

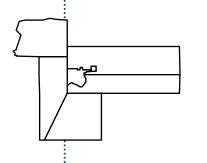
Adams, Arapahoe, Boulder, Denver, Douglas & Jefferson Counties

November 2000



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





Denver Metro Job Vacancy Survey

November 2000

State of Colorado

Bill Owens, Governor

Colorado Department of Labor & Employment

Vickie Armstrong, Executive Director Jeffrey M. Wells, Deputy Executive Director

Funding Provided in Part by The Colorado Workforce Development Council

May 2001



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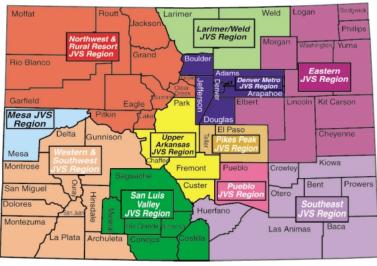
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The office of Workforce Research and Analysis would like to extend their sincerest gratitude to all the Denver Metro area employers who participated in this study. The analysis provided in this document would not be possible without their help.

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



Colorado Job Vacancy Survey Regions

market have done so with limited knowledge of what proficiencies are necessary to successfully compete in the contemporary labor market.

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

The Job Vacancy Survey (JVS) was adopted by Colorado's Department of Labor and Employment (CDLE) through the Denver Metro pilot studies of September 1999 and April 2000, which were initiated by Arapahoe/Douglas Works! The popularity of the reports based on the survey data led the CDLE to expand its coverage to include the entire state of Colorado. Since the last Denver Metro JVS, the survey instrument was revised to eliminate 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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This report is published semi-annually. Comments, suggestions, and questions regarding content and format are welcome and may be addressed to:

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How to Use This Report

W ith 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 (LMI) has provided information on the local labor force supply, the Job Vacancy Survey will further complement this data by providing information about the demand for labor and offer a more complete picture of local labor markets.

Businesses

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

a worker shortage,

an imbalance between job seekers' skills and employers' needs,

or compensation packages that are insufficient as a recruitment tool when compared to market standards.

The JVS immediately identifies the nature of current vacancies according to general categories. For example, upon review of the JVS, an employer can observe the level of vacancies among the region's firms requiring a specific level of education or experience. A high percentage of vacancies might indicate the labor force and/or its skills fall short of market needs, thus calling for increased investment in training, or importing skilled workers. Even if wages are increased or benefits added, the employer may experience delays in filling the position due to the overall shortage of applicants in the area. If a low percentage of vacancies exist for a particular position with the same education or experience requirement, but the employer is finding it difficult to fill, a comparison between the wages offered to that of the market average may indicate the need for an adjustment.

Employers from outside of the region considering relocating to the area can review the JVS results and determine if the company's employment needs will be filled with minimal delay (current low vacancies). In addition, the JVS 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.

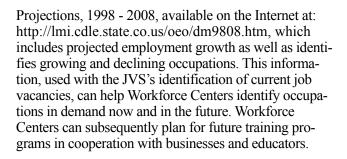
Workforce Centers

Public officials, educational institutions, and government agencies can use the information to allocate resources more efficiently among education, training, and job placement programs. The JVS provides an immediate, clear picture of the area's current needs. Workforce Centers can direct job seekers toward high demand occupations to increase placement success, or in a direction that might better suit the needs of the applicants' future career goals.

Workforce Centers can also review the nature of job vacancies and decide where to focus placement efforts. Future investments in the workforce can be directed toward occupations or industries that continuously contribute to the local economy.

Current vacancy conditions as presented by the JVS, coupled with other Labor Market Information (LMI) reports, can offer a better picture of seasonality and long-term trends that might affect the provisions of future training programs. LMI's Employment and Wage publication (ES-202 data) provides county and statewide industry data 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 as indicated by the LMI quarterly data. Longer-term industry trends in employment are also recorded on an annual basis in the same report for each county.

In addition, LMI provides occupational projections for the area in the Denver Metro Occupational



Job Seekers

For current job seekers the JVS report is a roadmap that can be used to determine where the best paying jobs are given their skills and level of education. The JVS illustrates the current demands of the local job market and provides associated average wages. The job seeker can review LMI's occupational projections in addition to the JVS to see if current opportunities can contribute to long-term career goals. With information the JVS provides, job seekers can better tailor their education and training efforts toward industries and occupations that lead to more permanent positions.

Economic Developers

Economic development professionals can use the data to track key industries and evaluate the area's economic growth and development potential. JVS results can help determine where bottlenecks may occur should current vacancies persist. Economic developers can also generate a comprehensive picture of the region by determining where current labor demand stands today, as identified by the JVS, and where the local market is trending with LMI's employment projections in the Denver Metro Occupational Projections.

Caveats

The JVS data should be used as indicators, not actual values, of the demand for workers in the Denver Metro region. Figures from the survey should not be inter-

preted 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 nothing more than a seasonal decline, not 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 November 15th through January 31st of 2001 and should not be considered as necessarily portraying the exact distribution of job vacancies in the Denver Metro area. After several years of JVS data are available, patterns may begin to emerge that more accurately reflect changing labor market conditions. It should be recognized that the survey identifies current vacancies only, and does not explain whether the vacancies are due to employment growth in the occupations or if vacancies are due to job turnover. In addition, not all surveyed firms participated. However, the employers that 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 third Denver Metro Job Vacancy Survey was conducted between November 15th, 2000 and January 31st, 2001. Over the survey period randomly selected employers with at least five employees were contacted in Adams, Arapahoe, Boulder, Denver, Douglas, and Jefferson Counties. Employers were asked if they were actively hiring at the time of the survey and a variety of questions about positions that they were seeking to fill.

A total of 3,423 employers (9% of Denver Metro employers), representing approximately 16% of the region's total employment, responded to the survey. Out of these, 194 are large employers (250 or more employees) and 3,229 are from the small to mid-sized category (5-249 employees). Also, an index was created to estimate the number of vacancies for micro employers with fewer than five employees. The major findings of the survey follow:

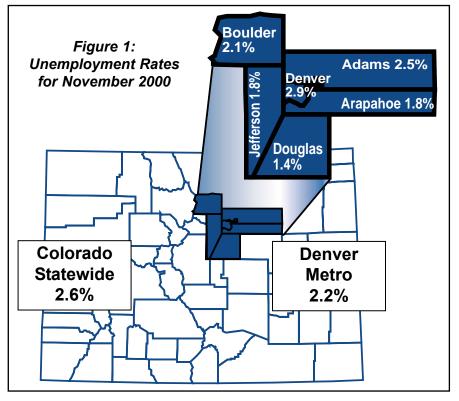
- It is estimated that a total of 35,000 jobs were open for hire in the Denver Metro region (DMR) during the survey period.
- ♦ 29,600 jobs are estimated to be full-time openings while 5,400 are part-time openings.
- Micro employers account for 15% of the total estimated vacancies, small to mid-size employers

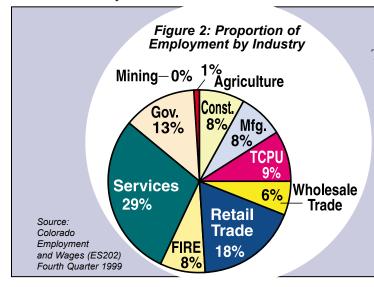
69%, while large employers account for the remaining 16%.

- Nearly 73% of the estimated job openings are concentrated in Services and Retail Trade.
- ◆ The overall average hourly wage for all vacancies is \$12.70. Average wages for permanent vacancies exceed those of temporary vacancies at both the full-time and part-time levels.
- Both education and experience required have a significant positive influence on wages offered.
- Thirty-seven percent of openings require at least some post-secondary education.
- Fifty-three percent of total openings require experience either within or related to the occupation.
- Seventy-one percent of job openings, according to employers' responses, are either very difficult or somewhat difficult to fill.
- Employers offered a sign-on bonus for 5% of the vacancies.

Denver Metro Region

s of November 2000, the Denver Metro region, which for the purpose of this study includes Adams, Arapahoe, Denver, Douglas, Jefferson, and Boulder Counties, was home to over 2.3 million people, according to the state demographers office at the Colorado Department of Local Affairs. The area employed over 1.34 million individuals from a labor force pool of 1.37 million. Two-thirds of the area employment was concentrated in Jefferson, Arapahoe and Denver Counties at shares of 23%, 22% and 21%, respectively. Both Adams and Boulder Counties accounted for 14% each of the area employment while Douglas County ranked last with a 7% share. While overall the unemployment rate for the area was 2.2%, unemployment rates varied from a low of 1.4% in Douglas County to a high of 2.9% in Denver County¹.

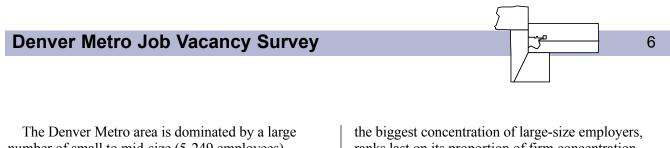




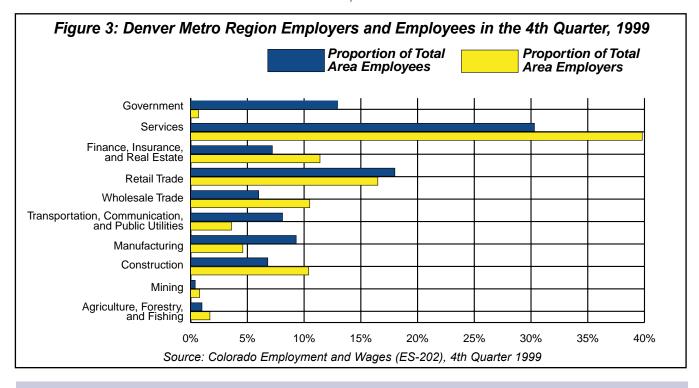
The Denver Metro area distribution of employment among industries has remained fairly constant throughout the 1990s. The Services division has the highest share at 31% followed by Retail Trade (17%) and Government (13%). Except for Mining and Agriculture, all other divisions account for relatively equal proportions of the region's employment.

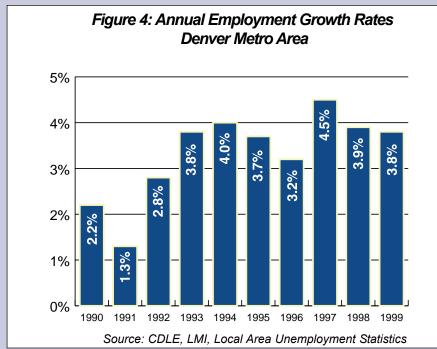
Although the level of employment varies greatly from one county to another, the industry mix among the six counties is relatively similar. The Services division has the highest concentration of firms, followed by Retail Trade, in all counties 'Colorado Labor Market Information, Local Area Unemployment Statistics

except Douglas. While all counties have the fewest number of firms in the Agriculture, Mining and Government divisions, firm concentration within the remaining industries varies by county.



number of small to mid-size (5-249 employees) Services employers making up 39.8% of the region's firms. This group accounts for 30.3% of the region's employees. Retail Trade follows with 16.5% of the region's employers and 18% of the employees. Not surprisingly, the Government sector, which contains the biggest concentration of large-size employers, ranks last on its proportion of firm concentration (0.7%). However, Government ranks third in proportion of area employees with 13% of the total. *Figure 2* shows the distribution for each of the major industry divisions under the Standard Industrial Classification system during the fourth quarter of 1999.





Employment growth in the Denver Metro region outpaced that of both labor force and population by over half a percentage point with growth rates of 3.3%, 2.6%, and 2.5%, respectively.

Average annual employment growth rates ranged from a low of 1.3% in 1991 to a high of 4.5% in 1997. For most of the '90s the annual employment growth rate stayed over 3%.

The JVS Sample

The third Denver Metro JVS was conducted between November 15th, 2000 and January 31st, 2001. The survey instrument used in the previous two Denver Metro surveys was redesigned to eliminate ambiguity and enhanced to increase information available for analysis.

