## arimer Weld <br> Job Vacancy Survey



December 2002
Larimer and Weld Counties


# Colorado Department of Labor \& Employment 

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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 supply and 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. Employers have had an equally difficult time determining appropriate compensation levels due to a limited knowledge of what similar firms in their region are currently offering.

Job seekers and employers, as well as Workforce Centers and economic developers need more than a measure of demand for workers at a specific point in time. They also need a measure of where in the economy that demand is located and what education and experience levels are most preferred. The Colorado Department of Labor and Employment (CDLE) developed the Job Vacancy Survey (JVS) to meet this need. The JVS is designed to provide a snapshot estimate of job vacancies along with detailed information and analysis on accompanying wages, skill requirements and work experience.

The CDLE's survey unit collects original data by conducting phone interviews with a representative

Colorado Job Vacancy Survey Regions

sample of employers in a given region. The department's economists analyze the raw data, estimate the number of vacancies in the area and publish the report within weeks of the original data collection, providing a timely portrait of the employment situation.

The survey is funded by a grant from the U.S. Department of Labor's Employment and Training Administration. The survey is produced for each region in Colorado by Labor Market Information's office of Workforce Research and Analysis.

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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) provides data on the local labor force supply, the Job Vacancy Survey complements this by providing information about the demand for labor and offers a more complete picture of local labor markets.

## Employers

The Job Vacancy Survey measures the area's current vacancies along with education and experience requirements. This report can serve as a strategic planning tool in the following areas:

## - Employee Recruitment-

If findings indicate that employers have had positions open for a significant period of time, and compensation is sufficient, one might deduce a shortage of applicants in the area. Therefore, recruitment efforts could be focused outside of the region in areas where the necessary skills are more likely to be found.

## - Employee Training-

A firm may also choose to increase investment in training for their current employees instead of expanding recruitment efforts.

## - Compensation and Benefits Planning-

The Job Vacancy Survey provides wages offered for surveyed job openings. Tables in this report also detail current wages by occupation from Occupational Employment Statistics data. Together these pieces of information can be used to develop wage guidelines for compensation practices.

## - New Site Selection-

Employers considering relocating or expanding to the area can study the survey and determine how easily the company's employment needs will be met by reviewing current vacancies. Companies need a sufficient, qualified labor pool to operate. High labor demand within a particular industry segment along with indications of difficulty filling these positions should caution a firm requiring a similar labor profile.

## Job Seekers

The Job Vacancy Survey provides job seekers with a broad view of which industries are hiring, which occupations are in demand along with currently offered salaries and benefits, and what education and experience levels are required. This report is a roadmap that can be used to determine where the best paying jobs are given an individual's skills and level of education. Job seekers can also use Labor Market

Information's occupational projections, which provide a long-term outlook of occupational demand, along with the survey, which illustrates the current level of demand in the local job market to determine how current employment opportunities can contribute to their long-term career goals. Career minded individuals can tailor education, training, and work-experience to fit future high-demand positions.

## Workforce Centers

The Job Vacancy Survey is designed to aid Colorado's Workforce Centers and other job placement organizations. As Workforce Centers serve job seekers and employers, the report acts as a handy reference for information on current vacancies, position requirements, wages and benefits offered, seasonal employment trends, and dominant regional industries. Workforce Center representatives can increase placement success by directing job seekers toward high demand occupations and industries.

Public officials, educational institutions, and Government agencies can use this survey informa-
tion to effectively apply resources to education, training, and job placement programs.

While this report is a picture of the area's current employment needs and historical seasonal patterns, other Labor Market Information products provide projections of occupational growth and anticipated openings (www.coworkforce.com/lmi/oeo/oeo.htm). The projections highlight growing as well as declining occupations. 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.

## Economic Developers

Economic development professionals can use the Job Vacancy Survey to track the labor situation in key industries and evaluate the area's economic growth and development potential. The survey results 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 survey, and where the local market is trending using Labor Market Information's employment projections.

## Caveats

TThe Job Vacancy Survey statistics are indicators of the demand for workers in the region and should not be interpreted as actual values. We rely on information from surveyed companies to obtain a representative sample of institutions and the occupations that fuel them. Not all surveyed firms participate; however, the employers who do participate enable the production of statistically reliable results.

The study provides estimates of job openings for a point-in-time; they do not necessarily portray the distribution of job vacancies in the region. This report does not attempt to explain the cause of vacancieswhether these current vacancies are due to actual growth or to job turnover in an occupation. Readers should also keep in mind that the authors are not attempting to project the level of vacancies into the future. Be aware that events having occurred since the time period analyzed such as plant closings or the migration of people in and out of the area might
significantly affect the vacancy status of some occupations. Job openings are very dynamic - current openings are being filled, new positions are being created, and some roles are being phased-out.

Occupational demand is subject to seasonal changes and affected by business cycles. For example, the reader would want to be aware that a decrease in vacancies for construction workers from April to November could represent seasonal variations, not necessarily a long-term decrease in the demand for such workers. When several years of survey data have been collected, we may be able to identify patterns that more accurately reflect changing labor market conditions. Regional surveys are timed to make these comparisons possible.

Given the caveats, appropriate application by the user is a key element in this report being a useful tool for job vacancy analysis.

## Executive Summary

The fall 2002 Larimer/Weld Job Vacancy Survey was conducted from October 1st through 18th, 2002. The goal of the survey is to provide current information on the demand for workers so that employers, job seekers, economic developers, educators and workforce centers can make informed decisions in the Larimer/Weld Region.

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 1,954 employers representing $52 \%$ of the region's employment responded to the survey. Out of these, 51 are large employers ( 200 or more employees), 88 are Government agencies, and 1,815 are from the small to mid-size category ( 5 to 199 employees). The survey had an effective response rate of $84 \%$ and a cooperation rate of $99 \%$.

The major findings of the survey are as follows:

- It is estimated that a total of 2,020 jobs were open for hire in the Larimer/Weld Region during the survey period compared with 2,870 one year ago.
- Eleven percent of the employers responding to the survey reported having at least one vacancy compared to $16 \%$ from the fall of 2001.
- Almost $50 \%$ of the reported jobs open are in the small to mid-size firms category. About $33 \%$ are in large firms, while the remaining $18 \%$ are in Government.
- The proportion of full-time vacancies dropped from $80 \%$ in the fall of 2001 to $59 \%$ in this survey.
- The overall average wage reported is $\$ 11.60$ per hour compared to $\$ 15.00$ last fall. The decrease in the average wage could be due to the change in the mix of occupations reported and is not an indication of a drop in the region's overall wages.

Fifty-four percent of the vacancies require postsecondary education. Candidates with vocational training or certification are highest in demand.

