

MN PLANNING

Minnesota Occupational Trends 1980-1990

Working Paper #7-95
Prepared by Martha McMurry
Office of State Demographer
November, 1995

Minnesota Occupational Trends 1980-1990

Working Paper #7-95
Prepared by Martha McMurry
Office of State Demographer
November, 1995

Minnesota Occupational Trends 1980-1990

Traditional blue collar jobs lost ground in Minnesota during the 1980s. Census data show that employment in craft, factory, farming, and transportation occupations all declined or had minimal growth between 1980 and 1990. Though many people believe that these traditional blue collar jobs have been replaced by low-paying service occupations, the data suggest a more complex trend. While service occupations did grow, the largest increases, both numerically and in the rate of growth, were among professional, technical, managerial, and sales occupations. To add to the complexity, within each major occupational grouping there were some occupations that increased and others that declined.

Women have made inroads into many once male-dominated fields, but many occupations remain very segregated by sex. Many women have become lawyers and computer analysts, but few have become truck drivers or electricians. The number of men becoming child care workers or secretaries has remained negligible.

Overall Trends

During the 1980s, the civilian labor force in Minnesota grew 16.0 percent. This was considerably faster than the rate of population growth, 7.3 percent. The continued stream of women into the work force and the aging of the baby boom generation into their prime working-age years helped supply the expanding labor force of the 1980s. Minnesota's labor force growth was slightly below the national growth rate of 18.5 percent, a function of slower population growth in Minnesota.

Equal Employment Opportunity (EEO) data show that the greatest numerical gains among occupations in the Minnesota civilian labor force were in professional, sales, and managerial occupations. Rates of growth were highest for sales, technician, and professional occupations. Overall, about 318,000 new workers were added to the labor force during the 1980s. Increases in professional and managerial occupations accounted for almost half (46 percent) of this net gain.

At the other extreme, the number of farming, forestry, and fishing occupations dropped by almost 24,000, or 21 percent. There were also declines in the number of private household workers and machine operators. Transportation, precision production, and laborer occupations showed little change between 1980 and 1990.

Two other major categories, administrative support occupations and other service occupations, had moderate increases during the 1980s, growing at about the same rate as the total labor force.

Protective service occupations showed strong growth, though this remains a relatively small category in terms of numbers. Protective service occupations include police officer, security guard, and fire fighter.

The general results, then, show growth in most of the traditional "white collar" occupations and slow growth or decline in most "blue collar" categories. Though we may be moving toward a service economy, this does not mean we are moving toward an economy where most people are in service occupations. Although service occupations, including protective services, showed substantial growth last decade, they did not grow as much or as fast as professional, managerial, and sales occupations.

Trends for Detailed Occupations

Within the broader occupational categories, some individual occupations showed substantial growth while others declined. Looking at these individual occupational shifts helps to illuminate some of the ways in which the job market and the economy are changing.

Among all detailed occupations, the largest numerical increases were for salaried sales supervisors and proprietors, not elsewhere classified (n.e.c.); managers of food serving and lodging establishments, and cashiers. The highest rates of increase (among occupations with at least 1,000 employed in 1990) were for management related occupations, n.e.c.; management analysts, and underwriters.

Occupations with largest numerical declines were farmers, except horticultural; general office clerks; and miscellaneous machine operators in durable goods manufacturing. The largest rates of decline were miscellaneous material moving equipment operators; grinding, abrading, buffing, and polishing machine operators; and molding and casting machine operators.

Executive, Administrative, and Managerial Occupations: Executive and managerial occupations grew by 31 percent from 1980 to 1990, a gain of almost 64,000. A look at the trends for detailed occupations suggests that education and medicine became more administrator-intensive during the 1980s. The increase in the number of educational administrators, about 5,500, was larger than the increase in the number of PK-12 (pre-kindergarten and kindergarten through 12th grade) and special education teachers, approximately 5,000. Managers in medicine and health care went up 114 percent, reflecting rapid growth in the health care industry.

Professional Specialty Occupations: Overall, Professional Specialty Occupations added about 81,000 new workers during the decade, a gain of 34 percent. For the most part, professions in the high-growth computer-related and medical fields fared well during the 1980s. The number of physicians increased 32 percent and the number of registered nurses by 34 percent. Operations and systems researchers and computer systems analysts both increased at a very rapid rate, 124 and 323 percent respectively.

The findings for teachers are confusing. The EEO numbers show a huge increase for elementary school teachers and a huge decrease for secondary school teachers. This probably reflects the way teaching occupations are coded rather than real changes. (See Note on Data Sources). Enrollment changes by grade would not account for such divergent trends. Overall, the number of K-12 and special education teachers grew at a relatively slow rate, 7.2 percent. Special education was a growth area, however, rising by 72 percent during the decade.

Many creative and artistic occupations showed substantial growth during the 1980 to 1990 period. This is perhaps surprising in view of the well-known difficulties of making a living in the arts. The number of authors grew by 243 percent, designers by 87 percent, photographers by 42 percent, and painters, sculptors, and other artists by 33 percent.

Technicians: Though the category of technical occupations showed substantial growth between 1980 and 1990, 39 percent, trends varied a lot from one occupation to the next. Even in the medical field, growth was uneven. The number of health record technologists and technicians more than tripled, but the number of licensed practical nurses showed little change. The numbers of computer programmers and legal assistants demonstrated large gains, but drafting occupations did not. Drafting is another field where use of computers has revolutionized the way employers utilize their work force.

Sales Occupations: Retailers are relying more on self-service instead of direct interaction between salespeople and customers, the occupational trends suggest. The number of sales counter clerks and cashiers both grew at an above-average rate, while the number of people selling shoes, apparel, hardware, and parts all declined. These items now are often purchased in large self-service department or specialty stores rather than in small shops.

Increasingly, it appears, sales workers are working for others rather than for themselves. The number of self-employed sales proprietors was about the same in 1980 and 1990, while the number of salaried sales supervisors grew more than threefold.

Overall, Sales Occupations gained almost 77,000 workers, an increase of 40 percent.

Administrative Support Occupations: Trends for occupations in the Administrative Support category reflect the changing context of clerical jobs. The Administrative Support category added about 47,000 people during the 1980s, but the rate of growth (15 percent) was moderate compared to previous decades. The nature of clerical work is changing, and many clerical fields have become more computerized. This is shown by a decline in the number of secretaries, stenographers, and typists. Losses in these traditional occupations were offset somewhat by growth in computer-related occupations such as data-entry keyers and computer operators.

Other trends in the Administrative Support group may reflect the high mobility and almost instant communications characteristic of modern life. Many growing occupations in the Administrative Support category appear related to transportation and communications, including

transportation ticket and reservation agents, messengers, and dispatchers.

Private Household Service Workers: Though more mothers are working, it does not appear they are relying on nannies to take care of their children, at least not in Minnesota. The number of private household child care workers declined from 1980 to 1990, as did most other categories of Private Household Service Workers. Generally, busy Minnesotans seem to prefer to purchase home-maintenance services outside the home rather than bring in a domestic worker. They rely on day care or nursery school rather than a home-based nanny. Instead of hiring a maid, they hire a cleaning service. Instead of hiring a cook, they use prepared food or stop at a fast food emporium.

Protective Services Occupations: The privatization of protective services is reflected in the figures for Protective Services Occupations. The number of private guards and police (e.g., security guards) grew rapidly, while the number of public service police remained about the same. Privatization was not the whole story, though. The number of sheriffs and bailiffs grew substantially, suggesting more law enforcement in rural or semi-rural areas. There was also a large gain in the number of correctional institution officers, probably because of the growing number of prison inmates.

The entire Protective Services Occupations category experienced strong growth during the 1980s, 31 percent, adding about 5,400 new jobs.

Other Services Occupations: About 36,000 workers in Other Services occupations were added to the Minnesota labor force in the 1980s. The rate of change, 14 percent, was near the overall rate for all occupations.

The growing popularity of eating away from home probably contributed to gains for many food service occupations. However, much of the gain appears to have been in fast food or carry-out rather than sit-down restaurants. The number of food counter and kitchen workers increased substantially, but the number of waiters and waitresses declined.

Demand for child care fueled a growth in the number of child care occupations. Two new child care classifications were added to the occupational coding system, making exact comparisons difficult, but combining the old and new categories suggests an increase of 69 percent in the number of child care workers.

Farming, Forestry, and Fishing Occupations: Figures for the Farming, Forestry, and Fishing category show huge declines for non-horticultural farmers, but a substantial increase in the number of farm managers. This suggests farming may be shifting from a way of life to an occupation like any other. As the average size of farms has increased, some farm proprietors may hire managers for all or part of their land rather than trying to farm it all themselves.

Taken collectively, Farming, Forestry, and Fishing Occupations dropped 21 percent, posting a

loss of almost 24,000 jobs.

Greater automation has been one reason behind the long-term decline in the number of people employed in farming. Automation may also explain the decline in the number of farm workers, 39 percent during the decade.

Precision Production Occupations: Precision production, craft, and repair occupations did not do well during the 1980s, growing only 3 percent. Some trends of the past decade, such as the increased use of computers and the decline in farm occupations, may be behind some of the specific trends. The number of farm equipment mechanics declined, but there was strong growth in the number of data processing equipment repairers. As the telephone industry has been deregulated, people have begun to buy and install their own telephones, resulting in a drop in the number of telephone installers and repairers.

Other precision production occupation trends were more puzzling. For example, despite the increase in cars on the road the number of automobile mechanics declined.

Supervisor jobs in this group generally showed strong growth.

Machine Operators: The strength of Minnesota's printing and publishing industry shows in the substantial growth among printing press operators, photoengravers and lithographers, and miscellaneous printing machine operators. The growth of these printing occupations contrasted with the declines in most other machine operative jobs. Overall there was a loss of about 5,500 Machine Operator and Fabricator occupations, a drop of 3 percent.

Transportation Workers: Truck drivers accounted for 59 percent of all workers in the Transportation Workers category in 1990. Growth for the truck driver occupation was a modest 12 percent during the decade. Most occupations in this group had a decline, with an especially large drop for railroad brake, signal, and switch operators, the result of continued labor reductions in the railroad industry.

Handlers and Laborers: There was essentially no change in the number of people in Handlers and Laborers occupations between 1980 and 1990. Among the few growing occupations in this classification were stock handlers and baggers; freight, stock, and material handlers, n.e.c.; and vehicle washers and equipment cleaners.

Gender Segregation in Occupations

The amount of gender balance in occupations increased somewhat in Minnesota during the decade. Many occupations, however, remain extremely segregated by gender, and some occupations were even more sex-segregated in 1990 than in 1980. The index of dissimilarity between the male and female occupational distributions fell between 1980 and 1990, using both broad and detailed occupational categories. The index of dissimilarity is a measure of the difference between two distributions, with higher numbers indicating greater differences in the

distributions. An alternative measure, the index of relative difference, shows the same pattern of less gender segregation.

The leading occupations for men in 1990 were salaried manager n.e.c., truck driver, and farmer, except horticultural. For women, the foremost occupations were secretary, elementary school teacher, and registered nurse. A few occupations, such as salaried manager, cook, and assembler ranked high among both men and women.

The most female-dominated occupations were dental hygienist, dental assistant, and family child care provider. Occupations with the highest percentage of males included concrete and terrazzo finishers, small engine repairers, and electrical power installers and repairers.

The greatest gains in gender balance (movement toward a 50-50 ratio) were among pressing machine operators, economists, and food batchmakers. Women became more strongly represented among economists and food batchmakers, while more men became pressing machine operators.

The least movement toward gender balance occurred for non-construction laborers, clinical laboratory technologists and technicians, and excavating and loading machine operators. Laborers and excavating machine operators remained mostly male, while clinical laboratory technologists remained predominantly female.

A few occupations became more segregated by sex during the 1980s. Most, but not all, of these occupations became more heavily female. Examples include supervisors in personal service occupations, management related occupations, n.e.c., and transportation ticket and reservation agents.

Occupational Trends in United States and Minnesota

The occupational structure in Minnesota in 1990 was very similar to the national pattern. The biggest differences were that Minnesota had a slightly higher percentage employed in Farming, Forestry and Fishing occupations (3.8 percent versus 2.5 percent), and a slightly lower proportion working in Precision Production, Craft, and Repair Occupations (10.1 percent compared to 11.3 percent).

Some of the 1980 to 1990 trends for occupational groups showed striking differences between Minnesota and the United States. The biggest differences in growth rates were in Farming, Fishing and Forestry occupations, Machine Operator and Fabricator occupations, and Executive, Administrative, and Managerial occupations. Trend comparisons are based on the employed labor force, giving slightly different results than the EEO data. (See Note on Data Sources.)

Employment in Farming, Forestry, and Fishing occupations declined 22 percent in Minnesota as the state's farm economy took a hit. Nationally, there was a 1 percent increase in employment in this classification. Midwestern states where agriculture is a major industry may have been more

affected by the restructuring of the farm economy.

Machine operator and fabricator occupations grew only 8 percent in Minnesota, but this was better than the national figure, a decline of 2 percent. Strong performance in Minnesota's printing and publishing industries has offset declines in other sectors.

Executive and managerial occupations grew much faster nationally (40 percent) than in Minnesota (31 percent).

Regional Differences within Minnesota

Within Minnesota, trends in employment growth and occupational structure were strikingly different in different regions. Overall trends in employment growth, not surprisingly, followed trends in population. Many areas, including much of western Minnesota and some southern border counties, had declines in employment. The greatest growth occurred in a band of counties extending from the extreme north central to the southeastern part of the state. Suburbs of the Twin Cities had especially large gains in the number of employed people

Certain types of occupations tend to be geographically concentrated. Not surprisingly, Farming, Forestry and Fishing occupations (mostly farming) are concentrated in western Minnesota. The percent employed in Farming, Forestry, and Fishing occupations is wide, ranging from a low of 0.6 percent in Anoka, Hennepin and Ramsey counties to a high of 26 percent in Lincoln County.

Machine operatives are most concentrated in the southeast quadrant of the state, though not particularly in the Twin Cities. Generally the western and north central regions had the lowest proportions of machine operative occupations. Roseau County in extreme north central Minnesota was an exception. It had the highest proportion employed in machine operative and fabricating occupations, 20 percent, reflecting the presence of large window and snowmobile manufacturing facilities. Mahnomon County, with only 3 percent, had the lowest percentage of machine operatives .

Though southeastern Minnesota had high percentages of workers in Machine Operator and Fabricator occupations, it had a low percentage working in Transportation occupations. Transportation occupations were most heavily represented in northern Minnesota.

The proportion of people working in Precision Production, Craft, and Repair occupations was highest just north and west of the Twin Cities. The lowest proportions were in southwestern Minnesota and in central Twin Cities counties such as Hennepin, Ramsey, and Dakota.

Professional occupations were concentrated in the Twin Cities and Rochester areas and parts of northern Minnesota. Outside metropolitan areas, counties with colleges were most likely to have large proportions of professional workers. Olmsted County has the highest proportion of professionals (21 percent), probably because the Mayo Clinic employs many doctors, nurses, and other medical professionals. The smallest concentration of professionals was in rural Sibley

County, 8 percent.

The geographic distribution of managerial and executive employment is similar to that of professionals. Sibley County (6 percent) had the lowest and Hennepin County (16 percent) the highest proportions.

The Twin Cities region and adjacent counties had the lowest concentrations of workers employed in Other Services occupations.

Nonwhite and Hispanic Employment

Nonwhite and Hispanic employment in Minnesota grew 78 percent between 1980 and 1990, compared to a 15 percent increase for white nonhispanic employment. Minorities constituted 4 percent of the state's employed civilian labor force in 1990.

Racial and ethnic minorities were over represented in several occupational categories: the unemployed with no recent work experience, machine operators, and non-protective services. They were most under represented in farming, forestry, and fishing occupations.

The occupational distributions of minorities and white nonhispanics did not converge between 1980 and 1990, according to results using the index of dissimilarity. Under the alternative measure, the index of relative difference, the amount of dissimilarity actually became larger.

Differences in the distribution of occupations of minority groups and white nonhispanics were much smaller than differences between men and women. For example, the 1990 index of dissimilarity between the male and female occupational distributions was 36.1, compared to 15.4 for the comparison between white nonhispanic workers and minority workers. Higher numbers on the index indicate greater discrepancies in the occupational distributions.

Notes on Data Sources

All data used in this paper come from the 1990 and 1980 U.S. Censuses of Population. The census question about occupation was asked on the long form, which was administered to about one in six households. Data from the long form sample were extrapolated to represent the entire population

Specific data sources used here include:

1980 Census of Population, General Social and Economic Characteristics, United States Summary, PC80-1-C1, Table 89, U.S. Department of Commerce, Bureau of the Census, December 1983.

1980 Census of Population, General Social and Economic Characteristics, Minnesota, PC80-1-C25, Tables 61 and 102. U.S. Department of Commerce, Bureau of the Census, August 1983.

1990 Census of Population, Social and Economic Characteristics, United States, 1990 CP-2-1, Table 150. U.S. Department of Commerce, Bureau of the Census, November 1993.

1990 Census of Population, Social and Economic Characteristics, Minnesota, 1990 CP-2-25, Tables 25 and 50. U.S. Department of Commerce, Bureau of the Census, September 1993.

