

# Eastern Region

## Job Vacancy Survey

Conducted  
September 4-24, 2001

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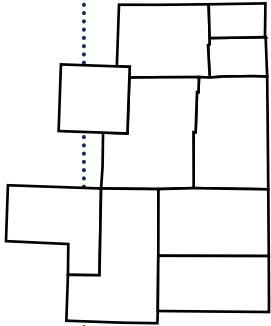
Cheyenne, Elbert, Kit Carson, Lincoln, Logan, Morgan, Phillips, Sedgwick, Washington, & Yuma Counties

December 2001



**Workforce Research & Analysis**  
**Labor Market Information**  
**Colorado Department of Labor and Employment**





# Eastern Region Job Vacancy Survey

*Conducted  
September 4-24, 2001*

## **State of Colorado**

Bill Owens, *Governor*

## **Colorado Department of Labor & Employment**

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Jeffrey M. Wells, *Deputy Executive Director*

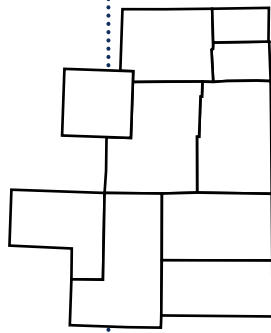
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December 2001



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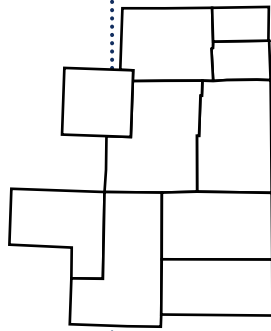
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The office of Workforce Research and Analysis would like to extend sincerest gratitude to all the Eastern Region employers who participated in this study. The analysis provided in this document would not be possible without their help.

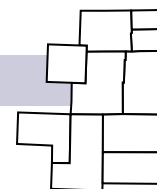


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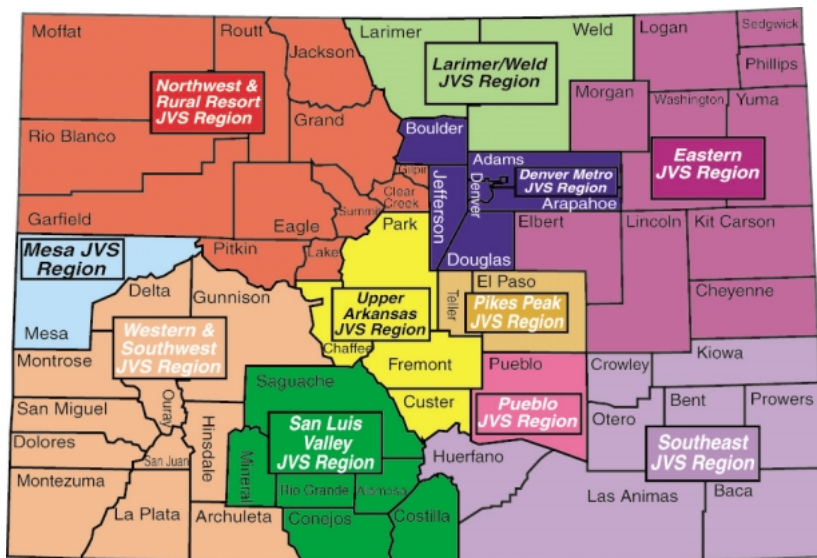
# Introduction

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 skills are necessary to successfully compete in the contemporary labor market.

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

The Job Vacancy Survey was adopted by Colorado's Department of Labor and Employment 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 Denver Metro JVS of April 2000,

**Colorado Job Vacancy Survey Regions**



the survey instrument was revised to eliminate ambiguity and enhanced to gather more specifics on job vacancies 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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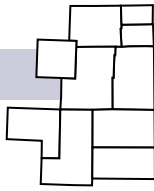
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## How to Use This Report

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, job seekers, trainers and planning officials. While Labor Market Information 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

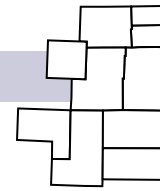
may be attributed to an overall shortage of applicants in the area. Similarly, if a low percentage of vacancies exist for a particular position with the same educational and/or experience requirement, but an employer is finding it difficult to fill, a comparison between the wages offered to the market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

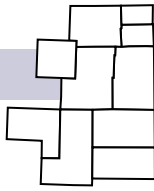
provisions of future training programs. The Employment and Wage publication (ES-202 data) provides monthly county and statewide industry data reported on a quarterly basis. To prepare for the high demand of seasonal workers where vacancies persist, Workforce Centers and educators can offer training during 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](http://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**

For economic development professionals, this report is a tool that can be used 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 labor 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 Job Vacancy Survey, and where the market, in general, is trending using Labor Market Information's employment projections.



## Caveats

The Job Vacancy Survey statistics should be used as indicators, not actual values of the demand for workers in the Eastern 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.

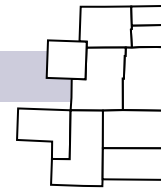
The results of the survey are based only on the sample of responses collected from September 4th through September 24th and should not be considered as necessarily portraying the exact distribution of job vacancies in the Eastern Region. After several years of Job Vacancy Survey data are available, patterns 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 they 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.



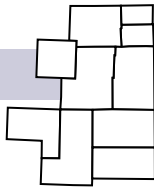


## Executive Summary

The first Eastern Region Job Vacancy Survey was conducted from September 4th, through the 24th, 2001. Over the survey period, randomly selected employers with at least five employees were contacted in the region. 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 627 employers (40% of the Eastern Region employers), representing 40% of the region's total employment responded to the survey. Out of these, 35 are large employers (75 or more employees) and 592 are from the small to mid-size category (5-74 employees). The major findings of the survey are as follows:

- ◆ It is estimated that a total of 490 jobs were open for hire in the Eastern Region during the survey period.
- ◆ Approximately 84% of the estimated jobs are full-time openings while 16% are part-time openings.
- ◆ Seventy-three percent of the estimated job openings are in the service producing industries. The remaining 27% are in the goods producing industries.
- ◆ The overall average wage for all vacancies is \$9.00 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.
- ◆ Fifty-six percent of the openings require no experience of any kind while 11% require only general work experience.
- ◆ Fifty-four percent of the job openings are either very difficult or somewhat difficult to fill.
- ◆ Jobs with higher education and experience requirements pay higher wages.

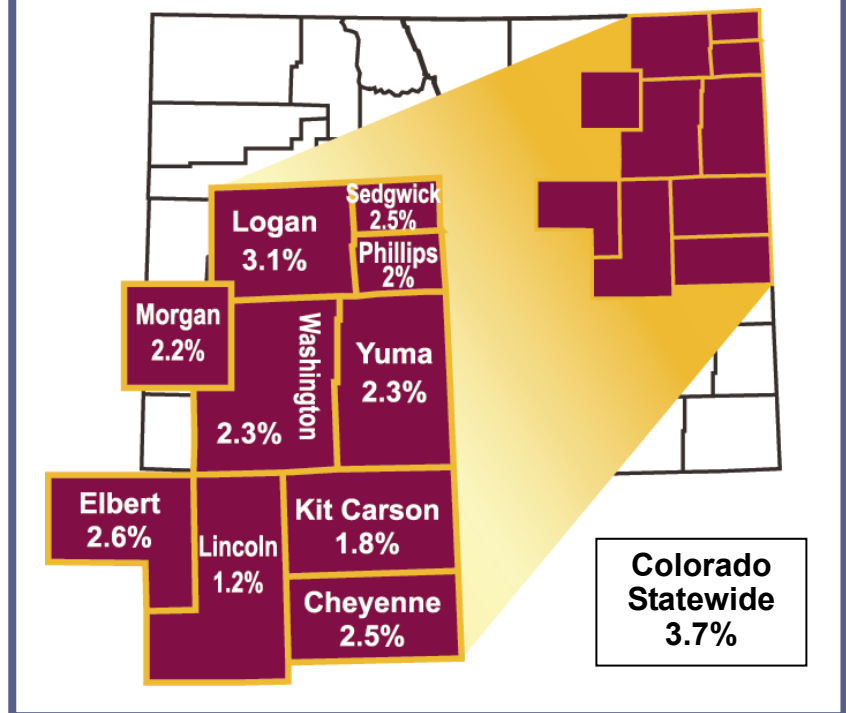


## The Eastern Region

According to the U.S. Census Bureau, Census 2000, the Eastern Region, made up of Cheyenne, Elbert, Kit Carson, Lincoln, Logan, Morgan, Phillips, Sedgwick, Washington and Yuma counties, has a population of more than 105,000 residents. The region employed over 51,500 individuals from a labor force pool of about 52,800 people in September 2001, according to Colorado's Labor Market Information, Local Area Unemployment Statistics. Elbert, Logan, and Morgan counties are the largest employing counties accounting for over two-thirds of the region's total employment. In the period between September 2000 and September 2001, the labor force in the region increased by 1.5% while total employment increased by 1.6% over the same period reducing unemployment by 0.1%. While the overall unemployment rate for the region was 2.4% in September 2001, unemployment ranged from a low of 1.2% in Lincoln County to a high of 3.1% in Logan County, however, unemployment rates in the region were well below that of the State as a whole (*Figure 1*).

