

# News

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FOR RELEASE:

December 3, 2008

## **OCCUPATIONAL EMPLOYMENT AND WAGES IN CHEYENNE AND CASPER, MAY 2007**

Employment in the Cheyenne, Wyo., Metropolitan Statistical Area<sup>1</sup> (MSA) was more highly concentrated in 8 of the 22 major occupational groups when compared to the nationwide distribution, according to the U.S. Department of Labor's Bureau of Labor Statistics. Regional Commissioner Stanley W. Suchman noted that among the groups with above-average employment shares were management; healthcare practitioner and technical; installation, maintenance, and repair; and construction and extraction. Five other groups, including computer and mathematical science and production, had significantly smaller employment shares than they did nationwide.

By comparison, Casper, Wyo.,<sup>2</sup> a metropolitan area near Cheyenne with a similarly-sized employment level, had higher-than-average employment concentrations in 3 of the 22 occupational groups. As in Cheyenne, two of these occupational groups were construction and extraction and installation, maintenance, and repair. Eight occupational groups had measurably lower employment shares in Casper than they did nationally, including business and financial operations, office and administrative support, and production.

Workers in the Cheyenne area had an average (mean) hourly wage rate of \$17.20 in May 2007. For the same period, workers in the Casper area averaged \$17.46 an hour. In both of these areas, wages were significantly lower than the nationwide average of \$19.56. In the Cheyenne area, wage rates were significantly lower than their respective national averages for 14 major occupational categories and not measurably different from the national average in the remaining groups. In the Casper area, 1 occupational group had a wage rate significantly above its respective national average and 14 had wages that were measurably lower than average. (See table A.)

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case the Wyoming Department of Employment. The OES survey provides estimates of employment and hourly and annual wages for wage and salary workers in 22 major occupational groups and up to 801 non-military detailed occupations for the nation, states, metropolitan statistical areas, metropolitan divisions, and nonmetropolitan areas.

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<sup>1</sup> The Cheyenne, Wyo., Metropolitan Statistical Area (MSA) referenced in this release consists of Laramie County. For convenience, this area will be referred to as the Cheyenne area (or by similarly abbreviated titles) throughout this release.

<sup>2</sup> The Casper, Wyo., Metropolitan Statistical Area (MSA) consists of Natrona County. For convenience, this area will be referred to as the Casper area (or by similarly abbreviated titles) throughout this release.

**Table A. Employment and wages by occupational group for the Cheyenne and Casper metropolitan areas compared to the U.S. average, May 2007**

Major occupational group	Employment share (in percent)			Average hourly wage (in dollars)		
	United States	Cheyenne	Casper	United States	Cheyenne	Casper
Management	4.5	5.4 *	4.3	46.22	32.96 *	34.80 *
Business and financial operations	4.5	4.4	2.7 *	30.01	24.01 *	26.48 *
Computer and mathematical science	2.4	1.8 *	0.7 *	34.71	24.67 *	23.72 *
Architecture and engineering	1.9	1.3 *	1.7	33.11	28.64 *	33.69
Life, physical, and social science	0.9	1.5 *	1.3	29.82	26.96 *	25.73 *
Community and social services	1.3	2.4 *	1.3	19.49	17.57 *	16.67 *
Legal	0.7	1.1 *	0.6 *	42.53	30.22 *	29.61 *
Education, training, and library	6.2	5.9 *	5.4 *	22.41	21.80	20.44 *
Arts, design, entertainment, sports, and media	1.3	1.0 *	1.1	23.27	18.29 *	13.52 *
Healthcare practitioner and technical	5.1	5.6 *	4.7	31.26	31.50	28.00 *
Healthcare support	2.7	2.4	3.3 *	12.31	12.75	11.54 *
Protective service	2.3	2.1	1.9 *	18.63	18.34	17.17 *
Food preparation and serving related	8.4	9.4 *	7.9	9.35	8.45 *	8.24 *
Building and grounds cleaning and maintenance	3.3	3.6	3.3	11.33	10.84 *	11.26
Personal care and service	2.5	2.8	1.9 *	11.53	9.71 *	11.40
Sales and related	10.7	9.9	10.4	16.94	12.27 *	14.87 *
Office and administrative support	17.3	17.5	15.4 *	15.00	13.30 *	13.42 *
Farming, fishing, and forestry	0.3	(1)	(1)	10.89	(1)	(1)
Construction and extraction	5.0	6.3 *	10.7 *	19.53	16.36 *	20.23
Installation, maintenance, and repair	4.0	5.1 *	7.2 *	19.20	18.71	18.30
Production	7.6	4.1 *	5.2 *	15.05	14.72	16.39 *
Transportation and material moving	7.2	6.5	(1)	14.75	13.94	14.83

