Frequently Asked Questions

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A. OEWS data overview

1. What does the OEWS program produce?
   The OEWS program produces employment and wage estimates for over 800 occupations. These are estimates of the number of jobs in certain occupations, and estimates of the wages paid to them. These estimates are available for the nation as a whole, for individual States, and for metropolitan statistical areas (MSAs), metropolitan divisions, and nonmetropolitan areas; national occupational estimates for specific industries are also available.

2. What are the OEWS data used for?
   The OEWS program is the only comprehensive source of regularly produced occupational employment and wage rate information for the U.S. economy, as well as States, the District of Columbia, Guam, Puerto Rico, the U.S. Virgin Islands, and all metropolitan and nonmetropolitan areas in each State.

   Occupational employment data are used to develop information regarding current and projected employment needs and job opportunities. This information is used in the production of State education and workforce development plans. These data enable the analysis of the occupational composition of different industries, and the comparison of occupational composition across States and local areas, including analysis for economic development purposes. OEWS employment estimates also are used as job placement aids by helping to identify industries that employ the skills gained by enrollees in career-technical training programs. In addition, OEWS survey data serve as primary inputs into occupational information systems designed for those who are exploring career opportunities or assisting others in career decision making.

   OEWS data are used by several other BLS and government programs, such as the BLS Employment Projections program, the Employment and Training Administration (ETA), and the Employment Standards Administration (ESA). OEWS data are used to establish the fixed employment weights for the Employment Cost Index and in the calculation of occupational rates for the Survey of Occupational Injuries and Illnesses. Wage data also are provided to ETA's Foreign Labor Certification program for use in administering the H1-B visa program.

   Employment and wage data for detailed science, engineering, mathematical, and other occupations are provided to the National Science Foundation, along with the complete staffing patterns for all industries.

   Occupational wage data are used by job seekers and employers to determine salary ranges for different occupations in different locations and in different industries. OEWS employment and wage data also can be found in ETA's CareerOneStop.

   Many users of OEWS data use data provided by the State Labor Market Information programs. OEWS data are used by workforce investment boards and economic development programs to attract businesses. The data provide information on labor availability by occupation as well as average wages. OEWS is frequently cited as the most popular labor market information program within States.

   Finally, employment and wage data are used by academic and government researchers to study labor markets and wage and employment trends. These data inform the so-called "good-jobs/bad-jobs" debate on how business cycles and structural economic change affect wages and employment across the range of occupations; and how many and what types of jobs are impacted by off-shore outsourcing. Currently, OEWS staffing patterns and wage data are being used by MedPAC in research to improve the calculation of Medicare reimbursement rates.

3. What is the difference between industry-specific and cross-industry estimates?

   Industry-specific estimates

   - Calculated with data collected from establishments in **one particular industry**.
   - Since different industries employ people in different occupations, the occupations in the staffing pattern for a particular industry will not be the same as the occupations in the staffing pattern for another industry.
   - Available at the national level; research estimates available at the state level.

   Cross-industry estimates

   - Calculated with data collected from establishments in **all the industries** for which a particular occupation is reported.
   - Not every occupation is reported in every industry.
   - For example, the cross-industry occupational employment estimate for mechanical engineers is the sum of all the industry-specific estimates for mechanical engineers. Likewise, cross-industry occupational wage estimates for mechanical engineers are calculated from data collected from establishments in all the industries where mechanical engineers are reported.

- Available at the national, state, and metropolitan area levels.

4. Why does the OEWS program produce estimates from more than one year's data?
   Significant reductions in sampling error can be achieved by taking advantage of a full three years of data, covering 1.1 million establishments and about 57 percent of the employment in the United States. This feature is particularly important in improving the reliability of estimates for detailed occupations in small geographical areas. Combining multiple years of data is also necessary to obtain full coverage of the largest establishments. In order to reduce respondent burden, the OEWS survey samples these establishments with virtual certainty only once every three years. While there are significant advantages, there are also limitations associated with this estimation procedure in that it requires "updating" for the earlier years of data and limits the usefulness of OEWS data for time series analysis. (See *Can OEWS data be used to compare changes in employment and wages over time?* for more information.)

   The May 2022 employment and wage estimates were calculated using data collected in the May 2022, November 2021, May 2021, November 2020, May 2020, and November 2019 semi-annual panels. The older panels' wage data have been adjusted to the May 2022 reference period using the over-the-year wage change in the most applicable Employment Cost Index series. The employment from the six panels has been benchmarked to the average of the November 2021 and May 2022 employment in each industry cell.

5. How is the OEWS survey conducted?
   The OEWS survey is a semi-annual mail survey of non-farm establishments. The BLS produces the survey materials and selects the establishments to be surveyed. The sampling frame (the list from which establishments to be surveyed are selected) is derived from the list of establishments maintained by State Workforce Agencies (SWAs) for unemployment insurance purposes. Establishments to be surveyed are selected in order to obtain data from every metropolitan and nonmetropolitan area in every State, across all surveyed industries, and from establishments of varying sizes. The SWAs mail the survey materials to the selected establishments and make follow-up calls to request data from nonrespondents or to clarify data. The collected data are used to produce occupational estimates at the National, State, and sub-State levels.

6. When will this year's OEWS estimates be available?
   Estimates are generally released in late March or early April. Please check the OEWS homepage around that time for a scheduled release date.

B. Data we have

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1. Does OEWS have estimates for specific industries?
   Yes. The table in *Where can OEWS estimates be found?* shows where to find OEWS estimates, including national industry-specific occupational employment and wage estimates. For more information on the industry classification system used by OEWS, please see *What is the NAICS?*

   Industry data is generally only available at the national level. However, beginning with the May 2012 estimates, the OEWS program has made some industry-specific OEWS estimates for individual States available for research purposes. Please see the OEWS Research Estimates page for more information.

2. Does OEWS have estimates for individual States?
   Yes. The table in *Where can OEWS estimates be found?* shows where to find OEWS estimates, including cross-industry occupational employment and wage estimates for individual States.

3. Does OEWS have estimates for metropolitan and nonmetropolitan areas?
   Yes. The table in *Where can OEWS estimates be found?* shows where to find OEWS estimates, including cross-industry occupational employment and wage estimates for metropolitan and nonmetropolitan areas.

   OEWS has data for approximately 580 metropolitan and nonmetropolitan areas, including 396 metropolitan areas. Please note, however, that not all areas have information for all occupations. In New England, areas are defined based on New England City and Town Areas (NECTA). A listing of the areas and their definitions can be found on the MSA definitions page.

C. Data we do not have

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1. Does OEWS produce estimates by age, race, sex, education, or any other demographic characteristics?
   No. The OEWS survey does not gather demographic information. The BLS Current Population Survey program provides information on employment, unemployment, and weekly earnings by a variety of demographic characteristics.

2. Does OEWS produce estimates by size of establishment?
   No. The OEWS survey does not produce estimates based on total establishment employment. Information pertaining to the number of establishments in various employment size classes and their aggregate employment (economy wide and by industry) can be obtained by contacting the staff at the Quarterly Census of Employment & Wages program.

3. Does OEWS have any data on unemployment for specific occupations?
   No. The OEWS survey is an occupational employment and wage survey only. Information on selected unemployment indicators (including broad occupational groups) can be found in "The Employment Situation" news release from the BLS Current Population Survey.

4. Does OEWS have any information on job vacancies?
   No. The OEWS survey does not ask establishments for vacancy information. Another BLS program, the Job Openings and Labor Turnover Survey (JOLTS), asks establishments for the number of job openings on the last business day of each month. However, the data are not available by occupation. Job seekers can find links to State job banks and to private-sector job banks at www.jobbankinfo.org.

5. Does OEWS have occupational employment projections or information on occupational outlook?
   No. The Bureau of Labor Statistics' Office of Employment Projections provides 10-year employment projections by occupation. For more than 50 years, the Bureau's Occupational Outlook Handbook has been a nationally recognized source of career information. It describes what workers do on the job, working conditions, the training and education needed, wages from the OEWS survey, and expected job prospects for a variety of occupations.

6. Does OEWS have occupational employment estimates that include the self-employed?
   No. The Bureau of Labor Statistics' Office of Employment Projections provides current and projected national economy-wide occupational employment estimates that include the self-employed.

7. Are OEWS industry and public/private ownership data available beyond the national level--for states and metropolitan / nonmetropolitan areas?
   No. BLS publishes estimates by industry and public/private ownership type at the national level only. Some industry-specific OEWS estimates for individual States, however, are available for research purposes; please see the OEWS Research Estimates page for more information.

8. Do the OEWS wage estimates include benefits?
   No. OEWS wage estimates represent wages and salaries only, and do not include nonproduction bonuses or employer costs of nonwage benefits, such as health insurance or employer contributions to retirement plans. Information on cost of benefits, benefit incidence, and detailed plan provisions is available from the National Compensation Survey program.

D. Definitions, concepts, and classifications

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1. What is the difference between an establishment, an industry, and an occupation?

   An **establishment** is the physical location of a certain economic activity, for example, a factory, mine, store, or office. Generally a single establishment produces a single good or provides a single service. An enterprise (a private firm, government, or nonprofit organization) could consist of a single establishment or multiple establishments. A multi-establishment enterprise could have all its establishments in one industry (i.e., a chain), or could have various establishments in different industries (i.e., a conglomerate).

   An **industry** is a group of establishments that produce similar products or provide similar services. For example, all establishments that manufacture automobiles are in the same industry. A given industry, or even a particular establishment in that industry, might have employees in dozens of occupations. The North American Industry Classification System (NAICS) groups similar establishments into industries. What is the NAICS?