For the purpose of this report, all employers in the Denver Metro area with 5 or more employees are referred to as the "sample universe". Workers in the sample universe account for approximately 90% of the region's total employment. Employers with at least 250 employees are referred to as "large employers." They account for about 30% of the employment in the sample universe. Firms employing between 5 and 249 individuals are considered "small to mid-size employers," and account for the remaining 70% of the sample universe employment.

For the small to mid-size employers, the survey sample was stratified by both county and major industry. It was designed to achieve a minimum of 60 randomly selected responses from each group whenever possible to provide statistically reliable results. For groups that contained fewer employers than the minimum number of responses required, a 50% response rate was targeted. Attempts were made to contact all 504 employers in the "large employer" category in the DMR.

Major Industry	Adams	Arapahoe	Boulder	Denver	Douglas	Jefferson	Total Denver Metro
Agriculture							60
Mining							 60
Construction	60	60	60	60	60	60	 360
Manufacturing, Non-Durable	48	60	60	60	13	60	 301
Manufacturing, Durable	60	60	60	60	28	60	328
Transportation, Communications, and Public Utilities	60	60	60	60	23	60	323
Trade, Wholesale	60	60	60	60	47	60	 347
Trade, Retail	60	60	60	60	60	60	 360
Finance, Insurance, and Real Estate	60	60	60	60	60	60	360
Services	60	60	60	60	60	60	360
Government	60	60	60	60	25	60	325
Total	528	540	540	540	376	540	3.184

Table 1: Small to Mid-Size Response Requirements

Over the survey period a total of 3,423 employers, approximately 9% of the DMR employers in the sample universe, responded to the survey. Out of these, 194 are large employers and 3,229 are from the small to mid-sized category.

Response requirements were achieved for most groups. Where the required response level was not

achieved an indexing procedure was applied to estimate vacancies.¹ Also, an index was created to estimate the vacancy rates of micro employers with fewer than 5 employees. The index was used to enhance the vacancy estimates.

¹Refer to Methodology section

The Survey Instrument

mployers were asked if they had job vacancies, or open positions, which they were actively seeking to fill. Over one-fifth 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 education level 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 collected¹. Whenever necessary, employers were contacted 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.

ment levels peak in or around the month of October.

ing demand for labor at its peak.

Future surveys will be conducted in October, measur-

Timing Considerations

The Denver Metro JVS is produced semiannually. To optimize the quality of information included, a slight alteration has occurred to timing.

Analysis of historical employment and labor force trends for the Denver Metro area indicate that employ-

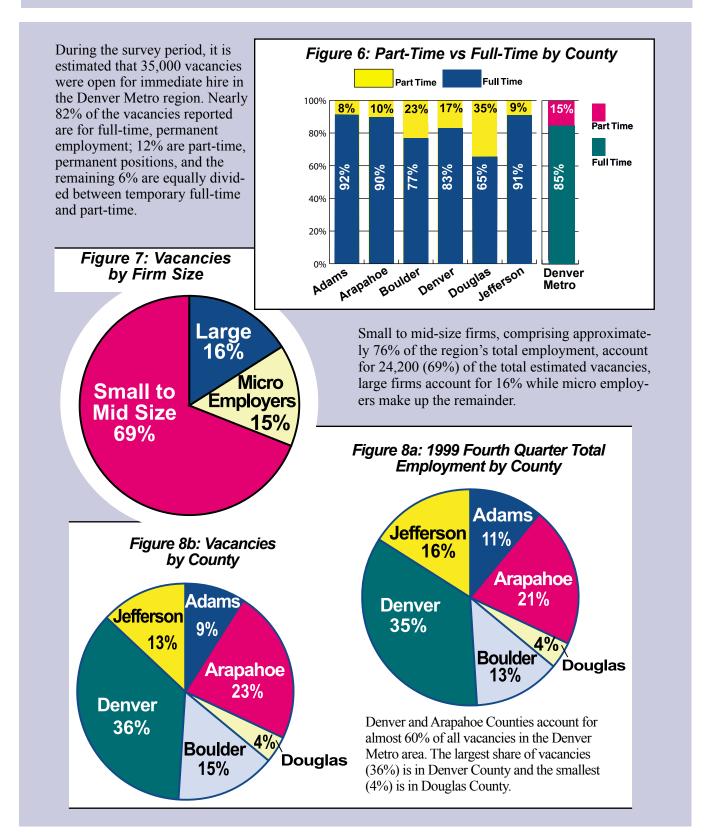
Figure 5: Timing Considerations 1,180,000 MA) MAY 1,130,000 ОСТ OCI 1,080,000 MAY OC MAY 1.030.000 ОСТ MA ост OCI 980.000 930,000 oci 0CT 1989 JAN oci 199^A Source: CDLE, LMI, Colorado TOTAL LABOR FORCE TOTAL EMPLOYMENT

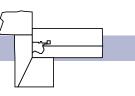
Spring surveys will be conducted in May, which has historically been a time of rapid growth. Conducting the survey within this period will provide a picture of the labor market as both total employment and the labor force are rapidly expanding. Technical difficulties delayed conducting this round of the Denver Metro JVS from October to mid-November. Future fall surveys will be conducted in October.

Employment and Wages (ES-202)

8

Labor Market Conditions



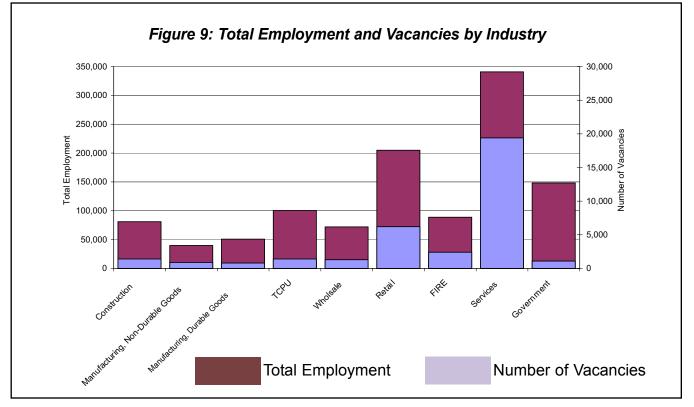


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Vacancies by Industry

he number of estimated vacancies varies greatly from one industry to the other. The overall vacancy rate¹ for all industries is

3.1%. Both Agriculture and Mining have less than 100 vacancies combined.



Services

The Services division is the largest in the Denver Metro region (DMR) and the fastest in growth. It had the highest share of job vacancies (55%) during the survey period. The high vacancy rate (4.7%) may be attributable to its highly seasonal employment. This survey coincided with the industry's peak employment period.

Retail Trade

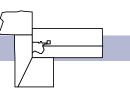
Retail Trade is the second largest division in the DMR and it accounts for the second largest proportion of vacancies (18%). It records a moderate vacancy rate of 2.8%. Retail Trade is a rapidly growing industry and historically peaks during the fourth quarter of each year.

Finance, Insurance, and Real Estate (FIRE)

The third largest share of estimated vacancies (7%) during the survey period is in FIRE which is the sixth largest employing division in the DMR. Survey results show that this division has a vacancy rate of 2.7%.

Manufacturing

Manufacturing, both Durable and Non-Durable Goods, was found to have the fourth largest proportion of estimated vacancies (5%) during the survey period. The industry's vacancy rate of 2.8% is close to the 3.1% vacancy rate for all industries. Manufacturing contracted during the first half of the '90s, but began recovering in '95. Plant closings and layoffs caused a drop in employment from '98 to '99.



Construction

The Construction industry was found to have the fifth largest proportion of vacancies (4%) and the vacancy rate of the industry is 2.6%. Although employment in this industry increased rapidly throughout the 1990s, this vacancy rate is somewhat remarkable as the survey took place in construction's slowest season and one of the coldest winters in recent years.

Transportation, Communications, and Public Utilities (TCPU)

TCPU is the fourth largest employing industry in the DMR. Employment growth of the industry has been moderate during the 1990s. The industry had the sixth largest proportion of estimated vacancies (4%); it also recorded a vacancy rate of 2.2% during the survey period. Among many factors that influence TCPU growth, the area's increasing population is the most important.

Wholesale Trade

Wholesale Trade ranks seventh in total estimated vacancies (4.6%). The 3% job vacancy rate recorded by the industry is similar to the overall vacancy rate. Growth in the industry is moderate compared to other industries and the industry's total employment ranking vs. other industries retreated to eighth from seventh since late 1998. Employment in Wholesale Trade is highly seasonal and peaks around the Christmas holiday season.

Government

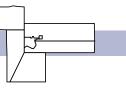
Government, at all its levels (federal, state, and local), historically has been the third largest employer in the DMR. Survey results show a vacancy rate of 1.7%. While Federal employment has declined and state government has experienced slow to moderate growth throughout the 1990s, local government has increased rapidly in an attempt to keep up with population growth and efforts to decrease school classroom size.

Agriculture

Agriculture in the DMR is mostly in the form of agricultural services such as Landscaping and Veterinary. Although employment in this industry is low, it has grown quite rapidly through the '90s with the construction boom. Also, employment in veterinary clinics has grown rapidly with the influx of new people and their pets to the area. The high seasonality of the industry, which peaks in the third quarter and sharply declines during the fourth and first quarters of each year, may help explain its low share of total estimated vacancies (0.17%) and job vacancy rate (0.68%).

Mining

Mining has been in decline since the mid-80s. Today, it ranks last on total employment size among other industries. It also ranks last in proportion of total estimated vacancies (0.1%) and job vacancy rate (0.07%).

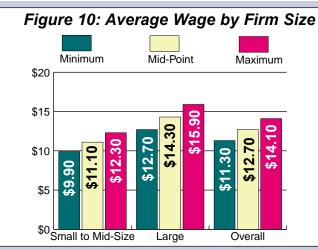


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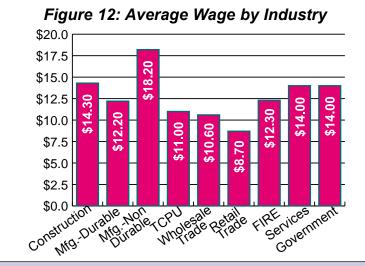
Vacancies and Wages

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:

- The overall average wage offered for all vacancies is \$12.70 per hour.
- The average minimum wage offered for all vacancies is \$11.30 and the average maximum is \$14.00 per hour.



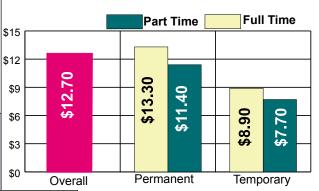
Permanent positions pay roughly \$4.00 more per hour than temporary positions. Average wages are consistently higher for permanent vs. temporary positions regardless of the positions full or part-time status.



- Forty-three percent of the vacancies offer a wage rate lower than the overall average.
- ◆ Approximately half of the positions for which wages are lower than the overall average are in the Retail Trade and Services industries.
- Seventy-two percent of the vacancies offering wages above the overall average are in Services, Government, and Manufacturing industries.

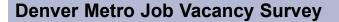
Large companies reported wages that average approximately \$3.00 an hour higher than those offered by small to mid-size firms. The wage differential prevails at both the minimum and maximum wage levels.

Figure 11: Average Wage by Status



Average wages offered are well over \$10.00 per hour for all industries except Retail Trade. The highest average wage offered, which is in the Non-Durable Goods Manufacturing industry, exceeded the lowest average, offered by the Retail Trade industry, by about \$10.00 per hour.

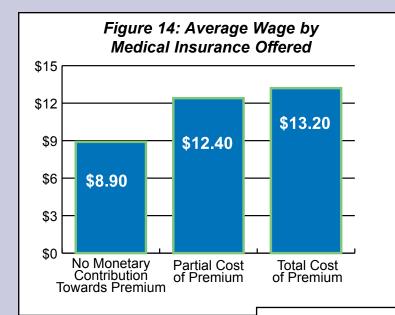
Slightly over 2% of total estimated vacancies are in Non-Durable Goods Manufacturing while 18% are in Retail Trade. Services, which has the largest share of vacancies (55%), offers an average wage of \$14.00 per hour.



