

Denver Metro Job Vacancy Survey

*Conducted
October 23-November 19, 2001*

State of Colorado

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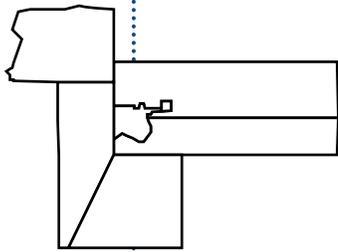
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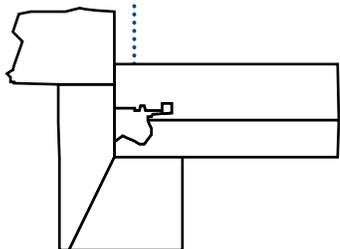
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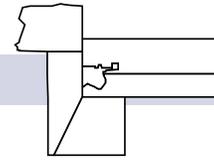


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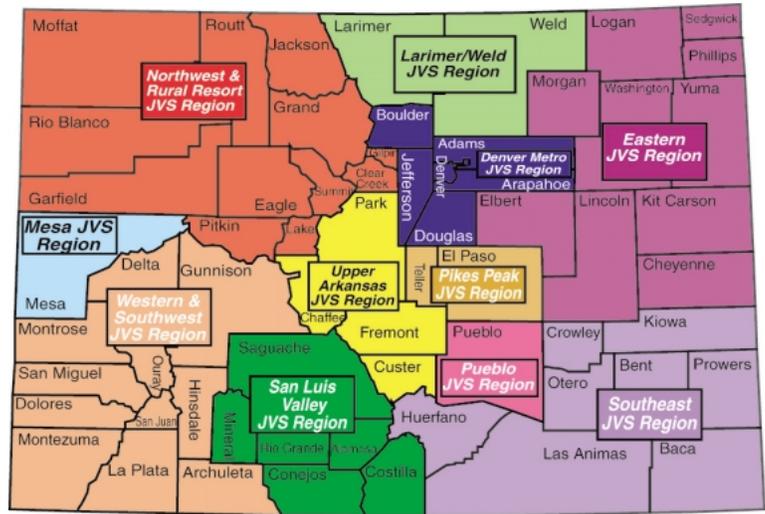
Introduction

The unemployment rate, along with the level and growth rate of employment, has been used as an indicator of labor market conditions for decades. While this indicator provides information about changes in the demand for labor, it reveals nothing about the skills most sought after by employers. As such, individuals preparing themselves for the job market have done so with limited knowledge of what proficiencies are necessary to successfully compete in the contemporary labor market.

The Denver Metro Job Vacancy Survey was initiated not only to measure demand for workers at a specific point in time, but also provide detailed information on the quality of employees demanded.

The Job Vacancy Survey (JVS) was adopted by Colorado’s Department of Labor and Employment (CDLE) through the Denver Metro pilot studies of September 1999 and April 2000, which were initiated by Arapahoe/Douglas Works! The popularity of the reports based on the survey data led the CDLE to expand its coverage to include the entire state of Colorado. Since the last Denver Metro JVS, the survey instrument was revised to eliminate

Colorado Job Vacancy Survey Regions



ambiguity and enhanced to gather more specifics on the job vacancy within the survey constraints.

The survey is funded by a grant from the U.S. Department of Labor’s Employment and Training Administration. The JVS is produced by Labor Market Information’s office of Workforce Research and Analysis.

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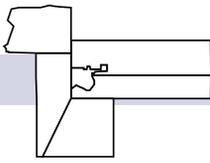
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How to Use This Report

With the analysis of labor market conditions, many questions regarding labor demand and supply, as well as labor skills requirements, often arise.

- ◆ Is there a labor shortage in the region?
- ◆ If so, what types of labor are in short supply?
- ◆ Is there a shortage of skills?
- ◆ What skills are necessary to fill current vacancies?

The answers to these and similar questions are important in the decision-making processes of employers, employees, job seekers, trainers and planning officials. While Labor Market Information (LMI) has provided information on the local labor force supply, the Job Vacancy Survey will further complement this data by providing information about the demand for labor and offer a more complete picture of local labor markets.

Employers

The Job Vacancy Survey measures the area's current vacancies and provides information to employers who may be experiencing difficulty in filling positions due to:

- ◆ worker shortage,
- ◆ an imbalance between job seekers' skills and employers' needs,
- ◆ compensation packages that are insufficient as a recruitment tool when compared to market standards.

This report identifies certain characteristics of current vacancies according to general categories. For example, upon review of the results, an employer observes a high percentage of vacancies in the region's firms requiring a specific level of education or experience. This observation might indicate that the labor force and/or its skills fall short of the market needs, thus calling for a decision to increase investment in training or import skilled workers. Delays in filling vacancies despite increases in wages and/or benefits

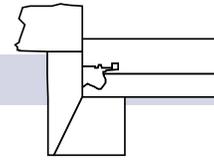
may be attributed to an overall shortage of applicants in the area. Similarly, if a low percentage of vacancies exist for a particular position with the same educational and/or experience requirement, but an employer is finding it difficult to fill, a comparison between the wages offered to the market average may indicate a need for an adjustment.

After a series of surveys from the same time of year have been conducted, current and prospective employers will be able to identify industries and/or occupations that may be consistently oversupplied, in equilibrium, or undersupplied. Employers relocating to the area can review the report and determine how easily the company's employment needs will be met by reviewing current low vacancies. In addition, the Job Vacancy Survey results and Occupational Employment Statistics (OES) wage data (a measure of current wages being paid by occupation) can be used to develop a benchmark of wages to offer for the upcoming positions.

Job Seekers

For current job seekers, this report is a roadmap that can be used to determine where the best paying jobs are given their skills and level of education. The Job Vacancy Survey helps to illustrate the current balance of supply and demand in the local job market. It also provides average wages for open jobs as reported by survey respondents. Job seekers can review Labor

Market Information's occupational projections in addition to the Job Vacancy Survey to see if current opportunities in the job market can contribute to their long-term career goals. This information can help them better tailor education and training efforts toward industries and occupations with the potential to meet their career needs.



Workforce Centers

Public officials, educational institutions, and government agencies can use the Job Vacancy Survey information to allocate resources more efficiently among education, training, and job placement programs. The survey provides a short-term picture of the area's current employment needs. Workforce Center representatives can increase placement success by directing job seekers toward high demand occupations, or pointing them in a direction that might better suit the needs of the applicants' career goals.

Workforce Center officials can also review the nature of job vacancies and decide where to focus placement efforts. Investments in the workforce can be directed toward occupations or industries that continuously contribute to the local economy or to those where there is a constant need for workers.

Current vacancy conditions as presented by the Job Vacancy Survey, coupled with other Labor Market Information reports, can offer a better picture of

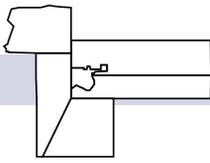
seasonality and long-term trends that might affect the provisions of future training programs. The Employment and Wage publication (ES-202 data) provides monthly county and statewide industry data reported on a quarterly basis. To prepare for the high demand of seasonal workers where vacancies persist, Workforce Centers and educators can offer training during the off-season guided by the quarterly data. Long-term industry trends in employment are also recorded on an annual basis in the same report for each county.

In addition, Labor Market Information provides statewide occupational projections available at www.coworkforce.com/lmi/oeo/oeo.htm, which includes projected employment growth, and identifies growing as well as declining occupations. This information, used with the Job Vacancy Survey's identification of current vacancies, can help Workforce Centers identify occupations in demand now as well as in the future. Workforce Centers can subsequently plan for future training programs in cooperation with businesses and educators.

Economic Developers

Economic development professionals can use the JVS data to track the labor status of key industries and evaluate the area's economic growth and development potential. The survey results can help determine where bottlenecks may occur should current vacancies

persist. Economic developers can also generate a comprehensive picture of the region by determining where current labor demand stands today, as identified by the JVS, and where the local market is trending using LMI's employment projections.



Caveats

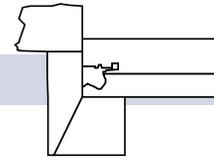
The JVS data should be used as indicators, not actual values of the demand for workers in the Denver Metro Region. Figures from the survey should not be interpreted as annual vacancies; rather, they are estimates of openings at a point-in-time. Users should consider, when comparing the results of one survey to another, the effects seasonality and the business cycle will have on the data. For instance, a decrease in vacancies for construction workers from April to November would represent seasonal variations, not necessarily a long-term decrease in the demand for such workers.

The results of the survey are based only on the sample of responses collected from October 23 through November 19, 2001 and should not be considered as necessarily portraying the exact distribution of job vacancies in the Denver Metro Region. After several years of JVS data are available, patterns may begin to emerge that more accurately reflect changing labor

market conditions. It should be recognized that the survey identifies current vacancies only, and does not explain whether the vacancies are due to employment growth in the occupations or if vacancies are due to job turnover. In addition, not all surveyed firms participated. However, the employers who did participate enabled the production of statistically reliable results.

Users should keep in mind that the authors of this report are not attempting to project the level of vacancies into the future. In addition, events that have occurred since the time period analyzed, such as plant closings or the migration of people in and out of the area, may have had an effect on the vacancy status of some occupations.

Given the caveats, appropriate application by the user is the most important element for making the information in this report a relevant tool in job vacancy analysis.



Executive Summary

The Denver Metro Job Vacancy Survey (JVS), fall 2001, was conducted from October 23rd through November 19th, 2001. Over the survey period government, large, and randomly selected employers with 5 or more employees were contacted in Adams, Arapahoe, Boulder, Denver, Douglas, and Jefferson counties. Employers were asked if they were actively hiring at the time of the survey, and a variety of questions about positions they were seeking to fill.

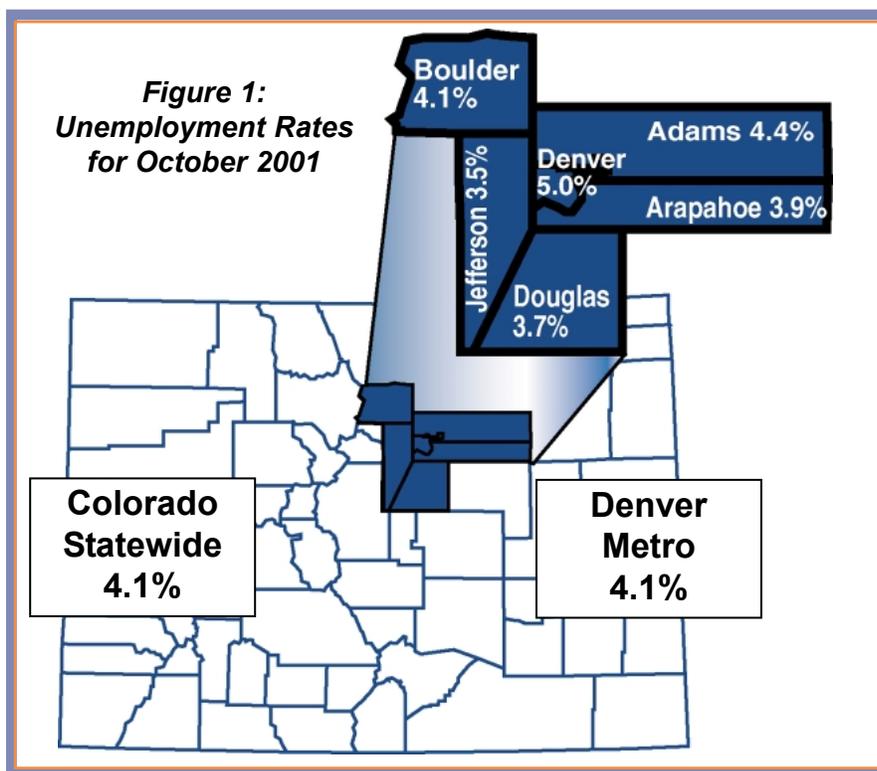
A total of 3,141 employers, representing 20% of the region's total employment responded to the survey. Out of these, 303 are government or large employers (250 or more employees), 2,838 are from the small to mid-size category (5-249 employees). Also, an index was developed to estimate the number of vacancies for micro employers with fewer than five employees. The major findings of the survey are as follows:

- ◆ It is estimated that a total of 26,400 jobs were open for hire in the Denver Metro Region during the survey period.
- ◆ 21,900 jobs are estimated to be full-time permanent openings while 3,400 are part-time permanent openings.
- ◆ 500 jobs are estimated to be part-time temporary and 600 are full-time temporary positions.
- ◆ Eighteen percent of the firms contacted reported at least one vacancy.
- ◆ Micro employers account for 22% of the total estimated vacancies, small to mid-size employers 50%, while large employers account for the remaining 28%.
- ◆ About 68% of the estimated job openings are in Services and Retail Trade.
- ◆ The overall average wage for all vacancies is \$14.90 per hour. Average wages for permanent positions exceed those of temporary positions at both the full-time and part-time levels.
- ◆ Both education and experience requirements have a significant positive influence on wages offered.
- ◆ Seventy percent of the openings require experience in the specific position or in a related occupation.
- ◆ Seventy-two percent of the job openings are either very difficult or somewhat difficult to fill.
- ◆ Employers offered sign-on bonuses for only 2% of the vacancies.
- ◆ There are 10,000 fewer vacancies than were reported in the same period a year ago. Virtually all the reduction in vacancies occurred in the Services sector.

Denver Metro Region

The Denver Metro Region (DMR), made up of Adams, Arapahoe, Boulder, Denver, Douglas and Jefferson counties, has a population of more than 2.3 million residents¹. According to Colorado's Labor Market Information, Local Area Unemployment Statistics, the area employed over 1,327,000 individuals from a labor force pool of about 1,384,000 people in October 2001. Two-thirds of the area employment is concentrated in Arapahoe, Denver and Jefferson counties at shares of 21%, 21% and 23%, respectively. Adams and Boulder counties account for 14% each while Douglas County ranks last with 7% of the area employment. Between October 2000 and October 2001 the labor force in the region increased by 1.8% while total employment decreased by 0.3%. This resulted in unemployment almost doubling within the same period. While overall the unemployment rate for the region was 4.1%, unemployment varied from a low of 3.5% in Jefferson County to a high of 5.0% in Denver County² (Figure 1).

Figure 2 shows the employment and firm distribution for each of the major industry divisions according to Colorado Employment and Wages (ES-202) during the 4th quarter of 2000. This serves as a useful reference for the time period in which the Denver Metro Job Vacancy Survey was conducted. Employment by industry in the Denver Metro Region has remained fairly constant throughout the 1990s and up to current times. The Services division accounts for the highest proportion of employers as well as employees, with over 30% of the region's employment concentrated in this sector. Retail trade follows with 18% of the



region's employment and 16% of the employers. Although Government agencies represent only 1% of the total employers in the region, this division accounts for the third highest proportion of employees (13%). This employment and firm concentration is almost identical among all individual counties constituting the Denver Metro Region.

The region is dominated by a large number of firms with fewer than five employees. These firms account for almost 60% of the firms in the area, however, they employ only 9% of the region's workers. The small to mid-size firms (5-249 employees) account for about 40% of all firms in the region and 56% of the total employees. Large firms employing at least 250 individuals, account for less than 1% of the region's firms and employ 35% of the total working population.

¹US Census Bureau, Census 2000

²Colorado Labor Market Information, Local Area Unemployment Statistics

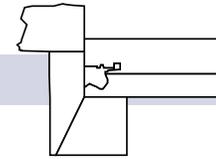
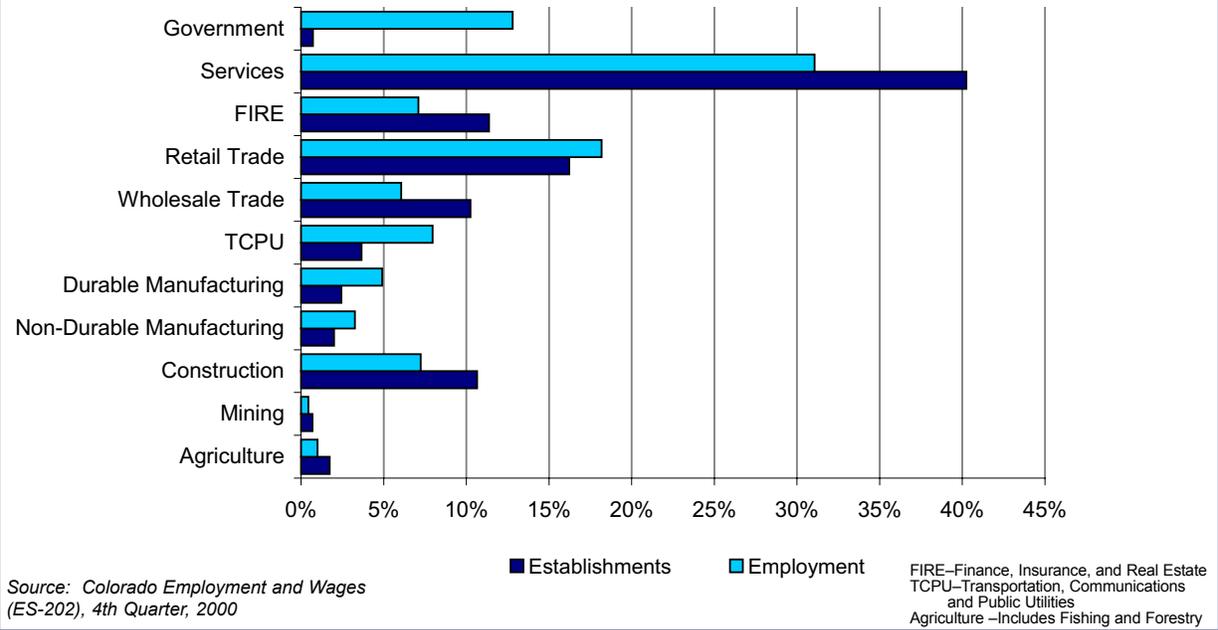


Figure 2: Denver Metro Region Employers and Employees in the 4th Quarter, 2000



The Job Vacancy Survey Sample

The Denver Metro Job Vacancy Survey, fall 2001, was conducted between October 23rd and November 19th, 2001. The survey instrument, upon which the telephone questionnaire was based, was developed, tested, and enhanced to increase information available for analysis by the Workforce Research and Analysis office of the Colorado Department of Labor and Employment.