- Employers are seeking higher levels of experience to fill vacancies. Eighty percent of the vacancies require a minimum of experience in a related field compared to $57 \%$ a year ago.
- Only $46 \%$ of the openings are reported as either very difficult or somewhat difficult to fill compared to $65 \%$ last fall.
- Fewer employers are offering to pay the total cost of medical insurance premium this year compared to last fall, however, this decrease was completely offset by the increase in the proportion of employers offering partial payment to the medical insurance premium.


## Larimer/Weld Region

The Larimer/Weld Region, located in north central Colorado encompasses a total of 6,644 square miles. The region, made up of Larimer and Weld counties, has a population of more than 454,000 residents $^{1}$. Larimer County, with 2,640 square miles, includes some of the finest irrigated farmland in the state, as well as vast stretches of scenic ranch lands, forests and high mountain peaks. Weld County on the other hand, covers an area of 4,004 square miles, making it the third largest county in the state. The land surface is fairly level in the east, with rolling prairies and low hills near the western border.

The regional economy is a diverse mix of agriculture, advanced technology, manufacturing and service firms. Weld County is the leading producer of cattle, grains and sugar beets in the state. It is also the second leading producer of oil and gas in Colorado.

Larimer County accounts for $57 \%$ of the total regional population (about 259,500 residents) and grew at a rate of $35 \%$ over the 1990 to 2000 census period. This growth rate is almost 5 percentage points higher than the state's growth rate of $31 \%$ over the

same period. Weld County accounts for $43 \%$ of the population and experienced a growth rate of $37 \%$. This is 7 percentage points above the state's growth rate. Within the counties, almost half of the population in Weld is concentrated in the city of Greeley. In Larimer County $47 \%$ of the population is centered in the city of Fort Collins.

Figure 2: Unemployment Rates for October 2002


The region employed over 240,238 individuals from a labor force pool of about 246,000 people in October 2002. Of these $62 \%$ were employed in Larimer County. The region's unemployment rate of $4.8 \%$ is lower than that of the state and the U.S. rate of $5.7 \%$ reported by the Bureau of Statistics for October 2002.

Figure 3: Larimer/Weld Employers and Employees (4th Quarter 2001)


Agriculture includes Forestry and Fishing
FIRE-Finance, Insurance, and Real Estate
TCPU-Transportation, Communication and Public Utilities

The ranking of employment by industry in the Larimer/Weld Region has remained stable over the past several years. Similar to the rest of the state, the region's Services division has the highest share of employment ( $23 \%$ ) followed by Retail Trade ( $21 \%$ ). Manufacturing of durable and non-durable goods combined accounts for $16 \%$ of the regional employment while Government agencies make up $17 \%$. Other industries' portions of total employment range from $1 \%$ in Mining to $8 \%$ in Construction (Figure 3).

Although Weld County accounts for a smaller portion of the total employment in the region, the industry mix in the two counties is relatively similar. Fourth quarter, 2001 statistics reveal that both counties have the highest concentration of firms in the Services division followed by Retail Trade, Construction, and Finance, Insurance and Real Estate (FIRE). In Weld County the total number of individuals employed is
highest in the Services division, followed by the Manufacturing, Retail Trade, and Construction divisions. In Larimer County, employment is concentrated primarily in Services followed by Retail Trade, Manufacturing, and Construction.

The region is dominated by a large number of firms with less than five employees. Although these firms account for $62 \%$ of all firms in the region, they account for only $11 \%$ of the total employment. Small firms (5-49 employees) make up about $34 \%$ of both the number of firms and employment. Medium size firms (50-199), with close to $3 \%$ of the regional firms, account for almost $20 \%$ of employment. Large firms and Government entities each make up less than $1 \%$ of the firms in the region. Large firms account for $22 \%$ of total employment, while Government agencies account for $14 \%$ of the total employment.

Figure 4: Employment and Labor Force Trends in the Larimer/Weld Region


Source: CDLE, Local Area Unemployment Statistics

Figure 4 illustrates the historical progression of the region's labor force and employment over time. The labor force and employment levels have increased since 1998. The figure also provides a visual representation of unemployment over time. Unemployment is represented by the gap between the labor force and employment lines. In other words, the larger the distance between the two lines, the greater the number of unemployed.

Analysis of historical employment trends for the Larimer/Weld Region also reveals a seasonal trend in the region's labor market. Both the labor force and employment levels are at their lowest in January and peak in October. The Job Vacancy Survey is conducted semi-annually in spring and fall to measure demand for labor when employment is strong.

## The Job Vacancy Survey Sample

TThe fall Larimer/Weld Job Vacancy Survey was conducted from October 1st through October 18th, 2002. For the purpose of this report, employers with five or more employees ( 6,181 in the region) are referred to as the "sample universe." The sample universe accounts for approximately $88 \%$ of the total employment in the region.

The Job Vacancy Survey separates employers into either Government or private industry categories. Private firms are grouped by employment level into either large (at least 200 employees) or small to mid-size categories ( 5 to 199 employees). Small to mid-size firms are further divided by industry and randomly sampled until a representative sample is obtained for each industry. Attempts
are made to contact each large private employer and Government agency in the region.

Over the survey period a total of 1,954 employers, approximately $32 \%$ of the Larimer/Weld Region employers in the sample universe, responded to the survey. Out of these, 51 are large employers, 1,815 are small to mid-size employers, and 88 are Government agencies.

The effective response rate for the survey is $84 \%$ and the cooperation rate is $99 \%$. The response rate measures how successful the survey is at collecting information from eligible employers. The cooperation rate measures how willing employers are to participate in the survey once they are contacted.

| Table 1: Industry Categories |  |
| :---: | :---: |
| Government |  |
| Public Administration |  |
| - Priva | dustry |
| Goods Producing Industries | Service Producing Industries |
| Agriculture, Forestry, and Fishing (except Agricultural Services) | Transportation, Communications, and Public Utilities |
| Mining | Wholesale Trade |
| Construction | Retail Trade |
| Manufacturing | Finance, Insurance, and Real Estate Services (including Agricultural Services) |

## Data Collection

Data for the Job Vacancy Survey are collected using a Computer Assisted Telephone Interview (CATI) process. While this system of data collection has been in use in the public sector for several years, Colorado is the first state in the nation to pioneer the use of CATI data collection for the Job Vacancy Survey.

Professional interviewers, trained in economic data collection processes, gather information from a call center located in the Colorado Department of Labor and Employment. This interview process results in increased control over the survey process, better accuracy, and dependable results.

Employers are asked if they have job vacancies or open positions which they are actively seeking to fill.

Those that are actively hiring are then asked to provide more detail about each position-compensation offered, levels of education and experience required, and the employer's perceived difficulty in filling the vacancy along with the number of days the position has been opened. Employers are also asked if sign-on bonuses and health insurance coverage are offered for these positions. These data are collected in addition to the minimum and maximum wages in order to describe more fully the compensation offered.

The survey is conducted so as to ensure the statistical integrity of this report. When necessary, employers are contacted a second time to clarify responses.