Medical Insurance and Wages

Figure 13: Employer's Contribution to Medical Insurance Premium

Over two-thirds of the vacancies reported by employers include some form of medical insurance. Employers offer to pay the entire premium for nearly 25% of all vacancies reported and a portion of the premium for 59% of the vacancies.



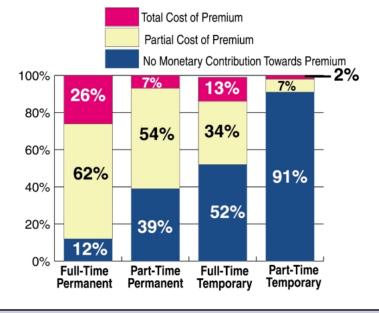
Total Cost of Premium 23% No Monetary Demium 18% Partial Cost of Premium 18% Survey results reveal a positive relationship between wage and medical insurance coverage offered. As high-

tionship between wage and medical insurance coverage offered. 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 \$13.20 per hour for the advertised vacancy. At the other end of the spectrum, positions where no monetary contribution is offered towards the insurance premium pay an average wage of \$8.90 per hour.

Survey results also reveal the following (*Figure 15*):

- The proportion of vacancies for which employers offer to pay a portion of the medical insurance premium is higher for permanent positions than temporary.
- The proportion of vacancies for which employers offer to pay the total cost of the medical insurance premium payment is higher for full-time positions than part-time regardless of whether it is permanent or temporary.
- The proportion of vacancies for which employers offer no monetary contribution towards the premium is higher in temporary than permanent vacancies.

Figure 15: Medical Insurance by Vacancy Status



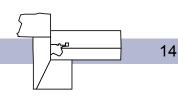


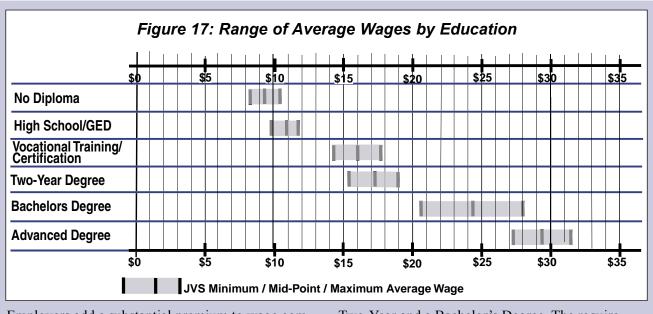
Table 2: Experience Requirements by Educational Level											
	No Experience	General Work Experience	Experience in a Related Field	Experience in This Occupation							
No Diploma	55%	16%	22%	8%							
High School Diploma/GED	23%	27%	34%	16%							
Vocational Training/Certification	1%	6%	25%	68%							
Two-Year Degree	1%	2%	53%	44%							
Bachelors Degree	1%	2%	41%	56%							
Advanced Degree	12%	0%	28%	60%							

Education and Experience Requirements

Employers' experience requirements are summarized in the following (Table 2):

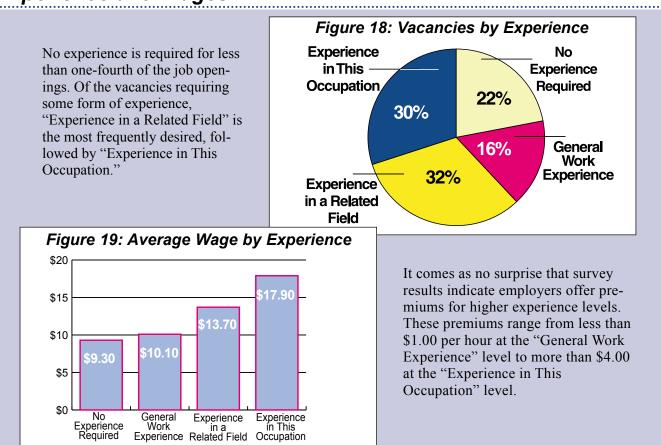
- The majority of positions requiring No Diploma (55%) are entry-level with no experience specifications.
- For positions at the High School Diploma/GED level, employers are seeking to hire at all levels of experience.
- Education and Wages
 - Figure 16: Vacancies by Education **Bachelors** 2%Advanced Degree Degree Two-Year Employers were asked what level of educa-Degree No tion was required of an applicant in order to 11% **Diploma** be considered for a particular vacancy. 4% Results show that 63% of the positions 21% reported by employers require no post-secondary education. The majority of the Vocational remaining positions (20%) require Training Vocational Training or Certification. 20% High School/ GED 42%

- The majority of vacancies requiring Vocational Training or Certification also require specific experience in the occupation.
- Vacancies requiring at least a Two-Year Degree also require higher levels of experience.



Employers add a substantial premium to wage compensation when requiring higher levels of educational attainment. The highest incremental wage rate increase (\$7.10) was found between requiring a Two-Year and a Bachelor's Degree. The requirement of Vocational Training or Certification increases the wage rate by \$5.10 from a High School Diploma/GED.

Experience and Wages

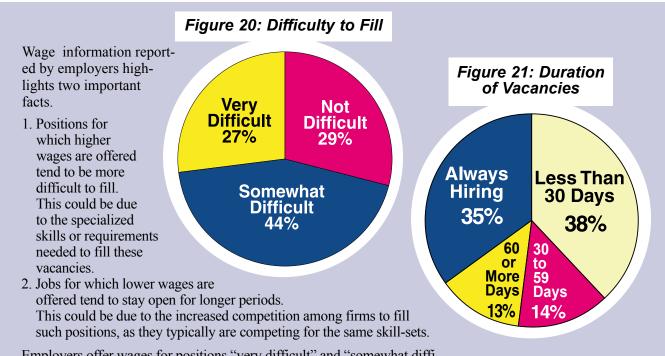


Difficulty to Fill

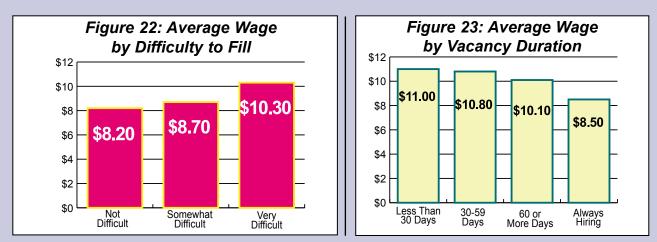
Because the response to the question, "Is this position difficult to fill?" is subjective, employers were queried as to how long each position had been open at the time of the survey. Knowing how long a position has been open allows further analysis into the subjectivity of the response to the first question. This information may help gain additional insight concerning the challenges employers face in filling vacancies.

Survey results show that employers do perceive difficulties in filling open positions. Seventy-one percent of the vacancies reported are classified as either "somewhat" or "very difficult" to fill with the remaining 29% considered "not difficult" to fill.

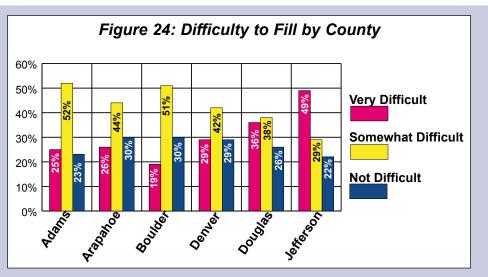
Thirty-five percent of the vacancies, however, are reported as "always hiring". The majority of the remaining positions were open for a period less than 30 days.



Employers offer wages for positions "very difficult" and "somewhat difficult" to fill that are approximately 20% and 6% over the average wage offered for positions "not difficult" to fill, respectively. Vacancies that are open for continuous hiring offer an average wage of \$8.50 per hour.



The level of difficulty in filling positions is almost identical in the six counties. The highest concentration of vacancies is in the somewhat difficult to fill category in all counties except Jefferson, where almost half of the vacancies are very difficult to fill. Positions not difficult to fill range between 22% and 30% of total vacancies from one county to the other.



OTHER FINDINGS:

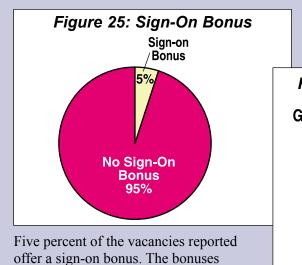
- ◆ Forty-six percent of the positions requiring No Diploma and 30% of positions requiring a High School Diploma/GED have been open for less than 30 days. Proportions of positions always open for hire in each category are 42% and 43%, respectively.
- ♦ The majority of positions requiring either Vocational Training/Certification or Two-year Degrees have been open for less than 60 days.

Between one-fourth to one-third of these categories are always open for hire.

- ◆ Due to the specialized requirements of positions for which either a Bachelors Degree or an Advanced Degree is preferred, most of these positions are open for an extended period of time. None of the positions requiring an Advanced Degree and only 4% of those requiring a Bachelors Degree are open for continuous hire.
- The higher the level of experience required, the longer the period for which the position remains open.

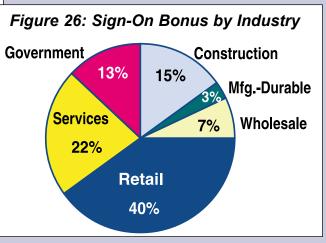
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Sign-On Bonus



reported range from \$100 to \$2,000.

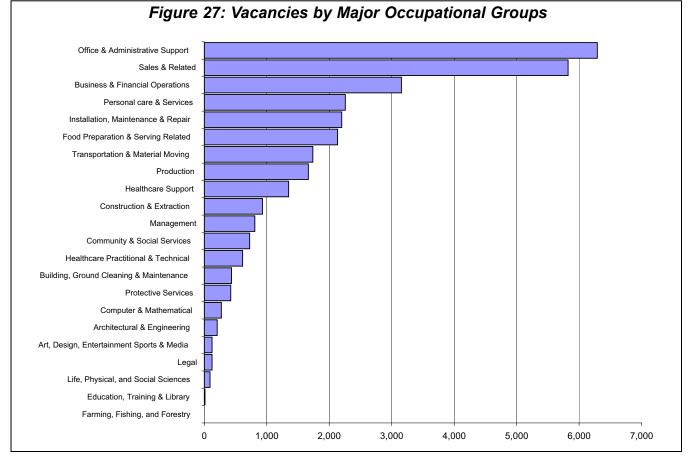
Over 60% of the vacancies for which a sign-on bonus was offered are in Retail Trade and Services. The Construction and Government sectors also accounted for a significant portion of these positions.



Occupations

umber of vacancies varies greatly between major occupational groups. Out of the 22 major occupational groups, eleven groups

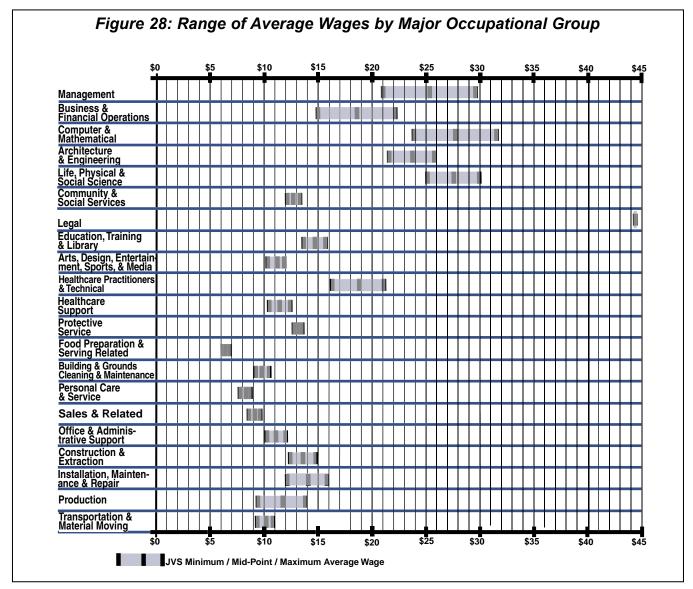
have more than 1,000 openings. Half of total estimated vacancies fall in the top four major occupational groups.



Employers reported 304 different occupations with at least one vacancy. The average number of job openings per occupation is 115. Nineteen percent of all occupations are above the average while the remaining 81% are below the average number of vacancies per occupation.

Occupational groups with high levels of educational requirements such as Management, Business &

Financial Operations, Computer and Mathematical, Architecture & Engineering, Life, Physical & Social Science, and Healthcare Practitioners & Technical, offer the highest wages. Wages for these occupational groups also have a wider range between the minimum and maximum offered (*Figure 28*).