(1) Data not available

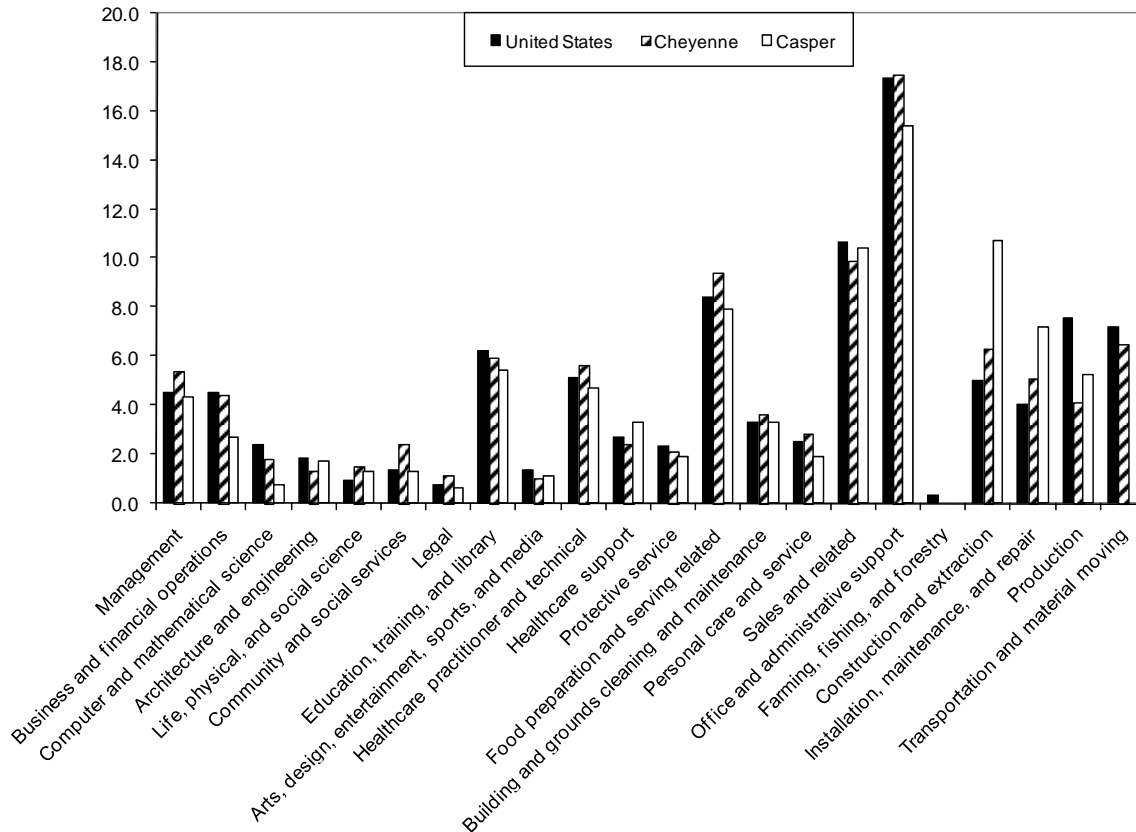
\* The employment share or mean hourly wage for this area is significantly different from the national average of all areas at the 90 percent confidence interval.

### **Occupational employment and wages in the Cheyenne metropolitan area**

The largest occupational group in the Cheyenne area was office and administrative support with a total of 7,150 jobs representing 17.5 percent of area employment. Sales and related jobs, another large major occupational group, had 4,040 jobs and a 9.9-percent share of local employment. Both groups had employment shares that were not measurably different from their national shares of 17.3 and 10.7 percent, respectively. (See chart A.) Six other occupational groups also had local employment shares that were not significantly different from their national concentrations; among these groups were business and financial operations, healthcare support, and protective service.

