
Packager	920	Route sales/delivery driver	292
Packer, fish	920	Safety engineer	012
Packer, fruit	920	Safety inspector	168
Painter, spray	741	Sales/delivery driver, route	292
Patternmaker	754	Sales manager	163
Payroll clerk	215	Sanitary landfill operator	955
Personnel clerk	209	Secretary	201
Photocomposing machine operator	650	Security guards	372
Photographic equipment maintenance tech	714	Security officer	189
		Semiconductor processor	590
		Semiconductor tech	003

Shear operator	615	Truck-driver (general)	904
Shipping & receiving clerk	222	Truck driver (heavy)	905
Shop supervisor	600	Truck driver (light)	906
Soft drink mixer	520	Typesetter	650
Software technician (EDP)	003	Typist, clerk	203
Sorter, fruit	529		
Sprayer, metal protective coating	843	Uniformer	785
Spray painter	741		
Statistician	020	Washer, bottle	529
Stenographic clerk	202	Waste-disposal attendant	955
Stenotype operator	202	Welder, arc	810
Stock clerk	222	Welder, combination	819
Stock supervisor	921	Welding tech	011
Stress analyst	002	Welder, cable	729
Subassembler	706	Welder, lamp	723
Supervisor, bottling line	920	Worker, cosmetics	550
Supervisor, mail room	209	Worker, electronics	725
Supervisor, maintenance	184	Worker, fish house	920
Supervisor, metalizing	505	Worker, forming processing	590
Supervisor, mill operator	519	Worker, layout	600
Supervisor, milling	570	Worker, sheet metal	804
Supervisor, press room	651		
Supervisor, shop	600		
Supervisor, stock	921		
Systems analyst (Mathematical)	020		
Systems engineer (EDP)	003		
Technician, air conditioning	007		
Technician, avionics	823		
Technician, chemical engineering	008		
Technician, data processing	020		
Technician, electrical	003		
Technician, electromechanical instrument	710		
Technician, electronics	003		
Technician, film laboratory	976		
Technician, illustrator	141		
Technician, industrial engineering	012		
Technician, computer laboratory	003		
Technician, mathematical	020		
Technician, mechanical engineering	007		
Technician, medical	078		
Technician, optomechanical	007		
Technician, photographic equip. maint.	714		
Technician, quality control	012		
Technician, semiconductor	003		
Technician, software (EDP)	003		
Technician, test	726		
Technician, welding	011		
Terminal operator	203		
Test engineer, electrical	003		
Test engineer, electronics	003		
Test technician	726		
Tester, electronics	726		
Therapist, physical	076		
Tool crib attendant	222		
Tool maker	601		
Tool & die maker	601		
Systems analyst (Acctg. & info Systems)	161		
Systems analyst (Engineering & Scientific)	010		