For the purpose of this report, all employers with at least 250 employees are referred to as large employers. They account for about 35% of the employment in the sample universe. Firms employing 5 to 249 individuals are considered small to mid-size employers and account for 56% of sample universe employment. Micro employers, with fewer than 5 employees, account for the remaining 9% of the sample universe.

For the small to mid-size employers, the survey was stratified by both county and major industry. The sample was designed to achieve a solid representation from each industry group. For groups that contained fewer than 100 employers, a 60% response rate was targeted. Sixty responses were required for industry groups containing 100 to 120 firms and a 50% response rate, or 360 completed responses, whichever was less, was targeted for groups containing more than 120 employers. Attempts were made to contact all employers in the large and government categories in the region. Also, an index was created to estimate the vacancy rates of micro employers with fewer than five employees. This index was used to enhance the vacancy estimates.

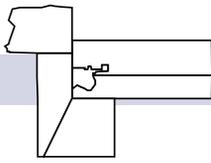


Table 1: Small to Mid-Size Response Requirements

Major Industry	Adams	Arapahoe	Boulder	Denver	Douglas	Jefferson		Total Denver Metro
Agriculture				60				60
Mining				60				60
Construction	60	60	60	60	60	60		360
Manufacturing, Non-Durable	60	60	60	60	14	60		314
Manufacturing, Durable	60	60	60	60	26	60		326
Transportation, Communications, and Public Utilities	60	60	60	60	28	60		328
Trade, Wholesale	60	60	60	60	50	60		350
Trade, Retail	60	60	60	60	60	60		360
Finance, Insurance, and Real Estate	60	60	60	60	60	60		360
Services	60	60	60	60	60	60		360
Government & Large Employers	Census							362
Micro Employers	Vacancy Index							
Total								3,240

Small to Mid-Size

Large

Micro

Over the survey period a total of 3,141 employers responded to the survey. Out of these, 303 were large and government employers and 2,838 were small to

mid-size. Overall, 9% of the DMR employers with five or more employees responded to the survey.

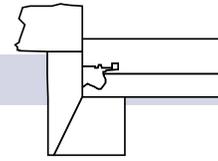
The Survey Instrument

Employers were asked if they had job vacancies, or open positions, which they were actively seeking to fill. Eighteen percent of the firms contacted reported at least one vacancy. Firms actively recruiting were then asked to provide more details about each position. Information on compensation offered, the level of education and experience required, and the employer's perceived difficulty in filling the vacancy as well as length of time the position had

been open was collected³. Whenever necessary, employers were contacted again to clarify responses.

Employers were also asked whether or not a sign-on bonus and/or health insurance were offered for the position. This information was collected in addition to the minimum and maximum wages offered to describe in more detail the compensation offered.

³See Methodology section



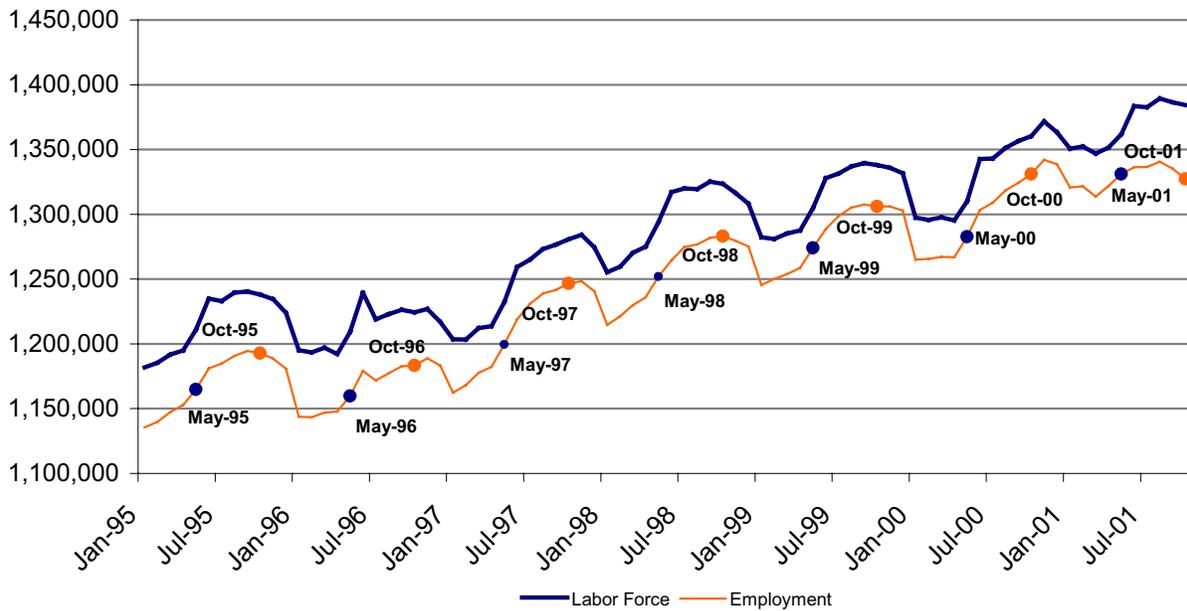
Timing Considerations

The timing of the survey was developed with the intent of measuring demand for labor at intervals that provide the most useful information.

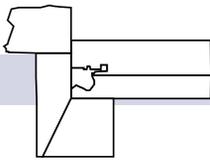
Analysis of historical employment trends for the Denver Metro Region indicates that employment levels

are at their lowest in January and peak in or around the month of October. The Denver Metro JVS is conducted semi-annually in May and October to measure demand for labor when employment is rapidly expanding as well as when it is at its peak.

Figure 3: Timing Considerations



Source: CDLE, LMI, Colorado Employment and Wages (ES-202)



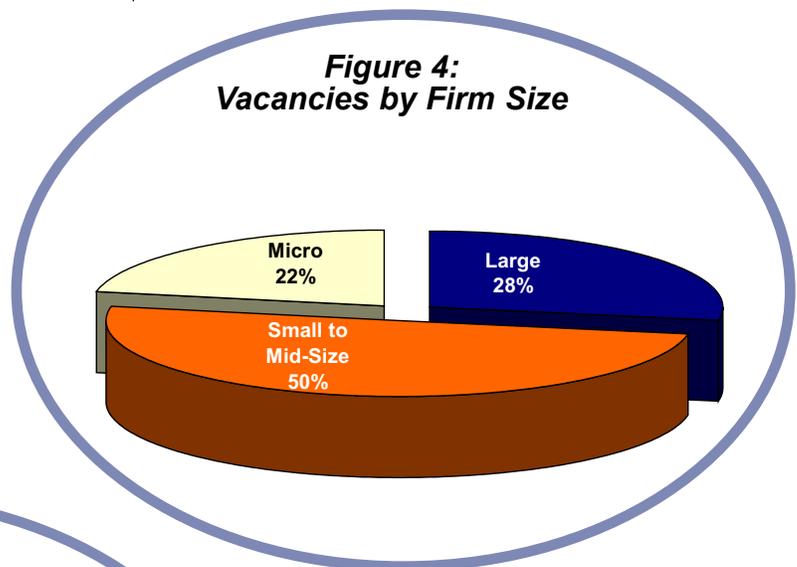
Labor Market Conditions

During the survey period, an estimated 26,400 vacancies were open for immediate hire in the Denver Metro Region. This estimation is calculated from vacancy rates reported for actual employment levels and extrapolated to the total employment for the appropriate counties and industry divisions. Vacancy rates by industry group provide information reflective of where the activity is occurring in the local labor market. Higher vacancy rates tend to indicate a

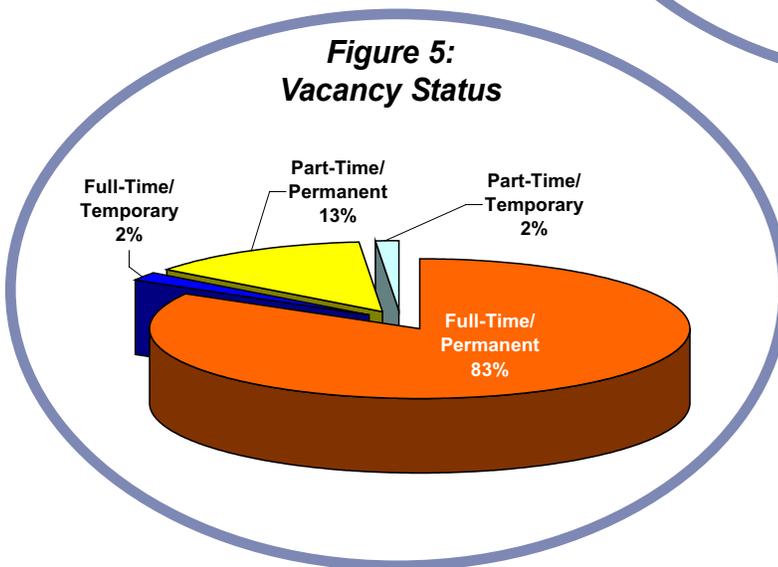
more dynamic labor situation than other industries. Rapidly growing industries, those in turmoil for some reason (financial, labor strife, reorganization, etc.), and those employing people in occupations with high turnover rates could have relatively high vacancy rates. All might experience comparatively greater hiring stress, but might well have significantly different priorities as they evaluate new talent.

According to the survey results, small to mid-size firms, constituting approximately 54% of the region's total employment, account for 13,300 (50%) of the total estimated vacancies. While large firms, with 39% of the area employment, account for 7,300 (28%) of the estimated vacancies and micro employers make up the remaining 22% (Figure 4).

**Figure 4:
Vacancies by Firm Size**



**Figure 5:
Vacancy Status**



Eighty-three percent of the reported vacancies are full-time permanent and 13% are part-time permanent positions. Part-time temporary and full-time temporary employment each account for 2% of the reported vacancies (Figure 5).

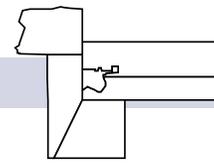
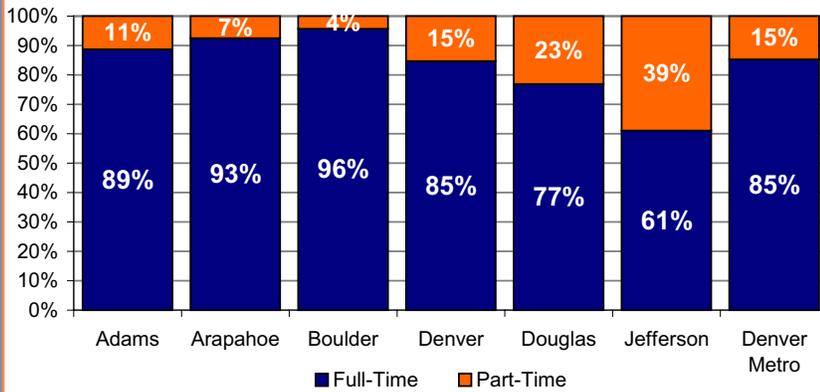
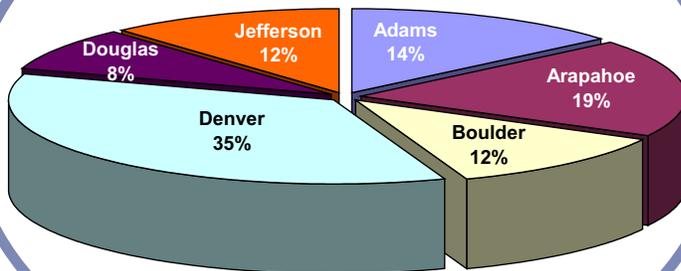


Figure 6: Part-Time vs. Full-Time by County



Overall, full-time vacancies comprise 85% of those estimated in the Denver Metro Region, while part-time vacancies account for the remaining 15%. Jefferson County has the highest concentration of part-time openings compared to other counties. The majority of these part-time vacancies are in the Services and the Retail Trade divisions. The highest concentration of full-time vacancies is reported in Boulder County (Figure 6).

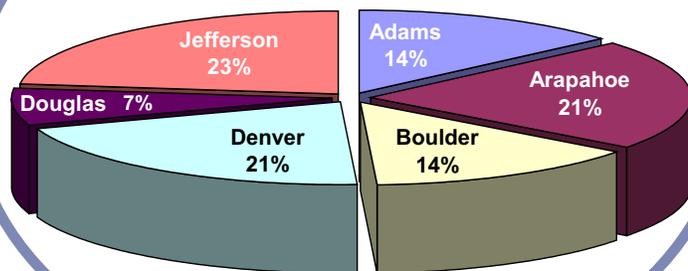
Figure 7a: Vacancies by County

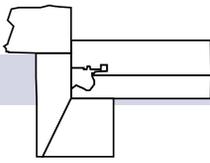


Percentages of job vacancies vary from a low of 8% in Douglas County to a high of 35% in Denver County. For the remaining counties, the vacancies are almost evenly distributed with no clear evidence of dominance of one county over the others (Figure 7a).

Employment by county in the fourth quarter of 2000 follows a very similar pattern (Figure 7b).

Figure 7b: Total Employment by County



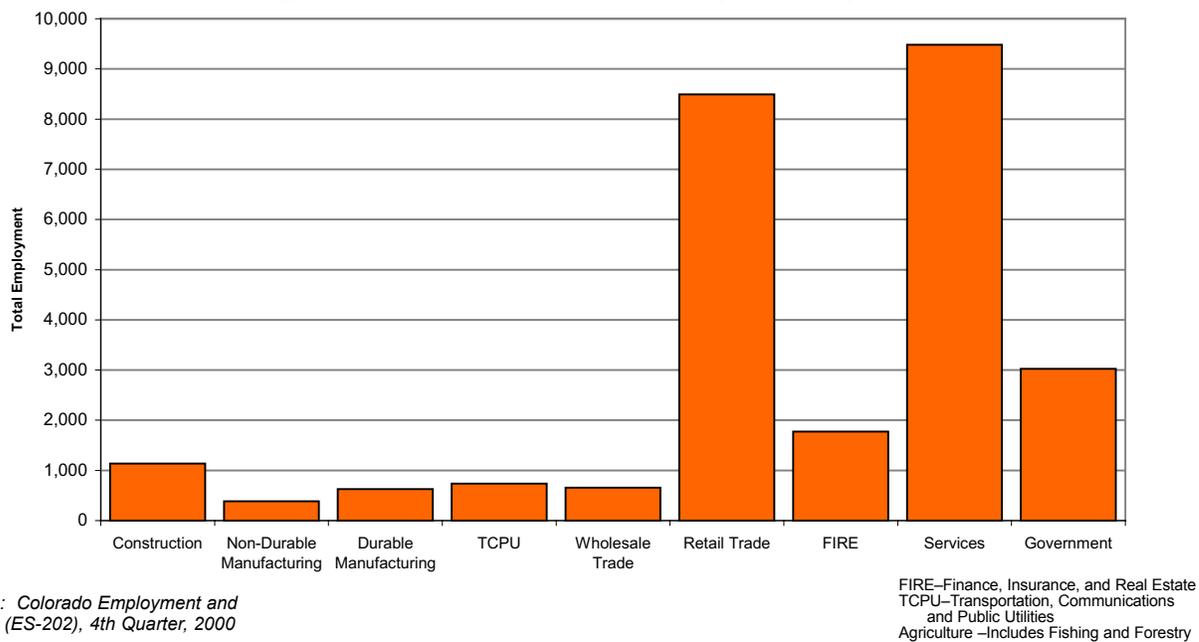


Vacancies by Industry

The number of estimated vacancies varies greatly from one industry to another. The overall vacancy rate⁴ for all industries is 2.0%.

The vacancy rate was highest (3.8%) in Services and lowest (0.8%) in Mining.

Figure 8: Estimated Vacancies by Industry



Services

This division is the largest in the Denver Metro Region and the fastest in growth. It had the highest share of job vacancies (36%) during the survey period. Employment in Services is highly seasonal with historical peaks occurring in the fourth quarter. The division has a moderate vacancy rate of 1.7%.

Healthcare Practitioners and Technical Occupations constitute 55% of the vacancies within the sector followed by Office and Administrative Support Occupations at 13%.

Government

Government at all levels (federal, state, and local) is the third largest employer in the DMR at the time of the survey. While survey results show a vacancy rate of 1.4%, the division's share ranks

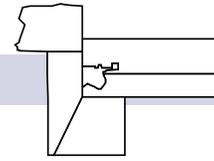
third with 11% of total estimated vacancies. Although Federal employment has declined and State government has experienced slow to moderate growth over the past decade, local government has increased rapidly in an attempt to keep up with population growth and efforts to decrease school classroom size.