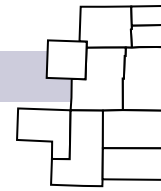
*Figure 2* shows the employment distribution for each of the major industry divisions according to Colorado Employment and Wages (ES-202) during the third quarter of 2000. This serves as a useful reference for the time period in which the Eastern Region Job Vacancy Survey was conducted. Shares of employment by industry have remained fairly constant over the past six years. The Government division has the highest employment share (26%) in the Eastern region followed by Retail Trade and Services at 18% and 17% respectively. The remaining industries' employment shares range from 11%, in the Manufacturing industry, to a low of 1%, in Mining.

**Figure 1: Unemployment Rates for September 2001**

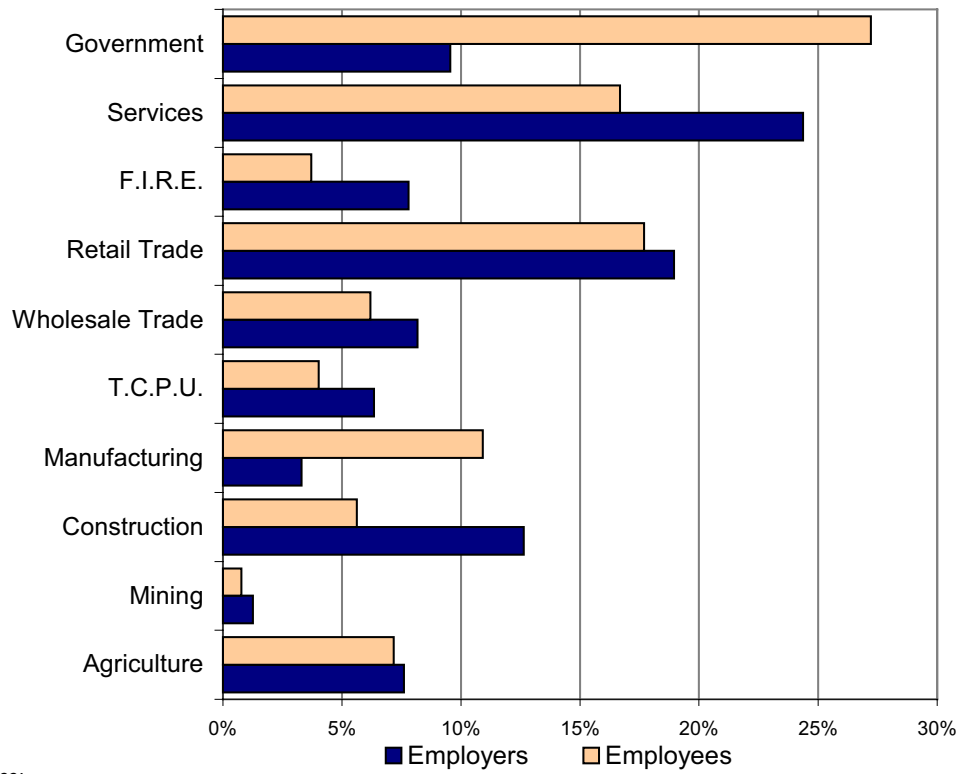


The Eastern region has the highest concentration of firms in Services and Retail Trade followed by the Government division. While Mining remains a small sector of the Eastern region's economy, Agriculture firms and employment in this industry is relatively high compared to other regions in the State of Colorado.

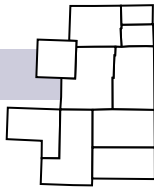
The region is dominated by a large number of firms with less than five employees. These firms account for 69% of the firms in the area. However, in terms of employment, these firms account for only 18% of the total. The small to mid-size firms (5-74 employees) account for about 29% of all firms in the region and 47% of the total employment. Large firms, employing 35% of the region's workers, account for only 2% of the region's firms.



**Figure 2: Eastern Region Employers & Employees, 3rd Quarter, 2000**



Source:  
Colorado Employment and Wages (ES-202), 3rd Quarter, 2000



## The Job Vacancy Survey Sample

The premier Eastern Region Job Vacancy Survey was conducted from September 4th through the 24th, 2001. The survey instrument, upon which the telephone questionnaires 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 five or more employees are referred to as the “sample universe.” The sample universe accounts for approximately 82% of total employment in the Eastern Region. Employers with at least 75 employees are referred to as “large employers.” They account for about 42% of the employment in the sample universe.

Firms employing five to 74 individuals are considered “small to mid-size employers,” and account for 58% of sample universe employment. All Government establishments were included in the sample regardless of the number of employees.

For the small to mid-size employers, the survey was stratified by goods and service producing industries (*Table 1*). To achieve a solid representation from each industry group, 360 completed responses were required from each stratification. For industry groups containing less than 360 employers, a response rate of at least 50% was required. Attempts were made to contact all employers in the “large employers” category in the region.

**Table 1: Goods and Service Producing Industries**

Goods Producing Industries	Service Producing Industries
<b>Agriculture, Forestry, and Fishing (except Agricultural Services)</b>	<b>Transportation, Communications, and Public Utilities</b>
<b>Mining</b>	<b>Wholesale Trade</b>
<b>Construction</b>	<b>Retail Trade</b>
<b>Manufacturing</b>	<b>Finance, Insurance, and Real Estate</b>
	<b>Services (including Agricultural)</b>
	<b>Public Administration</b>

Over the survey period a total of 627 employers, approximately 40% of the Eastern employers in the sample universe, responded to the survey. Out of these, 35

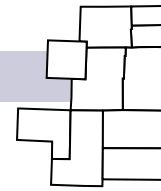
were large employers and 592 were small to mid-size employers. Seventy-five percent were from the service producing and 25% from the goods producing industries.

## The Survey Instrument

Employers were asked if they had job vacancies, or open positions, which they were actively seeking to fill. About 15% of the firms contacted reported at least one vacancy. Firms actively recruiting were then asked to provide more detail 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 collected.

Whenever necessary, employers were contacted again to clarify responses.

Employers were also asked whether or not a sign-on bonus or health insurance was 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.



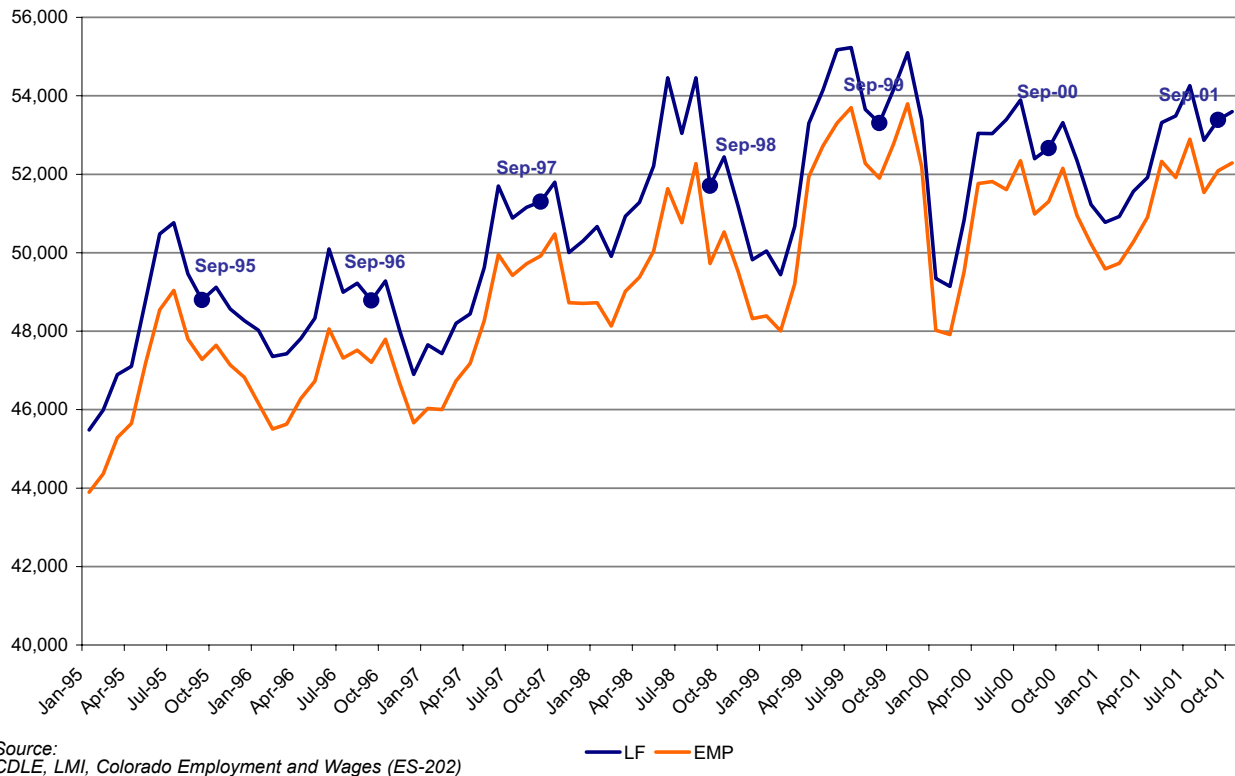
## Timing Considerations

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

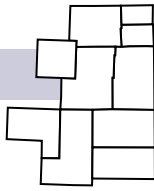
Analysis of historical employment trends for the Eastern Region indicates that employment is at its

lowest levels in January and peaks twice a year in or around the months of June and October. The Eastern Region JVS is conducted once a year, in September, to measure demand for labor between the two employment seasonal peaks (*Figure 3*).