   An **occupation** is a set of activities or tasks that employees are paid to perform. Employees that perform essentially the same tasks are in the same occupation, whether or not they are in the same industry. Some occupations are concentrated in a few industries, while other occupations are found in the majority of industries.

2. How are "employees" defined by the OEWS survey?

   "Employees" are all part-time and full-time workers who are paid a wage or salary. The survey does not cover the self-employed, owners and partners in unincorporated firms, household workers, or unpaid family workers.

3. How are "wages" defined by the OEWS survey?

   Wages for the OEWS survey are straight-time, gross pay, exclusive of premium pay.

   The following are **included** in the collection of OEWS wage data:

   - Base rates
   - Commissions
   - Cost-of-living allowances
   - Deadheading pay
   - Guaranteed pay
   - Hazard pay
   - Incentive pay
   - Longevity pay
   - Over-the-road pay (Mileage)
   - Piece rates
   - Portal-to-portal rates
   - Production bonuses
   - Tips

   The following are **excluded** from the collection of OEWS wage data:

   - Attendance bonuses
   - Back pay
   - Clothing allowances
   - Discount
   - Draw
   - Holiday bonus
   - Holiday premium pay
   - Jury duty pay
   - Meal and lodging payments
   - Merchandise discounts
   - Non-production bonuses
   - On-call pay
   - Overtime pay
   - Perquisites
   - Profit-sharing payments
   - Relocation allowances
   - Severance pay
   - Shift differentials
   - Stock bonuses
   - Tool/equipment allowances
   - Tuition repayment
   - Uniform allowance
   - Weekend premium pay
   - Year-end bonuses

4. What are mean wages? What are median wages?

   The OEWS program produces estimates of wages by occupation, i.e., the wages paid to wage or salary employees in a given occupation in the U.S., in a particular State, or in a particular industry. These occupational wage estimates are either estimates of mean wages or percentiles, such as the median wage.

   - A **mean wage** is an average wage. An occupational mean wage estimate is calculated by summing the wages of all the employees in a given occupation and then dividing the total wages by the number of employees.
   - A **percentile wage** is a boundary. For example, an occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in a given occupation earn more than the median wage, and half the workers earn less than the median wage. For more information, see the page on percentiles.

5. How does OEWS classify occupations?

   In 1999, the OEWS survey began using the Office of Management and Budget (OMB) Standard Occupational Classification (SOC) system. The May 2010 OEWS estimates mark the first set of estimates based, in part, on data collected for the 2010 Standard Occupational Classification system. Most occupations in this release are 2010 occupations. In some cases, however, an estimate for a temporary occupation was created from data reported for one or more occupations in the 2000 SOC combined with data reported for one or more 2010 SOC occupations. Some occupations have the same title as a 2010 SOC occupation, but not the

same content. These occupations are marked with an asterisk (*) and given a temporary code for the OEWS data. Starting with the May 2012 data, the OEWS data reflects the full set of detailed occupations in the 2010 SOC. The detailed SOC occupations are allocated among these twenty-three major groups:

- 11-0000 Management Occupations
- 13-0000 Business and Financial Operations Occupations
- 15-0000 Computer and Mathematical Occupations
- 17-0000 Architecture and Engineering Occupations
- 19-0000 Life, Physical, and Social Science Occupations
- 21-0000 Community and Social Service Occupations
- 23-0000 Legal Occupations
- 25-0000 Education, Training and Library Occupations
- 27-0000 Arts, Design, Entertainment, Sports, and Media Occupations
- 29-0000 Healthcare Practitioners and Technical Occupations
- 31-0000 Healthcare Support Occupations
- 33-0000 Protective Service Occupations
- 35-0000 Food Preparation and Serving Related Occupations
- 37-0000 Building and Grounds Cleaning and Maintenance Occupations
- 39-0000 Personal Care and Service Occupations
- 41-0000 Sales and Related Occupations
- 43-0000 Office and Administrative Support Occupations
- 45-0000 Farming, Fishing, and Forestry Occupations
- 47-0000 Construction and Extraction Occupations
- 49-0000 Installation, Maintenance, and Repair Occupations
- 51-0000 Production Occupations
- 53-0000 Transportation and Material Moving Occupations
- 55-0000 Military Specific Occupations (not surveyed in OEWS)

More information about the Standard Occupational Classification system, including the full SOC structure, is available from the BLS SOC page. Detailed information on using the SOC to classify occupations can be found in the SOC User Guide.

6. Is the OEWS classification system compatible with other occupational classification systems?
   Yes. OEWS uses the Standard Occupational Classification (SOC) system, which was designed to be used by all Federal statistical agencies reporting occupational data. The SOC is fully compatible with the occupational classifications used by the U.S. Bureau of the Census and O*NET. The U.S. Census Bureau provides a number of SOC-related crosswalks, including that of Census Occupational Classification to SOC, and for mapping older versions of the SOC to newer versions. The National Crosswalk Service Center provides crosswalks between the SOC and other systems, including O*NET, Military Occupational Classification (MOC), and the OEWS classification system used before 1999.

7. What is the latest news about the 2018 Standard Occupational Classification (SOC) revision?
   Please visit the BLS SOC website for more information.

8. How does the OEWS program define industry classifications? What is the NAICS? What do the "OEWS designations" for government industries mean?
   The OEWS program uses definitions of industries found in the North American Industry Classification System (NAICS). The NAICS is used throughout the Federal Government to group establishments into industries based on the goods or services they produce. The NAICS structure makes it possible to collect and calculate establishment data by broad industrial sectors, subsectors (3-digit NAICS levels), industry groups (4-digit NAICS levels), and NAICS industries (5- and 6-digit NAICS levels).

   The OEWS survey produces occupational employment and wage estimates for sector, 3-, 4-, and selected 5- and 6-digit NAICS levels. With the exception of schools, hospitals, gambling establishments, and casino hotels, industry-specific estimates only include privately owned establishments. Schools and hospitals that are owned by State and local governments are included with the estimates of privately owned schools and hospitals in the appropriate NAICS code. Beginning with the May 2014 estimates, gambling establishments and casino hotels owned by local governments are included with privately owned establishments in NAICS 7132 Gambling Industries and 72112 Casino Hotels. In the May 2013 and earlier estimates, gambling establishments and casino hotels owned by local government were included as part of industry code 9993 Local Government. OEWS classifies most government-owned establishments differently from the NAICS. The NAICS classifies government establishments according to their primary function and includes detailed industries within sector 92 Public Administration. The OEWS does not use NAICS sector 92. Instead, the OEWS survey produces occupational employment and wage estimates at the Federal, State, and local Government levels and denotes them with industry codes 9991, 9992, and 9993, respectively. The State and local government data (NAICS 9992 and 9993) consist of all State and local government establishments, except schools, hospitals, and local government gambling establishments and casino hotels. State and local government data including schools, hospitals, and local government gambling establishments and casino hotels are also available as part of the cross-industry ownership estimates. Estimates for schools and hospitals are available for private, state, and local government ownerships combined, as well as by individual ownership types. The Federal Government estimates consist of all establishments in the executive branch of the Federal Government. Beginning in 2010, Tennessee Valley Authority (TVA) data is included in the Federal Government estimates as well. The judicial and legislative branches of the Federal Government are not surveyed.

   For more information on the availability and classification of public/private ownership data, please see *What type of public/private ownership data does OEWS have?*

9. What industries are surveyed? What industries are not surveyed?
   The OEWS survey collects occupational employment and wage data from establishments in nonfarm industries only, and produces estimates for the following sectors, or 2-digit industries, and the 3-, 4-, and selected 5- and 6-digit industries that comprise them.

   Industries surveyed (by sector):

   - Sector 11 - Forestry and Logging (NAICS 1133 Logging, 1151 Support Activities for Crop Production, and 1152 Support Activities for Animal Production only)
   - Sector 21 - Mining
   - Sector 22 - Utilities
   - Sector 23 - Construction
   - Sectors 31, 32, and 33 - Manufacturing
   - Sector 42 - Wholesale Trade
   - Sectors 44 and 45 - Retail Trade
   - Sectors 48 and 49 - Transportation and Warehousing
   - Sector 51 - Information
   - Sector 52 - Finance and Insurance
   - Sector 53 - Real Estate and Rental and Leasing
   - Sector 54 - Professional, Scientific, and Technical Services
   - Sector 55 - Management of Companies and Enterprises

- Sector 56 - Administrative and Support and Waste Management and Remediation Services
- Sector 61 - Educational Services
- Sector 62 - Health Care and Social Assistance
- Sector 71 - Arts, Entertainment, and Recreation
- Sector 72 - Accommodation and Food Services
- Sector 81 - Other Services (except Federal, State, and Local Government)
- Sector 99 - Federal, State, and Local Government, excluding state and local schools and hospitals, and the US Postal Service (OEWS Designation)

Industries NOT surveyed:

- NAICS 111 - Crop Production
- NAICS 112 - Animal Production
- NAICS 1131 - Timber Tract Operations
- NAICS 1132 - Forest Nurseries and Gathering of Forest Products
- NAICS 114 - Fishing, Hunting, and Trapping
- NAICS 1153 - Support Activities for Forestry
- NAICS 814 - Private Households

For statistics on the U.S. agricultural sector, please visit the United States Department of Agriculture's National Agricultural Statistics Service program website.

