

Billings, MT

National Compensation Survey

State and Local Government

July 2007



U.S. Department of Labor
U.S. Bureau of Labor Statistics
February 2008

This summary provides results of a July 2007 survey of occupational pay in the Billings, MT, Metropolitan Statistical Area (MSA). The MSA includes Carbon and Yellowstone Counties. Tabulations in this publication are limited to State and local government; future publications will include private industry.

Data shown in this summary were collected as part of the Bureau of Labor Statistics (BLS) National Compensation Survey (NCS). The NCS provides comprehensive measures of occupational earnings, compensation cost trends, benefit incidence, and detailed plan provisions. This summary is limited to data on occupational wages and salaries.

Table 1 presents mean hourly earnings data by work level for occupational major groups and for detailed occupations. Work level is a ranking based on knowledge, job controls and complexity, contacts, and physical environment. Separate data are also shown for full-time and part-time workers.

Table 2 presents hourly wage percentiles that describe the distribution of hourly earnings for individual workers within each published occupation. Data are provided for the 10th, 25th, 50th, 75th, and 90th percentiles for detailed occupations.

Table 3 presents mean and median hourly, weekly, and annual earnings, and the associated hours, for major occupational groups and detailed occupations for full-time workers.

The survey could not have been conducted without the cooperation of the many government agencies that pro-

vided pay data included in this summary. The Bureau thanks these respondents for their cooperation. Field economists of the Bureau of Labor Statistics collected and reviewed the survey data. The Office of Compensation and Working Conditions, in cooperation with the Office of Field Operations and the Office of Technology and Survey Processing in the BLS National Office, designed the survey, processed the data, and prepared the survey for publication.

Where to find more information

The data contained in this summary are available at <http://www.bls.gov/ncs/ocs/compub.htm>, the BLS Internet site. Data are presented in a Portable Document Format (PDF) file, and in an ASCII file containing the published table formats.

For additional information regarding this survey, including a list of occupational classifications, please contact any BLS regional office at the address and telephone number listed on the back cover of this summary. You may also write to the Bureau of Labor Statistics at: Division of Compensation Data Analysis and Planning, 2 Massachusetts Avenue, NE., Room 4175, Washington, DC 20212-0001, telephone (202) 691-6199, or send an e-mail to ocltinfo@bls.gov.

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Table 1. State and local government workers: Mean hourly earnings¹ for full-time and part-time workers² by work levels³, Billings, MT, July 2007

Occupation ⁴ and level	Total		Full-time workers		Part-time workers	
	Mean	Relative error ⁵ (percent)	Mean	Relative error ⁵ (percent)	Mean	Relative error ⁵ (percent)
All workers	\$23.43	5.2	\$23.32	4.7	\$25.05	43.4
Education, training, and library occupations	31.59	5.8	32.42	4.3	—	—
Level 9	32.71	4.9	32.74	5.0	—	—
Primary, secondary, and special education school teachers	31.69	1.6	31.72	1.7	—	—
Level 9	32.94	4.9	32.97	5.0	—	—
Elementary and middle school teachers	35.51	4.2	35.71	4.4	—	—
Level 9	36.86	5.2	—	—	—	—
Elementary school teachers, except special education	36.29	4.9	—	—	—	—
Secondary school teachers	31.47	3.8	31.47	3.8	—	—
Level 9	31.47	3.8	31.47	3.8	—	—
Secondary school teachers, except special and vocational education	31.47	3.8	31.47	3.8	—	—
Level 9	31.47	3.8	31.47	3.8	—	—
Protective service occupations	20.22	5.8	21.04	5.7	—	—
Office and administrative support occupations	12.68	5.3	12.63	5.5	—	—
Office clerks, general	11.39	3.6	—	—	—	—
Construction and extraction occupations	17.42	10.4	17.42	10.4	—	—

¹ Earnings are the straight-time hourly wages or salaries paid to employees. They include incentive pay, cost-of-living adjustments, and hazard pay. Excluded are premium pay for overtime, vacations, holidays, nonproduction bonuses, and tips. The mean is computed by totaling the pay of all workers and dividing by the number of workers, weighted by hours. See appendix A for more information.

² Employees are classified as working either a full-time or a part-time schedule based on the definition used by each establishment. Therefore, a worker with a 35-hour-per-week schedule might be considered a full-time employee in one establishment, but classified as part-time in another firm, where a 40-hour week is the minimum full-time schedule.

³ Each occupation for which data are collected in an establishment is evaluated based on four factors, including knowledge, job controls and complexity, contacts, and physical environment. The knowledge factor is tailored to 24 families of closely related jobs. Points are assigned based on the

occupation's rank within each factor. The points are summed to determine the overall level of the occupation. See appendix A for more information.

