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Labor Market Analysis

Bookkeeping



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Prepared by the Central Valley/Mother Lode Center of Excellence

Table of Contents

- Summary 2
 - Key findings 2
- Introduction 3
- Occupational Demand 3
- Wages 4
- Job Postings 4
 - Salaries 5
 - Education 5
 - Baseline and Specialized Skills 5
 - Software Skills 6
 - Certifications 6
- Education, Work Experience & Training 7
- Supply 8
- Student Outcomes 9
- Conclusion 10
- Recommendation 10
- Appendix A: Methodology & Data Sources 11

COVID-19 Statement: This report includes employment projection data by Emsi. Emsi’s projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local employers, may help validate current and future employment needs as depicted here.

If for any reason this document is not accessible or if you have specific needs for readability, please contact us and we will do our utmost to accommodate you with a modified version. To make a request, contact Nora Seronello by phone at (209) 575-6894 or by email seronellon@mjc.edu.

Summary

Please note the COVID-19 statement on page 2 when considering this report's findings.

This study conducted by the Central Valley/Mother Lode Center of Excellence examines labor market demand, wages, skills, and postsecondary supply for bookkeeping. Two occupations related to bookkeeping were identified for Reedley College:

- 43-3031, Bookkeeping, Accounting, and Auditing Clerks
- 43-3051, Payroll and Timekeeping Clerks

Key findings:

- **Occupational demand** — Nearly 11,500 workers were employed in jobs related to bookkeeping in 2020 in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. The largest occupation is bookkeeping, accounting, and auditing clerks with 10,367 workers in 2020, a projected growth rate of 0% over the next five years, and 1,161 annual openings.
- **Wages** — Payroll and timekeeping clerks earn the highest entry-level wage, \$17.78/hour in the subregion.
- **Employers** — Employers with the most job postings in the subregion are Cazador Consulting Group Inc, Kern Community College District, and Cazador Consulting Group.
- **Occupational titles** — The most common occupational title in job postings in the subregion is bookkeeping, accounting, and auditing clerks. The most common job title is bookkeeper.
- **Skills and certifications** — The top baseline skill is Microsoft Excel, the top specialized skill is accounting, and the top software skill is Microsoft Excel. The most in-demand certification is a driver's license.
- **Education** — A high school diploma or equivalent is typically required for payroll and timekeeping clerks. Some college, no degree is typically required for bookkeeping, accounting, and auditing clerks
- **Supply** — Analysis of postsecondary completions shows that on average 350 awards were conferred in the Central Valley/Mother Lode region each year.

Based on a comparison of occupational demand and supply, there is an undersupply of 1,061 trained workers in the subregion and 1,667 workers in the region. The Center of Excellence recommends that Reedley College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of bookkeeping workers in the region.

Introduction

The Central Valley/Mother Lode Center of Excellence was asked by Reedley College to provide labor market information for bookkeeping. The geographical focus for this report is the South Central Valley/Southern Mother Lode (SCV/SML) subregion, but regional demand and supply data has been included for broader applicability and use. The average living wage for a single adult in the SCV/SML subregion is \$13.67/hour.¹ Analysis of the program and occupational data related to bookkeeping resulted in the identification of applicable occupations. The Standard Occupational Classification (SOC) System codes and titles used in this report are:

- 43-3031, Bookkeeping, Accounting, and Auditing Clerks
- 43-3051, Payroll and Timekeeping Clerks

The occupational titles, job descriptions, sample job titles, and knowledge and skills from the Bureau of Labor Statistics and O*NET OnLine are shown below.

Bookkeeping, Accounting, and Auditing Clerks

Job Description: Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers.

Knowledge: Customer and Personal Service, Administrative, Mathematics, Economics and Accounting, English Language

Skills: Mathematics, Active Listening, Critical Thinking, Reading Comprehension, Speaking

Payroll and Timekeeping Clerks

Job Description: Compile and record employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions, or prepare paychecks.

Knowledge: Administrative, English Language, Mathematics, Customer and Personal Service, Personnel and Human Resources

Skills: Active Listening, Reading Comprehension, Speaking, Critical Thinking, Writing

Occupational Demand

The SCV/SML subregion employed 11,485 workers in bookkeeping occupations in 2020 (Exhibit 1). The largest occupation is bookkeeping, accounting, and auditing clerks with 10,367 workers in 2020. This occupation is projected to grow by 0% over the next five years and has the greatest number of projected annual openings, 1,161.