Retail Trade

This is the second largest division in the region at the time of the survey. Historically, Retail Trade peaks during the fourth quarter of each year, which accounts for it having the highest vacancy rate of 2.7% and 32% of the estimated vacancies.

Because of the approaching holiday shopping season 43% percent of the vacancies in Retail Trade are sales related occupations while 14% are food preparation and serving related.

⁴See Definitions section



Manufacturing

Manufacturing, both Durable and Non-Durable Goods, was found to have a 0.7% vacancy rate during the survey period. It is the fourth largest employing division in the region and has the sixth largest proportion of estimated vacancies (4%). Manufacturing activity, at the national and regional levels, is the most affected by the current economic slowdown. The Front Range Purchasing Manager's Index, a measure of manufacturing activity, dropped to 36.4 in October from 42.4 in September 2001 (a score under 50.0 means employment is decreasing). Declines in manufacturing within the High-Technology sector account for more than half of the 27,000 workers that were laid off in Colorado in 2001.⁵

Finance, Insurance, and Real Estate (FIRE)

While this is the sixth largest employing division in the Denver Metro Region, it ranks fourth in share of estimated vacancies (7%) during the survey period. Over three-quarters of the vacancies within this industry are Office and Administrative Support or Business and Financial Operations occupations

Transportation, Communications, and Public Utilities (TCPU)

Activity within the TCPU division has slowed in recent years after rapid increases in employment experienced since the fourth quarter of 1998. This industry was found to have a vacancy rate of 0.5% and ranks seventh in proportion of estimated vacancies (3%).

The September 11 terrorist attacks took their toll on the Transportation sector. A number of airline carriers announced significant layoffs in response to a drop off in travel following the attacks. Denver International

Airport had 1 million fewer passengers in September 2001 compared to September 2000.

Wholesale Trade

This division ranks eighth in total estimated vacancies (2%) and seventh in employment. Employment growth in Wholesale Trade is moderate compared to other industries. Employment level in this division is highly seasonal, peaking around the third quarter just in time for the holiday season.

Construction

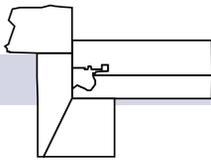
With 4% of the total estimated vacancies, construction ranks fifth among other industries. Historically, employment in this division has been the strongest in the region, averaging 8.7% per year. Nonresidential Construction was 25.4% slower in September 2001 compared to September 2000. This slowing activity coincides with an 18% office space vacancy rate.

Agriculture

Agriculture in the DMR is mostly in the form of Agricultural services such as Landscaping and Veterinary. It peaks in the third quarter and sharply declines during the fourth and first quarters of each year. Agriculture has a vacancy rate of 0.4% and accounts for 0.3% of the estimated vacancies in the Denver Metro Region.

Mining

Employment in this industry has been declining since the mid-80s in the Denver Metro Region. Currently, it ranks last in total employment size and in proportion of total estimated vacancies. It also has the lowest job vacancy rate in the region (0.2%).



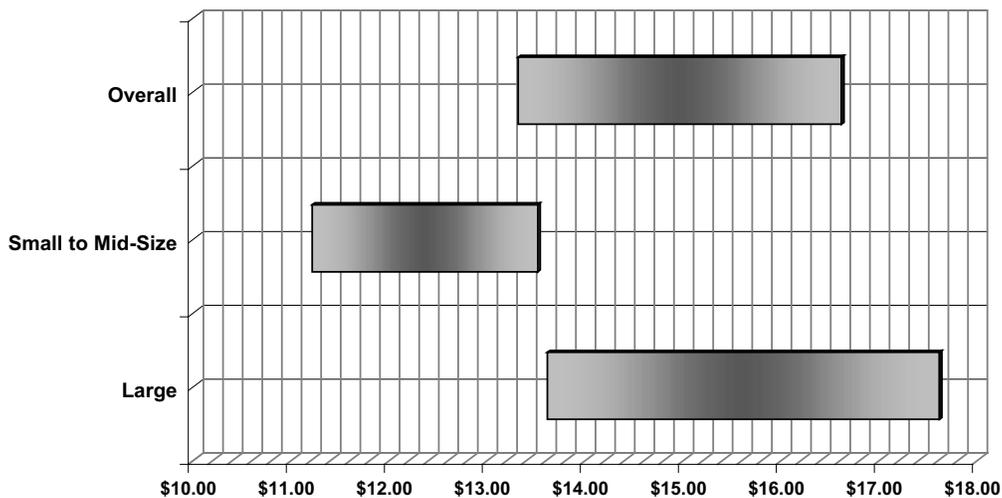
Vacancies and Wages

Since wages offered may vary with the level of education and experience of the applicant, employers were asked to provide the range of wages offered for the vacancies and the average was calculated based on the mid-point of that range. Based on the information employers reported, analysis reveals the following (Figure 9):

- ◆ The overall average wage offered for all vacancies is \$14.90 per hour.
- ◆ The average minimum wage offered for all vacancies is \$13.30 and the average maximum is \$16.60 per hour.

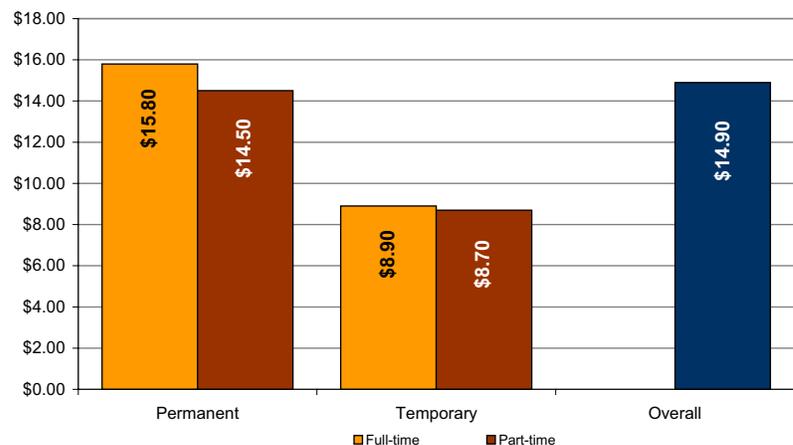
- ◆ Forty-two percent of the vacancies offer a wage rate higher than the overall average.
- ◆ Large employers offer higher wages than small to mid-size firms at both the minimum and maximum levels.
- ◆ Fifty-one percent of the positions for which wages are lower than the overall average are in the Services sector followed by Retail Trade at 21%.
- ◆ Fifty-nine percent of the vacancies offering wages above the overall average are in the Healthcare Practitioners and Technical occupation group.

Figure 9: Average Wage Range by Employer Size



Survey results show large variations between average wages of permanent positions when compared to temporary positions for both full and part-time status. The difference in wages is almost \$7.00 per hour for full-time work and close to \$6.00 per hour for part-time. Seventy-six percent of the temporary positions are in Retail Trade, which typically pays the lowest wages of all industries (Figure 10).

Figure 10: Average Wage by Status



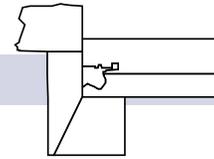
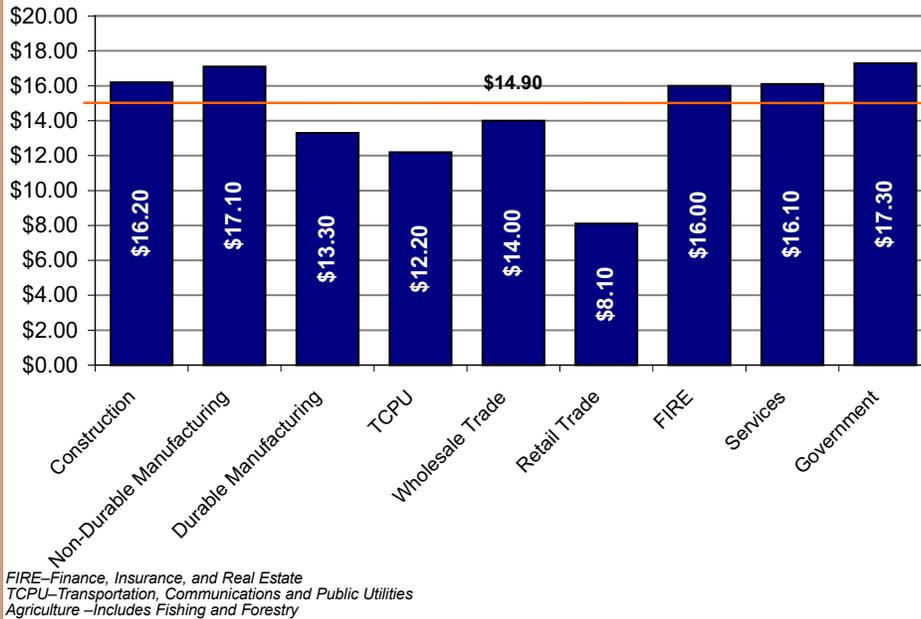


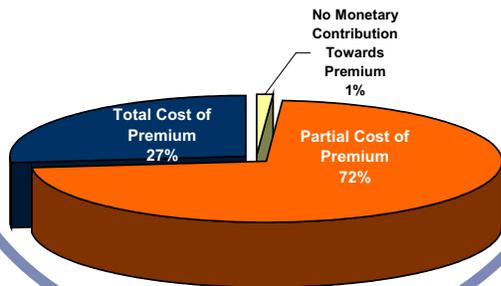
Figure 11: Average Wage by Industry



Construction, Non-Durable Manufacturing, FIRE, Services, and Government all offer average wages that are above the overall average, which is \$14.90 per hour. Retail Trade, ranking second in estimated vacancies, offers an average wage that is close to \$7.00 lower than the overall average. While other industries offering average wages below the overall average include Durable Manufacturing, TCPU, and Wholesale Trade, employers did not report any wages in the Agriculture and Mining industries. Both Agriculture and Mining combined account for fewer than 1% of the estimated vacancies.

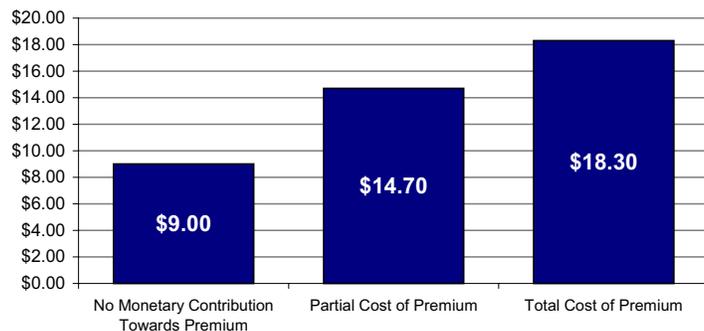
Medical Insurance and Wages

Figure 12: Employer's Contribution to Medical Insurance Premium



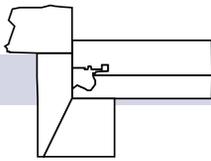
Almost all of the vacancies reported by employers include some form of payment towards medical insurance premiums. Employers offer to pay the entire premium for 27% of the vacancies and partial cost of the premium for another 72%.

Figure 13: Average Wage by Medical Insurance Offered



Survey results reveal a positive relationship between wage and medical insurance coverage offered (Figure 13). As higher paying jobs require higher levels of education and experience, employers offer better medical insurance packages to attract qualified candidates. Businesses that pay the total cost of the medical insurance premium offer an average wage of \$18.30 per hour for the reported vacancies. For vacancies associated

with premium paid in part, the average wage was \$14.70 per hour. These vacancies are concentrated in the Services and FIRE divisions and in Office and Administrative Support occupations.



Survey results also reveal the following:

- ◆ Ninety-two percent of the vacancies offering to pay at least a partial cost of the premium are full-time permanent positions.
- ◆ Thirty percent of vacancies offering to pay at least a partial cost of the medical insurance premium

are in the Services division followed by the FIRE sector with 17%.

- ◆ Seventy-four percent of vacancies offering to pay the total cost of the medical insurance premium are in the Services.

Education and Experience Requirements

Table 2: Experience Requirements by Educational Level*

	No Experience	General Work Experience	Experience in a Related Field	Experience in This Occupation
No Diploma	8%	0%	1%	1%
High School Diploma/GED	5%	10%	8%	5%
Vocational Training/Certification	1%	1%	12%	6%
Two-Year Degree	0%	3%	6%	1%
Bachelor's Degree	1%	1%	13%	13%
Advanced Degree	0%	0%	1%	2%

**Rounded to nearest percent*

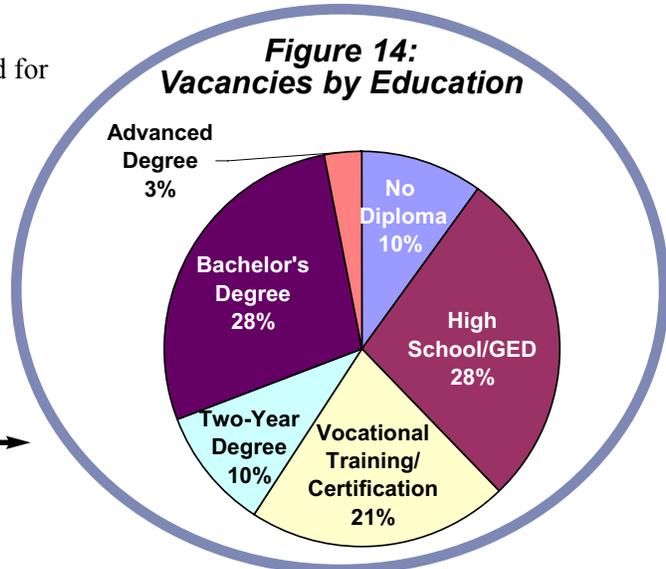
Survey results show vacancy experience requirements increase along with education requirements. Positions requiring advanced degrees also require the applicant to have experience in that field. Seventy-

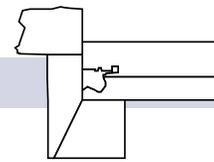
eight percent of these vacancies are concentrated in the Services division and in the Healthcare and Community and Social Services occupation groups.

Education and Wages

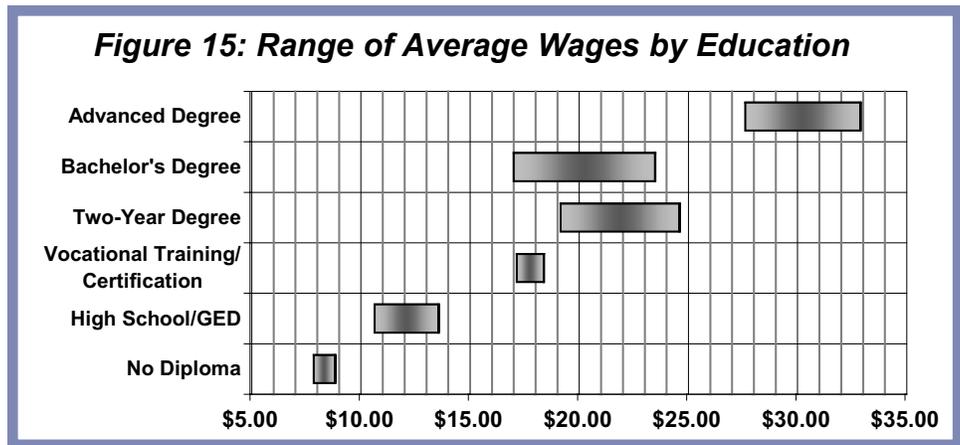
Employers were asked what level of education is required of an applicant in order to be considered for a particular vacancy. Results show that 38% of the positions reported by employers require no post-secondary education. This is due, for the most part, to the fact that a high proportion of the region's vacancies are in Services and Retail Trade. While 21% of the vacancies require vocational training or certification, only 10% require a two-year degree. Thirty-one percent of the vacancies require a bachelor's degree. The majority of these vacancies are concentrated in the Services industry.

Figure 14: Vacancies by Education





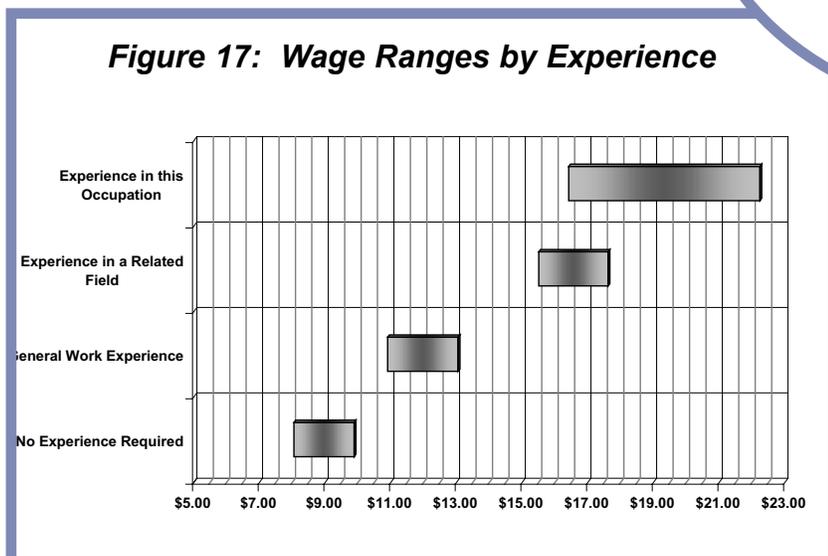
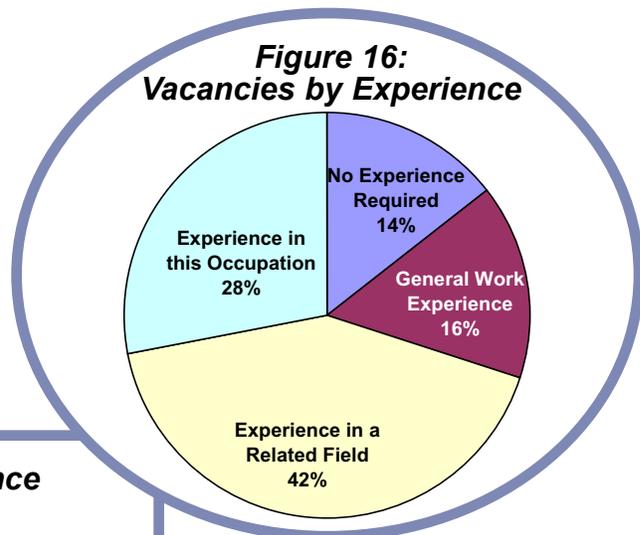
Employers offer to pay higher wages when they require higher levels of educational attainment (Figure 15). The highest wage rate difference of \$9.40 is found between positions requiring advanced and bachelor's degrees. Moving from a vocational training or certification to a two-year degree increases the average wage offered by \$6.20 per hour. Figure 15 shows that the average wage offered for a two-year degree is higher than that offered for a bachelor's degree, at both the minimum and maximum wage levels. Such a discrepancy resulted from the higher concentration of vacancies in the Healthcare Practitioners and Technical occupation



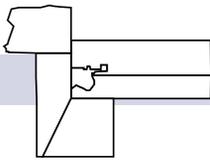
group, which offer the 4th highest average wage among other major occupational groups, for positions requiring two-year degrees.