1980 Census, Equal Employment Opportunity (EEO) File, Minnesota.

1990 Census, Equal Employment Opportunity (EEO) File, Minnesota.

1990 Census, Summary Tape File 3A.

The 1980 and 1990 census publications were used for comparisons between Minnesota and the United States and for the data on trends in employment by race and ethnicity. Data on 1990 occupational distributions by county came from the STF3A file. The 1980 and 1990 EEO files were used for data on detailed occupations and figures on occupation by race and gender.

The major difference between the EEO data and the other sources, in addition to the amount of occupational detail, is that the EEO data are based on the experienced civilian labor force, including the unemployed. The publications and STF3A refer to the employed civilian labor force. Generally the numbers and trends are similar, but there are some discrepancies. Because some people were unemployed at the time of the census, the size of the experienced civilian labor force in each occupation is larger than the currently employed number. The discrepancies between the EEO and published numbers are greater for blue collar occupations, probably because workers in these fields are more likely to be unemployed. For example, in 1990 the ratios of occupational counts in published data to those in the EEO data were .98 for managerial/executive occupations and .99 for professional specialty occupations, but only .93 for precision production occupations, .87 for laborer occupations, and .89 for transportation occupations. Machine Operator occupations grew in the employment-based data, but declined in the EEO data.

The Standard Occupational Classification (SOC) system used in the Census was changed substantially between 1970 and 1980, making comparisons of detailed occupations between 1970 and 1980 virtually impossible. Changes between 1980 and 1990 were more modest, but still affected some categories. For example, two new child care categories were added.

Coding of occupational data is done by Census employees based on the answers written in by the person filling out the census form. The coding process can affect the results. If people supply more detail they may be put in a different classification than if they had given a vaguer reply. For instance, if a woman says she is a property manager for a real estate firm, she will be coded into the "Managers, properties and real estate" category. If she just says she is a "Manager" in a "private company," she will be classified as "Managers and administrators, n.e.c." All trends for "n.e.c." ("not elsewhere classified") groups should be considered automatically suspect for this

reason.

In the case of teachers, coding seems to be the major reason for apparent changes from 1980 to 1990. If a woman simply says she is a "school teacher" and does not specify a grade or subject, she will be classified as an elementary school teacher. Only if she specifies that she taught a particular subject or taught in a higher grade will she be coded as a secondary school teacher. This paper's finding of a large decline in secondary school teachers combined with a large increase in elementary school teachers is probably an artifact of the classification system rather than a real change. Apparently fewer teachers provided detail on grade level or subject in 1990.

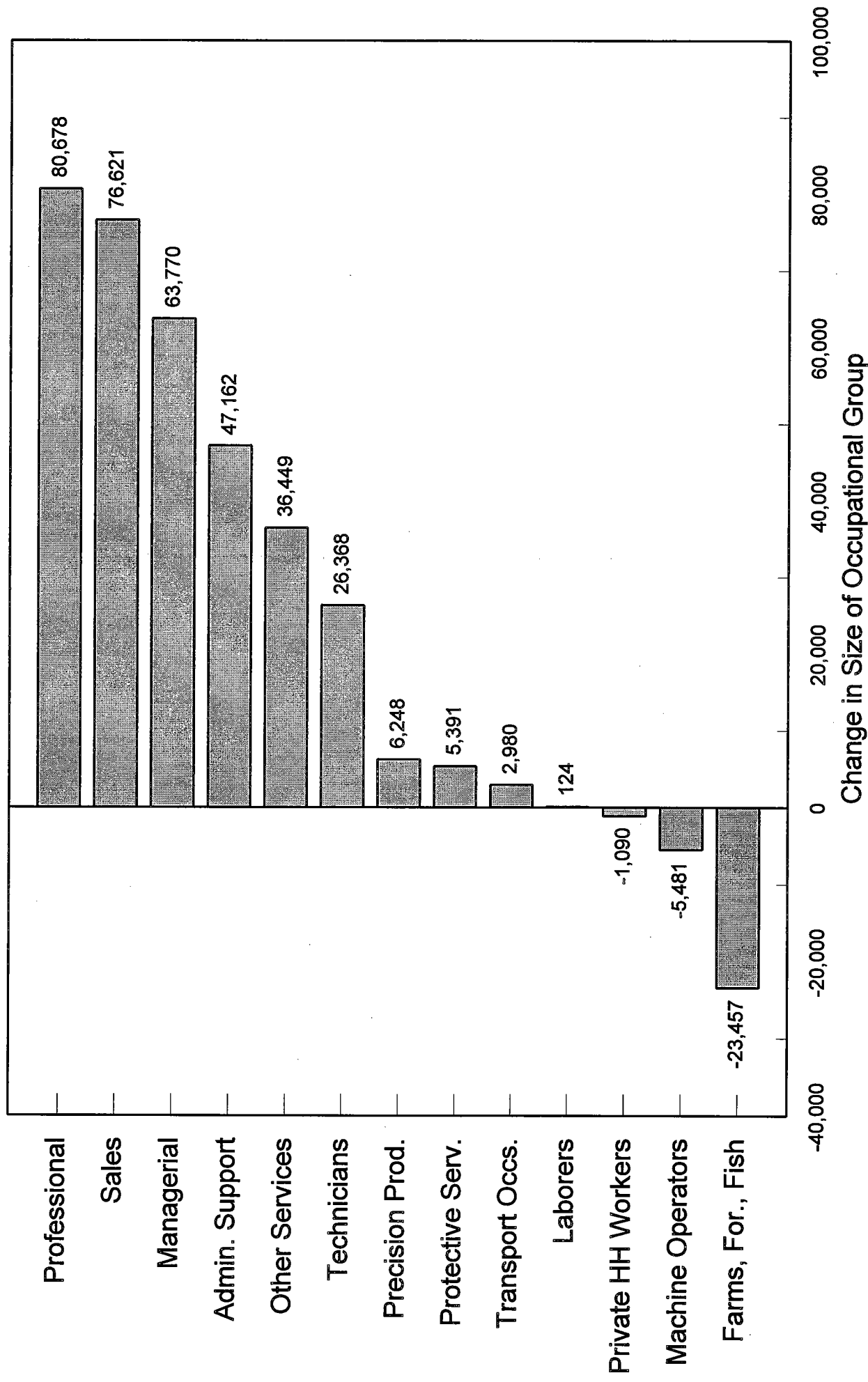
This report is focused on employment by occupation, not employment by industry. For example, the increase in service employment refers to people who are employed in service occupations, not to people employed in service industries. A computer engineer working in a company that provides computer services for businesses would be in a professional occupation, even though she is working in a service industry. Similarly, a janitor working at an automobile manufacturing plant would be coded as a service worker even though he is working in a manufacturing industry.

10-11-95

c:\occupat\occpaper

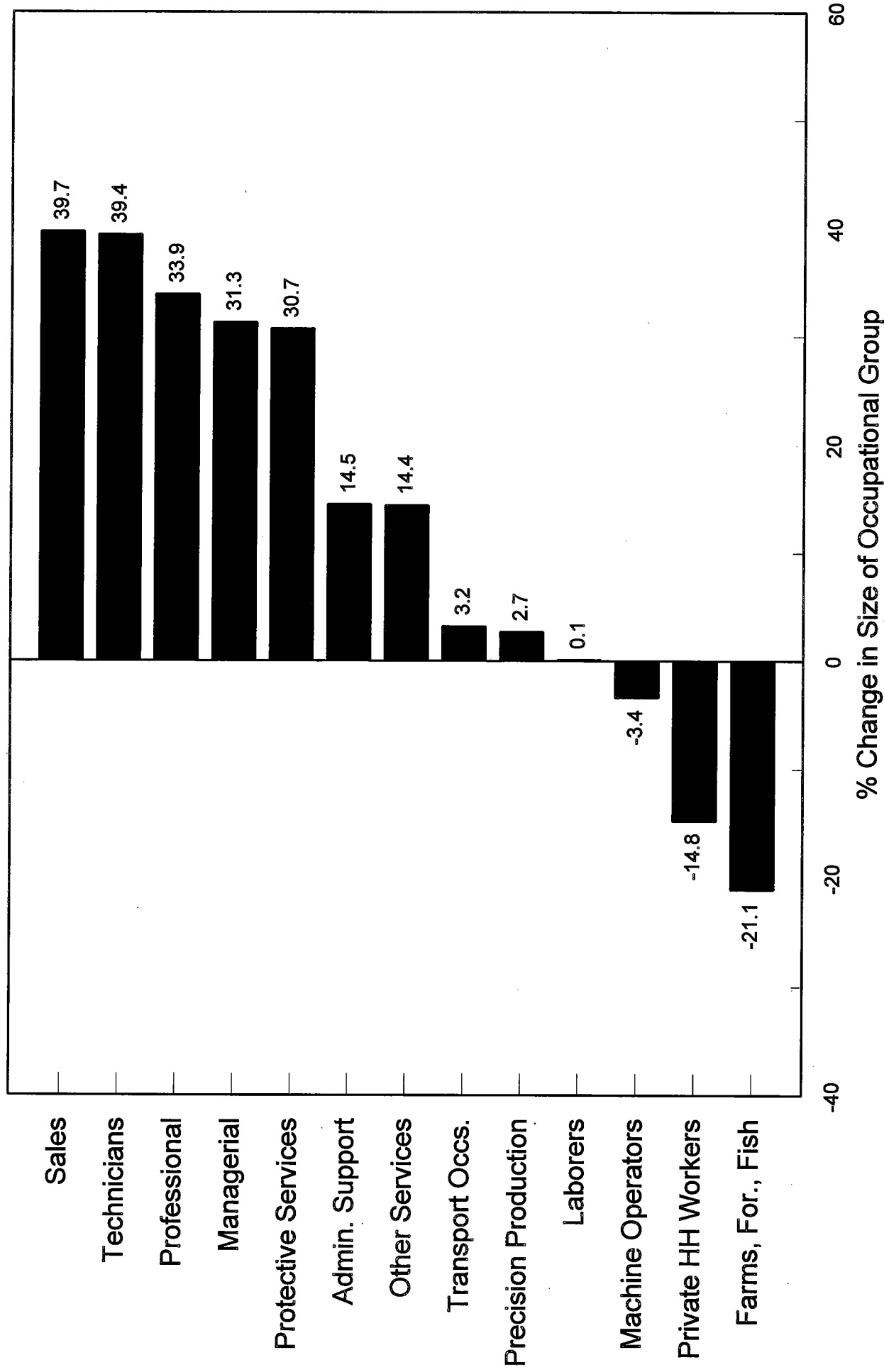
Change in Minnesota Occupations, 1980 to 1990

Ranked by Size of Change

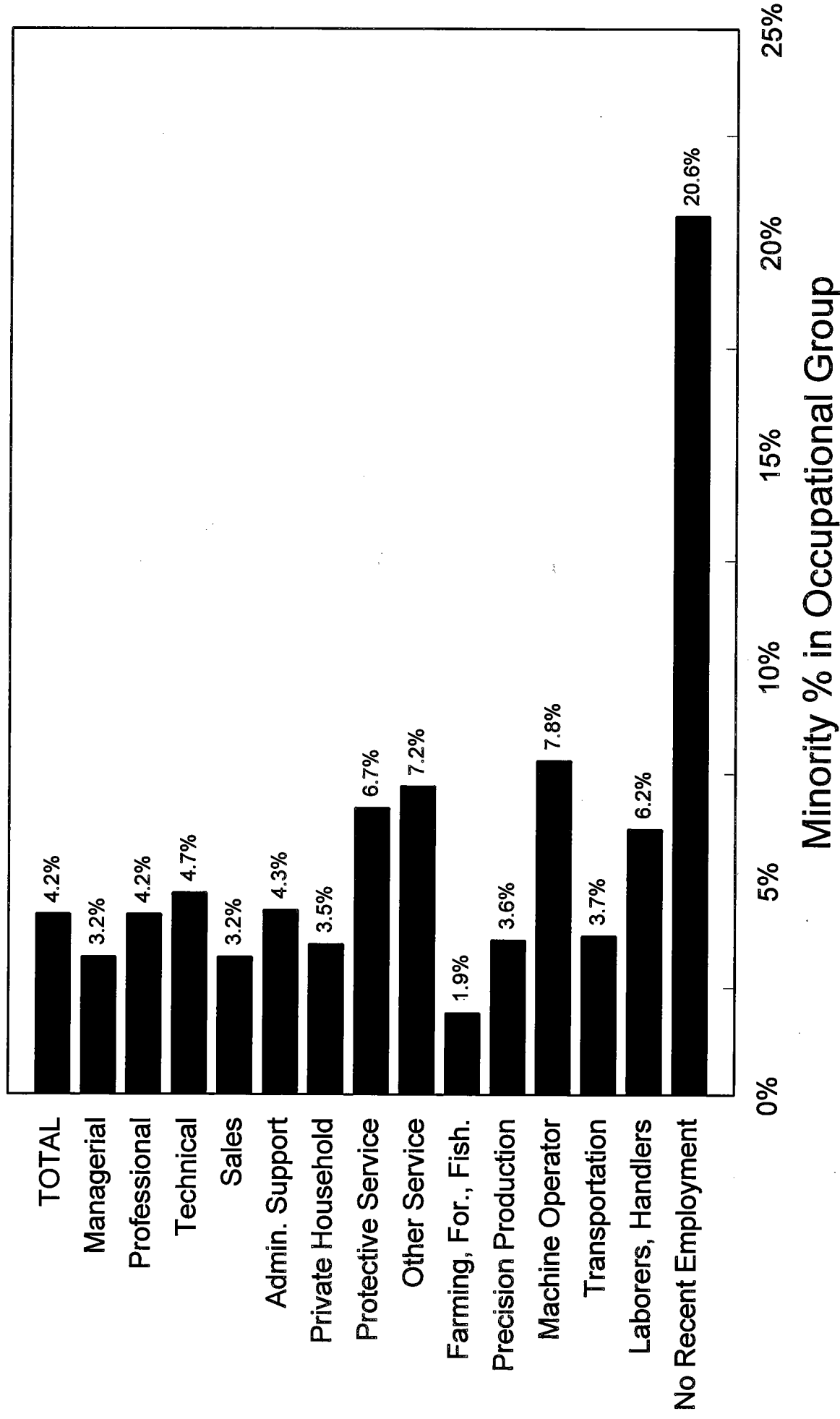


Change in Minnesota Occupations, 1980 to 1990

Ranked by Percent Change

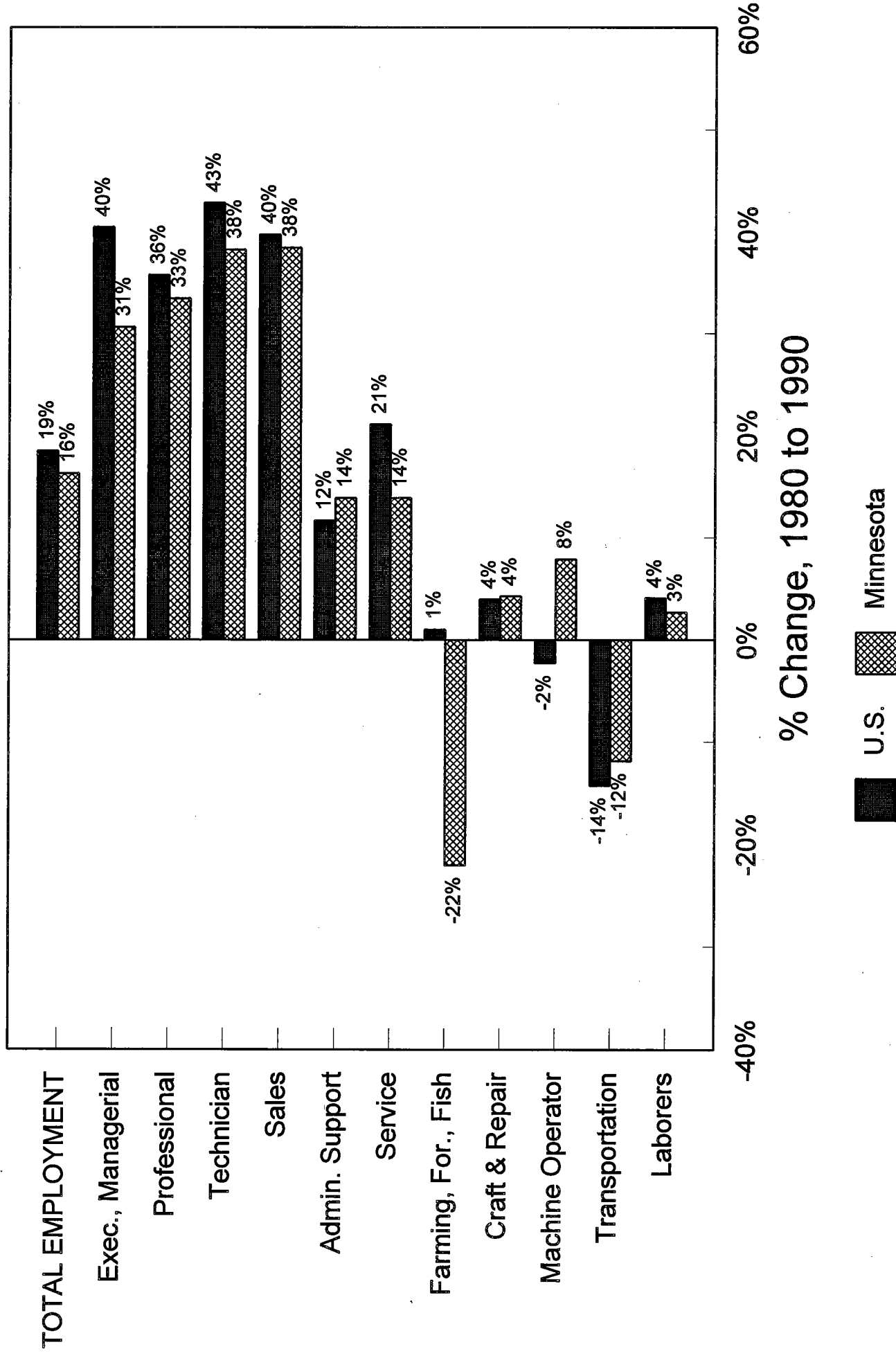


Minority Workers Overrepresented among Unemployed with No Recent Work Experience Minnesota 1990