Smaller wages with less variation between the minimum and maximum are offered for major occupational groups with the least educational requirements. The tight wage range suggests only a small premium is paid for experience in these occupational groups. Such groups include Food Preparation & Serving Related, Personal Care & Service, and Sales & Related. Over one-third of the vacancies reported are in the top six occupations by openings (*Table 3*). Furthermore, 83% of the openings are in the top 25% of the occupations listed.

Table 3: Occupations

			Average	C	Occupat	ional Employ 19	yment : 999-200		ics Wa	ge Data	a
		Number of	Wage Offered.		Average	Wages		Percer	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
41-2031.00	Retail Salespersons	3,130	\$8.00	\$6.73	\$10.02	\$11.67	\$6.10	\$7.01	\$8.26	\$10.81	\$15.95
43-4051.00	Customer Service Representatives	2,980	\$10.90	\$8.99	\$12.49	\$14.23	\$8.63	\$9.73	\$11.76	\$14.66	\$18.17
13-2082.00	Tax Preparers	2,170	\$9.50	\$7.41	\$14.76	\$18.44	\$6.55	\$8.50	\$14.47	\$19.50	\$24.59
39-5012.00	Hairdressers, Hairstylists, and Cosmetologists	1,730	\$5.70	\$7.12	\$9.06	\$10.03	\$6.87	\$7.57	\$8.79	\$10.22	\$11.86
29-1111.00	Registered Nurses	1,090	\$20.50	\$16.82	\$22.13	\$24.79	\$15.62	\$18.27	\$21.73	\$24.93	\$32.02
41-2011.00	Cashiers	1,040	\$6.80	\$6.35	\$8.76	\$9.97	\$5.90	\$6.68	\$7.92	\$9.82	\$14.55
31-1012.00	Nursing Aides, Orderlies, and Attendants	970	\$10.70	\$7.92	\$9.43	\$10.18	\$7.29	\$8.54	\$9.50	\$10.34	\$11.43
43-3031.00	Bookkeeping, Accounting, and Auditing Clerks	600	\$11.60	\$9.16	\$12.73	\$14.51	\$8.51	\$10.51	\$12.41	\$14.95	\$16.94
49-3023.02	Automotive Specialty Technicians	590	\$8.70	\$10.12	\$16.24	\$19.29	\$8.45	\$11.73	\$15.41	\$19.60	\$24.36
35-3031.00	Waiters and Waitresses	560	\$5.40	\$5.73	\$7.37	\$8.18	\$5.55	\$5.75	\$6.10	\$6.82	\$9.75
35-3021.00	Combined Food Preparation and Serving Workers, Including Fast Food	540	\$6.10	\$5.71	\$6.62	\$7.07	\$5.57	\$5.81	\$6.30	\$7.36	\$8.50
43-9061.00	Office Clerks, General	510	\$10.00	\$8.49	\$11.12	\$12.43	\$7.83	\$9.12	\$10.54	\$12.80	\$15.64
51-9198.01	Production Laborers	460	\$8.80	\$5.75	\$7.42	\$8.26	\$5.41	\$5.81	\$6.46	\$8.81	\$11.16
43-4171.00	Receptionists and Information Clerks	450	\$10.10	\$7.37	\$10.13	\$11.51	\$6.68	\$8.32	\$10.13	\$11.55	\$13.51
15-1021.00	Computer Programmers	440	\$25.10	\$16.89	\$27.22	\$32.39	\$13.79	\$19.84	\$27.89	\$36.92	\$43.51
53-3031.00	Driver/Sales Workers	440	\$9.40	\$5.92	\$11.52	\$14.32	\$5.70	\$6.09	\$10.53	\$15.48	\$20.23
27-3043.04	Copy Writers	430	\$11.00	\$17.51	\$19.90	\$21.10	\$17.03	\$17.99	\$19.60	\$21.20	\$25.11
41-1011.00	First-Line Supervisors/Managers of Retail Sales Workers	430	\$9.50	\$10.43	\$17.38	\$20.86	\$9.52	\$11.60	\$14.67	\$19.01	\$30.03
49-3023.00	Automotive Service Technicians and Mechanics	430	\$13.50	\$10.12	\$16.24	\$19.29	\$8.45	\$11.73	\$15.41	\$19.60	\$24.36
53-7062.03	Freight, Stock, and Material Movers, Hand	430	\$8.90	\$7.77	\$10.67	\$12.11	\$6.98	\$8.66	\$9.89	\$12.07	\$16.17
53-3033.00	Truck Drivers, Light or Delivery Services	390	\$10.80	\$8.21	\$11.58	\$13.27	\$7.54	\$8.89	\$11.26	\$13.50	\$16.39
15-1031.00	Computer Software Engineers, Applications	370	\$25.90	\$23.66	\$32.59	\$37.06	\$22.43	\$25.91	\$32.12	\$39.36	\$44.78
15-1041.00	Computer Support Specialists	370	\$25.40	\$13.87	\$18.04	\$20.12	\$13.05	\$14.70	\$16.91	\$20.63	\$25.23
43-6011.00	Executive Secretaries and Administrative Assistants	360	\$12.10	\$12.44	\$16.15	\$18.01	\$11.29	\$13.67	\$15.66	\$18.44	\$21.10
49-9042.00	Maintenance and Repair Workers, General	350	\$11.80	\$8.41	\$12.45	\$14.48	\$7.62	\$9.51	\$11.54	\$15.10	\$18.81
39-9011.00	Child Care Workers	330	\$6.70	\$5.98	\$7.50	\$8.25	\$5.75	\$6.44	\$7.47	\$8.37	\$9.54
11-1021.00	General and Operations Managers	310	\$20.80	\$18.90	\$36.04	\$44.61	\$17.36	\$21.13	\$31.95	\$49.01	*
41-3041.00	Travel Agents	290	\$9.90	\$8.12	\$11.32	\$12.93	\$7.25	\$9.27	\$11.18	\$13.06	\$15.79
13-2011.00	Accountants and Auditors	280	\$21.00	\$14.94	\$22.25	\$25.91	\$13.97	\$16.42	\$19.80	\$26.24	\$36.58
37-2012.00	Maids and Housekeeping Cleaners	280	\$7.70	\$5.89	\$7.12	\$7.73	\$5.66	\$6.15	\$7.06	\$8.14	\$8.97

Denver Metro Job Vacancy Survey

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			Average	C	Occupat	ional Employ 19	yment 999-200		ics Wa	ge Data	a
		Number of	Wage Offered,		Average \	Vages		Perce	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
51-2092.00	Team Assemblers	260	\$9.60	\$7.19	\$10.17	\$11.66	\$6.99	\$7.96	\$9.86	\$12.10	\$13.65
21-1093.00	Social and Human Service Assistants	240	\$15.70	\$7.78	\$11.20	\$12.91	\$6.94	\$8.86	\$11.23	\$13.47	\$15.82
35-2021.00	Food Preparation Workers	240	\$6.30	\$7.14	\$8.44	\$9.10	\$6.83	\$7.25	\$7.94	\$9.23	\$11.82
31-9091.00	Dental Assistants	230	\$12.50	\$8.71	\$12.45	\$14.31	\$8.09	\$9.54	\$11.95	\$15.24	\$17.14
49-3021.00	Automotive Body and Related Repairers	220	\$15.50	\$14.71	\$16.47	\$17.35	\$13.86	\$14.59	\$15.81	\$17.11	\$19.91
15-1051.00	Computer Systems Analysts	210	\$26.50	\$21.24	\$29.67	\$33.88	\$19.44	\$24.18	\$29.70	\$34.72	\$41.31
35-2011.00	Cooks, Fast Food	210	\$5.90	\$5.67	\$6.61	\$7.08	\$5.58	\$5.79	\$6.19	\$7.42	\$8.45
41-4011.03	Sales Representatives, Electrical/Electronic	190	\$12.60	\$18.38	\$34.18	\$42.08	\$16.52	\$21.72	\$33.38	\$49.77	\$60.86
47-2073.00	Operating Engineers and Other Construction Equipment Operators	170	\$16.20	\$13.87	\$17.32	\$19.05	\$12.92	\$14.86	\$17.57	\$19.69	\$21.08
47-2111.00	Electricians	170	\$17.60	\$13.81	\$20.66	\$24.08	\$12.05	\$15.71	\$22.32	\$25.22	\$26.95
41-2022.00	Parts Salespersons	160	\$9.00	\$8.21	\$12.99	\$15.37	\$7.54	\$9.13	\$11.65	\$15.76	\$20.65
43-6012.00	Legal Secretaries	160	\$17.00	\$11.50	\$14.54	\$16.05	\$10.92	\$12.05	\$13.38	\$17.17	\$20.03
13-2072.00	Loan Officers	150	\$12.30	\$11.46	\$21.39	\$26.35	\$9.77	\$14.01	\$19.89	\$26.76	\$34.32
35-1012.00	First-Line Supervisors/Managers of Office and Administrative Support Workers	150	\$13.80	\$11.97	\$17.85	\$20.79	\$11.15	\$13.46	\$16.74	\$20.66	\$26.04
43-1011.00	First-Line Supervisors/Managers of Food Preparation and Serving Workers	150	\$7.30	\$9.26	\$12.98	\$14.83	\$8.84	\$9.63	\$11.43	\$16.07	\$19.76
43-3071.00	Tellers	150	\$10.80	\$8.20	\$9.72	\$10.48	\$7.43	\$8.88	\$9.69	\$10.57	\$11.86
47-2061.00	Construction Laborers	150	\$8.10	\$8.00	\$10.92	\$12.39	\$7.38	\$8.67	\$10.70	\$12.91	\$15.36
53-7062.00	Laborers and Freight, Stock, and Material Movers, Hand	150	\$9.90	\$7.77	\$10.67	\$12.11	\$6.98	\$8.66	\$9.89	\$12.07	\$16.17
11-9111.00	Medical and Health Services Managers	140	\$21.40	\$19.57	\$31.03	\$36.75	\$16.36	\$22.54	\$27.70	\$38.51	\$49.91
21-1011.00	Substance Abuse and Behavioral Disorder Counselors	140	\$13.00	\$11.75	\$13.50	\$14.37	\$11.02	\$11.60	\$12.56	\$13.63	\$18.49
41-1012.00	First-Line Supervisors/Managers of Non-Retail Sales Workers	140	\$34.00	\$15.11	\$25.47	\$30.65	\$13.01	\$17.42	\$23.56	\$31.51	\$40.48
43-6013.00	Medical Secretaries	140	\$11.20	\$10.29	\$12.25	\$13.24	\$9.95	\$10.76	\$11.52	\$13.65	\$15.84
51-4041.00	Machinists	140	\$22.00	\$11.63	\$15.62	\$17.62	\$11.10	\$12.81	\$15.21	\$18.02	\$20.97
15-1071.00	Network and Computer Systems Administrators	130	\$29.60	\$17.33	\$25.45	\$29.51	\$15.96	\$19.62	\$24.36	\$30.36	\$37.95
21-1021.00	Child, Family, and School Social Workers	130	\$10.50	\$11.66	\$16.80	\$19.37	\$10.37	\$13.19	\$16.65	\$20.21	\$23.83
21-1091.00	Health Educators	130	\$25.20	\$13.65	\$22.06	\$26.27	\$10.74	\$16.89	\$23.03	\$27.28	\$32.17
29-1051.00	Pharmacists	130	\$30.70	\$26.67	\$31.15	\$33.40	\$24.50	\$28.60	\$32.56	\$38.37	\$42.91