Experience and Wages

Thirty percent of the reported vacancies require no or only general work experience. Such a result is not surprising, since the majority of the vacancies are in Services and Retail. Both divisions have large proportions of their employment in occupations that require lower levels of formal education and little, if any, work experience. The remaining 70% of the reported vacancies require a minimum of experience in a related field experience in the occupation.

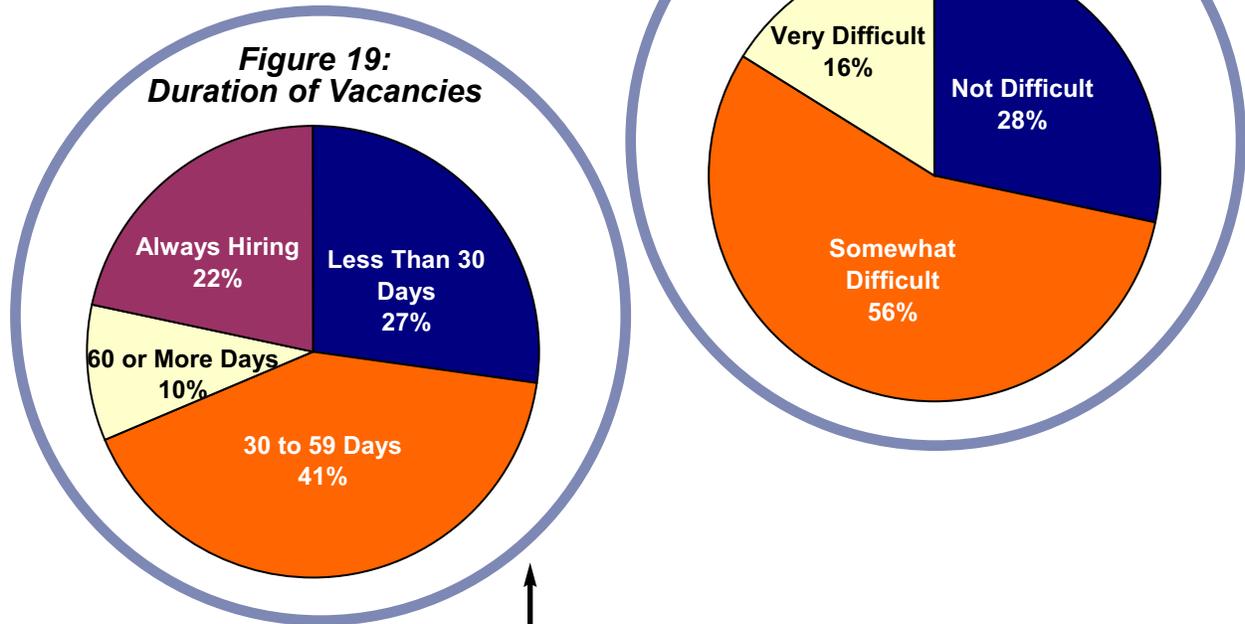


As with increasing levels of education, employers are willing to offer higher wages for added experience. Vacancies requiring experience in a related field offer an average wage of \$5.00 per hour more than those requiring only general work experience. Employers requiring experience within the occupation are willing to offer an additional \$7.30 per hour on average above the average wage for vacancies associated with only general work experience.



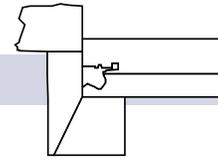
Difficulty to Fill

To estimate the level of difficulty in filling vacancies, employers were asked about their perceived level of difficulty and the time period for which the position remained vacant. Of employers responding to these questions, 28% of the vacancies were classified as not difficult to fill. Over half of the vacancies are somewhat difficult to fill while only 16% are very difficult to fill (Figure 18).



Twenty-two percent of the vacancies, however, are reported as always hiring. The majority of these vacancies (84%) are reported to be either somewhat or very difficult to fill. Additionally, 37% of the occupations for which employers are always hiring are registered nurses while another 16% are customer service representatives. Twenty-seven percent of the vacancies are open for a period of less than 30 days and 80% of the employers are not expecting any difficulties in filling these vacancies. In expectation of the holiday season, Sales and Related occupations top the list of vacancies open for periods less than 30 days.

About half of the reported vacancies were open 30 or more days. While 81% percent of these vacancies are reported to be somewhat difficult to fill, only 7% are not difficult to fill. Vacancies open for an extended period of time require either higher degrees of education and professional experience, or they remain open due to an undersupply of workers willing to work for lower compensation rates. Almost half of these vacancies require at least a bachelor's degree while only 24% require no post-secondary education.



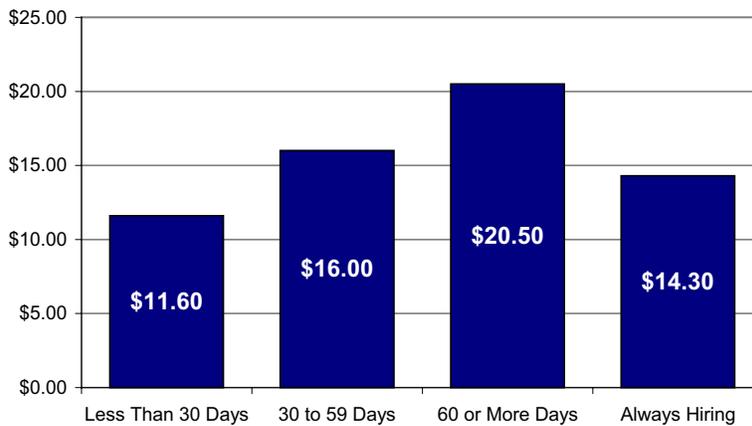
In this survey, positions that are difficult to fill have higher average wages than those positions that are easier to fill. This could be due to the training and skills required to fill these jobs.

Positions always open for hire are those that, typically, have higher turnover rates. However, survey results reveal the average wage offered for these positions is higher than the average wage offered for positions open for periods less than 30 days. This can be explained by the fact that many of the vacancies for which employers are continuously hiring are Health-care occupations that offer higher wages.

Figure 20: Average Wage by Difficulty to Fill



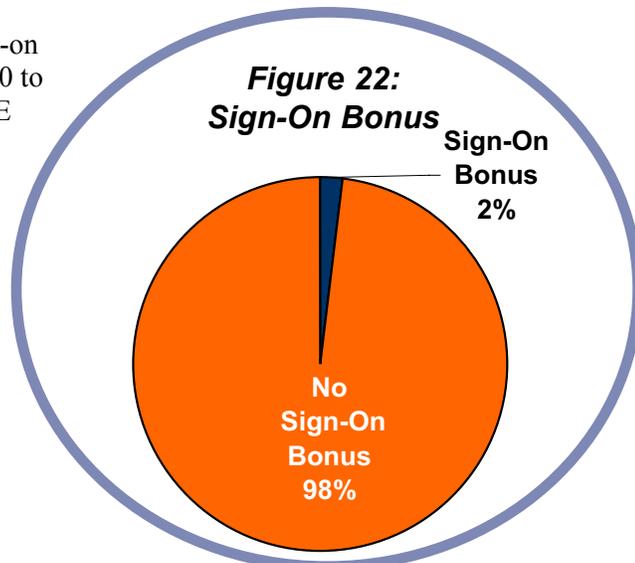
Figure 21: Average Wage by Vacancy Duration

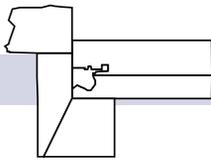


Sign-On Bonus

Only 2% of the vacancies reported offer a sign-on bonus. The bonuses reported range from \$200 to \$5,000. Large employers in the Services and FIRE industries offered the majority of these bonuses.

Figure 22: Sign-On Bonus



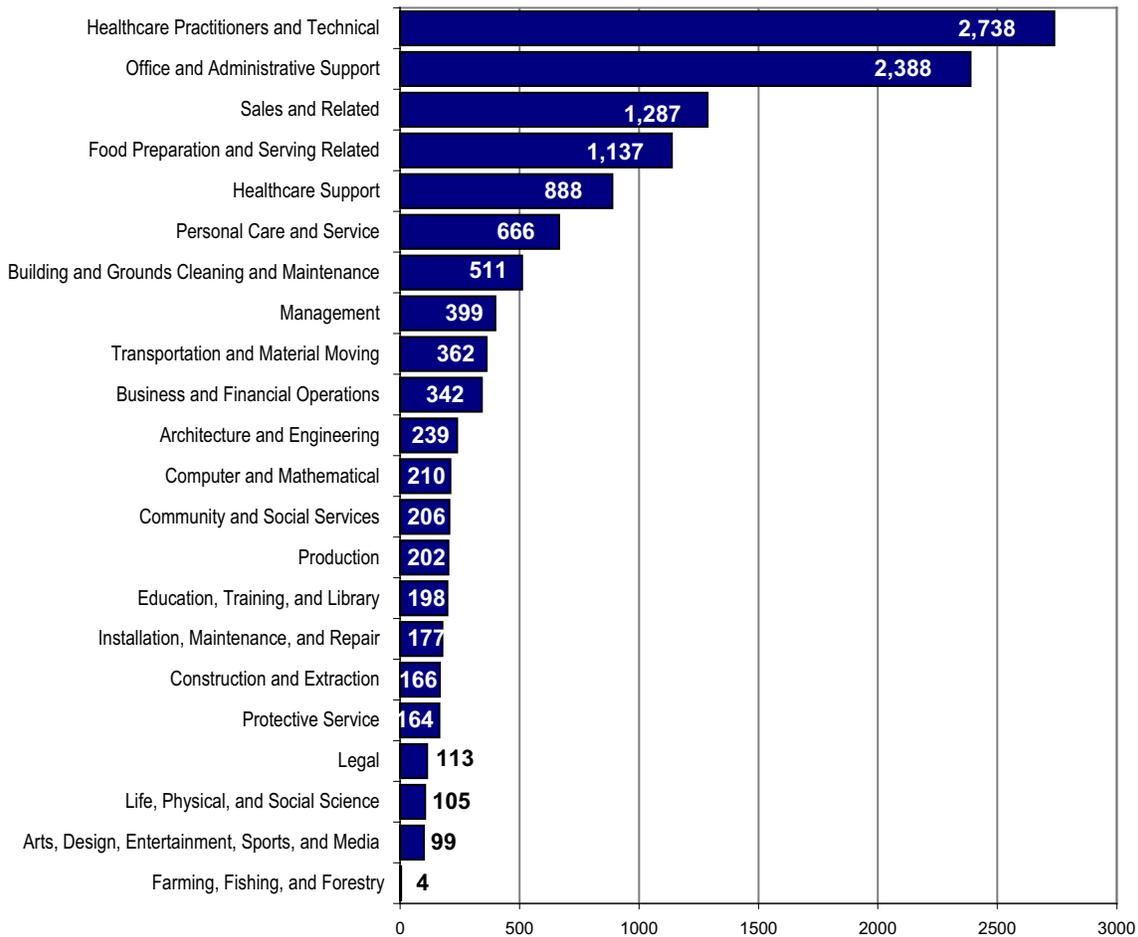


Occupations

The number of vacancies varies greatly among major occupational groups. All major occupational groups, except Farming, Fishing, and Forestry, and Arts, Design, Entertainment, Sports, and

Media have more than 100 openings. More than two-thirds of the estimated vacancies fall in the top five major occupational groups in *Figure 23*.

Figure 23: Vacancies by Major Occupational Groups



Employers reported 310 different occupations with at least one vacancy. The average number of estimated job openings per occupation is 60. About 24% of all occupations are above the average while the remaining 76% fall below the average number of vacancies per occupation.

Occupational groups with high levels of education and experience requirements such as Management, Architecture & Engineering, Healthcare Practitioners, Technical, Computer and Mathematical, as well as Life, Physical & Social Services, offer higher and wider wage ranges (*Figure 25*).

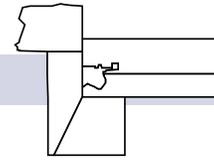
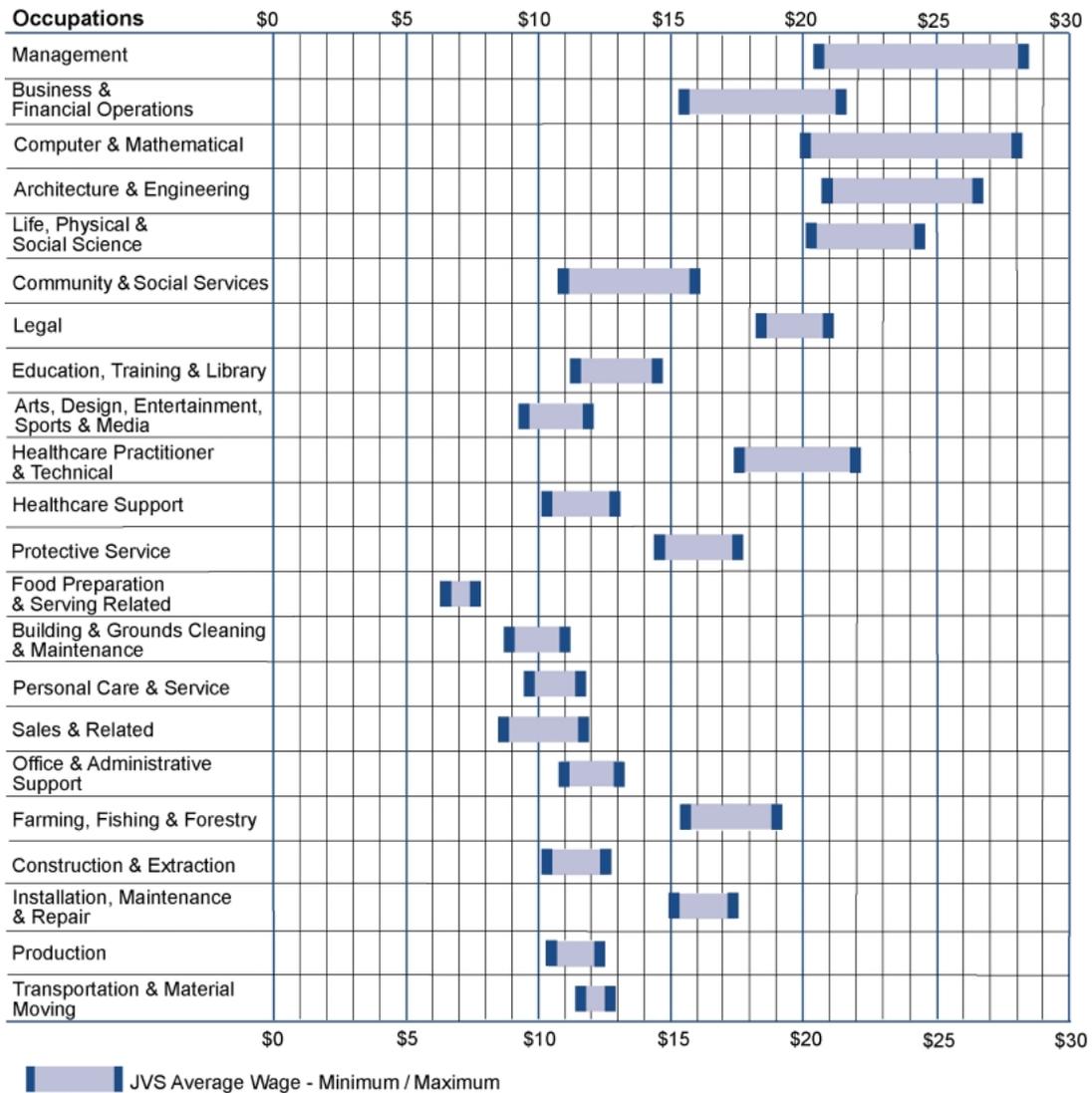
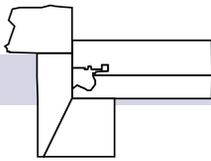


Figure 24: Range of Average Wages by Major Occupational Group



Lower wages with less variation between the minimum and maximum are offered for major occupational groups with the least educational requirements. Such groups include Food Preparation & Serving Related, Building and Grounds Cleaning and Maintenance, Personal Care & Service, Sales & Related, and Farming, Fishing and Forestry.

