



Northern Rural Training and
Employment Consortium (NoRTEC)

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Modoc County Labor Market Profile and Industry Sector Analysis

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Prepared for:

NoRTEC Workforce Development Board

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INTRODUCTION

The following is a labor market and industry/sector profile for Modoc 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

- Population growth in Modoc County significantly trails rates for California and the United States. Over the prior ten years, population decreased by 8% for Modoc County while population increased by 9% for the state and 8% for the nation.
- Modoc County has an aging population. Over the last ten years, the only age cohorts that have increased are those ages 20-34 and 65 and older. The latter will continue to increase by 120 by 2023.
- Educational attainment by individuals in Modoc County lags behind the NoRTEC region, state, and nation beyond a Bachelor's degree or higher. Those with some college is on par with the NoRTEC region, which exceeds that of California and the U.S.
- 1,438 individuals both live and work in Modoc County, however the County experienced a net loss of 10 workers due to out-commuting.
- Modoc County has the second lowest median household income of all counties in the NoRTEC region at \$39,296. The number of individuals from Modoc County enrolled in CalFresh has increased since 2015, having the opposite trend than that of the region.
- As of December 2018, Modoc County's unemployment rate was 8.4%, higher than most other counties in the NoRTEC region. With a labor force of 3,110, 262 were unemployed.
- Since the 2016 version of this report was released, the Modoc County economy has contracted at an average annual rate of 1.8%. Sectors with the largest job loss include Education Services; Government; and Agriculture, Forestry, Fishing, & Hunting. In combination, these sectors lost 90 jobs, nearly half of the county's net job loss. Meanwhile, Health Care & Social Assistance, and Accommodation & Food Services saw a combined job growth of 75.

- Between 2016 and 2018, Modoc County's population decreased slightly by 1.8% (-160 in numeric terms). The highest growth age groups included those ages 70 to 74 years, while those ages 50 to 54 saw the largest decrease. The race/ethnicity groups with the largest population decline included White Hispanics and White, Non-Hispanics.

Industry & Occupation Highlights

- Modoc County's largest industry sectors include Government; Agriculture, Forestry, Fishing and Hunting; Health Care and Social Assistance; and Retail Trade. Government makes up 39% of all industries in Modoc County.
- Only two industries added significant job growth over the last five years: Health Care and Social Assistance (89 jobs) and Administrative and Support and Waste Management and Remediation Services (53 jobs).
- Individual (4-digit North American Industry Classification System (NAICS) Code) industries with strong growth prospects for the county include: General Medical and Surgical Hospitals (66 jobs); Waste Collection (26 jobs); Individual and Family Services (21 jobs); and Outpatient Care Centers (11 jobs).
- Because Modoc County has an aging population, it is not surprising to see a future demand and growth within the healthcare industry. As the baby boomer generation prepares to exit the workforce, the county will be in need of talent to back fill those jobs and care for older individuals in hospitals, nursing homes, and outpatient care facilities.

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 Modoc County.

- In keeping with patterns of wildfire economic impact on adjacent counties, the results of the Carr fire on Modoc 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 Modoc equated to \$490 thousand between October 2017 and December 2018.

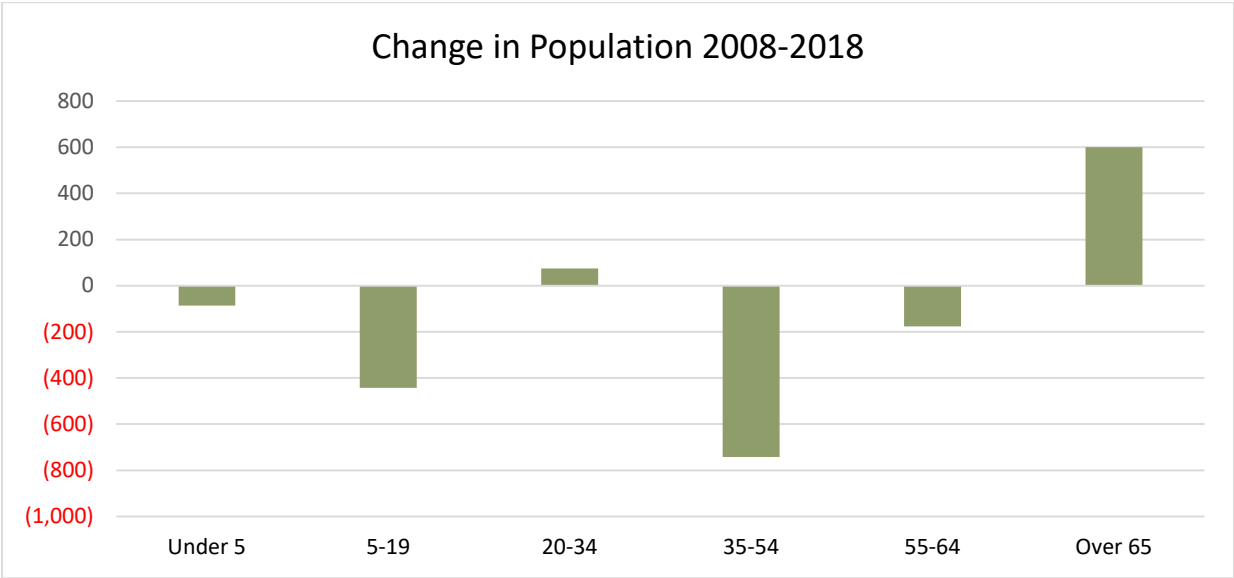
DEMOGRAPHIC & LABOR FORCE CHARACTERISTICS