% Change in Occupational Groups

U.S. vs. Minnesota, 1980 to 1990



**Occupations with Largest Numerical Increases,
Minnesota, 1980 to 1990**
Description (and SOC code)

	Number 1990	Increase
1 Supervisors and proprietors--sales (243)--salaried	56,734	38,204
2 Managers, food serving and lodging establishments (017)	17,665	17,665
3 Cashiers (276)	45,862	16,043
4 Teachers, elementary school (156)	57,166	14,269
5 Accountants and auditors (023)	31,090	10,088
6 Registered nurses (095)	39,754	9,988
7 Cooks (436)	39,995	9,208
8 Investigators and adjusters, except insurance (376)	12,642	8,564
9 Sales representatives, mining, manufacturing, wholesale(259)	34,680	8,075
10 Managers, service organizations, n.e.c. (021)*	8,040	8,040
11 Computer programmers (229)	17,373	7,915
12 Early childhood teacher's assistants (467)	7,768	7,768
13 Administrative support occupations, n.e.c. (389)*	14,803	6,678
14 Receptionists (319)	18,361	6,673
15 Not specified mechanics and repairers (549)	8,495	6,230
16 Data-entry keyers (385)	14,955	6,197
17 Truck drivers (804)	54,360	5,910
18 Postsecondary teachers, subject not specified (154)	13,125	5,877
19 Machine oper., not spec. - durable manufacturing (779)*	5,725	5,725
20 Administrators, education and related fields (014)	11,472	5,511
21 Computer systems analysts and scientists (064)	9,950	5,504
22 Management related occupations, n.e.c. (037-042)	5,959	5,443
23 Management analysts (026)	6,696	5,436
24 Social workers (174)	14,938	5,345
25 Designers (185)	11,382	5,299

*New category added in 1990.

**Occupations with Largest Numerical Decreases,
Minnesota, 1980 to 1990**
Description (and SOC code)

	Number 1990	Change
1 Farmers, except horticultural (473)	47,156	(22,536)
2 Teachers, secondary school (157)	11,133	(11,984)
3 General office clerks (379)	23,810	(10,669)
4 Misc. machine oper. - durable manufacturing (777)	3,998	(10,310)
5 Farm workers (479)	15,818	(10,293)
6 Managers and administrators, n.e.c. (022)--salaried	88,750	(7,377)
7 Misc. machine oper. - nondurable manufacturing (777)	3,979	(6,043)
8 Waiters and waitresses (435)	32,531	(5,268)
9 Carpenters, except apprentices (567)	23,666	(4,322)
10 Managers and administrators, n.e.c. (022)--self-employed	6,375	(4,009)
11 Supervisors--production occupations (628)	23,272	(3,514)
12 Misc. machine oper. - nonmanufacturing (777)	1,748	(3,289)
13 Automobile mechanics, except apprentices (505)	15,417	(3,132)
14 Welders and cutters (783)	12,493	(2,591)
15 Industrial machinery repairers (518)	5,292	(2,281)
16 Hand packers and packagers (888)	7,320	(2,191)
17 Garage and service station related occupations (885)	5,213	(2,110)
18 Bookkeepers, accounting, and auditing clerks (337)	40,153	(1,994)
19 Sales workers, hardware and building supplies (268)	4,099	(1,907)
20 Specified mechanics and repairers, n.e.c. (547)	3,195	(1,903)
21 Grinding, abrading, buffing, & polishing machine oper. (709)	2,283	(1,808)
22 Molding and casting machine operators (719)	2,258	(1,698)
23 Sales workers, parts (269)	2,696	(1,656)
24 Supervisors--construction n.e.c. (558)	8,813	(1,530)

Minnesota Occupations with Largest % Increases, 1980 to 1990 (Occupations with at Least 1,000 in 1990)	Number 1990	Percent Change
1 Management related occupations, n.e.c. (037-042)	5,959	1054.8%
2 Management analysts (026)	6,696	431.4%
3 Underwriters (024)	1,755	374.3%
4 Operations and systems researchers and analysts (065)	4,420	323.4%
5 Legal assistants (234)	4,287	322.4%
6 Health record technologists and technicians (205)	1,469	298.1%
7 Not specified mechanics and repairers (549)	8,495	275.1%
8 Demonstrators, promoters and models, sales (283)	1,134	264.6%
9 Electrical and electronic equipment assemblers (683)	6,686	259.5%
10 Photoengravers and lithographers (735)	1,773	255.3%
11 Authors (183)	2,166	242.7%
12 Teachers' aides (387)	5,146	210.2%
13 Investigators and adjusters, except insurance (376)	12,642	210.0%
14 Supervisors and proprietors--sales (243)--salaried	56,734	206.2%
15 Psychologists (167)	4,379	191.2%
16 Transportation ticket and reservation agents (318)	5,192	178.7%
17 Bill and account collectors (378)	3,524	178.6%
18 Pressing machine operators (747)	2,358	169.8%
19 Expeditors (373)	5,488	162.2%
20 Chemical (048)	1,484	159.9%
21 Information clerks, n.e.c. (323)	4,192	155.1%
22 Supervisors--motor vehicle operators (803)	1,258	152.6%
23 Patternmakers, lay-out workers, and cutters (676)	287	151.8%
24 Health diagnosing practitioners, n.e.c. (089-094)	1,324	141.6%
25 Artists, performers, and related workers, n.e.c. (194)	1,689	132.6%

Minnesota Occupations with Largest % Decrease, 1980 to 1990 (Occupations with at Least 1,000 in 1990)	Number 1990	Percent Change
1 Teachers, secondary school (157)	11,133	-51.8%
2 Miscellaneous material moving equipment operators (859)	1,225	-48.1%
3 Grinding, abrading, buffing, & polishing machine oper. (709)	2,283	-44.2%
4 Molding and casting machine operators (719)	2,258	-42.9%
5 Laborers, exc. Const. - transp., commun. & other utils (889)	2,021	-42.8%
6 Farm workers (479)	15,818	-39.4%
7 Managers and administrators, n.e.c. (022)--self-employed	6,375	-38.6%
8 Sales workers, parts (269)	2,696	-38.1%
9 Specified mechanics and repairers, n.e.c. (547)	3,195	-37.3%
10 Crushing and grinding machine operators (768)	1,013	-34.5%
11 Crane and tower operators (849)	1,037	-33.4%
12 Millwrights (544)	1,930	-32.4%
13 Farmers, except horticultural (473)	47,156	-32.3%
14 Sales workers, hardware and building supplies (268)	4,099	-31.8%
15 General office clerks (379)	23,810	-30.9%
16 Industrial machinery repairers (518)	5,292	-30.1%
17 Garage and service station related occupations (885)	5,213	-28.8%
18 Punching and stamping press machine operators (706)	2,539	-28.4%
19 Telephone installers and repairers (529)	2,783	-26.0%
20 Furnace, kiln, and oven operators, except food (766)	1,629	-26.0%
21 Supervisors--financial records processing (305)	2,040	-25.5%
22 Miscellaneous precision workers, n.e.c. (684)	1,220	-25.0%
23 Barbers (457)	1,565	-24.9%
24 Driver-sales workers (806)	2,579	-24.3%
25 Hand packers and packagers (888)	7,320	-23.0%

**Indexes of Relative Difference and Dissimilarity*
in 1980 and 1990 Occupational Distributions
in Minnesota: EEO Data**

I. Using 518 occupational categories

	Index of Relative Difference	Index of Dissimilarity
Total 1990 vs. Total 1980	42.0	15.0
Males 1980 vs. Females 1980	172.0	61.0
Males 1990 vs. Females 1990	158.3	54.2

II. Using 14 broad occupational categories

Total 1990 vs. Total 1980	8.3	6.0
Males vs. Females, 1980	152.9	42.4
Males vs. Females, 1990	105.6	36.1
White Nonhispanic vs. Minority, 1980	25.5	15.5
White Nonhispanic vs. Minority, 1990	31.0	15.4

* These are two methods for showing the magnitude of the differences between two distributions. Larger numbers indicate greater differences. The magnitude of the indexes is affected by the number of categories as well as the size of the differences. Comparisons should be made between similarly computed indexes.

For further information on the indexes, see Shryock and Siegel, "The Methods and Materials of Demography," U.S. Department of Commerce, 1973, Volume 1, pp. 232-233.

1990 Census Leading Detailed Occupations
Source: Equal Employment Opportunity (EEO) File

Top Ranked Minnesota Civilian
Occupations, 1990: Both Genders
Description (and SOC code)

	Number 1990
1 Managers and administrators, n.e.c. (022)--salaried	88,750
2 Secretaries (313)	73,775
3 Teachers, elementary school (156)	57,166
4 Supervisors and proprietors--sales (243)--salaried	56,734
5 Truck drivers (804)	54,360
6 Janitors and cleaners (453)	50,026
7 Farmers, except horticultural (473)	47,156
8 Cashiers (276)	45,862
9 Nursing aides, orderlies, and attendants (447)	40,630
10 Bookkeepers, accounting, and auditing clerks (337)	40,153
11 Cooks (436)	39,995
12 Registered nurses (095)	39,754
13 Assemblers (785)	37,761
14 Sales representatives, mining, manufacturing, wholesale(259)	34,680
15 Sales workers, other commodities (274)	33,923
16 Waiters and waitresses (435)	32,531
17 Accountants and auditors (023)	31,090
18 General office clerks (379)	23,810
19 Carpenters, except apprentices (567)	23,666
20 Supervisors--production occupations (628)	23,272
21 Stock handlers and baggers (877)	19,469
22 Receptionists (319)	18,361
23 Family child care providers (466)	18,231
24 Managers, food serving and lodging establishments (017)	17,665
25 Computer programmers (229)	17,373

Top Ranking Minnesota Male
Occupations, 1990
Description (and SOC code)

1 Managers and administrators, n.e.c. (022)--salaried	61,751
2 Truck drivers (804)	51,835
3 Farmers, except horticultural (473)	40,695
4 Supervisors and proprietors--sales (243)--salaried	38,596
5 Janitors and cleaners (453)	36,544
6 Sales representatives, mining, manufacturing, wholesale(259)	27,356
7 Carpenters, except apprentices (567)	23,257
8 Assemblers (785)	19,345
9 Cooks (436)	19,192
10 Supervisors--production occupations (628)	18,705
11 Teachers, elementary school (156)	16,135
12 Construction laborers (869)	15,586
13 Automobile mechanics, except apprentices (505)	15,279
14 Accountants and auditors (023)	15,069
15 Stock handlers and baggers (877)	14,097
16 Computer programmers (229)	12,310
17 Farm workers (479)	12,292
18 Welders and cutters (783)	12,014
19 Machinists, except apprentices (637)	11,809
20 Sales workers, other commodities (274)	11,190
21 Managers, marketing, advertising, & public relations (013)	10,085
22 Managers, food serving and lodging establishments (017)	9,632
23 Cashiers (276)	9,586
24 Freight, stock, and material handlers, n.e.c. (883)	9,393
25 Electricians, except apprentices (575)	9,279

**Top Ranking Minnesota Female
Occupations, 1990
Description (and SOC code)**

	Number 1990
1 Secretaries (313)	72,879
2 Teachers, elementary school (156)	41,031
3 Registered nurses (095)	37,638
4 Cashiers (276)	36,276
5 Bookkeepers, accounting, and auditing clerks (337)	35,962
6 Nursing aides, orderlies, and attendants (447)	35,519
7 Waiters and waitresses (435)	28,817
8 Managers and administrators, n.e.c. (022)--salaried	26,999
9 Sales workers, other commodities (274)	22,733
10 Cooks (436)	20,803
11 General office clerks (379)	19,724
12 Assemblers (785)	18,416
13 Supervisors and proprietors--sales (243)--salaried	18,138
14 Family child care providers (466)	18,081
15 Receptionists (319)	17,544
16 Accountants and auditors (023)	16,021
17 Janitors and cleaners (453)	13,482
18 Data-entry keyers (385)	13,083
19 Typists (315)	12,249
20 Hairdressers and cosmetologists (458)	11,761
21 Administrative support occupations, n.e.c. (389)	10,987
22 Maids and housemen (449)	10,748
23 Licensed practical nurses (207)	10,602
24 Social workers (174)	10,463
25 Investigators and adjusters, except insurance (376)	9,252

Minnesota 'Occupations with Greatest Gains in Gender Balance
For Occupations with 1,000+ Workers in 1990
Source: Equal Employment Opportunity (EEO) Data, 1980 and 1990

Description (and SOC code)	Total Civilian Labor Force 1990	Proportion Female in 1980	Proportion Female in 1990	Divergence from Equal Proportions in 1980	Divergence from Equal Proportions in 1990	Gains in Gender Balance 1980 to 1990
1 Pressing machine operators (747)	2,358	0.87	0.62	0.37	0.12	0.25
2 Economists (166)	2,931	0.27	0.49	0.23	0.01	0.22
3 Food batchmakers (688)	1,336	0.27	0.52	0.23	0.02	0.21
4 Dispatchers (359)	3,355	0.29	0.48	0.21	0.02	0.20
5 Administrators, education and related fields (014)	11,472	0.31	0.52	0.19	0.02	0.17
6 Dental laboratory and medical appliance technicians (678)	1,467	0.32	0.49	0.18	0.01	0.17
7 Purchasing agents and buyers, n.e.c. (033)	4,743	0.30	0.45	0.20	0.05	0.15
8 Health diagnosing practitioners, n.e.c. (089-094)	1,324	0.11	0.26	0.39	0.24	0.15
9 Chemists, except biochemists (073)	2,472	0.14	0.28	0.36	0.22	0.14
10 Biological and life scientists (078)	1,052	0.28	0.42	0.22	0.08	0.14
11 Managers, marketing, advertising, & public relations (013)	14,775	0.18	0.32	0.32	0.18	0.14
12 Street and door-to-door sales workers (277)	5,377	0.79	0.66	0.29	0.16	0.13
13 Electrical and electronic equipment assemblers (683)	6,686	0.79	0.66	0.29	0.16	0.13
14 Technical writers (184)	1,577	0.34	0.47	0.16	0.03	0.13
15 Inspectors and compliance officers, exc. construction (036)	2,208	0.16	0.29	0.34	0.21	0.13
16 Supervisors--distribution, scheduling, adjusting clerks(307)	3,327	0.22	0.35	0.28	0.15	0.13
17 Financial managers (007)	10,734	0.29	0.41	0.21	0.09	0.12
18 Securities and financial services sales occupations (255)	5,927	0.19	0.31	0.31	0.19	0.12
19 Waiters/waitresses' assistants (443)	6,521	0.38	0.50	0.12	0.00	0.12
20 Operations and systems researchers and analysts (065)	4,420	0.32	0.44	0.18	0.06	0.12
21 Mail carriers, postal service (355)	6,009	0.12	0.24	0.38	0.26	0.12
22 Purchasing managers (009-012)	2,149	0.23	0.34	0.27	0.16	0.11
23 Pharmacists (096)	3,228	0.24	0.36	0.26	0.14	0.11
24 Sales counter clerks (275)	3,873	0.75	0.64	0.25	0.14	0.11
25 Misc. machine oper. - nonmanufacturing (777)	1,748	0.31	0.42	0.19	0.08	0.10

Minnesota Occupations with Least Amount of Change in Gender Concentration between 1980 and 1990
 Equal Employment Opportunity (EEO) Data, 1980 and 1990