Over half of the estimated vacancies reported are in the top thirteen occupations with most openings (Table 3). Furthermore, over 80% of the openings are in the top fifty-seven occupations listed.



Requirements by Major Occupational Groups

Figure 25: Major Occupational Groups by Education

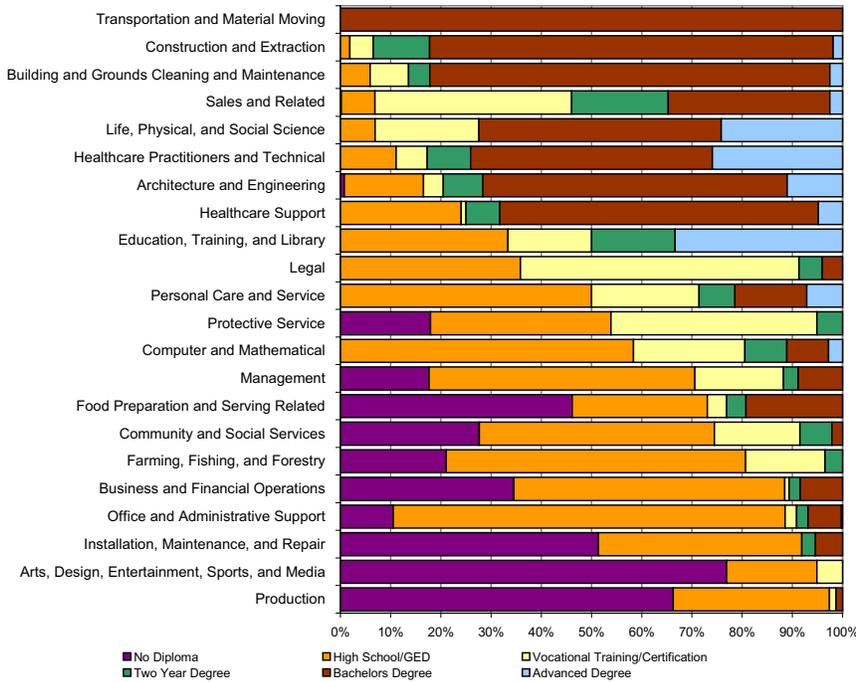
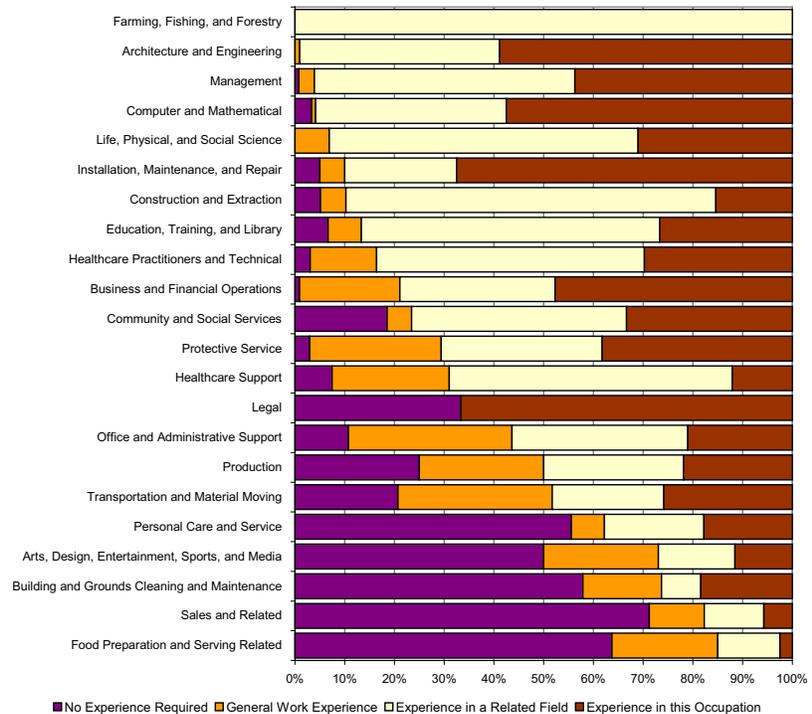


Figure 26: Major Occupational Groups by Experience



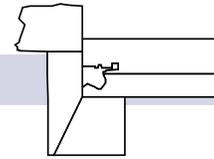


Figure 27: Major Occupational Groups by Time Duration

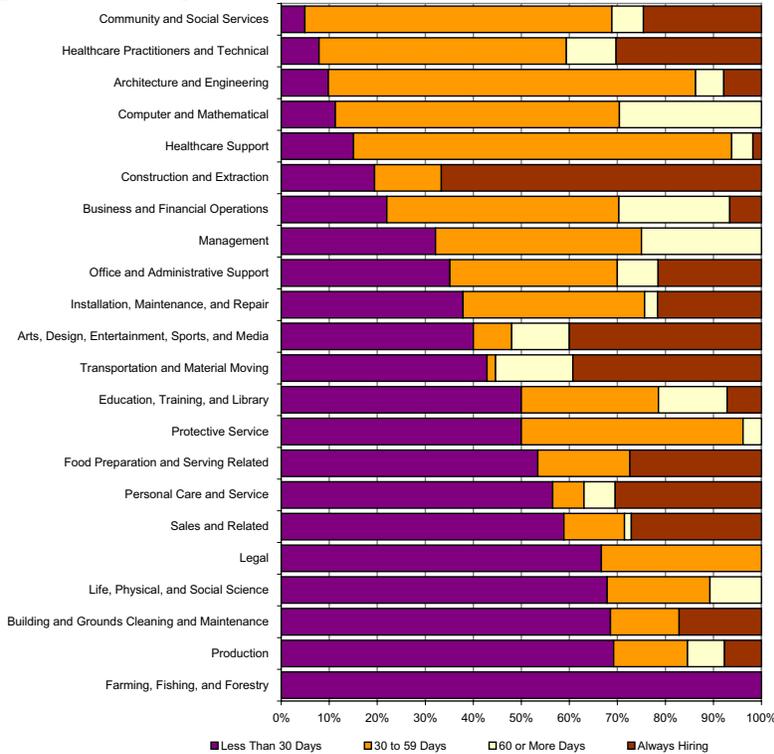


Figure 28: Major Occupational Groups by Difficulty to Fill

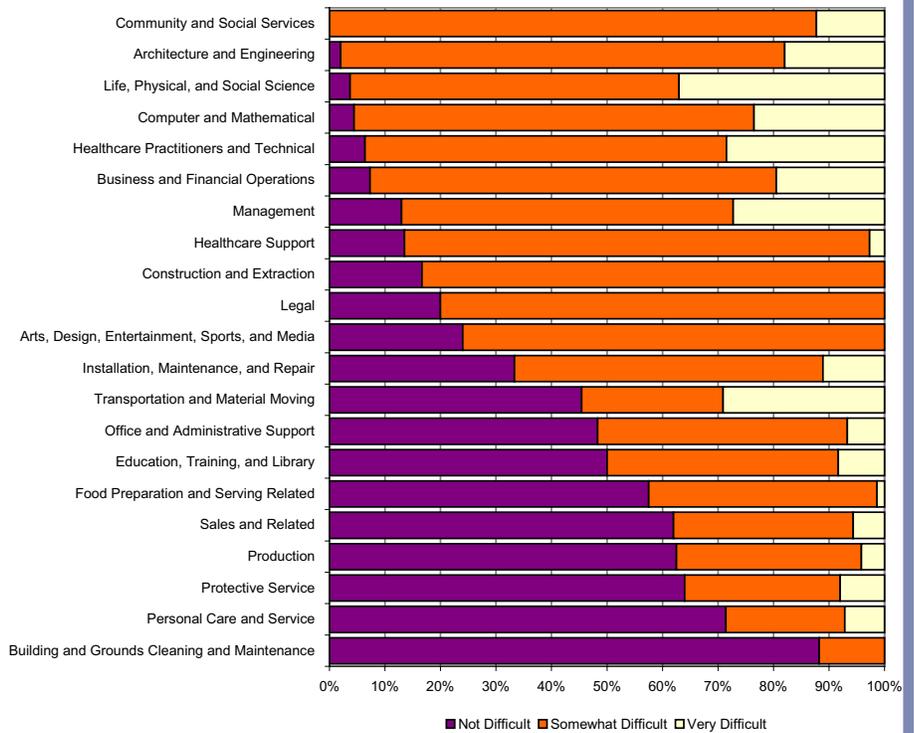


Table 3: Occupations with 10 or More Vacancies

SOC Code	SOC Occupation Title	Estimated Number of Vacancies	Average Wage Offered	Occupational Employment Statistics Wage Data (aged to 2000)								
				Average Wages			Percentile Distribution					
				Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th	
29-1111	Registered Nurses	1,515	\$21.50	\$17.21	\$22.38	\$24.97	\$15.91	\$18.54	\$21.88	\$25.39	\$30.80	
43-6011	Executive Secretaries and Administrative Assistants	752	\$13.50	\$12.60	\$16.66	\$18.69	\$11.63	\$13.88	\$16.17	\$19.11	\$22.04	
35-3031	Waiters and Waitresses	674	\$5.40	\$5.94	\$7.42	\$8.16	\$5.76	\$5.96	\$6.30	\$7.08	\$9.92	
41-2031	Retail Salespersons	544	\$8.80	\$6.80	\$10.25	\$11.98	\$6.22	\$7.15	\$8.50	\$11.12	\$16.38	
31-1012	Nursing Aides, Orderlies, and Attendants	475	\$10.90	\$7.84	\$9.48	\$10.30	\$7.27	\$8.33	\$9.51	\$10.58	\$11.75	
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	440	\$9.20	\$6.53	\$8.81	\$9.95	\$6.06	\$6.92	\$8.40	\$10.28	\$12.38	
41-2010*	Cashiers	426	\$7.80	\$6.44	\$8.94	\$10.19	\$6.07	\$6.81	\$8.11	\$9.90	\$14.80	
43-3031	Bookkeeping, Accounting, and Auditing Clerks	384	\$12.20	\$9.30	\$13.11	\$15.02	\$8.59	\$10.67	\$12.78	\$15.36	\$17.56	
39-9032	Recreation Workers	294	\$11.60	\$6.96	\$9.76	\$11.16	\$6.44	\$7.64	\$9.25	\$10.75	\$14.53	
29-2061	Licensed Practical and Licensed Vocational Nurses	279	\$15.60	\$12.49	\$15.20	\$16.56	\$11.93	\$13.25	\$14.83	\$16.47	\$18.19	
31-9092	Medical Assistants	242	\$12.00	\$9.49	\$11.74	\$12.86	\$9.12	\$10.12	\$11.62	\$13.23	\$14.81	
43-4051	Customer Service Representatives	219	\$11.80	\$9.31	\$12.91	\$14.70	\$8.88	\$10.03	\$12.08	\$15.03	\$18.94	
43-4171	Receptionists and Information Clerks	217	\$11.10	\$7.62	\$10.41	\$11.79	\$6.98	\$8.50	\$10.33	\$11.90	\$14.02	
43-5081	Stock Clerks and Order Fillers	211	\$9.50	\$7.35	\$11.32	\$13.31	\$6.72	\$8.03	\$10.28	\$14.19	\$17.69	
29-2034	Radiologic Technologists and Technicians	191	\$17.30	\$12.79	\$16.76	\$18.74	\$11.62	\$14.36	\$16.57	\$19.53	\$21.85	
39-5012	Hairdressers, Hairstylists, and Cosmetologists	181	\$10.20	\$7.19	\$9.43	\$10.56	\$6.80	\$7.71	\$9.03	\$10.59	\$12.54	
43-6013	Medical Secretaries	163	\$11.60	\$10.04	\$12.30	\$13.43	\$9.64	\$10.76	\$11.81	\$13.59	\$16.00	
29-2041	Emergency Medical Technicians and Paramedics	157	\$18.00	\$9.15	\$13.55	\$15.74	\$8.32	\$10.44	\$12.21	\$15.66	\$20.90	
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	155	\$8.10	\$5.94	\$6.89	\$7.37	\$5.78	\$6.04	\$6.58	\$7.69	\$8.89	
43-9061	Office Clerks, General	152	\$11.70	\$8.52	\$11.39	\$12.83	\$7.78	\$9.32	\$10.85	\$13.23	\$16.20	
53-3033	Truck Drivers, Light or Delivery Services	131	\$13.10	\$8.44	\$11.78	\$13.45	\$7.76	\$9.15	\$11.37	\$13.74	\$16.72	
11-9199	Managers, All Other	129	\$23.40	\$20.47	\$32.19	\$38.06	\$18.49	\$23.74	\$31.42	\$40.25	\$49.24	
31-1011	Home Health Aides	111	\$8.50	\$7.36	\$9.92	\$11.20	\$6.80	\$7.71	\$9.12	\$10.79	\$15.38	
35-9099	Food Preparation and Serving Related Workers, All Other	108	\$7.30	\$5.97	\$9.06	\$10.60	\$5.65	\$6.10	\$6.94	\$11.64	\$17.09	
13-2011	Accountants and Auditors	98	\$21.30	\$15.10	\$22.63	\$26.39	\$14.17	\$16.75	\$20.34	\$26.45	\$36.86	
25-3099***	Teachers and Instructors, All Other	97	\$15.60	-----	-----	-----	-----	-----	-----	-----	-----	
47-2061	Construction Laborers	91	\$8.80	\$8.27	\$11.20	\$12.66	\$7.63	\$9.00	\$10.97	\$13.20	\$15.55	
23-2011	Paralegals and Legal Assistants	90	-----	\$12.82	\$18.53	\$21.39	\$11.93	\$14.00	\$17.68	\$22.34	\$27.01	
29-2055	Surgical Technologists	82	\$12.70	\$9.74	\$13.79	\$15.81	\$9.12	\$11.36	\$13.17	\$15.56	\$17.41	
25-2010**	Preschool and Kindergarten Teachers	80	\$10.00	\$5.74	\$7.33	\$8.12	\$5.23	\$5.99	\$6.93	\$8.22	\$9.67	
35-2010**	Cooks	78	\$10.00	\$7.01	\$8.31	\$8.96	\$6.36	\$7.16	\$8.15	\$9.29	\$10.68	

Table 3: Occupations with 10 or More Vacancies - Page 2

SOC Code	SOC Occupation Title	Estimated Number of Vacancies	Average Wage Offered	Occupational Employment Statistics Wage Data (aged to 2000)								
				Average Wages			Percentile Distribution					
				Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th	
29-2012	Medical and Clinical Laboratory Technicians	76	\$16.50	\$11.13	\$16.57	\$19.30	\$10.22	\$12.69	\$16.74	\$20.19	\$23.28	
51-6093	Upholsterers	74	\$16.50	\$10.36	\$13.42	\$14.95	\$9.68	\$11.32	\$13.13	\$15.76	\$17.72	
53-6021	Parking Lot Attendants	74	-----	\$6.17	\$8.26	\$9.31	\$6.02	\$6.76	\$8.25	\$9.90	\$10.91	
41-9011	Demonstrators and Product Promoters	73	\$7.00	\$7.61	\$10.55	\$12.03	\$7.27	\$7.90	\$8.96	\$11.60	\$16.00	
53-3032	Truck Drivers, Heavy and Tractor-Trailer	67	\$15.50	\$11.66	\$15.78	\$17.85	\$11.12	\$12.56	\$14.96	\$17.69	\$21.10	
39-9011	Child Care Workers	66	\$7.20	\$6.13	\$7.65	\$8.42	\$5.91	\$6.50	\$7.58	\$8.62	\$9.83	
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	62	\$7.50	\$7.78	\$10.50	\$11.87	\$7.43	\$8.14	\$9.90	\$12.38	\$15.40	
41-9022	Real Estate Sales Agents	61	\$20.20	\$8.91	\$17.50	\$21.80	\$7.95	\$10.20	\$13.38	\$21.82	\$32.24	
33-9092***	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	58	\$8.40	-----	-----	-----	-----	-----	-----	-----	-----	
33-3050**	Police Officers	58	\$20.80	\$15.82	\$20.87	\$23.40	\$14.76	\$17.44	\$20.91	\$24.47	\$27.05	
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	56	\$19.20	\$12.62	\$17.00	\$19.19	\$11.57	\$13.93	\$16.91	\$19.98	\$22.66	
39-9031	Fitness Trainers and Aerobics Instructors	55	\$14.40	\$8.83	\$15.89	\$19.42	\$8.14	\$9.97	\$14.29	\$21.76	\$26.42	
11-9111	Medical and Health Services Managers	54	\$29.40	\$19.29	\$30.61	\$36.27	\$16.42	\$22.27	\$27.49	\$37.36	\$48.61	
21-1020**	Social Workers	51	\$16.70	\$12.11	\$17.30	\$19.89	\$10.96	\$13.49	\$16.55	\$20.58	\$24.82	
41-3041	Travel Agents	48	\$10.60	\$8.38	\$11.58	\$13.18	\$7.54	\$9.42	\$11.26	\$13.33	\$16.24	
11-2020**	Marketing and Sales Managers	47	\$22.80	\$22.19	\$37.45	\$45.09	\$19.20	\$26.15	\$34.95	\$47.40	\$66.07	
17-2011***	Aerospace Engineers	46	-----	-----	-----	-----	-----	-----	-----	-----	-----	
15-1031	Computer Software Engineers, Applications	45	\$33.70	\$24.06	\$33.42	\$38.10	\$22.96	\$26.44	\$32.64	\$40.16	\$45.41	
41-9031	Sales Engineers	45	\$20.40	\$20.15	\$33.13	\$39.62	\$17.84	\$23.61	\$32.04	\$42.94	\$56.34	
43-5031	Police, Fire, and Ambulance Dispatchers	45	\$14.00	\$12.38	\$15.69	\$17.34	\$11.62	\$13.44	\$15.67	\$17.77	\$20.25	
43-6014	Secretaries, Except Legal, Medical, and Executive	44	\$12.50	\$9.37	\$12.83	\$14.55	\$8.61	\$10.55	\$12.75	\$15.31	\$17.20	
29-1124	Radiation Therapists	43	\$21.20	\$14.98	\$19.24	\$21.36	\$14.49	\$16.22	\$18.88	\$22.21	\$25.55	
35-1010**	First-Line Supervisors/Managers, Food Preparation and Serving Workers	43	-----	\$8.94	\$13.40	\$15.62	\$8.35	\$9.62	\$12.36	\$16.58	\$20.34	
29-1051	Pharmacists	42	\$32.10	\$27.53	\$32.14	\$34.44	\$24.69	\$29.53	\$33.59	\$39.36	\$44.32	
49-9042	Maintenance and Repair Workers, General	42	\$13.70	\$8.52	\$12.78	\$14.91	\$7.67	\$9.67	\$11.88	\$15.52	\$19.45	
13-1051	Cost Estimators	41	\$19.80	\$15.62	\$23.66	\$27.68	\$14.29	\$17.93	\$22.15	\$28.13	\$39.30	
29-1126	Respiratory Therapists	40	\$16.70	\$14.28	\$17.59	\$19.25	\$13.51	\$15.46	\$17.63	\$19.93	\$21.60	
29-2071	Medical Records and Health Information Technicians	39	\$15.00	\$10.15	\$12.95	\$14.33	\$9.55	\$10.90	\$12.50	\$14.00	\$17.21	
39-9099	Personal Care and Service Workers, All Other	38	\$8.10	\$7.07	\$10.20	\$11.76	\$6.65	\$7.65	\$9.05	\$11.68	\$15.03	
19-2032	Materials Scientists	37	\$28.80	\$17.89	\$26.11	\$30.23	\$16.21	\$19.18	\$24.82	\$32.18	\$37.11	