Total Population

Modoc County is geographically located in the northeast corner of the NoRETC region and California. The population in the county is small and has declined by nearly 800 individuals over the last five years. The greatest decline was experienced by those between the ages of 35-54 (743; 28%) and 5-19 (443; 24%). Compared to the state and national figures, Modoc County has experienced a significant declining population while 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 categories that have increased are those ages 20-34 and 65 and older. Combined, these individuals have increased by 676. However, projections indicate that by 2023, those ages 20-34 will decline by 60, or 3% while those over 65 will increase by 120. The aging population is a concern for the local economy as the available labor will continue to be scarce. Those between the ages of 35-54 have consistently decreased since 2008, causing much concern for future talent needs.

| Age | 2008 Population | 2018 Population | Change 2008-2018 | % Change 2008-2018 | Projected Change 2018-2023 | |
|---------|-----------------|-----------------|------------------|--------------------|----------------------------|-------|
| Under 5 | 494 | 408 | (86) | (17%) | 47 | 12% |
| 5-19 | 1,839 | 1,396 | (443) | (24%) | (92) | (7%) |
| 20-34 | 1,227 | 1,302 | 75 | 6% | (83) | (6%) |
| 35-54 | 2,620 | 1,877 | (743) | (28%) | (60) | (3%) |
| 55-64 | 1,603 | 1,426 | (177) | (11%) | (212) | (15%) |
| Over 65 | 1,770 | 2,371 | 601 | 34% | 120 | 5% |
| Total | 9,551 | 8,781 | (770) | (8%) | (280) | (3%) |



Race/Ethnicity

The population of the region is predominately White, with over 75% identifying as White in 2018, followed by 15% identifying as Hispanic.¹ The top three race/ethnicity groups in 2018 have decreased over the last ten years. American Indian or Alaskan Native declined by 15% over the last ten years, meanwhile Asian has increased by 36%. Increased in other diverse populations could indicate a need for more diverse community resources in Modoc County to best serve those future populations.

| Race/Ethnicity | 2018 Population | Change 2008-2018 | % Change 2008-2018 |
|-------------------------------------|-----------------|------------------|--------------------|
| White | 6,821 | (755) | (10%) |
| Hispanic | 1,296 | (14) | (1%) |
| American Indian or Alaskan Native | 246 | (44) | (15%) |
| Two or More Race | 211 | 4 | 2% |
| Black | 86 | 10 | 13% |
| Asian | 95 | 25 | 36% |
| Native Hawaiian or Pacific Islander | 24 | 3 | 14% |

Educational Attainment

The educational attainment of individuals in Modoc County is similar to that of the NoRTEC region, however, the county trails behind in those with a graduate degree or higher. The percentage of individuals with an Associate's Degree in Modoc County exceeds that of NoRTEC, California, and the U.S. but beyond a two-year degree, the county lags behind other places. Because the county is small, the demand for talent with a four-year degree may be smaller than larger populated counties, accounting for these statistics.