Exhibit 1. Bookkeeping employment and occupational projections in the SCV/SML subregion

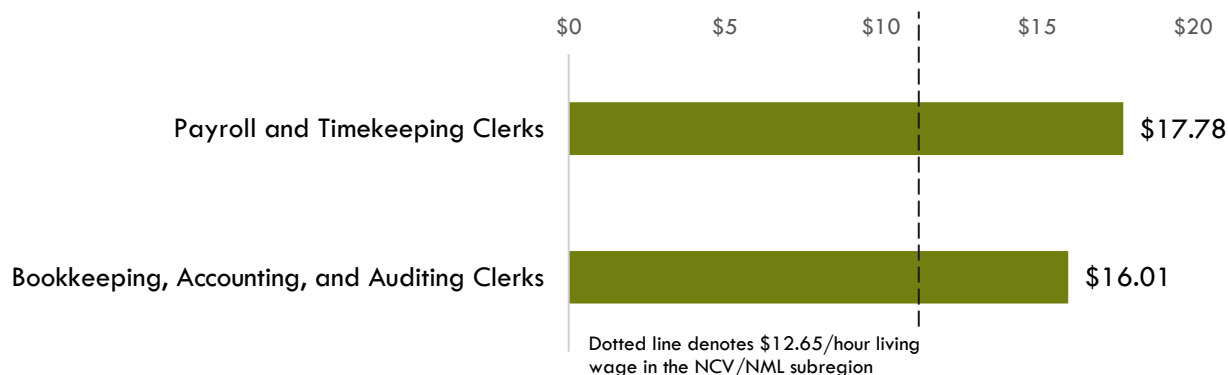
Occupation	2020 Jobs	2025 Jobs	5-Year Change	5-Year % Change	Annual Openings
Bookkeeping, Accounting, and Auditing Clerks	10,367	10,354	(13)	(0%)	1,161
Payroll and Timekeeping Clerks	1,119	1,051	(67)	(6%)	111
TOTAL	11,485	11,405	(80)	(1%)	1,271

¹ The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: <https://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.

Wages

Exhibit 2 shows the entry-level hourly wages of the bookkeeping occupations. Payroll and timekeeping clerks earn the highest entry-level wage, \$17.78/hour in the subregion. Entry-level wages are derived from the 25th percentile.

Exhibit 2. Bookkeeping entry-level wages in the SCV/SML subregion



Job Postings

There were 1,688 job postings for the two occupations in the SCV/SML subregion from September 2021 to February 2022.² The employers with the most job postings are listed in Exhibit 3.

Exhibit 3. Top employers of bookkeeping by number of job postings

Employer	Job Postings	% Job Postings
Cazador Consulting Group Inc	12	2%
Kern Community College District	12	2%
Cazador Consulting Group	11	1%
Ultimate	11	1%
Denham Resources	10	1%
Internal Revenue Service	8	1%
County Tulare	7	1%
Stardom Employment Consultants	7	1%
Clinica Sierra Vista	6	1%
Denham Corporation	6	1%

Exhibit 4 shows how job postings for the targeted occupations in the SCV/SML subregion are distributed across one O*NET OnLine occupations. The occupational title bookkeeping, accounting, and auditing clerks is listed in 1,688 job postings. Note how this occupational title dominates the job posting results. Common job titles in postings include Bookkeeper in 240 job postings, Accounting Clerk in 180 job postings, and Accounts Payable Clerk in 132 job postings.

² Other than occupation titles and job titles, the categories below can be counted one or multiple times per job posting, and across several areas in a single posting. For example, a skill can be counted in two different skill types, and an employer can indicate more than one education level.

Exhibit 4. Top occupational titles in job postings for bookkeeping

Occupational Title	Job Postings	% of Job Postings
Bookkeeping, Accounting, and Auditing Clerks	1,688	100%

Salaries

Exhibit 5 shows the “Market Salaries” for bookkeeping occupations that are calculated by Burning Glass which uses a machine learning model built off of millions of job postings every year, and accounts for adjustments based on locations, industry, skills, experience, education requirements, among other variables.

Exhibit 5. Salaries for bookkeeping occupations

Market Salary Percentile	Salary Amount
10th Percentile	\$28,736
25th Percentile	\$31,043
50th Percentile	\$33,951
75th Percentile	\$37,773
90th Percentile	\$43,000

Education

Of the 1,688 job postings, 52 listed an education level preferred for the positions being filled. Among those, 100% requested high school or vocational training, and 12% requested an associate degree (Exhibit 6). A job posting can indicate more than one education level. Hence, the percentages shown in the chart below may total more than 100%.