10. What is a Location Quotient?

    In general, a location quotient (LQ) is a ratio that compares the concentration of a resource or activity--employment, for example--in a defined area to that of a larger area or base. Using OEWS data, LQs can be used to compare local area occupational employment in a metropolitan statistical area or State to that of the nation as a whole. LQs greater (less) than one indicate a local concentration of employment that is higher (lower) than that of the U.S. as a whole.

    Location Quotient =

    (Area occupational employment / Area total employment)

    (U.S. occupational employment / U.S. total employment)

11. Where can Metropolitan and Nonmetropolitan Area Definitions be found?

    The most recent Metropolitan and Nonmetropolitan area definitions are available here.

12. What is the SOC?

    The Standard Occupational Classification (SOC) system is used by Federal statistical agencies to classify workers and jobs into occupational categories for the purpose of collecting, calculating, analyzing, or disseminating data. The 2010 SOC system contains 840 detailed occupations, aggregated into 461 broad occupations. In turn, the SOC combines these 461 broad occupations into 97 minor groups and 23 major groups.

13. How are workers classified into occupations under the Standard Occupation Classification (SOC) system? Can the OEWS program provide classification determinations for non-statistical purposes, such as prevailing wages?

    The OEWS program at the Bureau of Labor Statistics (BLS) is often asked about coding occupations for reasons that are not statistical in nature, such as for prevailing wage determinations. The SOC was developed for use by federal statistical agencies to classify workers into occupational categories for the specific purpose of producing statistical data. The OEWS staff can provide guidance that is in accordance with the 2010 SOC Classification Principles and Coding Guidelines. However, this guidance is solely to help users of statistical data find workers who perform a specific set of work activities or to help statistical data collectors. ***The OEWS program cannot make official classification determinations for non-statistical purposes, such as prevailing wages.*** It is up to customers using the SOC for non-statistical purposes to review the detailed definitions for the SOC codes and determine the best match, in light of their own program and policy purposes. Such users are not limited to following the SOC classification principles and guidelines used by federal statistical agencies. For example, users may develop their own policies concerning workers that meet the definition of two or more occupations.

    Under the SOC, workers are classified into occupations based on their job duties, not their job titles. Workers with the same title may be classified in different occupations, based on their individual job duties. For example, the title "project manager" is so broad that it could fit into multiple SOC occupations, and more information about job duties would be needed to assign a code.

    The best way to proceed is to look at the various definitions for the SOC codes and determine which best matches the work being performed. All of the 2010 SOC codes are available online at https://www.bls.gov/soc/2010/2010_major_groups.htm. Clicking on the desired major group will show the various minor groups, broad occupations, and detailed occupations that make up the major group. Definitions are available only at the detailed occupation level, which is indicated by a code ending in a number other than 0. Workers who perform activities not described in any distinct detailed occupation are included in an appropriate residual ("all other") occupation. The residual occupations appear as the last occupation in a group and end in the number 9.

    More information on using the SOC to classify workers can be found in the 2010 SOC Classification Principles and Coding Guidelines. The Classification Principles form the basis on which the SOC system is structured. The Coding Guidelines are intended to assist users in the federal statistical agencies in consistently assigning SOC codes and titles to survey responses and in other coding activities.

    Warranting specific mention are Classification Principles 1 and 2, as well as Coding Guideline 2. Classification Principle 1 states that "Each occupation is assigned to only one occupational category at the lowest level of the classification." Classification Principle 2 states that "Occupations are classified based on work performed and, in some cases, on the skills, education, and/or training needed to perform the work at a competent level." Coding Guideline 2 states that "When workers in a single job could be coded in more than one occupation, they should be coded in the occupation that requires the highest level of skill. If there is no measurable difference in skill requirements, workers should be coded in the occupation in which they spend the most time." The full list of 2010 SOC classification principles and coding guidelines are available on the SOC website at: https://www.bls.gov/soc/home.htm.

    Please also keep in mind that the SOC was not designed for non-statistical purposes. Frequently Asked Question (FAQ) number 13 found within the 2010 SOC User Guide states the following:

    The 2010 SOC was designed solely for statistical purposes. Although it is likely that the 2010 SOC also will be used for various non-statistical purposes (e.g., for administrative, regulatory, or taxation functions), the requirements of government agencies or private users that choose to use the 2010 SOC for non-statistical purposes have played no role in its development, nor will OMB modify the classification to meet the requirements of any non-statistical program. Consequently, the 2010 SOC is not to be used in any administrative, regulatory, or tax program unless the head of the agency administering that program has first determined that the use of such occupational definitions is appropriate to the implementation of the program's objectives.

14. What is MB3?

    With the May 2021 estimates, the OEWS program has implemented a new estimation method. This new model-based method, called MB3, has advantages over the previous estimation method, as described in the Monthly Labor Review article at www.bls.gov/opub/mlr/2019/article/model-based-estimates-for-the-occupational-employment-statistics-program.htm. For more information, see the May 2021 Survey Methods and Reliability Statement at www.bls.gov/oes/methods_21.pdf.

Under MB3, data provided by survey respondents are used to model occupational staffing patterns and wages for all unobserved establishments in the population, including establishments that were not sampled, sampled establishments that did not respond, and respondents that did not meet stability criteria.

A donor pool typically consisting of 10 nearest neighbor responding establishments is used to predict data for each unobserved establishment; if 10 donors are not available, then as few as 5 can be used. Donors are matched to recipients based on detailed industry, geographic area, ownership, size, and survey panel. Within a given donor pool, donors that are more similar to the unobserved establishment are given more weight in determining the modeled data.

Each establishment's population employment is set as the average of its May 2021 and November 2020 employment from the Quarterly Census of Employment and Wages, the UI database from which the OEWS sample is drawn. Using adjustment factors derived from the OEWS survey data, wages collected in earlier survey panels are adjusted to the reference date of the estimates and donor wages are adjusted for differences between donor and recipient characteristics such as geographic area and industry.

E. How to get OEWS data

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1. Where can OEWS estimates be found?

   All OEWS data 1988 - present can be found here.

   Please see the table below for a summary of data availability by data type.

   OEWS Employment and Wage Estimates

	Cross-industry	Industry-specific and by public/private ownership
National	National Occupational Employment and Wage Estimates	OEWS National Industry-Specific Occupational Employment and Wage Estimates
By State	State Occupational Employment and Wage Estimates	Some estimates are available for research purposes. See the OEWS Research Estimates page.
By Metropolitan and Nonmetropolitan Area	Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates	May be available from State Workforce Agencies. Contact the appropriate office on the State Contact List

3. Are OEWS estimates available in print form?

   No. Hard copies of OEWS estimates are not available. All pages on the BLS website, including OEWS estimates pages, however, can be converted to a printable format by clicking on the print button near the top right corner of the page. In addition, a variety of OEWS publications are available in PDF format.

4. What are the different ways to obtain OEWS estimates from this website?

   OEWS data can be obtained in three ways, each having its own unique advantages and disadvantages:

   1. Browsing **HTML tables**
   2. Using the **database query tool**
   3. Downloading **Excel spreadsheets**

   HTML tables Navigate to the OEWS Data page and click on the "HTML" links according to your desired level of analysis.

   Advantages:
   - Fastest and most convenient way to access OEWS data.
   - Provide an overview of the estimates produced by the OEWS survey.
   - Links within each HTML page that provide access to additional information.

   Disadvantages:
   - Data selections are not customizable.
   - Not all data variables produced by the OEWS survey (such as percentile wages) are displayed.

   Database query tool Navigate to the OEWS Query System, then choose the appropriate specifications. The resulting table can be viewed in either HTML or Microsoft Excel format.

   Advantages:
   - Highly customizable; provides fast answers to specific questions without having to look through large tables or spreadsheets.
   - Ability to select data according occupations, industries, geographic areas, and data variables.

   Disadvantages:
   - Only most recent year of data is available.
   - Not all data variables produced by OEWS are available.

   Downloading the Data Navigate to the OEWS Data page and click on the "XLS" links to download Microsoft Excel spreadsheet files.

   Advantages:
   - The only way to comprehensively access all available OEWS data (all years, all data variables).

   Disadvantages:
   - The sheer wealth of information may overwhelm some data users. As such, this format is recommended for users who would like to use the OEWS data in order to make calculations or conduct economic research.

5. Are OEWS data available for previous years?

   Yes. The OEWS survey began in 1997, and data is available annually for 1997 - present. No data is available for 1996. Limited data from an older version of the survey is available for 1988 - 1995. All years of OEWS data are available here. Please see the descriptive paragraphs below for more information on the limitations of the older data.

   NOTE: If you are using OEWS data from previous years, please be sure to read *Can OEWS data be used to compare changes in employment or wages over time?* before conducting any analyses.

   State data

   1997 - present
   - Cross-industry data available

   1988 - 1995

- No OEWS data available
- Check with State workforce agencies for possible datasets.

Metropolitan area data

2015 - 2018
- Cross-industry data available based on Office of Management and Budget's revised metropolitan area definitions, based on the results of the 2010 decennial census
- An Excel file with all counties and towns listed in each area is also available.

2005 - 2014
- Cross-industry data available based on Office of Management and Budget's metropolitan area definitions, based on the results of the 2000 decennial census

1997 - 2004
- Cross-industry data available based on Office of Management and Budget's old metropolitan area definitions

1988 - 1995
- No OEWS data available
- Check with State workforce agencies for possible datasets.

Nonmetropolitan area data

2006 - present
- Cross-industry data available

1988 - 1995
- No OEWS data available
- Check with State workforce agencies for possible datasets.

Ownership data

2009 - present
- Industry data available by public/private ownership.
- See *What kind of public/private ownership data does OEWS have?* for more information.

Occupation data

2010 - present
- 2010 Standard Occupational Classification (SOC) system in use.