| Education Level | 2018 Modoc County Population | 2018 Modoc County Percent | 2018 Percent NoRTEC | 2018 Percent California | 2018 Percent US |
|----------------------------|------------------------------|---------------------------|---------------------|-------------------------|-----------------|
| Less Than 9th Grade | 391 | 5.9% | 4.9% | 11.8% | 6.8% |
| 9th Grade to 12th Grade | 461 | 7.0% | 6.9% | 7.0% | 6.9% |
| High School Diploma | 1,818 | 27.5% | 25.3% | 20.8% | 27.6% |
| Some College | 1,981 | 30.0% | 30.5% | 21.4% | 20.7% |
| Associate's Degree | 697 | 10.6% | 9.8% | 7.6% | 8.0% |
| Bachelor's Degree | 937 | 14.2% | 15.0% | 19.9% | 18.6% |
| Graduate Degree and Higher | 314 | 4.8% | 7.6% | 11.6% | 11.3% |

¹ The Hispanic population includes Hispanics in White, Black, Two or More Races, Asian, American Indian or Alaskan Native, Native Hawaiian, or Pacific Islander.

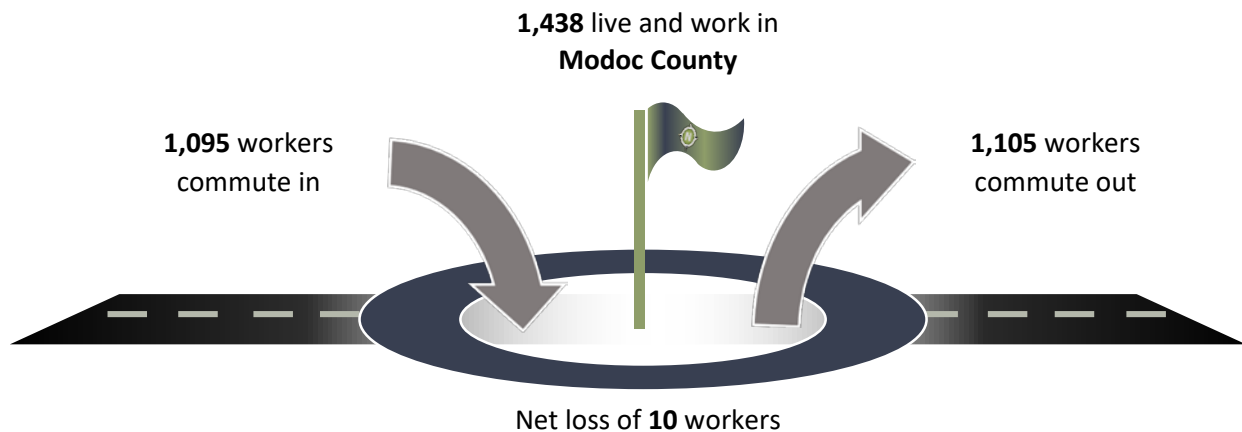
Income

Compared with neighboring counties in the NoRTEC region, Modoc County has the second lowest median household income at \$39,296, slightly passing Trinity County by 2,733. The poverty rate for the county falls directly in the middle of the counties in the region at 18.1%. This figure is lower than the poverty rate for both California and the U.S. during the same time period.²

| 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% |
| Plumas | \$50,266 | 13.3% |
| 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 Modoc County in 2015. With 1,105 workers commuting out of the county and 1,095 commuting into the county, the county experiences a net loss of 10 workers. Less than 1,500 individuals work and live in the county. Of those commuting into Modoc County, 56.8% are workers between the ages of 30 and 54, and 45.9% earn more than \$3,333 per month. Compared to those commuting out of Modoc County, only 36.8% earn more than \$3,333 per month. The largest share of workers earns \$1,251 to \$3,333 per month.



² U.S. Census Bureau 2013-2017

In addition to looking at commuting data by total population, it is also helpful to examine commuter statistics by occupational classification. Only Healthcare Practitioners and Technical Occupations have more than ten workers commuting into the county. 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; Farming, Fishing, and Forestry Occupations; and Office and Administrative Support Occupations.

| Occupation Group | 2018 Commuters |
|--|------------------|
| Healthcare Practitioners and Technical Occupations | 16 in-commuters |
| Life, Physical, and Social Science Occupations | 7 in-commuters |
| Arts, Design, Entertainment, Sports, and Media Occupations | 2 in-commuters |
| Architecture and Engineering Occupations | 2 in-commuters |
| Legal Occupations | 1 in-commuter |
| Production Occupations | 1 in-commuter |
| Protective Service Occupations | 1 in-commuter |
| Healthcare Support Occupations | 1 out-commuter |
| Community and Social Service Occupations | 2 out-commuters |
| Computer and Mathematical Occupations | 2 out-commuters |
| Education, Training, and Library Occupations | 5 out-commuters |
| Construction and Extraction Occupations | 6 out-commuters |
| Business and Financial Operations Occupations | 8 out-commuters |
| Installation, Maintenance, and Repair Occupations | 9 out-commuters |
| Transportation and Material Moving Occupations | 14 out-commuters |
| Building and Grounds Cleaning and Maintenance Occupations | 15 out-commuters |
| Management Occupations | 16 out-commuters |
| Personal Care and Service Occupations | 18 out-commuters |
| Food Preparation and Serving Related Occupations | 39 out-commuters |
| Office and Administrative Support Occupations | 57 out-commuters |
| Farming, Fishing, and Forestry Occupations | 70 out-commuters |
| Sales and Related Occupations | 71 out-commuters |

