



Northern Rural Training and  
Employment Consortium (NoRTEC)

.....

# Plumas County Labor Market Profile and Industry Sector Analysis

.....

**July 2019**

Prepared for:

**NoRTEC Workforce Development Board**

Michael Cross, Executive Director

# TABLE OF CONTENTS

Introduction .....	2
Executive Summary.....	2
Economic Impact of 2018 Forest Fires.....	4
Demographic & Labor Force Characteristics .....	5
Total Population.....	5
Race/Ethnicity .....	6
Educational Attainment .....	6
Income .....	7
Commuting.....	7
Special Populations .....	9
Human Capital.....	12
Labor Force .....	12
Labor Force Participation Rate.....	12
Industry Sector Analysis .....	14
Industry Mix .....	15
Key Industries.....	17
Occupation Analysis .....	18
Occupational Groups .....	18
Broad Occupation Mix .....	19
Top Occupations by Employment.....	20
Education & Training Requirements for High Demand Jobs .....	21
Industry and Occupation Connections.....	23
Detailed Industry Analysis.....	24
Appendix .....	30
Data Sources and Glossary of Key Terms.....	30
Industry Sector Definitions .....	32

# INTRODUCTION

The following is a labor market and industry/sector profile for Plumas County, California. This is an update to a prior version of the County Labor Market Profiles that were completed in the summer of 2017, which were completed using 2016 labor market data.



The quantitative data for the profile includes a geographic overview, demographic and labor force characteristics, industry analysis, occupation analysis, and labor force data. For the profile, the project team collected and analyzed data from Economic Modeling Specialists Int'l. (EMSI), U.S. Census Bureau, and the U.S. Bureau of Labor Statistics. Though 2019 is the current calendar year, 2018 labor market data are utilized as these represent the latest full calendar year of data available from federal statistical agencies.

## EXECUTIVE SUMMARY

The following are some of the most pertinent information and statistics uncovered in the process of creating this report.

### Social and Demographic Highlights

- Plumas County has both a declining and aging population. Over the past ten years, population decreased by 9% while population increased by 9% for the state and 8% for the nation. Over the same time period, only the cohort of individuals 65 years and older experienced growth.
- The portion of individuals in Plumas County with some amount of postsecondary education is significantly higher (71.5%) than the NoRTEC region (62.9%), state (60.5%), and nation (58.6%). The highest category of educational attainment in the county is Some College, at 34%.
- Plumas County experiences a small net loss of talent (405 workers) due to out-commuting. More individuals both live and work in the county than either commute in or out.
- Plumas County has the third highest median household income in the NoRTEC region at \$50,266 as well as the third lowest poverty rate at 13.3%.
- As of December 2018, there were 7,508 individuals in the Plumas County labor force, of which 8.6% were unemployed. While many places are experiencing a recovery from the recession in 2010, employment levels in Plumas County have been steadily declining in recent years, with the 20-year low employment occurring just in January 2017 (6,341).
- Since the 2016 version of this report was released, the Plumas County economy has expanded at an average annual rate of 1.1%. The highest growth sectors include Government, and Accommodation & Food Services. In combination, these sectors accounted for 114 jobs, nearly 45% of the county's net new job growth. Meanwhile, Construction, and Arts, Entertainment, & Recreation performed poorly in terms of employment change.

- Between 2016 and 2018, Plumas County's population slightly decreased by 0.8% (-159 in numeric terms). The highest growth age groups included those ages 70 to 74 years, and those ages 55 to 59 years saw the largest decrease. The race/ethnicity group with the greatest decrease in population was White, Non-Hispanics.

## Industry & Occupation Highlights

- Plumas County's largest industry sectors include Government; Accommodation and Food Services; Retail Trade; Construction; Health Care and Social Assistance; and Manufacturing. Government has more jobs than the next three industries combined in Plumas County.
- Industries projected to add the most jobs in Plumas County in the next five years include Accommodation and Food Services (+85) and Health Care and Social Assistance (+73 jobs).
- Individual (4-digit North American Industry Classification System (NAICS) Code) industries with strong growth prospects for the county include: Individual and Family Services; Local Government, Excluding Education and Hospitals; Traveler Accommodation; and Grocery Stores.
- Of Plumas County's targeted industries, two subsectors displayed highly significant location quotients indicating substantial concentration of employment, including Sawmills and Wood Preservation (101.35) and RV (Recreational Vehicle Parks and Recreation Camps (30.41).
- The top occupations (4-digit SOC) in Plumas County by employment include Cashiers; Secretaries and Administrative Assistants; Personal Care Aides; Building Cleaning Workers; and Laborers and Material Movers, Hand.

# ECONOMIC IMPACT OF 2018 FOREST FIRES

Thomas P. Miller & Associates (TPMA) conducted an economic impact analysis of the northern California forest fires of 2018 for NoRTEC in January 2019. TPMA's analysis started with a literature review and an empirical observation of the economic effects of wildfires in the United States. The literature review provided general and specific trends on the topic. For the empirical review, TPMA focused on other highly destructive fires in the United States in terms of acreage, structures, or both. Since few federal data sources have yet to reveal the specific effects of the Camp and Carr fires on Northern California, these analyses were primarily based on observations of past similar events. In addition, Dr. Robert Eyster of Sonoma State University, a renown regional economist, has summarized some of the recent effects of the Carr and Camp Fires on northern California.

In general, economic impacts are most severe upon those counties in which the fires occurred, namely, Shasta and Butte, though some impacts upon adjacent counties is expected. The following are a few pertinent points that relate to likely affects on Plumas County.

- In keeping with patterns of wildfire economic impact on adjacent counties, the results of the Camp Fire on Plumas County likely resulted small bump in wages (typically less than 1% increase) and no impact on jobs in quarter four of 2018.
- Historically, areas near wildfires suffer a slight lag in land-dependent industry sectors, such as tourism and agriculture, over the next several seasons.
- Forest service suppression spending on contractors located in Plumas equated to \$660 thousand between October 2017 and December 2018.

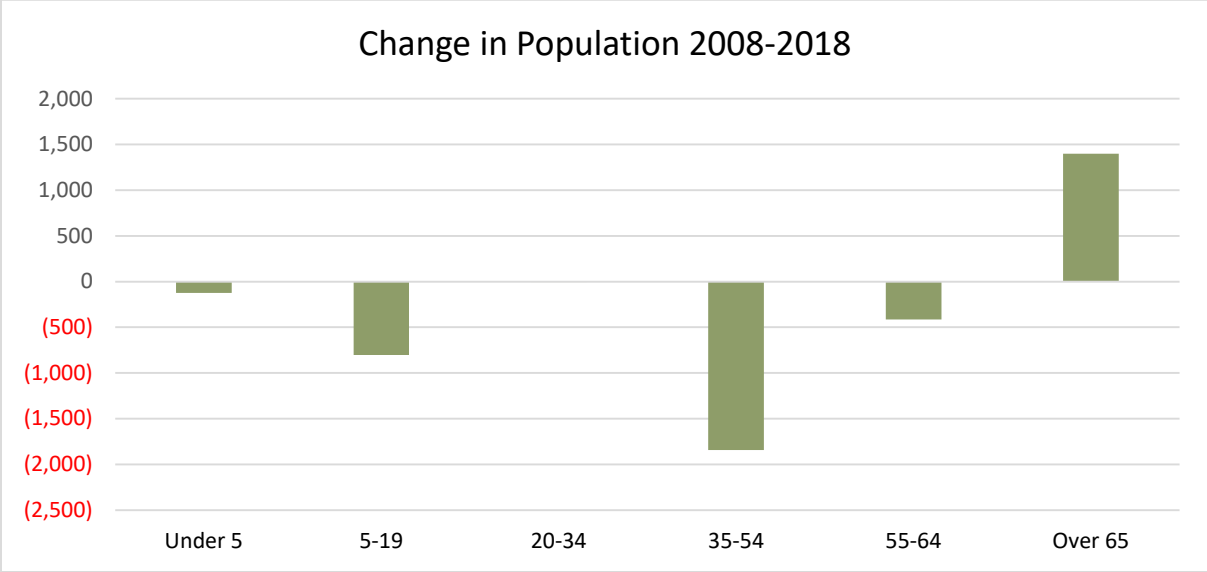
# DEMOGRAPHIC & LABOR FORCE CHARACTERISTICS

## Total Population

Plumas County is geographically located in the eastern part of the NoRTEC region at the edges of both the Sierra Nevada and Cascade Mountain Ranges. The population in the county has declined by nearly than 1,800 over the last ten years and is projected to decline slightly, by around 1% over the next five years.<sup>1</sup> Compared to the state and national figures, Plumas County has experienced a significant declining population. Over the last ten years, California’s population increased by 9% and the nation’s population increased by 8%. By 2023, both the state and the nation’s population are projected to grow by 3%.

Over the past ten years, the only age category that has increased is that of individuals aged 65 and older. This cohort has increased by 1,399, or 35.7%. In that same timeframe, the population of those 64 and younger decreased by 3,186 and is projected to decreased by another 756 over the next five years. The aging population is a concern for the local economy as the available labor will continue to be scarce. However, among more narrowed age cohorts, two younger cohorts experienced growth between 2008-2018 – 25 to 29 years and 30 to 34 years. If this trend grows, it could be a positive sign for the labor pool.