## Vacancies: Industry, Size and Status

During the survey period, an estimated 2,020 vacancies were open for immediate hire by firms with at least five employees in the Larimer/Weld Region. The overall area employment is estimated at approximately 180,700 individuals, resulting in an estimated vacancy rate of $1.12 \%$.

Services and Retail Trade make up $66 \%$ of all vacancies in the region. Large firms employing at least 200 individuals in Services record the highest vacancy rate of $3.7 \%$, while that for Retail Trade in the small to mid-size firms is $2 \%$. These industry divisions also account for most of the area's total employment. They have experienced both growing and changing market conditions due to population growth and increasing technology. The most common vacancies in the Services division include: registered nurses; customer service representatives; and nursing aides, orderlies, and attendants. Sixty-two percent of the vacancies within the Services industry are healthcare positions while $37 \%$ of those in the Retail industry are Food Preparation and Serving Related occupations.

Government agencies account for $18 \%$ of the estimated vacancies. Arts, Design, Entertainment, Sports, and Media occupations as well as Building and Grounds Cleaning and Maintenance occupations have the most reported vacancies within Government. All remaining industries account for the remaining $16 \%$ of the estimated vacancies.

Eleven percent of all employers responding to the survey reported having at least one opening compared to $16 \%$ in the fall last year. Overall, there are 850 fewer vacancies in this survey than the fall survey of 2001. Reduced activity is seen across all industries except NonDurable Manufacturing and Government. The largest declines are in the Services, Retail Trade and Construction industries. Government agencies reported 115 more vacancies compared to the fall 2001 survey. There is a slight increase in the number of estimated vacancies for the Non-Durable Manufacturing industry.

Figure 5: Estimated Vacancies by Industry


Agriculture includes Forestry and Fishing
FIRE-Finance, Insurance, and Real Estate
TCPU-Transportation, Communication and Public Utilities

Since wages offered vary according to the individual applicant's education and qualifications, employers were asked to provide the range of wages offered for the open position (Figure 6). Wages reported for this study represent those offered by employers for current jobs available during the survey period. The overall average wage in the region is $\$ 11.60$ per hour compared to $\$ 15.00$ in the fall survey of 2001. This decline is not an indication that wages offered to vacant positions in Larimer/Weld have declined. A decline in the average wage could be due to factors such as the type of occupation, the skills and knowledge required to fill the vacancy, and the philosophy
of the employer offering the position. Differences in these characteristics between open jobs reported in this survey and previous ones will influence the average wage reported.

In this survey wage information accompanied $80 \%$ of all reported vacancies. The highest average wages are offered in the Construction as well as Durable and Non-Durable Manufacturing industries. The top paying occupations in demand within these three industries are: human resources managers, marketing managers, architects, and construction managers.

Figure 6: Average Wages by Industry


JVS Wage - Average Minimum / Average Maximum

FIRE-Finance, Insurance, and Real Estate
TCPU-Transportation, Communication and Public Utilities

Small to mid-size firms account for almost $50 \%$ of all vacancies. These firms also account for $93 \%$ of all employers in the sample and $58 \%$ of the employment. Large firms, representing only $3 \%$ of the firms in the sample and $22 \%$ of the employment, account for $33 \%$ of the vacancies. Government on the other hand, makes up the remaining $4 \%$ of the employers, $20 \%$ of the employment and $18 \%$ of the open jobs.

Figure 7: Estimated Vacancies by Size Class


Figure 8: Average Wages by Size Class


As in the survey last fall, positions open with large employers offer the highest wages. These employers offer wages that average approximately $\$ 2.00$ per hour higher than those offered by small to mid-size firms. There is no significant wage difference between large and Government employers.

This survey shows a significant shift from full-time permanent to part-time permanent vacancies when compared with the fall 2001 survey. Between the two surveys, full-time permanent vacancies dropped from $79 \%$ to $59 \%$ while part-time permanent vacancies increased from $12 \%$ to $40 \%$ of the reported vacancies. The shift in demand from full-time to parttime may be due to employers' desire to cut expenses during uncertain economic conditions. It also may be the result of a change in the mix of the occupations in demand. Full-time, permanent positions still represent the majority of job openings. The most cited full-time occupations are: customer service representatives; registered nurses; and general maintenance and repair workers. The most cited part-time occupations are: registered nurses; coaches and scouts; and umpires, referees, and other sports officials. Both part-time temporary and full-time tem-

Figure 9: Vacancies by Employment Status
 porary positions constitute approximately $1 \%$ of the reported vacancies.

Figure 10: Average Wages by Employment Status


JVS Wage - Average Minimum / Average Maximum

Full-time permanent positions usually set the overall average wage for an area. In this survey both fulltime and permanent positions are the two major categories shaping the overall average wage offered in the area. The overall average wage of $\$ 11.60$ falls somewhere in between the $\$ 12.50$ average wage offered by full-time permanent and the $\$ 10.10$ average wage offered by part-time permanent vacancies. As
one would expect, results of this survey show job openings for permanent positions offer higher wages than temporary ones and full-time positions offer higher wages than part-time positions. The wider range in full-time permanent and part-time permanent categories stems from the higher concentration of vacancies in these two categories.

## Vacancies: Education and Experience Requirements

During periods of high unemployment, a typical assumption might be that there are too many qualified candidates and too few job openings. The reality is that even in recessions there are many employers who cannot find qualified candidates to fill open positions. A region's overall labor force is made up of multiple smaller labor groups defined by skills, experience, and education. It is important, therefore, that job seekers have accurate information regarding what type of education and experience are in high demand.

Employers were asked what level of education is required of an applicant in order to be considered for a particular opening. Twenty percent of the vacancies are found to require a minimum of at least a bachelor's degree. Only $5 \%$ of the positions require a two-year degree while an additional $29 \%$ require vocational training or certification. In this survey there is a noticeable decrease in vacancies requiring advanced and bachelor's degrees. These are offset by an increase in positions requiring twoyear degrees or vocational training or certification.

The most frequently cited vacancies requiring either a vocational training/certification or a twoyear degree include: coaches and scouts; registered nurses; and nursing aides, orderlies, and attendants. Almost $60 \%$ of the vacancies requiring either a bachelor's or an advanced degree are registered nurse positions.

Figure 11: Vacancies by Education


There are many opportunities for those with no postsecondary education. The survey shows $46 \%$ of the vacancies require a high school/GED or less. This reflects a slight decrease from the $51 \%$ reported for these two categories in last fall's survey. Occupations most cited in these categories include: customer service representatives; general maintenance and repair workers; and landscaping and groundskeeping workers. Workers in these categories are more likely to make use of on-the-job training for advancement in job status or for better positions within a company.