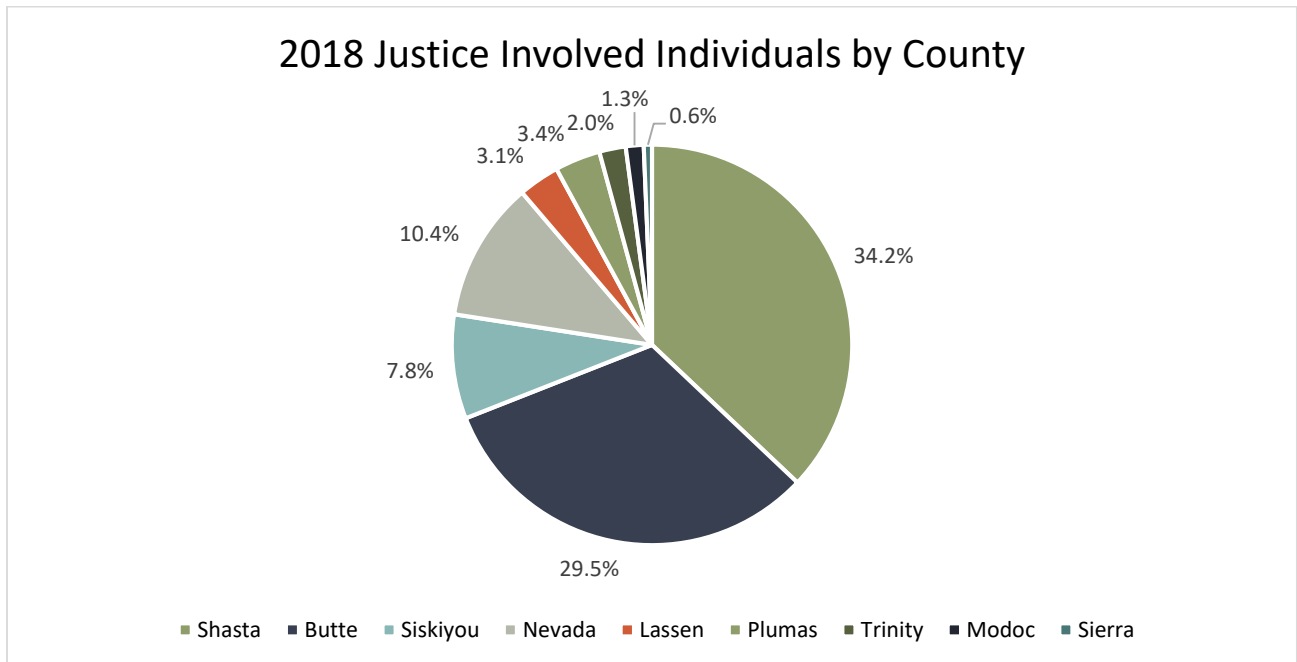
Special Populations

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.³

The largest share of activity stems from Shasta County (34.2%) followed by Butte County (29.5%) and Siskiyou County (7.8%). Only 1.3% of the region’s justice-involved individuals stem from Modoc County. In the NoRTEC region in 2017, there were a total of 7,372 individuals involved in felony probations, misdemeanor probations, or mandatory supervision.