Eight occupational groups had higher employment shares in the local area than nationally. Healthcare practitioner and technical and management occupations had local employment shares of 5.6 and 5.4 percent, respectively; nationally, the shares were 5.1 and 4.5 percent, respectively. Food preparation and serving related, one of the largest occupational groups in the local area, also had an above-average employment share, accounting for 9.4 percent of local employment compared to 8.4 percent nationally.

**Chart A. Employment distribution in the United States and the Cheyenne and Casper metropolitan areas by major occupational group**



The management and healthcare practitioner and technical occupational groups were at the higher end of the wage scale in the Cheyenne area, with management positions averaging \$32.96 an hour and healthcare practitioner and technical, \$31.50. (See chart B.) Nationwide, management was the highest-paying occupational group, averaging \$46.22 an hour, while healthcare practitioner and technical occupations averaged \$31.26. While the local wage for the healthcare practitioner and technical group was not measurably different from the national average, the average wage for the management group was significantly lower than that for the nation.

Some of the other higher-paid occupational groups in the Cheyenne area included legal (\$30.22); architecture and engineering (\$28.64); life, physical, and social science (\$26.96); computer and mathematical science (\$24.67); and business and financial operations (\$24.01), although the average wages for these groups were measurably lower than at the national level. Food preparation and serving related occupations were the lowest-paid jobs in the Cheyenne area, with average wages of \$8.45 an hour, significantly below the national average of \$9.35.

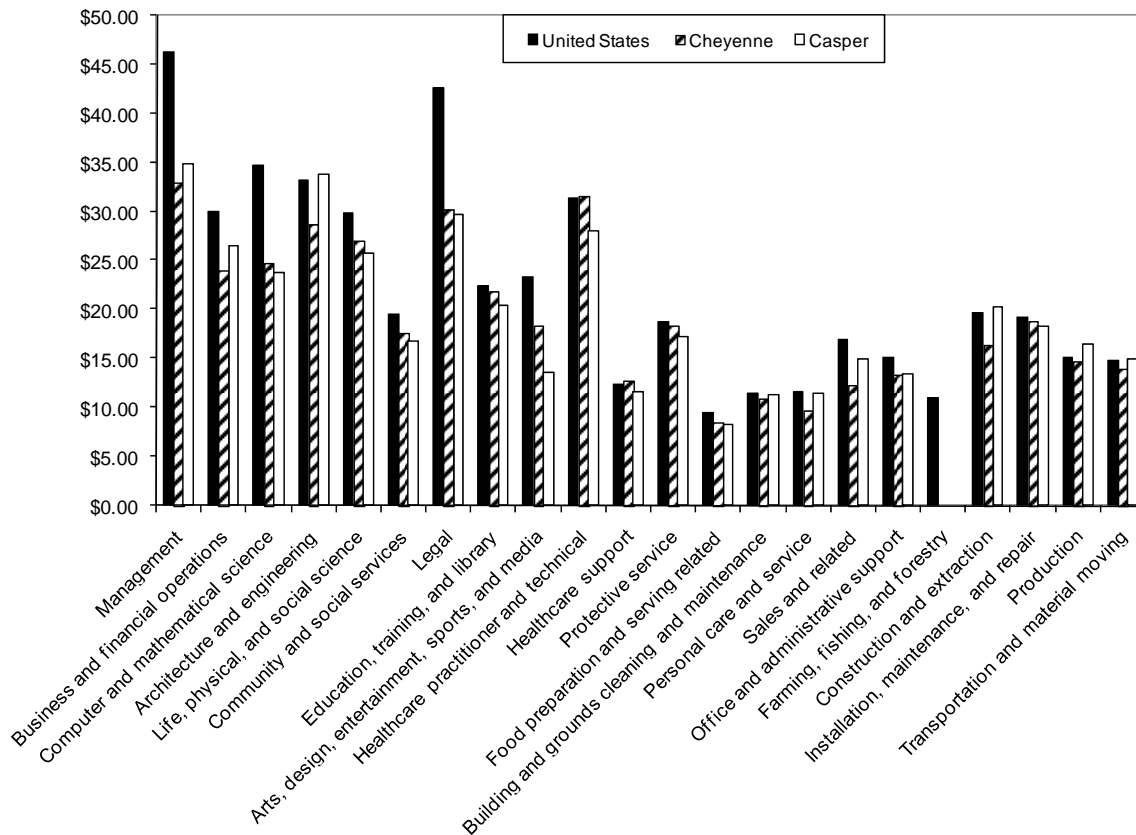
**Occupational employment and wages in the Casper metropolitan area**