**Figure 3: Historical Labor Force and Employment Trends of the Eastern Region**



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

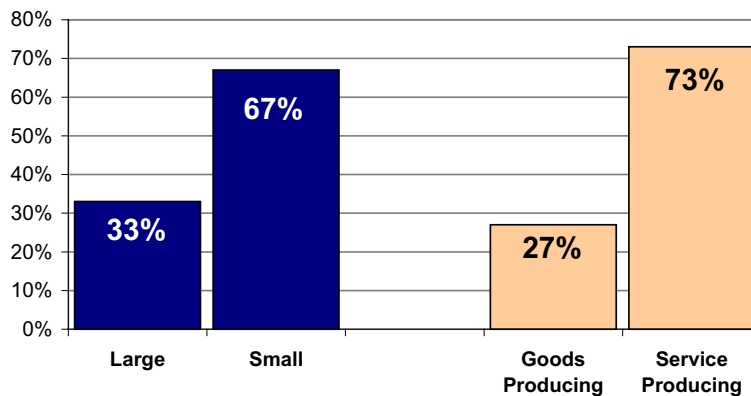


## Estimated Vacancies

During the survey period, an estimated 490 vacancies were open for immediate hire in firms with at least five employees in the Eastern Region. This estimation is derived from vacancy rates reported for actual employment levels and extrapolated to the total employment for the appropriate 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

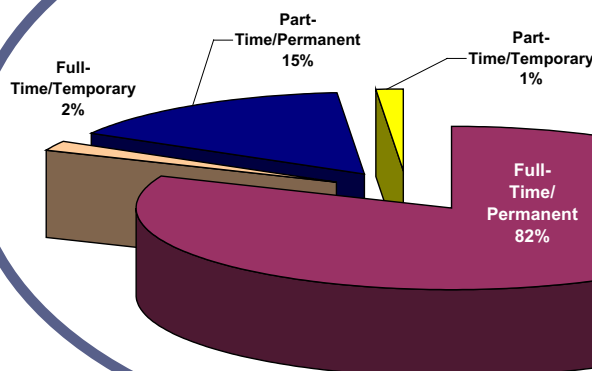
in occupations with high turnover rates can all have relatively high vacancy rates. All might experience comparatively greater hiring stress, but might well have significantly different priorities as they evaluate new talent. According to the survey, small to mid-size firms, comprising approximately 66% of the region's total employment, account for 330 of the estimated vacancies while large employers account for the remaining 160 vacancies. Also, service producing industries, with 71% of the region's total employment, account for 73% of the estimated vacancies while goods producing industries account for the remaining 27% of the vacancies (*Figure 4*).

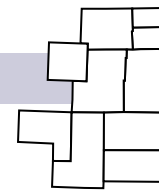
**Figure 4: Vacancies by Firm Size and Industry**



Eighty-two percent of the reported vacancies are full-time, permanent and 15% are part-time, permanent positions. Two percent of the vacancies are full-time temporary while 1% are part-time temporary (*Figure 5*).

**Figure 5: Vacancies by Status**





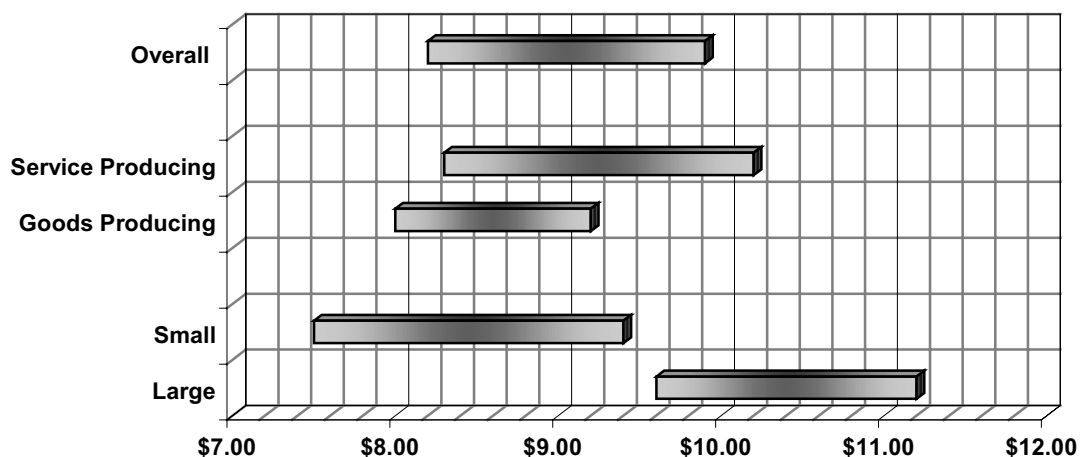
## Vacancies and Wages

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 6*):

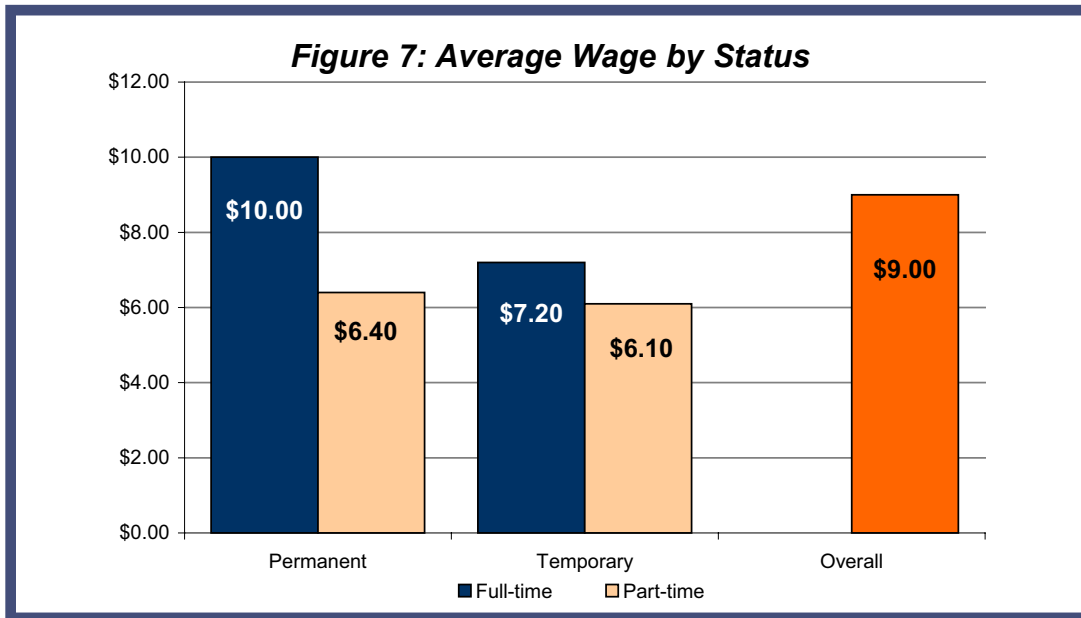
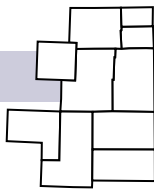
- ◆ The overall average wage offered for all vacancies is \$9.00 per hour.
- ◆ The average minimum wage offered for all vacancies is \$8.20 and the average maximum is \$9.90 per hour.
- ◆ Thirty-two percent of the vacancies offer a wage rate higher than the overall average.
- ◆ Approximately 82% of the positions for which wages are lower than the overall average are in the service producing industries.
- ◆ Eighty-one percent of the vacancies offering wages above the overall average are in the service producing industries.

**Figure 6: Average Wage by Firm Size and Industry Group**



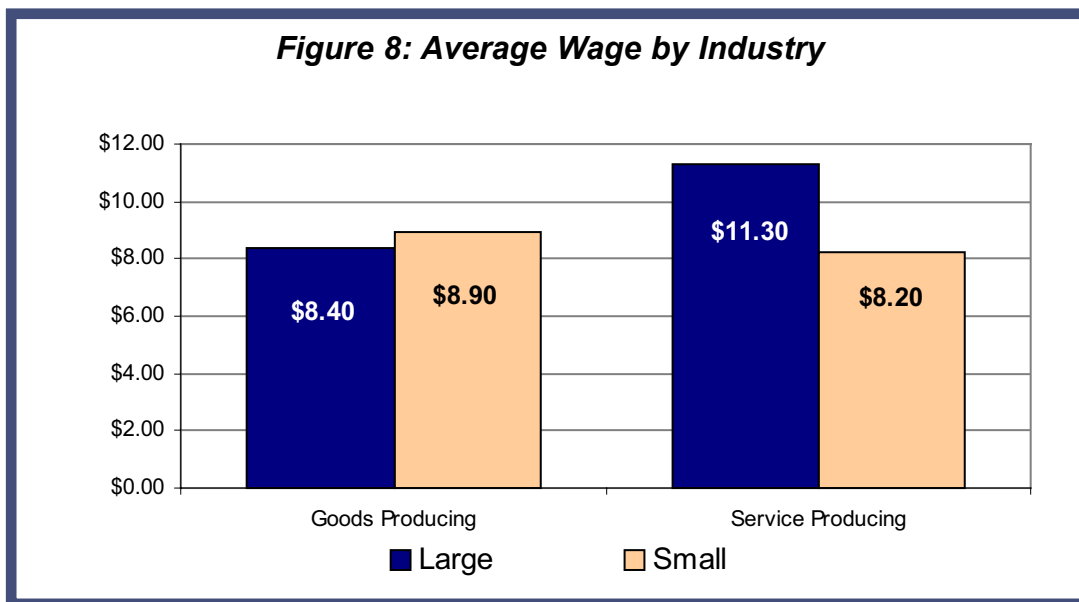
Large companies reported wages that average approximately \$2.00 an hour higher than those offered

by small to mid-size firms. The wage differential prevails at both the minimum and maximum wage levels.