³ Data for this section of the report are derived from the Chief Probation Officers of California, <https://www.cpoc.org/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 |
| Plumas | 148 | 86 | 1 | 15 | 250 |
| 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 |

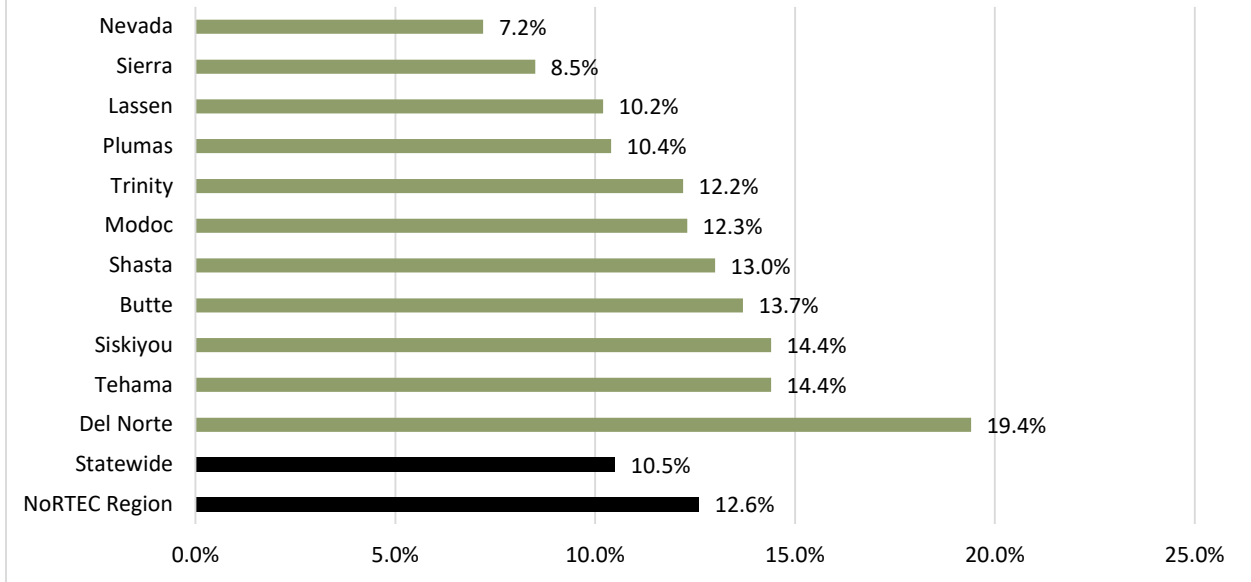
CalFresh Recipients

CalFresh, the California implementation of Supplemental Nutrition Assistance Program (SNAP), is received by larger percentage of NoRTEC area residents than statewide residents.⁴ In Modoc County, 12.3% of individuals receive CalFresh, falling directly in the middle of all counties in the NoRTEC region. For comparison, the NoRTEC region is 6.8% less and the state is 8.5% less.

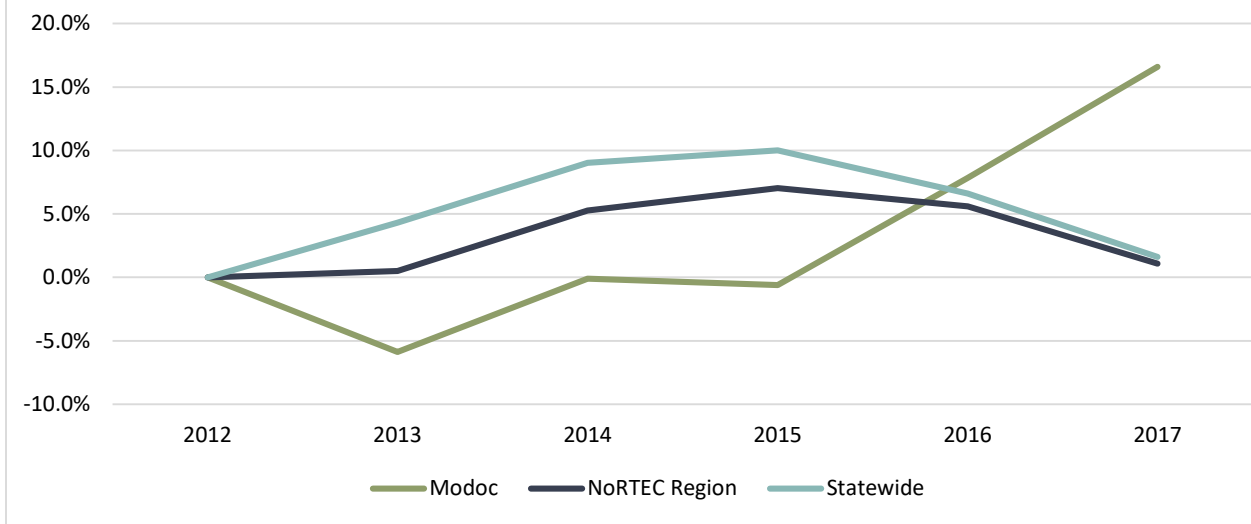
Between 2012 and 2015, the NoRTEC region experienced a rise in the number of individuals enrolled in CalFresh and then a considerable decrease between 2015 and 2017. In Modoc County, the number of individuals enrolled in CalFresh has increased since 2015, having the opposite trend than that of the region. Enrollment in Modoc County was at its lowest in 2013 when 947 individuals received CalFresh benefits, compared to 1,173 in 2017.