Denver Metro Job Vacancy Survey

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	Jecupations - Page 3				Joourat	ional Employ	mont	Statict		ao Det	
			Average		Jecupat	ional Emplo 10	yment 999-20(us vva	ge Data	a
		Numerican	Wage		Average				ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Number of Vacancies	Offered, Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
35-3022.00	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	130	\$6.90	\$5.79	\$7.15	\$7.82	\$5.71	\$6.34	\$7.35	\$8.13	\$8.62
43-3021.00	Billing and Posting Clerks and Machine Operators	130	\$10.30	\$9.61	\$12.11	\$13.37	\$9.11	\$10.62	\$11.81	\$13.50	\$15.80
11-3042.00	Training and Development Managers	120	\$16.00	*	*	*	*	*	*	*	*
13-1071.00	Employment, Recruitment, and Placement Specialists	120	\$17.00	\$13.94	\$19.60	\$22.43	\$13.45	\$14.58	\$16.40	\$21.98	\$29.97
27-4011.00	Audio and Video Equipment Technicians	120	\$12.40	\$12.71	\$17.62	\$20.07	\$11.18	\$14.12	\$16.84	\$20.09	\$25.03
33-3051.03	Sheriffs and Deputy Sheriffs	120	\$12.70	\$16.44	\$20.89	\$23.11	\$15.16	\$17.74	\$21.04	\$24.14	\$26.36
37-2011.00	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	120	\$9.20	\$6.27	\$8.47	\$9.57	\$5.82	\$6.66	\$8.08	\$9.86	\$11.91
43-3051.00	Payroll and Timekeeping Clerks	120	\$11.00	\$10.02	\$14.40	\$16.59	\$9.42	\$11.12	\$12.93	\$15.24	\$17.02
53-6031.00	Service Station Attendants	120	\$10.20	\$6.26	\$7.95	\$8.80	\$5.89	\$6.68	\$7.83	\$8.99	\$10.11
17-2061.00	Computer Hardware Engineers	110	\$21.60	\$24.89	\$35.09	\$40.18	\$23.13	\$26.92	\$33.38	\$41.66	\$51.18
25-4012.00	Curators	110	\$22.00	*	*	*	*	*	*	*	*
33-3012.00	Correctional Officers and Jailers	110	\$14.90	\$9.98	\$16.09	\$19.14	\$8.73	\$11.38	\$16.40	\$20.06	\$23.77
39-1021.00	First-Line Supervisors/Managers of Personal Service Workers	110	\$7.00	\$7.77	\$12.17	\$14.37	\$6.80	\$8.77	\$10.24	\$13.04	\$21.97
41-3021.00	Insurance Sales Agents	110	\$14.70	\$14.83	\$25.73	\$31.18	\$13.35	\$16.60	\$23.10	\$30.94	\$34.14
47-1011.02	First-Line Supervisors and Manager/Supervisors- Extractive Workers	110	\$16.00	\$15.03	\$21.15	\$24.21	\$14.43	\$16.03	\$20.68	\$25.24	\$29.63
49-1011.00	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	110	\$14.00	\$16.89	\$23.75	\$27.18	\$15.29	\$19.34	\$23.69	\$27.15	\$32.86
49-2022.03	Communication Equipment Mechanics, Installers, and Repairers	110	\$18.50	\$16.77	\$21.78	\$24.28	\$14.68	\$19.72	\$23.20	\$25.30	\$26.57
51-9198.02	Production Helpers	110	\$8.50	\$5.75	\$7.42	\$8.26	\$5.41	\$5.81	\$6.46	\$8.81	\$11.16
15-1032.00	Computer Software Engineers, Systems Software	100	\$31.40	\$22.42	\$31.56	\$36.13	\$20.35	\$25.24	\$31.30	\$38.02	\$43.15
35-2014.00	Cooks, Restaurant	100	\$7.40	\$6.97	\$8.79	\$9.70	\$6.31	\$7.24	\$8.61	\$10.02	\$11.66
35-9031.00	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	100	\$6.70	\$6.32	\$7.99	\$8.82	\$5.93	\$6.69	\$7.64	\$8.59	\$11.68
13-2071.00	Telemarketers	90	\$9.50	\$6.09	\$8.53	\$9.76	\$5.74	\$6.63	\$7.96	\$10.42	\$12.57
25-4012.00	Loan Counselors	90	\$9.60	\$11.72	\$13.04	\$13.69	\$11.04	\$11.72	\$12.85	\$14.55	\$16.02
41-9041.00	Counter and Rental Clerks	90	\$7.30	\$5.95	\$8.53	\$9.82	\$5.75	\$6.37	\$7.65	\$9.50	\$12.43
15-1061.00	Database Administrators	80	\$23.90	\$18.35	\$26.75	\$30.95	\$16.61	\$20.72	\$25.91	\$34.73	\$41.90
29-2041.00	Emergency Medical Technicians and Paramedics	80	\$15.70	\$9.92	\$14.30	\$16.49	\$9.36	\$11.08	\$12.60	\$16.93	\$21.75

Denver Metro Job Vacancy Survey

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			Average Wage	(Occupat	ional Employ 19	yment 3 999-200		ics Wa	ge Data	a
		Number of	Offered,		Average	Wages		Percer	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
41-2021.00	Truck Drivers, Heavy and Tractor-Trailer	80	\$19.00	\$11.41	\$15.63	\$17.75	\$10.95	\$12.31	\$14.71	\$17.53	\$20.66
41-3031.02	Sales Agents, Financial Services	80	\$7.00	*	*	*	*	*	*	*	*
53-3032.00	Truck Drivers, Heavy	80	\$13.10	\$11.41	\$15.63	\$17.75	\$10.95	\$12.31	\$14.71	\$17.53	\$20.66
13-1111.00	Management Analysts	70	\$25.00	\$17.93	\$32.46	\$39.72	\$15.54	\$20.58	\$28.40	\$39.65	\$65.15
21-1022.00	Medical and Public Health Social Workers	70	\$9.80	\$12.78	\$17.56	\$19.96	\$11.54	\$13.91	\$16.27	\$21.46	\$25.36
43-9021.00	Data Entry Keyers	70	\$10.60	\$7.83	\$10.13	\$11.29	\$7.16	\$8.60	\$9.88	\$11.48	\$13.43
49-9011.00	Mechanical Door Repairers	70	\$14.00	\$13.67	\$16.99	\$18.64	\$12.75	\$14.57	\$16.76	\$19.29	\$20.83
33-9032.00	Security Guards	60	\$9.40	\$7.71	\$10.81	\$12.35	\$7.23	\$8.33	\$9.66	\$11.73	\$17.97
43-5032.00	Dispatchers, Except Police, Fire, and Ambulance	60	\$11.90	\$9.28	\$13.49	\$15.60	\$9.02	\$10.21	\$12.52	\$16.04	\$19.78
43-6014.00	Secretaries, Except Legal, Medical, and Executive	60	\$10.40	\$9.74	\$12.80	\$14.33	\$8.93	\$10.95	\$12.76	\$15.06	\$16.64
49-9021.00	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	60	\$15.80	\$12.30	\$17.34	\$19.87	\$11.21	\$13.66	\$16.29	\$20.51	\$24.26
51-3011.00	Bakers	60	\$9.50	\$8.20	\$12.53	\$14.69	\$7.48	\$9.28	\$11.77	\$14.87	\$18.42
51-7011.00	Cabinetmakers and Bench Carpenters	60	\$15.10	\$8.97	\$11.87	\$13.32	\$8.55	\$9.35	\$10.68	\$14.01	\$16.58
11-3011.00	Administrative Services Managers	50	\$16.40	\$11.06	\$23.87	\$30.28	\$9.61	\$12.71	\$22.54	\$31.76	\$41.78
11-3031.00	Financial Managers	50	\$20.90	\$22.70	\$35.13	\$41.35	\$20.80	\$25.66	\$32.61	\$42.58	\$57.22
11-9141.00	Property, Real Estate, and Community Association Managers	50	\$10.80	\$10.58	\$20.01	\$24.73	\$8.73	\$13.00	\$17.79	\$25.51	\$35.98
13-1031.00	Claims Adjusters, Examiners, and Investigators	50	\$15.30	\$12.34	\$18.37	\$21.39	\$10.25	\$14.15	\$17.27	\$22.64	\$26.87
13-2051.00	Financial Analysts	50	\$25.90	\$17.84	\$30.46	\$36.77	\$17.42	\$19.64	\$23.86	\$32.29	*
29-2012.00	Medical and Clinical Laboratory Technicians	50	\$13.80	\$11.32	\$16.36	\$18.88	\$10.32	\$12.68	\$16.60	\$19.65	\$22.56
29-2061.00	Licensed Practical and Licensed Vocational Nurses	50	\$13.00	\$12.88	\$15.38	\$16.64	\$12.28	\$13.54	\$14.85	\$16.15	\$18.48
31-9092.00	Medical Assistants	50	\$14.70	\$9.66	\$11.84	\$12.93	\$9.12	\$10.40	\$11.82	\$13.10	\$15.11
35-3041.00	Food Servers, Nonrestaurant	50	\$7.60	\$5.78	\$7.56	\$8.45	\$5.66	\$6.19	\$7.42	\$8.60	\$10.13
43-5071.00	Shipping, Receiving, and Traffic Clerks	50	\$11.60	\$7.66	\$10.80	\$12.37	\$7.16	\$8.51	\$10.21	\$12.58	\$15.54
43-9022.00	Word Processors and Typists	50	\$8.00	\$8.76	\$11.44	\$12.77	\$8.05	\$9.74	\$11.21	\$12.87	\$15.41
47-1011.01	First-Line Supervisors and Manager/Supervisors- Construction Trades Workers	50	\$27.70	\$15.03	\$21.15	\$24.21	\$14.43	\$16.03	\$20.68	\$25.24	\$29.63
47-2152.02	Plumbers	50	\$17.70	\$10.37	\$16.47	\$19.52	\$9.39	\$11.73	\$15.42	\$20.86	\$24.87
17-2051.00	Civil Engineers	40	\$25.20	\$19.49	\$27.59	\$31.64	\$18.07	\$20.92	\$26.70	\$34.12	\$42.18
29-1126.00	Respiratory Therapists	40	\$18.50	\$13.74	\$16.87	\$18.43	\$12.96	\$14.76	\$16.83	\$19.11	\$20.80