NUMERICAL LISTINGS BY OCCUPATIONAL GROUP CODES

001 Architect Architectural drafter	012 (Cont'd) Quality control technician Safety engineer	*161 (See back page)	216 Accounting clerk Budget record clerk
002 Aerodynamicist Aeronautical engineer Cost analyst engineer Stress analyst	017 Detail engineer	162 Buyer Contract administrator Procurement engineer Purchasing agent	219 Administrative clerk Benefits & compensation clerk
003 Computer laboratory technician Electrical drafter Electrical engineer Electrical technician Electrical test engineer Electronics drafter Electronics engineer Electronics technician Electronics test engineer Semiconductor technician Software technician (EDP) Systems engineer (EOP)	019 Optical engineer Ordnance engineer	163 Sales manager	222 Expeditor Shipping & receiving clerk Stock clerk Tool crib attendant
005 Civil drafter	020 Computer analyst Computer applications engineer Data processing technician Engineering analyst Mathematician Mathematics technician Operations research analyst Statistician Systems analyst (Mathematical)	165 Public relations representative	237 Receptionist
006 Ceramics engineer	023 Physicist	166 Employee assistance prog. counselor	292 Route sales/delivery driver
007 Air conditioning technician Computer programmer Layout drafter Mechanical drafter Mechanical engineer Mechanical engineering technician Optomechanical engineer Optomechanical technician Plant engineer	029 Environmental analyst	168 Quality control coordinator Safety inspector	372 Security guard
008 Chemical engineer Chemical engineering technician	041 Biologist	169 Administrative assistant	373 Fire fighter
009 & 010 (See back page)	075 Nurse	184 Maintenance supervisor	381 Industrial cleaner Metal polisher
011 Welding technician Metallurgist	076 Physical therapist	189 Security officer	382 Janitors
012 Industrial engineer Industrial engineering technician Planners Processor Production engineer Programmer Quality control engineer	077 Dietitian	199 Planning assistant	403 Fruit picker
	078 Medical technician	201 Secretary	500 Anodizer Electroplating laborer Electroplating production plater
	079 Medical assistant	202 Clerk stenographer Stenotype operator	501 Hot dip plater
	099 Educational & training specialist	203 Clerk typist Keypunch operator Terminal operator	503 Electroless plater Metalizing supervisor
	100 Librarian	209 Mail clerk Mailroom supervisor Personnel clerk	514 Metal pourer
	110 Attorney	210 Audit clerk Bookkeeper	519 Mill labor supervisor
	141 Graphic artist Technical illustrator	213 Computer operator	520 Soft drink mixer
	160 Accountant Auditor	215 Payroll clerk	

525 Fish cutter Fish dresser	614 Metal fabricator	726 Developmental electronics assembler Electronics assembler Electronics inspector Electronics tester Electronic worker Encapsulator Quality control inspector Test tech.	844 Concrete finisher/polisher
529 Bottle washer Fruit frader Fruit sorter	619 Metal fabricating shop helper	729 Cable wrier	860 Boat builder
570 Concrete batch-plant opr. Milling supervisor	620 Automotive mechanic	741 Spray painter	861 Concrete block mason
575 Brick molder	621 Research mechanic	749 Lamp decorator	900 Concrete mixing truck driver
579 Concrete mixer operator	625 Diesel mechanic	754 Mechanical assembler Patternmaker	902 Dump-truck driver
590 Ceramic capacitor processor Electronic component processor Etched circuit processor Forming processing worker Impregnator Printed circuit etcher Semiconductor processor	638 Maintenance mechanic Millwright	777 Spray painter	904 Truck driver (general)
600 Instrument maker Layout worker Machinist Shop supervisor	691 Leader assembler	801 Pump assembler	905 Garbage collector driver Truck driver (heavy)
601 Tool & Die maker Tool maker	703 Metal finish inspector	804 Sheet metal worker	906 Truck driver (light)
605 Milling machine operator Milling planner Mill operator	704 Lettering engraver	806 Fiberglass laminator	909 Garbage collector
609 Shop-laborer	705 Metal finisher	810 Arc welder	920 Packager Bottling line attendant Bottling line supervisor Fish house worker Fish packer Fruit packer
615 Punch-press operator Shear operator	706 Assembler Metal parts assembler Subassembler	819 Combination welder	921 Stock supervisor
616 Machine operator Multi-operations forming machine operator	710 Electromechanical instrument-tech.	823 Avionics tech.	955 Sanitary landfill operator Waste-disposal attendant
617 Brake operator Hydraulic press operator	711 Optical inspector Optical instrument assembler	824 Electrician	970 Artist
	714 Camera repairman Photographic equip. maintenance tech.	828 Electronics mechanic	976 Film-laboratory tech.
	716 Precision lens grinder	843 Metal protective coating sprayer	009 Computer science (software)
	722 Electronic instrument inspector		010 Systems analyst (Eng. & Scientific)
	723 Lamp wrier		161 Systems Analyst (Acctg. & Info Systems)

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