Age	2008 Population	2018 Population	Change 2008-2018	% Change 2008-2018	Projected Change 2018-2023	
Under 5	941	818	(123)	(13%)	59	7%
5-19	3,498	2,694	(804)	(23%)	0	0%
20-34	2,610	2,609	(1)	(0%)	(197)	(8%)
35-54	5,581	3,736	(1,845)	(33%)	67	2%
55-64	3,860	3,447	(413)	(11%)	(685)	(20%)
Over 65	3,924	5,323	1,399	35.7%	574	11%
Total	20,411	18,628	(1,783)	(9%)	(181)	(1%)



<sup>1</sup> EMSI Analyst, 2019.2

## Race/Ethnicity

The population of the region is predominately White, with 83.3% identifying as White in 2018, followed by 9.1% identifying as Hispanic.<sup>2</sup> The top growing race/ethnicity groups in the county by percentage growth are Asian and Native Hawaiian or Pacific Islander. The greatest decline in race/ethnicity groups in Plumas County are American Indian or Alaskan Native (-12%) and White (-11%).

Race/Ethnicity	2018 Population	Change 2008-2018	% Change 2008-2018
White	15,522	(1,988)	(11%)
Hispanic	1,698	95	6%
Two or More Races	593	62	12%
American Indian or Alaskan Native	402	(53)	(12%)
Black	196	23	13%
Asian	190	70	58%
Native Hawaiian or Pacific Islander	26	8	44%

## Educational Attainment

The largest portion of individuals in Plumas County have some college education, followed by a high school diploma, and a Bachelor's degree. The percentage of individuals with a some college exceeds that of the NoRTEC region, California, and the United States, but that is due in part to Plumas County's lower portion of individuals with a Bachelor's degree. Notably, Plumas County has a higher portion of individuals who have achieved a Graduate degree or higher (11.6%) than the NoRTEC region as a whole (7.6%).

Education Level	2018 Plumas County Population	2018 Plumas County Percent	2018 Percent NoRTEC	2018 Percent California	2018 Percent US
Less Than 9th Grade	292	2.0%	4.9%	11.8%	6.8%
9th Grade to 12th Grade	706	4.9%	6.9%	7.0%	6.9%
High School Diploma	3,095	21.5%	25.3%	20.8%	27.6%
Some College	4,888	34.0%	30.5%	21.4%	20.7%
Associate's Degree	1,773	12.3%	9.8%	7.6%	8.0%
Bachelor's Degree	1,957	13.6%	15.0%	19.9%	18.6%
Graduate Degree and Higher	1,673	11.6%	7.6%	11.6%	11.3%

<sup>2</sup> The Hispanic population includes Hispanics in White, Black, Two or More Races, Asian, American Indian or Alaskan Native, Native Hawaiian, or Pacific Islander.

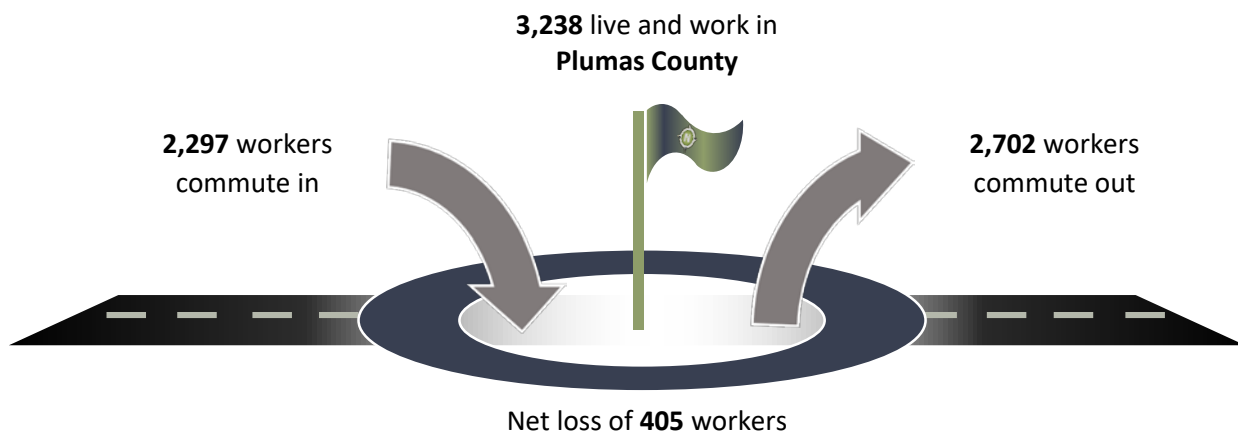
## Income

The poverty rate in Plumas County is 13.3%, which is lower than the state rate of 15.1% and national rate of 14.6%.<sup>3</sup> Only Nevada and Sierra Counties have lower rates in the NoRTEC region. Plumas County's Median Household Income (\$50,266) ranks 3 out of 11 of the NoRTEC counties and less than that of California and United States. This is \$10,344 less than the highest median household income in the region and \$13,703 greater than the lowest median household income in the region.

County	Median Household Income 2013-2017	Poverty Rate
Butte	\$46,516	20.5%
Del Norte	\$41,287	23.2%
Lassen	\$54,083	14.6%
Modoc	\$39,296	18.1%
Nevada	\$60,610	12.1%
<b>Plumas</b>	<b>\$50,266</b>	<b>13.3%</b>
Shasta	\$47,258	18.1%
Sierra	\$44,190	12.3%
Siskiyou	\$40,884	20.7%
Tehama	\$42,512	20.9%
Trinity	\$36,563	19.9%
California	\$67,169	15.1%
United States	\$57,652	14.6%

## Commuting

The graphic below details the commuting patterns into and out of Plumas County in 2015. With 2,702 workers commuting out of the county and 2,297 commuting into the county, a net loss of 405 workers is experienced in Plumas County.<sup>4</sup> Over 3,200 individuals live and work in the county. Of those commuting into Plumas County, 52.8% are workers between the ages of 30 and 54, and 50.7% earn more than \$3,333 per month. Compared to those commuting out of Plumas County, 44.8% earn more than \$3,333 per month.



<sup>3</sup> U.S. Census Bureau 2013-2017

<sup>4</sup> U.S. Census Bureau, OnTheMap, 2015 (most recently available). <http://onthemap.ces.census.gov/>



In addition to looking at commuting data by total population, it is also helpful to examine commuter statistics by occupational classification. Seven occupational classifications experienced a net gain of in-commuters, with the highest number being Education, Training, and Library Occupations; Production Occupations; and Installation, Maintenance, and Repair Occupations. A larger number of county residents commute outside of the county for employment. The largest occupation groups for out-commuters are Sales and Related Occupations; Office and Administrative Support Occupations; and Food Preparation and Serving Related Occupations.

Occupation Group	2018 Commuters
Education, Training, and Library Occupations	31 in-commuters
Production Occupations	24 in-commuters
Installation, Maintenance, and Repair Occupations	23 in-commuters
Healthcare Practitioners and Technical Occupations	11 in-commuters
Life, Physical, and Social Science Occupations	5 in-commuters
Architecture and Engineering Occupations	2 in-commuters
Arts, Design, Entertainment, Sports, and Media Occupations	1 in-commuter
Unclassified Occupation	0 net change
Protective Service Occupations	0 net change
Legal Occupations	8 out-commuters
Community and Social Service Occupations	9 out-commuters
Farming, Fishing, and Forestry Occupations	11 out-commuters
Healthcare Support Occupations	13 out-commuters
Building and Grounds Cleaning and Maintenance Occupations	16 out-commuters
Construction and Extraction Occupations	17 out-commuters
Military-only occupations	19 out-commuters
Transportation and Material Moving Occupations	26 out-commuters
Management Occupations	46 out-commuters
Personal Care and Service Occupations	54 out-commuters
Computer and Mathematical Occupations	54 out-commuters
Business and Financial Operations Occupations	85 out-commuters
Food Preparation and Serving Related Occupations	138 out-commuters
Office and Administrative Support Occupations	167 out-commuters

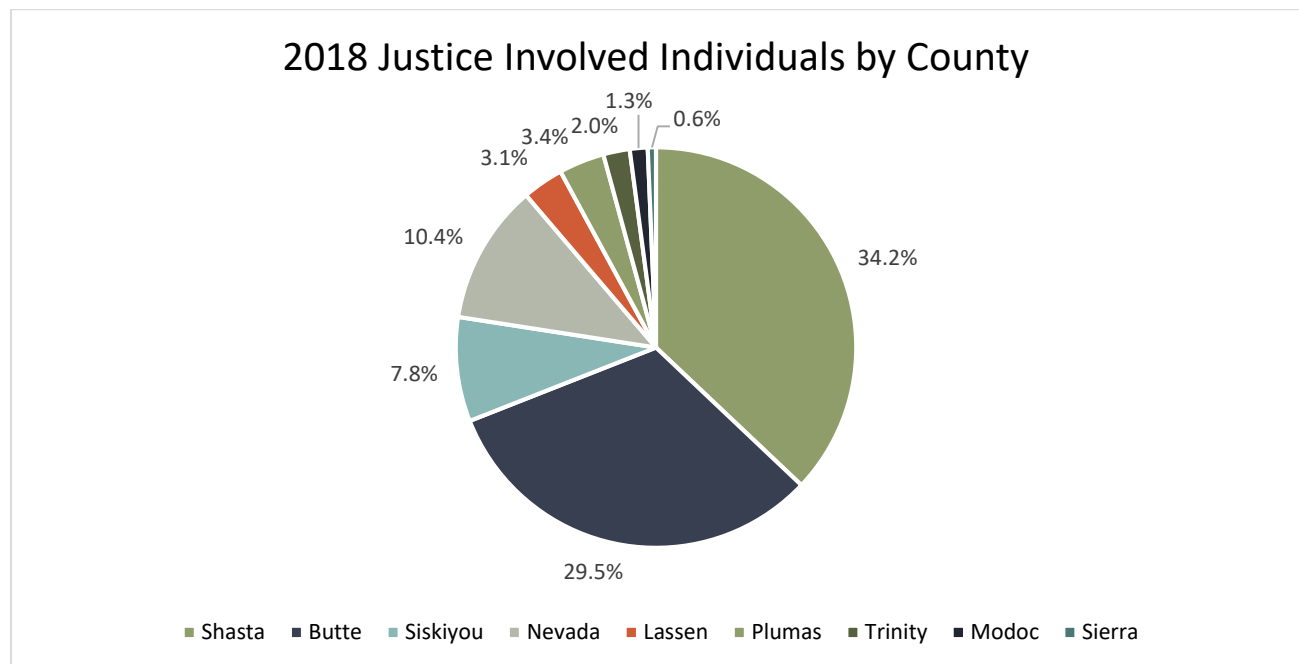
## Special Populations

With consideration of the state of California’s Regional and Local Planning Guidance for program year 2018-19, California counties are also concerned with quantifying and assisting certain sub-population groups, namely: formerly incarcerated and other justice-involved individuals and CalFresh recipients.