Generally, employers pay higher wages when requiring higher education levels (Figure 12). The highest average minimum wage rate difference ( $\$ 4.80$ per hour) was found between having a twoyear degree and completing a bachelor's. Job vacancies requiring a bachelor's degree offer wages more than twice as high as those requiring a high school diploma. The requirement of vocational training or certification increases the wage rate by $\$ 3.00$ per
hour from a high school diploma/GED. In addition to increasing average wage, the wage range broadens with increasing levels of education. The high concentration of lower paying teaching and librarian positions in the category of positions requiring advanced degrees brought down the average wage for this category to a level lower than that requiring bachelor's degrees.

Figure 12: Average Wages by Education


Employers require the applicant to have experience in the occupation or a related field for $80 \%$ of all positions. In this survey, $20 \%$ of the reported job openings require either no prior experience or general work experience (Figure 13), while last fall this proportion was $43 \%$ of the reported openings.


Figure 14: Average Wages by Experience


As with the increasing levels of education, employers are willing to offer higher wages for job openings requiring more experience. Positions that require specific experience in the reported occupation offer on average $\$ 2.60$ per hour more than those requiring experience in a related field. Vacancies requiring expe-
rience in a related field or specific experience in the occupation are offering average wages that are significantly lower than average wages offered in the fall of 2001. The decline in the average wage offered may be due to shifts in the occupations in demand reflecting specific educational and experience requirements.

Generally, experience requirements will increase as educational requirements increase. In this survey, employers expressed higher demand for experienced workers at most educational levels. For positions requiring no high school diploma, the split of vacancies was almost identical between lower and higher levels of experience (Table 2).

Positions requiring an advanced degree are usually associated with a higher concentration of vacancies at a level requiring specific experience in the occupation. These are career occupations usually attained by completing high levels of education and experience gained in the field. For this survey, most vacancies requiring high levels of education and experience are teaching
positions. Sixty-five percent of the vacancies requiring a bachelor's degree and experience in a related field or experience in the specific occupation are for registered nurses.

In a tight labor market, employers may be willing to trade experience or education levels depending on the requirements of the position or the skills and abilities of the applicant. During an economic slowdown though, employers can demand higher levels of education and experience due to the increased number of job seekers available to work. In comparison to the fall of 2001, employers in this survey are seeking applicants with higher levels of experience even for vacancies that require only minimal education.

Table 2: Experience Requirements by Educational Level

|  | No Experience | General Work <br> Experience | Experience in a <br> Related Field | Experience in <br> This Occupation |
| :--- | :---: | :---: | :---: | :---: |
| No Diploma | $45 \%$ | $8 \%$ | $42 \%$ | $5 \%$ |
| High School Diploma/GED | $16 \%$ | $15 \%$ | $58 \%$ | $11 \%$ |
| Vocational Training/Certification | $2 \%$ | $3 \%$ | $40 \%$ | $54 \%$ |
| Two-Year Degree | $6 \%$ | $7 \%$ | $57 \%$ | $30 \%$ |
| Bachelor's Degree | $1 \%$ | $2 \%$ | $76 \%$ | $21 \%$ |
| Advanced Degree | $0 \%$ | $0 \%$ | $33 \%$ | $67 \%$ |

Note: Percentages based on each educational category.

## Vacancies: Difficulty to Fill

To estimate the level of difficulty in filling vacancies, employers were asked about their perceived level of difficulty in filling a job and the length of time that a position has been open. If a large proportion of open jobs in a region are difficult to fill, it may signal one or more of the following: too few specifically skilled workers to satisfy the labor demand, a need for alternate employer recruitment efforts, a mismatch between jobs offered and work desired by job seekers, or unattractive compensation.

Employers are having much less difficulty hiring now than they were in fall of 2001. Employers reported $54 \%$ of the vacancies as not difficult to fill, up from $35 \%$ in the fall of last year. While the proportion of job openings reported as somewhat difficult to fill remained virtually unchanged, positions considered very difficult to fill declined from $29 \%$ to only $9 \%$ of the reported vacancies between the two surveys.

Often positions considered difficult to fill are occupations for which the region is thought to have a shortage of trained individuals. Recently, skilled nurses have been the focus of attention due to a noticeable shortage in many regions across the state. In this survey, while nursing occupations are among the most

Figure 15: Vacancies by Difficulty to Fill

difficult to fill, they are not dominant among the difficult to fill group. Difficult to fill vacancies are found among higher paid positions such as senior level engineers, top executives, managers and supervisors, down to positions requiring limited education and experience such as janitorial workers, waiters, and waitresses.

Figure 16: Average Wages by Difficulty to Fill

$\square$ JVS Wage - Average Minimum / Average Maximum

Positions considered not difficult to fill offer lower wages, as would be expected, than positions employers reported as difficult to fill. There is no significant
difference in the average wage found between positions that are somewhat difficult to fill and those reported as very difficult to fill.

How long a vacancy is open is indicative of the degree of difficulty an employer is having in filling the position. Factors include the following: the availability of qualified candidates, competition among employers for similar candidates, and the willingness of candidates to accept job duties considering wages and benefits offered. Also, employers may allow more time to fill a vacancy in order to ensure the fit of the candidate with the organization, or because there may be a limited number of qualified applicants.

In this survey, $75 \%$ of vacancies were open for 59 days or less compared to $63 \%$ a year ago. Positions open for less than 30 days are ones that require lower levels of education and experience such as: truck drivers, heavy and tractor-trailer; retail salespersons; and combined food preparation and serving workers, including fast food. The majority of the positions open for 30 to 59 days are for registered nurses while the majority of those open for 60 or more days are civil engineers. Only $6 \%$ of the vacancies were open for 60 or more days down from $11 \%$ in the fall 2001 survey.

Vacancies reported as always open are, generally, entry-level positions requiring differing educational levels. These are occupations mostly in the Services

Figure 17: Vacancies by Time Open for Hire

and Transportation, Communications and Public Utilities (TCPU) industries with average wages mostly below the overall average. They include low skilled occupations such as customer service representatives, stock clerks, and order fillers although positions such as nursing assistants and others in healthcare occupations are included here as well.

Figure 18: Average Wages by Time Open for Hire

| JVS Wage - Average Minimum / Average Maximum

The survey found that positions open for longer periods of time often have a higher associated wage. Positions open for 60 or more days offer the highest wages and the widest range of wages. This is in line
with the idea that many of these positions require specialized skills and experience making employers more willing to offer higher compensation.

# Vacancies: Additional Compensation 

## Medical Insurance

Employers frequently offer compensation related benefits to recruit qualified candidates. These may include paid time off, transportation, or parking vouchers. One of the most common benefits offered to employees is medical insurance through an employers group plan. Employers may pay all or part of the monthly insurance premium for their employee. In this survey, $86 \%$ of reported vacancies include some form of medical insurance.

Eighty-six percent of the vacancies providing medical insurance also offer partial payment towards the insurance premium. Another $10 \%$ offer to pay the total cost of the insurance premium, while only $4 \%$ offer no monetary contributions.