	Total Civilian Labor Force in 1990	Proportion Female in 1980	Proportion Female in 1990	Divergence from Equal Proportions in 1980	Divergence from Equal Proportions in 1990	Gains in Gender Balance 1980 to 1990
1 Laborers, exc. Const. - trade, wholesale and retail (889)	6,675	0.16	0.16	0.34	0.34	0.00
2 Clinical laboratory technologists and technicians (203)	6,774	0.82	0.81	0.32	0.31	0.00
3 Excavating and loading machine operators (853)	1,795	0.01	0.01	0.49	0.49	0.00
4 Small engine repairers (509)	1,139	0.00	0.00	0.50	0.50	0.00
5 Carpenters, except apprentices (567)	23,666	0.01	0.02	0.49	0.48	0.00
6 Receptionists (319)	18,361	0.96	0.96	0.46	0.46	0.00
7 Plumbers, pipefitters, & steamfitters, exc. apprentices(585)	7,354	0.01	0.01	0.49	0.49	0.00
8 Secretaries (313)	73,775	0.99	0.99	0.49	0.49	0.00
9 Bill and account collectors (378)	3,524	0.65	0.65	0.15	0.15	0.00
10 Sales workers, parts (269)	2,696	0.07	0.07	0.43	0.43	0.00
11 Tool and die makers, except apprentices (634)	2,690	0.02	0.02	0.48	0.48	0.00
12 Supervisors--construction n.e.c. (558)	8,813	0.01	0.02	0.49	0.48	0.00
13 Industrial truck and tractor equipment operators (856)	7,223	0.05	0.05	0.45	0.45	0.00
14 Heavy equipment mechanics (516)	3,113	0.01	0.01	0.49	0.49	0.00
15 Automobile mechanics, except apprentices (505)	15,417	0.01	0.01	0.49	0.49	0.00
16 Roofers (595)	2,363	0.01	0.01	0.49	0.49	0.00
17 Slicing and cutting machine operators (769)	3,484	0.25	0.25	0.25	0.25	0.00
18 Electricians, except apprentices (575)	9,440	0.02	0.02	0.48	0.48	-0.00
19 Sales workers, apparel (264)	8,161	0.83	0.83	0.33	0.33	-0.00
20 Personnel, training, and labor relations specialists (027)	9,880	0.43	0.57	0.07	0.07	-0.00
21 Grader, dozer, and scraper operators (855)	1,239	0.02	0.02	0.48	0.48	-0.00
22 Child care workers, private household (406)	3,144	0.98	0.98	0.48	0.48	-0.00
23 Concrete and terrazzo finishers (588)	1,428	0.00	0.00	0.50	0.50	-0.00
24 Buyers, wholesale & retail trade, exc.farm products(029-032)	5,252	0.46	0.54	0.04	0.04	-0.00
25 Dental hygienists (204)	1,879	0.99	1.00	0.49	0.50	-0.00

Minnesota Occupations with Greatest Shifts in Direction of More Gender Imbalance between 1980 and 1990
1980 and 1990 Equal Employment Opportunity (EEO) Data, Occupations with 1,000+ Workers

	Total Civilian Labor Force in 1990	Proportion Female in 1980	Proportion Female in 1990	Divergence from Equal Proportions in 1980	Divergence from Equal Proportions in 1990	Gains in Gender Balance 1980 to 1990
1 Supervisors--personal service occupations (456)	1,327	0.48	0.77	0.02	0.27	-0.24
2 Management related occupations, n.e.c. (037-042)	5,959	0.48	0.76	0.02	0.26	-0.24
3 Transportation ticket and reservation agents (318)	5,192	0.58	0.79	0.08	0.29	-0.21
4 Typesetters and compositors (736)	2,255	0.53	0.74	0.03	0.24	-0.20
5 Supervisors--financial records processing (305)	2,040	0.51	0.70	0.01	0.20	-0.20
6 Molding and casting machine operators (719)	2,258	0.37	0.19	0.13	0.31	-0.18
7 Messengers (357)	1,902	0.42	0.25	0.08	0.25	-0.17
8 Managers, medicine and health (015)	4,509	0.53	0.67	0.03	0.17	-0.14
9 Teachers, special education (158)	1,354	0.68	0.82	0.18	0.32	-0.14
10 Underwriters (024)	1,755	0.55	0.68	0.05	0.18	-0.13
11 Hotel clerks (317)	1,230	0.63	0.75	0.13	0.25	-0.12
12 Investigators and adjusters, except insurance (376)	12,642	0.61	0.73	0.11	0.23	-0.12
13 Therapists, n.e.c. (105)	1,515	0.66	0.77	0.16	0.27	-0.11
14 Expeditors (373)	5,488	0.57	0.67	0.07	0.17	-0.11
15 Insurance adjusters, examiners, and investigators (375)	7,254	0.61	0.71	0.11	0.21	-0.10

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990	Male Labor Force 1990	Female Labor Force 1990	Total Civilian Labor Force 1980	Male Labor Force 1980	Female Labor Force 1980	Change in Total Labor Force	Percent	% Female in 1990
							Number		
Executive, Administrative, and Managerial Occupations									
Legislators (001-003)	267,650	157,368	110,282	203,880	146,067	57,813	63,770	31.3%	41.2%
Chief executives & general administrators, public admin(004)	304	178	126	283	171	112	21	7.4%	41.4%
Administrators and officials, public administration (005)	280	182	98	457	377	80	(177)	-38.7%	35.0%
Administrators, protective services (006)	7,170	4,303	2,867	4,450	3,006	1,444	2,720	61.1%	40.0%
Financial managers (007)	747	553	194	590	526	64	157	26.6%	26.0%
Personnel and labor relations managers (008)	10,734	6,335	4,399	7,066	5,043	2,023	3,668	51.9%	41.0%
Purchasing managers (009-012)	4,506	2,121	2,385	3,956	2,443	1,513	550	13.9%	52.9%
Managers, marketing, advertising, & public relations (013)	2,149	1,416	733	1,333	1,027	306	816	61.2%	34.1%
Administrators, education and related fields (014)	14,775	10,085	4,690	15,092	12,373	2,719	(317)	-2.1%	31.7%
Managers, medicine and health (015)	11,472	5,506	5,966	5,961	4,134	1,827	5,511	92.5%	52.0%
Postmasters and mail superintendents (016)	4,509	1,504	3,005	2,104	993	1,111	2,405	114.3%	66.6%
Managers, food serving and lodging establishments (017)	948	574	374	794	530	264	154	19.4%	39.5%
Managers, properties and real estate (018)	17,665	9,632	8,033	na	0	na	17,665	na	45.5%
Funeral directors (019-020)	5,948	3,267	2,681	3,070	1,651	1,419	2,878	93.7%	45.1%
Managers, service organizations, n.e.c. (021)	773	695	78	712	653	59	61	8.6%	10.1%
Managers and administrators, n.e.c. (022)--salaried	8,040	3,698	4,342	na	0	na	8,040	na	54.0%
Managers and administrators, n.e.c. (022)--self-employed	88,750	61,751	26,999	96,127	73,011	23,116	(7,377)	-7.7%	30.4%
Accountants and auditors (023)	6,375	5,097	1,278	10,384	7,554	2,830	(4,009)	-38.6%	20.0%
Underwriters (024)	31,090	15,069	16,021	21,002	12,994	8,008	10,088	48.0%	51.5%
Other financial officers (025)	1,755	562	1,193	370	165	205	1,385	374.3%	68.0%
Management analysts (026)	12,780	6,905	5,875	7,530	4,565	2,965	5,250	69.7%	46.0%
Personnel, training, and labor relations specialists (027)	6,696	3,897	2,799	1,260	864	396	5,436	431.4%	41.8%
Purchasing agents and buyers, farm products (028)	9,880	4,260	5,620	8,686	4,938	3,748	1,194	13.7%	56.9%
Buyers, wholesale & retail trade, exc. farm products(029-032)	715	633	82	1,011	930	81	(296)	-29.3%	11.5%
Purchasing agents and buyers, n.e.c. (033)	5,252	2,427	2,825	3,380	1,811	1,569	1,872	55.4%	53.8%
Business and promotion agents (034)	4,743	2,612	2,131	3,660	2,578	1,082	1,083	29.6%	44.9%
Construction inspectors (035)	559	289	270	442	308	134	117	26.5%	48.3%
Inspectors and compliance officers, exc. construction (036)	868	804	64	870	833	37	(2)	-0.2%	7.4%
Management related occupations, n.e.c. (037-042)	2,208	1,568	640	2,774	2,322	452	(566)	-20.4%	29.0%
	5,959	1,445	4,514	516	267	249	5,443	1054.8%	75.8%
Professional Specialty Occupations									
Architects (043)	318,408	147,337	171,071	237,730	121,297	116,433	80,678	33.9%	53.7%
Aerospace (044)	2,715	2,309	406	1,982	1,832	150	733	37.0%	15.0%
Metallurgical and materials (045)	426	424	2	233	212	21	193	82.8%	0.5%
Mining (046)	247	228	19	258	239	19	(11)	-4.3%	7.7%
Petroleum (047)	81	79	2	197	188	9	(116)	-58.9%	2.5%
Chemical (048)	43	43	0	20	18	2	23	115.0%	0.0%
Nuclear (049-052)	1,484	1,257	227	571	527	44	913	159.9%	15.3%
Civil (053)	49	49	0	22	22	0	27	122.7%	0.0%
Agricultural (054)	3,635	3,409	226	2,922	2,845	77	713	24.4%	6.2%
Electrical and electronic (055)	142	108	34	134	122	12	8	6.0%	23.9%
Industrial (056)	8,371	7,716	655	5,628	5,459	169	2,743	48.7%	7.8%
Mechanical (057)	3,958	3,398	560	4,543	4,051	492	(585)	-12.9%	14.1%
Marine and naval architects (058)	4,327	4,103	224	3,642	3,612	30	685	18.8%	5.2%
Engineers, n.e.c. (059-062)	45	39	6	101	101	0	(56)	-55.4%	13.3%
	5,981	5,602	379	4,471	4,264	207	1,510	33.8%	6.3%

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990		Male Labor Force 1990		Female Labor Force 1990		Total Civilian Labor Force 1980		Male Labor Force 1980		Female Labor Force 1980		Change in Total Labor Force		% Female in 1990
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Surveyors and mapping scientists (063)	196		167		29		747		730		17		(551)		14.8%
Computer systems analysts and scientists (064)	9,950		7,032		2,918		4,446		3,459		987		5,504		29.3%
Operations and systems researchers and analysts (065)	4,420		2,485		1,935		1,044		708		336		3,376		43.8%
Actuaries (066)	554		314		240		249		185		64		305		43.3%
Statisticians (067)	477		249		228		388		196		192		89		47.8%
Mathematical scientists, n.e.c. (068)	27		19		8		28		28		0		(1)		29.6%
Physicists and astronomers (069-072)	248		208		40		167		161		6		81		16.1%
Chemists, except biochemists (073)	2,472		1,787		685		1,654		1,429		225		818		27.7%
Atmospheric and space scientists (074)	81		64		17		100		67		33		(19)		21.0%
Geologists and geodesists (075)	516		442		74		349		291		58		167		14.3%
Physical scientists, n.e.c. (076)	176		132		44		89		71		18		87		25.0%
Agricultural and food scientists (077)	1,069		796		273		581		438		143		488		25.5%
Biological and life scientists (078)	1,052		609		443		858		617		241		194		42.1%
Forestry and conservation scientists (079-082)	911		822		89		652		612		40		259		9.8%
Medical scientists (083)	658		386		272		445		266		179		213		41.3%
Physicians (084)	9,961		7,936		2,025		7,538		6,776		762		2,423		20.3%
Dentists (085)	3,150		2,746		404		2,575		2,399		176		575		12.8%
Veterinarians (086)	1,244		967		277		815		718		97		429		22.3%
Optometrists (087)	476		409		67		406		387		19		70		14.1%
Podiatrists (088)	74		70		4		73		46		27		1		5.4%
Health diagnosing practitioners, n.e.c. (089-094)	1,324		985		339		548		490		58		776		25.6%
Registered nurses (095)	39,754		2,116		37,638		29,766		1,346		28,420		9,988		94.7%
Pharmacists (096)	3,228		2,082		1,146		2,596		1,961		635		632		35.5%
Dietitians (097)	1,725		187		1,538		1,226		96		1,130		499		89.2%
Respiratory therapists (098)	776		237		539		609		239		370		167		69.5%
Occupational therapists (099-102)	1,404		67		1,337		706		61		645		698		95.2%
Physical therapists (103)	1,898		472		1,426		1,048		340		708		850		75.1%
Speech therapists (104)	1,384		201		1,183		743		124		619		641		85.5%
Therapists, n.e.c. (105)	1,515		342		1,173		1,067		363		704		448		77.4%
Physicians' assistants (106-112)	446		346		100		449		320		129		(3)		22.4%
Earth, environmental, and marine science teachers (113)	4		4		0		33		24		9		(29)		0.0%
Biological science teachers (114)	91		85		6		184		130		54		(93)		6.6%
Chemistry teachers (115)	109		65		44		181		143		38		(72)		40.4%
Physics teachers (116)	120		68		52		124		124		0		(4)		43.3%
Natural science teachers, n.e.c. (117)	13		13		0		29		23		6		(16)		0.0%
Psychology teachers (118)	82		38		44		66		36		30		16		53.7%
Economics teachers (119-122)	63		44		19		112		112		0		(49)		30.2%
History teachers (123)	95		70		25		120		100		20		(25)		26.3%
Political science teachers (124)	16		9		7		38		28		10		(22)		43.8%
Sociology teachers (125)	52		32		20		49		39		10		3		38.5%
Social science teachers, n.e.c. (126)	26		26		0		60		46		14		(34)		0.0%
Engineering teachers (127)	155		148		7		152		146		6		3		4.5%
Mathematical science teachers (128)	278		167		111		311		207		104		(33)		39.9%
Computer science teachers (129-132)	41		29		12		57		43		14		(16)		29.3%
Medical science teachers (133)	22		12		10		159		126		33		(137)		45.5%
Health specialties teachers (134)	335		77		258		431		81		350		(96)		77.0%
Business, commerce, and marketing teachers (135)	133		70		63		132		73		59		1		47.4%

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)

	Total Civilian Labor Force 1990	Male Labor Force 1990	Female Labor Force 1990	Total Civilian Labor Force 1980	Male Labor Force 1980	Female Labor Force 1980	Change in Total Labor Force	% Female in 1990
					Number	Percent		
Agriculture and forestry teachers (136)	22	13	9	235	225	10	(213)	-90.6%
Art, drama, and music teachers (137)	523	265	258	688	337	351	(165)	-24.0%
Physical education teachers (138)	72	45	27	246	127	119	(174)	-70.7%
Education teachers (139-142)	36	7	29	54	35	19	(18)	-33.3%
English teachers (143)	404	157	247	444	230	214	(40)	-9.0%
Foreign language teachers (144)	298	111	187	270	113	157	28	10.4%
Law teachers (145)	96	60	36	51	46	5	45	88.2%
Social work teachers (146)	2	0	2	7	5	2	(6)	-71.4%
Theology teachers (147)	71	39	32	140	107	33	(69)	-49.3%
Trade and industrial teachers (148)	38	25	13	192	142	50	(154)	-80.2%
Home economics teachers (149)	16	7	9	49	0	49	(33)	-67.3%
Teachers, postsecondary, n.e.c. (153)	178	118	60	69	64	5	109	158.0%
Postsecondary teachers, subject not specified (154)	13,125	8,021	5,104	7,248	5,067	2,181	5,877	81.1%
Teachers, kindergarten and kindergarten (155)	4,505	141	4,364	2,343	58	2,285	2,162	92.3%
Teachers, elementary school (156)	57,166	16,135	41,031	42,897	13,366	29,531	14,269	33.3%
Teachers, secondary school (157)	11,133	5,857	5,276	23,117	11,243	11,874	(11,984)	-51.8%
Teachers, special education (158)	1,354	243	1,111	744	235	509	610	82.0%
Teachers, n.e.c. (159)	11,295	3,825	7,470	6,876	2,680	4,196	4,419	64.3%
Counselors, Educational and Vocational (163)	4,431	2,036	2,395	3,742	1,948	1,794	689	18.4%
Librarians (164)	3,713	587	3,126	3,347	566	2,781	366	10.9%
Archivists and curators (165)	578	262	316	266	88	178	312	117.3%
Economists (166)	2,931	1,493	1,438	1,938	1,410	528	993	51.2%
Psychologists (167)	4,379	1,878	2,501	1,504	928	576	2,875	191.2%
Sociologists (168)	21	0	21	85	68	17	(64)	-75.3%
Social scientists, n.e.c. (169)	342	140	202	229	131	98	113	49.3%
Urban planners (173)	498	367	131	326	279	47	172	52.8%
Social workers (174)	14,938	4,475	10,463	9,593	3,559	6,034	5,345	55.7%
Recreation workers (175)	1,250	321	929	1,020	186	834	230	22.5%
Clergy (176)	6,852	5,877	975	6,078	5,618	460	774	12.7%
Religious workers, n.e.c. (177)	2,601	1,032	1,569	1,445	535	910	1,156	80.0%
Lawyers (178)	12,190	9,265	2,925	8,515	7,268	1,247	3,675	43.2%
Judges (179)	488	362	126	403	354	49	85	21.1%
Authors (183)	2,166	1,098	1,068	632	366	266	1,534	242.7%
Technical writers (184)	1,577	841	736	1,184	786	398	393	33.2%
Designers (185)	11,382	4,986	6,396	6,083	3,270	2,813	5,299	87.1%
Musicians and composers (186)	2,919	1,804	1,115	2,736	1,762	974	183	6.7%
Actors and directors (187)	1,530	1,031	499	779	550	229	751	96.4%
Painters, sculptors, craft-artists, artist printmakers (188)	4,055	2,079	1,976	3,060	1,539	1,521	995	32.5%
Photographers (189)	2,535	1,811	724	1,783	1,408	375	752	42.2%
Dancers (193)	282	27	255	149	49	100	133	89.3%
Artists, performers, and related workers, n.e.c. (194)	1,689	613	1,076	726	414	312	963	132.6%
Editors and reporters (195)	4,431	2,119	2,312	3,575	1,789	1,786	856	23.9%
Public relations specialists (197)	3,138	1,294	1,844	2,301	1,192	1,109	837	36.4%
Announcers (198)	1,373	1,095	278	894	747	147	479	53.6%
Athletes (199)	1,480	979	501	743	510	233	737	99.2%