### Justice-Involved Individuals

The graph and table below detail the percentage of individuals involved in felony probations, misdemeanor probations, mandatory supervisions, and post-release community supervisions (PRCS) within the 11- county NoRTEC region.<sup>5</sup>

The largest share of activity stems from Shasta County (34.2%) followed by Butte County (29.5%) and Siskiyou County (7.8%). In Plumas County, there were 250 total justice-involved individuals in these categories, with the highest being 148 individuals in felony probations. In the NoRTEC region in 2017, there were a total of 7,372 individuals involved in felony probations, misdemeanor probations, or mandatory supervision.<sup>6</sup>



<sup>5</sup> Data for this section of the report are derived from the Chief Probation Officers of California, <https://www.cpoc.org/data>.

<sup>6</sup> The values for Tehama County, Del Norte, and Modoc (for Mandatory Supervision and PRCS) are left intentionally blank due to a lack of 2018 data.

	Felony Probation	Misdemeanor Probation	Mandatory Supervision	PRCS	Total
Shasta	1,976	0	156	389	2,521
Butte	1,339	272	165	401	2,177
Siskiyou	507	7	12	47	573
Tehama	N/A	N/A	N/A	N/A	N/A
Nevada	566	127	30	47	770
Lassen	126	75	8	17	226
<b>Plumas</b>	<b>148</b>	<b>86</b>	<b>1</b>	<b>15</b>	<b>250</b>
Trinity	111	17	4	13	145
Modoc	79	19	N/A	N/A	98
Del Norte	N/A	N/A	N/A	N/A	N/A
Sierra	28	15	1	1	45

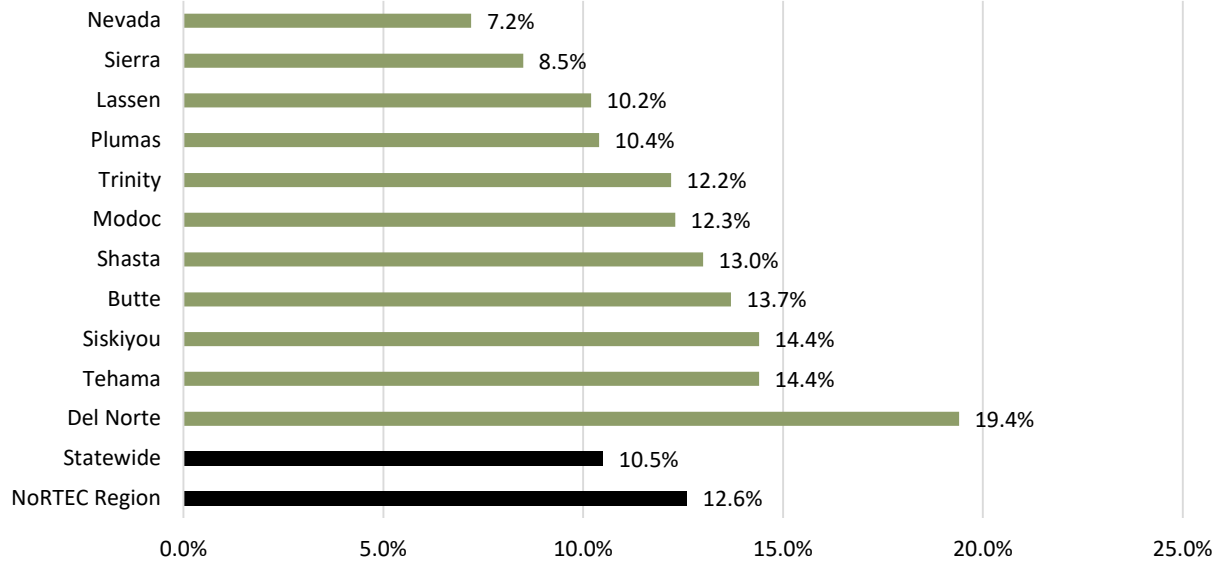
## CalFresh Recipients

CalFresh, the California implementation of Supplemental Nutrition Assistance Program (SNAP), is received by larger percentage of NoRTEC area residents than statewide residents.<sup>7</sup> In Plumas County, 10.4% of individuals receive CalFresh, which is more in line with the state average of 10.5%.

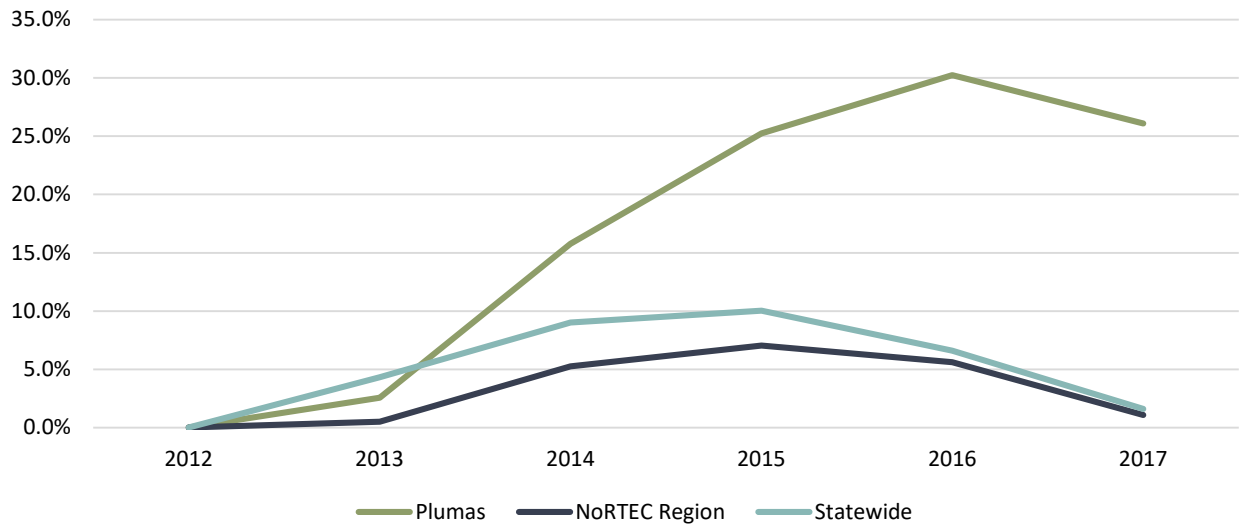
Between 2012 and 2015, the NoRTEC region experienced a rise in the number of individuals enrolled in CalFresh and then a considerable decrease between 2015 and 2017. In Plumas County, however, enrollments increased more than any other regional county in 2014 and continued increasing through 2016. The cumulative growth rate in enrollment over the five year period is nearly 10 percentage points higher in Plumas County than the next highest county in the region, at a 5 year growth rate of 26.1%.

<sup>7</sup> Data for this section are derived from the California Department of Social Services, CalFresh Data Dashboard, <https://www.cdss.ca.gov/inforesources/Data-Portal/Research-and-Data/CalFresh-Data-Dashboard>.

### Percent of Population Receiving CalFresh Benefits



### Cumulative Growth Rate in CalFresh Enrollment 2012-2017



# HUMAN CAPITAL

## Labor Force

**Labor Force Participation Rate**  
 The labor force participation rate represents the proportion of the population that is working or pursuing work, as opposed to those voluntarily not working or not pursuing work. The labor force participation rate is affected by various factors, including availability of jobs, socioeconomic composition of the population, demographics, as well as structural changes in the economy.

EMPLOYMENT IN PLUMAS COUNTY 1998-2018 <sup>8</sup>		
Peak	June 2002 (10,403)	December 2018 (6,865 – 34% lower)
Trough	January 2017 (6,341)	December 2018 (6,865 – 8% higher)
December 2018	Employment: 6,865 Labor Force: 7,508 Unemployment rate: 8.6%	