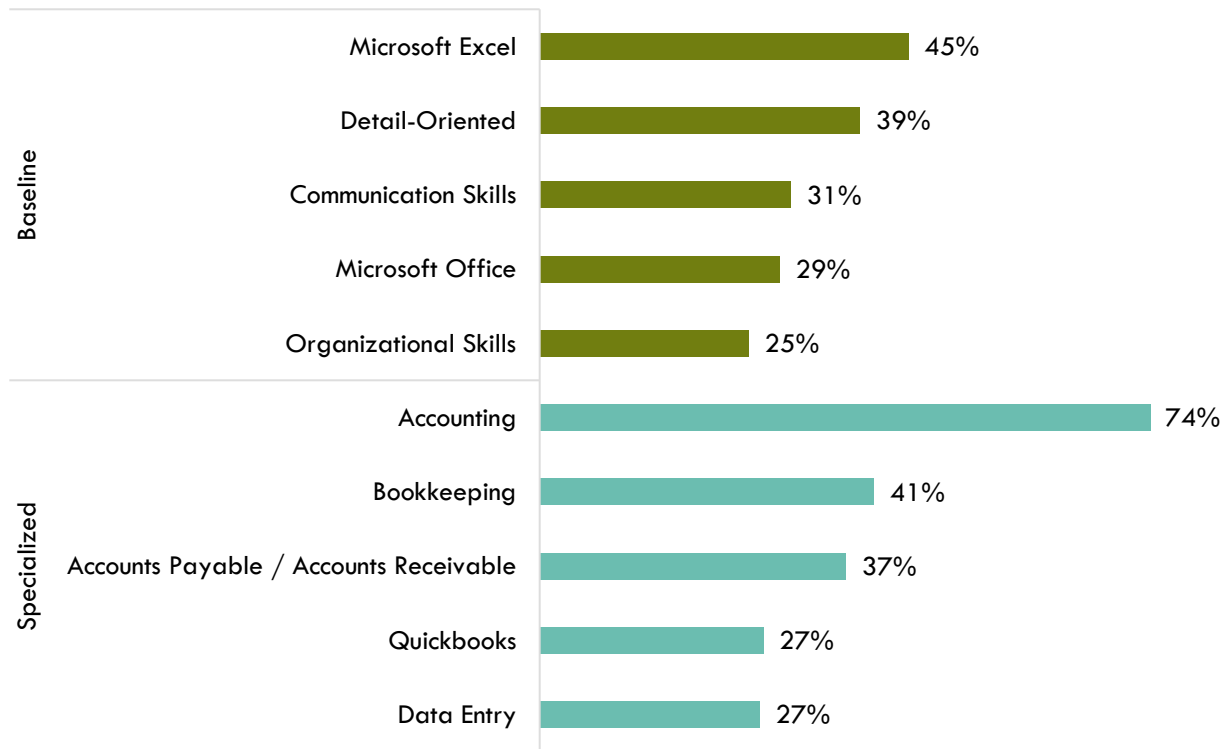
Exhibit 6. Education levels requested in job postings for bookkeeping

Education Level	Job Postings	% of Job Postings
High school or vocational training	578	59%
Bachelor's degree	422	43%
Associate's degree	253	26%
Master's degree	13	1%
Doctoral degree	5	1%

Baseline and Specialized Skills

Exhibit 7 depicts the top baseline and specialized skills for the targeted occupations. The three most important baseline skills are Microsoft Excel, 45% of job postings, detail-oriented, 39%, and communication skills, 31%. The top three specialized skills are accounting, 74% of job postings, bookkeeping, 41%, and accounts payable /accounts receivable, 37%.