Description (and SOC code)

Technicians and Technologists	49,596	43,779	67,007	37,353	29,654	26,368	39.4%	46.9%
Clinical laboratory technologists and technicians (203)	1,254	5,520	5,497	992	4,505	1,277	23.2%	81.5%
Dental hygienists (204)	7	1,872	1,110	7	1,103	769	69.3%	99.6%
Health record technologists and technicians (205)	92	1,377	369	37	332	1,100	298.1%	93.7%
Radiologic technicians (206)	374	1,949	1,967	335	1,632	356	18.1%	83.9%
Licensed practical nurses (207)	485	10,602	10,356	139	10,217	731	7.1%	95.6%
Health technologists and technicians, n.e.c. (208)	1,602	5,160	3,190	1,049	2,141	3,572	112.0%	76.3%
Electrical and electronic technicians (213)	6,762	5,160	3,190	1,049	2,141	3,572	112.0%	76.3%
Industrial engineering technicians (214)	9,178	1,297	7,057	6,314	743	2,121	30.1%	14.1%
Mechanical engineering technicians (215)	198	52	185	148	37	13	7.0%	26.3%
Engineering technicians, n.e.c. (216)	505	63	281	248	33	224	79.7%	12.5%
Drafting occupations (217)	5,008	1,396	5,241	3,942	1,299	(233)	-4.4%	27.9%
Surveying and mapping technicians (218)	6,560	894	6,463	5,807	656	97	1.5%	13.6%
Biological technicians (223)	1,296	113	811	761	50	485	59.8%	8.7%
Chemical technicians (224)	2,042	822	1,430	823	607	612	42.8%	40.3%
Science technicians, n.e.c. (225)	840	275	975	738	237	(135)	-13.8%	32.7%
Airplane pilots and navigators (226)	1,502	502	1,200	743	457	302	25.2%	33.4%
Air traffic controllers (227)	2,803	103	1,805	1,785	20	998	55.3%	3.7%
Broadcast equipment operators (228)	1,090	197	858	757	101	232	27.0%	18.1%
Computer programmers (229)	441	133	1,041	616	425	(467)	-44.9%	23.2%
Tool programmers, numerical control (233)	17,373	5,063	9,458	6,952	2,506	7,915	83.7%	29.1%
Legal assistants (234)	104	7	231	193	38	(127)	-55.0%	6.7%
Technicians, n.e.c. (235)	4,287	3,454	1,015	266	749	3,272	322.4%	80.6%
	9,721	2,928	6,467	4,701	1,766	3,254	50.3%	30.1%
Sales Occupations	269,477	124,849	192,856	101,203	91,553	76,621	39.7%	46.3%
Supervisors and proprietors—sales (243)—salaried	56,734	18,138	18,530	13,715	4,815	38,204	206.2%	32.0%
Supervisors and proprietors—sales (243)—self employed	6,789	2,360	6,698	4,882	1,816	91	1.4%	34.8%
Insurance sales occupations (253)	13,590	4,484	12,094	9,151	2,943	1,496	12.4%	33.0%
Real estate sales occupations (254)	13,088	5,757	11,347	7,194	4,153	1,741	15.3%	44.0%
Securities and financial services sales occupations (255)	5,927	1,813	2,722	2,210	512	3,205	117.7%	30.6%
Advertising and related sales occupations (256)	3,265	1,497	2,180	1,250	930	1,085	49.8%	45.8%
Sales occupations, other business services (257)	11,414	3,948	8,195	5,282	2,913	3,219	39.3%	34.6%
Sales engineers (258)	824	37	750	720	30	74	9.9%	4.5%
Sales representatives, mining, manufacturing, wholesale(259)	34,680	7,324	26,605	23,054	3,551	8,075	30.4%	21.1%
Sales workers, motor vehicles and boats (263)	6,275	601	5,372	4,967	405	903	16.8%	9.6%
Sales workers, apparel (264)	8,161	6,763	8,271	1,419	6,852	(110)	-1.3%	82.9%
Sales workers, shoes (265)	1,618	1,043	1,866	726	1,140	(248)	-13.3%	64.5%
Sales workers, furniture and home furnishings (266)	3,555	1,594	2,843	1,366	1,277	912	34.5%	55.2%
Sales workers, radio, TV, hi-fi, and appliances (267)	3,567	863	2,372	1,645	727	1,195	50.4%	24.2%
Sales workers, hardware and building supplies (268)	4,099	1,073	6,006	3,936	2,070	(1,907)	-31.8%	26.2%
Sales workers, parts (269)	2,696	201	4,352	4,033	319	(1,656)	-38.1%	7.5%
Sales counter clerks (275)	33,923	22,733	34,034	8,696	25,338	(111)	-0.3%	67.0%
Cashiers (276)	3,873	2,481	1,701	427	1,274	2,172	127.7%	64.1%
Street and door-to-door sales workers (277)	45,862	36,276	29,819	4,104	25,715	16,043	53.8%	79.1%
News vendors (278)	5,377	3,537	4,807	1,002	3,805	570	11.9%	65.8%
Demonstrators, promoters and models, sales (283)	2,507	722	1,748	1,129	619	759	43.4%	28.8%
Auctioneers (284)	1,134	998	311	58	253	823	264.6%	88.0%
Sales support occupations, n.e.c. (285)	155	23	197	143	54	(42)	-21.3%	14.8%
	364	216	236	94	142	128	54.2%	59.3%

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990		Male Labor Force 1990		Female Labor Force 1990		Total Civilian Labor Force 1980		Male Labor Force 1980		Female Labor Force 1980		Change in Total Labor Force		% Female in 1990	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Administrative Support Occupations, Including Clerical	371,367		78,859		292,508		324,205		67,642		256,563		47,162		14.5%	
Supervisors—general office (303)	8,913		2,741		6,172		8,273		3,152		5,121		640		7.7%	78.8%
Supervisors—computer equipment operators (304)	656		434		222		928		682		246		(272)		-29.3%	69.2%
Supervisors—financial records processing (305)	2,040		605		1,435		2,738		1,350		1,388		(698)		-25.5%	33.8%
Chief communications operators (306)	83		15		68		702		442		260		(619)		-88.2%	70.3%
Supervisors—distribution, scheduling, adjusting clerks(307)	3,327		2,176		1,151		2,443		1,905		538		884		36.2%	81.9%
Computer operators (308)	11,459		4,205		7,254		6,796		2,633		4,163		4,663		68.6%	34.6%
Peripheral equipment operators (309)	190		43		147		497		131		366		(307)		-61.8%	63.3%
Secretaries (313)	73,775		896		72,879		75,166		766		74,400		(1,391)		-1.9%	77.4%
Stenographers (314)	1,298		211		1,087		1,355		296		1,059		(57)		-4.2%	98.8%
Typists (315)	12,759		510		12,249		13,240		257		12,983		(481)		-3.6%	83.7%
Interviewers (316)	4,292		901		3,391		3,047		648		2,399		1,245		40.9%	96.0%
Hotel clerks (317)	1,230		306		924		1,016		374		642		214		21.1%	79.0%
Transportation ticket and reservation agents (318)	5,192		1,096		4,096		1,863		785		1,078		3,329		178.7%	75.1%
Receptionists (319)	18,361		817		17,544		11,688		489		11,199		6,673		57.1%	78.9%
Information clerks, n.e.c. (323)	4,192		854		3,338		1,643		419		1,224		2,549		155.1%	95.6%
Classified-ad clerks (325)	56		2		54		237		46		191		(181)		-76.4%	79.6%
Correspondence clerks (326)	211		39		172		240		21		219		(29)		-12.1%	96.4%
Order clerks (327)	4,419		1,189		3,230		5,668		1,918		3,750		(1,249)		-22.0%	81.5%
Personnel clerks, except payroll and timekeeping (328)	1,248		230		1,018		1,228		143		1,085		20		1.6%	73.1%
Library clerks (329)	3,208		601		2,607		3,177		542		2,635		31		1.0%	81.6%
File clerks (335)	4,106		649		3,457		4,491		1,087		3,404		(385)		-8.6%	81.3%
Records clerks (336)	2,602		504		2,098		2,305		323		1,982		297		12.9%	84.2%
Bookkeepers, accounting, and auditing clerks (337)	40,153		4,191		35,962		42,147		395		1,952		(1,994)		-4.7%	80.6%
Payroll and timekeeping clerks (338)	3,004		357		2,647		2,603		395		2,208		401		15.4%	88.1%
Billing clerks (339)	3,170		435		2,735		2,214		262		1,952		956		43.2%	89.6%
Cost and rate clerks (343)	1,577		396		1,181		1,853		536		1,317		(276)		-14.9%	88.1%
Billing, posting, and calculating machine operators (344)	956		104		852		1,114		127		987		(158)		-14.2%	74.9%
Duplicating machine operators (345)	712		232		480		388		108		280		324		83.5%	89.1%
Mail preparing and paper handling machine operators (346)	270		77		193		127		38		89		143		112.6%	67.4%
Office machine operators, n.e.c. (347)	760		277		483		700		203		497		60		8.6%	71.5%
Telephone operators (348)	3,144		395		2,749		4,079		447		3,632		(935)		-22.9%	63.6%
Communications equipment operators, n.e.c. (353)	144		40		104		291		154		137		(147)		-50.5%	87.4%
Postal clerks, except mail carriers (354)	6,209		3,668		2,541		4,994		3,362		1,632		1,215		24.3%	72.2%
Mail carriers, postal service (355)	6,009		4,580		1,429		4,718		4,141		1,632		1,291		27.4%	40.9%
Mail clerks, except postal service (356)	4,394		1,597		2,797		3,678		1,669		2,009		716		19.5%	23.8%
Messengers (357)	1,902		1,419		483		1,134		658		476		768		67.7%	63.7%
Dispatchers (359)	3,355		1,739		1,616		1,557		1,111		476		1,798		115.5%	25.4%
Production coordinators (363)	4,965		2,428		2,537		4,932		2,658		2,274		33		0.7%	48.2%
Traffic, shipping, and receiving clerks (364)	12,142		8,363		3,779		9,584		7,217		2,367		2,558		26.7%	51.1%
Stock and inventory clerks (365)	11,582		7,392		4,190		10,764		6,932		3,832		818		7.6%	31.1%
Meter readers (366)	774		646		128		674		614		60		100		14.8%	36.2%
Weighers, measurers, checkers, and samplers (368)	1,474		714		760		1,348		767		581		126		9.3%	16.5%
Expeditors (373)	5,488		1,796		3,692		2,093		910		1,183		3,395		162.2%	51.6%
Material recording, scheduling, & distrib. clerks, nec (374)	683		196		487		820		190		630		(137)		-16.7%	67.3%
Insurance adjusters, examiners, and investigators (375)	7,254		2,104		5,150		3,540		1,377		2,163		3,714		104.9%	71.3%
Investigators and adjusters, except insurance (376)	12,642		3,390		9,252		4,078		1,579		2,499		8,564		210.0%	71.0%
Eligibility clerks, social welfare (377)	883		73		810		1,265		70		449		364		478.6%	73.2%
Bill and account collectors (378)	3,524		1,237		2,287		1,265		442		823		2,259		178.6%	91.7%
General office clerks (379)	23,810		4,086		19,724		34,479		5,183		29,296		(10,669)		-30.9%	64.9%
Bank tellers (383)	8,297		695		7,602		8,432		595		7,837		(135)		-1.6%	82.8%
Proofreaders (384)	1,063		139		924		864		105		759		199		23.0%	91.6%
Data-entry keyers (385)	14,955		1,872		13,083		8,758		572		8,186		6,197		70.8%	86.9%
Statistical clerks (386)	2,506		747		1,759		1,933		560		1,373		573		29.6%	87.5%
Teachers' aides (387)	5,146		634		4,512		1,659		122		1,537		3,487		210.2%	70.2%
Administrative support occupations, n.e.c. (389)	14,803		3,816		10,987		8,125		2,153		5,972		6,678		82.2%	87.7%

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990		Male Labor Force 1990		Female Labor Force 1990		Total Civilian Labor Force 1980		Male Labor Force 1980		Female Labor Force 1980		Change in Total Labor Force		% Female in 1990	
													Number	Percent		
Private Household Service Workers																
Launderers and ironers (403)	6,270	336	5,934	7,360	293	7,067	(1,090)	-14.8%	293	6	14	20	100.0%	100.0%	94.6%	100.0%
Cooks, private household (404)	40	0	40	20	18	109	(82)	-64.6%	18	18	109	(82)	-82.5%	-82.5%	66.7%	66.7%
Housekeepers and butlers (405)	158	16	142	902	7	895	(744)	-82.5%	7	7	895	(744)	-82.5%	-82.5%	89.9%	89.9%
Child care workers, private household (406)	3,144	73	3,071	3,637	87	3,550	(493)	-13.6%	87	87	3,550	(493)	-13.6%	-13.6%	97.7%	97.7%
Private household cleaners and servants (407)	2,883	232	2,651	2,674	175	2,499	209	7.8%	175	175	2,499	209	7.8%	7.8%	92.0%	92.0%
Protective Service Occupations																
Supervisors—firefighting and fire prevention occ's (413)	22,946	19,306	3,640	17,555	15,719	1,836	5,391	30.7%	15,719	153	0	157	102.6%	102.6%	15.9%	15.9%
Supervisors—police and detectives (414)	310	310	0	153	153	0	157	0.0%	153	153	0	157	102.6%	102.6%	0.0%	0.0%
Supervisors—guards (415)	596	515	81	605	597	8	(9)	-1.5%	597	597	8	(9)	-1.5%	-1.5%	13.6%	13.6%
Fire inspection and fire prevention occupations (416)	541	481	60	192	175	17	349	181.8%	175	175	17	349	181.8%	181.8%	11.1%	11.1%
Firefighting occupations (417)	214	197	17	250	221	29	(36)	-14.4%	221	221	29	(36)	-14.4%	-14.4%	7.9%	7.9%
Police and detectives, public service (418)	1,851	1,783	68	1,693	1,678	15	158	9.3%	1,678	1,678	15	158	9.3%	9.3%	3.7%	3.7%
Sheriffs, bailiffs, and other law enforcement officers (423)	5,464	4,919	545	5,138	4,955	183	326	6.3%	4,955	4,955	183	326	6.3%	6.3%	10.0%	10.0%
Correctional institution officers (424)	1,799	1,497	302	1,375	1,258	117	424	30.8%	1,258	1,258	117	424	30.8%	30.8%	16.8%	16.8%
Crossing guards (425)	1,709	1,276	433	1,052	873	179	657	62.5%	873	873	179	657	62.5%	62.5%	25.3%	25.3%
Guards and police, except public service (426)	153	53	100	92	59	33	61	66.3%	59	59	33	61	66.3%	66.3%	65.4%	65.4%
Protective service occupations, n.e.c. (427)	9,321	7,793	1,528	6,372	5,471	901	2,949	46.3%	5,471	5,471	901	2,949	46.3%	46.3%	16.4%	16.4%
	988	482	506	633	279	354	355	56.1%	279	279	354	355	56.1%	56.1%	51.2%	51.2%
Other Service Occupations																
Supervisors—food preparation and service occupations (433)	290,087	96,519	193,568	253,588	84,082	169,506	36,499	14.4%	84,082	84,082	169,506	36,499	14.4%	14.4%	66.7%	66.7%
Bartenders (434)	5,254	1,919	3,335	4,423	1,816	2,607	831	18.8%	1,816	1,816	2,607	831	18.8%	18.8%	63.5%	63.5%
Waiters and waitresses (435)	8,598	4,607	3,991	9,229	5,129	4,100	(631)	-6.8%	5,129	5,129	4,100	(631)	-6.8%	-6.8%	46.4%	46.4%
Cooks (436)	32,531	3,714	28,817	37,799	2,432	35,367	(5,268)	-13.9%	2,432	2,432	35,367	(5,268)	-13.9%	-13.9%	88.6%	88.6%
Food counter, fountain and related occupations (438)	39,995	19,192	20,803	30,787	12,607	18,180	9,208	29.9%	12,607	12,607	18,180	9,208	29.9%	29.9%	52.0%	52.0%
Kitchen workers, food preparation (439)	4,184	1,062	3,122	2,860	564	2,296	1,324	46.3%	564	564	2,296	1,324	46.3%	46.3%	74.6%	74.6%
Waiters/waitresses' assistants (443)	3,450	635	2,815	2,120	371	1,749	1,330	62.7%	371	371	1,749	1,330	62.7%	62.7%	81.6%	81.6%
Miscellaneous food preparation occupations (444)	6,521	3,281	3,240	5,587	3,464	2,123	934	16.7%	3,464	3,464	2,123	934	16.7%	16.7%	49.7%	49.7%
Dental assistants (445)	15,937	7,594	8,343	15,432	6,191	9,241	505	3.3%	6,191	6,191	9,241	505	3.3%	3.3%	52.3%	52.3%
Health aides, except nursing (446)	3,723	30	3,693	3,387	61	3,326	336	9.9%	61	61	3,326	336	9.9%	9.9%	99.2%	99.2%
Nursing aides, orderlies, and attendants (447)	6,193	1,080	5,113	6,809	884	5,925	(616)	-9.0%	884	884	5,925	(616)	-9.0%	-9.0%	82.6%	82.6%
Supervisors—cleaning and building service workers (448)	40,630	5,111	35,519	35,341	4,101	31,240	5,289	15.0%	4,101	4,101	31,240	5,289	15.0%	15.0%	87.4%	87.4%
Maids and housemen (449)	2,905	2,050	855	1,631	1,145	486	1,274	78.1%	1,145	1,145	486	1,274	78.1%	78.1%	29.4%	29.4%
Janitors and cleaners (453)	12,537	1,789	10,748	12,009	1,905	10,104	528	4.4%	1,905	1,905	10,104	528	4.4%	4.4%	85.7%	85.7%
Elevator operators (454)	50,026	36,544	13,482	45,338	36,335	9,003	4,688	10.3%	36,335	36,335	9,003	4,688	10.3%	10.3%	26.9%	26.9%
Pest control occupations (455)	172	147	25	177	147	30	(5)	-2.8%	147	147	30	(5)	-2.8%	-2.8%	14.5%	14.5%
Supervisors—personal service occupations (456)	293	268	25	156	148	8	137	87.8%	148	148	8	137	87.8%	87.8%	8.5%	8.5%
Barbers (457)	1,327	311	1,016	825	431	394	502	60.8%	431	431	394	502	60.8%	60.8%	76.6%	76.6%
Hairdressers and cosmetologists (458)	1,565	1,268	297	2,085	1,756	329	(520)	-24.9%	1,756	1,756	329	(520)	-24.9%	-24.9%	19.0%	19.0%
Attendants, amusement and recreation facilities (459)	12,654	893	11,761	9,500	772	8,728	3,154	33.2%	772	772	8,728	3,154	33.2%	33.2%	92.9%	92.9%
Guides (461)	2,240	1,353	887	1,546	925	621	694	44.9%	925	925	621	694	44.9%	44.9%	39.6%	39.6%
Ushers (462)	619	301	318	575	211	364	44	7.7%	211	211	364	44	7.7%	7.7%	51.4%	51.4%
Public transportation attendants (463)	597	341	256	527	375	152	70	13.3%	375	375	152	70	13.3%	13.3%	42.9%	42.9%
Baggage porters and bellhops (464)	3,169	432	2,737	2,598	293	2,305	571	22.0%	293	293	2,305	571	22.0%	22.0%	86.4%	86.4%
Welfare service aides (465)	649	592	57	309	274	35	340	110.0%	274	274	35	340	110.0%	110.0%	8.8%	8.8%
Family child care providers (466)	1,043	166	877	1,073	95	978	(30)	-2.8%	95	95	978	(30)	-2.8%	-2.8%	84.1%	84.1%
Early childhood teacher's assistants (467)	18,231	150	18,081	17,837	1,010	16,827	394	2.2%	1,010	1,010	16,827	394	2.2%	2.2%	99.2%	99.2%
Child care workers, n.e.c. (468)	7,768	354	7,414	na	0	na	7,768	na	0	0	na	7,768	na	na	95.4%	95.4%
Personal service occupations, n.e.c. (469)	4,204	554	3,650	na	0	na	4,204	na	0	0	na	4,204	na	na	86.8%	86.8%
	3,072	781	2,291	3,628	640	2,988	(556)	-15.3%	640	640	2,988	(556)	-15.3%	-15.3%	74.6%	74.6%