Permanent positions pay over \$1.50 on average more per hour than temporary positions. Average wages are consistently higher for permanent vs. tem-

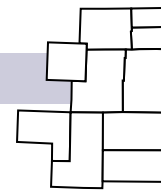
porary positions regardless of the positions full or part-time status (*Figure 7*).



Large service producing firms pay close to \$3.00 over the average wage paid by large goods producing firms. On the other hand, small goods producing

firms pay on average \$0.70 over what small service producing firms offer.





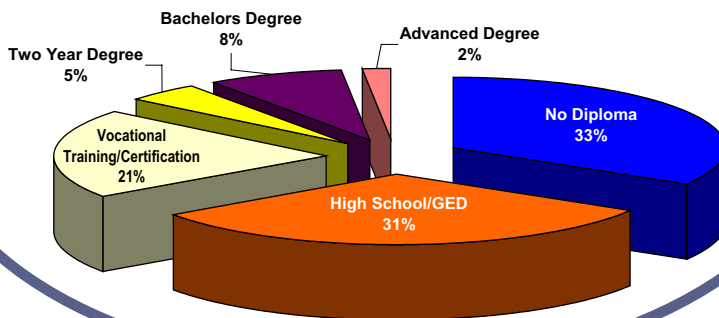
## Education and Experience Requirements

Employers' education and experience requirements are as follows:

- ◆ The majority of positions requiring no diploma (88%) require no experience of any form.
- ◆ For positions at the high school diploma/GED level, 79% of employers are seeking to hire people with no experience or just general work experience.
- ◆ Positions requiring vocational training or certification are fairly distributed among all experience levels.
- ◆ Eighty-one percent of vacancies requiring a two-year degree also require related experience or experience in the specific occupation.
- ◆ The majority of positions that require at least a bachelor's degree also require higher levels of work experience.

## Education and Wages

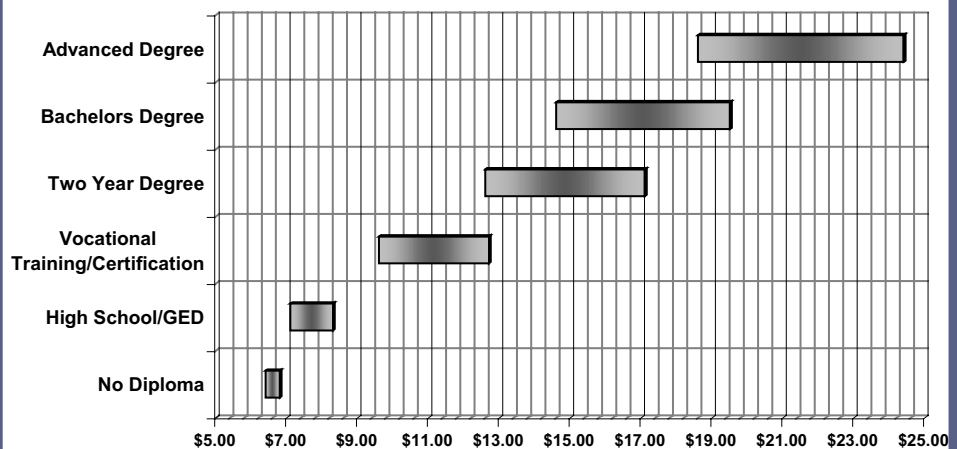
**Figure 9: Vacancies by Education**

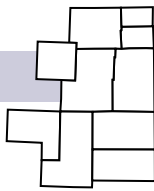


Employers were asked what level of education is required of an applicant in order to be considered for a particular vacancy. Results show that about 64% of the positions reported by employers require no post-secondary education. This is due, for the most part, to the fact that a high proportion of the region's vacancies are in the Service producing industries. The majority of the remaining vacancies (21%) require vocational training or certification.

Employers add a substantial premium to wage compensation when requiring higher levels of educational attainment (Figure 10). The highest average wage rate difference (\$4.40 per hour) is found between having an advanced over a Bachelor's degree. There is also an increase of nearly a \$3.50 per hour for those with a vocational training or certification over those with a high school diploma/GED. In addition to increasing average wages, the range broadens with increasing levels of education.

**Figure 10: Average Wage by Education**

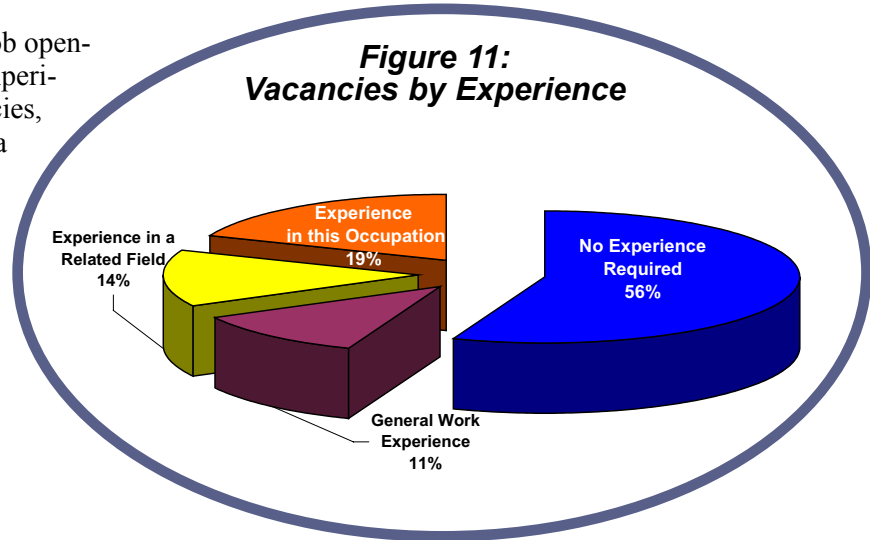




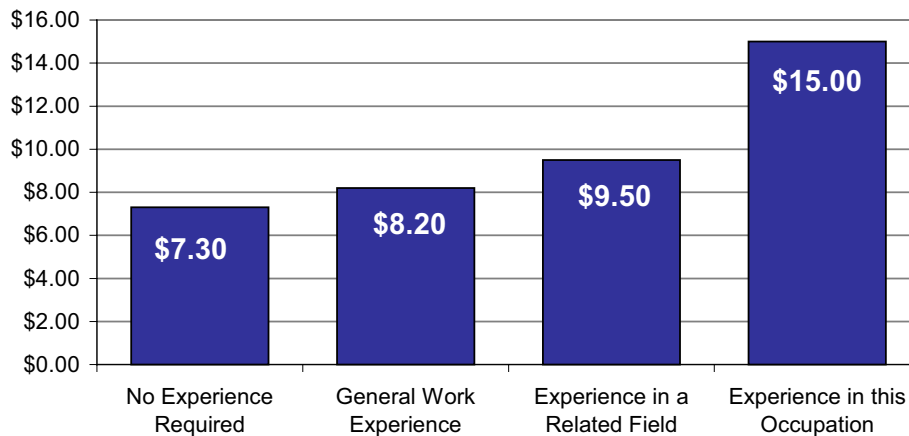
**Experience and Wages**

Fifty-six percent of the reported job openings do not require prior work experience compared to 33% of the vacancies, which require at least experience in a related field. Only 11% of the vacancies require general work experience.

**Figure 11: Vacancies by Experience**

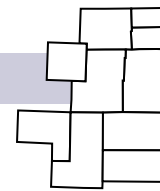


**Figure 12: Average Wage by Experience**



As with increasing levels of education, employers are willing to offer premiums for added experience. Vacancies requiring only general work experience offered on average approximately \$1.00 per hour more than those requiring no experience of any form.

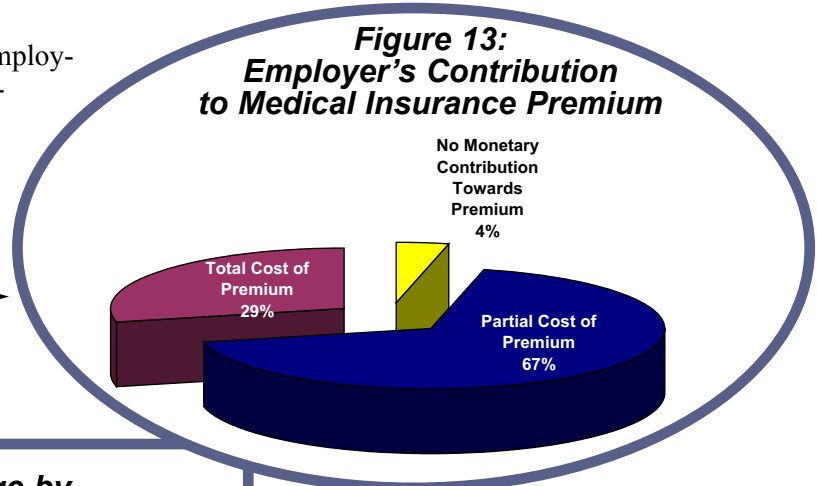
Employers requiring high levels of experience within the occupation are willing to offer an additional \$5.50 per hour on average above the average wage for vacancies only requiring experience in a related field.