Sixty five percent of positions associated with a partial contribution to the medical insurance premium are fulltime; registered nurses form the majority. This group also contains a considerable presence of lower skilled occupations such as: customer service representatives; umpires, referees, and other sports officials; and general maintenance and repair workers.

Compared to last fall, the number of job openings offering to pay the total cost of the medical insurance premium

decreased from $23 \%$ to $10 \%$. This decrease was completely offset by an increase in the percentage of positions offering to pay partial cost of the medical insurance premium. The number of positions offering no contribution towards the medical insurance premium held steady at $4 \%$.

Generally, it would be expected that as higher paying jobs require higher levels of education and experience, employers offer better medical insurance packages to attract qualified candidates.

Figure 20: Average Wages by Medical Insurance


In this survey, positions offering no monetary contribution towards the medical insurance offer the lowest average wage of $\$ 7.90$ per hour. While vacancies offering payment of total cost of the premium also offer the highest average hourly wage of $\$ 13.30$, vacancies with partial premium payments offer a wider range between the average minimum and maximum wages offered.

## Sign-On Bonus



Sign-on bonuses became popular lore in the 1990s when a tight labor market existed in many occupations. It is unclear whether the actual size and frequency of sign-on bonuses deserve the hype. For this survey, sign-on bonuses accompany only $1 \%$ of the reported vacancies. The average bonus is $\$ 1,000$.


## Occupations

The Job Vacancy Survey is intended to provide useful and current information to job seekers and employers and help them make informed decisions when seeking employment and hiring. Estimating the number of overall vacancies in a region and breaking those numbers down by categories such as industry and size provides a useful overview of the demand for labor. When it comes down to filling a particular opening, the more detailed the information the better. Reporting vacancies at the individual occupation level is as detailed as the survey can be without breaking confidentiality with those employers who participated in the survey.

In order to help make comparisons between the results of this survey and other sources of employment statistics, all reported vacancies are assigned an occupation code and occupational group based on the 2000 Standard Occupational Classification Manual published by the Executive Office of the President, Office of Management and Budget. Results are reported by major occupational groups. The Standard Occupation Classification (SOC) system contains 821 detailed occupation titles that fall into 23 major occupational groups.

Figure 22: Vacancies by Major Occupational Groups


Vacancies found in this survey were coded into 21 of the 23 major occupational groups. Not surprisingly, the most frequently occurring job openings fall into occupational groups most often associated with the largest industries in the region: Services and Retail Trade.

Healthcare Practitioners and Technical occupations has the highest proportion of vacancies for this fall survey, while last fall, the highest proportion of vacancies was found in Food Preparation and Serving Related occupations. This survey shows higher demand for Arts, Design, Entertainment, Sports, and Media in addition to Transportation and Material Moving occupations compared to last fall. The least demanded occupations are Farming, Fishing, and Forestry; Life, Physical, and Social Science; and, most surprisingly, Computer and Mathematical after years of high demand.

Survey results show that major occupation groups with the most vacancies are not necessarily the groups offering the highest wages. This indicates that vacancy characteristics other then the level of unfilled employer demand influence wages. The groups offering the highest wages in this survey include: Architecture and Engineering; Life, Physical, and Social Science; Healthcare Practitioners and Technical; Community and Social Services; as well as Computer and Mathematical. These occupational groups also require higher levels of education and experience. 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 and Serving Related; Building and Grounds Cleaning and Maintenance; Sales and Related; and Farming, Fishing, and Forestry.

Figure 23: Average Wages by Major Occupational Groups



Table 3 contains a list of all of the detailed SOC job titles that were assigned to vacancies reported in this survey. Because a census of large employers and Government agencies is conducted, the list contains titles for nearly all of the vacancies available at the time of the survey for those employers. Almost onethird of all small to mid-size employers were contacted for the random sample, so the list also includes occupations reported by those employers. Given the large size of the random sample collected, the list of occupations should be fairly comprehensive; however, it is not exhaustive. Most likely, if a different random sample had been drawn there would be some differences in the job titles reported, but there would also be many of the same.

## Vacancy Rank

Vacancies are ranked based on the total number of vacancies reported for each occupation. The top $25 \%$ are ranked as high demand because they are the most frequently occurring vacancies. The bottom $25 \%$ are ranked as low demand and the medium demand vacancies include everything in-between.

## Average JVS Wage

The average wages found in the survey are also reported for each occupation. The reported averages
are based on information provided by employers and do not reflect information not gathered in the survey or wages paid to currently filled positions. Wage information in this survey was provided for almost $70 \%$ of reported vacancies.

## Occupational Employment Statistics Wage Data

Occupational Employment Statistics (OES) wage data are also provided for each occupation. OES data are based on a national survey of employers and refer to filled positions, not vacancies. The data provided here are reported for Larimer and Weld counties when available and statewide otherwise. Data were collected in 1999 and 2000 and aged to 2001 using the Employment Cost Index (ECI). A complete description of the OES survey and the ECI is available on the Internet at: http://www.bls.gov/.

While the Job Vacancy Survey average wages reflect what was being offered to fill vacancies at the time of the survey, OES wage data reflect what was being paid to filled positions. Together, these data provide employers and job seekers with a good indication of the compensation offered in the current job market.
Table 3: Job Vacancy Survey Occupations with OES Wages