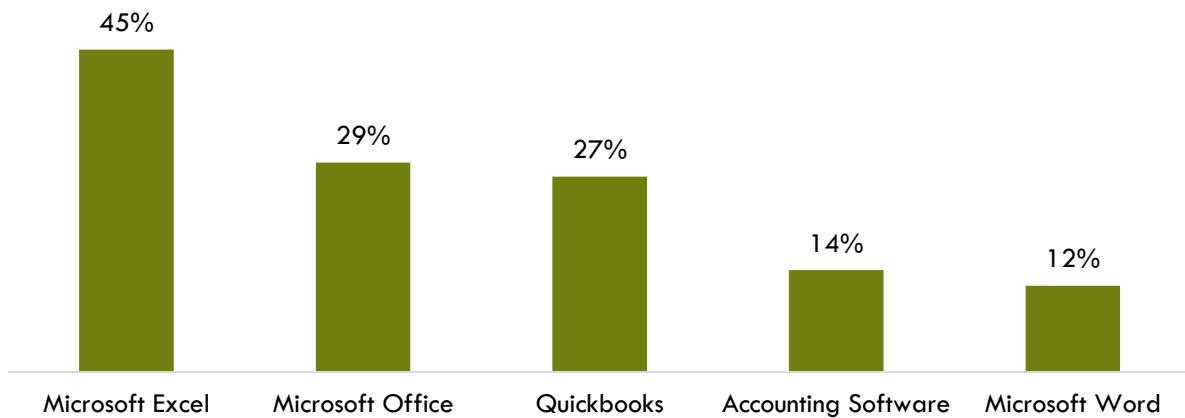
Exhibit 7. In-demand bookkeeping baseline and specialized skills



Software Skills

Analysis also included the software skills most in demand by employers. Microsoft Excel and Office were the top two software skills identified in job postings (Exhibit 8).

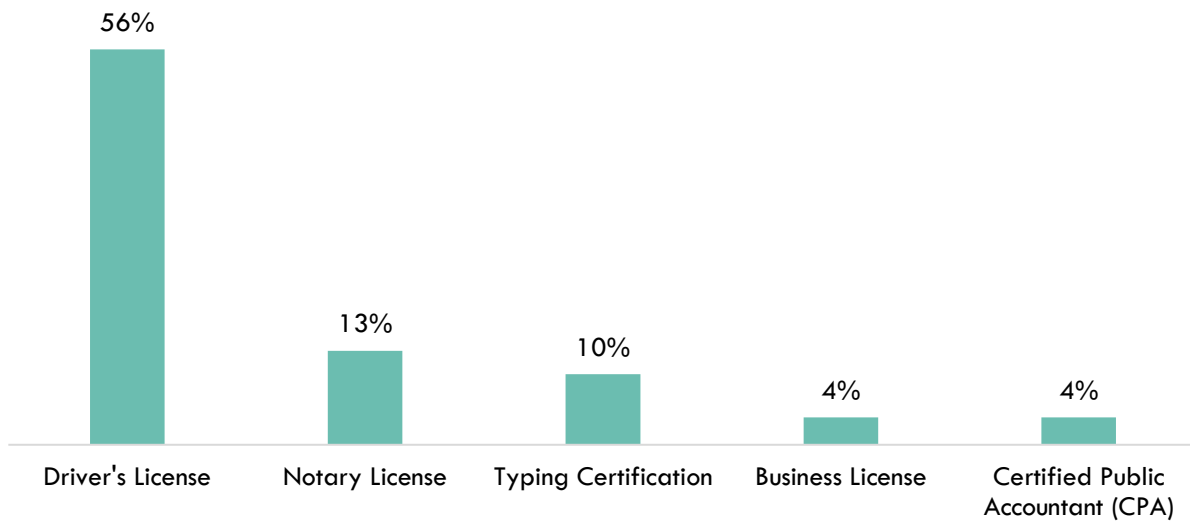
Exhibit 8. In-demand bookkeeping software skills



Certifications

Of the 1,688 job postings, 179 contained certification data. Among those, 56% indicated a need for a driver's license. The next top certifications are notary license and typing certification.

Exhibit 9. Top bookkeeping certifications requested in job postings



Education, Work Experience & Training

A high school diploma or equivalent is typically required for payroll and timekeeping clerks. Some college, no degree is typically required for bookkeeping, accounting, and auditing clerks (Exhibit 10).

Exhibit 10. Education, work experience, training, and Current Population Survey results for bookkeeping occupations³

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Bookkeeping, Accounting, and Auditing Clerks	Some college, no degree	None	Moderate-term on-the-job training	50.1%
Payroll and Timekeeping Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	50.0%

³ "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, <https://www.bls.gov/cps/>.