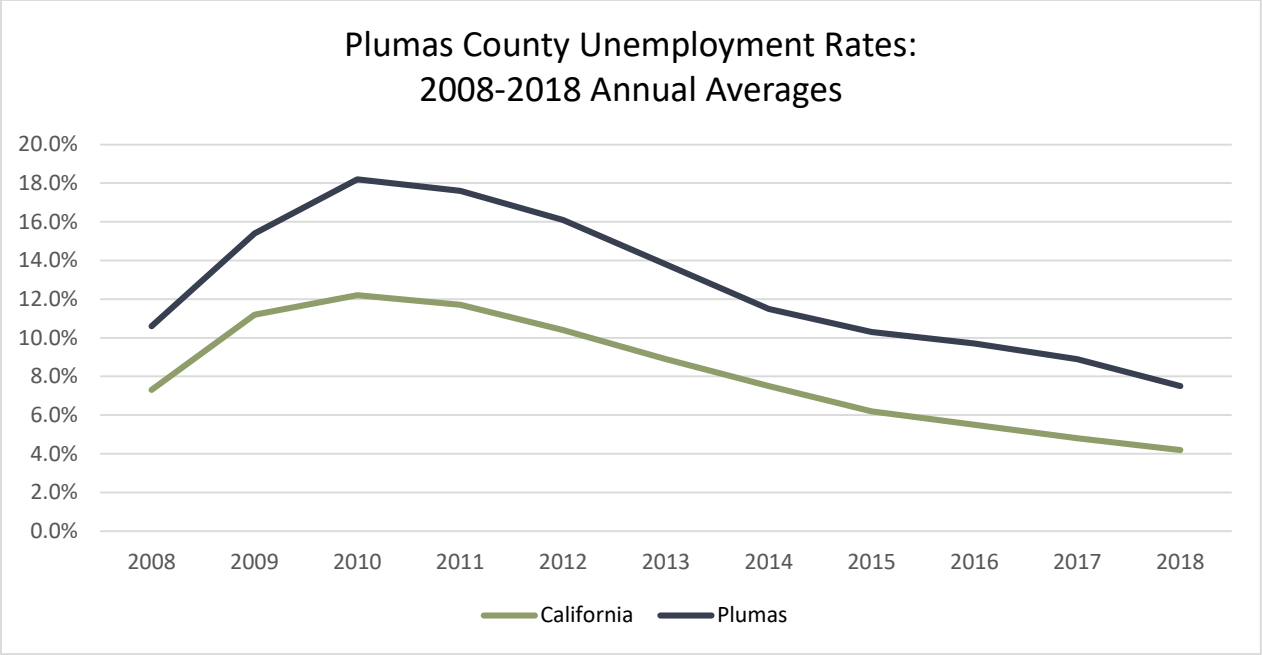
Labor force statistics include both the employed and the unemployed, excluding only those who have stopped looking for work (discouraged workers) and those who are voluntarily not in the labor force. In December 2018, 7,508 individuals participated in the Plumas County labor force, of these, 6,865 were employed and 643 were unemployed.<sup>9</sup> Over the last 20 years, employment in the county was at its highest in June 2002 and lowest in January 2017. As of December 2018, the unemployment rate was 8.6%, more than double the unemployment rate of California (4.1%) and the United States (3.9%).

## Labor Force Participation Rate

The labor force participation rate is sensitive to demographic changes because participation rates vary across age, gender, income and race/ethnicity.<sup>10</sup> The national labor force participation rate has decreased since 2000, a trend that is expected to continue in the next decade in part due to the aging of the baby-boomer generation. In 2000, baby boomers were the heart of the workforce. However, as this large group of individuals moves closer to retirement, the overall workforce participation rate decreases. It is worth mentioning that the participation rate of older workers has been increasing in the past ten years, but it is still significantly lower than those of the young adult and middle-aged groups.

Workers in older age brackets and those who are retirement age, compose a considerable proportion of Plumas County’s population. The older worker population (55 to 64 years of age) was estimated to be 3,447 in 2018, which is equivalent to 18.5% of the county’s population. A large number of these older workers are expected to retire in the next ten years. Even more notably, those who are 65 years and older were estimated to total 5,323, equivalent to 28.6% of the county’s population.

<sup>8</sup> U.S. Bureau of Labor Statistics, 1998.4-2018.4. <http://www.bls.gov/data/>  
<sup>9</sup> December of 2018 was used as comparison throughout the 1998-2008 timeframe.  
<sup>10</sup> For example, in 2015 the national labor force participation rate for individuals older than age 54 (40.0%) was significantly lower than for those between the ages of 25 and 54 (81.3%).



Generally, unemployment tends to spike during recessions and following major layoffs, eventually settling to a more normal and stable rate as individuals adjust to the new availability of employment opportunities. Prolonged periods of unusually high unemployment are typically a signal that the supply of workers is not in balance with demand for workers.

Since 2012, Plumas County’s unemployment rate has continued to decline to an average of 7.5% in 2018. The unemployment rate for Plumas County and the state of California have followed similar trends over the last 10 years, however, the rate in Plumas County has consistently stayed three to four percentage points higher over than period.

# INDUSTRY SECTOR ANALYSIS

To this point, the analysis of Plumas County has focused on the socioeconomic characteristics of the region's population. Socioeconomic data are useful in understanding the economy, but to truly comprehend economic dynamics we must also analyze industry data. Industry data are classified according to the types of goods and services that are rendered by businesses. These data indicate past and projected growth trends by sector and reveal sectors in which Plumas County is well suited to be competitive.

A chart and several tables are displayed related to industry data. Each of the figures provide data that descend in order according to 2018 employment. Other data displayed include: employment growth over the past five years, forecasted growth over the next five years, growth due to competitive effect (CE), and location quotient (LQ).

The *competitive effect* helps to determine the amount of job growth that occurred due to the county's competitive advantages as compared to the national growth in general and the national growth rate for each sector. In other words, a positive number indicates that the county experienced more growth than was expected.

*Location Quotient (LQ)* measures how concentrated or specialized an industry is in a particular county and helps to demonstrate what makes a particular county's economy unique. A number greater than 1.25 indicates that the particular sector is considerably more concentrated than the national average. It also typically indicates that local demand for the products and/or services produced by that industry have been met and the industry is likely exporting products and/or services outside of the county. In other words, these may be industries that are bringing money into the county, rather than circulating money already present within the county.<sup>11</sup>

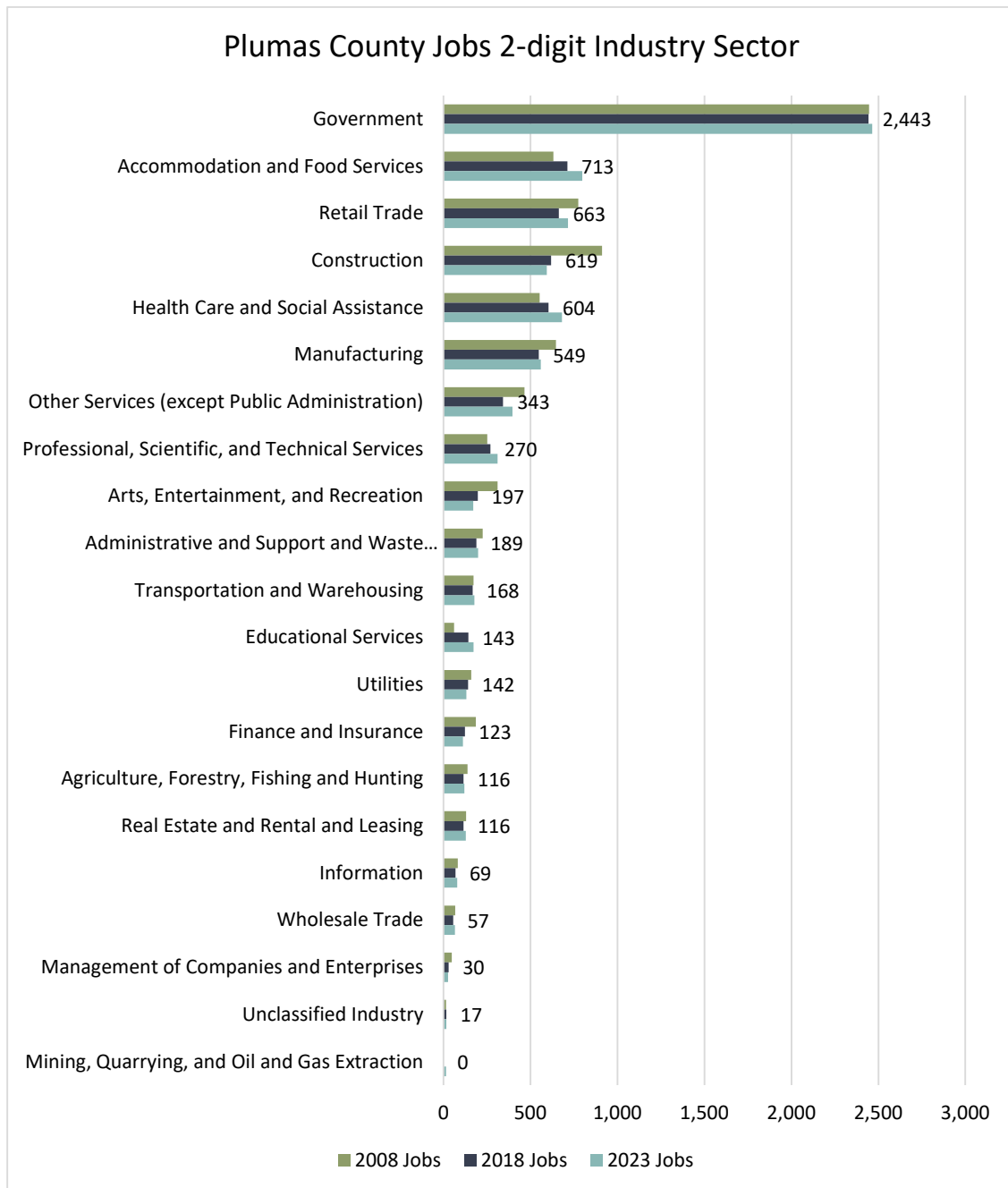
---

<sup>11</sup> Data from this section are from Economic Modeling Specialists International (EMSI), 2019.2 Class of Worker.

## Industry Mix

The broad industry sectors in Plumas County employing the most workers are Government (2,443; 32.2%); Accommodation and Food Services (713, 9.4%); Retail Trade (663, 8.8%); and Construction (619, 8.2%).

Each of the above-mentioned sectors have grown over the last five years. Government added 86 jobs between 2013-2018. Accommodation and Food Services added the most with 164 jobs, or 36.8% of the county's overall growth. Retail Trade and Construction also each grew, by 51 and 52 jobs, respectively.