1999 - 2009
- 2000 Standard Occupational Classification (SOC) system in use.

1988 - 1998
- OEWS proprietary occupational classification system in use.

Industry data

2012 - present
- 2012 North American Industry Classification System (NAICS) in use.
- Data available by sector, 3-, 4-, and selected 5- and 6-digit NAICS levels.

2008 - 2011
- 2007 North American Industry Classification System (NAICS) in use.
- Data available by sector, 3-, 4-, and selected 5- and 6-digit NAICS levels.
- Most significant revisions from 2002 NAICS in the Information Sector, particularly within NAICS 517000 - Telecommunications.

2002 - 2007
- 2002 NAICS in use.
- Sector and 3-digit NAICS levels not available for 2002.

1997 - 2001
- Standard Industrial Classification (SIC) system in use.
- 2-digit and 3-digit SIC levels available.

1988 - 1995
- 2-digit and 3-digit SIC levels available
- Data for each industry available once every three years.
- Do not include: wage estimates; State, metropolitan, or nonmetropolitan area data; or total national employment by occupation.
- Not possible to calculate total national employment for a given occupation by summing across industries.
- Useful mainly to data users interested in occupational staffing patterns for specific industries.
- Please see table below for a list of industries available

Industries available, 1988 - 1995 OEWS estimates

INDUSTRY	1987 SIC CODE	YEARS AVAILABLE
Agricultural services	7	1992, 1995
Mining	14-Oct	1990, 1993
Construction	15-17	1990, 1993
Manufacturing	20-39	1989, 1992, 1995
Transportation and public utilities	40-49	1988, 1991, 1994
Wholesale trade	50-51	1988, 1991, 1994
Retail trade	52-59	1988, 1991, 1994
Finance, insurance, and real estate	60-67	1990, 1993
Services (includes health care, except hospitals)	70-87, 89	1990, 1993
Hospitals	806	1989, 1992, 1995
Educational services	82	1988, 1991, 1994

INDUSTRY	1987 SIC CODE	YEARS AVAILABLE
State government	-	1988, 1991, 1994
Local government	-	1988, 1991, 1994

F. Other important information about OEWS data

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1. Can OEWS data be used to look at changes in employment and wages over time?

The OEWS survey methodology is designed to create detailed cross-sectional occupational employment and wage estimates by geographic area or industry, but it is less useful for looking at changes over time. Challenges in using OEWS data as a time series include changes in the occupational, industry, and geographic classification systems; changes in the OEWS methodology and data collection procedures; and permanent features of the OEWS methodology, including the three-year pooled sample design. These changes and methodological features are discussed in detail below.

The OEWS program is considering changes in methodology that would make the data useful for time-series comparisons, at least at more aggregated levels, but these are only in early stages of discussion. The Bureau of Labor Statistics at present does not encourage the use of OEWS data for time-series analysis. If users choose to make such comparisons, we caution them to note the comparability issues and data limitations described below.

Changes in occupational classification

The OEWS survey used its own occupational classification system through 1998. In 1999, the OEWS program switched to the federal Standard Occupational Classification (SOC) system. The 1999 OEWS survey data provide estimates for most of the nonresidual occupations in the 2000 SOC. The 2004-2009 OEWS data provide estimates for all occupations in the 2000 SOC.

With the May 2010 estimates release, the OEWS program began implementing the 2010 SOC. The May 2010 and May 2011 estimates are based on a combination of survey data collected under the 2000 SOC and data collected under the 2010 SOC and use a hybrid of the two classification systems. For more information, see "How were the occupations in the May 2010 and May 2011 estimates created from data based on the 2000 and 2010 SOC codes?"

The May 2012 through May 2018 estimates are based on the 2010 SOC. Beginning with the May 2017 estimates, the OEWS program replaced 21 detailed occupations found in the 2010 SOC with 10 new aggregations of those occupations. More information is available in the notice on OEWS occupational and industry aggregations.

In May 2019, the OEWS program began implementing the 2018 SOC. The May 2019 and May 2020 estimates are based on a combination of survey data collected under the 2010 SOC and survey data collected under the 2018 SOC and use a hybrid of the two classification systems. For more information, see "How were the May 2019 and May 2020 estimates created from survey data based on both the 2010 and 2018 SOCs?" and the OEWS 2018 SOC implementation page.

The May 2021 estimates were the first OEWS estimates based entirely on survey data collected using the 2018 SOC. The May 2021 estimates contain data for most 2018 SOC detailed occupations. To improve data quality, the OEWS program continues to aggregate some occupations to the 2018 SOC broad occupation level or as OEWS-specific combinations of detailed occupations. A downloadable XLS file of May 2021 OEWS occupations with definitions is available.

Because of these changes to the occupational classification system, some occupations will have only a limited time series available, and data for many other occupations will not be directly comparable over time. For example, 15-2051 Data Scientists and 29-2036 Medical Dosimetrists are new occupations created as part of the 2018 SOC revision, so no data are available for these occupations before May 2021. Even where similar occupations exist before and after classification changes, comparability may be affected by changes to the occupation's title and/or definition or changes in related occupations. For example, during the 2010 SOC revision, the definition for the market research analysts occupation was expanded to include workers whose job duties involve creating marketing campaigns without necessarily performing market research. Because of this definitional change, the 2000 SOC occupation 19-3021 Market Research Analysts and the 2010 and 2018 SOC occupation 13-1161 Market Research Analysts and Marketing Specialists may appear similar, but are not directly comparable.

Changes in industrial classification

In 2002, the OEWS survey switched from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS). As a result, there were changes in many industry definitions. Even definitions that appear similar between the two industry classifications may have differences because of the way auxiliary establishments are treated. For example, under the SIC, the industry "grocery stores" included their retail establishments, warehouses, distribution facilities, and administrative headquarters. Under NAICS, these four establishment types are classified in separate industries because they perform different activities. Only the retail establishments are included in the NAICS industry that contains grocery stores. The change in industry classification systems also resulted in changes to the occupations listed on the survey form for a given industry.

In 2008, the OEWS survey switched from the 2002 NAICS to the 2007 NAICS. OEWS used the 2012 NAICS from May 2012–May 2016 and the 2017 NAICS from May 2017–May 2021. The OEWS program implemented the 2022 NAICS with the publication of the May 2022 estimates.

In May 2017, the OEWS program also stopped producing data for selected 4- and 5-digit NAICS industries that were previously published separately. Some of these 4-digit NAICS industries are now published only at the 3-digit NAICS level, and others became part of OEWS-specific industry aggregations. More information is available in the notice on OEWS occupational and industry aggregations.

Changes in geographical classification

In May 2005, the OEWS survey began using metropolitan area definitions based on the results of the 2000 decennial census. Prior to 2005, OEWS had data for 334 metropolitan areas. Data for nonmetropolitan areas are not available before May 2006.

Beginning with the May 2015 estimates, the OEWS program implemented new metropolitan area definitions as designated by the Office of Management and Budget (OMB) and based on the results of the 2010 decennial census. May 2015 OEWS data were available for 394 metropolitan areas, 38 metropolitan divisions that made up 11 of the metropolitan areas, and 167 OEWS-defined nonmetropolitan areas. Prior to implementing the new area definitions, OEWS data were available for 380 metropolitan areas, 34 metropolitan divisions, and 172 OEWS-defined nonmetropolitan areas.

Aside from the major revisions in May 2005 and May 2015, additional changes to the metropolitan area definitions may have been designated by OMB and implemented by OEWS. When revised metropolitan area definitions are implemented, the specific geographic composition of existing metropolitan areas may change. (For example, additional counties may be incorporated into an existing area.) Therefore, even if a given metropolitan area is present under both sets of definitions, data for that area may not be directly comparable before and after the revision.

With the May 2018 estimates, OEWS stopped publishing data for metropolitan divisions. Data for the 11 large metropolitan areas that contain divisions are now available at the Metropolitan Statistical Area (MSA) or New England City and Town Area (NECTA) level only. In addition, some smaller nonmetropolitan areas were combined to form larger nonmetropolitan areas. The May 2018 OEWS estimates contain data for 134 nonmetropolitan areas, compared with 167 nonmetropolitan areas in the May 2017 estimates. More information is available from the notice on changes to the May 2018 OEWS metropolitan and nonmetropolitan data.

Effects of the COVID-19 pandemic

Response rates for the May 2020 and May 2021 estimates were negatively affected by the difficulty of collecting data from employers during the COVID-19 pandemic. Lower response rates may negatively affect data availability and data quality.

In addition, features of the OEWS methodology limit the ability of the data to capture changes caused by the COVID-19 pandemic as of the reference date of the estimates. For more information, see the OEWS COVID-19 impact statement.

Methodological changes and permanent features of the OEWS methodology

Three-year sample design Each set of OEWS estimates is produced by combining six semiannual panels of survey data collected over a three-year period. For example, the May 2023 OEWS estimates were based on survey panels collected with reference dates of May 2023, November 2022, May 2022, November 2021, May 2021, and November 2020. Each year, the two oldest survey panels drop out of the sample and two new survey panels are added.

Combining three years of survey data allows the OEWS survey sample to be large enough to produce estimates at high levels of occupational, industry, and area detail. However, it also makes it more difficult to use the OEWS data to look at changes through time, particularly across short time periods such as one year to the next. In general, using three years of survey data to create each set of estimates means that sudden changes in occupational employment or wages in the population, as well as some types of methodological and classification changes, will show up in the OEWS estimates only gradually.