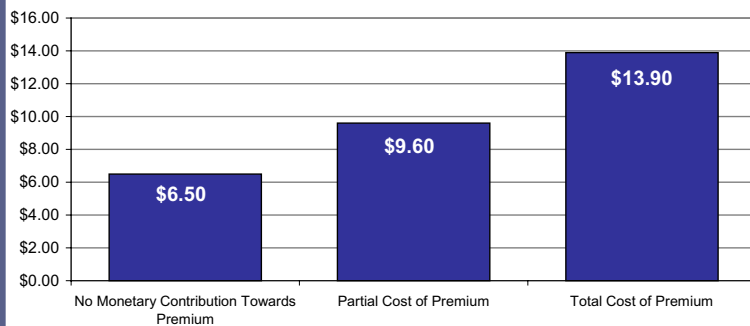
## Medical Insurance and Wages

Nearly all of the vacancies reported by employers include some form of medical insurance. Employers offer to pay the entire premium for 29% of all vacancies reported and a portion of the premium for 67% of the vacancies. Only 4% of the vacancies reported do not offer any payment towards the medical insurance payment.

**Figure 13: Employer's Contribution to Medical Insurance Premium**



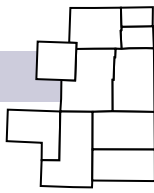
**Figure 14: Average Wage by Medical Insurance Offered**



Survey results reveal a positive relationship between wage and medical insurance coverage offered (Figure 14). 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 \$13.90 per hour for the reported vacancies. Positions where no monetary contribution is offered towards the insurance premium pay an average wage of \$6.50 per hour. The majority of these positions are either sales or production related occupations.

Survey results also reveal the following:

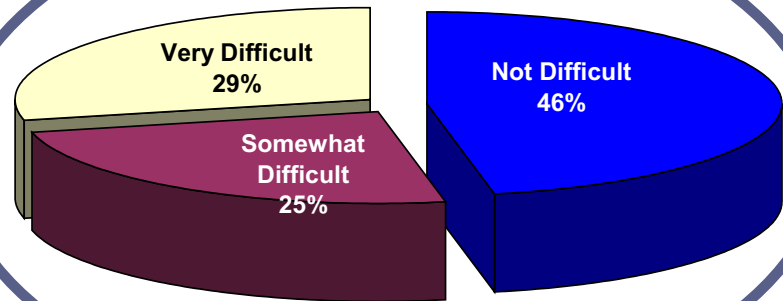
- ◆ Over 93% of the vacancies for which employers offer to pay at least a portion of the medical insurance premium are full-time permanent positions.
- ◆ Large employers account for 47% percent of the vacancies offering to pay at least partial cost of the medical insurance payment while small employers account for the remaining 53%.
- ◆ Service producing industries account for 79% of the vacancies offering at least partial cost of the premium.



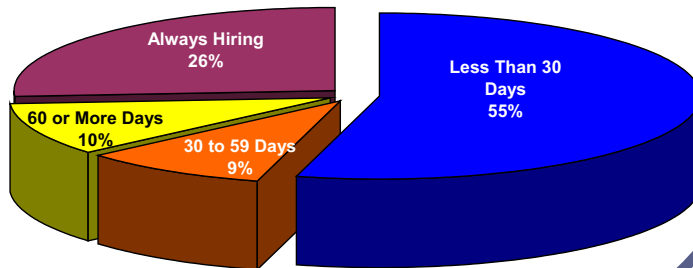
## Difficulty to Fill

To estimate the level of difficulty in filling vacancies, employer's perception and data on how long each position had been open at the time of the survey were gathered. Survey results show that employers do perceive difficulties in filling open positions. Fifty-four percent of the vacancies reported are classified as either somewhat or very difficult to fill with the remaining 46% considered not difficult to fill (*Figure 15*).

**Figure 15:  
Difficulty to Fill**



**Figure 16:  
Duration of Vacancies**

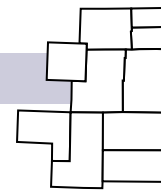


Although more than half of the reported vacancies are perceived by employers to be difficult to fill, 55% of the vacancies are filled in less than 30 days. While 26% are always hiring, only 19% require longer time periods to fill.

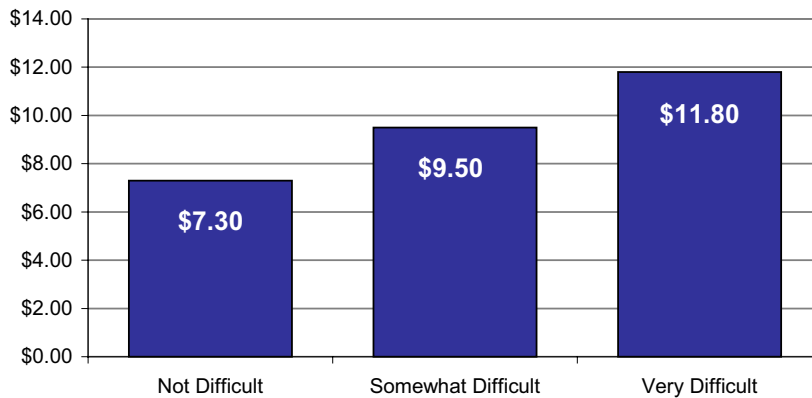
Comparing wage information to responses about how difficult a job to fill shows two key points:

1. Positions for which employers offer higher wages tend to be more difficult, and take longer to fill. Most likely this could be due to the training and skills required to fill these positions.

2. Jobs for which lower wages are offered tend to be filled quickly if the wage offered is around the market average. Positions that pay significantly less than the average are typically more challenging to fill.

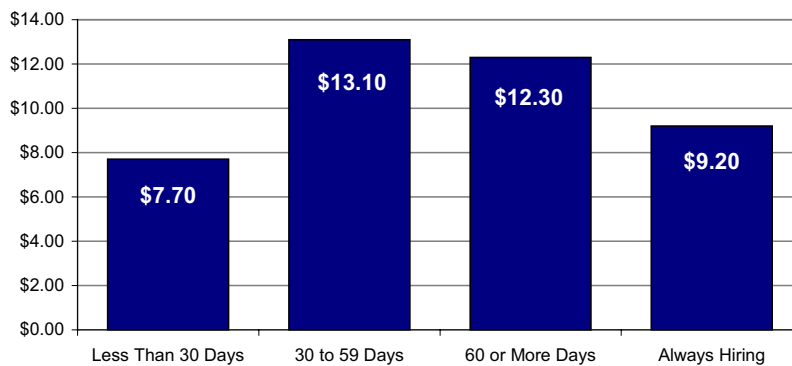


**Figure 17: Average Wage by Difficulty to Fill**



Employers offer wages for positions perceived to be very difficult and somewhat difficult to fill that are approximately \$1.80 and \$0.50, respectively above the overall average wage of \$9.00. Vacancies open for continuous hire offer an average wage of \$9.20 per hour (Figure 18). The majority of these vacancies are in the service producing industries. →

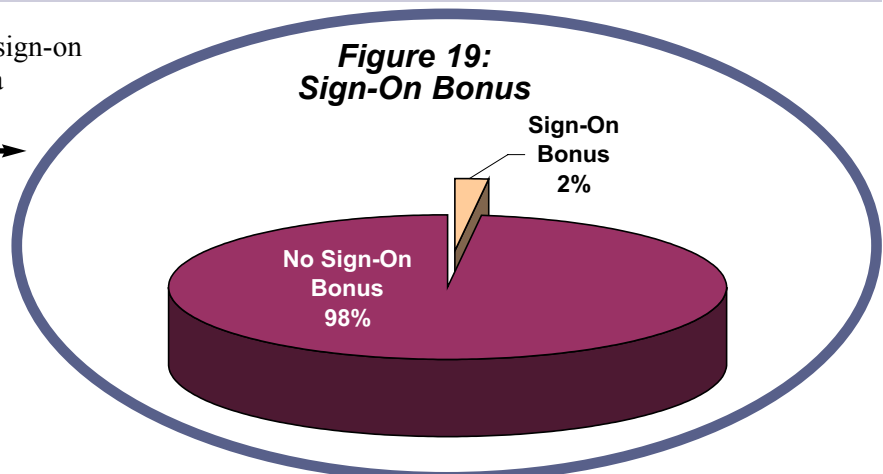
**Figure 18: Average Wage by Vacancy Duration**

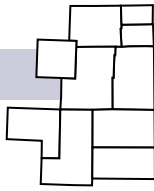


### Sign-On Bonus

Of all vacancies reported, 2% offer sign-on bonuses. All vacancies for which a sign-on bonus is offered are in service producing industries. →