Supply

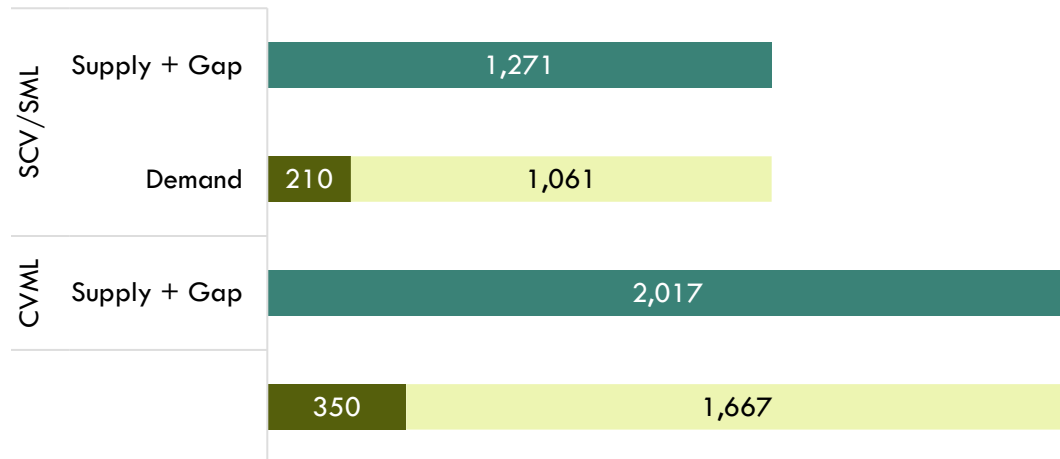
Analysis of program data from the California Community Colleges Chancellor’s Office Data Mart included the TOP and CIP codes and titles: 050200 – Accounting and 52.0302 - Accounting Technology/Technician and Bookkeeping. Analysis of the last three years of data shows that, on average, 350 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 11).

Exhibit 11. Postsecondary supply for bookkeeping occupations in the region

TOP/CIP Code-Title	College	Associate Degree	Award < 1 Academic Year	Award 1 < 2 Academic Years	Certificate 12 < 18 Semester Units	Certificate 16 < 30 Semester Units	Certificate 18 < 30 Semester Units	Certificate 30 < 60 Semester Units	Certificate 6 < 18 Semester Units	Certificate 8 < 16 Semester Units	Subtotal
050200 - Accounting	Bakersfield	25						17			42
	Columbia	4			0	1	2				7
	Fresno City	12			19	1	1	14		7	54
	Merced	17						5			21
	Modesto	24			1	0	3		0	0	29
	Porterville						1		0		1
	Reedley College	7					2	6			15
	San Joaquin Delta	67					3	3	10		82
	Sequoias	12							3		15
	Taft	3						1			4
	West Hills Coalinga	3					0	4			7
	West Hills Lemoore	3					2	7			12
	52.0302 - Accounting Technology/Technician and Bookkeeping	Advanced College-Stockton			0						
Institute of Technology		7									7
Santa Barbara Business College-Bakersfield		25		0							25
Stellar Career College			30								30
TOTAL		207	30	0	21	11	26	48	1	7	350

There is an undersupply of 1,061 bookkeeping workers in the SCV/SML subregion and 1,667 workers in the region (Exhibit 12).

Exhibit 12. Bookkeeping workforce demand (annual job openings), postsecondary supply of students (awards), and additional students needed to fill gap in the SCV/SML subregion and region



Student Outcomes

Exhibit 13 summarizes employment and wage outcomes from the California Community College Chancellor’s Cal-PASS Plus LaunchBoard for the TOP code related to bookkeeping. Of note, 202 accounting students received a degree or certificate or attained apprenticeship journey status; 838 students transferred; 68% of students obtained a job closely related to their field of study; 23% had a median change in earnings; and 66% of students attained a living wage.

Exhibit 13. Regional metrics for the TOP code related to bookkeeping

Metric	Accounting 050200
Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status	202
Number of Students Who Transferred	838
Job Closely Related to Field of Study	68%
Median Change in Earnings	23%
Attained a Living Wage	66%
* denotes data not available.	

Conclusion

The entry-level wages of the two occupations exceed the SCV/SML subregion's average living wage. There were 1,688 job postings in the past six months for occupations related to bookkeeping in the subregion. Analysis of skills and certification requirements in job postings indicates:

- The top baseline skill is Microsoft Excel, and the top specialized skill is accounting.
- The top software skill is Microsoft Excel.
- The top certification is a driver's license.

There is an undersupply of trained workers, a shortage of 1,061 in the SCV/SML subregion and 1,667 in the region.

Recommendation

Based on these findings, it is recommended that Reedley College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of bookkeeping workers in the region.

Appendix A: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor's Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (EMSI). EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry: economicmodeling.com .
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: https://www.bls.gov/emp/tables/educational-attainment.htm .
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov .
Job Posting and Skills Data	Burning Glass: burning-glass.com/ .
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 occupations as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: onetonline.org .

Key Terms and Concepts

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (EMSI) formula that includes historical employment and economic indicators along with national, state and local trends.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.