Although the OEWS data are adjusted to represent the reference date of the estimates, these adjustments involve making assumptions that may not always hold exactly. OEWS employment levels are adjusted to represent the in-scope population based on the average of May and November employment from the Quarterly Census of Employment and Wages (QCEW) for the two most recent survey panels used in the estimates. This methodology assumes that industry staffing patterns change slowly, so that the proportions of different occupations reported in earlier survey panels remain accurate as of the reference date. To the extent that this assumption does not hold, the OEWS employment estimates will represent a moving average of staffing patterns over the three-year period.

Wages collected in earlier survey panels are also aged or updated to the reference date of the estimates. Under the MB3 estimation method implemented in May 2021 and discussed below, wages are updated using aging factors derived by applying a regression model to the OEWS survey data. For the May 2020 and earlier estimates, wages were updated based on movements in the BLS Employment Cost Index (ECI). Although the details of the wage updating methodology have changed with the switch to MB3, both the current and previous methods assume that detailed occupational wage rates in a specific geographic area and industry move similarly to cross-industry wages for a broader group of occupations and areas.

Changes to the OEWS estimation method With the May 2021 estimates, the OEWS program switched to a new model-based estimation method called MB3. Additional changes to the wage estimation process were made in the May 2022 estimates. These wage processing changes include using their reported wage rates, if available, to represent private and local government employers collected in the May 2020 and later survey panels. Prior to May 2022, wage data for private and local government employers were placed into 12 wage intervals. Data in each interval were then assigned a specific wage value for use in estimation. These assigned wage values were modeled from the OEWS survey data (May 2021) or derived from a separate survey conducted by the BLS National Compensation Survey program (May 2020 and earlier).

The MB3 estimation method has advantages over the previous estimation method, as described in the Monthly Labor Review article "Model-Based Estimates for the Occupational Employment Statistics program." However, the changes to the estimation method in May 2021 and May 2022 will also affect the comparability of estimates produced before and after the changes. Detailed technical information about the MB3 estimation method is available in the May 2023 Survey Methods and Reliability Statement.

Changes in data collection There have been significant changes over the last 20 years in the way OEWS data are collected. Prior to 2001, if a worker's occupation was not printed on the establishment's industry-specific form, the employer may have reported them in an "all other" category or in a related occupation. From 2001 through the May 2017 survey panel, OEWS used more targeted collection methods and asked for more information about workers in occupations that were difficult to classify. Smaller establishments were sent a write-in form, and the largest establishments were sent a letter asking them to report their data electronically. Medium and large establishments were sent shortened industry-specific forms that listed only the occupations that were likely to be found in the establishment's industry. If a worker's occupation could not be classified in one of the occupations printed on the form, the employer was asked to report their job duties on a separate page. Asking employers to report specific information about workers they could not classify may have had the effect of showing increased employment in occupations not included on a particular industry-specific form. In addition, changes to which occupations were listed on each form may have caused employers to classify workers differently than they had in prior years.

From November 2017 to present, smaller establishments continue to receive a write-in form, but all other establishments are sent a letter asking them to report their data online or by email. In addition, establishments that provide an email address are sent emails asking them to report their data electronically. OEWS eliminated the industry-specific forms, which allows all employers to report their workers' actual job titles and job duties instead of classifying them into occupational categories provided by OEWS. All occupational classification is done by the expert OEWS staff instead of burdening employers with the task.

Changes in scope Beginning in 2010, data for the Tennessee Valley Authority (TVA) were added to the federal government estimates.

The May 2017 estimates included for the first time some establishments that were previously classified in private households. Beginning in May 2013, the Quarterly Census of Employment and Wages (QCEW), from which the OEWS sample is drawn, began coding some establishments that were historically found in NAICS 814110 (Private Households) to NAICS 624120 (Services for the Elderly and Persons with Disabilities). The establishments that changed NAICS codes caused a scope increase for OEWS because NAICS 814110 is out of scope and NAICS 624120 is in scope for OEWS. These newly in-scope units were removed from the survey data and not used for the May 2015 and May 2016 estimates. The May 2017 estimates were the first estimates for which all six underlying survey panels were collected under the new scope. Therefore, the newly in-scope units were included in the May 2017 estimates, aligning the scope of the OEWS estimates for NAICS 624120 with that of the QCEW frame.

Changes in the survey reference period In 2002, the reference months for the OEWS survey were changed from October, November, and December to May and November in order to reduce seasonal influences. Industries or occupations that have seasonal employment variations between the two sets of reference months will show employment shifts due to the change in the time of year the data were collected.

Changes in mean wage estimation methodology In 2002, the method of calculating mean wages was changed for occupations with any workers earning above $70 per hour in order to remove a downward bias in mean wage estimates. The result of this change may be seen as higher mean wage estimates for some occupations. However, the median and percentile wage estimates would not be affected by this change.

2. How should OEWS data be cited?

The suggested citation for the Occupational Employment and Wage Statistics web site is:

> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment and Wage Statistics*, [date accessed] [www.bls.gov/oes/].

The suggested citation for articles from the Occupational Employment and Wages bulletin is:

> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment and Wages*, [year], Bulletin [number], U.S. Government Printing Office, Washington, DC, [year].

3. Why does the sum of the areas within a State not equal the statewide employment?

The sum of the areas may differ from statewide employment for several reasons:

- Rounding

- The totals include data items that are not released separately due to confidentiality and quality reasons.
- Many States include metropolitan areas that cross State lines. These cross-State metropolitan area estimates include data from each State, which should not be included in a total for a single State.
- A small number of establishments indicate the State in which their employees are located, but do not indicate the specific metropolitan or nonmetropolitan area in which they are located. Data for these establishments are used in the calculation of the statewide estimates, but are not included in the estimates of any individual area.

4. Why are there no estimates for a particular occupation in a specific area or industry?

   Individual occupational employment and wage estimates may be withheld from publication for a number of reasons, including failure to meet BLS quality standards or the need to protect the confidentiality of our survey respondents. In order to further ensure confidentiality, OEWS is not able to provide the specific reason that an estimate was not released. Unpublished OEWS estimates cannot be made available to the public.

   In general, if either an employment or a wage estimate (but not both) is available for an occupation, the occupation will appear in the data with the unpublished estimate footnoted "Estimate not released." If neither an employment nor a wage estimate could be published, the occupation will not be shown in the data. Occupations for which separate data are unavailable are included in the estimates for the appropriate major group category and in the "all occupations" totals. For this reason, major group and "all occupations" employment estimates may exceed the sum of the employment estimates for the available detailed occupations.

5. Why don't the major group or "all occupations" employment totals equal the sum of the employment estimates for detailed occupations?

   The major group and "all occupations" totals may include detailed occupations for which separate employment estimates could not be published. As a result, employment totals at the major group and "all occupations" levels may be greater than the sum of employment estimates for the detailed occupations. Please see *Why are there no estimates for a particular occupation in a specific area or industry?* for more information on unreleased estimates.

   Because the major group employment totals include employment for the detailed occupations in that group, summing across both detailed occupations and major groups will result in double counting of occupational employment. When this occurs, the calculated employment total will exceed the "all occupations" employment total for the area or industry. To avoid double counting, data users should exclude either the major group or detailed occupation data before summing the employment figures. In the downloadable data files, this can be accomplished by using the spreadsheet program to filter the data on the "group" field.

6. What kind of public/private ownership data does OEWS have?

   OEWS has limited ownership estimates for years 1997-2008. After methodology changes introduced in 2006 were applied to a full 3-year sample rotation, new estimates by public/private ownership were made available in 2009.

   Ownership data can be viewed in HTML table format or downloaded in Excel spreadsheet format by following the "national industry-specific and by ownership" links on the OEWS Data page.

   OEWS has additionally created a set of ownership codes which correspond to NAICS classification. The OEWS "all data" file contains a field with these ownership codes to help users sort and filter these very large datasets.

   Please see the reference tables below for a list of ownership codes and a summary of ownership data availability by year.

   NOTE: OEWS added new ownership codes and changed the way it classifies some ownership data in August 2013, so files downloaded before then may indicate different ownership codes than current files.

OEWS ownership codes

OWNERSHIP TYPE	OWNERSHIP CODE
Federal Government	1
State Government	2
Local Government	3
Federal, State, and Local Government	123
Private	5
Local Government and Private	35
State Government, Local Government, and Private	235
Federal, State, and Local Government and Private	1235
Private, Local Government Gambling Establishments (sector 71), and Local Government Casino Hotels (sector 72)	57
Private plus State and Local Government Hospitals	58
Private and Postal Service	59

Ownership data available 2017

NAICS CODES	NAICS TITLE	OWNERSHIP CODES
48, 49	Transportation and warehousing	59
491, 4911	Postal service (federal government)	1
61	Educational services (including private, state, and local government schools)	235
611	Educational services	2, 3, 235
6111	Educational services	3
6111	Elementary and secondary schools	2, 3, 235
6112	Junior colleges	2, 3, 235
6113	Colleges, universities, and professional schools	2, 3, 235
6114	Business schools and computer and management training (including private, state, and local government schools)	235
6115	Technical and trade schools	2, 3, 235
6116	Other schools and instruction	3, 235
6117	Educational support services	3, 235