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)

	Total Civilian Labor Force 1990	Male Labor Force 1990	Female Labor Force 1990	Total Civilian Labor Force 1980	Male Labor Force 1980	Female Labor Force 1980	Change in Total Labor Force	Percent	% Female in 1990
							Number		
Farming, Forestry, and Fishing Occupations									
Farmers, except horticultural (473)	87,829	73,893	13,936	111,286	95,066	16,220	(23,457)	-21.1%	15.9%
Horticultural specialty farmers (474)	47,156	40,695	6,461	69,692	63,533	6,159	(22,536)	-32.3%	13.7%
Managers, farms, except horticultural (475)	240	223	17	206	158	48	34	16.5%	7.1%
Supervisors-farm workers (476)	8,993	7,970	1,023	3,894	3,601	293	5,099	130.9%	11.4%
Farm workers (479)	497	184	109	166	132	34	127	76.5%	37.2%
Marine life cultivation workers (483)	15,818	12,292	3,526	26,111	18,357	7,754	(10,293)	-39.4%	26.8%
Nursery workers (484)	8	7	1	13	5	8	(5)	-38.5%	22.3%
Supervisors-related agricultural occupations (485)	498	183	315	500	249	251	(2)	-0.4%	12.5%
Groundskeepers and gardeners, except farm (486)	989	901	88	433	391	42	556	128.4%	63.3%
Animal caretakers, except farm (487)	8,045	7,312	733	5,377	4,789	588	2,668	49.6%	8.9%
Graders and sorters, agricultural products (488)	1,683	593	1,090	910	291	619	773	84.9%	9.1%
Inspectors, agricultural products (489)	473	191	282	183	69	114	290	158.5%	64.8%
Supervisors-forestry and logging workers (494)	50	25	25	34	24	10	16	47.1%	59.6%
Forestry workers, except logging (495)	163	158	5	76	72	4	87	114.5%	50.0%
Timber cutting and logging occupations (496)	356	291	65	539	458	81	(183)	-34.0%	3.1%
Captains and other officers, fishing vessels (497)	2,331	2,278	53	2,204	2,172	32	127	5.8%	18.3%
Fishers (498)	5	5	0	7	7	0	(2)	-28.6%	2.3%
Hunters and trappers (499)	157	149	8	295	248	47	(138)	-46.8%	0.0%
	74	72	2	77	63	14	(3)	-3.9%	5.1%
									2.7%
Precision Production, Craft, and Repair Occupations									
Supervisors-mechanics and repairers (503)	239,421	214,533	24,888	233,173	213,775	19,398	6,248	2.7%	10.4%
Automobile mechanics, except apprentices (505)	3,997	3,679	318	2,720	2,641	79	1,277	46.9%	8.0%
Automobile mechanic apprentices (506)	15,417	15,279	138	18,549	18,398	151	(3,132)	-16.9%	0.9%
Bus, truck, and stationary engine mechanics (507)	9	9	0	129	122	7	(120)	-93.0%	0.0%
Small engine repairers (509)	5,308	5,254	54	2,556	2,545	11	2,752	107.7%	1.0%
Automobile body and related repairers (514)	3,008	2,952	56	1,873	1,856	17	1,135	60.6%	1.9%
Aircraft mechanics, except engine (515)	1,139	1,135	4	716	716	0	423	59.1%	0.4%
Heavy equipment mechanics (516)	4,669	4,604	65	4,165	4,150	15	504	12.1%	1.4%
Industrial machinery repairers (518)	635	618	17	196	195	1	439	224.0%	2.7%
Machinery maintenance occupations (519)	3,113	3,089	24	3,709	3,684	25	(596)	-16.1%	0.8%
Electronic repairers, communications & industrial equip(523)	1,454	1,441	13	1,718	1,684	34	(264)	-15.4%	0.9%
Data processing equipment repairers (525)	5,292	5,013	279	7,573	7,354	219	(2,281)	-30.1%	5.3%
Household appliance and power tool repairers (526)	487	471	16	858	807	51	(371)	-43.2%	3.3%
Telephone line installers and repairers (527)	2,384	2,226	158	2,761	2,661	100	(377)	-13.7%	6.6%
Telephone installers and repairers (529)	1,850	1,569	281	1,155	1,077	78	695	60.2%	15.2%
Miscellaneous electrical and electronic equip repairers(533)	982	968	14	1,532	1,500	32	(550)	-35.9%	1.4%
Heating, air conditioning, and refrigeration mechanics (534)	642	604	38	983	920	63	(341)	-34.7%	5.9%
Camera, watch, and musical instrument repairers (535)	2,783	2,405	378	3,759	3,317	442	(976)	-26.0%	13.6%
Locksmiths and safe repairers (536)	789	740	49	657	618	39	132	20.1%	6.2%
Office machine repairers (538)	2,526	2,507	19	1,497	1,481	16	1,029	68.7%	0.8%
Mechanical controls and valve repairers (539)	651	584	67	767	692	75	(116)	-15.1%	10.3%
Elevator installers and repairers (543)	417	385	32	226	207	19	191	84.5%	7.7%
Millwrights (544)	914	858	56	656	634	22	258	39.3%	6.1%
Specified mechanics and repairers, n.e.c. (547)	299	289	10	409	367	42	(110)	-26.9%	3.3%
Not specified mechanics and repairers (549)	423	421	2	484	479	5	(61)	-12.6%	0.5%
	1,930	1,866	64	2,857	2,657	200	(927)	-32.4%	3.3%
	3,195	2,988	207	5,098	4,831	267	(1,903)	-37.3%	6.5%
	8,495	8,195	300	2,265	2,140	125	6,230	275.1%	3.5%

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990		Male Labor Force 1990		Female Labor Force 1990		Total Civilian Labor Force 1980		Male Labor Force 1980		Female Labor Force 1980		Change in Total Labor Force		% Female in 1990	
													Number	Percent		
Supervisors--brickmasons, stonemasons, and tile setters (553)	266	266	266	266	0	0	97	97	95	95	2	2	169	174.2%	0.0%	0.0%
Supervisors--carpenters and related workers (554)	959	959	959	959	0	0	515	515	513	513	2	2	444	86.2%	0.0%	0.0%
Supervisors--electricians & power transmission install (555)	936	936	936	936	33	33	537	537	531	531	6	6	399	74.3%	3.5%	3.5%
Supervisors--painters, paperhangers, and plasterers (556)	297	297	290	290	7	7	170	170	163	163	7	7	127	74.7%	2.4%	2.4%
Supervisors--plumbers, pipefitters, and steamfitters (557)	305	305	305	305	0	0	268	268	262	262	6	6	37	13.8%	0.0%	0.0%
Supervisors--construction n.e.c. (558)	8,813	8,677	8,677	8,677	136	136	10,343	10,343	10,196	10,196	147	147	(1,530)	-14.8%	1.5%	1.5%
Brickmasons and stonemasons, except apprentices (563)	3,453	3,427	3,427	3,427	26	26	3,786	3,786	3,740	3,740	46	46	(333)	-8.8%	0.8%	0.8%
Brickmason and stonemason apprentices (564)	8	8	8	8	0	0	48	48	48	48	0	0	(40)	-83.3%	0.0%	0.0%
Tile setters, hard and soft (565)	564	551	551	551	13	13	562	562	549	549	13	13	2	0.4%	2.3%	2.3%
Carpet installers (566)	2,209	2,163	2,163	2,163	46	46	1,815	1,815	1,794	1,794	21	21	394	21.7%	2.1%	2.1%
Carpenters, except apprentices (567)	23,666	23,257	23,257	23,257	409	409	27,988	27,988	27,583	27,583	405	405	(4,322)	-15.4%	1.7%	1.7%
Carpenter apprentices (569)	53	53	53	53	0	0	208	208	172	172	36	36	(155)	-74.5%	0.0%	0.0%
Drywall installers (573)	2,555	2,513	2,513	2,513	42	42	2,081	2,081	2,039	2,039	42	42	474	22.8%	1.6%	1.6%
Electricians, except apprentices (575)	9,440	9,279	9,279	9,279	161	161	9,417	9,417	9,255	9,255	162	162	23	0.2%	1.7%	1.7%
Electrician apprentices (576)	328	308	308	308	20	20	333	333	327	327	6	6	(5)	-1.5%	6.1%	6.1%
Electrical power installers and repairers (577)	1,959	1,952	1,952	1,952	7	7	2,147	2,147	2,132	2,132	15	15	(188)	-8.8%	0.4%	0.4%
Painters, construction and maintenance (579)	7,559	6,758	6,758	6,758	801	801	6,270	6,270	5,790	5,790	480	480	1,289	20.6%	10.6%	10.6%
Paperhangers (583)	373	244	244	244	129	129	373	373	271	271	102	102	0	0.0%	34.6%	34.6%
Plasterers (584)	386	374	374	374	12	12	368	368	359	359	9	9	18	4.9%	3.1%	3.1%
Plumbers, pipefitters, & steamfitters, exc. apprentices (585)	7,354	7,276	7,276	7,276	78	78	7,713	7,713	7,651	7,651	62	62	(359)	-4.7%	1.1%	1.1%
Plumber, pipefitter, and steamfitter apprentices (587)	125	125	125	125	0	0	161	161	161	161	0	0	(36)	-22.4%	0.0%	0.0%
Concrete and terrazzo finishers (588)	1,428	1,423	1,423	1,423	5	5	1,339	1,339	1,333	1,333	6	6	89	6.6%	0.4%	0.4%
Glaziers (589)	684	612	612	612	72	72	635	635	582	582	53	53	49	7.7%	10.5%	10.5%
Insulation workers (593)	1,130	1,068	1,068	1,068	62	62	1,088	1,088	1,058	1,058	30	30	42	3.9%	5.5%	5.5%
Paving, surfacing, and tamping equipment operators (594)	236	234	234	234	2	2	173	173	170	170	3	3	63	36.4%	0.8%	0.8%
Roofers (595)	2,363	2,348	2,348	2,348	15	15	1,731	1,731	1,721	1,721	10	10	632	36.5%	0.6%	0.6%
Sheetmetal duct installers (596)	486	481	481	481	5	5	937	937	929	929	8	8	(451)	-48.1%	1.0%	1.0%
Structural metal workers (597)	1,251	1,230	1,230	1,230	21	21	1,395	1,395	1,380	1,380	15	15	(144)	-10.3%	1.7%	1.7%
Drillers, earth (598)	326	324	324	324	2	2	600	600	594	594	6	6	(274)	-45.7%	0.6%	0.6%
Construction trades, n.e.c. (599)	3,352	3,237	3,237	3,237	115	115	3,001	3,001	2,935	2,935	66	66	351	11.7%	3.4%	3.4%
Supervisors--extractive occupations (613)	434	427	427	427	7	7	1,080	1,080	1,073	1,073	7	7	(646)	-59.8%	1.6%	1.6%
Drillers, oil well (614)	143	143	143	143	0	0	114	114	112	112	2	2	29	25.4%	0.0%	0.0%
Explosives workers (615)	49	49	49	49	0	0	137	137	137	137	0	0	(88)	-64.2%	0.0%	0.0%
Mining machine operators (616)	460	431	431	431	29	29	579	579	569	569	10	10	(119)	-20.6%	6.3%	6.3%
Mining occupations, n.e.c. (617)	167	151	151	151	16	16	561	561	524	524	37	37	(394)	-70.2%	9.6%	9.6%
Supervisors--production occupations (628)	23,272	18,705	18,705	18,705	4,567	4,567	26,786	26,786	22,288	22,288	4,498	4,498	(3,514)	-13.1%	19.6%	19.6%
Tool and die makers, except apprentices (634)	2,690	2,630	2,630	2,630	60	60	3,226	3,226	3,158	3,158	68	68	(536)	-16.6%	2.2%	2.2%
Tool and die maker apprentices (635)	2	2	2	2	0	0	40	40	40	40	0	0	(38)	-95.0%	0.0%	0.0%
Precision assemblers, metal (636)	482	381	381	381	101	101	241	241	165	165	76	76	241	100.0%	21.0%	21.0%
Machinists, except apprentices (637)	12,379	11,809	11,809	11,809	570	570	9,308	9,308	8,826	8,826	482	482	3,071	33.0%	4.6%	4.6%
Machinist apprentices (639)	22	16	16	16	6	6	66	66	64	64	2	2	(44)	-66.7%	27.3%	27.3%
Boilermakers (643)	260	247	247	247	13	13	345	345	345	345	0	0	(85)	-24.6%	5.0%	5.0%
Precision grinders, filers, and tool sharpeners (644)	432	418	418	418	14	14	233	233	206	206	27	27	199	85.4%	3.2%	3.2%
Patternmakers and model makers, metal (645)	31	31	31	31	0	0	250	250	214	214	36	36	(219)	-87.6%	0.0%	0.0%
Lay-out workers (646)	80	63	63	63	17	17	135	135	101	101	34	34	(55)	-40.7%	21.3%	21.3%
Precious stones and metals workers (Jewelers) (647)	665	432	432	432	233	233	347	347	259	259	88	88	318	91.6%	35.0%	35.0%
Engravers, metal (649)	365	241	241	241	124	124	306	306	127	127	179	179	59	19.3%	34.0%	34.0%
Sheet metal workers, except apprentices (653)	2,829	2,770	2,770	2,770	59	59	2,330	2,330	2,267	2,267	63	63	499	21.4%	2.1%	2.1%
Sheet metal worker apprentices (654)	24	24	24	24	0	0	12	12	11	11	1	1	12	100.0%	0.0%	0.0%