As in Cheyenne, the largest occupational group in Casper was office and administrative support with 6,100 jobs, representing 15.4 percent of area employment. Still, this group’s share of local employment was significantly below the U.S. average of 17.3 percent. A total of eight occupational groups had lower-than-average shares in the Casper area, including business and financial operations (2.7 percent locally versus 4.5 percent nationally) and production (5.2 percent versus 7.6 percent).

Another of Casper’s large occupational groups was construction and extraction which accounted for 10.7 percent of local employment—more than twice the 5.0 percent national share. Only two other occupational groups had above-average employment shares in Casper—installation, maintenance, and repair (7.2 percent versus 4.0 percent) and healthcare support (3.3 percent versus 2.7 percent).

Sales and related, also a large occupational group in Casper, accounted for 10.4 percent of area employment; this share was not significantly different from that for the nation. Other occupational groups with employment shares not significantly different from their respective national averages included management and architecture and engineering.

**Chart B. Average hourly wages in the United States and the Cheyenne and Casper metropolitan areas by major occupational group**



Some of the higher-paid occupational groups in Casper included management (\$34.80); architecture and engineering (\$33.69); legal (\$29.61); healthcare practitioner and technical (\$28.00); business and financial operations (\$26.48); and life, physical, and social science (\$25.73). However, with the exclusion of architecture and engineering, the local wages fell significantly below the national average for these occupational groups.

Although not among the higher-paid occupational groups in Casper, production was the only group to record an hourly wage significantly above the national rate. Production jobs in Casper averaged \$16.39 per hour compared to \$15.05 nationwide. As in Cheyenne, the food preparation and serving related occupational group was the lowest-paid, with wages of \$8.24 an hour, significantly below the national average.

## **Additional information**

The May 2007 OES data by detailed occupation for Cheyenne are available at [www.bls.gov/oes/current/oes\\_16940.htm](http://www.bls.gov/oes/current/oes_16940.htm). The data for Casper can be found at [www.bls.gov/oes/current/oes\\_16220.htm](http://www.bls.gov/oes/current/oes_16220.htm). Comparable data for the nation are available on the BLS Web site at [www.bls.gov/oes/current/oes\\_nat.htm](http://www.bls.gov/oes/current/oes_nat.htm). Users may access each occupation's definition and percentile wages. Other national data include industry-specific occupational employment and wage data. The May 2007 cross-industry data for states as well as metropolitan and nonmetropolitan areas are available on the BLS Web site at [www.bls.gov/oes/current/oesrcma.htm](http://www.bls.gov/oes/current/oesrcma.htm). A more detailed technical note for OES is available at [www.bls.gov/news.release/ocwage.tn.htm](http://www.bls.gov/news.release/ocwage.tn.htm).

All Mountain-Plains releases are available on our Web site at [www.bls.gov/ro7/news.htm](http://www.bls.gov/ro7/news.htm). If you have additional questions, contact the BLS Mountain-Plains Economic Analysis and Information Unit at 816-285-7000. Information in this release will be made available to sensory impaired individuals upon request. Voice phone: 202-691-5200; TDD message referral phone number: 1-800-877-8339.

The OES wage and employment data for the 22 major occupational groups in the Cheyenne and Casper metropolitan areas were compared to their respective national averages based on statistical significance testing. Only those occupations with wages or employment shares above or below the respective wage or employment share after testing for significance at the 90-percent confidence level meet the criteria.