⁴ Workers are classified by occupation using the 2000 Standard Occupational Classification (SOC) system. See appendix B for more information.

⁵ The relative standard error (RSE) is the standard error expressed as a percent of the estimate. It can be used to calculate a "confidence interval" around a sample estimate. For more information about RSEs, see appendix A.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Overall occupational groups may include data for categories not shown separately

SOURCE: Bureau of Labor Statistics, National Compensation Survey.

Table 2. State and local government workers: Hourly wage percentiles¹, Billings, MT, July 2007

Occupation ²	10	25	Median 50	75	90
All workers	\$11.35	\$15.35	\$20.56	\$29.47	\$42.35
Education, training, and library occupations	18.10	23.70	31.47	40.37	44.88
Primary, secondary, and special education school teachers	18.58	25.62	30.55	39.66	44.16
Elementary and middle school teachers	24.65	27.63	35.26	44.16	44.88
Elementary school teachers, except special education	24.03	31.47	35.91	44.16	44.88
Secondary school teachers	22.57	26.82	29.45	39.42	44.16
Secondary school teachers, except special and vocational education	22.57	26.82	29.45	39.42	44.16
Protective service occupations	14.66	17.31	20.56	23.29	25.96
Office and administrative support occupations	10.50	10.92	11.44	14.89	15.92
Office clerks, general	9.83	10.75	11.00	11.44	13.21
Construction and extraction occupations	12.94	12.94	17.69	21.10	22.79

¹ Percentiles designate position in the earnings distribution and are calculated from individual-worker earnings and the hours they are scheduled to work. At the 50th percentile, the median, half of the hours are paid the same as or more than the rate shown, and half are paid the same as or less than the rate shown. At the 25th percentile, one-fourth of the hours are paid the same as or less than the rate shown. At the 75th percentile, one-fourth are paid the same as or more than the rate shown. The 10th and 90th percentiles follow the same logic. Hourly wages are the straight-time wages or salaries paid to employees. They include incentive pay, cost-of-living adjustments, and hazard pay. Excluded are premium pay for overtime, vacations, and holidays;

nonproduction bonuses; and tips.

² Workers are classified by occupation using the 2000 Standard Occupational Classification (SOC) system. See appendix B for more information.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Overall occupational groups may include data for categories not shown separately

SOURCE: Bureau of Labor Statistics, National Compensation Survey.

Table 3. Full-time¹ State and local government workers: Mean and median hourly, weekly, and annual earnings and mean weekly and annual hours, Billings, MT, July 2007

Occupation ²	Hourly earnings ³		Weekly earnings ⁴			Annual earnings ⁵		
	Mean	Median	Mean	Median	Mean weekly hours	Mean	Median	Mean annual hours
All workers	\$23.32	\$20.56	\$917	\$834	39.3	\$41,404	\$41,041	1,775
Education, training, and library occupations	32.42	33.48	1,237	1,256	38.2	47,239	46,985	1,457
Primary, secondary, and special education school teachers	31.72	30.75	1,203	1,193	37.9	45,004	44,617	1,419
Elementary and middle school teachers	35.71	35.26	1,354	1,322	37.9	50,632	49,448	1,418
Secondary school teachers	31.47	29.45	1,190	1,105	37.8	44,498	41,332	1,414
Secondary school teachers, except special and vocational education	31.47	29.45	1,190	1,105	37.8	44,498	41,332	1,414
Protective service occupations	21.04	20.83	857	898	40.8	44,586	46,710	2,119
Office and administrative support occupations	12.63	11.35	505	454	40.0	25,579	22,880	2,025
Construction and extraction occupations	17.42	17.69	697	708	40.0	36,234	36,795	2,080

¹ Employees are classified as working either a full-time or a part-time schedule based on the definition used by each establishment. Therefore, a worker with a 35-hour-per-week schedule might be considered a full-time employee in one establishment, but classified as part-time in another firm, where a 40-hour week is the minimum full-time schedule.

² Workers are classified by occupation using the 2000 Standard Occupational Classification (SOC) system. See appendix B for more information.

³ Earnings are the straight-time hourly wages or salaries paid to employees. They include incentive pay, cost-of-living adjustments, and hazard pay. Excluded are premium pay for overtime, vacations, holidays, nonproduction bonuses, and tips. The mean is computed by totaling the pay of all workers and dividing by the number of workers, weighted by hours. See appendix A for more information.

⁴ Mean weekly earnings are the straight-time weekly wages or salaries

paid to employees. Median weekly earnings designates position - one-half of the hours are paid the same as or more than the rate shown. Mean weekly hours are the hours an employee is scheduled to work in a week, exclusive of overtime.