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			Average	0	Occupat	ional Emplo 19	yment 999-200		ics Wa	ge Data	a
		Number of	Wage Offered,		Average	Wages		Percer	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
29-2011.00	Medical and Clinical Laboratory Technologists	40	\$11.40	\$14.30	\$18.99	\$21.34	\$13.01	\$16.17	\$18.93	\$21.62	\$24.96
29-2055.00	Surgical Technologists	40	\$11.90	\$9.33	\$13.34	\$15.35	\$8.80	\$10.88	\$12.62	\$14.95	\$16.74
33-3051.01	Police Patrol Officers	40	\$14.30	\$16.44	\$20.89	\$23.11	\$15.16	\$17.74	\$21.04	\$24.14	\$26.36
39-9031.00	Fitness Trainers and Aerobics Instructors	40	\$8.70	\$8.62	\$15.23	\$18.54	\$8.04	\$9.54	\$13.27	\$20.54	\$25.48
47-2211.00	Sheet Metal Workers	40	\$10.70	\$9.07	\$16.05	\$19.54	\$6.86	\$11.24	\$15.38	\$21.96	\$24.97
49-9043.00	Maintenance Workers, Machinery	40	\$8.00	*	*	*	*	*	*	*	*
51-1011.00	First-Line Supervisors/Managers of Production and Operating Workers	40	\$23.20	\$13.09	\$19.07	\$22.05	\$11.79	\$14.72	\$18.51	\$22.91	\$27.06
51-4121.01	Welders, Production	40	\$10.30	\$9.98	\$13.75	\$15.63	\$9.37	\$11.05	\$13.13	\$15.99	\$19.38
51-5011.00	Bindery Workers	40	\$10.00	\$5.94	\$9.55	\$11.35	\$5.69	\$6.49	\$8.44	\$12.07	\$15.17
51-5023.00	Printing Machine Operators	40	\$10.20	\$10.32	\$15.42	\$17.97	\$9.55	\$11.47	\$15.01	\$18.75	\$22.88
51-9061.05	Production Inspectors, Testers, Graders, Sorters, Samplers, Weighers	40	\$9.50	\$7.68	\$12.89	\$15.50	\$6.99	\$8.65	\$11.77	\$15.98	\$20.44
53-1021.00	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	40	\$14.70	\$10.85	\$17.64	\$21.04	\$10.04	\$12.08	\$16.78	\$21.28	\$27.29
11-2021.00	Marketing Managers	30	\$16.50	\$23.30	\$36.41	\$42.97	\$20.00	\$27.78	\$35.34	\$45.45	\$56.93
13-1072.00	Compensation, Benefits, and Job Analysis Specialists	30	\$27.00	\$14.32	\$22.80	\$27.03	\$13.22	\$15.98	\$19.41	\$24.64	\$33.42
17-2141.00	Mechanical Engineers	30	\$23.30	\$19.39	\$27.99	\$32.29	\$17.80	\$21.50	\$27.71	\$36.14	\$42.48
19-1042.00	Medical Scientists, Except Epidemiologists	30	\$33.70	\$18.16	\$29.67	\$35.43	\$17.16	\$19.41	\$24.64	\$34.53	\$54.90
27-3042.00	Technical Writers	30	\$9.50	\$17.50	\$23.32	\$26.24	\$15.97	\$19.31	\$23.21	\$26.16	\$30.79
29-2052.00	Pharmacy Technicians	30	\$11.00	\$9.04	\$11.60	\$12.89	\$8.31	\$10.20	\$11.95	\$13.22	\$14.39
29-2071.00	Medical Records and Health Information Technicians	30	\$12.00	*	*	*	*	*	*	*	*
33-2011.00	Fire Fighters	30	\$13.00	\$11.51	\$18.62	\$22.18	\$11.24	\$13.98	\$18.63	\$22.94	\$27.18
33-3021.02	Police Identification and Records Officers	30	\$12.20	\$21.31	\$27.75	\$30.97	\$19.24	\$24.15	\$29.18	\$32.43	\$34.38
33-9092.00	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	30	\$9.00	*	*	*	*	*	*	*	*
35-9021.00	Dishwashers	30	\$5.90	\$6.19	\$7.34	\$7.91	\$5.79	\$6.74	\$7.42	\$8.09	\$8.50
41-4011.00	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	30	\$10.60	\$18.38	\$34.18	\$42.08	\$16.52	\$21.72	\$33.38	\$49.77	\$60.86
41-9021.00	Real Estate Brokers	30	\$18.00	*	*	*	*	*	*	*	*
43-1011.02	First-Line Supervisors, Administrative Support	30	\$13.30	\$11.97	\$17.85	\$20.79	\$11.15	\$13.46	\$16.74	\$20.66	\$26.04
43-4081.00	Hotel, Motel, and Resort Desk Clerks	30	\$9.60	\$7.34	\$7.95	\$8.26	\$6.53	\$7.18	\$7.90	\$8.65	\$9.60

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Table 3:	Occupations - Page 6
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			Average	C	Occupat	ional Employ 19	yment : 999-200		ics Wa	ge Data	а
		Number of	Wage Offered,		Average \	Vages		Percer	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
43-4131.00	Loan Interviewers and Clerks	30	\$14.90	\$11.04	\$15.13	\$17.17	\$10.11	\$12.40	\$14.95	\$17.00	\$20.25
43-9041.00	Insurance Claims and Policy Processing Clerks	30	\$13.80	\$10.79	\$16.73	\$19.70	\$9.92	\$11.89	\$14.65	\$20.01	\$29.50
47-2031.00	Carpenters	30	\$18.20	\$13.40	\$16.29	\$17.74	\$12.23	\$14.22	\$15.94	\$18.43	\$20.64
47-2221.00	Structural Iron and Steel Workers	30	\$10.00	\$16.26	\$18.46	\$19.56	\$14.69	\$17.26	\$18.70	\$20.15	\$21.31
49-2011.01	Automatic Teller Machine Servicers	30	\$14.00	\$11.13	\$14.56	\$16.28	\$10.77	\$11.84	\$13.77	\$17.51	\$20.05
49-2098.00	Security and Fire Alarm Systems Installers	30	\$11.00	\$12.40	\$16.89	\$19.14	\$11.04	\$14.15	\$17.64	\$19.84	\$21.15
49-3043.00	Rail Car Repairers	30	\$11.00	\$14.26	\$18.87	\$21.17	\$11.90	\$16.72	\$18.40	\$19.99	\$28.13
51-4035.00	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	30	\$17.00	*	*	*	*	*	*	*	*
51-6031.00	Sewing Machine Operators	30	\$8.10	\$6.36	\$8.33	\$9.32	\$5.85	\$6.81	\$7.96	\$9.58	\$11.34
51-8031.00	Water and Liquid Waste Treatment Plant and System Operators	30	\$17.20	\$12.01	\$16.59	\$18.89	\$11.59	\$12.72	\$15.80	\$20.23	\$23.48
51-9061.00	Inspectors, Testers, Sorters, Samplers, and Weighers	30	\$14.60	\$7.68	\$12.89	\$15.50	\$6.99	\$8.65	\$11.77	\$15.98	\$20.44
51-9111.00	Packaging and Filling Machine Operators and Tenders	30	\$11.00	\$8.60	\$11.44	\$12.87	\$7.96	\$9.16	\$10.60	\$14.39	\$15.96
53-7061.00	Cleaners of Vehicles and Equipment	30	\$8.20	\$6.25	\$9.05	\$10.45	\$5.81	\$6.59	\$8.17	\$10.65	\$14.56
13-1022.00	Wholesale and Retail Buyers, Except Farm Products	20	\$10.00	\$10.34	\$20.98	\$26.30	\$9.60	\$11.43	\$16.61	\$25.18	\$48.03
13-1041.00	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	20	\$22.10	\$13.22	\$22.13	\$26.58	\$12.01	\$16.41	\$21.99	\$27.62	\$32.77
13-1061.00	Office Machine and Cash Register Servicers	20	\$13.20	\$11.13	\$14.56	\$16.28	\$10.77	\$11.84	\$13.77	\$17.51	\$20.05
13-2031.00	Budget Analysts	20	\$16.90	\$16.41	\$24.44	\$28.45	\$14.81	\$18.40	\$23.54	\$30.86	\$38.28
13-2053.00	Insurance Underwriters	20	\$28.80	\$15.04	\$21.15	\$24.20	\$13.60	\$16.56	\$19.15	\$24.29	\$35.77
17-2071.00	Electrical Engineers	20	\$27.20	\$20.06	\$28.92	\$33.35	\$18.62	\$21.05	\$28.69	\$36.07	\$41.13
19-2021.00	Printing Press Machine Operators and Tenders	20	\$12.50	\$10.32	\$15.42	\$17.97	\$9.55	\$11.47	\$15.01	\$18.75	\$22.88
21-1015.00	Rehabilitation Counselors	20	\$17.90	\$8.76	\$11.20	\$12.42	\$8.57	\$9.09	\$9.96	\$11.52	\$17.59
29-2051.00	Dietetic Technicians	20	\$12.40	\$6.32	\$9.09	\$10.48	\$5.85	\$6.81	\$8.69	\$10.84	\$13.50
31-1283.00	Cutters and Trimmers, Hand	20	\$10.00	*	*	*	*	*	*	*	*
31-1284.00	Emergency Management Specialists	20	\$26.00	*	*	*	*	*	*	*	*
31-1285.00	Atmospheric and Space Scientists	20	\$35.00	\$15.64	\$24.65	\$29.15	\$14.54	\$16.92	\$21.30	\$33.49	\$42.62
35-2012.00	Cooks, Institution and Cafeteria	20	\$9.30	\$7.11	\$8.83	\$9.69	\$6.39	\$7.30	\$8.51	\$10.11	\$12.06
35-9011.00	Dining Room and Cafeteria Attendants and Bartender Helpers	20	\$5.20	\$5.71	\$6.51	\$6.90	\$5.55	\$5.76	\$6.11	\$7.02	\$8.72

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			Average Wage	(-		yment 999-20(00		-	3
		Number of	Offered,		Average V	÷			itile Distr	ibution	I.
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
37-1011.00	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	20	\$22.90	\$8.20	\$11.59	\$13.29	\$7.56	\$8.80	\$10.54	\$14.19	\$16.72
37-3011.00	Landscaping and Groundskeeping Workers	20	\$8.00	\$7.21	\$9.14	\$10.10	\$6.90	\$7.42	\$8.29	\$10.39	\$13.12
39-1011.00	Gaming Supervisors	20	\$8.00	*	*	*	*	*	*	*	*
39-3091.00	Amusement and Recreation Attendants	20	\$6.50	\$5.85	\$7.18	\$7.84	\$5.66	\$6.42	\$7.27	\$7.96	\$8.38
41-3031.00	Securities, Commodities, and Financial Services Sales Agents	20	\$13.00	*	*	*	*	*	*	*	*
43-3011.00	Bill and Account Collectors	20	\$12.30	\$9.44	\$12.35	\$13.80	\$8.97	\$10.42	\$11.81	\$13.78	\$16.84
43-4031.02	Municipal Clerks	20	\$21.40	\$11.90	\$14.98	\$16.51	\$11.41	\$12.68	\$14.62	\$16.51	\$19.34
43-9041.01	Insurance Claims Clerks	20	\$16.90	\$10.79	\$16.73	\$19.70	\$9.92	\$11.89	\$14.65	\$20.01	\$29.50
43-9071.00	Pump Operators, Except Wellhead Pumpers	20	\$11.50	\$10.19	\$13.97	\$15.86	\$9.72	\$10.96	\$13.18	\$17.09	\$19.26
43-9071.00	Office Machine Operators, Except Computer	20	\$8.00	\$6.95	\$9.98	\$11.50	\$6.15	\$7.66	\$9.72	\$11.59	\$13.64
47-1011.00	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	20	\$22.10	\$15.03	\$21.15	\$24.21	\$14.43	\$16.03	\$20.68	\$25.24	\$29.63
47-2151.00	Pipelayers	20	\$11.50	\$9.96	\$13.05	\$14.59	\$9.33	\$10.87	\$12.40	\$15.20	\$17.69
47-2181.00	Roofers	20	\$11.40	\$8.81	\$12.20	\$13.89	\$7.90	\$9.92	\$12.24	\$13.87	\$16.66
47-3013.00	HelpersElectricians	20	\$8.30	\$11.38	\$14.03	\$15.35	\$11.13	\$12.18	\$13.97	\$15.93	\$17.52
47-4011.00	Construction and Building Inspectors	20	\$19.80	\$17.88	\$22.37	\$24.61	\$17.15	\$18.88	\$22.03	\$25.27	\$29.55
49-2011.03	Radiologic Technologists	20	\$15.80	\$12.00	\$16.07	\$18.11	\$10.72	\$13.77	\$15.97	\$18.89	\$21.02
49-9012.03	Meter Mechanics	20	\$13.20	\$15.56	\$20.68	\$23.24	\$13.48	\$17.54	\$22.06	\$24.66	\$26.21
49-9041.00	Industrial Machinery Mechanics	20	\$14.00	*	*	*	*	*	*	*	*
49-9098.00	HelpersInstallation, Maintenance, and Repair Workers	20	\$11.50	\$7.09	\$10.44	\$12.12	\$6.30	\$7.76	\$9.89	\$12.49	\$15.58
51-4011.00	Computer-Controlled Machine Tool Operators, Metal and Plastic	20	\$17.30	\$13.10	\$15.94	\$17.37	\$11.72	\$14.06	\$15.78	\$18.11	\$20.44
51-4012.00	Numerical Tool and Process Control Programmers	20	\$16.80	\$16.68	\$21.77	\$24.32	\$14.54	\$18.07	\$20.71	\$26.11	\$30.99
51-4031.03	Press and Press Brake Machine Setters and Set-Up Operators, Metal and Plastic	20	\$8.00	\$9.08	\$12.76	\$14.61	\$8.78	\$10.07	\$12.33	\$15.04	\$16.89
51-5023.03	Letterpress Setters and Set-Up Operators	20	\$9.50	\$10.32	\$15.42	\$17.97	\$9.55	\$11.47	\$15.01	\$18.75	\$22.88
51-5023.09	Mobile Heavy Equipment Mechanics, Except Engines	20	\$18.00	\$12.90	\$16.70	\$18.60	\$11.71	\$14.03	\$16.92	\$19.20	\$20.80
51-9031.00	Construction Managers	20	\$26.40	\$19.69	\$29.92	\$35.04	\$17.80	\$21.65	\$28.56	\$34.10	\$46.11
53-7051.00	Industrial Truck and Tractor Operators	20	\$11.00	\$9.75	\$12.92	\$14.51	\$9.26	\$10.62	\$12.60	\$14.97	\$16.70
53-7072.00	Welders, Cutters, Solderers, and Brazers	20	\$10.00	\$9.98	\$13.75	\$15.63	\$9.37	\$11.05			\$19.38