Looking deeper into job change in the county, competitive effect reveals how many jobs were created or retained due uniquely to characteristics of Plumas County. According to these data, Accommodation and Food Services is the strongest (adding 92 jobs due to competitive effect). Others that performed better in Plumas County than other regions in the United States include Government (40); Other Services (except Public Administration) (40); and Agriculture, Forestry, Fishing and Hunting (32).

Industries with the strongest location quotient score in Plumas County include Utilities, Government, Forestry, Fishing and Hunting; Government; Arts, Entertainment, and Recreation; and Construction.

Industry	2013 Jobs	2018 Jobs	Change 2013 – 2018	% Change 2013-2018	Change 2018-2023	% Change 2018-2023	2018 LQ	Comp. Effect
Government	2,357	2,443	86	4%	22	1%	2.14	40
Accommodation and Food Services	549	713	164	30%	85	12%	1.09	92
Retail Trade	612	663	51	8%	52	8%	0.87	22
Construction	567	619	52	9%	(24)	(4%)	1.47	(50)
Health Care and Social Assistance	677	604	(73)	(11%)	78	13%	0.63	(145)
Manufacturing	509	549	40	8%	10	2%	0.92	14
Other Services (except Public Administration)	285	343	58	20%	54	16%	0.95	40
Professional, Scientific, and Technical Services	218	270	52	24%	41	15%	0.55	24
Arts, Entertainment, and Recreation	238	197	(41)	(17%)	(26)	(13%)	1.50	(76)
Administrative and Support and Waste Management and Remediation Services	190	189	(1)	(1%)	10	5%	0.40	(21)
Transportation and Warehousing	161	168	7	4%	10	6%	0.61	(27)
Educational Services	106	143	37	35%	30	21%	0.74	27
Utilities	158	142	(16)	(10%)	(11)	(8%)	5.45	(19)
Finance and Insurance	136	123	(13)	(10%)	(12)	(10%)	0.40	(22)
Agriculture, Forestry, Fishing and Hunting	83	116	33	40%	4	3%	1.30	32
Real Estate and Rental and Leasing	102	116	14	14%	12	10%	0.90	2
Information	64	69	5	8%	10	14%	0.50	2
Wholesale Trade	60	57	(3)	(5%)	9	16%	0.20	(4)
Management of Companies and Enterprises	28	30	2	7%	(4)	(13%)	0.28	(2)
Unclassified Industry	15	17	2	13%	0	0%	1.64	(3)
Mining, Quarrying, and Oil and Gas Extraction	15	<10	Insf. Data	Insf. Data	Insf. Data	Insf. Data	0.32	(2)

## Key Industries

The following table shows the 20 largest 4-digit NAICS industries in terms of employment in Plumas County in 2018. Between 2013 and 2018, 13 of the top 20 industries added jobs. Local Government, Excluding Education and Hospitals added the most jobs with 184, followed by Individual and Family Services (122), Traveler Accommodation (68), and Grocery Stores (64). Projections into the next five years show that those same industries that experienced a decline in the last five years are expected to continue declining with the addition of Sawmills and Wood Preservation (-9) and Residential Building Construction (-29).

Industry	2018 Jobs	Change 2013-2018	% Change 2013-2018	Projected Change 2018-2023	Projected % Change 2018-2023
Education and Hospitals (Local Government)	1,184	(55)	(4%)	(17)	(1%)
Local Government, Excluding Education and Hospitals	828	184	29%	80	10%
Sawmills and Wood Preservation	460	26	6%	(9)	(2%)
Restaurants and Other Eating Places	383	43	13%	18	5%
Federal Government, Civilian	359	(54)	(13%)	(40)	(11%)
Individual and Family Services	349	122	54%	93	27%
Grocery Stores	257	64	33%	37	14%
Residential Building Construction	205	18	10%	(29)	(14%)
Traveler Accommodation	186	68	58%	42	23%
Other Specialty Trade Contractors	158	(12)	(7%)	(5)	(3%)
Other Amusement and Recreation Industries	156	(54)	(26%)	(34)	(22%)
Elementary and Secondary Schools	123	63	105%	31	25%
Electric Power Generation, Transmission and Distribution	117	(32)	(21%)	(12)	(10%)
Child Day Care Services	108	(8)	(7%)	(8)	(7%)
Services to Buildings and Dwellings	100	(9)	(8%)	(4)	(4%)
RV (Recreational Vehicle) Parks and Recreational Camps	98	44	81%	22	22%
Building Equipment Contractors	83	10	14%	0	0%
Building Finishing Contractors	74	26	54%	7	9%
Business, Professional, Labor, Political, and Similar Organizations	65	49	306%	36	55%
Gasoline Stations	65	12	23%	6	9%

# OCCUPATION ANALYSIS

An examination of occupational demand is separate and distinct from industry analysis because industries require a mix of occupations to function. For example, the Manufacturing sector employs occupations that might be traditionally defined as “manufacturing occupations” – called Production occupations at the broadest level of occupation classification. The Manufacturing sector, however, also employs managers, accountants, maintenance and repair personnel, and many other occupational categories necessary for the industry’s operation. As a workforce development board, NoRTEC’s mission is to serve individual job seekers and businesses more than driving forward industry-specific economic development. As such, it’s important to understand the specific occupational roles that are required to keep local businesses functioning.

The occupational analysis that follows provides a view of the most critical occupations within the region from an overarching economic perspective and specifically related to some of the key industries that were highlighted previously.

## Occupational Groups

Plumas County’s top 2-digit Standard Occupational Classification (SOC) System categories include:

- Office and Administrative Support Occupations (947)
- Education, Training, and Library Occupations (671)
- Sales and Related Occupations (583)
- Construction and Extraction Occupations (566)
- Food Preparation and Serving Related Occupations (556)

The median hourly earnings for all occupations range from \$11.83/hr. for Food Preparation and Serving Related Occupations to \$35.33/hr. for Legal Occupations.

As noted in the industry analysis section, location quotient scores can indicate fields where the county has a strong competitive advantage over other regions in United States. Occupational categories where Plumas County has a strong concentration of workers (above an LQ of 1.25) include

- Life, Physical, and Social Science Occupations (3.10)
- Farming, Fishing, and Forestry Occupations (2.29)
- Protective Service Occupations (1.65)
- Construction and Extraction Occupations (1.63)
- Education, Training, and Library Occupations (1.56)
- Personal Care and Service Occupations (1.50)

These are the occupation groups for which the region is highly specialized.

## Broad Occupation Mix

Occupation	2018 Employment	% of Total Employment	Median Hourly Earning	2018 Location Quotient
Office and Administrative Support Occupations	947	12.5%	\$16.85	0.86
Education, Training, and Library Occupations	671	8.9%	\$21.13	1.56
Sales and Related Occupations	583	7.7%	\$13.14	0.78
Construction and Extraction Occupations	566	7.5%	\$17.46	1.63
Food Preparation and Serving Related Occupations	556	7.3%	\$11.83	0.88
Transportation and Material Moving Occupations	522	6.9%	\$18.04	1.01
Personal Care and Service Occupations	489	6.5%	\$12.42	1.50
Management Occupations	456	6.0%	\$30.19	1.07
Healthcare Practitioners and Technical Occupations	402	5.3%	\$34.84	0.96
Installation, Maintenance, and Repair Occupations	349	4.6%	\$21.70	1.17
Building and Grounds Cleaning and Maintenance Occupations	319	4.2%	\$12.87	1.15
Production Occupations	291	3.8%	\$19.95	0.66
Protective Service Occupations	280	3.7%	\$25.08	1.65
Business and Financial Operations Occupations	257	3.4%	\$27.56	0.66
Life, Physical, and Social Science Occupations	193	2.5%	\$19.73	3.10
Healthcare Support Occupations	145	1.9%	\$15.18	0.71
Community and Social Service Occupations	137	1.8%	\$20.37	1.09
Farming, Fishing, and Forestry Occupations	130	1.7%	\$17.79	2.29
Arts, Design, Entertainment, Sports, and Media Occupations	107	1.4%	\$20.44	0.76
Architecture and Engineering Occupations	66	0.9%	\$31.68	0.52
Computer and Mathematical Occupations	66	0.9%	\$29.51	0.30
Legal Occupations	33	0.4%	\$35.33	0.53
Military-only occupations	14	0.2%	\$19.94	0.29

## Top Occupations by Employment

The following table displays the top occupational by total employment for the slightly more specific group of 4-digit Standard Occupational Classification (SOC) Codes. Median hourly earnings for these occupations range from \$11.53 for Cashiers to \$37.78 for Registered Nurses. Personal Care Aides experienced the greatest growth in jobs over the last five years, adding 73 jobs, followed by Elementary and Middle School Teachers (42); Cashiers (34); and Secondary School Teachers (29). Out of these top 20 occupations, all that grew in the last five years are also projected to grow in the next five years except for one – Carpenters.