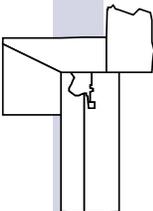


Table 3: Occupations with 10 or More Vacancies - Page 3

SOC Code	SOC Occupation Title	Estimated Number of Vacancies	Average Wage Offered	Occupational Employment Statistics Wage Data (aged to 2000)								
				Average Wages			Percentile Distribution					
				Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th	
27-1024	Graphic Designers	37	\$12.00	\$11.02	\$17.78	\$21.16	\$10.04	\$12.46	\$16.81	\$22.46	\$27.02	
53-3022	Bus Drivers, School	37	\$8.00	\$7.93	\$10.40	\$11.64	\$6.83	\$9.10	\$10.23	\$11.91	\$13.99	
15-1081	Network Systems and Data Communications Analysts	36	\$23.60	\$20.05	\$29.42	\$34.10	\$18.19	\$22.12	\$28.20	\$35.70	\$43.25	
41-9090**	Miscellaneous Sales and Related Workers	35	\$31.30	\$10.74	\$19.78	\$24.32	\$9.59	\$12.54	\$16.89	\$24.61	\$33.52	
29-2011	Medical and Clinical Laboratory Technologists	34	\$14.60	\$14.84	\$19.56	\$21.92	\$13.77	\$16.69	\$19.44	\$22.10	\$25.70	
17-2199	Engineers, All Other	33	\$37.80	\$22.58	\$31.77	\$36.37	\$20.66	\$24.86	\$31.17	\$38.33	\$44.46	
21-1023	Mental Health and Substance Abuse Social Workers	32	\$12.30	\$10.75	\$14.40	\$16.23	\$9.95	\$11.44	\$13.25	\$16.30	\$21.13	
13-2051	Financial Analysts	31	\$17.90	\$18.41	\$31.36	\$37.83	\$17.91	\$20.28	\$24.81	\$33.49	\$72.56	
13-2071	Loan Counselors	31	-----	\$11.61	\$13.67	\$14.68	\$10.79	\$11.86	\$13.17	\$15.10	\$16.92	
29-1127	Speech-Language Pathologists	30	\$19.90	\$16.92	\$22.12	\$24.71	\$15.38	\$18.11	\$21.10	\$25.26	\$29.51	
47-4011	Construction and Building Inspectors	30	\$18.50	\$14.16	\$20.29	\$23.35	\$11.77	\$16.61	\$20.33	\$24.45	\$27.32	
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	30	\$17.50	\$12.07	\$18.27	\$21.36	\$11.27	\$13.65	\$17.08	\$21.15	\$26.84	
11-9081	Lodging Managers	30	\$16.00	\$10.97	\$15.88	\$18.33	\$10.17	\$11.67	\$13.29	\$19.38	\$24.38	
37-2012	Maids and Housekeeping Cleaners	30	\$8.10	\$6.14	\$7.57	\$8.29	\$5.90	\$6.44	\$7.46	\$8.64	\$9.81	
15-1032	Computer Software Engineers, Systems Software	29	-----	\$23.51	\$32.65	\$37.21	\$21.24	\$26.53	\$32.52	\$39.02	\$44.43	
17-1010**	Architects, Except Naval	28	-----	\$16.64	\$25.43	\$29.83	\$15.34	\$18.40	\$23.28	\$31.75	\$41.10	
19-4031	Chemical Technicians	28	\$15.50	\$14.87	\$16.70	\$17.61	\$14.18	\$14.96	\$16.26	\$17.56	\$21.02	
29-2053	Psychiatric Technicians	28	\$11.10	\$8.08	\$11.50	\$13.22	\$7.46	\$8.87	\$11.04	\$13.38	\$16.25	
49-3020**	Automotive Technicians and Repairers	27	\$18.50	\$11.86	\$16.48	\$18.79	\$10.77	\$12.93	\$15.84	\$19.24	\$23.11	
17-2071	Electrical Engineers	26	\$21.60	\$21.18	\$29.84	\$34.17	\$19.48	\$22.38	\$29.57	\$36.31	\$42.27	
21-1014	Mental Health Counselors	26	\$12.00	\$9.79	\$14.04	\$16.16	\$9.25	\$9.97	\$11.27	\$16.42	\$22.44	
35-2021	Food Preparation Workers	26	\$8.90	\$7.36	\$8.64	\$9.27	\$7.03	\$7.48	\$8.19	\$9.20	\$11.92	
35-9021	Dishwashers	26	\$7.90	\$5.97	\$7.18	\$7.78	\$5.70	\$6.21	\$7.10	\$8.16	\$8.99	
15-1071	Network and Computer Systems Administrators	25	\$22.40	\$18.36	\$27.75	\$32.45	\$17.16	\$20.67	\$25.62	\$32.28	\$41.63	
29-1123	Physical Therapists	23	\$21.20	\$18.98	\$25.70	\$29.06	\$18.09	\$20.82	\$24.39	\$30.29	\$41.27	
21-1011	Substance Abuse and Behavioral Disorder Counselors	23	\$12.20	\$11.42	\$13.95	\$15.21	\$10.42	\$11.86	\$13.09	\$15.10	\$19.34	
47-2141	Painters, Construction and Maintenance	23	\$14.20	\$9.14	\$12.72	\$14.52	\$8.72	\$10.26	\$12.48	\$15.01	\$17.31	
39-1021	First-Line Supervisors/Managers of Personal Service Workers	23	\$16.60	\$8.18	\$12.95	\$15.35	\$7.12	\$9.31	\$11.30	\$14.38	\$22.02	
29-2090***	Miscellaneous Health Technologists and Technicians	22	\$12.00	-----	-----	-----	-----	-----	-----	-----	-----	
43-3011	Bill and Account Collectors	22	\$14.70	\$9.48	\$12.67	\$14.26	\$8.96	\$10.57	\$12.19	\$14.22	\$17.41	

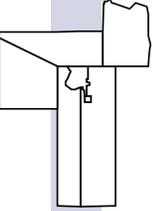


Table 3: Occupations with 10 or More Vacancies - Page 4

SOC Code	SOC Occupation Title	Estimated Number of Vacancies	Average Wage Offered	Occupational Employment Statistics Wage Data (aged to 2000)								
				Average Wages			Percentile Distribution					
				Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th	
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	21	\$8.10	\$15,289	\$18,367	\$19,906	\$14,693	\$15,410	\$16,605	\$17,801	\$29,368	
13-2053	Insurance Underwriters	21	\$19.20	\$14.57	\$21.20	\$24.53	\$13.20	\$15.93	\$19.05	\$24.51	\$36.40	
43-3071	Tellers	21	\$9.50	\$8.16	\$9.89	\$10.76	\$7.49	\$8.78	\$9.92	\$10.88	\$12.20	
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	21	\$6.50	\$6.00	\$7.26	\$7.89	\$5.85	\$6.34	\$7.35	\$8.32	\$8.92	
11-3061	Purchasing Managers	20	\$39.80	\$15.97	\$27.09	\$32.65	\$13.90	\$18.30	\$25.08	\$36.20	\$45.68	
51-8031	Water and Liquid Waste Treatment Plant and System Operators	20	\$15.80	\$11.87	\$16.90	\$19.41	\$11.43	\$13.06	\$16.35	\$20.54	\$23.99	
29-2052	Pharmacy Technicians	20	\$12.30	\$8.99	\$11.75	\$13.12	\$8.22	\$10.04	\$12.05	\$13.50	\$14.55	
37-3019***	Grounds Maintenance Workers, All Other	19	\$7.50	-----	-----	-----	-----	-----	-----	-----	-----	
27-2023*	Umpires, Referees, and Other Sports Officials	19	\$10.00	\$19,023	\$20,732	\$21,597	\$17,709	\$19,210	\$20,753	\$22,295	\$23,213	
13-1031	Claims Adjusters, Examiners, and Investigators	19	\$11.10	\$13.19	\$19.22	\$22.24	\$10.94	\$15.02	\$18.32	\$23.19	\$27.77	
11-9031	Education Administrators, Preschool and Child Care Center/Program	19	\$11.10	\$11.51	\$14.96	\$16.69	\$10.11	\$12.01	\$13.28	\$16.27	\$24.40	
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	19	\$12.20	\$10.79	\$14.21	\$15.91	\$9.97	\$11.84	\$14.13	\$16.35	\$17.93	
21-1010**	Counselors	19	\$11.50	\$10.24	\$15.13	\$17.58	\$9.38	\$11.10	\$13.38	\$17.99	\$24.45	
21-1019***	Counselors, All Other	17	\$15.40	-----	-----	-----	-----	-----	-----	-----	-----	
19-3051	Urban and Regional Planners	17	\$31.60	\$18.17	\$24.62	\$27.84	\$16.98	\$19.71	\$23.72	\$29.08	\$35.75	
13-1199	Business Operations Specialists, All Other	17	\$20.60	\$15.57	\$23.52	\$27.49	\$14.09	\$17.60	\$22.62	\$28.39	\$34.47	
33-9032	Security Guards	17	\$12.20	\$7.81	\$10.97	\$12.54	\$7.34	\$8.43	\$9.88	\$11.94	\$18.10	
15-1030**	Computer Software Engineers	16	\$26.60	\$23.85	\$33.10	\$37.73	\$22.35	\$26.46	\$32.55	\$39.69	\$45.02	
17-2072	Electronics Engineers, Except Computer	16	-----	\$23.44	\$33.02	\$37.80	\$21.52	\$26.51	\$32.98	\$40.02	\$44.90	
13-2099	Financial Specialists, All Other	16	\$13.80	\$14.50	\$22.13	\$25.94	\$13.61	\$16.23	\$19.97	\$25.33	\$33.56	
47-2073	Operating Engineers and Other Construction Equipment Operators	16	\$20.00	\$13.86	\$17.57	\$19.43	\$12.84	\$14.90	\$17.57	\$20.24	\$21.96	
29-2031	Cardiovascular Technologists and Technicians	16	\$21.40	\$11.49	\$16.93	\$19.66	\$10.84	\$12.91	\$16.37	\$20.39	\$24.48	
31-9094	Medical Transcriptionists	16	-----	\$10.38	\$13.95	\$15.74	\$9.75	\$11.28	\$13.45	\$16.40	\$19.38	
43-3021	Billing and Posting Clerks and Machine Operators	16	\$12.50	\$9.52	\$12.26	\$13.62	\$8.93	\$10.61	\$11.97	\$13.80	\$16.21	
53-7199	Material Moving Workers, All Other	15	\$8.80	\$9.07	\$13.49	\$15.69	\$8.59	\$9.82	\$12.20	\$17.25	\$20.76	
19-1042	Medical Scientists, Except Epidemiologists	14	-----	\$18.98	\$29.74	\$35.11	\$17.95	\$20.24	\$25.35	\$33.94	\$51.25	
31-9093	Medical Equipment Preparers	14	\$10.00	\$9.61	\$12.31	\$13.67	\$9.22	\$10.34	\$11.93	\$13.37	\$17.36	
29-2051	Dietetic Technicians	14	-----	\$6.61	\$9.55	\$11.03	\$6.10	\$7.14	\$9.22	\$11.57	\$13.88	

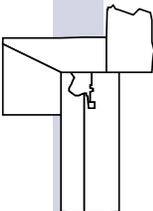


Table 3: Occupations with 10 or More Vacancies - Page 5

SOC Code	SOC Occupation Title	Estimated Number of Vacancies	Average Wage Offered	Occupational Employment Statistics Wage Data (aged to 2000)								
				Average Wages			Percentile Distribution					
				Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th	
41-3099***	Sales Representatives, Services, All Other	13	\$7.50	-----	-----	-----	-----	-----	-----	-----	-----	-----
29-2032	Diagnostic Medical Sonographers	13	\$20.20	\$19.43	\$23.34	\$25.30	\$17.58	\$21.44	\$24.25	\$26.42	\$27.73	
11-1021	General and Operations Managers	13	\$31.00	\$18.61	\$35.93	\$44.57	\$16.82	\$21.30	\$31.69	\$47.96	\$70.98	
15-1021	Computer Programmers	13	\$26.70	\$17.69	\$28.41	\$33.77	\$14.87	\$20.77	\$28.77	\$38.32	\$45.12	
15-1041	Computer Support Specialists	13	\$17.50	\$12.93	\$17.13	\$19.23	\$12.07	\$14.10	\$16.30	\$19.55	\$23.91	
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	13	\$22.70	\$12.29	\$17.63	\$20.31	\$11.31	\$13.68	\$16.65	\$21.01	\$25.05	
43-4061	Eligibility Interviewers, Government Programs	13	\$16.30	\$11.16	\$13.78	\$15.09	\$10.43	\$11.88	\$13.68	\$15.84	\$17.28	
49-3013***	Aircraft Mechanics and Service Technicians, Not FAA Certified	12	\$9.00	-----	-----	-----	-----	-----	-----	-----	-----	
17-2141	Mechanical Engineers	12	\$20.40	\$20.18	\$29.01	\$33.42	\$18.59	\$22.12	\$28.64	\$37.43	\$44.20	
13-2021	Appraisers and Assessors of Real Estate	12	\$18.80	\$18.23	\$27.49	\$32.13	\$16.77	\$20.54	\$23.97	\$32.26	\$52.34	
53-3020**	Bus Drivers	12	\$10.50	\$7.98	\$10.83	\$12.25	\$6.97	\$9.11	\$10.71	\$12.67	\$14.75	
11-9041	Engineering Managers	11	\$18.10	\$28.44	\$39.73	\$45.38	\$26.67	\$31.69	\$38.93	\$48.34	\$56.65	
15-1051	Computer Systems Analysts	11	-----	\$21.08	\$30.36	\$35.02	\$19.15	\$24.00	\$30.45	\$36.15	\$43.07	
41-3021	Insurance Sales Agents	11	\$15.60	\$14.60	\$26.09	\$31.83	\$13.24	\$16.55	\$22.84	\$31.89	\$35.51	
21-1013	Marriage and Family Therapists	11	\$21.20	\$14.13	\$17.47	\$19.14	\$13.26	\$14.58	\$16.42	\$19.17	\$22.12	
41-3031	Securities, Commodities, and Financial Services Sales Agents	11	\$16.50	\$13.05	\$22.51	\$27.23	\$12.19	\$13.80	\$17.44	\$23.98	\$37.72	
33-2011	Fire Fighters	11	\$24.30	\$11.71	\$19.17	\$22.90	\$10.81	\$14.37	\$19.30	\$24.03	\$28.06	
11-9051	Food Service Managers	11	\$18.20	\$9.94	\$15.57	\$18.40	\$9.45	\$10.59	\$14.06	\$19.23	\$25.08	
11-3031	Financial Managers	10	\$29.30	\$22.21	\$35.20	\$41.69	\$20.32	\$25.36	\$32.66	\$43.05	\$57.82	
17-2051	Civil Engineers	10	\$26.50	\$19.96	\$28.21	\$32.34	\$18.56	\$21.50	\$27.01	\$35.07	\$43.37	
17-3010**	Drafters	10	\$20.90	\$13.89	\$19.59	\$22.44	\$12.79	\$15.38	\$19.20	\$23.60	\$27.14	
37-1010**	First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers	10	-----	\$9.61	\$13.84	\$15.95	\$8.94	\$10.55	\$13.04	\$16.66	\$19.76	
43-2011	Switchboard Operators, Including Answering Service	10	\$9.80	\$7.62	\$9.79	\$10.88	\$6.92	\$8.02	\$9.51	\$11.24	\$13.36	
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	10	\$9.70	\$7.56	\$10.03	\$11.26	\$7.06	\$8.13	\$9.75	\$11.23	\$13.64	