NAICS CODES	NAICS TITLE	OWNERSHIP CODES
62	Health care and social assistance (including private, state, and local government hospitals)	58
622	Hospitals	2, 3, 235
6221	General medical and surgical hospitals	2, 3, 235
6222	Psychiatric and substance abuse hospitals	2, 235
6223	Specialty hospitals	2, 235
71	Arts, entertainment, and recreation (including local government gambling establishments)	57
713	Amusement, gambling, and recreation industries (including local government gambling establishments)	57
7132	Gambling industries (including local government gambling establishments)	35
72	Accommodation and food services (including local government casino hotels)	57
721	Accommodation (including local government casino hotels)	57
7211	Traveler accommodation (including local government casino hotels)	57
72112	Casino hotels (including local government casino hotels)	35
99, 999	Federal, state, and local government (excluding state and local government owned schools and hospitals, local government owned gambling establishments and casino hotels, and USPS)	123
9991	Federal government executive branch only	1
9992	State government (excluding schools and hospitals)	2
9993	Local government (excluding schools, hospitals, gambling establishments and casino hotels)	3
All other	All other industries not listed above	5

Ownership data available 2009-2013

NAICS CODES	NAICS TITLE	OWNERSHIP CODES
48, 49	Transportation and warehousing	59
491, 4911	Postal service (federal government)	1
61	Educational services (including private, state, and local government schools)	235
611	Educational services	2, 3, 235
6111	Educational services	3
6111	Elementary and secondary schools	2, 3, 235
6112	Junior colleges	2, 3, 235
6113	Colleges, universities, and professional schools	2, 3, 235
6114	Business schools and computer and management training (including private, state, and local government schools)	235
6115	Technical and trade schools	2, 3, 235
6116	Other schools and instruction	3, 235
6117	Educational support services	3, 235
62	Health care and social assistance (including private, state, and local government hospitals)	58
622	Hospitals	2, 3, 235
6221	General medical and surgical hospitals	2, 3, 235
6222	Psychiatric and substance abuse hospitals	2, 235
6223	Specialty hospitals	2, 235
99, 999	Federal, state, and local government (excluding state and local government owned schools and hospitals and USPS)	123
9991	Federal government executive branch only	1
9992	State government (excluding schools and hospitals)	2
9993	Local government (excluding schools and hospitals)	3
All other	All other industries not listed above	5

Ownership data available 1997-2008

NAICS CODES	NAICS TITLE	OWNERSHIP CODES
61, 611	Educational services	1235
6111	Elementary and secondary schools	1235
6112	Junior colleges	1235
6113	Colleges, universities, and professional schools	1235
6114	Business schools and computer and management training	1235

NAICS CODES	NAICS TITLE	OWNERSHIP CODES
6115	Technical and trade schools	1235
6116	Other schools and instruction	1235
6117	Educational Support Services	1235
622	Hospitals	1235
6221	General Medical and Surgical Hospitals	1235
6222	Psychiatric and Substance Abuse Hospitals	1235
6223	Specialty hospitals	1235
99, 999	Federal, state, and local government (excluding state and local government owned schools and hospitals and USPS)	123
9991	Federal government executive branch only	1
9992	State government, excluding schools and hospitals	2
9993	Local government, excluding schools and hospitals	3
All other	All other industries not listed above	5

Ownership data NOT available, all years

NAICS CODES	NAICS TITLE	OWNERSHIP CODES
6114	Business schools and computer and management training	2, 3
6116	Other schools and instruction	2
6117	Educational Support Services	2
6222	Psychiatric and Substance Abuse Hospitals	3
6223	Specialty (except psychiatric and substance abuse) hospitals	3

7. Can OEWS data be used to compare private and government pay for similar work?

Occupational wages in the different ownership groups (the private sector, and state, local, and federal governments) are influenced by many factors that the OEWS measures cannot take into account. Thus, while one can obtain OEWS data that compare estimates of mean and median wages paid in a wide range of detailed occupations across ownership groups, those comparisons do not explain why they might be different. Among the many reasons are:

Level of work performed
- Workers may have different levels of responsibility, despite being in the same occupation.

Age and experience
- More experienced workers tend to have higher wages.
- As an example, data from the Current Population Survey show that federal workers, on average, are older and have far more work experience with their employer than the typical private-sector worker.

Cost of living
- Workers concentrated in large urban areas with higher costs of living are more likely to have higher wages than those working elsewhere.

Establishment size
- Workers in large establishments generally have higher wages than workers in small establishments.

Work schedules
- Full-time workers tend to earn higher hourly wages than part-time workers in the same occupation.
- The OEWS annual wage estimates assume a full-time, year-round schedule of 2,080 hours.

Unionization
- Workers in unionized establishments may have different wages than non-union establishments.

OEWS data are not designed for use in comparing federal and private sector pay because the OEWS data do not contain information about pay according to the level of work performed. BLS conducts a separate survey, the National Compensation Survey, which provides data by level of work for use by the President's Pay Agent. The President's Pay Agent (the Directors of the Office of Personnel Management and the Office of Management and Budget, and the Secretary of Labor) is charged by law with recommending federal pay adjustments to the President. Questions about federal pay comparability should be directed to the U.S. Office of Personnel Management.

8. How were the occupations in the May 2010 and May 2011 estimates created from data based on the 2000 and 2010 SOC codes?

The data for the November 2009, May 2010, November 2010, and May 2011 panels were collected based on the 2010 SOC, while data for the two older panels were collected based on the 2000 SOC. With a few exceptions, almost all the occupations are the same in the 2000 and 2010 occupational classifications systems; in other words, occupations could be combined in one year to be the equivalent of an occupation in another year. Whenever possible, the 2010 occupation was used in estimation. There were several cases, however, where occupations from the two structures had to be combined into a hybrid occupation to used temporarily in OEWS only.

The starting point for combining data collected under both systems was the SOC crosswalk (see the BLS SOC page for more details). In order to better address the OEWS customers' need for detailed occupational data, however, sometimes OEWS combined data differently. For example, the SOC crosswalk shows that the 2010 SOC occupation solar photovoltaic installers was crosswalked to several 2000 occupations, including carpenters, electricians, and roofers. For the 2010 OEWS estimates, these lines of the crosswalk were ignored, and estimates are available for each of these occupations--carpenters, electricians, roofers--even though it is possible that in the four earlier panels of data, employers may have reported solar photovoltaic panel installers in these occupations.

To download an occupational crosswalk between the hybrid SOC-OEWS 2010 and the SOC 2000 or the SOC 2010, please see the 2010 and 2011 OEWS classification Excel spreadsheet. Listed below are the occupations which are in the 2010 OEWS estimates, but not in the 2010 SOC.

Occupations which are in the May 2010 and May 2011 OEWS estimates, but not in the 2010 SOC

OEWS 2011 CODE	OEWS TITLE	HOW THE OCCUPATION IS BASED ON 2000 AND 2010 SOC CODES	NOTES
11-9013	Farmers, Ranchers, and Other Agricultural Managers	This occupation is a combination of data collected for the 2010 SOC occupation 11-9013 and the 2000 SOC occupations 11-9011 Farm, ranch and other agricultural managers and 11-	2010 occupation

OEWS 2011 CODE	OEWS TITLE	HOW THE OCCUPATION IS BASED ON 2000 AND 2010 SOC CODES	NOTES
		9012 Farmers and ranchers	
13-1078	Human Resources, Training, and Labor Relations Specialists, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 13-1071 Human Resources Specialists and 13-1075 Labor Relations Specialists and the 2000 SOC occupations 13-1071 Employment, Recruitment, and Placement Specialists and 13-1079 Human Resources, Training, and Labor Relations Specialists, All Other.	
15-1150	Computer Support Specialists*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 15-1151 Computer User Support Specialists and 15-1152 Computer Network Support Specialists and the 2000 SOC occupation 15-1041 Computer Support Specialists.	
15-1179	Information Security Analysts, Web Developers, and Computer Network Architects*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 15-1122 Information Security Analysts, 15-1134 Web Developers, 15-1143 Computer Network Architects and the 2000 SOC occupation 15-1081 Network Systems and Data Communications Analysts.	
15-1799	Computer Occupations, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupation 15-1199 Computer Occupations, All Other and the 2000 SOC occupation 15-1099 Computer Specialists, All Other.	
21-1798	Community and Social Service Specialists, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 21-1094 Community Health Workers and 21-1099 Community and Social Service Specialists, All Other and the 2000 SOC occupation 21-1099 Community and Social Service Specialists, All Other.	
25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School*	This occupation is a combination of the 2000 SOC occupation 25-2041 Special education teachers, preschool, kindergarten, and elementary school, and the 2010 SOC occupations 25-2051 special education teachers preschool, and 25-2052 special education teachers, kindergarten and elementary.	2000 occupation
25-3999	Teachers and Instructors, All Other*	This occupation is a combination of the 2000 SOC occupation 25-3099 Teachers and instructors, all other; the 2010 SOC occupations 25-2059 Special education teachers, all other, 25-3099 Teachers and instructors, all other, and the OEWS only occupation, substitute teachers, for which data was collected in only one-third of the panels used in 2010 estimates.	Teachers and Instructors, All Other, including special education teachers not specified separately
29-1111	Registered Nurses*	This occupation is a combination of data collected for the 2000 SOC occupation 29-1111 registered nurses; and the 2010 occupations 29-1141 Registered nurses, 29-1151 nurse anesthetists, 29-1161 nurse midwives, and 29-1171 nurse practitioners.	2000 occupation
29-1128	Therapists, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 29-1128 Exercise Physiologists, 29-1129 Therapists, All Other and the 2000 SOC occupation 29-1129 Therapists, All Other.	Therapists, All Other, including exercise physiologists*
29-2037	Radiologic Technologists and Technicians*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 29-2034 Radiologic Technologists, 29-2035 Magnetic Resonance Imaging Technologists and the 2000 SOC occupation 29-2034 Radiologic Technologists and Technicians.	Radiologic Technologists and Technicians, including Magnetic Resonance Imaging Technologists
29-2799	Health Technologists and Technicians, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 29-2057 Ophthalmic Medical Technicians, 29-2092 Hearing Aid Specialists, 29-2099 Health Technologists and Technicians, All Other and the 2000 SOC occupation 29-2099 Health Technologists and Technicians, All Other.	Health Technologists and Technicians, All Other, including hearing aid specialists and opthalmic medical technicians
29-9799	Healthcare Practitioners and Technical Workers, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 29-9092 Genetic Counselors, 29-9099 Healthcare Practitioners and Technical Workers, All Other and the 2000 SOC occupation 29-9099 Healthcare Practitioners and Technical Workers, All Other.	Healthcare Practitioners and Technical Workers, All Other, including genetic counselors
31-1012	Nursing Aides, Orderlies, and Attendants*	This occupation is a combination of the 2000 SOC occupation 31-1012 Nursing aides, orderlies, and attendants, and the 2010 SOC occupations 31-1014 nursing aides and 31-1015 orderlies	2000 occupation
31-9799	Healthcare Support Workers, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 31-9097 Phlebotomists, 31-9099 Healthcare Support Workers, All Other and the 2000 SOC occupation 31-9099 Healthcare Support Workers, All Other.	Healthcare Support Workers, All Other, including phlebotomists
39-4831	Funeral Service Managers, Directors, Morticians, and Undertakers	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 11-9061 Funeral Service Managers, 39-4031 Morticians, Undertakers and Funeral Directors and the 2000 SOC occupation 11-9061 Funeral Directors.	
41-9799	Sales and Related Workers, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 13-1131 Fundraisers, 41-9099 Sales and Related Workers, All Other and the 2000 SOC occupation 41-9099 Sales and Related Workers, All Other.	Sales and Related Workers, All Other, including fundraisers
43-9799	Office and Administrative Support Workers, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 43-3099 Financial Clerks, All Other, 43-9199 Office and Administrative Support Workers, All Other and the 2000 SOC occupation 43-9199 Office and Administrative Support Workers, All Other.	Office and Administrative Support Workers, All Other, including finance clerks not identified separately
47-4799	Construction and Related Workers, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 47-2231 Solar Photovoltaic Installers, 47-4099 Construction and Related Workers, All Other and the 2000 SOC occupation 47-4099 Construction and Related Workers, All Other.	Construction and Related Workers, All Other including solar photovoltaic installers
49-9799	Installation, Maintenance, and Repair Workers, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 49-9081 Wind Turbine Service Technicians, 49-9099 Installation, Maintenance, and Repair Workers, All Other and the 2000 SOC occupation 49-9099 Installation, Maintenance, and Repair Workers, All Other.	Installation, Maintenance, and Repair Workers, All Other, including wind turbine service technicians