⁵ Mean annual earnings are the straight-time annual wages or salaries paid to employees. Median annual earnings designates position - one-half of the hours are paid the same as or more than the rate shown. Mean annual hours are the hours an employee is scheduled to work in a year, exclusive of overtime.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Overall occupational groups may include data for categories not shown separately

SOURCE: Bureau of Labor Statistics, National Compensation Survey.

Appendix: Technical Note

Survey scope

This survey of the Billings, MT, Metropolitan Statistical Area (MSA) covered establishments employing one worker or more in State and local governments. Future publications for this area will include private goods-producing industries and private service-providing industries. Agriculture, forestry, fishing and hunting, private households, and the Federal Government were excluded from the scope of the survey. For purposes of this survey, an establishment is an economic unit that produces goods or services, a central administrative office, or an auxiliary unit providing support services to a company. For State and local governments, an establishment is defined as all locations of a government agency within the sampled area.

Sampling frame

The list of establishments from which the survey sample was selected (sampling frame) was developed from State unemployment insurance reports. Due to the volatility of industries within the private sector, sampling frames were developed using the most recent month of reference available at the time the sample was selected.

Sample design

The sample for this survey area was selected using a two-stage stratified design with probability proportional to employment sampling at each stage. The first stage of sample selection was a probability-proportional-to-size sample of establishments. Use of this technique means that the larger an establishment's employment, the greater its chance of selection. The second stage of sample selection, detailed below, was a probability sample of occupations within a sampled establishment.

Occupational selection and classification

Identification of the occupations for which wage data were to be collected was a multistep process:

1. Probability-proportional-to-size selection of establishment jobs
2. Classification of jobs into occupations based on the 2000 Standard Occupational Classification (SOC) system
3. Characterization of jobs as full-time or part-time, union or nonunion, and time or incentive
4. Determination of the level of work of each job

For each occupation, wage data were collected for those workers whose jobs could be characterized by the criteria identified in the last three steps. In step one, the jobs to be sampled were selected at each establishment by the BLS field economist. A complete list of employees was used for sampling, with each selected worker representing a job within the establishment. The greater the number of people working in a job in the establishment, the greater its chance of selection.

The second step of the process entailed classifying the selected jobs into occupations based on their duties. NCS uses the 2000 Standard Occupational Classification (SOC) system. A selected job may fall into any one of about 800 occupational classifications, from accountant to zoologist. When workers could be classified in more than one occupation, they were classified in the occupation that required the higher skill level. When there was no perceptible difference in skill level, the workers were classified in the occupation that described their primary activity.

Each occupational classification is an element of a broader classification known as a major group. Occupations can fall into any of 22 major groups. A complete list of all individual occupations, classified by the major group to which they belong, is available from BLS.

In step three, certain other job characteristics of the chosen worker were identified. First, the worker was identified as holding either a full-time or part-time job, based on the establishment's definition of those terms. Then, the worker was classified as having a time versus incentive job and also identified as being in a union or a nonunion job.

Occupational leveling

In the last step before wage data were collected, the work level of each selected job was determined using a "point factor leveling" process. Point factor leveling matches certain aspects of a job to specific levels of work with assigned point values. Points for each factor are then totaled to determine the overall work level for the job.

The NCS program is in the process of converting from a nine-factor to a four-factor occupational leveling system. The conversion is being phased in via annual NCS sample replenishment groups and will require several years for full implementation. The four occupational leveling factors are:

- Knowledge
- Job controls and complexity
- Contacts (nature and purpose)
- Physical environment

Each factor consists of several levels, and each level has an associated description and assigned points. A knowledge guide for 24 families of closely related occupations contains short definitions of the point levels of knowledge expected for the occupations and presents relevant examples. The other three factors use identical descriptions for all occupational categories and contain a definition of each point level within each factor.

The description within each factor best matching the job is chosen. The point levels within each factor are designed to describe the thresholds of distinct levels of work. When a job does not meet the full description of a point level, the next lowest point level is used. Points for the four factors are totaled to determine the overall work level. NCS publishes data for up to 15 work levels.

Most supervisory occupations are evaluated based on their duties and responsibilities. A modified approach is used for professional and administrative supervisors when they direct professional work and are paid primarily to supervise. Such supervisory occupations are leveled based on the work level of the highest position reporting to them.

For a complete description of point factor leveling, refer to the publication “National Compensation Survey: Guide for Evaluating Your Firm’s Jobs and Pay,” available at the BLS National Compensation Survey Internet site at <http://www.bls.gov/ncs/ocs/sp/ncbr0004.pdf>.

Collection period

Survey data were collected over a 13-month period for the 86 largest areas in the NCS program. For 66 smaller areas, data were collected over a 4-month period. For each establishment in the survey, the data reflect the establishment’s most recent information at the time of collection. The payroll reference month shown in the tables reflects the average date of this information for all sample units.