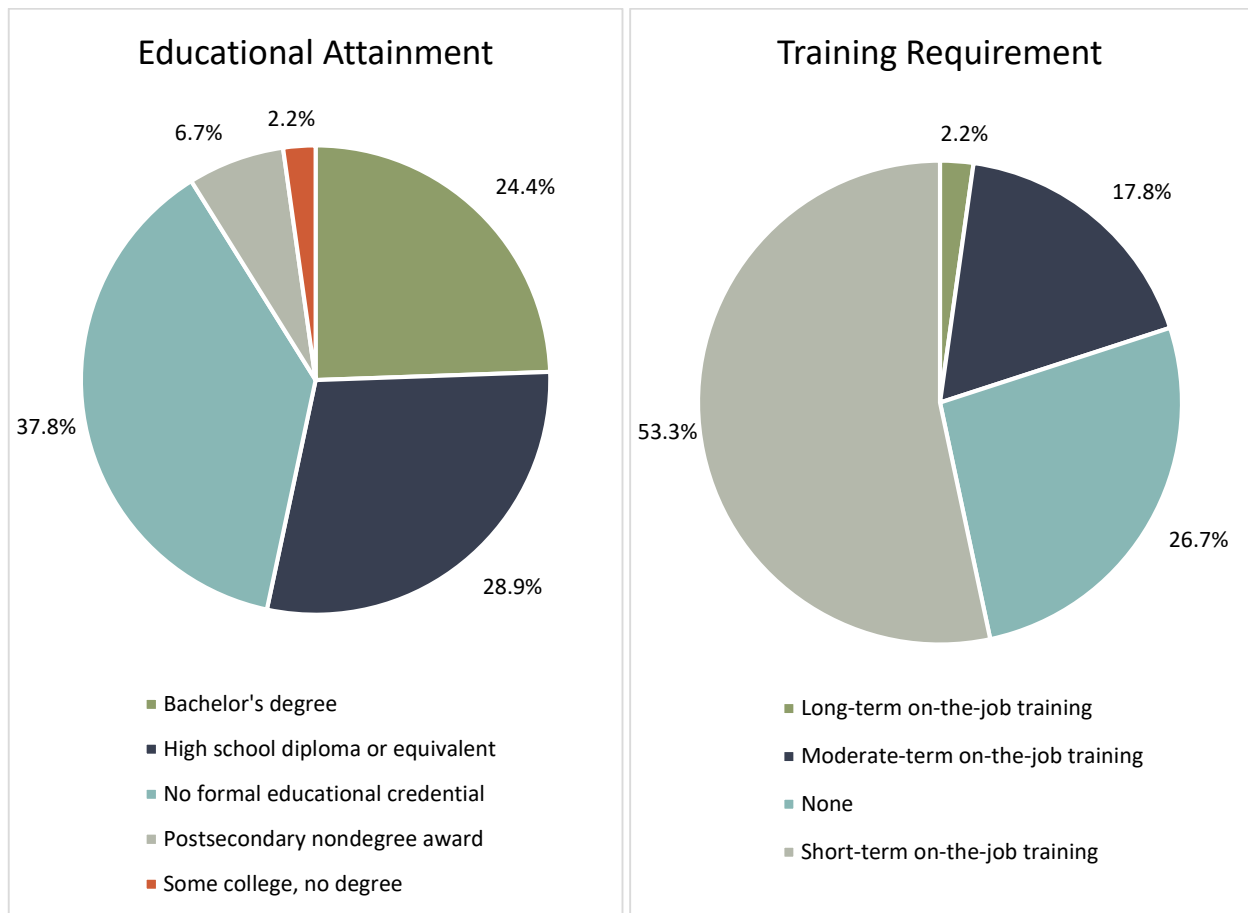
Occupations that experienced declines in employment over the past five years include Building Cleaning Workers (9); Registered Nurses (18); Office Clerks, General (4); Miscellaneous Life, Physical, and Social Science Technicians (7); and Grounds Maintenance Workers (5). Only two of those occupations are projected to experience declines in employment over the next five years (Registered Nurses and Miscellaneous Life, Physical, and Social Science Technicians).

Occupation	2018 Employment	Change 2013-2018		Projected Change 2018-2023		Projected Annual Openings	Median Hourly Earnings
Cashiers	228	34	18%	19	8%	45	\$11.53
Secretaries and Administrative Assistants	212	4	2%	2	1%	27	\$17.07
Personal Care Aides	194	73	60%	53	27%	37	\$12.56
Building Cleaning Workers	187	(9)	(5%)	12	6%	29	\$11.80
Laborers and Material Movers, Hand	161	6	4%	7	4%	25	\$14.06
Miscellaneous Teachers and Instructors	152	23	18%	10	7%	23	\$15.22
Elementary and Middle School Teachers	141	42	42%	19	13%	18	\$33.72
Driver/Sales Workers and Truck Drivers	140	24	21%	15	11%	18	\$20.86
Cooks	135	8	6%	7	5%	23	\$12.89
Registered Nurses	134	(18)	(12%)	(2)	(1%)	8	\$37.78
Office Clerks, General	133	(4)	(3%)	2	2%	18	\$15.45
Miscellaneous Life, Physical, and Social Science Technicians	132	(7)	(5%)	(11)	(8%)	18	\$17.05
Teacher Assistants	126	18	17%	8	6%	16	\$14.53
Construction Laborers	114	13	13%	0	0%	14	\$14.08
Carpenters	110	10	10%	(13)	(12%)	12	\$15.54
Waiters and Waitresses	109	14	15%	7	6%	23	\$12.14
Grounds Maintenance Workers	109	(5)	(4%)	3	3%	15	\$13.62
Secondary School Teachers	103	29	39%	11	11%	13	\$28.44
General and Operations Managers	102	13	15%	9	9%	10	\$34.68
Maintenance and Repair Workers, General	98	17	21%	12	12%	12	\$17.05

## Education & Training Requirements for High Demand Jobs

The top high demand jobs in Plumas County include Personal Care Aides; Cashiers; Heavy and Tractor-Trailer Truck Drivers; Elementary School Teachers, Except Special Education; and Maintenance and Repair Workers, General. Of all top high demand jobs, about one third require some type of postsecondary educational attainment. Nearly 75% also require some type of on-the-job-training, with the largest portion (more than 50%) requiring short-term on-the-job training.

Average hourly earnings for high demand jobs range from \$11.40/hr. for Combined Food Preparation and Serving Workers, Including Fast Food to \$41.64/hr. for General and Operations Managers. Over half of the high demand jobs earn an hourly wage above \$15.00/hr.



Description	2023 Jobs	Change 2018 - 2023	Annual Openings	Avg. Hourly Earnings	Typical Entry Level Education	Typical On-The-Job Training
Personal Care Aides	247	53	41	\$13.31	High school diploma or equivalent	Short-term on-the-job training
Cashiers	246	19	48	\$12.60	No formal educational credential	Short-term on-the-job training
Heavy and Tractor-Trailer Truck Drivers	122	14	15	\$23.10	Postsecondary nondegree award	Short-term on-the-job training
Elementary School Teachers, Except Special Education	138	14	12	\$35.07	Bachelor's degree	None
Maintenance and Repair Workers, General	110	12	12	\$18.12	High school diploma or equivalent	Moderate-term on-the-job training
Stock Clerks and Order Fillers	79	11	11	\$14.08	High school diploma or equivalent	Short-term on-the-job training
Maids and Housekeeping Cleaners	121	11	18	\$11.99	No formal educational credential	Short-term on-the-job training
Secondary School Teachers, Except Special and Career/Technical Education	106	10	9	\$29.64	Bachelor's degree	None
General and Operations Managers	111	9	10	\$41.64	Bachelor's degree	None
Substitute Teachers	146	9	17	\$16.45	Bachelor's degree	None
Combined Food Preparation and Serving Workers, Including Fast Food	95	8	18	\$11.56	No formal educational credential	Short-term on-the-job training
Teacher Assistants	134	8	15	\$15.26	Some college, no degree	None
Waiters and Waitresses	116	7	23	\$17.07	No formal educational credential	Short-term on-the-job training
Social and Human Service Assistants	47	7	6	\$21.86	High school diploma or equivalent	Short-term on-the-job training
Cooks, Restaurant	84	6	13	\$14.13	No formal educational credential	Moderate-term on-the-job training
Hotel, Motel, and Resort Desk Clerks	29	6	5	\$13.14	High school diploma or equivalent	Short-term on-the-job training
Police and Sheriff's Patrol Officers	58	6	5	\$37.61	High school diploma or equivalent	Moderate-term on-the-job training

Description	2023 Jobs	Change 2018 - 2023	Annual Openings	Avg. Hourly Earnings	Typical Entry Level Education	Typical On-The-Job Training
Firefighters	73	6	6	\$22.08	Postsecondary nondegree award	Long-term on-the-job training
Operating Engineers and Other Construction Equipment Operators	79	5	9	\$24.51	High school diploma or equivalent	Moderate-term on-the-job training
Middle School Teachers, Except Special and Career/Technical Education	21	4	2	\$36.07	Bachelor's degree	None

## Industry and Occupation Connections

Industries drive economic growth, but the fuel that enables those industries to function are its workforce. Considering the importance of talent to supporting key regional industries, it is worth exploring the connections between significant industries and the occupations that are most critical to those industries.

The following table identifies the top ten high demand occupations by 5-digit SOC codes and how they are connected to some of the region's key industries (2-digit NAICS). Note that six of the top ten occupations are tied to the Government industry.

Connection between Top Occupations and Key Industries	
Top Occupation	Key Industries
Personal Care Aides	<ul style="list-style-type: none"> <li>Health Care and Social Assistance</li> </ul>
Cashiers	<ul style="list-style-type: none"> <li>Retail Trade</li> <li>Accommodation and Food Services</li> </ul>
Heavy and Tractor-Trailer Truck Drivers	<ul style="list-style-type: none"> <li>Transportation and Warehousing</li> <li>Manufacturing</li> <li>Construction</li> </ul>
Elementary School Teachers, Except Special Education	<ul style="list-style-type: none"> <li>Government</li> <li>Educational Services</li> </ul>
Maintenance and Repair Workers, General	<ul style="list-style-type: none"> <li>Government</li> <li>Accommodation and Food Services</li> <li>Real Estate and Rental and Leasing</li> </ul>
Stock Clerks and Order Fillers	<ul style="list-style-type: none"> <li>Retail Trade</li> <li>Accommodation and Food Services</li> </ul>
Maids and Housekeeping Cleaners	<ul style="list-style-type: none"> <li>Government</li> <li>Administrative and Support and Waste Management and Remediation Services</li> </ul>
Secondary School Teachers, Except Special and Career/Technical Education	<ul style="list-style-type: none"> <li>Government</li> <li>Educational Services</li> </ul>
General and Operations Managers	<ul style="list-style-type: none"> <li>Government</li> <li>Manufacturing</li> <li>Retail Trade</li> <li>Other Services (except Public Administration)</li> </ul>
Substitute Teachers	<ul style="list-style-type: none"> <li>Government</li> </ul>



# DETAILED INDUSTRY ANALYSIS

The following section provides an in-depth look at 4-digit NAICS sectors that are important to the Plumas County economy. These industry sectors include: Health Care; Manufacturing; and Tourism. For each of these sectors the top employing sub-sectors are listed by 4-digit NAICS code, as well as the staffing patterns for each sector. Staffing patterns data show the top employing occupations at the 4-digit SOC level, along with past and projected growth, competitive effect, location quotient and average earnings.