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			Average		Occupat	ional Employ 19	yment 999-20(ics Wa	ge Data	а
		Number of	Wage Offered,		Average	Wages		Percer	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
11-1011.02	Private Sector Executives	10	\$52.90	\$35.45	\$55.74	\$65.89	\$30.33	\$43.38	\$65.37	*	*
11-3040.00	Human Resources Managers	10	\$39.70	\$18.86	\$29.66	\$35.05	\$17.40	\$20.87	\$28.52	\$38.71	\$47.13
11-3041.00	Compensation and Benefits Managers	10	\$57.00	*	*	*	*	*	*	*	*
11-3051.00	Industrial Production Managers	10	\$33.70	\$18.78	\$28.94	\$34.02	\$16.41	\$21.30	\$28.45	\$38.11	\$45.21
11-3071.02	Storage and Distribution Managers	10	\$18.50	\$19.69	\$27.48	\$31.37	\$18.08	\$21.57	\$25.49	\$32.37	\$40.47
11-9151.00	Social and Community Service Managers	10	\$13.80	\$10.03	\$17.25	\$20.86	\$8.79	\$12.44	\$16.85	\$21.04	\$26.38
13-1023.00	Purchasing Agents, Except Wholesale, Retail, and Farm Products	10	\$21.60	\$14.69	\$19.65	\$22.13	\$13.98	\$16.06	\$18.66	\$22.29	\$27.40
13-1041.01	Environmental Compliance Inspectors	10	\$36.10	\$13.22	\$22.13	\$26.58	\$12.01	\$16.41	\$21.99	\$27.62	\$32.77
13-1051.00	Cost Estimators	10	\$21.60	\$15.28	\$23.55	\$27.69	\$13.92	\$17.60	\$21.83	\$29.38	\$39.83
13-1073.00	Training and Development Specialists	10	\$17.50	\$12.65	\$19.42	\$22.80	\$11.27	\$14.22	\$18.35	\$23.75	\$29.04
13-2061.00	Financial Examiners	10	\$22.10	\$18.51	\$25.43	\$28.88	\$17.68	\$19.44	\$24.29	\$31.27	\$35.52
19-1020.01	Biologists	10	\$31.00	*	*	*	*	*	*	*	÷
19-3021.00	Market Research Analysts	10	\$32.40	\$15.79	\$24.78	\$29.28	\$14.20	\$17.44	\$24.38	\$31.13	\$34.30
19-4021.00	Biological Technicians	10	\$22.20	\$11.98	\$14.74	\$16.12	\$11.40	\$12.40	\$14.17	\$16.14	\$19.47
19-4031.00	Chemical Technicians	10	\$13.70	\$12.75	\$16.92	\$19.01	\$11.75	\$13.63	\$16.15	\$19.90	\$23.85
19-4061.00	Social Science Research Assistants	10	\$13.00	*	*	*	*	*	*	*	+
23-1011.00	Lawyers	10	\$44.40	\$34.19	\$42.83	\$47.14	\$31.79	\$36.66	\$41.11	\$49.63	\$63.47
25-4021.00	Librarians	10	\$19.30	\$13.78	\$19.59	\$22.50	\$13.02	\$15.09	\$18.69	\$23.65	\$27.85
25-4031.00	Library Technicians	10	\$10.70	\$9.22	\$12.59	\$14.28	\$8.75	\$10.29	\$12.47	\$14.99	\$16.77
25-9031.00	Instructional Coordinators	10	\$10.00	*	*	*	*	*	*	*	+
27-2022.00	Coaches and Scouts	10	\$8.00	*	*	*	*	*	*	*	د
27-3022.00	Reporters and Correspondents	10	\$12.00	*	*	*	*	*	*	*	4
27-3041.00	Editors	10	\$9.50	\$13.90	\$22.14	\$26.26	\$12.48	\$15.80	\$21.72	\$27.28	\$33.51
29-1122.00	Occupational Therapists	10	\$23.70	\$16.78	\$22.37	\$25.16	\$15.66	\$18.15	\$21.30	\$25.43	\$35.05
29-2033.00	Nuclear Medicine Technologists	10	\$11.70	\$15.00	\$18.44	\$20.17	\$14.07	\$16.04	\$18.42	\$20.49	\$23.40
29-2053.00	Psychiatric Technicians	10	\$11.10	\$7.59	\$10.89	\$12.53	\$7.06	\$8.34	\$10.33	\$12.25	\$15.62
31-1194	Sales Managers	10	\$39.70	\$22.16	\$36.49	\$43.65	\$20.11	\$25.26	\$32.91	\$44.57	\$68.68
31-1211	Industrial Engineers	10	\$20.40	\$19.54	\$25.83	\$28.98	\$18.08	\$21.30	\$25.36	\$30.47	\$34.11
31-1223.00	Janitorial Supervisors	10	\$11.40	\$8.20	\$11.59	\$13.29	\$7.56	\$8.80	\$10.54	\$14.19	\$16.72
31-2021.00	Physical Therapist Assistants	10	\$13.20	\$11.39	\$14.31	\$15.76	\$10.97	\$12.05	\$13.90	\$16.04	\$18.86

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			Average		Occupat	ional Employ 19	yment 999-20(ics Wa	ge Data	a
		Number of	Wage Offered,		Average \	Wages		Percer	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
33-1021.01	Municipal Fire Fighting and Prevention Supervisors	10	\$32.70	\$24.88	\$29.98	\$32.53	\$22.19	\$27.06	\$30.97	\$35.22	\$41.13
37-1012.00	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	10	\$14.50	\$11.84	\$16.90	\$19.43	\$11.33	\$12.83	\$16.84	\$20.02	\$23.31
39-9032.00	Recreation Workers	10	\$10.70	\$6.87	\$9.39	\$10.65	\$6.46	\$7.58	\$9.01	\$10.20	\$12.88
41-3011.00	Advertising Sales Agents	10	\$9.60	\$11.58	\$20.08	\$24.34	\$10.88	\$12.96	\$17.33	\$23.94	\$36.98
43-2021.02	Central Office Operators	10	\$13.20	\$6.92	\$9.08	\$10.16	\$6.25	\$6.97	\$8.29	\$11.18	\$12.98
43-4071.00	File Clerks	10	\$11.30	\$7.53	\$9.19	\$10.02	\$7.03	\$7.73	\$8.90	\$10.28	\$12.00
43-4151.00	Order Clerks	10	\$10.20	\$9.06	\$12.54	\$14.27	\$8.81	\$9.93	\$12.01	\$14.74	\$16.90
43-4161.00	Human Resources Assistants, Except Payroll and Timekeeping	10	\$15.80	\$10.37	\$13.69	\$15.34	\$9.57	\$11.35	\$13.49	\$15.71	\$18.06
43-5011.00	Cargo and Freight Agents	10	\$15.00	\$10.23	\$15.64	\$18.35	\$8.56	\$12.34	\$17.44	\$19.14	\$20.16
43-5061.00	Production, Planning, and Expediting Clerks	10	\$15.00	\$9.49	\$15.33	\$18.25	\$8.01	\$11.48	\$15.44	\$19.03	\$21.28
43-5081.00	Stock Clerks and Order Fillers	10	\$9.00	\$7.16	\$11.18	\$13.18	\$6.60	\$7.92	\$10.25	\$14.01	\$17.44
43-9011.00	Computer Operators	10	\$9.00	\$11.23	\$14.69	\$16.41	\$10.70	\$12.08	\$14.01	\$16.54	\$19.53
43-9051.02	Mail Clerks, Except Mail Machine Operators and Postal Service	10	\$12.10	\$7.19	\$9.58	\$10.77	\$6.70	\$7.66	\$9.16	\$10.72	\$13.29
47-2042.00	Floor Layers, Except Carpet, Wood, and Hard Tiles	10	\$14.00	\$8.94	\$13.49	\$15.76	\$8.52	\$9.15	\$10.19	\$16.90	\$24.97
47-2043.00	Floor Sanders and Finishers	10	\$15.00	\$9.67	\$12.18	\$13.44	\$9.29	\$9.75	\$10.53	\$13.57	\$18.49
47-2071.00	Paving, Surfacing, and Tamping Equipment Operators	10	\$10.70	\$11.12	\$14.37	\$16.00	\$10.83	\$11.75	\$14.32	\$16.39	\$19.11
47-2141.00	Painters, Construction and Maintenance	10	\$11.00	\$8.89	\$12.08	\$13.68	\$8.45	\$9.88	\$11.92	\$14.07	\$16.36
47-2152.00	Plumbers, Pipefitters, and Steamfitters	10	\$22.50	\$10.37	\$16.47	\$19.52	\$9.39	\$11.73	\$15.42	\$20.86	\$24.87
47-4031.00	Fence Erectors	10	\$11.00	\$10.23	\$11.88	\$12.71	\$10.39	\$10.78	\$11.42	\$13.01	\$14.00
47-4071.00	Septic Tank Servicers and Sewer Pipe Cleaners	10	\$15.80	\$9.15	\$13.21	\$15.24	\$8.80	\$9.67	\$11.88	\$16.70	\$19.27
49-2022.00	Telecommunications Equipment Installers and Repairers, Except Line Installers	10	\$12.00	\$16.77	\$21.78	\$24.28	\$14.68	\$19.72	\$23.20	\$25.30	\$26.57
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	10	\$33.00	*	*	*	*	*	*	*	*
49-3031.00	Bus and Truck Mechanics and Diesel Engine Specialists	10	\$14.00	\$12.47	\$16.67	\$18.77	\$11.26	\$13.71	\$16.64	\$19.53	\$22.30
49-9021.01	Heating and Air Conditioning Mechanics	10	\$10.00	\$12.30	\$17.34	\$19.87	\$11.21	\$13.66	\$16.29	\$20.51	\$24.26
49-9091.00	Coin, Vending, and Amusement Machine Servicers and Repairers	10	\$10.00	\$8.51	\$11.48	\$12.97	\$7.50	\$9.28	\$11.84	\$13.07	\$15.19
51-2022.00	Electrical and Electronic Equipment Assemblers	10	\$13.00	\$6.33	\$9.78	\$11.50	\$5.87	\$7.07	\$9.72	\$12.16	\$14.07