1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990	Male Labor Force 1990	Female Labor Force 1990	Total Civilian Labor Force 1980	Male Labor Force 1980	Female Labor Force 1980	Change in Total Labor Force		% Female in 1990
							Number	Percent	
Miscellaneous precision metal workers (655)	40	35	5	29	7	22	11	37.9%	12.5%
Patternmakers and model makers, wood (656)	50	42	8	38	31	7	12	31.6%	16.0%
Cabinet makers and bench carpenters (657)	2,312	2,154	158	1,760	1,613	147	552	31.4%	6.8%
Furniture and wood finishers (658)	543	431	112	374	272	102	169	45.2%	20.6%
Miscellaneous precision woodworkers (659)	39	39	0	115	99	16	(76)	-66.1%	0.0%
Dressmakers (666)	1,680	74	1,606	1,916	60	1,856	(236)	-12.3%	95.6%
Tailors (667)	624	119	505	790	301	489	(166)	-21.0%	80.9%
Upholsterers (668)	1,074	664	410	1,122	730	392	(48)	-4.3%	38.2%
Shoe repairers (669)	414	281	133	448	336	112	(34)	-7.6%	32.1%
Miscellaneous precision apparel and fabric workers (674)	132	65	67	241	90	151	(109)	-45.2%	50.8%
Hand molders and shapers, except jewelers (675)	513	402	111	652	528	124	(139)	-21.3%	21.6%
Patternmakers, lay-out workers, and cutters (676)	287	251	36	114	75	39	173	151.8%	12.5%
Optical goods workers (677)	2,102	956	1,146	1,403	734	669	699	49.8%	54.5%
Dental laboratory and medical appliance technicians (678)	1,467	752	715	1,092	748	344	375	34.3%	48.7%
Bookbinders (679)	1,049	605	444	1,005	474	531	44	4.4%	42.3%
Electrical and electronic equipment assemblers (683)	6,686	2,299	4,387	1,860	395	1,465	4,826	259.5%	65.6%
Miscellaneous precision workers, n.e.c. (684)	1,220	1,017	203	1,626	1,298	328	(406)	-25.0%	16.6%
Butchers and meat cutters (686)	6,431	5,186	1,245	6,645	5,395	1,250	(214)	-3.2%	19.4%
Bakers (687)	3,216	1,742	1,474	2,635	1,474	1,161	581	22.0%	45.8%
Food batchmakers (688)	1,336	643	693	938	681	257	398	42.4%	51.9%
Inspectors, testers, and graders (689)	1,977	1,563	414	1,307	1,028	279	670	51.3%	20.9%
Adjusters and calibrators (693)	165	107	58	22	8	14	143	650.0%	35.2%
Water and sewage treatment plant operators (694)	818	773	45	537	531	6	281	52.3%	5.5%
Power plant operators (695)	469	429	40	478	446	32	(9)	-1.9%	8.5%
Stationary engineers (696)	3,726	3,589	137	3,381	3,327	54	345	10.2%	3.7%
Miscellaneous plant and system operators (699)	593	551	42	582	542	40	11	1.9%	7.1%
Operators and Fabricators	153,697	96,909	56,788	159,178	96,057	63,121	(5,481)	-3.4%	36.9%
Lathe and turning machine set-up operators (703)	307	277	30	583	486	97	(276)	-47.3%	9.8%
Lathe and turning machine operators (704)	388	325	63	1,692	1,507	185	(1,304)	-77.1%	16.2%
Milling and planing machine operators (705)	132	106	26	266	242	24	(134)	-50.4%	19.7%
Punching and stamping press machine operators (706)	2,539	1,994	545	3,546	2,682	864	(1,007)	-28.4%	21.5%
Rolling machine operators (707)	139	92	47	116	72	44	23	19.8%	33.8%
Drilling and boring machine operators (708)	436	346	90	1,263	879	384	(827)	-65.5%	20.6%
Grinding, abrading, buffing, & polishing machine oper. (709)	2,283	1,912	371	4,091	3,382	709	(1,808)	-44.2%	16.3%
Forging machine operators (713)	229	212	17	205	182	23	24	11.7%	7.4%
Numerical control machine operators (714)	40	31	9	51	45	6	(11)	-21.6%	22.5%
Misc. metal, plastic, stone, & glass working machine op(715)	412	343	69	218	187	31	194	89.0%	16.7%
Fabricating machine operators, n.e.c. (717)	520	328	192	364	264	100	156	42.9%	36.9%
Molding and casting machine operators (719)	2,258	1,824	434	3,956	2,499	1,457	(1,698)	-42.9%	19.2%
Metal plating machine operators (723)	939	816	123	1,148	1,022	126	(209)	-18.2%	13.1%
Heat treating equipment operators (724)	266	235	31	210	199	11	56	26.7%	11.7%
Misc. metal and plastic processing machine operators (725)	457	331	126	259	211	48	198	76.4%	27.6%
Wood lathe, routing, and planing machine operators (726)	150	111	39	111	100	11	39	35.1%	26.0%
Sawing machine operators (727)	1,421	1,302	119	1,438	1,282	156	(17)	-1.2%	8.4%
Shaping and joining machine operators (728)	102	89	13	208	102	106	(106)	-51.0%	12.7%
Nailing and tacking machine operators (729)	77	44	33	106	49	57	(29)	-27.4%	42.9%
Miscellaneous woodworking machine operators (733)	965	779	186	604	506	98	361	59.8%	19.3%

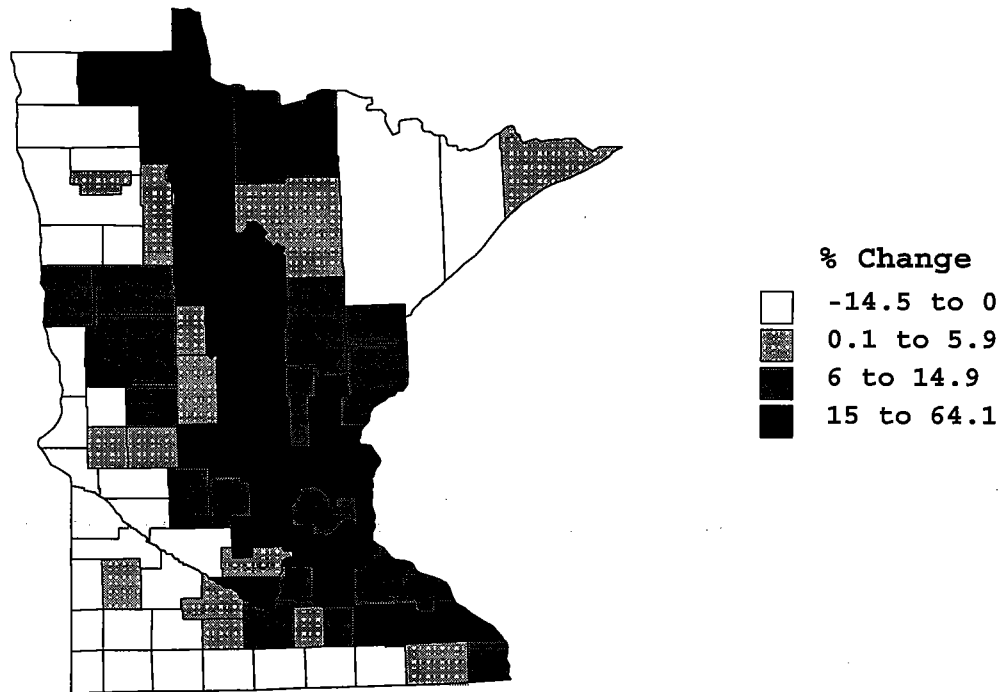
1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990		Male Labor Force 1990		Female Labor Force 1990		Total Civilian Labor Force 1980		Male Labor Force 1980		Female Labor Force 1980		Change in Total Labor Force		% Female in 1990	
													Number	Percent		
Printing press operators (734)	9,970	7,866	2,104	7,338	5,977	1,361	2,632	35.9%	1,361	2,632	35.9%	21.1%				
Photoengravers and lithographers (735)	1,773	1,227	546	499	392	107	1,274	255.3%	107	1,274	255.3%	30.8%				
Typesetters and compositors (736)	2,255	595	1,660	2,502	1,172	1,330	(247)	-9.9%	1,330	(247)	-9.9%	73.6%				
Miscellaneous printing machine operators (737)	2,018	930	1,088	1,309	524	785	709	54.2%	785	709	54.2%	53.9%				
Winding and twisting machine operators (738)	77	30	47	179	81	98	(102)	-57.0%	98	(102)	-57.0%	61.0%				
Knitting, looping, taping, and weaving machine operator(739)	190	43	147	250	38	212	(60)	-24.0%	212	(60)	-24.0%	77.4%				
Textile cutting machine operators (743)	75	35	40	98	24	74	(23)	-23.5%	74	(23)	-23.5%	53.3%				
Textile sewing machine operators (744)	3,543	384	3,159	4,084	152	3,932	(541)	-13.2%	3,932	(541)	-13.2%	89.2%				
Shoe machine operators (745)	258	118	140	383	147	236	(125)	-32.6%	236	(125)	-32.6%	54.3%				
Pressing machine operators (747)	2,358	896	1,462	874	115	759	1,484	169.8%	759	1,484	169.8%	62.0%				
Laundering and dry cleaning machine operators (748)	3,990	1,111	2,879	3,957	949	3,008	33	0.8%	3,008	33	0.8%	72.2%				
Miscellaneous textile machine operators (749)	831	614	217	590	376	214	241	40.8%	214	241	40.8%	26.1%				
Cementing and gluing machine operators (753)	569	410	159	671	464	207	(102)	-15.2%	207	(102)	-15.2%	27.9%				
Packaging and filling machine operators (754)	5,293	2,556	2,737	2,768	1,377	1,391	2,525	91.2%	1,391	2,525	91.2%	51.7%				
Extruding and forming machine operators (755)	488	410	78	535	471	64	(47)	-8.8%	64	(47)	-8.8%	16.0%				
Mixing and blending machine operators (756)	1,633	1,446	187	1,344	1,201	143	289	21.5%	143	289	21.5%	11.5%				
Separating, filtering, and clarifying machine operators(757)	758	656	102	914	852	62	(156)	-17.1%	62	(156)	-17.1%	13.5%				
Compressing and compacting machine operators (758)	452	384	68	268	213	55	184	68.7%	55	184	68.7%	15.0%				
Painting and paint spraying machine operators (759)	2,270	1,895	375	2,699	2,348	351	(429)	-15.9%	351	(429)	-15.9%	16.5%				
Roasting and baking machine operators, food (763)	205	181	24	303	285	18	(98)	-32.3%	18	(98)	-32.3%	11.7%				
Washing, cleaning, and pickling machine operators (764)	123	64	59	158	142	16	(35)	-22.2%	16	(35)	-22.2%	48.0%				
Folding machine operators (765)	358	154	204	411	195	216	(53)	-12.9%	216	(53)	-12.9%	57.0%				
Furnace, kiln, and oven operators, except food (766)	1,629	1,577	52	2,200	2,114	86	(571)	-26.0%	86	(571)	-26.0%	3.2%				
Crushing and grinding machine operators (768)	1,013	902	111	1,546	1,414	132	(533)	-34.5%	132	(533)	-34.5%	11.0%				
Slicing and cutting machine operators (769)	3,484	2,616	868	3,473	2,609	864	11	0.3%	864	11	0.3%	24.9%				
Motion picture projectionists (773)	139	118	21	255	240	15	(116)	-45.5%	15	(116)	-45.5%	15.1%				
Photographic process machine operators (774)	2,404	970	1,434	2,145	811	1,334	259	12.1%	1,334	259	12.1%	59.7%				
Misc. machine oper. - nondurable manufacturing (777)	3,979	2,761	1,218	10,022	6,095	3,927	(6,043)	-60.3%	3,927	(6,043)	-60.3%	30.6%				
Misc. machine oper. - durable manufacturing (777)	3,998	2,885	1,113	14,308	9,455	4,853	(10,310)	-72.1%	4,853	(10,310)	-72.1%	27.8%				
Misc. machine oper. - nonmanufacturing (777)	1,748	1,021	727	5,037	3,465	1,572	(3,289)	-65.3%	1,572	(3,289)	-65.3%	41.6%				
Machine oper., not spec. - nondurable manufacturing (779)	5,087	3,368	1,719	na	0	na	5,087	na	na	5,087	na	33.8%				
Machine oper., not spec. - durable manufacturing (779)	5,725	4,193	1,532	na	0	na	5,725	na	na	5,725	na	26.8%				
Machine oper., not spec. - nonmanufacturing (779)	3,393	2,570	823	na	0	na	3,393	na	na	3,393	na	24.3%				
Welders and cutters (783)	12,493	12,014	479	15,084	14,300	784	(2,591)	-17.2%	784	(2,591)	-17.2%	3.8%				
Solderers and brazers (784)	670	174	496	991	143	848	(321)	-32.4%	848	(321)	-32.4%	74.0%				
Assemblers (785)	37,761	19,345	18,416	37,305	15,011	22,294	456	1.2%	22,294	456	1.2%	48.8%				
Hand cutting and trimming occupations (786)	308	266	42	651	448	203	(343)	-52.7%	203	(343)	-52.7%	13.6%				
Hand molding, casting, and forming occupations (787)	527	414	113	199	116	83	328	164.8%	83	328	164.8%	21.4%				
Hand painting, coating, and decorating occupations (789)	959	612	347	741	502	239	218	29.4%	239	218	29.4%	36.2%				
Hand engraving and printing occupations (793)	550	289	261	31	15	16	519	1674.2%	16	519	1674.2%	47.5%				
Miscellaneous hand working occupations (795)	673	502	171	435	224	211	238	54.7%	211	238	54.7%	25.4%				
Production inspectors, checkers, and examiners (796)	10,282	4,883	5,399	9,029	4,098	4,931	1,253	13.9%	4,931	1,253	13.9%	52.5%				
Production testers (797)	1,273	849	424	1,248	771	477	25	2.0%	477	25	2.0%	33.3%				
Production samplers and weighers (798)	170	116	54	191	122	69	(21)	-11.0%	69	(21)	-11.0%	31.8%				
Graders and sorters, except agricultural (799)	1,885	962	923	1,718	711	1,007	167	9.7%	1,007	167	9.7%	49.0%				

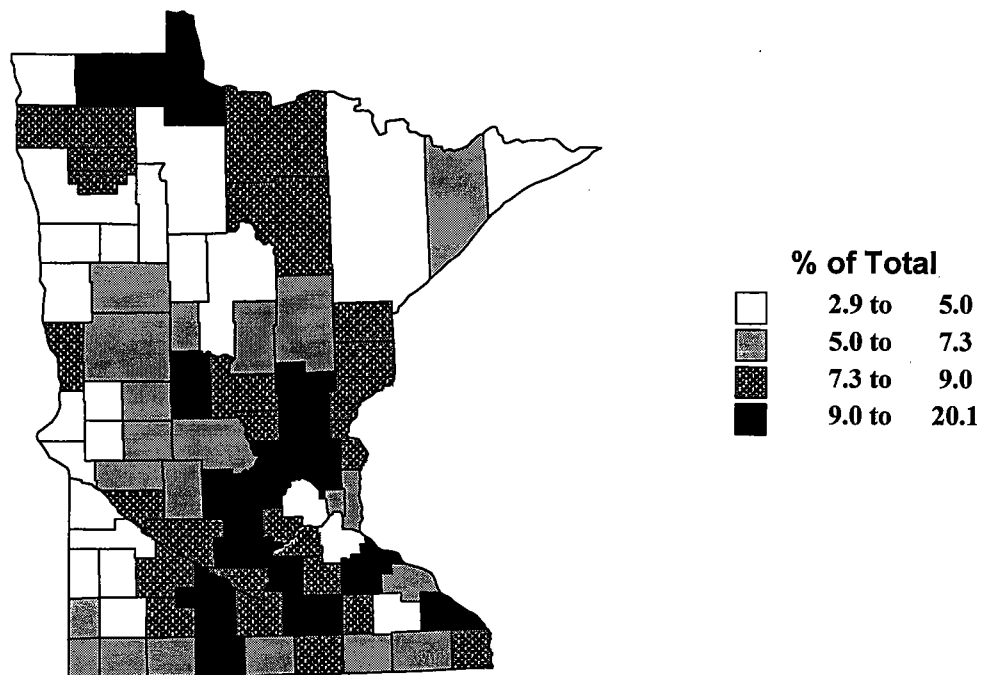
1980 and 1990 Census Equal Employment Opportunity (EEO) File Data for Minnesota: Detailed Occupation