**NOTE:** A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

## **Technical Note**

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. Guam, Puerto Rico, and the Virgin Islands also are surveyed, but their data are not included in this release. OES estimates are constructed from a sample of about 1.2 million establishments. Forms are mailed to approximately 200,000 establishments in May and November of each year for a 3-year period. The nationwide response rate for the May 2007 survey was 77.9 percent based on establishments and 73.5 percent based on employment. The survey included establishments sampled in the May 2007, November 2006, May 2006, November 2005, May 2005, and November 2004 semiannual panels. The sample in the Cheyenne metropolitan area included 644 establishments with a response rate of 85 percent. The sample in the Casper metropolitan area included 715 establishments with a response rate of 86 percent.

## **The occupational coding system**

The OES survey uses the Office of Management and Budget's (OMB) occupational classification system, the Standard Occupational Classification (SOC) system. The SOC system is the first OMB-required occupational classification system for federal agencies. The OES survey categorizes workers in 1 of 801 detailed occupations. Together, these detailed occupations make up 23 major occupational groups, 22 of which are covered in this release. The exception is military specific occupations, which are not included in the OES survey. For more information about the SOC system, please see the Bureau of Labor Statistics (BLS) Web site at [www.bls.gov/soc/](http://www.bls.gov/soc/).

## The industry coding system

The OES survey uses the North American Industry Classification System (NAICS). For more information about NAICS, see the BLS Web site at [www.bls.gov/bls/naics.htm](http://www.bls.gov/bls/naics.htm).

## Survey sample

BLS funds the survey and provides the procedures and technical support, while the State Workforce Agencies (SWAs) collect most of the data. BLS produces cross-industry and industry-specific estimates for the nation, states, metropolitan statistical areas (MSAs), metropolitan divisions, and nonmetropolitan areas. Industry-specific estimates are produced at the NAICS sector, 3-digit, 4-digit, and selected 5-digit industry levels. BLS releases all cross-industry and national estimates; the SWAs release industry-specific estimates at the state and MSA levels.

State Unemployment Insurance (UI) files provide the universe from which the OES survey draws its sample. Employment benchmarks are obtained from reports submitted by employers to the UI program. The OES survey sample is stratified by metropolitan and nonmetropolitan areas and industry. Samples selected in panels prior to May 2005 were stratified using MSA definitions based on the 1990 Metropolitan Statistical Area standards. Beginning with the May 2005 panel, the sample was stratified using new MSA definitions based on the 2000 Metropolitan Statistical Area standards.

## Concepts

*Occupational employment* is the estimate of total wage and salary employment in an occupation across the industries surveyed. The OES survey defines employment as the number of workers who can be classified as full- or part-time employees, including workers on paid vacations or other types of paid leave; workers on unpaid short-term absences; salaried officers, executives, and staff members of incorporated firms; employees temporarily assigned to other units; and employees for whom the reporting unit is their permanent duty station regardless of whether that unit prepares their paycheck.

*Wages* for the OES survey are straight-time, gross pay, exclusive of premium pay. Base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay including commissions and production bonuses, tips, and on-call pay are included. Excluded are: back pay, jury duty pay, overtime pay, severance pay, shift differentials, non-production bonuses, employer cost for supplementary benefits, and tuition reimbursements.

*Mean hourly wage.* The mean hourly wage rate for an occupation is the total wages that all workers in the occupation earn in an hour divided by the total employment of the occupation. To calculate the mean hourly wage of each occupation, total weighted hourly wages are summed across all intervals and divided by the occupation's weighted survey employment. The mean wage for each interval is based on occupational wage data collected by the BLS Office of Compensation and Working Conditions for the National Compensation Survey (NCS).

*Annual Wage.* Many employees are paid at an hourly rate by their employers and may work more than or less than 40 hours per week. Annual wage estimates for most occupations in this release are calculated by multiplying the mean hourly wage by a "year-round, full-time" figure of 2,080 hours (52 weeks by 40 hours). Thus, annual wage estimates may not represent the actual annual pay received by the employee if they work more or less than 2,080 hours per year. Some workers typically work less than fulltime, year round. For these occupations, the OES survey collects and reports either the annual salary or the hourly wage rate, depending on how the occupation is typically paid, but not both. For example, teachers, flight attendants, and pilots may be paid an annual salary, but do not work the usual 2,080 hours per year. In this case, an annual salary is reported. Other workers, such as entertainment workers, are paid hourly rates, but generally do not work full time, year round. For these workers, only an hourly wage is reported.