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Table 3: C	Occupations - Page 10										
			Average	0	Occupat	ional Emplo 19	yment 999-200		ics Wa	ge Data	ł
		Number of	Wage Offered,		Average	Wages		Percer	ntile Distr	ibution	
O*Net Code	O*Net Occupation Title	Vacancies	Fall 2000	Entry	Overall	Experienced	10th	25th	50th	75th	90th
51-2031.00	Engine and Other Machine Assemblers	10	\$13.50	\$7.08	\$9.85	\$11.24	\$6.84	\$7.63	\$9.01	\$10.54	\$15.77
51-3022.00	Meat, Poultry, and Fish Cutters and Trimmers	10	\$11.50	\$9.18	\$10.04	\$10.47	\$8.73	\$9.35	\$9.96	\$10.57	\$11.69
51-4032.00	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	10	\$10.00	\$10.78	\$13.39	\$14.69	\$9.88	\$11.22	\$12.56	\$15.41	\$19.09
51-4062.00	Patternmakers, Metal and Plastic	10	\$15.00	\$16.95	\$21.17	\$23.27	\$15.36	\$18.10	\$22.10	\$24.68	\$26.22
51-4072.00	Molding, Coremaking, and Casting Machine Setters,Operators, and Tenders, Metal and Plastic	10	*	\$6.87	\$9.67	\$11.06	\$6.46	\$7.62	\$9.25	\$10.95	\$14.14
51-4072.02	Plastic Molding and Casting Machine Operators and Tenders	10	\$8.00	\$6.87	\$9.67	\$11.06	\$6.46	\$7.62	\$9.25	\$10.95	\$14.14
51-4191.00	Heat Treating, Annealing, and Tempering Machine Operators and Tenders, Metal and Plastic	10	\$10.50	\$11.13	\$15.20	\$17.23	\$10.80	\$12.78	\$15.68	\$18.16	\$19.55
51-5011.01	Bindery Machine Operators and Tenders	10	\$11.00	\$5.94	\$9.55	\$11.35	\$5.69	\$6.49	\$8.44	\$12.07	\$15.17
51-5022.01	Hand Compositors and Typesetters	10	\$15.00	\$11.57	\$16.94	\$19.63	\$10.51	\$12.90	\$16.55	\$20.84	\$24.63
51-5023.08	Engraver Set-Up Operators	10	\$7.00	\$10.32	\$15.42	\$17.97	\$9.55	\$11.47	\$15.01	\$18.75	\$22.88
51-6011.00	Laundry and Dry-Cleaning Workers	10	\$8.30	\$6.69	\$7.65	\$8.13	\$6.17	\$7.00	\$7.66	\$8.33	\$9.61
51-6021.02	Pressing Machine Operators and Tenders- Textile, Garment, and Related Materials	10	\$6.80	\$6.96	\$8.44	\$9.18	\$6.18	\$7.29	\$8.88	\$9.66	\$10.16
51-7041.01	Sawing Machine Setters and Set-Up Operators	10	\$10.00	\$8.99	\$10.17	\$10.75	\$8.57	\$9.08	\$9.94	\$10.76	\$12.76
53-3022.00	Bus Drivers, School	10	\$9.00	\$8.21	\$10.28	\$11.32	\$7.29	\$9.08	\$9.97	\$11.66	\$13.74
53-3032.02	Tractor-Trailer Truck Drivers	10	\$14.00	\$11.41	\$15.63	\$17.75	\$10.95	\$12.31	\$14.71	\$17.53	\$20.66
53-7041.00	Hoist and Winch Operators	10	\$9.00	\$9.62	\$12.17	\$13.44	\$9.03	\$10.68	\$11.40	\$13.31	\$16.33
53-7064.00	Packers and Packagers, Hand	10	\$7.40	\$5.77	\$7.42	\$8.24	\$5.60	\$5.97	\$6.74	\$8.62	\$10.70
53-7071.01	Gas Pumping Station Operators	10	\$15.00	\$17.93	\$19.80	\$20.74	\$17.06	\$17.98	\$19.51	\$21.75	\$24.21

*No wage data available

	4: Occupations with Less Than				una a n t C	Nation -	o \//o=-	Data	ļ
		00	ccupation	onal Employ			s vvage	Data	
					1999-20				
			verage V	-	1	i	ntile Distr	1	
O*Net Code	O*Net Occupation Title	Entry		Experienced		25th	50th	75th	90th
13-1071.02	Personnel Recruiters	\$13.94	\$19.60	• -					\$29.97
17-3023.02	Calibration and Instrumentation Technicians	\$15.44	\$24.92	\$29.66	\$14.22	\$17.01	\$21.42	\$31.17	\$43.72
17-3031.00	Surveying and Mapping Technicians	\$11.48	\$16.35	\$18.79	\$10.87	\$12.35	\$15.64	\$19.39	\$23.15
21-2021.00	Directors, Religious Activities and Education	\$13.55	\$18.80	\$21.43	\$10.81	\$16.69	\$18.88	\$22.70	\$25.15
29-1131.00	Veterinarians	\$21.55	\$34.56	\$41.07	\$18.78	\$21.44	\$35.13	\$45.49	\$51.66
29-9012.00	Occupational Health and Safety Technicians	*	*	*	*	*	*	*	*
31-1306.00	Anesthesiologists	*	*	*	*	*	*	*	*
37-1011.01	Housekeeping Supervisors	\$8.20	\$11.59	\$13.29	\$7.56	\$8.80	\$10.54	\$14.19	\$16.72
39-6011.00	Baggage Porters and Bellhops	\$5.73	\$8.13	\$9.33	\$5.59	\$5.98	\$7.24	\$9.08	\$10.19
41-9011.00	Demonstrators and Product Promoters	\$7.36	\$10.10	\$11.46	\$7.04	\$7.61	\$8.55	\$11.20	\$15.28
43-1011.01	First-Line Supervisors, Customer Service	\$11.97	\$17.85	\$20.79	\$11.15	\$13.46	\$16.74	\$20.66	\$26.04
43-3041.00	Gaming Cage Workers	*	*	*	*	*	*	*	*
47-2081.02	Drywall Installers	\$11.98	\$14.45	\$15.68	\$10.96	\$13.58	\$14.86	\$16.15	\$16.91
49-3092.00	Recreational Vehicle Service Technicians	*	*	*	*	*	*	*	*
13-1121.00	Meeting and Convention Planners	\$13.37	\$18.51	\$21.08	\$12.20	\$14.37	\$17.48	\$21.33	\$25.67
13-2021.00	Appraisers and Assessors of Real Estate	\$18.76	\$26.72	\$30.71	\$17.48	\$20.57	\$23.37	\$30.83	\$49.44
13-2041.00	Credit Analysts	\$13.76	\$20.50	\$23.86	\$12.80	\$14.78	\$18.67	\$23.71	\$32.04
15-1071.01	Computer Security Specialists	\$17.33	\$25.45	\$29.51	\$15.96	\$19.62	\$24.36	\$30.36	\$37.95
17-2131.00	Materials Engineers	\$17.90	\$27.34	\$32.06	\$17.65	\$19.60	\$28.08	\$36.31	\$42.91
19-2031.00	Chemists	\$13.18	\$22.81	\$27.62	\$12.40	\$14.41	\$21.72	\$30.34	\$39.10
21-1012.00	Educational, Vocational, and School Counselors	\$11.48	\$20.08	\$24.39	\$9.78	\$13.80	\$18.41	\$27.73	\$34.76
25-9021.00	Farm and Home Management Advisors	\$11.25	\$17.53	\$20.67	\$9.86	\$13.15	\$16.32	\$22.21	\$26.08
43-5031.00	Police, Fire, and Ambulance Dispatchers	\$13.24	\$15.80	\$17.08	\$12.32	\$13.85	\$15.64	\$17.71	\$19.68
51-9132.00	Photographic Processing Machine Operators	\$7.69	\$10.99	\$12.64	\$7.19	\$8.35	\$10.06	\$12.53	\$16.60

-Table 4: Occupations with Less Than 10 Vacancies -

*No wage data available

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. Page one (Part A) of the survey was expanded not only to state the purpose of the survey, but also to collect employer information; verifying addresses, number of employees, and establishing contact names. Email and fax numbers were added to provide a means of contacting employers for notification of the availability of survey results. A review of page two (Part B) survey questions follows:

- **A**-The "Job Title" section remained relatively the same, although a definition of Full- versus Part-time was included.
- **B**–"Number of vacancies for which your firm is actively recruiting": The objective was to get a measure of the job market from the employer's point of view. A variant of this question was, "Number of vacancies that your firm currently has." Actively recruiting was queried due to the possible presence of vacancies that were deliberately left vacant. Also revised was the query for Permanent vs. Temporary identification.
- C-Wages/Salary: This question was revised to request the maximum and the minimum rates of

pay to evaluate variations in pay given different applicant qualifications.

- **D**–"Is a sign-on bonus offered to the person hired to fill this vacancy. In addition to noting whether or not a bonus is offered, the revised survey allows a dollar amount to be entered.
- E-"Is medical insurance offered?" In addition, the revised survey prompted for the portion (if any) that the firm contributed. To better understand the relationship between types of positions, pay, vacancies, and the existence of medical insurance, it was important to note to what degree the firm contributes to the insurance premium.
- **F**–What is the typical education level required to fill this vacancy?" Examination of the nature of the job market and the needs of employers included the query of educational requirements.
- **G**—"What is the typical type of experience required to qualify for this vacancy?" This also adds to the characteristics that employers are looking for in applicants. It was important to expand this question, allowing the firm to note the nature of the experience requested. During times of excess labor supply, qualifications demanded of applicants tend to increase. During periods of limited supply, the reverse tends to occur.
- **H**—"How long has this vacancy been open?" This question was added to the revised survey to gauge the tightness of the labor market. It provides an objective measure that can be tracked and compared across time.
- I–"How difficult is this vacancy to fill?" Questions H and I together help to evaluate the challenges employers face in the timely hiring of personnel and the degree to which the supply of labor falls short of demand.

Survey Sample Methodology

This survey is designed to find frequency of job vacancies in the Denver Metro region and characteristics of those vacancies. Firms were ordered into groups, or stratifications by employment size, county, and industry, and the resulting percentages of vacancies for each category were used to estimate total job vacancies for each group. Only firms with five or more employees were surveyed. The list of Denver Metro 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. A sample of the survey form can be found in the Appendix section of this report.

Stratifications

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

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

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

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

Indexing

Indexing was used in the following cases to estimate the number of vacancies:

¹See O*NET occupation codes in Definitions section

- A.Employers with less than five employees: The indices used were derived, whenever statistically possible, from the vacancy rate of firms with employment size of 5-20 employees. In other cases it was necessary to adjust the employment size of firms from which the indices were derived to a statistically sound level.
- B.For industries such as Mining, Agriculture, and Services (for some counties) the response rate was not sufficient to draw conclusions about the whole population. In these cases, indices were derived from other counties industry data to estimate the number of vacancies.

Data Editing



fter 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 O*NET occupational title¹. In some cases a second interview with the employer was necessary to decide on a specific occupational title.

Wage Conversion

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

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

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. For example: Consider three households A, B and C, with annual income of \$30,000, \$44,000 and \$40,000 respectively. The average income for the three households will be calculated as follows:

Average Household income

= The sum of individual households income The number of households

$$= \frac{\$30,000 + \$44,000 + \$40,000}{3} = \$38,000$$

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.

O*Net Occupation Codes

The O*NET database includes information on skills, abilities, knowledge, work activities, and interests associated with occupations. This information can be used to facilitate career exploration, vocational counseling, and a variety of human resources functions, such as developing job orders and position descriptions and aligning training with current workplace needs.

Information on O*NET is available for over 950 occupations. Each occupational title and code is based on the most current version (1999) of the Standard Occupational Classification system.

Definition from the O*NET Welcome web page: http://online.onetcenter.org/

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.

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.

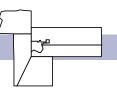
Vacancy

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).

Denver Metro Job Vacancy Survey



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Appendix - Survey Instrument

BILL OWENS Governor

VICKIE L. ARMSTRONG Executive Director

JEFFREY M. WELLS Deputy Executive Director



DEPARTMENT OF LABOR AND EMPLOYMENT LABOR MARKET INFORMATION WORKFORCE RESEARCH AND ANALYSIS

Two Park Central, Suite 300 1515 Arapahoe Street

1515 Arapahoe Street Denver, Colorado 80202-2117 (303) 620-4852 (303) 620-4988

Dear Employer,

The State of Colorado is conducting a survey the results of which will assist business leaders, policy makers, and education professionals in addressing the current worker shortage. Your participation in the study is essential to developing accurate, useful information.

All responses to the survey are considered confidential. No data identifying individual firms directly or indirectly will be published or released. If you have any questions regarding this survey, feel free to contact Joseph Winter or Yasir Ahmed, the Workforce Research and Analysis unit's administrators for this survey, at (303) 620-4852.

The aggregate results of this survey will be made available to the public. The final publication will provide information on:

- The number of vacancies by industry, occupation, and education requirements for your labor market area
- o Average wage or salary being offered by occupation
- Whether or not firms are offering health insurance and/or sign-on bonuses for those vacancies, and
- o How much, on average, those sign-on bonuses are

If you provide us with a fax number or e-mail address, we will send you notification when it becomes available. At that time you may either order a copy at no cost to you, or download the publication from our website, which will be printed on the announcement.

Thank you for your time and participation in this important study.

Sincerely,

Alexandra E. Hall Senior Economist Workforce Research and Analysis

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Denver Metro Job Vacancy Survey

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