* Annual salary

** OES wages for general occupations are reported as the weighted average of more specific occupations

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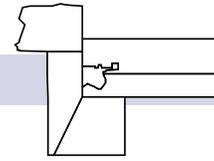


Table 4: Occupations with Fewer Than 10 Vacancies

SOC Code	SOC Occupation Title	Occupational Employment Statistics Wage Data (aged to 2000)							
		Average Wages			Percentile Distribution				
		Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
15-1061	Database Administrators	\$17.79	\$26.97	\$31.56	\$15.96	\$20.37	\$26.10	\$35.63	\$43.14
17-1011	Architects, Except Landscape and Naval	\$17.16	\$26.48	\$31.14	\$15.61	\$19.12	\$24.66	\$33.05	\$42.70
29-1199	Health Diagnosing and Treating Practitioners, All Other	\$13.93	\$31.19	\$39.81	\$12.81	\$15.09	\$19.26	\$53.00	\$72.96
13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	\$13.56	\$22.28	\$26.64	\$12.63	\$16.57	\$21.54	\$27.48	\$33.30
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Produc	\$12.45	\$22.02	\$26.80	\$11.31	\$14.46	\$18.80	\$26.14	\$40.89
49-3023	Automotive Service Technicians and Mechanics	\$10.14	\$16.51	\$19.69	\$8.80	\$11.84	\$15.68	\$20.07	\$25.09
43-5071	Shipping, Receiving, and Traffic Clerks	\$7.91	\$11.04	\$12.61	\$7.42	\$8.73	\$10.51	\$12.80	\$15.74
37-3011	Landscaping and Groundskeeping Workers	\$7.45	\$9.75	\$10.89	\$7.16	\$7.84	\$9.05	\$11.04	\$13.81
11-3040	Human Resources Managers	\$18.91	\$30.08	\$35.67	\$17.27	\$21.36	\$28.80	\$39.51	\$47.87
29-1122	Occupational Therapists	\$17.32	\$23.37	\$26.39	\$16.10	\$18.85	\$22.24	\$26.70	\$37.15
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	\$16.78	\$23.91	\$27.47	\$15.11	\$19.10	\$23.68	\$27.87	\$33.80
29-2030**	Diagnostic Related Technologists and Technicians	\$13.45	\$17.61	\$19.70	\$12.34	\$14.96	\$17.45	\$20.44	\$23.15
29-1031	Dietitians and Nutritionists	\$12.23	\$17.82	\$20.62	\$10.64	\$14.33	\$17.51	\$21.39	\$25.25
21-1029***	Social Workers, All Other	----	----	----	----	----	----	----	----
17-1021***	Cartographers and Photogrammetrists	----	----	----	----	----	----	----	----
17-3019***	Drafters, All Other	----	----	----	----	----	----	----	----
23-2099***	Legal Support Workers, All Other	----	----	----	----	----	----	----	----
11-9032*	Education Administrators, Elementary and Secondary School	\$53,647	\$66,378	\$72,743	\$49,563	\$58,609	\$66,673	\$75,096	\$87,120
25-2021*	Elementary School Teachers, Except Special Education	\$27,538	\$40,192	\$46,519	\$25,714	\$29,852	\$36,826	\$46,853	\$61,206
29-1066	Psychiatrists	\$44.23	\$59.95	\$67.81	\$46.46	\$54.66	\$65.99	\$72.96	\$72.97
11-9121	Natural Sciences Managers	\$24.33	\$36.85	\$43.10	\$21.33	\$28.09	\$35.91	\$44.96	\$54.82
11-2021	Marketing Managers	\$22.93	\$37.07	\$44.14	\$19.45	\$27.43	\$35.85	\$46.58	\$58.48
13-1111	Management Analysts	\$19.70	\$35.30	\$43.10	\$17.24	\$22.73	\$30.72	\$44.59	\$69.92
17-3025	Environmental Engineering Technicians	\$15.35	\$17.65	\$18.80	\$14.50	\$15.36	\$16.79	\$19.55	\$22.89
13-2072	Loan Officers	\$12.35	\$22.46	\$27.52	\$11.06	\$14.81	\$20.22	\$27.56	\$36.97
11-9151	Social and Community Service Managers	\$11.18	\$18.99	\$22.89	\$9.59	\$13.91	\$18.29	\$23.26	\$29.40
23-2092	Law Clerks	\$10.88	\$13.89	\$15.40	\$10.14	\$11.98	\$13.23	\$14.48	\$16.78
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	\$10.39	\$17.33	\$20.80	\$9.58	\$11.42	\$14.74	\$18.57	\$29.33
27-1099	All Other Art and Design Workers	\$9.90	\$15.79	\$18.73	\$9.31	\$10.99	\$14.03	\$17.67	\$26.07
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$8.68	\$12.10	\$13.82	\$7.95	\$9.63	\$12.06	\$14.46	\$16.35
21-1015	Rehabilitation Counselors	\$8.62	\$11.55	\$13.02	\$8.26	\$9.12	\$10.23	\$11.97	\$18.59
43-9021	Data Entry Keyers	\$8.02	\$10.56	\$11.83	\$7.39	\$8.72	\$10.18	\$11.90	\$14.00
33-9090**	Miscellaneous Protective Service Workers	\$6.73	\$10.97	\$13.09	\$6.38	\$7.30	\$9.45	\$13.73	\$18.23
17-2061	Computer Hardware Engineers	\$25.77	\$35.52	\$40.38	\$23.94	\$27.97	\$34.05	\$42.21	\$51.24
15-1099	Computer Specialists, All Other	\$18.23	\$26.54	\$30.70	\$15.96	\$21.23	\$25.98	\$31.58	\$36.65
13-2070**	Loan Counselors and Officers	\$12.37	\$22.24	\$27.19	\$11.10	\$14.76	\$20.01	\$27.27	\$36.43
53-7051	Industrial Truck and Tractor Operators	\$9.65	\$13.01	\$14.70	\$9.21	\$10.65	\$12.68	\$15.15	\$17.08
43-5032	Dispatchers, Except Police, Fire, and Ambulance	\$9.45	\$14.05	\$16.35	\$9.07	\$10.52	\$13.02	\$16.96	\$20.73
39-3031	Ushers, Lobby Attendants, and Ticket Takers	\$5.95	\$6.37	\$6.58	\$5.62	\$5.88	\$6.25	\$6.78	\$7.87

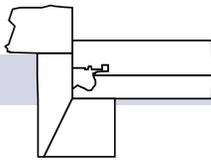


Table 4: Occupations with Fewer Than 10 Vacancies - Page 2

SOC Code	SOC Occupation Title	Occupational Employment Statistics Wage Data (aged to 2000)							
		Average Wages			Percentile Distribution				
		Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
15-1052***	Computer Systems Analysts, Non R&D (SIC 822 Only)	-----	-----	-----	-----	-----	-----	-----	-----
23-1011	Lawyers	\$30.06	\$41.87	\$47.78	\$25.53	\$35.44	\$41.11	\$47.50	\$65.35
11-3021	Computer and Information Systems Managers	\$27.92	\$41.14	\$47.75	\$25.57	\$32.33	\$40.66	\$50.35	\$60.05
33-1012	First-Line Supervisors/Managers of Police and Detectives	\$24.60	\$30.48	\$33.41	\$22.97	\$26.27	\$30.93	\$35.95	\$41.97
49-3021	Automotive Body and Related Repairers	\$15.14	\$17.09	\$18.07	\$14.39	\$15.22	\$16.59	\$18.50	\$20.90
29-2010**	Clinical Laboratory Technologists and Technicians	\$13.15	\$18.19	\$20.70	\$12.16	\$14.87	\$18.19	\$21.20	\$24.58
17-3022	Civil Engineering Technicians	\$12.63	\$19.04	\$22.24	\$11.11	\$14.50	\$17.60	\$22.61	\$30.16
11-9141	Property, Real Estate, and Community Association Managers	\$10.77	\$19.70	\$24.18	\$9.56	\$12.71	\$17.41	\$24.60	\$34.05
31-1013	Psychiatric Aides	\$9.92	\$12.14	\$13.25	\$9.20	\$10.93	\$12.57	\$13.53	\$14.11
29-2050**	Health Diagnosing and Treating Practitioner Support Technicians	\$8.91	\$12.06	\$13.63	\$8.23	\$9.85	\$11.89	\$13.82	\$15.65
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$8.19	\$13.05	\$15.49	\$7.40	\$9.24	\$12.07	\$15.80	\$20.22
21-1093	Social and Human Service Assistants	\$8.02	\$11.57	\$13.34	\$7.26	\$9.05	\$11.44	\$13.98	\$16.48
31-9095	Pharmacy Aides	\$7.74	\$9.97	\$11.09	\$7.36	\$8.55	\$10.09	\$11.48	\$12.80
51-6050**	Tailors, Dressmakers, and Sewers	\$7.43	\$11.08	\$12.90	\$6.87	\$7.85	\$10.23	\$12.80	\$15.57
51-6011	Laundry and Dry-Cleaning Workers	\$6.71	\$7.87	\$8.46	\$6.21	\$7.13	\$7.86	\$8.59	\$10.06
53-3041	Taxi Drivers and Chauffeurs	\$6.68	\$8.98	\$10.13	\$6.06	\$7.23	\$8.70	\$10.28	\$12.02
43-4199***	Information and Record Clerks, All Other	-----	-----	-----	-----	-----	-----	-----	-----
33-3011***	Bailiffs	-----	-----	-----	-----	-----	-----	-----	-----
25-9041*	Teacher Assistants	\$14,057	\$17,605	\$19,378	\$12,849	\$15,025	\$17,246	\$20,093	\$23,168
17-2081	Environmental Engineers	\$22.41	\$30.04	\$33.85	\$20.44	\$25.22	\$30.57	\$34.51	\$39.74
29-1121	Audiologists	\$16.45	\$19.78	\$21.44	\$15.61	\$18.53	\$20.12	\$21.71	\$24.12
13-2052	Personal Financial Advisors	\$16.43	\$32.82	\$41.00	\$14.86	\$19.47	\$28.47	\$42.63	\$72.56
29-2033	Nuclear Medicine Technologists	\$16.17	\$19.43	\$21.07	\$14.95	\$17.27	\$19.39	\$21.48	\$24.46
29-2091	Orthotists and Prosthetists	\$15.80	\$17.87	\$18.90	\$14.54	\$15.25	\$16.42	\$17.59	\$25.27
13-2041	Credit Analysts	\$14.06	\$21.66	\$25.48	\$13.08	\$15.33	\$19.64	\$24.91	\$34.73
13-1020**	Buyers and Purchasing Agents	\$13.56	\$20.39	\$23.80	\$12.77	\$14.93	\$18.33	\$23.71	\$33.18
25-4021	Librarians	\$13.42	\$19.73	\$22.87	\$12.47	\$15.31	\$19.02	\$23.91	\$28.16
47-2031	Carpenters	\$13.04	\$16.61	\$18.40	\$11.85	\$14.43	\$16.40	\$19.06	\$21.41
23-9099	All Other Legal and Related Workers	\$12.42	\$18.05	\$20.87	\$11.81	\$13.46	\$16.42	\$20.22	\$25.18
43-6012	Legal Secretaries	\$11.73	\$14.99	\$16.62	\$11.21	\$12.36	\$13.90	\$17.54	\$20.71
43-4131	Loan Interviewers and Clerks	\$11.39	\$15.61	\$17.72	\$10.43	\$12.67	\$15.39	\$17.67	\$21.10
43-4031	Court, Municipal, and License Clerks	\$11.23	\$14.77	\$16.54	\$10.27	\$12.41	\$14.51	\$16.76	\$19.50
11-3011	Administrative Services Managers	\$10.75	\$22.88	\$28.94	\$9.83	\$12.26	\$19.44	\$31.06	\$41.78
43-9041	Insurance Claims and Policy Processing Clerks	\$10.66	\$16.39	\$19.26	\$9.91	\$11.80	\$14.83	\$17.45	\$28.80
19-4090**	Miscellaneous Life, Physical, and Social Science Technicians	\$9.96	\$16.72	\$20.10	\$8.68	\$11.69	\$15.17	\$20.27	\$27.66
43-3061	Procurement Clerks	\$9.74	\$13.73	\$15.72	\$8.78	\$11.18	\$14.00	\$16.24	\$17.66
27-4012	Broadcast Technicians	\$8.73	\$20.18	\$25.90	\$8.00	\$9.96	\$13.40	\$24.47	\$41.67
45-4011	Forest and Conservation Workers	\$8.48	\$12.03	\$13.81	\$8.03	\$9.13	\$11.53	\$14.18	\$17.84
21-1090**	Miscellaneous Community and Social Service Specialists	\$8.39	\$12.52	\$14.58	\$7.54	\$9.53	\$12.47	\$15.28	\$18.09

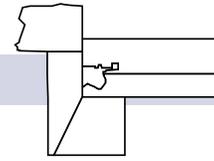


Table 4: Occupations with Fewer Than 10 Vacancies - Page 3

SOC Code	SOC Occupation Title	Occupational Employment Statistics Wage Data (aged to 2000)							
		Average Wages			Percentile Distribution				
		Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
31-9099	Healthcare Support Workers, All Other	\$8.36	\$11.59	\$13.21	\$7.71	\$9.03	\$10.78	\$13.15	\$16.34
43-9020**	Data Entry and Information Processing Workers	\$8.15	\$10.82	\$12.15	\$7.44	\$8.97	\$10.51	\$12.24	\$14.43
51-9083	Ophthalmic Laboratory Technicians	\$7.96	\$10.80	\$12.23	\$7.21	\$8.20	\$9.85	\$12.35	\$16.17
31-2022	Physical Therapist Aides	\$7.67	\$10.35	\$11.70	\$7.15	\$8.33	\$9.73	\$12.24	\$13.77
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$7.65	\$10.70	\$12.22	\$6.95	\$8.63	\$10.08	\$11.93	\$15.89
51-2092	Team Assemblers	\$7.34	\$10.09	\$11.47	\$7.11	\$8.02	\$9.72	\$11.89	\$13.73
53-3099	Motor Vehicle Operators, All Other	\$5.96	\$7.91	\$8.89	\$5.62	\$6.03	\$6.72	\$8.72	\$12.30
29-1129***	Therapists, All Other	-----	-----	-----	-----	-----	-----	-----	-----
17-2070**	Electrical and Electronics Engineers	\$22.00	\$30.84	\$35.27	\$20.19	\$23.86	\$30.69	\$37.26	\$43.01
11-9021	Construction Managers	\$18.81	\$29.41	\$34.70	\$16.65	\$21.04	\$28.25	\$34.63	\$44.32
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$18.58	\$34.20	\$42.00	\$16.51	\$21.93	\$32.57	\$49.28	\$62.53
13-2050**	Financial Analysts and Advisors	\$17.29	\$29.76	\$35.99	\$16.42	\$19.29	\$24.46	\$33.63	\$34.59
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	\$17.18	\$22.53	\$25.21	\$15.08	\$20.23	\$24.03	\$26.25	\$27.58
29-1071	Physician Assistants	\$16.85	\$26.36	\$31.11	\$13.23	\$18.63	\$27.37	\$34.26	\$41.09
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$15.24	\$20.63	\$23.33	\$14.33	\$16.79	\$19.49	\$23.59	\$30.12
13-1072	Compensation, Benefits, and Job Analysis Specialists	\$14.87	\$23.97	\$28.52	\$13.70	\$16.56	\$20.03	\$25.49	\$46.19
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	\$13.72	\$20.20	\$23.44	\$12.43	\$15.46	\$19.49	\$24.25	\$29.22
53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle	\$13.33	\$20.92	\$24.72	\$11.94	\$14.92	\$19.20	\$25.08	\$32.49
29-2054	Respiratory Therapy Technicians	\$11.93	\$15.05	\$16.61	\$10.83	\$12.83	\$15.38	\$16.91	\$18.69
31-2021	Physical Therapist Assistants	\$11.84	\$15.01	\$16.59	\$11.41	\$12.62	\$14.64	\$16.76	\$19.89
53-7121	Tank Car, Truck, and Ship Loaders	\$11.73	\$15.27	\$17.03	\$10.95	\$12.17	\$13.84	\$16.60	\$24.58
27-3020	News Analysts, Reporters and Correspondents	\$11.66	\$21.43	\$26.33	\$9.87	\$14.27	\$19.05	\$26.64	\$37.57
27-1010**	Artists and Related Workers	\$10.84	\$17.84	\$21.34	\$10.05	\$11.88	\$16.72	\$22.43	\$27.87
31-9011	Massage Therapists	\$9.87	\$17.82	\$21.80	\$9.38	\$10.22	\$12.82	\$28.78	\$33.00
51-3021	Butchers and Meat Cutters	\$9.59	\$13.95	\$16.12	\$8.85	\$10.77	\$14.77	\$16.61	\$18.23
27-3091	Interpreters and Translators	\$9.53	\$12.25	\$13.62	\$8.84	\$10.32	\$12.03	\$13.69	\$16.11
25-4031	Library Technicians	\$8.77	\$12.52	\$14.40	\$8.15	\$9.99	\$12.37	\$15.04	\$17.36
31-9091	Dental Assistants	\$8.77	\$12.41	\$14.23	\$8.02	\$9.68	\$12.07	\$15.09	\$17.02
37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	\$8.41	\$12.15	\$14.02	\$7.69	\$9.20	\$11.14	\$14.80	\$17.69
43-4071	File Clerks	\$7.56	\$9.31	\$10.18	\$6.93	\$7.83	\$9.02	\$10.55	\$12.21
51-9190**	Miscellaneous Production Workers	\$6.54	\$9.94	\$11.64	\$6.16	\$7.05	\$9.04	\$12.42	\$15.30
21-2099***	Religious Workers, All Other	-----	-----	-----	-----	-----	-----	-----	-----
25-2030*	Secondary School Teachers	\$27,270	\$40,917	\$47,737	\$25,441	\$30,009	\$37,776	\$50,196	\$61,523
17-2112	Industrial Engineers	\$19.44	\$26.71	\$30.34	\$18.50	\$21.16	\$25.77	\$31.70	\$37.20
17-3023	Electrical and Electronic Engineering Technicians	\$16.67	\$27.01	\$32.19	\$15.20	\$18.37	\$23.70	\$34.14	\$46.77
17-3013	Mechanical Drafters	\$15.03	\$20.71	\$23.55	\$13.96	\$16.50	\$20.11	\$24.40	\$27.77