|  | Management Occupations |  |  | Occupational Employment Statistics Wage Data |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Average Wages |  |  | Percentile Distribution |  |  |  |  |
| $\begin{aligned} & \text { SOC } \\ & \text { Code } \end{aligned}$ |  | $\begin{gathered} \hline \mp \text { Vacancy } \\ \text { Rank } \end{gathered}$ | Average JVS Wage | Entry <br> Level | Overall | Experi- enced | 10th | 25th | 50th | 75th | 90th |
| 21-1022 | Medical and Public Health Social Workers | L | \$20.00 | \$13.58 | \$17.80 | \$19.92 | \$12.47 | \$14.61 | \$17.01 | \$20.72 | \$25.22 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | L | \$17.90 | \$11.20 | \$13.65 | \$14.86 | \$10.41 | \$11.61 | \$13.21 | \$15.66 | \$17.74 |
| 21-1091 | Health Educators | L | \$22.50 | \$13.89 | \$20.68 | \$24.07 | \$12.63 | \$16.02 | \$21.49 | \$25.63 | \$27.91 |
| 21-1092 | Probation Officers and Correctional Treatment Specialists | L | \$14.90 | \$17.14 | \$22.65 | \$25.41 | \$15.70 | \$18.21 | \$22.15 | \$26.70 | \$31.62 |
| 21-2011 | Clergy | L | $\dagger$ | \$11.13 | \$17.95 | \$21.36 | \$9.92 | \$12.79 | \$17.47 | \$21.53 | \$28.25 |
| 25-0000 | Education, Training, and Library Occupations |  | \$12.52 | \$9.73 | \$17.85 | \$21.91 | \$8.22 | \$11.68 | \$16.44 | \$22.37 | \$28.39 |
| * 25-1011 | Business Teachers, Postsecondary | L | $\dagger$ | \$34,138 | \$57,649 | \$69,405 | \$32,117 | \$36,932 | \$48,918 | \$74,161 | \$100,821 |
| 25-1022 | Mathematical Science Teachers, Postsecondary | L | $\dagger$ | \$31,669 | \$51,979 | \$62,136 | \$28,857 | \$36,841 | \$47,573 | \$64,227 | \$81,802 |
| 25-1072 | Nursing Instructors and Teachers, Postsecondary | L | \$17.10 | $\dagger$ | \$31,930 | \$47,198 | \$54,832 | \$31,089 | \$35,148 | \$46,157 | \$55,624 |
| 25-1121 | Art, Drama, and Music Teachers, Postsecondary | L | $\dagger$ | $\dagger$ | \$32,758 | \$51,659 | \$61,114 | \$30,433 | \$38,716 | \$49,832 | \$62,069 |
| 25-1194 | Vocational Education Teachers, Postsecondary | L | $\dagger$ | \$13.05 | \$18.38 | \$21.05 | \$12.06 | \$14.19 | \$16.79 | \$22.85 | \$27.01 |
| 25-1199 | Postsecondary Teachers, All Other | M | \$13.90 | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ |
| 25-2011 | Preschool Teachers, Except Special Education | L | \$9.10 | \$7.85 | \$9.43 | \$10.23 | \$7.44 | \$7.98 | \$8.87 | \$10.33 | \$11.57 |
| 25-2021 | Elementary School Teachers, Except Special Education | L | $\dagger$ | \$28,252 | \$39,909 | \$45,738 | \$26,091 | \$30,628 | \$37,523 | \$46,895 | \$56,711 |
| 25-2022 | Middle School Teachers, Except Special and Vocational Education | M | \$15.70 | \$28,463 | \$37,764 | \$42,415 | \$26,139 | \$30,104 | \$35,662 | \$44,544 | \$53,843 |
| 25-2031 | Secondary School Teachers, Except Special and Vocational Education | M | \$14.90 | \$27,843 | \$41,162 | \$47,821 | \$25,830 | \$30,595 | \$38,025 | \$50,411 | \$59,205 |
| 25-2042 | Special Education Teachers, Middle School | L | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ |
| 25-2043 | Special Education Teachers, Secondary School | L | $\dagger$ | \$29,658 | \$40,689 | \$46,203 | \$27,115 | \$32,057 | \$39,632 | \$47,846 | \$56,222 |
| 25-3099 | Education, Training, and Library Occupations | M | \$7.60 | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ |
| 25-4021 | Librarians | M | \$14.60 | \$14.38 | \$19.24 | \$21.67 | \$13.41 | \$15.79 | \$18.89 | \$22.44 | \$26.41 |
| 25-4031 | Library Technicians | L | \$12.00 | \$7.71 | \$11.33 | \$13.14 | \$7.15 | \$8.61 | \$11.25 | \$13.51 | \$16.33 |
| 25-9031 | Instructional Coordinators | L | \$14.20 | \$10.71 | \$20.84 | \$25.91 | \$9.80 | \$11.79 | \$19.48 | \$26.82 | \$38.48 |
| * 25-9041 | Teacher Assistants | M | \$7.50 | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ |
| 27-0000 | Arts, Design, Entertainment, Sports, and Media Occupations |  | \$10.51 | \$8.98 | \$17.67 | \$22.00 | \$7.74 | \$10.57 | \$15.74 | \$21.50 | \$31.63 |
| 27-1024 | Graphic Designers | L | \$9.50 | \$13.44 | \$18.29 | \$20.71 | \$12.28 | \$15.49 | \$18.67 | \$21.23 | \$24.02 |
| 27-2022 | Coaches and Scouts | H | \$9.60 | 16,430 | 24,033 | 27,834 | 15,188 | 16,060 | 17,512 | 29,998 | 45,073 |
| * 27-2023 | Umpires, Referees, and Other Sports Officials | M | \$10.80 | \$19,659 | \$25,585 | \$28,554 | \$18,444 | \$20,230 | \$22,440 | \$27,869 | \$41,881 |
| 27-2099 | Entertainers and Performers, Sports and Related Workers, All Other | L | \$10.50 | \$13,454 | \$22,952 | \$27,701 | \$12,830 | \$14,691 | \$22,664 | \$28,180 | \$34,277 |
| 27-3042 | Technical Writers | L | \$47.50 | \$16.20 | \$23.40 | \$27.00 | \$14.53 | \$18.20 | \$23.08 | \$28.05 | \$33.99 |
| 27-3091 | Interpreters and Translators | L | \$15.20 | \$10.81 | \$15.58 | \$17.97 | \$9.87 | \$11.89 | \$14.24 | \$19.51 | \$23.63 |
| 29-0000 | Healthcare Practitioners and Technical Occupations |  | \$18.91 | \$13.35 | \$23.32 | \$28.30 | \$11.92 | \$15.35 | \$20.04 | \$26.08 | \$36.09 |
| 29-1031 | Dietitians and Nutritionists | L | \$19.20 | \$14.56 | \$19.34 | \$21.72 | \$14.11 | \$16.18 | \$19.58 | \$22.69 | \$25.90 |
| 29-1051 | Pharmacists | L | \$32.80 | \$31.57 | \$33.30 | \$34.16 | \$29.72 | \$31.10 | \$33.39 | \$35.68 | \$38.94 |

Table 3: Job Vacancy Survey Occupations with OES Wages - Page 3


[^0]