Earnings

Earnings were defined as regular payments from the employer to the employee as compensation for straight-time hourly work, or for any salaried work performed. The following components were included as part of earnings:

- Incentive pay, including commissions, production bonuses, and piece rates
- Cost-of-living allowances
- Hazard pay
- Payments of income deferred due to participation in a salary reduction plan
- Deadhead pay, defined as pay given to transportation workers returning in a vehicle without freight or passengers

The following forms of payments were *not* considered part of straight-time earnings:

- Shift differentials, defined as extra payment for working a schedule that varies from the norm, such as night or weekend work
- Premium pay for overtime, holidays, and weekends
- Bonuses not directly tied to production (such as Christmas and profit-sharing bonuses)
- Uniform and tool allowances
- Free or subsidized room and board
- Payments made by third parties (for example, tips)
- On-call pay

To calculate earnings for various periods (hourly, weekly, and annual), data on work schedules also were collected. For hourly workers, scheduled hours worked per day and per week, exclusive of overtime, were recorded. Annual weeks worked were determined. Because salaried workers who are exempt from overtime provisions often work beyond the assigned work schedule, their typical number of hours actually worked was collected.

Weighting and nonresponse

Sample weights were calculated for each establishment and occupation in the survey. These weights reflected the relative size of the occupation within the establishment and of the establishment within the sample universe. Weights were used to aggregate data for the individual establishments or occupations into the various data series.

If data were not provided by a sample member during the initial interview, the weights of responding sample members in the same or similar “cells” were adjusted to account for the missing data. This technique assumes that the mean value of data for the nonrespondents equals the mean value of data for the respondents at some detailed “cell” level. Responding and nonresponding establishments were classified into these cells according to industry and employment size. Responding and nonresponding occupations within responding establishments were classified into cells that were additionally defined by major occupation group.

If average hourly earnings data were not provided by a sample member during the update interview, then missing average hourly earnings were imputed by multiplying prior average hourly earnings by the rate of change in the average hourly earnings of respondents. The regression model that takes into account available establishment characteristics is used to derive the rate of change in the average hourly earnings.

Establishments that were determined to be out of business or outside the scope of the survey had their weights changed to zero.

Survey response

	<i>Establish- ments</i>
Total in sampling frame	55
Total in sample	17
Responding	15
Refused or unable to provide data	2
Out of business or not in survey scope	0

Estimation

The wage series in the tables are computed by combining the wages for each sampled occupation. Before being combined, individual wage rates are weighted by the number of workers; the sample weight, adjusted for nonresponding establishments and other factors; and the occupation's scheduled hours of work.

The sample weight reflects the inverse of each unit's probability of selection at each sample selection stage and four weight adjustment factors. The first factor adjusts for establishment nonresponse and the second factor adjusts for occupational nonresponse. The third factor adjusts for any special situations that may have occurred during data collection. The fourth factor, post-stratification, also called benchmarking, is introduced to adjust estimated employment totals to the current counts of employment by industry. The latest available employment counts were used to derive average hourly earnings in this publication.

Not all calculated series met the criteria for publication. Before any series was published, it was reviewed to make sure that the number of observations underlying it was suf-

ficient. This review prevented the publication of a series that could have revealed information about a specific establishment.

Data reliability

The data in this summary are estimates from a scientifically selected probability sample. There are two types of errors possible in an estimate based on a sample survey, sampling and nonsampling.

Sampling errors occur because observations come only from a sample and not from an entire population. The sample used for this survey is one of a number of possible samples of the same size that could have been selected using the sample design. Estimates derived from the different samples would differ from each other.

A measure of variation among these differing estimates is called the standard error or sampling error. It indicates the precision with which an estimate from a particular sample approximates the average result of all possible samples. The relative standard error (RSE) is the standard error divided by the estimate. RSE data are provided alongside the earnings data in the summary tables.

The standard error can be used to calculate a "confidence interval" around a sample estimate. As an example, suppose a table shows that mean hourly earnings for all workers were \$17.75, with a relative standard error of 1.0 percent for this estimate. At the 90-percent level, the confidence interval for this estimate is from \$17.46 to \$18.04 (\$17.75 minus and plus \$0.29, where \$0.29 is the product of 1.645 times 1.0 percent times \$17.75). If all possible samples were selected to estimate the population value, the interval from each sample would include the true population value approximately 90 percent of the time.

Nonsampling errors also affect survey results. They can stem from many sources, such as inability to obtain information for some establishments, difficulties with survey definitions, inability of the respondents to provide correct information, or mistakes in recording or coding the data obtained. Although they were not specifically measured, the nonsampling errors were expected to be minimal due to the extensive training of the field economists who gathered the survey data, computer edits of the data, and detailed data review.