Description (and SOC code)	Total Civilian Labor Force 1990		Male Labor Force 1990		Female Labor Force 1990		Total Civilian Labor Force 1980		Male Labor Force 1980		Female Labor Force 1980		Change in Total Labor Force		% Female in 1990	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Transportation Occupations																
Supervisors--motor vehicle operators (803)	91,864		85,170		6,694		88,974		83,330		5,644		2,890		3.2%	
Truck drivers (804)	1,258		1,079		179		498		464		34		760		152.6%	7.3%
Driver-sales workers (806)	54,360		51,835		2,525		48,450		47,320		1,130		5,910		12.2%	14.2%
Bus drivers (808)	2,579		2,359		220		3,406		3,146		260		(827)		-24.3%	4.6%
Taxicab drivers and chauffeurs (809)	9,369		6,587		2,782		8,968		6,196		2,772		401		4.5%	8.5%
Parking lot attendants (813)	2,599		2,380		219		2,049		1,722		327		550		26.8%	29.7%
Motor transportation occupations, n.e.c. (814)	589		517		72		730		663		67		(141)		-19.3%	8.4%
Railroad conductors and yardmasters (823)	59		59		0		89		89		0		(30)		-33.7%	12.2%
Locomotive operating occupations (824)	653		643		10		663		647		16		(10)		-1.5%	0.0%
Railroad brake, signal, and switch operators (825)	750		742		8		1,228		1,201		27		(478)		-38.9%	1.1%
Rail vehicle operators, n.e.c. (826)	809		807		2		2,119		2,085		34		(1,310)		-61.8%	0.2%
Ship captains and mates, except fishing boats (828)	64		60		4		133		133		0		(69)		-51.9%	6.3%
Sailors and deckhands (829)	154		154		0		231		217		14		(77)		-33.3%	0.0%
Marine engineers (833)	109		109		0		265		244		21		(156)		-58.9%	0.0%
Bridge, lock, and lighthouse tenders (834)	63		63		0		96		88		8		(33)		-34.4%	0.0%
Supervisors--material moving equipment operators (843)	102		91		11		80		63		17		22		27.5%	10.8%
Operating engineers (844)	553		539		14		673		652		21		(120)		-17.8%	2.5%
Longshore equipment operators (845)	5,201		5,157		44		5,718		5,643		75		(517)		-9.0%	0.8%
Hoist and winch operators (848)	12		12		0		9		9		0		3		33.3%	0.0%
Crane and tower operators (849)	62		62		0		161		129		32		(99)		-61.5%	0.0%
Excavating and loading machine operators (853)	1,037		1,020		17		1,556		1,513		43		(519)		-33.4%	1.6%
Grader, dozer, and scraper operators (855)	1,795		1,774		21		1,367		1,357		10		428		31.3%	1.2%
Industrial truck and tractor equipment operators (856)	1,239		1,215		24		1,265		1,240		25		(26)		-2.1%	1.9%
Miscellaneous material moving equipment operators (859)	7,223		6,851		372		6,858		6,513		345		365		5.3%	5.2%
	1,225		1,055		170		2,362		1,996		366		(1,137)		-48.1%	13.9%
Handlers, Equipment Cleaners, Helpers, and Laborers																
Supervisors--handlers, equip cleaners, & laborers, nec (864)	90,741		71,889		18,852		90,617		73,034		17,583		124		0.1%	20.8%
Helpers, mechanics, and repairers (865)	269		248		21		125		103		22		144		115.2%	7.8%
Helpers, construction trades (866)	188		176		12		156		149		7		32		20.5%	6.4%
Helpers, surveyor (867)	732		684		48		1,100		1,039		61		(368)		-33.5%	6.6%
Helpers, extractive occupations (868)	79		59		20		142		124		18		(63)		-44.4%	25.3%
Construction laborers (869)	13		11		2		1,008		827		181		(995)		-98.7%	15.4%
Production helpers (874)	16,145		15,586		559		14,782		14,395		387		1,363		9.2%	3.5%
Garbage collectors (875)	559		393		166		1,796		1,229		567		(1,237)		-68.9%	29.7%
Stevedores (876)	775		753		22		912		867		45		(137)		-15.0%	2.8%
Stock handlers and baggers (877)	23		23		0		53		45		8		(30)		-56.6%	0.0%
Machine feeders and offbearers (878)	19,469		14,097		5,372		14,577		12,048		2,529		4,892		33.6%	27.6%
Freight, stock, and material handlers, n.e.c. (883)	994		645		1,455		871		871		584		(461)		-31.7%	35.1%
Garage and service station related occupations (885)	10,491		9,393		1,098		8,208		7,815		393		2,283		27.8%	10.5%
Vehicle washers and equipment cleaners (887)	5,213		4,541		672		7,323		6,725		598		(2,110)		-28.8%	12.9%
Hand packers and packagers (888)	4,474		3,916		558		2,666		2,302		364		1,808		67.8%	12.5%
Laborers, exc. Const. - nondurable manufacturing (889)	7,320		2,911		4,409		9,511		3,132		6,379		(2,191)		-23.0%	60.2%
Laborers, exc. Const. - durable manufacturing (889)	5,827		4,054		1,773		6,320		4,553		1,767		(493)		-7.8%	30.4%
Laborers, exc. Const. - transp., commun. & other utils (889)	5,167		3,610		1,557		5,495		4,075		1,420		(328)		-6.0%	30.1%
Laborers, exc. Const. - trade, wholesale and retail (889)	2,021		1,843		178		3,535		3,344		191		(1,514)		-42.8%	8.8%
Laborers, exc. Const. - all other industries (889)	6,675		5,591		1,084		7,706		6,492		1,214		(1,031)		-13.4%	16.2%
	4,307		3,355		952		3,747		2,899		848		560		14.9%	22.1%
Unemployed, no recent civilian work experience (000,903-999)	8,204		3,444		4,760		5,943		2,516		3,427		2,261		38.0%	58.0%
Total Employment	2,311,336		1,239,787		1,071,549		1,993,352		1,137,434		855,918		317,984		16.0%	46.4%

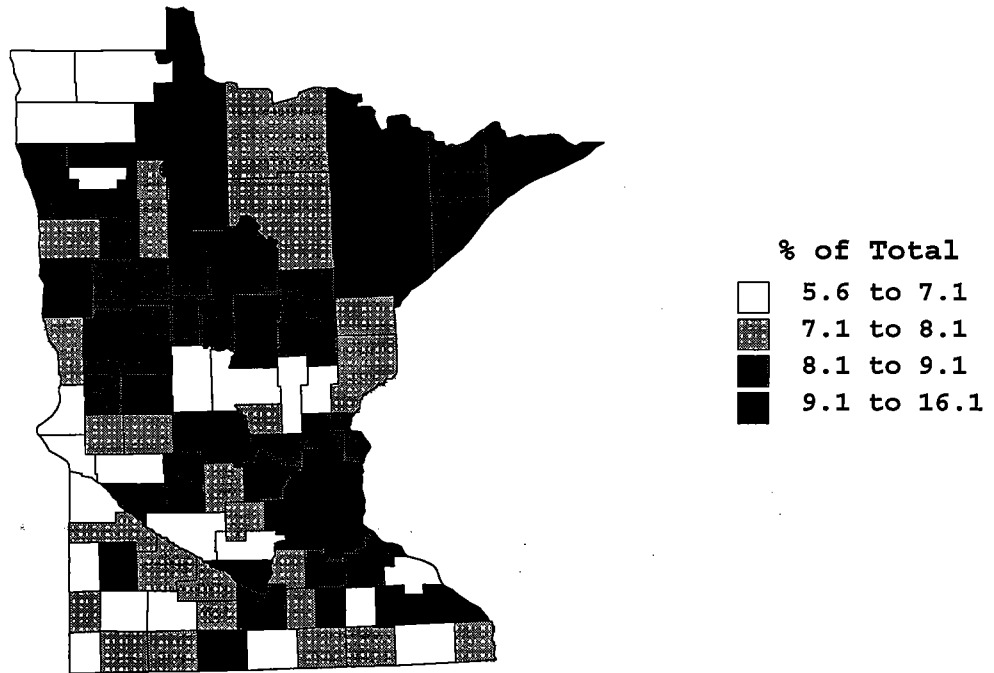
CHANGE IN TOTAL EMPLOYMENT **1980 TO 1990: U.S. CENSUS DATA**



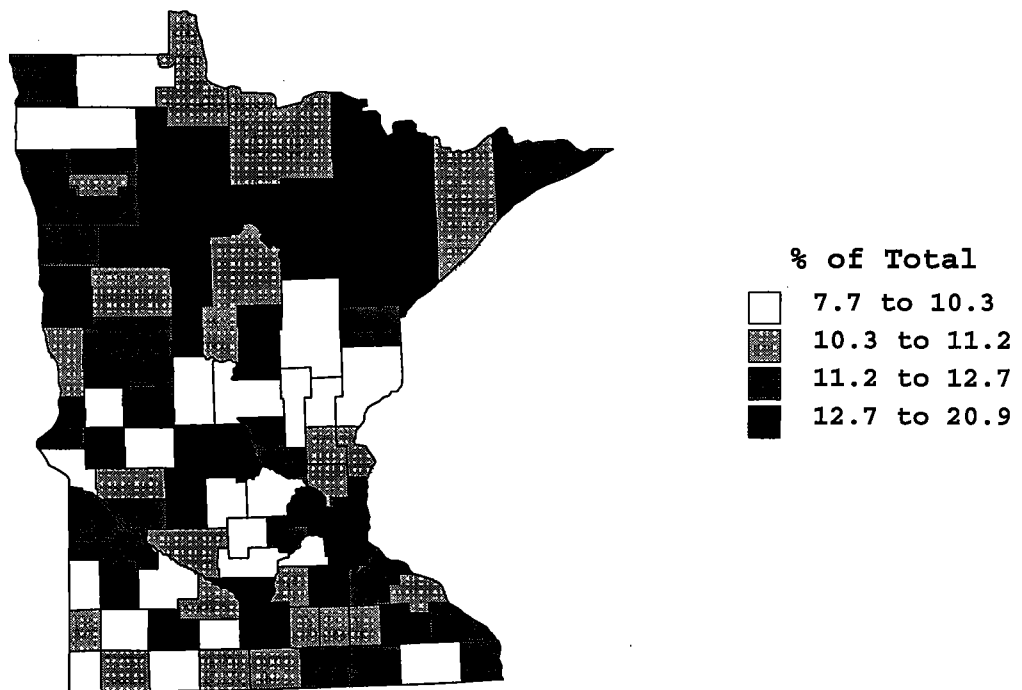
MACHINE OPERATOR/FABRICATOR OCCS. **AS A PERCENT OF TOTAL 1990 EMPLOYMENT**



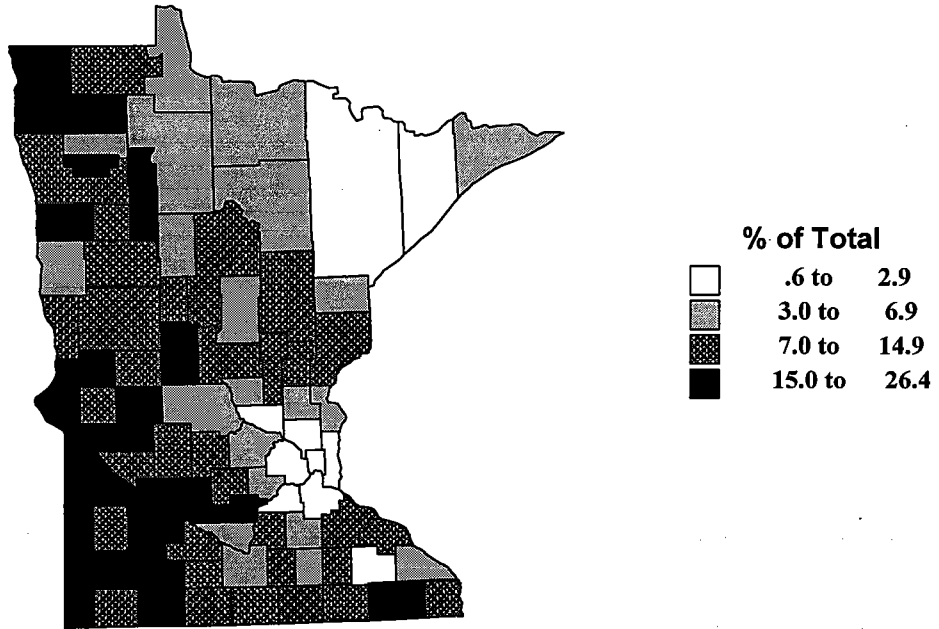
**MANAGERIAL/EXECUTIVE EMPLOYMENT
AS A PERCENT OF TOTAL 1990 EMPLOYMENT**



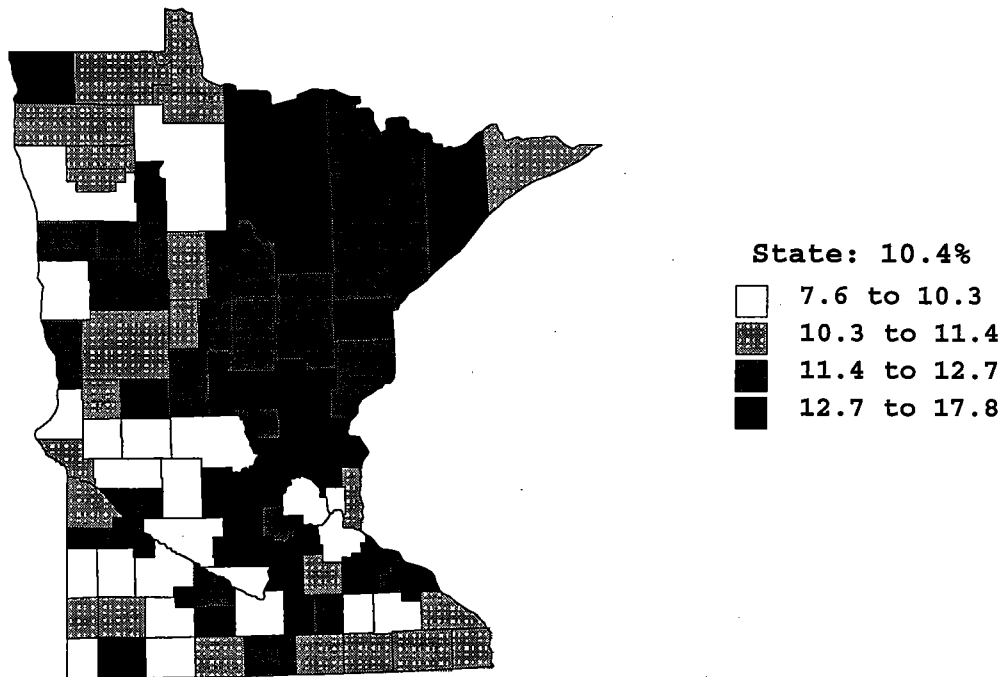
**PROFESSIONAL OCCUPATIONS
AS A PERCENT OF TOTAL 1990 EMPLOYMENT**



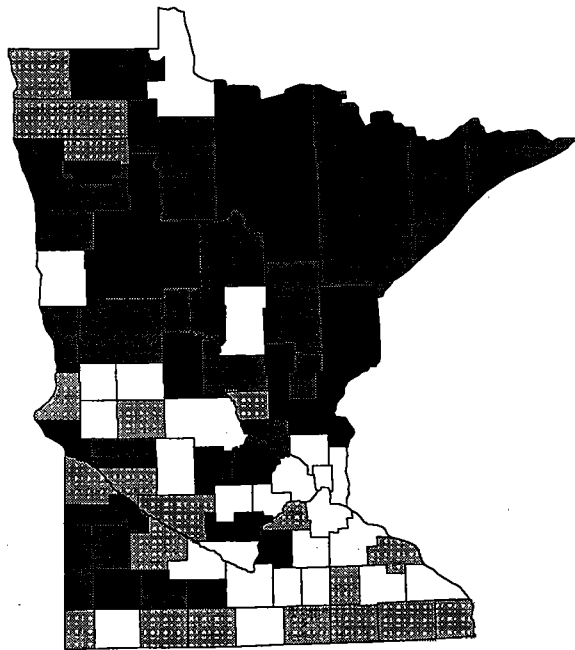
**FARMING, FORESTRY AND FISHERY OCCS.
AS A PERCENT OF TOTAL 1990 EMPLOYMENT**



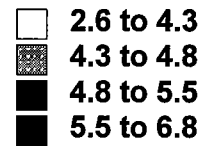
**PRECISION PRODUCTION/CRAFT EMPLOYMENT
AS A PERCENT OF TOTAL 1990 EMPLOYMENT**



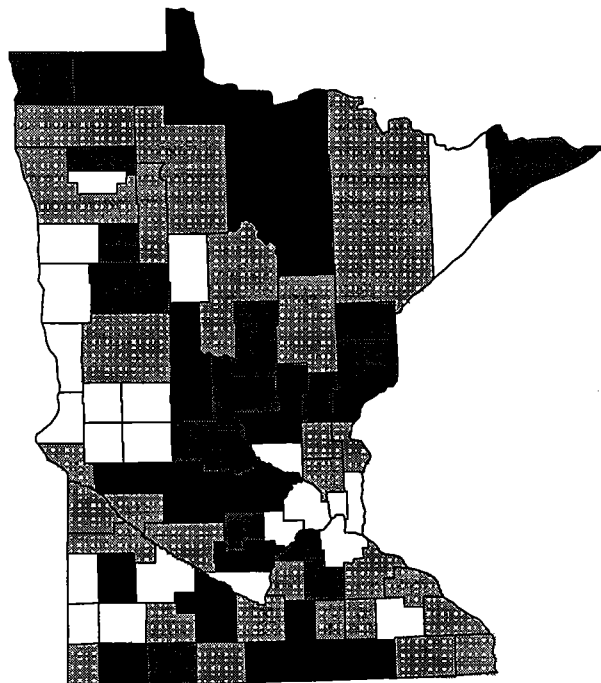
**TRANSPORTATION OCCUPATIONS
AS A PERCENT OF TOTAL 1990 EMPLOYMENT**



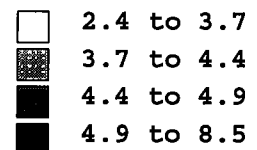
State: 3.9%



**LABORER/HANDLER OCCUPATIONS
AS A PERCENT OF TOTAL 1990 EMPLOYMENT**



State: 3.9%



**OTHER SERVICE OCC. EMPLOYMENT
AS A PERCENT OF TOTAL 1990 EMPLOYMENT**