|  | Management Occupations |  |  | Occupational Employment Statistics Wage Data |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Average Wages |  |  | Percentile Distribution |  |  |  |  |
| SOC <br> Code |  | $\begin{gathered} \ddagger \text { Vacancy } \\ \text { Rank } \end{gathered}$ | $\begin{gathered} \text { Average } \\ \text { JVS Wage } \end{gathered}$ | Entry <br> Level | Overall | Experienced | 10th | 25th | 50th | 75th | 90th |
| 43-4051 | Customer Service Representatives | H | \$8.10 | \$7.74 | \$10.98 | \$12.60 | \$6.61 | \$8.95 | \$10.45 | \$12.63 | \$15.73 |
| 43-4061 | Eligibility Interviewers, Government Programs | L | \$10.60 | \$11.60 | \$14.83 | \$16.44 | \$11.04 | \$12.15 | \$13.68 | \$16.86 | \$20.46 |
| 43-4071 | File Clerks | L | \$9.00 | \$7.20 | \$9.23 | \$10.24 | \$6.54 | \$7.71 | \$8.79 | \$10.38 | \$12.75 |
| 43-4121 | Library Assistants, Clerical | L | \$8.80 | \$7.28 | \$10.02 | \$11.39 | \$6.78 | \$8.04 | \$9.96 | \$12.09 | \$13.72 |
| 43-4131 | Loan Interviewers and Clerks | L | \$13.00 | \$9.91 | \$12.49 | \$13.79 | \$9.40 | \$10.21 | \$11.85 | \$14.19 | \$16.95 |
| 43-4141 | New Accounts Clerks | L | $\dagger$ | \$10.77 | \$12.39 | \$13.19 | \$9.84 | \$11.43 | \$12.53 | \$13.56 | \$14.41 |
| 43-4151 | Order Clerks | L | \$10.30 | \$7.90 | \$12.02 | \$14.08 | \$7.45 | \$8.87 | \$11.00 | \$14.86 | \$18.54 |
| 43-4171 | Receptionists and Information Clerks | M | \$8.30 | \$7.63 | \$9.71 | \$10.74 | \$7.35 | \$8.20 | \$9.52 | \$10.99 | \$12.99 |
| 43-5021 | Couriers and Messengers | L | \$7.50 | \$8.23 | \$11.68 | \$13.40 | \$7.89 | \$8.85 | \$10.33 | \$12.99 | \$19.87 |
| 43-5032 | Dispatchers, Except Police, Fire, and Ambulance | L | \$12.50 | \$9.75 | \$14.12 | \$16.31 | \$8.55 | \$11.29 | \$14.43 | \$16.82 | \$19.14 |
| 43-5071 | Shipping, Receiving, and Traffic Clerks | L | \$10.50 | \$7.76 | \$11.19 | \$12.90 | \$7.45 | \$8.47 | \$10.69 | \$13.68 | \$16.38 |
| 43-5081 | Stock Clerks and Order Fillers | M | \$7.50 | \$7.33 | \$11.19 | \$13.12 | \$6.87 | \$8.01 | \$10.17 | \$14.39 | \$17.31 |
| 43-6011 | Executive Secretaries and Administrative Assistants | M | \$12.70 | \$11.26 | \$15.01 | \$16.89 | \$10.35 | \$12.06 | \$14.37 | \$17.16 | \$20.86 |
| 43-6013 | Medical Secretaries | M | $\dagger$ | \$9.85 | \$12.19 | \$13.36 | \$9.44 | \$10.42 | \$12.02 | \$13.77 | \$15.95 |
| 43-6014 | Secretaries, Except Legal, Medical, and Executive | M | \$11.00 | \$8.55 | \$11.41 | \$12.83 | \$7.89 | \$9.30 | \$10.94 | \$13.28 | \$16.08 |
| 43-9061 | Office Clerks, General | L | \$8.30 | \$7.47 | \$11.50 | \$13.51 | \$7.02 | \$8.31 | \$10.22 | \$12.60 | \$15.47 |
| 45-0000 | Farming, Fishing, and Forestry Occupations |  | \$9.00 | \$7.58 | \$10.86 | \$12.50 | \$7.27 | \$8.27 | \$10.00 | \$12.24 | \$16.29 |
| 45-2093 | Farmworkers, Farm and Ranch Animals | L | \$9.00 | \$6.09 | \$8.36 | \$9.50 | \$5.80 | \$6.40 | \$7.72 | \$10.11 | \$12.23 |
| 47-0000 | Construction and Extraction Occupations |  | \$14.68 | \$10.25 | \$15.65 | \$18.35 | \$9.38 | \$11.63 | \$14.83 | \$18.96 | \$22.97 |
| 47-1011 | First-Line Supervisors/Managers of Construction Trades and Extraction Workers | L | \$21.00 | \$17.11 | \$23.14 | \$26.16 | \$15.60 | \$18.50 | \$21.77 | \$27.13 | \$33.69 |
| 47-2051 | Cement Masons and Concrete Finishers | L | \$12.00 | \$10.11 | \$14.91 | \$17.31 | \$9.33 | \$11.15 | \$14.63 | \$17.87 | \$21.29 |
| 47-2061 | Construction Laborers | L | \$7.50 | \$8.27 | \$11.31 | \$12.83 | \$7.22 | \$9.34 | \$10.95 | \$13.28 | \$16.07 |
| 47-2081 | Drywall and Ceiling Tile Installers | L | $\dagger$ | \$12.97 | \$16.12 | \$17.70 | \$11.75 | \$14.33 | \$16.18 | \$18.47 | \$21.02 |
| 47-2111 | Electricians | L | \$17.00 | \$12.01 | \$18.35 | \$21.51 | \$10.77 | \$13.45 | \$17.76 | \$21.57 | \$27.22 |
| * 47-2152 | Plumbers, Pipefitters, and Steamfitters | L | \$18.40 | \$11.77 | \$17.35 | \$20.15 | \$11.19 | \$13.46 | \$17.00 | \$21.48 | \$25.48 |
| * 47-2211 | Sheet Metal Workers | L | \$20.50 | \$11.22 | \$17.37 | \$20.44 | \$10.29 | \$12.69 | \$16.49 | \$21.96 | \$26.75 |
| * 47-4011 | Construction and Building Inspectors | L | \$28.60 | \$14.57 | \$19.46 | \$21.89 | \$14.51 | \$16.56 | \$19.56 | \$22.27 | \$26.13 |
| * 47-4051 | Highway Maintenance Workers | M | \$15.10 | \$13.28 | \$17.38 | \$19.42 | \$12.21 | \$14.23 | \$17.44 | \$20.50 | \$22.35 |
| * 47-5011 | Derrick Operators, Oil and Gas | L | \$12.80 | \$12.50 | \$14.87 | \$16.06 | \$11.76 | \$12.66 | \$14.23 | \$16.86 | \$19.65 |
| * 47-5021 | Earth Drillers, Except Oil and Gas | L | \$9.00 | \$11.77 | \$16.57 | \$18.97 | \$11.23 | \$12.54 | \$15.10 | \$20.28 | \$25.87 |
| * 49-0000 | Installation, Maintenance, and Repair Occupations |  | \$12.50 | \$9.57 | \$15.89 | \$19.04 | \$8.58 | \$10.89 | \$15.15 | \$20.06 | \$25.21 |
| * 49-1011 | First-Line Supervisors/Managers of Mechanics, Installers, and Repairers | L | \$20.00 | \$12.18 | \$20.29 | \$24.34 | \$8.27 | \$15.59 | \$21.10 | \$25.80 | \$28.58 |
| 49-2098 | Security and Fire Alarm Systems Installers | L | \$9.00 | \$11.29 | \$16.97 | \$19.81 | \$10.27 | \$12.98 | \$17.40 | \$20.79 | \$22.72 |
| * 49-3011 | Aircraft Mechanics and Service Technicians | M | \$19.70 | \$9.78 | \$14.95 | \$17.54 | \$9.37 | \$10.60 | \$14.83 | \$18.62 | \$21.77 |
| 49-3021 | Automotive Body and Related Repairers | L | $\dagger$ | \$12.28 | \$19.01 | \$22.36 | \$10.22 | \$14.87 | \$18.58 | \$22.12 | \$28.38 |
| 49-3023 | Automotive Service Technicians and Mechanics | L | \$11.60 | \$9.34 | \$16.62 | \$20.25 | \$7.99 | \$10.97 | \$16.39 | \$21.26 | \$25.82 |

[^1] L The bottom $25 \%$ are ranked as low demand.