**Figure 19: Sign-On Bonus**



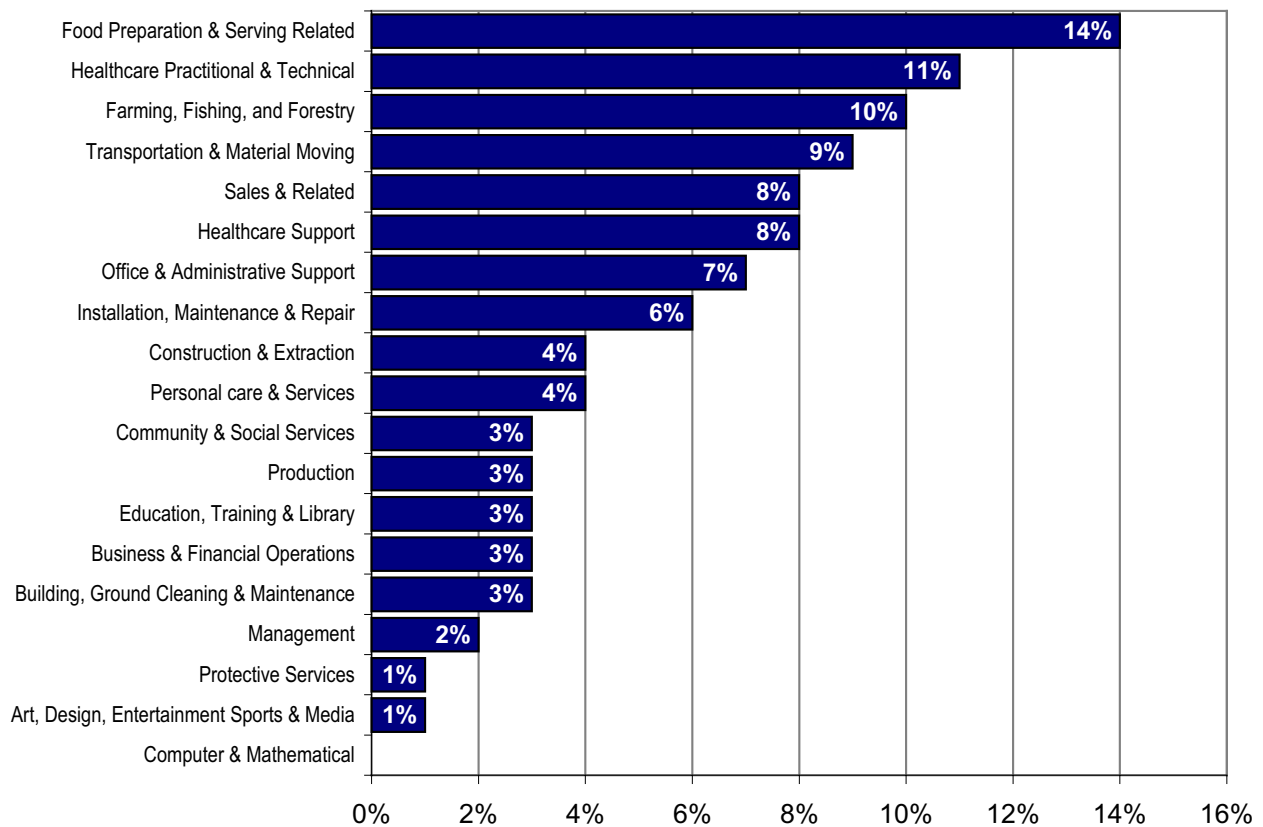


## Occupations

The number of vacancies varies greatly among major occupational groups. Out of the 23 major occupational groups, nineteen are reported to

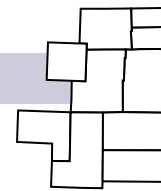
have vacancies. More than half of the estimated vacancies are reported in the top five major occupational groups in *Figure 20*.

**Figure 20: Vacancies by Major Occupational Groups**



Employers reported 142 different occupations with at least one vacancy. The average number of job openings per occupation is 4. About 20% of all occupations are above the average while the remaining 80% are at or below the average number of vacancies per occupation.

Occupational groups with high levels of educational requirements such as Healthcare Practitioners & Technical, Management, as well as Computer and Mathematical, offer the highest wages. Wages for these occupational groups also have a wider range between the minimum and maximum offered (*Figure 21*).



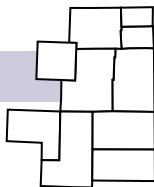
**Figure 21: Range of Average Wages by Major Occupational Groups**



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,

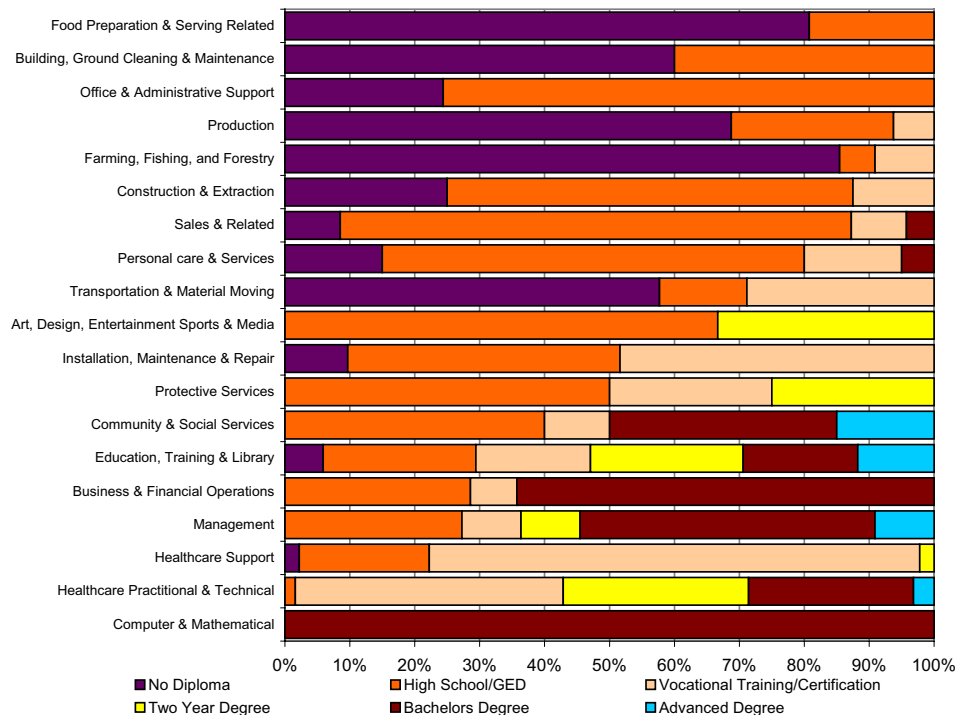
Personal Care & Service, Sales & Related, and Farming, Fishing and Forestry.

Almost 40% of the vacancies reported are in the top ten occupations (*Table 2*). Furthermore, 71% of the openings are in the top 25% of the occupations listed.

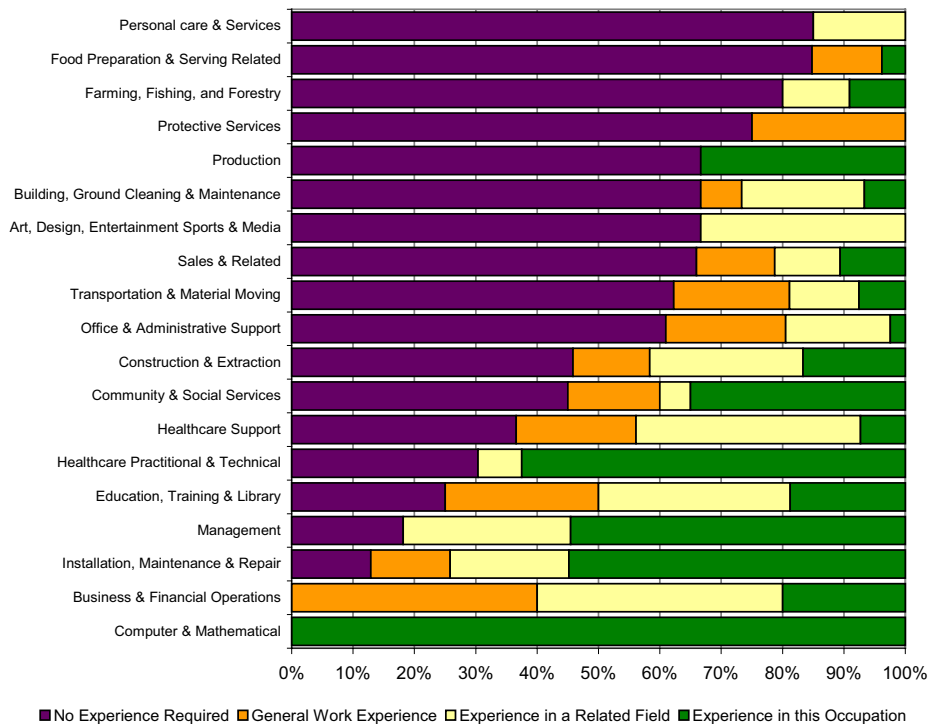


## Requirements by Major Occupational Groups

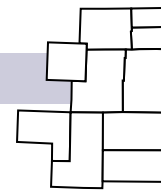
**Figure 22: Major Occupational Groups by Education**