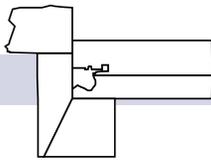


Table 4: Occupations with Fewer Than 10 Vacancies - Page 4

SOC Code	SOC Occupation Title	Occupational Employment Statistics Wage Data (aged to 2000)							
		Average Wages			Percentile Distribution				
		Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	\$12.34	\$21.58	\$26.20	\$11.87	\$13.34	\$16.94	\$27.92	\$41.13
43-9011	Computer Operators	\$11.56	\$15.26	\$17.12	\$10.91	\$12.53	\$14.75	\$17.31	\$20.38
43-3051	Payroll and Timekeeping Clerks	\$10.96	\$15.74	\$18.14	\$10.43	\$11.91	\$13.82	\$16.18	\$18.44
35-1011	Chefs and Head Cooks	\$10.84	\$18.47	\$22.29	\$9.82	\$11.83	\$18.21	\$24.32	\$27.36
31-9090**	Miscellaneous Healthcare Support Occupations	\$8.75	\$11.47	\$12.82	\$8.23	\$9.41	\$11.12	\$13.23	\$15.34
13-2082	Tax Preparers	\$7.79	\$15.25	\$18.98	\$6.83	\$9.08	\$14.64	\$19.58	\$25.60
33-9099	Protective Service Workers, All Other	\$7.15	\$12.30	\$14.88	\$6.75	\$7.83	\$10.06	\$15.10	\$21.42
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	\$6.31	\$8.00	\$8.85	\$6.01	\$6.66	\$7.72	\$8.76	\$11.03
39-6011	Baggage Porters and Bellhops	\$5.95	\$8.11	\$9.20	\$5.78	\$6.15	\$7.12	\$9.04	\$10.52
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	\$5.93	\$6.67	\$7.03	\$5.76	\$5.97	\$6.32	\$7.16	\$8.77
19-4061***	Social Science Research Assistants	----	----	----	----	----	----	----	----
29-9099***	Healthcare Practitioners and Technical Workers, All Other	----	----	----	----	----	----	----	----
13-1081***	Logisticians	----	----	----	----	----	----	----	----
29-2099***	Health Technologists and Technicians, All Other	----	----	----	----	----	----	----	----
19-2021***	Atmospheric and Space Scientists	----	----	----	----	----	----	----	----
11-3049***		----	----	----	----	----	----	----	----
17-2001***	Engineers, Non R&D (SIC 822 Only)	----	----	----	----	----	----	----	----
17-2002***	Engineers, R&D (SIC 822 Only)	----	----	----	----	----	----	----	----
25-2040*	Special Education Teachers	\$28,966	\$39,646	\$44,984	\$25,307	\$32,395	\$37,584	\$45,607	\$56,100
19-2099	Physical Scientists, All Other	\$23.20	\$31.78	\$36.08	\$20.84	\$27.47	\$32.23	\$37.20	\$43.51
15-2011	Actuaries	\$22.22	\$30.55	\$34.71	\$18.57	\$26.28	\$31.44	\$35.61	\$41.73
11-2022	Sales Managers	\$21.97	\$38.03	\$46.06	\$19.40	\$25.48	\$34.46	\$48.34	\$72.47
15-2031	Operations Research Analysts	\$19.63	\$25.76	\$28.83	\$18.44	\$21.34	\$25.64	\$30.03	\$34.17
17-2110**	Industrial Engineers, Including Health and Safety	\$19.45	\$26.90	\$30.63	\$18.38	\$21.35	\$25.91	\$32.01	\$38.02
11-3051	Industrial Production Managers	\$19.45	\$30.61	\$36.18	\$17.04	\$22.27	\$30.08	\$40.41	\$48.57
27-3042	Technical Writers	\$17.60	\$23.52	\$26.48	\$16.08	\$18.94	\$23.19	\$26.97	\$31.75
51-8092	Gas Plant Operators	\$16.80	\$20.52	\$22.38	\$15.04	\$18.06	\$20.06	\$22.99	\$26.40
27-3040**	Writers and Editors	\$15.78	\$22.02	\$25.14	\$14.42	\$17.17	\$21.30	\$25.91	\$31.26
17-3020**	Engineering Technicians, Except Drafters	\$15.23	\$23.59	\$27.78	\$13.93	\$16.80	\$21.21	\$29.11	\$38.85
19-2031	Chemists	\$14.72	\$25.45	\$30.80	\$13.33	\$16.43	\$24.39	\$33.80	\$42.58
13-1061	Emergency Management Specialists	\$14.63	\$20.59	\$23.56	\$13.72	\$15.87	\$19.17	\$23.18	\$31.94
13-1071	Employment, Recruitment, and Placement Specialists	\$14.00	\$20.28	\$23.41	\$13.32	\$15.08	\$17.15	\$23.02	\$32.17
47-2111	Electricians	\$13.97	\$21.03	\$24.56	\$12.38	\$15.90	\$22.49	\$25.86	\$27.85
49-2090**	Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers	\$13.31	\$17.66	\$19.84	\$12.01	\$14.77	\$17.30	\$20.43	\$23.93
13-1030**	Claims Adjusters, Appraisers, Examiners, and Investigators	\$13.19	\$19.15	\$22.14	\$11.04	\$14.96	\$18.31	\$23.11	\$27.60
21-1022	Medical and Public Health Social Workers	\$12.92	\$17.94	\$20.44	\$11.88	\$14.10	\$16.64	\$21.51	\$25.99
21-2011	Clergy	\$12.66	\$24.88	\$30.99	\$9.78	\$16.85	\$27.59	\$37.41	\$43.81
19-4021	Biological Technicians	\$11.81	\$15.31	\$17.06	\$11.04	\$12.51	\$14.67	\$17.13	\$21.19

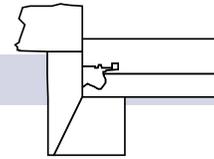


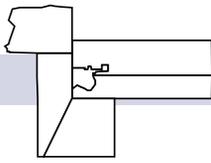
Table 4: Occupations with Fewer Than 10 Vacancies - Page 5

SOC Code	SOC Occupation Title	Occupational Employment Statistics Wage Data (aged to 2000)							
		Average Wages			Percentile Distribution				
		Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
41-1010**	First-Line Supervisors/Managers, Sales Workers	\$11.32	\$19.15	\$23.06	\$10.30	\$12.61	\$16.63	\$21.54	\$31.98
29-2081	Opticians, Dispensing	\$10.07	\$14.43	\$16.61	\$9.35	\$11.52	\$14.17	\$17.11	\$19.55
51-4120**	Welding, Soldering, and Brazing Workers	\$9.57	\$13.52	\$15.50	\$9.07	\$10.70	\$12.78	\$15.82	\$19.26
47-2211	Sheet Metal Workers	\$9.27	\$16.24	\$19.72	\$7.38	\$11.39	\$15.62	\$21.81	\$25.50
43-9111	Statistical Assistants	\$9.17	\$13.39	\$15.50	\$8.48	\$10.13	\$12.29	\$16.89	\$20.00
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	\$8.58	\$11.88	\$13.53	\$7.69	\$9.51	\$12.24	\$13.61	\$15.91
51-9111	Packaging and Filling Machine Operators and Tenders	\$8.45	\$11.11	\$12.44	\$7.72	\$9.14	\$10.42	\$13.79	\$16.06
31-2012	Occupational Therapist Aides	\$8.01	\$9.61	\$10.42	\$7.50	\$8.35	\$9.36	\$10.79	\$12.44
51-3011	Bakers	\$8.00	\$12.23	\$14.34	\$7.41	\$8.90	\$11.67	\$14.36	\$18.07
43-5021	Couriers and Messengers	\$7.46	\$9.66	\$10.76	\$7.03	\$7.85	\$9.24	\$11.20	\$13.24
51-2090**	Miscellaneous Assemblers and Fabricators	\$7.27	\$9.96	\$11.31	\$7.00	\$7.91	\$9.52	\$11.66	\$13.73
43-2021	Telephone Operators	\$7.26	\$9.69	\$10.91	\$6.55	\$7.34	\$8.74	\$12.01	\$14.20
51-2099	Assemblers and Fabricators, All Other	\$6.99	\$9.53	\$10.80	\$6.54	\$7.51	\$8.79	\$10.89	\$13.93
39-6010**	Baggage Porters, Bellhops, and Concierges	\$6.75	\$8.60	\$9.53	\$6.45	\$6.97	\$7.85	\$9.46	\$10.97
53-7061	Cleaners of Vehicles and Equipment	\$6.48	\$9.13	\$10.46	\$6.04	\$6.83	\$8.34	\$10.56	\$14.43
51-2022	Electrical and Electronic Equipment Assemblers	\$6.27	\$9.86	\$11.65	\$5.97	\$6.94	\$9.75	\$12.40	\$14.37

* Annual salary

** OES wages for general occupations are reported as the weighted average of more specific

*** & ----- No information available



Methodology

Survey Instrument and Redesign

The Job Vacancy Survey was initiated in Denver and five other metropolitan areas across the nation as pilot studies regarding the nature of vacant positions in the labor market. As a result of the success of the Denver Job Vacancy Survey, studies have been approved for all of Colorado's Workforce Development Regions.

After the first two DMR pilot studies, the survey instrument was evaluated and redesigned. In choosing questions, considerations were made regarding various form and gradations. Decisions were made to address the core of what was required in order to stay within the defined limits. Page one (Part A) of the survey was expanded not only to state the purpose of the survey, but also to collect employer information; verifying addresses, number of employees, and establishing contact names. Email and fax numbers were added to provide a means of contacting employers for notification of the availability of survey results. A review of page two (Part B) survey questions follows:

A—The “Job Title” section remained relatively the same, although a definition of Full- versus Part-time was included.

B—“Number of vacancies for which your firm is actively recruiting”: The objective was to get a measure of the job market from the employer's point of view. A variant of this question was, “Number of vacancies that your firm currently has.” Actively recruiting was queried due to the possible presence of vacancies that were deliberately left vacant. Also revised was the query for Permanent vs. Temporary identification.

C—The “Wages/Salary” question was revised to request the maximum and the minimum rates of pay to evaluate variations in pay given different applicant qualifications.

D—“Is a sign-on bonus offered to the person hired to fill this vacancy?” In addition to noting whether

or not a bonus is offered, the revised survey allows a dollar amount to be entered.

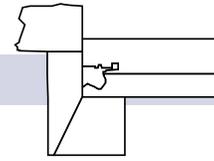
E—“Is medical insurance offered?” In addition, the revised survey prompted for the portion (if any) that the firm contributed. To better understand the relationship between types of positions, pay, vacancies, and the existence of medical insurance, it was important to note to what degree the firm contributes to the insurance premium.

F—“What is the typical education level required to fill this vacancy?” Examination of the nature of the job market and the needs of employers included the query of educational requirements.

G—“What is the typical type of experience required to qualify for this vacancy?” This also adds to the characteristics that employers are looking for in applicants. It was important to expand this question, allowing the firm to note the nature of the experience requested. During times of excess labor supply, qualifications demanded of applicants tend to increase. During periods of limited supply, the reverse tends to occur.

H—“How long has this vacancy been open?” This question was added to the revised survey to gauge the tightness of the labor market. It provides an objective measure that can be tracked and compared across time.

I—“How difficult is this vacancy to fill?” Questions H and I together help to evaluate the challenges employers face in the timely hiring of personnel and the degree to which the supply of labor falls short of demand.



Survey Sample Methodology

This survey is designed to find frequency of job vacancies in the Denver Metro Region and characteristics of those vacancies. Firms were ordered into groups, or stratifications by employment size, county, and industry, and the resulting percentages of vacancies for each category were used to estimate total job vacancies for each group. The list of Denver Metro firms used for this survey, with their contact information, staff size and industry classification was obtained from the America's Labor Market Information System (ALMIS) database. For technical reasons information about employers in the Government sector was obtained from the ES-202 database.

The survey was conducted by telephone.

Stratifications

Employers in Agriculture and Mining were not stratified by county, as there are not enough firms in either of these sectors to draw conclusions from the survey data at that level of detail.

For each of the six counties firms within the remaining industry divisions with 5 to 249 employees were grouped as follows:

- ◆ Construction
- ◆ Durable Goods Manufacturing
- ◆ Non-Durable Goods Manufacturing
- ◆ Transportation, Communications, and Public Utilities (TCPU)
- ◆ Wholesale Trade
- ◆ Retail Trade
- ◆ Finance, Insurance, and Real Estate (FIRE)
- ◆ Services

The lists of small to mid-sized employers were randomized and a sample of sufficient size to achieve a predictable level of accuracy for the estimates of job vacancies was taken. Attempts were made to contact all large employers and government.

Indexing

Indexing was used to estimate the vacancy rate of employers with fewer than five employees. The index used was derived from the employers with reported employment level of 10 or fewer workers. Total vacancies reported by employers in this category were

divided by their sum of reported employment. This vacancy rate was then applied to the sum of employment for all employers in the Denver Metro region with fewer than 5 employees.

Data Editing

After data collection was completed, a few measures were taken to prepare data for analysis.

Data Cleaning

Whenever necessary, data was modified to ensure consistency among vacancies. Follow up phone calls were made as required to verify and/or clarify responses.

Occupational Coding

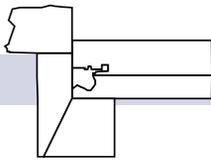
Job title and descriptions were used to match the vacancy with the appropriate SOC occupational title⁶. In some cases a second interview with the employer was necessary to decide on a specific occupational title.

Wage Conversion

Standard conversions were used to convert salaries into hourly wages: 2,080 hours for annual salaries, 173 hours for monthly salaries.

All wages below the minimum wage level were adjusted upwards to \$5.15 per hour. When necessary employers were contacted a second time for more information on questionable wages.

⁶See SOC Occupation Codes in Definitions Section



Definitions

Annual Salary

The monetary return for one year's work. The definition does not include benefits (*e.g.*, insurance, retirement program, or stock plans).

Average

The arithmetic average (also called the mean) for a group of items is defined as the sum of the values of the items divided by the number of items.

Full-time and Part-time Employment

To be classified as full-time employment a position must require a minimum of 35 hours of work a week. Part-time employment refers to cases where a position requires less than 35 hours of work a week.

Job Vacancy Rate

Is the number of openings in a specific occupation expressed as a share of total employment in that same occupation.

Level of Education

Refers to completed programs of work. High school diplomas, associate, professional, vocational, bachelor's, and graduate degrees all are examples of programs of work.

Medical Insurance Premium

Refers to the monthly payments that a holder of an insurance policy pays in order to keep his/her policy current.

Mid-Point

For the purpose of this survey, the Mid-Point refers to the wage halfway between the average minimum and average maximum wages as reported by survey respondents.

Permanent and Temporary Employment

Employment is classified as permanent if it will be filled for more than six months. Temporary employment on the other hand refers to those positions which will be filled for six months or less.

Sample Frame

The set of employers randomly chosen for the survey from the whole population of employers. Since vacancies and employment data were the central objectives of the survey, the sample frame was designed to allow necessary representation in those categories.

Sign-on Bonus

An additional financial incentive offered by a firm to new employees in order to influence their decisions to agree to employment with that firm. The bonus, for purposes of this survey, is a monetary lump sum.

SOC

The 1998 Standard Occupational Classification (SOC), with 822 detailed occupations, reflects the current occupational structure in the United States and was designed to provide a universal classification system. All federal agencies that collect occupational data will adhere to the new SOC. Information on the 1998 SOC, including its occupational structure, is available online.

Internet: http://stats.bls.gov/soc/soc_home.htm.

Source: *Occupational Outlook Handbook*, 2000-01 Edition, U.S. Department Of Labor, Bureau of Labor Statistics, January 2000.

Vacancy

An established position that is currently unfilled for which the firm is actively recruiting to fill. The definition does not include positions that are anticipated, but not yet created.

Wage

The monetary return per hour of work. The definition does not include benefits (*e.g.*, insurance, retirement program, or stock plans).