OEWS 2011 CODE	OEWS TITLE	HOW THE OCCUPATION IS BASED ON 2000 AND 2010 SOC CODES	NOTES
51-9151	Photographic Process Workers and Processing Machine Operators	This occupation is a combination of the 2010 SOC occupation 51-9151 Photographic Process Workers and Processing Machine Operators, and the 2000 SOC occupations 51-9131 Photographic process workers, and 51-9132 Photographic processing machine operators	2010 occupation
51-9399	Production Workers, All Other*	This OEWS occupation is a combination of data collected for the 2010 SOC occupations 51-3099 Food Processing Workers, All Other, 51-9199 Production Workers, All Other and the 2000 SOC occupation 51-9199 Production Workers, All Other.	Production workers, all other, including food processing workers not specified separately*

NOTE: Occupation titles followed by * have the same title, but not necessarily the same content as 2010 SOC occupations.

9. Does OEWS have shapefiles?

Yes. Yes. Shapefiles for OEWS metropolitan and nonmetropolitan areas are available at the links below. Shapefiles do not include OEWS data, but do contain geographic codes (msa7) that can be linked to OEWS data.

Shapefiles are available for May 2019 and May 2018 only. Please note that OEWS data are not designed for looking at changes through time; for more information, see "Can OEWS data be used to compare changes in employment or wages over time?"

May 2019 OEWS shapefiles
May 2018 OEWS shapefiles

10. How were the May 2019 and May 2020 estimates created from survey data based on both the 2010 and 2018 SOCs?

The May 2019 and May 2020 estimates were based on a combination of survey data collected under the 2010 SOC and survey data collected under the 2018 SOC and use a hybrid of the two classification systems. The survey data for the November 2018, May 2019, November 2019, and May 2020 survey panels were collected based on the 2018 SOC, while data for the four (May 2019) and two (May 2020) older survey panels were collected based on the 2010 SOC. Most occupations either were the same in the 2010 and 2018 SOCs, or occupations under one version of the system could be combined to be the equivalent of an occupation in the other version of the system. Whenever possible, the 2018 SOC occupation was used in estimation. However, there were several cases where occupations from the two structures had to be combined into a hybrid occupation not found in either the 2010 or 2018 SOC.

The starting point for combining data collected under both systems was the 2010 to 2018 SOC crosswalk. However, in order to better address OEWS customers' need for detailed occupational data, sometimes OEWS combined data differently. For example, the official SOC crosswalk shows that the 2018 SOC occupation 13-1082 Project Management Specialists is crosswalked to three 2010 SOC occupations: 11-9199 Managers, All Other; 13-1199 Business Operations Specialists, All Other; and 15-1199 Computer Occupations, All Other. For the 2019 OEWS estimates, a hybrid OEWS occupation was created that combines data collected for project management specialists and business operations specialists, all other, but does not include managers, all other or computer occupations, all other. A full list of May 2019 and 2020 OEWS occupations and the occupations on which they are based can be found on the OEWS webpage "Implementing the 2018 SOC in the OEWS program – May 2019 and May 2020 Hybrid Occupations."

Listed below are the occupations that are in the May 2019 and 2020 OEWS estimates, but vary by code and/or title from the 2018 SOC detailed occupations . Please note, in addition to the hybrid occupations, these include additions and changes to the OEWS aggregations introduced in the May 2017 estimates. (See Table 1 at www.bls.gov/oes/changes_2017.htm for more information.)

Occupations that are in the May 2019 and May 2020 OEWS estimates, but vary by code and/or title from the 2018 SOC detailed occupation

OEWS May 2019 and May 2020 Estimates Code	OEWS May 2019 and May 2020 Estimates Title	How the occupation is based on the 2010 and 2018 SOC occupations
11-2030	Public Relations and Fundraising Managers	This occupation is a combination of data collected for the 2018 SOC occupations 11-2032 Public Relations Managers and 11-2033 Fundraising Managers and the 2010 SOC occupation 11-2031 Public Relations and Fundraising Managers.
11-3010	Administrative Services and Facilities Managers	This occupation is a combination of data collected for the 2018 SOC occupations 11-3012 Administrative Services Managers and 11-3013 Facilities Managers and the 2010 SOC occupation 11-3011 Administrative Services Managers.
11-9198	Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 11-9072 Entertainment and Recreation Managers, Except Gambling; 11-9179 Personal Service Managers, All Other; and 11-9199 Managers, All Other; and the 2010 SOC occupation 11-9199 Managers, All Other.
13-1020	Buyers and Purchasing Agents	This occupation is a combination of the 2018 and 2010 SOC occupations 13-1021 Buyers and Purchasing Agents, Farm Products; 13-1022 Wholesale and Retail Buyers, Except Farm Products; and 13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products.
13-1198	Project Management Specialists and Business Operations Specialists, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 13-1082 Project Management Specialists and 13-1199 Business Operations Specialists, All Other and the 2010 SOC occupation 13-1199 Business Operations Specialists, All Other.
13-2020	Property Appraisers and Assessors	This occupation is a combination of the 2018 SOC occupations 13-2022 Appraisers of Personal and Business Property and 13-2023 Appraisers and Assessors of Real Estate and the 2010 SOC occupation 13-2021 Appraisers and Assessors of Real Estate.
13-2098	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 13-2051 Financial and Investment Analysts; 13-2054 Financial Risk Specialists; and 13-2099 Financial Specialists, All Other; and the 2010 SOC occupations 13-2051 Financial Analysts and 13-2099 Financial Specialists, All Other.
15-1245	Database Administrators and Architects	This occupation is a combination of data collected for the 2018 SOC occupations 15-1242 Database Administrators and 15-1243 Database Architects and the 2010 SOC occupation 15-1141 Database Administrators.
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	This occupation is a combination of data collected for the 2018 SOC occupations 15-1252 Software Developers and 15-1253 Software Quality Assurance Analysts and Testers and the 2010 SOC occupations 15-1132 Software Developers, Applications and 15-1133 Software Developers, Systems Software.
15-1257	Web Developers and Digital Interface Designers	This occupation is a combination of data collected for the 2018 SOC occupations 15-1254 Web Developers and 15-1255 Web and Digital Interface Designers and the 2010 SOC occupation 15-1134 Web Developers.
15-2098	Data Scientists and Mathematical Science Occupations, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 15-2051 Data Scientists and 15-2099 Mathematical Science Occupations, All Other as well as the 2010 SOC occupations 15-2091 Mathematical Technicians and 15-2099 Mathematical Science Occupations, All Other.