[^2] The top $25 \%$ are ranked as high demand because they are the most frequently occ The bottom $25 \%$ are ranked as low demand.

## Methodology

Many challenges exist in collecting and analyzing the data for the Job Vacancy Survey. Because methods selected to carry out a survey impact the final results, great effort is put into
making this survey statistically viable and, most importantly, accurate. Methods used in this survey will continue to be reviewed and, where statistical viability and accuracy can be improved, modified.

## Computer Assisted Telephone Interview

O
ur professional survey unit developed the
Computer Assisted Telephone Interview (CATI) to maximize accuracy and usefulness, while minimizing length and survey bias. In accordance with
recognized survey research standards, the following selection of questions are taken directly from the phone interview script.

## In General

1. How many employees do you have working within the region?
2. Do you have any job vacancies for which your firm is actively recruiting?
3. How many job vacancies is your firm recruiting to fill?

## For Each Vacancy

1. What is the job title?
2. Briefly, what are the job duties?
3. Which of the following best describes this vacancy?

- Full-time/Permanent
- Full-time/Temporary
- Part-time/Permanent
- Part-time/Temporary

4. What is the maximum wage offered for this vacancy?
5. What is the minimum wage offered for this vacancy?
6. Is a sign-on bonus offered? If yes, how much?

## 7. Is medical insurance offered?

8. If yes, does your firm pay the total cost of the premium, partial cost of the premium or do you make no contribution at all to the premium?
9. Which of the following best describes the education level required to fill this vacancy?

- No diploma required
- High School or GED diploma
- Two-year degree
- Bachelor's degree
- Advanced degree

10. What best describes the type of experience required to qualify for this vacancy?

- No experience is required
- General work experience
- Experience in a related field
- Experience in this occupation

11. How long has this vacancy been open?

- Less than 30 days
- 30 to 59 days
- 60 or more days
- Always hiring for this position

12. How difficult is this vacancy to fill?

- Not difficult
- Somewhat difficult
- Very difficult to fill


## Survey Sample Methodology

This survey is designed to estimate the number of vacancies in the region and to provide detailed vacancy characteristics. Employers with at least five employees are placed into either Government or private industry categories. Firms with fewer than five employees make up a very large portion of all employers in the region, but a small proportion of total employment. The possibility of employing statistical methods to estimate vacancies for this group is currently being explored.

Private firms are grouped by employment level into either large or small to mid-size categories. Attempts are made to contact each large private employer and Government agency in the region. Small to mid-size firms are further divided by major industry and randomly sampled until a representative response is obtained for each category.

The original list of private industry firms used for the survey, along with their contact information, staff size and industry classification is obtained from the America's Labor Market Information System (ALMIS) database. Government contact information is provided by the Colorado Department of Labor and Employment's ES-202 employer database.

## Data Editing

Once data collection is complete, measures are taken to prepare the data for analysis. To ensure accuracy, follow-up phone calls are made when employer responses need clarification.

## Occupational Coding

TThe job title and duties reported by employers are used to code vacancies in accordance with the latest release of the Standard Occupational Classification system. For more information on this occupational classification system, please refer to the definitions section.

## Wage Conversion

C tandard conversions are used to translate salaries Ninto hourly wages: 2,080 hours for annual, 173.3 hours for monthly.

All wages reported below the federal minimum wage are adjusted to that amount. Currently, the federal minimum wage is $\$ 5.15$ per hour.

## Definitions

These definitions are meant to clarify data gathered for the Job Vacancy Survey. For other data sources referenced in the document, please see that source for a complete definition.

## 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.

## Average Minimum and Average Maximum Wage

When surveyed employers report wages offered for current vacancies, both a minimum and a maximum wage are recorded. All minimum wages are averaged to determine the reported average minimum wage. The same is true for the reported average maximum wage.

## Employer

A person or establishment that pays one or more people a wage or salary.

## Employment

Includes people who did any work for pay or profit in the reference period, worked 15 hours or more without pay in a family business or farm, or were temporarily absent from their jobs.

## Full-time and Part-time Employment

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

## Industry Classification

Employers are grouped into industries on the basis of their principal product or activity in accordance with the 1987 Standard Industrial Classification Manual.

## Job Seekers

People actively looking for employment or researching career options.

## Job Vacancy

A specific position of employment at an establishment with the condition that there is work available for the position and the employer is actively recruiting for the position. The definition does not include positions that are anticipated, but not yet created.

## Job Vacancy Rate

The number of openings in a specific industry or category expressed as a share of the total employment in that same industry.

## Labor Force

Consists of all employed or unemployed civilians who are eligible to work, plus members of the Armed Forces stationed in the United States.

## Level of Education

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

## Medical Insurance Premium

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

## Permanent and Temporary Employment

A vacancy is classified as permanent if it will be filled for more than six months. Temporary employment refers to those positions that will be filled for six months or less.

## Sign-on Bonus

An additional financial incentive offered by a firm to a new employee to influence his/her decision to agree to employment with that firm. The bonus, for purposes of this survey, is a monetary lump sum.

## SOC

The Standard Occupational Classification is a system for classifying all occupations in the economy, including private, public, and military occupations. This classification system replaces all occupational
classification systems previously used by federal statistical agencies. It will be used by all federal statistical agencies and programs collecting occupational data, providing a means to compare occupational data across agencies. It is designed to cover all occupations in which work is performed for pay or profit, reflecting the current occupational structure in the United States.

## Survey Sample Universe

All private industry and Government employers with five or more employees in the region.
Government entities are drawn from ES-202 while private companies come from the ALMIS database.

## Unemployment

Includes people 16 years of age and over who had no employment during the reference period, were
available for work (except for temporary illness), and have made specific efforts to find employment. People who did not look for work because they were on temporary layoff or waiting to start new jobs within the next thirty days are also counted among the unemployed.

## Unemployment rate

The unemployment rate represents the number unemployed as a percent of the labor force.

## Wage

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


[^0]:    Vacancies are ranked based on the total number reported for each occupation.
    The top $25 \%$ are ranked as high demand because they are the most frequently occurring vacancies. The medium demand vacancies include everything between low and high demand.
    The bottom $25 \%$ are ranked as low demand.

[^1]:    Vacancies are ranked based on the total number reported for each occupation.
    The top $25 \%$ are ranked as high demand because they are the most frequently occurring vacancies.
    The medium demand vacancies include everything between low and high demand.

[^2]:    OES wages reported for Colorado statewide
    No wage data available