## Employment for Top Health Care Industries

The largest employing Health Care sectors in Plumas County include Individual and Family Services (349 jobs); Child Day Care Services (108 jobs); and Offices of Dentists (59 jobs). The highest LQ amongst industry subsectors was Individual and Family Services, at 2.87. This subsector has added 122 jobs over the past five years and is projected to add another 93 over the next five. Only six of the included subsectors have high enough employment to show average earnings, the highest of which are found in Offices of Dentists (\$46,442) and the lowest are found in Individual and Family Services (\$21,678).

Industry	2018 Jobs	'13-'18 Change	CE '13-'18	'18-'23 Change	CE '18-'23	'18 LQ	Average Earnings
Individual and Family Services	349	122	61	93	14	2.87	\$21,678
Child Day Care Services	108	(8)	(12)	(8)	(10)	1.86	\$35,917
Offices of Dentists	59	9	5	9	3	1.28	\$46,442
Offices of Other Health Practitioners	43	(1)	(10)	1	(7)	0.88	\$40,719
Home Health Care Services	13	(11)	(15)	(1)	(4)	0.19	\$34,899
Nursing Care Facilities (Skilled Nursing Facilities)	13	(131)	(128)	Insf. Data	(10)	0.17	\$43,623
Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	<10	Insf. Data	1	Insf. Data	0	0.04	Insf. Data
Community Food and Housing, and Emergency and Other Relief Services	<10	Insf. Data	(8)	Insf. Data	(0)	0.13	Insf. Data
Other Ambulatory Health Care Services	<10	Insf. Data	0	Insf. Data	(2)	0.17	Insf. Data
Medical and Diagnostic Laboratories	<10	Insf. Data	0	Insf. Data	0	0.05	Insf. Data
Vocational Rehabilitation Services	<10	Insf. Data	(44)	Insf. Data	(5)	0.37	Insf. Data
Offices of Physicians	<10	Insf. Data	0	Insf. Data	(2)	0.06	Insf. Data
Other Residential Care Facilities	0	Insf. Data	(1)	0	0	0.00	\$0
Psychiatric and Substance Abuse Hospitals	0	0	0	0	0	0.00	\$0
Outpatient Care Centers	0	Insf. Data	(2)	0	0	0.00	\$0
General Medical and Surgical Hospitals	0	0	0	0	0	0.00	\$0
Specialty (except Psychiatric and Substance Abuse) Hospitals	0	0	0	0	0	0.00	\$0

## Staffing Patterns for Health Care

The top four highest employment 4-digit SOC categories for this industry sector include: Personal Care Aides (188); Childcare Workers (51); Preschool and Kindergarten Teachers (29); and Miscellaneous Healthcare Support Occupations (27). Childcare Workers was the only occupation of the four that experienced a decline in jobs over the last five years and is projected to continue to decline slightly over the next five years. Median hourly wages for Personal Care Aides and Childcare Workers are among the lowest median wages in this industry sector at \$12.56/hr. and \$12.02/hr., respectively. Dental Hygienists is the highest paid occupation in the industry (\$43.74/hr.).

Occupation	2018 Employment	Change 2013-2018		Projected Change 2018-2023		Median Hourly Earnings
Personal Care Aides	188	75	66%	53	28%	\$12.56
Childcare Workers	51	(11)	(18%)	(5)	(10%)	\$12.01
Preschool and Kindergarten Teachers	29	1	4%	0	0%	\$18.78
Miscellaneous Healthcare Support Occupations	27	3	13%	4	15%	\$16.39
Miscellaneous Community and Social Service Specialists	24	0	0%	5	21%	\$18.70
Teacher Assistants	22	0	0%	1	5%	\$14.53
Secretaries and Administrative Assistants	20	1	5%	1	5%	\$17.07
Dental Hygienists	19	4	27%	3	16%	\$43.74
Counselors	16	(1)	(6%)	3	19%	\$21.02
Nursing, Psychiatric, and Home Health Aides	16	(42)	(72%)	4	25%	\$13.27
Social and Community Service Managers	14	4	40%	2	14%	\$25.53
Social Workers	13	2	18%	3	23%	\$24.30
Therapists	10	(3)	(23%)	1	10%	\$38.81
Medical, Dental, and Ophthalmic Laboratory Technicians	<10	0	0%	0	0%	\$17.71

## Employment for Top Manufacturing Industries

Sawmills and Wood Preservation is by far the top manufacturing industry in Plumas County by employment with 460 jobs, however, it is projected to decline slightly over the next five years. This industry also reports high average earnings of \$77,859. It also has a location quotient of 101.35 indicating that the industry is more than 100 times concentrated in Plumas County than the national average.

Industry	2018 Jobs	'13-'18 Change	CE '13-'18	'18-'23 Change	CE '18-'23	'18 LQ	Average Earnings
Sawmills and Wood Preservation	460	26	(9)	(9)	(18)	101.35	\$77,859
Household and Institutional Furniture and Kitchen Cabinet Manufacturing	19	7	6	3	3	1.54	\$37,847
Bakeries and Tortilla Manufacturing	15	Insf. Data	10	8	7	1.00	\$28,298
Other Wood Product Manufacturing	11	Insf. Data	7	3	3	0.95	\$32,850
Cement and Concrete Product Manufacturing	<10	Insf. Data	(4)	Insf. Data	(2)	0.31	Insf. Data
Printing and Related Support Activities	<10	Insf. Data	3	Insf. Data	1	0.25	Insf. Data
Other Nonmetallic Mineral Product Manufacturing	<10	Insf. Data	1	Insf. Data	0	0.52	Insf. Data
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	<10	Insf. Data	5	Insf. Data	2	0.44	Insf. Data
Semiconductor and Other Electronic Component Manufacturing	<10	Insf. Data	1	Insf. Data	1	0.08	Insf. Data
Other Miscellaneous Manufacturing	<10	Insf. Data	(1)	Insf. Data	2	0.52	Insf. Data

## Staffing Patterns for Manufacturing

Diving deeper into the staffing patterns for the Manufacturing industry, the top occupations include Laborers and Material Movers, Hand; Logging Workers; Industrial Truck and Tractor Operators; and Miscellaneous Production Workers. Most of these positions remained relatively stable over the last five years, with the highest growth being among Logging Workers (9 added jobs) and the largest decline being among Inspectors, Testers, Sorters, Samplers, and Weighers, with only two lost jobs. Job growth over the next five years is projected to be stagnant, with a no net growth or decline among the occupations listed below.

Occupation	2018 Employment	Change 2013-2018		Projected Change 2018-2023		Median Hourly Earnings
Laborers and Material Movers, Hand	88	(1)	(1%)	0	0%	\$14.06
Logging Workers	40	9	29%	0	0%	\$20.50
Industrial Truck and Tractor Operators	39	8	26%	0	0%	\$16.53
Miscellaneous Production Workers	33	(1)	(3%)	0	0%	\$12.87
Woodworking Machine Setters, Operators, and Tenders	28	0	0%	1	4%	\$21.73
Driver/Sales Workers and Truck Drivers	23	2	10%	0	0%	\$20.86
Inspectors, Testers, Sorters, Samplers, and Weighers	17	(2)	(11%)	(1)	(6%)	\$24.08
Industrial Machinery Installation, Repair, and Maintenance Workers	17	2	13%	0	0%	\$28.48
First-Line Supervisors of Production and Operating Workers	17	3	21%	0	0%	\$26.22
General and Operations Managers	14	3	27%	0	0%	\$34.68
Miscellaneous Managers	11	4	57%	2	18%	\$19.46
Secretaries and Administrative Assistants	11	2	22%	(1)	(9%)	\$17.07
Office Clerks, General	11	2	22%	(1)	(9%)	\$15.45
Sales Representatives, Wholesale and Manufacturing	10	2	25%	0	0%	\$20.60

## Employment for Top Tourism Industries

The top industry subsectors within Tourism in Plumas County include Restaurants and Other Eating Places (383 jobs); Traveler Accommodation (186 jobs); and Other Amusement and Recreation Industries (156 jobs). Average earnings for the tourism subsectors are relatively low compared to the county's median earnings. The highest earnings are found in Other Support Services (\$47,971); RV (Recreational Vehicle) Parks and Recreational Camps (\$36,888); and Other Amusement and Recreation Industries (\$34,853). The RV (Recreational Vehicle) Parks and Recreational Camps subsector has the highest location quotient (30.41), indicating a significant concentration in Plumas County.