OEWS May 2019 and May 2020 Estimates Code	OEWS May 2019 and May 2020 Estimates Title	How the occupation is based on the 2010 and 2018 SOC occupations
17-3098	Calibration Technologists and Technicians and Engineering Technologists and Technicians, Except Drafters, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 17-3028 Calibration Technologists and Technicians and 17-3029 Engineering Technologists and Technicians, Except Drafters, All Other; and the 2010 SOC occupation 17-3029 Engineering Technicians, Except Drafters, All Other.
19-3031	Clinical, Counseling, and School Psychologists	This occupation is a combination of data collected for the 2018 SOC occupations 19-3033 Clinical and Counseling Psychologists and 19-3034 School Psychologists and the 2010 SOC occupation 19-3031 Clinical, Counseling, and School Psychologists.
19-4010	Agricultural and Food Science Technicians	This occupation is a combination of data collected for the 2018 SOC occupations 19-4012 Agricultural Technicians and 19-4013 Food Science Technicians and the 2010 SOC occupation 19-4011 Agricultural and Food Science Technicians.
19-4045	Geological and Hydrologic Technicians	This occupation is a combination of data collected for the 2018 SOC occupations 19-4043 Geological Technicians, Except Hydrologic Technicians and 19-4044 Hydrologic Technicians and the 2010 SOC occupation 19-4041 Geological and Petroleum Technicians.
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	This occupation is a combination of the 2018 and 2010 SOC occupations 21-1011 Substance Abuse and Behavioral Disorder Counselors and 21-1014 Mental Health Counselors.
25-2052	Special Education Teachers, Kindergarten and Elementary School	This occupation is a combination of the 2018 SOC occupations 25-2055 Special Education Teachers, Kindergarten and 25-2056 Special Education Teachers, Elementary School and the 2010 SOC occupation 25-2052 Special Education Teachers, Kindergarten and Elementary School.
25-3097	Tutors and Teachers and Instructors, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 25-3041 Tutors and 25-3099 Teachers and Instructors, All Other and the OEWS-specific 2010 SOC occupation 25-3097 Teachers and Instructors, All Other, Except Substitute Teachers.
25-9045	Teaching Assistants, Except Postsecondary	This occupation is a combination of data collected for the 2018 SOC occupations 25-9042 Teaching Assistants, Preschool, Elementary, Middle, and Secondary School, Except Special Education; 25-9043 Teaching Assistants, Special Education; and 25-9049 Teaching Assistants, All Other; and the 2010 SOC occupation 25-9041 Teacher Assistants.
27-2090	Miscellaneous Entertainers and Performers, Sports and Related Workers	This occupation is a combination of data collected for the 2018 SOC occupations 27-2091 Disc Jockeys, Except Radio; and 27-2099 Entertainers and Performers, Sports and Related Workers, All Other; and the 2010 SOC occupation 27-2099 Entertainers and Performers, Sports and Related Workers, All Other.
27-4098	Lighting Technicians and Media and Communication Equipment Workers, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 27-4015 Lighting Technicians and 27-4099 Media and Communication Equipment Workers, All Other and the 2010 SOC occupation 27-4099 Media and Communication Equipment Workers, All Other.
29-1228	Physicians, All Other and Ophthalmologists, Except Pediatric	This occupation is a combination of data collected for the 2018 SOC occupations 29-1212 Cardiologists; 29-1213 Dermatologists; 29-1214 Emergency Medicine Physicians; 29-1217 Neurologists; 29-1222 Physicians, Pathologists; 29-1224 Radiologists; 29-1229 Physicians, All Other; and 12-1241 Ophthalmologists, Except Pediatric; and the 2010 SOC occupation 29-1069 Physicians and Surgeons, All Other.
29-1248	Surgeons, Except Ophthalmologists	This occupation is a combination of data collected for the 2018 SOC occupations 29-1242 Orthopedic Surgeons, Except Pediatric; 29-1243 Pediatric Surgeons; and 29-1249 Surgeons, All Other; and the 2010 SOC occupation 29-1067 Surgeons.
29-1298	Acupuncturists and Healthcare Diagnosing or Treating Practitioners, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 29-1291 Acupuncturists and 29-1299 Healthcare Diagnosing or Treating Practitioners, All Other and the 2010 SOC occupation 29-1199 Health Diagnosing and Treating Practitioners, All Other.
29-2010	Clinical Laboratory Technologists and Technicians	This occupation is a combination of the 2018 and 2010 SOC occupations 29-2011 Medical and Clinical Laboratory Technologists and 29-2012 Medical and Clinical Laboratory Technicians
29-2040	Emergency Medical Technicians and Paramedics	This occupation is a combination of data collected for the 2018 SOC occupations 29-2042 Emergency Medical Technicians and 29-2043 Paramedics and the 2010 SOC occupation 29-2041 Emergency Medical Technicians and Paramedics.
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 29-2036 Medical Dosimetrists; 29-2072 Medical Records Specialists; and 29-2099 Health Technologists and Technicians, All Other; and the 2010 SOC occupations 29-2054 Respiratory Therapy Technicians; 29-2071 Medical Records and Health Information Technicians; and 29-2099 Health Technologists and Technicians, All Other.
29-9098	Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners and Technical Workers, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 29-9021 Health Information Technologists and Medical Registrars; 29-9093 Surgical Assistants; and 29-9099 Healthcare Practitioners and Technical Workers, All Other; and the 2010 SOC occupation 29-9099 Healthcare Practitioners and Technical Workers, All Other.
31-1120	Home Health and Personal Care Aides	This occupation is a combination of the 2018 SOC occupations 31-1121 Home Health Aides and 31-1122 Personal Care Aides and the 2010 SOC occupations 31-1011 Home Health Aides and 39-9021 Personal Care Aides.
33-1090	Miscellaneous First-Line Supervisors, Protective Service Workers	This occupation is a combination of data collected for the 2018 SOC occupations 33-1091 First-Line Supervisors of Security Workers and 33-1099 First-Line Supervisors of Protective Service Workers, All Other and the 2010 SOC occupation 33-1099 First-Line Supervisors of Protective Service Workers, All Other.
33-9098	School Bus Monitors and Protective Service Workers, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 33-9094 School Bus Monitors and 33-9099 Protective Service Workers, All Other and the 2010 SOC occupation 33-9099 Protective Service Workers, All Other.
39-1098	First-Line Supervisors of Personal Service and Entertainment and Recreation Workers, Except Gambling Services	This occupation is a combination of data collected for the 2018 SOC occupations 39-1014 First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services and 39-1022 First-Line Supervisors of Personal Service Workers and the 2010 SOC occupation 39-1021 First-Line Supervisors of Personal Service Workers.
39-7010	Tour and Travel Guides	This occupation is a combination of the 2018 and 2010 SOC occupations 39-7011 Tour Guides and Escorts and 39-7012 Travel Guides.

OEWS May 2019 and May 2020 Estimates Code	OEWS May 2019 and May 2020 Estimates Title	How the occupation is based on the 2010 and 2018 SOC occupations
39-9098	Crematory Operators and Personal Care and Service Workers, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 39-4012 Crematory Operators and 39-9099 Personal Care and Service Workers, All Other and the 2010 SOC occupation 39-9099 Personal Care and Service Workers, All Other.
47-4090	Miscellaneous Construction and Related Workers	This occupation is a combination of the 2018 and 2010 SOC occupations 47-4091 Segmental Pavers and 47-4099 Construction and Related Workers, All Other.
47-5097	Earth Drillers, Except Oil and Gas; and Explosives Workers, Ordnance Handling Experts, and Blasters	This occupation is a combination of data collected for the 2018 SOC occupations 47-5023 Earth Drillers, Except Oil and Gas; and 47-5032 Explosives Workers, Ordnance Handling Experts, and Blasters; and the 2010 SOC occupations 47-5021 Earth Drillers, Except Oil and Gas and 47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters.
47-5098	Underground Mining Machine Operators and Extraction Workers, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 47-5049 Underground Mining Machine Operators, All Other; and 47-5099 Extraction Workers, All Other; and the 2010 SOC occupations 47-5042 Mine Cutting and Channeling Machine Operators; 47-5049 Mining Machine Operators, All Other; and 47-5099 Extraction Workers, All Other.
51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	This occupation is a combination of the 2018 and 2010 SOC occupations 51-2022 Electrical and Electronic Equipment Assemblers and 51-2023 Electromechanical Equipment Assemblers.
51-2090	Miscellaneous Assemblers and Fabricators	This occupation is a combination of the 2018 SOC occupations 51-2092 Team Assemblers and 51-2099 Assemblers and Fabricators, All Other and the 2010 SOC occupations 51-2092 Team Assemblers and 51-2099 Assemblers and Fabricators, All Other.
53-1047	First-Line Supervisors of Transportation and Material-Moving Workers, Except Aircraft Cargo Handling Supervisors	This occupation is a combination of the 2018 SOC occupations 53-1042 First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand; 53-1043 First-Line Supervisors of Material-Moving Machine and Vehicle Operators; 53-1044 First-Line Supervisors of Passenger Attendants; and 53-1049 First-Line Supervisors of Transportation Workers, All Other; and the 2010 SOC occupations 53-1021 First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand; and 53-1031 First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators.
53-3058	Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity	This occupation is a combination of data collected for the 2018 SOC occupations 53-3051 Bus Drivers, School; 53-3053 Shuttle Drivers and Chauffeurs; and 53-3054 Taxi Drivers; and the 2010 SOC occupations 53-3022 Bus Drivers, School or Special Client; and 53-3041 Taxi Drivers and Chauffeurs.
53-6098	Aircraft Service Attendants and Transportation Workers, All Other	This occupation is a combination of data collected for the 2018 SOC occupations 53-6032 Aircraft Service Attendants and 53-6099 Transportation Workers, All Other and the 2010 SOC occupation 53-6099 Transportation Workers, All Other.

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