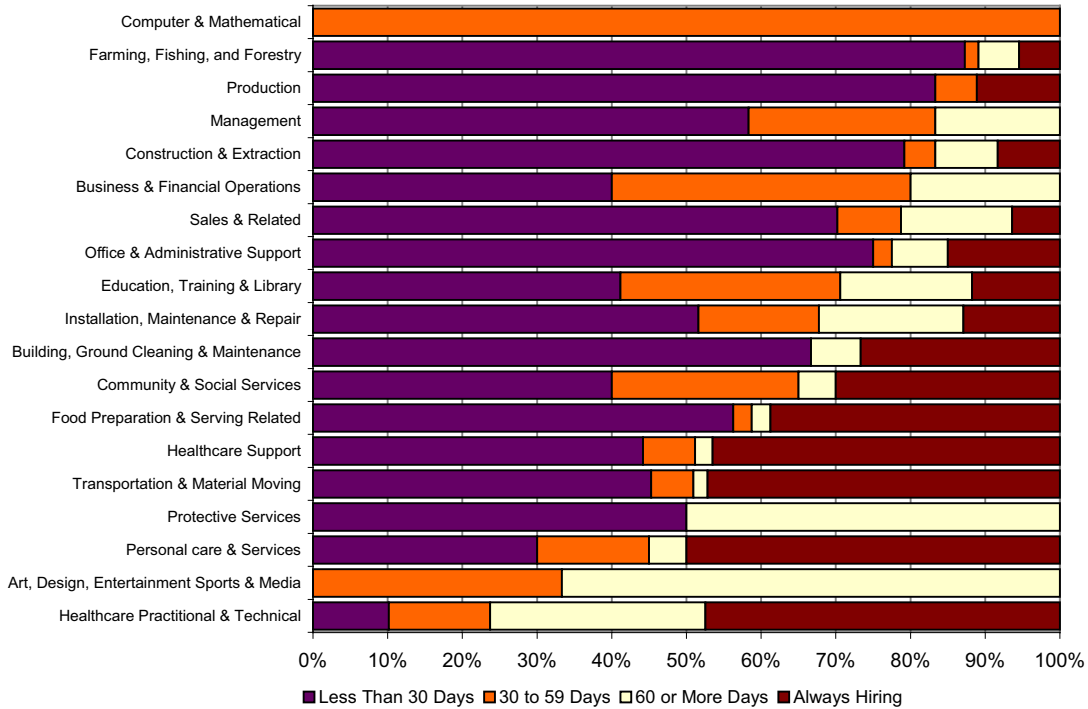
**Figure 23: Major Occupational Groups by Experience**



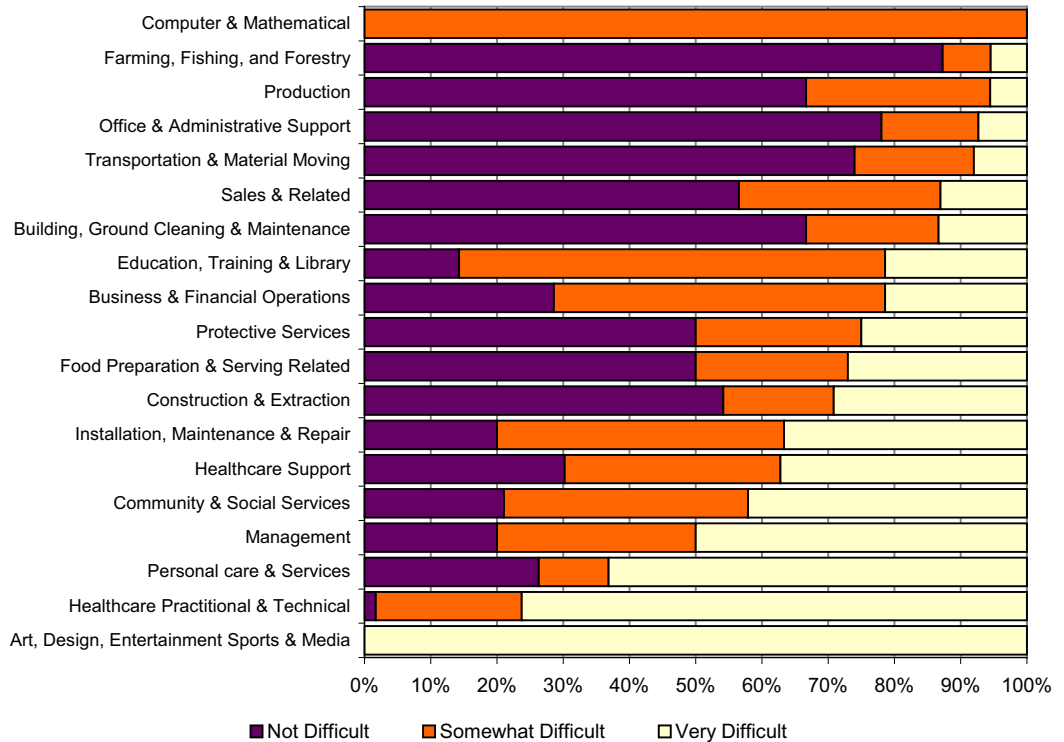




**Figure 24: Major Occupational Groups by Time Duration**

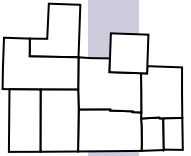


**Figure 25: Major Occupational Groups by Difficulty to Fill**



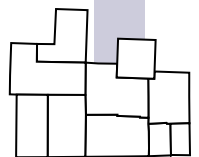
**Table 2: Occupations with 5 or More Vacancies**

SOC Code	SOC Occupation Title	Reported Number of Vacancies	Occupational Employment Statistics Wage Data							
			Average Wages			Percentile Distribution				
			Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
45-2093	Farmworkers, Farm and Ranch Animals	29	\$5.82	\$7.52	\$8.36	\$5.45	\$5.89	\$6.64	\$8.49	\$11.59
31-1012	Nursing Aides, Orderlies, and Attendants	12	\$6.35	\$8.02	\$8.86	\$5.92	\$6.87	\$7.83	\$8.82	\$10.65
53-3032	Truck Drivers, Heavy and Tractor-Trailer	12	\$9.26	\$12.46	\$14.06	\$9.02	\$10.17	\$12.22	\$14.37	\$16.52
29-1111	Registered Nurses	9	\$15.06	\$19.86	\$22.26	\$14.44	\$16.44	\$19.07	\$21.64	\$27.59
35-3031	Waiters and Waitresses	9	\$5.83	\$7.44	\$8.24	\$5.43	\$5.86	\$6.56	\$8.49	\$9.91
35-9099	Food Preparation and Serving Related Workers, All Other	8	\$7.11	\$9.30	\$10.39	\$6.79	\$7.23	\$7.96	\$10.29	\$14.99
49-3023	Automotive Service Technicians and Mechanics	7	\$8.10	\$12.51	\$14.71	\$7.34	\$8.97	\$11.11	\$15.52	\$19.77
51-3090	Miscellaneous Food Processing Workers	7	\$7.07	\$9.68	\$10.99	\$6.64	\$7.84	\$9.49	\$11.57	\$13.21
35-2010	Cooks	6	\$5.88	\$7.26	\$7.95	\$5.66	\$6.38	\$7.29	\$8.11	\$8.83
41-2010	Cashiers	6	\$5.88	\$7.80	\$8.75	\$5.51	\$5.93	\$6.63	\$8.35	\$14.34
47-5012	Rotary Drill Operators, Oil and Gas	6	\$15.08	\$18.46	\$20.15	\$12.03	\$17.99	\$19.48	\$20.98	\$21.87