*Hourly versus Annual Wage Reporting.* For each occupation, respondents are asked to report the number of employees paid within specific wage intervals. The intervals are defined both as hourly rates and the corresponding annual rates, where the annual rate for an occupation is calculated by multiplying the hourly wage rate by a typical work year of 2,080 hours. The responding establishment can reference either the hourly or the annual rate for full-time workers, but they are instructed to report the hourly rate for part-time workers.

### **Estimation methodology**

Each OES panel includes approximately 200,000 establishments. The OES survey is designed to produce estimates using six panels (3 years) of data. The full six-panel sample of 1.2 million establishments allows the production of estimates at detailed levels of geography, industry, and occupation.

*Wage Updating.* Significant reductions in sampling errors are obtained by combining six panels of data, particularly for small geographic areas and occupations. Wages for the current panel need no adjustment. However, wages in the five previous panels need to be updated to the current panel's reference period.

The OES program uses the BLS Employment Cost Index (ECI) to adjust survey data from prior panels before combining them with the current panel's data. The wage updating procedure adjusts each detailed occupation's wage rate, as measured in the earlier panel, according to the average movement of its broader occupational division. The procedure assumes that there are no major differences by geography, industry, or detailed occupation within the occupational division.

*May 2007 OES survey estimates.* The May 2007 OES survey estimates are based on all data collected from establishments in the May 2007, November 2006, May 2006, November 2005, May 2005, November 2004 semiannual samples

*Reliability of the estimates.* Estimates calculated from a sample survey are subject to two types of error: sampling and nonsampling. Sampling error occurs when estimates are calculated from a subset (that is, a sample) of the population instead of the full population. When a sample of the population is surveyed, there is a chance that the sample estimate of the characteristic of interest may differ from the population value of that characteristic. Differences between the sample estimate and the population value will vary depending on the sample selected. This variability can be estimated by calculating the standard error (SE) of the sample estimate. If we were to repeat the sampling and estimation process countless times using the same survey design, approximately 90 percent of the intervals created by adding and subtracting 1.645 SEs from the sample estimate would include the population value. These intervals are called 90-percent confidence intervals. The OES survey, however, usually uses the relative standard error (RSE) of a sample estimate instead of its SE to measure sampling error. RSE is defined as the SE of a sample estimate divided by the sample estimate itself. This statistic provides the user with a measure of the relative precision of the sample estimate. RSEs are calculated for both occupational employment and mean wage rate estimates. Occupational employment RSEs are calculated using a subsample, random group replication technique called the jackknife. Mean wage rate RSEs are calculated using a variance components model that accounts for both the observed and unobserved components of the wage data. The variances of the unobserved components are estimated using wage data from the BLS National Compensation Survey. In general, estimates based on many establishments have lower RSEs than estimates based on few establishments. If the distributional assumptions of the models are violated, the resulting confidence intervals may not reflect the prescribed level of confidence.

*Nonsampling error* occurs for a variety of reasons, none of which are directly connected to sampling. Examples of nonsampling error include: nonresponse, data incorrectly reported by the respondent, mistakes made in entering collected data into the database, and mistakes made in editing and processing the collected data.

### **Upcoming Reduction in Sample Size of Occupational Employment Statistics Survey**

Due to budget constraints, Occupational Employment Statistics has reduced the sample size of the May 2008 panel by 20 percent. Because OES estimates are produced from 3 years of pooled data, this one-time sample reduction will affect estimates for May 2008, May 2009, and May 2010. This reduction is expected to decrease the number of published employment estimates by at least 5 percent, or about 25,000 estimates, and will decrease the accuracy of the remaining estimates. The number and quality of wage estimates also are expected to decline. These cutbacks are being implemented in response to a reduction in funding to the BLS that resulted from the 2008 Consolidated Appropriations Act enacted on December 26, 2007.