Industry	2018 Jobs	'13-'18 Change	CE '13-18'	'18-'23 Change	CE '18-23	'18 LQ	Average Earnings
Restaurants and Other Eating Places	383	43	(4)	18	(12)	0.77	\$17,835
Traveler Accommodation	186	68	59	42	36	2.06	\$25,390
Other Amusement and Recreation Industries	156	(54)	(91)	(34)	(48)	2.32	\$34,853
RV (Recreational Vehicle) Parks and Recreational Camps	98	44	35	22	9	30.41	\$36,888
Drinking Places (Alcoholic Beverages)	32	17	16	5	5	1.73	\$14,488
Independent Artists, Writers, and Performers	22	1	(1)	2	1	1.57	\$24,841
Museums, Historical Sites, and Similar Institutions	13	Insf. Data	9	6	4	1.63	\$31,082
Special Food Services	12	(10)	(13)	0	(2)	0.32	\$23,818
Other Support Services	12	Insf. Data	7	5	4	0.78	\$47,971
Performing Arts Companies	<10	Insf. Data	(1)	Insf. Data	0	0.10	Insf. Data

## Staffing Patterns for Tourism<sup>12</sup>

Within the Tourism industry in Plumas County, the top occupations include Cooks (109 jobs); Waiters and Waitresses (106 jobs); Building Cleaning Workers (76 jobs); Fast Food and Counter Workers (71 jobs); and Dishwashers (46 jobs). Each of these top five occupations experienced growth in the last five years and is projected to continue growing in the next five years.

Median hourly earnings for Tourism occupations ranged from \$10.81/hr. for Dining Room and Cafeteria Attendants and Bartender Helpers to \$34.68 for General and Operational Managers. The earnings range band for this industry are lower than the other two target industry sectors.

Occupation	2018 Employment	Change 2013-2018	Projected Change 2018-2023	Median Hourly Earnings
Cooks	109	15 16%	5 5%	\$12.89
Waiters and Waitresses	106	14 15%	7 7%	\$12.14
Building Cleaning Workers	76	25 49%	16 21%	\$11.80
Fast Food and Counter Workers	71	7 11%	5 7%	\$11.24
Dishwashers	46	3 7%	2 4%	\$11.46
Miscellaneous Entertainment Attendants and Related Workers	34	1 3%	(4) (12%)	\$11.69
Recreation and Fitness Workers	30	0 0%	(1) (3%)	\$15.49
Bartenders	30	9 43%	3 10%	\$12.52
Supervisors of Food Preparation and Serving Workers	29	2 7%	2 7%	\$14.11
Grounds Maintenance Workers	27	(2) (7%)	0 0%	\$13.62
Dining Room and Cafeteria Attendants and Bartender Helpers	27	5 23%	2 7%	\$10.81
Maintenance and Repair Workers, General	26	10 63%	5 19%	\$17.05
Hotel, Motel, and Resort Desk Clerks	23	9 64%	5 22%	\$12.97
Food Preparation Workers	22	0 0%	2 9%	\$12.32
Cashiers	22	2 10%	0 0%	\$11.53
General and Operations Managers	15	4 36%	1 7%	\$34.68
Food Service Managers	14	(5) (26%)	0 0%	\$13.68
Athletes, Coaches, Umpires, and Related Workers	14	(4) (22%)	(2) (14%)	\$20.94
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	14	3 27%	1 7%	\$11.86
Counter and Rental Clerks and Parts Salespersons	10	(1) (9%)	0 0%	\$13.17

<sup>12</sup> The Tourism industry crosses over several industries, including NAICS 48 (Transportation and Warehousing); 56 (Administrative and Support Services); 71 (Arts, Entertainment, and Recreation; and 72 (Accommodation and Food Services).

# APPENDIX

## Data Sources and Glossary of Key Terms

### Data Sources

All data and analysis for this report are directly or indirectly derived from information provided by either the U.S. Bureau of the Census or U.S. Bureau of Labor Statistics:

- Economic Modeling Specialists International (EMSI), 2018.4 Class of Worker data (based on the U.S. Quarterly Census of Employment and Wages) and general demographic estimates
- U.S. Census American Community Survey 2012-2016 Estimates
- U.S. Census OnTheMap

### Competitive Effect

Used in conjunction with "Shift-Share Analysis" techniques<sup>13</sup>, *The Competitive Effect* metric seeks to isolate the influence of local dynamics from the influence of non-local factors on industries' employment growth or decline. A positive number indicates that the study area experienced more growth within a particular industry than would have been expected from non-local trends; the magnitude of *The Competitive Effect* indicates the strength of the purely local influence on the industry's employment change.

### Location Quotient

Location Quotient (LQ) measures the relative importance of an industry's employment to a particular region, and uses the straightforward formula:

$$LQ = [\% \text{ of total local employment} / \% \text{ of total national employment}]$$

Location Quotients are one of the most common and important indicators of local economic characteristics; LQ's greater than 1.25 are typically considered to be the threshold for identifying an industry as especially relatively strong.

### NAICS Codes (The North American Industry Classification System)

NAICS is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. The numbering structure is hierarchical in nature, meaning that fewer digits are broader in their meaning, while longer (up to six) digits provide greater specificity.

---

<sup>13</sup> Shift share is a standard regional analysis method that attempts to determine how much of regional job growth can be attributed to national trends and how much is due to unique regional factors. Shift share helps answer why employment is growing or declining in a regional industry, cluster, or occupation.

## SOC Codes (Standard Occupational Classification)

The 2000 Standard Occupational Classification (SOC) System was developed in response to a growing need for a universal occupational classification system. Such a classification system allows government agencies and private industry to produce comparable data. Users of occupational data include government program managers, industrial and labor relations practitioners, students considering career training, job seekers, vocational training schools, and employers wishing to set salary scales or locate a new plant. It is used by federal agencies collecting occupational data, providing a standard means to compare such data across agencies. It is designed to cover all occupations in which work is performed for pay or profit, reflecting the current occupational structure in the United States.

As with NAICS, the SOC coding structure is hierarchical, with fewer digits provide broad data (occupational categories), while larger provide more specific data (specific professions).



# Industry Sector Definitions

## Health Care

NAICS	Description
6241	Individual and Family Services
6211	Offices of Physicians
6214	Outpatient Care Centers
6212	Offices of Dentists
6242	Community Food and Housing, and Emergency and Other Relief Services
6244	Child Day Care Services
6213	Offices of Other Health Practitioners
6219	Other Ambulatory Health Care Services
6233	Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly
6215	Medical and Diagnostic Laboratories
6216	Home Health Care Services
6243	Vocational Rehabilitation Services
6239	Other Residential Care Facilities
6222	Psychiatric and Substance Abuse Hospitals
6221	General Medical and Surgical Hospitals
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals
6231	Nursing Care Facilities (Skilled Nursing Facilities)
6232	Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities

## Manufacturing

NAICS	Description
3111	Animal Food Manufacturing
3112	Grain and Oilseed Milling
3113	Sugar and Confectionery Product Manufacturing
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing
3115	Dairy Product Manufacturing
3116	Animal Slaughtering and Processing
3117	Seafood Product Preparation and Packaging
3118	Bakeries and Tortilla Manufacturing
3119	Other Food Manufacturing
3121	Beverage Manufacturing
3122	Tobacco Manufacturing
3131	Fiber, Yarn, and Thread Mills
3132	Fabric Mills
3133	Textile and Fabric Finishing and Fabric Coating Mills
3141	Textile Furnishings Mills
3149	Other Textile Product Mills
3151	Apparel Knitting Mills
3152	Cut and Sew Apparel Manufacturing

NAICS	Description
3159	Apparel Accessories and Other Apparel Manufacturing
3161	Leather and Hide Tanning and Finishing
3162	Footwear Manufacturing
3169	Other Leather and Allied Product Manufacturing
3211	Sawmills and Wood Preservation
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing
3219	Other Wood Product Manufacturing
3221	Pulp, Paper, and Paperboard Mills
3222	Converted Paper Product Manufacturing
3231	Printing and Related Support Activities
3241	Petroleum and Coal Products Manufacturing
3251	Basic Chemical Manufacturing
3252	Resin, Synthetic Rubber, and Artificial and Synthetic Fibers and Filaments Manufacturing
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing
3254	Pharmaceutical and Medicine Manufacturing
3255	Paint, Coating, and Adhesive Manufacturing
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing
3259	Other Chemical Product and Preparation Manufacturing
3261	Plastics Product Manufacturing
3262	Rubber Product Manufacturing
3271	Clay Product and Refractory Manufacturing
3272	Glass and Glass Product Manufacturing
3273	Cement and Concrete Product Manufacturing
3274	Lime and Gypsum Product Manufacturing
3279	Other Nonmetallic Mineral Product Manufacturing
3311	Iron and Steel Mills and Ferroalloy Manufacturing
3312	Steel Product Manufacturing from Purchased Steel
3313	Alumina and Aluminum Production and Processing
3314	Nonferrous Metal (except Aluminum) Production and Processing
3315	Foundries
3321	Forging and Stamping
3322	Cutlery and Handtool Manufacturing
3323	Architectural and Structural Metals Manufacturing
3324	Boiler, Tank, and Shipping Container Manufacturing
3325	Hardware Manufacturing
3326	Spring and Wire Product Manufacturing
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing
3328	Coating, Engraving, Heat Treating, and Allied Activities
3329	Other Fabricated Metal Product Manufacturing

## Tourism

NAICS	Description
7225	Restaurants and Other Eating Places
4841	General Freight Trucking
4931	Warehousing and Storage
7211	Traveler Accommodation
4842	Specialized Freight Trucking
5617	Services to Buildings and Dwellings
7113	Promoters of Performing Arts, Sports, and Similar Events
4922	Local Messengers and Local Delivery
5629	Remediation and Other Waste Management Services
5611	Office Administrative Services
7139	Other Amusement and Recreation Industries
4884	Support Activities for Road Transportation
7115	Independent Artists, Writers, and Performers
5614	Business Support Services
7224	Drinking Places (Alcoholic Beverages)
5616	Investigation and Security Services
5619	Other Support Services
7223	Special Food Services
5621	Waste Collection
4821	Rail Transportation