**Table 3: Occupations with Fewer Than 5 Vacancies**

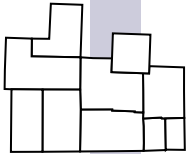
SOC Code	SOC Occupation Title	Occupational Employment Statistics Wage Data							
		Average Wages			Percentile Distribution				
		Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
21-1013	Marriage and Family Therapists	\$12.82	\$15.71	\$17.16	\$11.75	\$13.83	\$15.55	\$17.49	\$20.35
29-2034	Radiologic Technologists and Technicians	\$10.57	\$15.04	\$17.27	\$9.35	\$12.19	\$14.88	\$17.66	\$21.06
41-2031	Retail Salespersons	\$5.90	\$8.18	\$9.32	\$5.67	\$6.28	\$7.36	\$8.48	\$12.07
49-9042	Maintenance and Repair Workers, General	\$7.78	\$11.34	\$13.12	\$7.24	\$8.60	\$11.09	\$13.36	\$16.40
25-9099	Education, Training, and Library Workers, All Other	-----	-----	-----	-----	-----	-----	-----	-----
43-3071	Tellers	\$5.84	\$7.59	\$8.47	\$5.63	\$6.31	\$7.56	\$8.96	\$10.03
47-4051	Highway Maintenance Workers	\$8.97	\$11.37	\$12.57	\$8.46	\$9.87	\$11.56	\$12.92	\$14.10
11-9039	Education Administrators, All Other	-----	-----	-----	-----	-----	-----	-----	-----
11-9111	Medical and Health Services Managers	\$16.27	\$22.77	\$26.02	\$14.81	\$18.05	\$22.60	\$26.33	\$32.09
13-2072	Loan Officers	\$16.33	\$21.28	\$23.75	\$14.88	\$17.67	\$20.28	\$25.35	\$30.89
29-1127	Speech-Language Pathologists	\$13.67	\$18.71	\$21.23	\$12.69	\$14.78	\$16.77	\$23.98	\$26.38
29-2041	Emergency Medical Technicians and Paramedics	\$9.48	\$10.45	\$10.94	\$9.01	\$9.51	\$10.34	\$11.11	\$12.72
35-3020	Fast Food and Counter Workers	\$6.47	\$8.78	\$9.94	\$6.07	\$6.59	\$7.56	\$9.61	\$14.94
35-9021	Dishwashers	\$6.42	\$7.23	\$7.63	\$5.88	\$6.82	\$7.39	\$7.96	\$8.30
37-2012	Maids and Housekeeping Cleaners	\$5.84	\$6.51	\$6.85	\$5.40	\$5.74	\$6.31	\$7.16	\$8.29
43-4171	Receptionists and Information Clerks	\$7.03	\$9.46	\$10.68	\$6.57	\$7.56	\$9.18	\$11.55	\$12.91
43-6014	Secretaries, Except Legal, Medical, and Executive	\$7.46	\$10.20	\$11.56	\$6.93	\$8.25	\$10.18	\$12.14	\$13.44
43-9061	Office Clerks, General	\$6.20	\$8.68	\$9.92	\$5.84	\$6.72	\$8.21	\$10.36	\$12.61
45-2091	Agricultural Equipment Operators	\$6.65	\$8.90	\$10.02	\$6.14	\$7.17	\$8.20	\$11.31	\$13.11
47-2051	Cement Masons and Concrete Finishers	\$11.34	\$15.30	\$17.28	\$10.13	\$12.93	\$15.37	\$17.17	\$20.05
51-4120	Welding, Soldering, and Brazing Workers	\$8.49	\$10.61	\$11.67	\$7.79	\$9.08	\$10.46	\$12.21	\$13.47
53-3022	Bus Drivers, School	\$6.52	\$9.54	\$11.05	\$6.06	\$7.25	\$9.74	\$11.71	\$13.13
53-3033	Truck Drivers, Light or Delivery Services	\$7.68	\$12.23	\$14.51	\$6.77	\$8.81	\$11.53	\$14.64	\$16.97
13-2011	Accountants and Auditors	\$12.13	\$19.41	\$23.06	\$11.64	\$12.89	\$16.58	\$24.96	\$31.67
21-1099	Community and Social Service Specialists, All Other	-----	-----	-----	-----	-----	-----	-----	-----
21-2011	Clergy	\$10.72	\$17.29	\$20.58	\$9.56	\$12.32	\$16.83	\$20.74	\$27.22
27-3020	News Analysts, Reporters and Correspondents	\$6.72	\$8.45	\$9.32	\$6.21	\$7.09	\$8.05	\$9.84	\$11.69
29-1126	Respiratory Therapists	\$13.92	\$16.89	\$18.37	\$12.89	\$14.69	\$17.14	\$19.47	\$20.87
29-2011	Medical and Clinical Laboratory Technologists	\$14.90	\$17.98	\$19.53	\$14.17	\$15.45	\$17.81	\$20.42	\$22.33
29-2056	Veterinary Technologists and Technicians	\$9.53	\$13.64	\$15.70	\$9.11	\$10.01	\$14.34	\$15.98	\$16.97
29-2061	Licensed Practical and Licensed Vocational Nurses	\$9.66	\$11.98	\$13.14	\$9.21	\$10.44	\$11.99	\$13.43	\$15.33
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	\$6.46	\$7.40	\$7.88	\$5.86	\$7.05	\$7.67	\$8.28	\$8.64

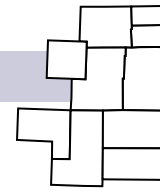


**Table 3: Occupations with Fewer Than 5 Vacancies - Page 2**

SOC Code	SOC Occupation Title	Occupational Employment Statistics Wage Data							
		Average Wages			Percentile Distribution				
		Entry-Level	Overall	Experienced	10th	25th	50th	75th	90th
33-3050	Police Officers	\$10.27	\$12.80	\$14.06	\$9.51	\$10.99	\$12.69	\$14.86	\$16.50
33-9032	Security Guards	\$7.36	\$9.99	\$11.31	\$7.05	\$7.85	\$9.36	\$11.28	\$13.46
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	-----	-----	-----	-----	-----	-----	-----	-----
35-3011	Bartenders	\$6.05	\$7.61	\$8.39	\$5.71	\$6.53	\$7.59	\$8.67	\$9.95
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$7.08	\$12.16	\$14.70	\$6.76	\$7.58	\$9.22	\$13.25	\$24.75
37-1010	First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers	\$10.26	\$13.08	\$14.49	\$9.87	\$11.02	\$12.75	\$14.82	\$17.54
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$5.98	\$8.20	\$9.31	\$5.71	\$6.49	\$7.93	\$9.66	\$11.14
37-3011	Landscaping and Groundskeeping Workers	\$7.46	\$9.64	\$10.73	\$7.14	\$7.88	\$9.30	\$11.03	\$13.19
39-5012	Hairdressers, Hairstylists, and Cosmetologists	\$5.89	\$7.62	\$8.48	\$5.47	\$5.81	\$6.38	\$7.48	\$10.80
39-9099	Personal Care and Service Workers, All Other	\$6.91	\$9.78	\$11.22	\$6.37	\$7.37	\$8.66	\$11.55	\$15.06
41-2020	Counter and Rental Clerks and Parts Salespersons	\$6.19	\$8.38	\$9.49	\$5.60	\$6.54	\$7.84	\$9.55	\$12.47
41-2022	Parts Salespersons	\$6.79	\$10.77	\$12.77	\$5.92	\$7.87	\$10.42	\$13.18	\$16.49
45-2090	Miscellaneous Agricultural Workers	\$5.82	\$7.52	\$8.36	\$5.45	\$5.89	\$6.64	\$8.49	\$11.59
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	\$6.58	\$8.61	\$9.62	\$6.08	\$7.04	\$8.30	\$9.92	\$11.36
47-2061	Construction Laborers	\$7.56	\$10.91	\$12.59	\$7.17	\$8.40	\$10.06	\$13.24	\$16.75
47-2111	Electricians	\$8.79	\$14.39	\$17.18	\$8.60	\$9.82	\$12.30	\$17.85	\$24.83
47-3013	Helpers--Electricians	\$7.61	\$7.90	\$8.04	\$6.94	\$7.22	\$7.69	\$8.15	\$8.43
47-5099	Extraction Workers, All Other	\$12.04	\$17.22	\$19.82	\$11.51	\$12.49	\$14.53	\$22.82	\$25.92
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	\$13.03	\$17.98	\$20.46	\$11.92	\$14.26	\$17.24	\$20.92	\$25.96
49-3021	Automotive Body and Related Repairers	\$9.04	\$11.73	\$13.07	\$8.68	\$9.18	\$10.02	\$14.54	\$19.27
49-3093	Tire Repairers and Changers	\$6.27	\$7.54	\$8.17	\$5.81	\$6.76	\$7.47	\$8.16	\$8.77
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$8.01	\$13.00	\$15.49	\$7.35	\$8.91	\$13.53	\$16.37	\$19.73

----- Information Unavailable





## Methodology

### Survey Instrument and Redesign

The Job Vacancy Survey was initiated in the Denver Metro area by Arapahoe/Douglas Works! through funding from the Employment and Training Administration in cooperation with Labor Market Information. The Denver Metro pilot studies were conducted along with pilot studies in five other metropolitan areas across the nation. As a result of the success of the Denver Metro Job Vacancy Survey, the Colorado Department of Labor and Employment initiated a plan to expand the studies across the entire state.

After the first two Denver Metro pilot studies, the survey instrument was evaluated and redesigned. In choosing questions, considerations were made regarding various forms and gradations. Decisions were made to address the core of what was required in order to stay within the defined limits. 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 the 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.

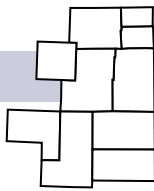
**E**—“Is medical insurance offered?” In addition, the revised survey prompted for the portion (if any) that the firm contributed. To better understand the relationship between types of positions, pay, vacancies, and the existence of medical insurance, it was important to note to what degree the firm 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 Eastern region and characteristics of those vacancies. Firms were ordered into groups, or stratifications by employment size and industry, and the resulting percentages of vacancies for each category were used to estimate total job vacancies for each group. Only firms with five or more employees were surveyed. The list of firms used for this survey, with their contact information, staff size and industry classification was obtained from the American Labor Market Information System (ALMIS) database.

The survey was conducted by telephone. In some cases copies of the survey form were faxed to employers upon request.

### Stratifications

Employers with at least 75 employees are referred to as “large employers.” They account for about 35% of the employment in the sample universe. Firms employing between 5 and 74 individuals are considered “small to mid-size employers,” and account for the remaining 65% of the sample universe employment. Attempts were made to contact all large and government employers. The small to mid-size employers were then stratified into Goods producing and Service producing industries based on the 1987 Standard Industrial Classification Manual. 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.

### Data Editing

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

### Data Cleaning

In cases where a job title was reported without a number of vacancies associated with it, it was assumed that only one vacancy was open for hire. However, this vacancy was used only in calculation of total number of vacancies with no further break down such as full-time or part-time, etc.

### Occupational Coding

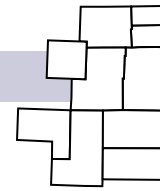
Job title and descriptions were used to match the vacancy with the appropriate Standard Occupational Classification. In some cases a second interview with the employer was necessary to decide on a specific occupational title.

### Wage Conversion

Standard conversions were used to convert salaries into hourly wages: 2,080 hours for annual salaries, 173.3 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.

Average wages are calculated based on the midpoint of the reported minimum and maximum that employers were offering to fill a vacancy at the time of the survey.



## 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, bachelors, 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](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).