⁴ 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 MODOC COUNTY 1998-2018 ⁵ | | |
|---|--|--------------------------------------|
| Peak | June 2003 (4,120) | December 2018 (2,848 – 31% lower) |
| Trough | January 2018 (2,739) | December 2018 (2,848 – 4% higher) |
| December 2018 | Employment: 2,848 Labor Force: 3,110 Unemployment rate: 8.4% | |

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

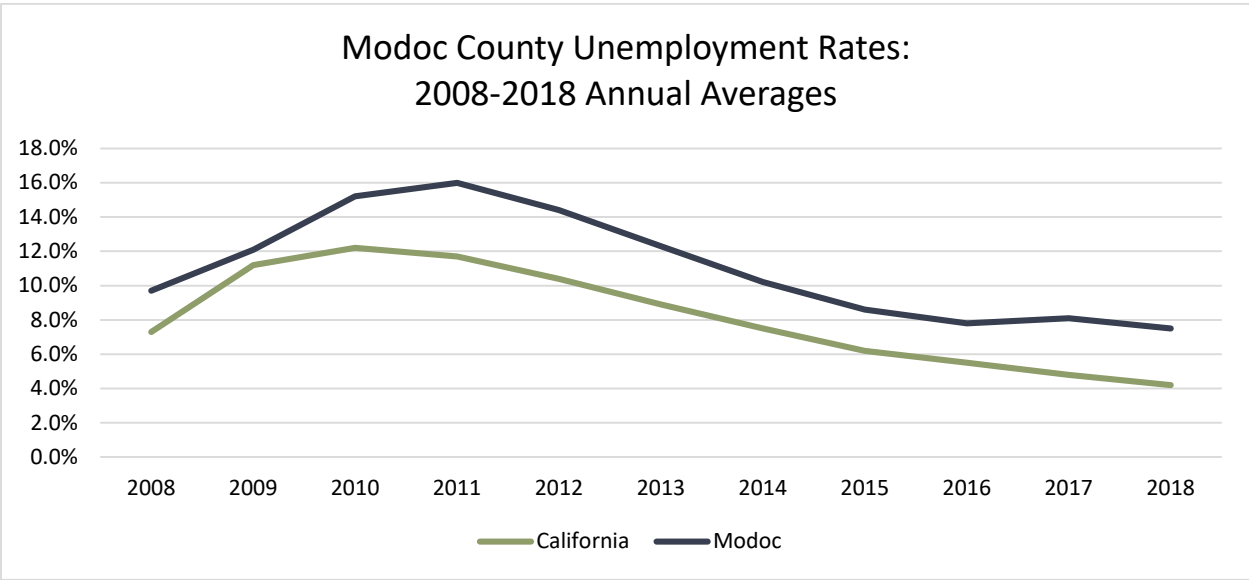
not in the labor force. In December 2018, 3,110 individuals participated in the Modoc County labor force, of these, 2,848 were employed and 262 were unemployed⁶. Over the last 20 years, employment in the county was at its highest in June 2003 and lowest in January 2018. As of December 2018, the unemployment rate was 8.4%, 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.⁷ 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 Modoc County’s population. The older worker population (55 to 64 years of age) was estimated to be 1,426 in 2018, which is equivalent to 16% of the county’s population.⁸ 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 2,371, equivalent to 27% of the county’s population.

⁵ U.S. Bureau of Labor Statistics, 1998.4-2018.4. <http://www.bls.gov/data/>
⁶ December of 2018 was used as comparison throughout the 1998-2008 timeframe.
⁷ 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.

Between 2011-2016, the unemployment rate for Modoc County has been in a gradual decline. Over the last ten years, the unemployment rate in the county was at its highest in 2011 at 16% and at its lowest in 2018 at 7.5%. The unemployment rate trend for the county mirrors that of California with the exception of fluctuations over the last three years.

INDUSTRY SECTOR ANALYSIS

To this point, the analysis of Modoc 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 Modoc 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.

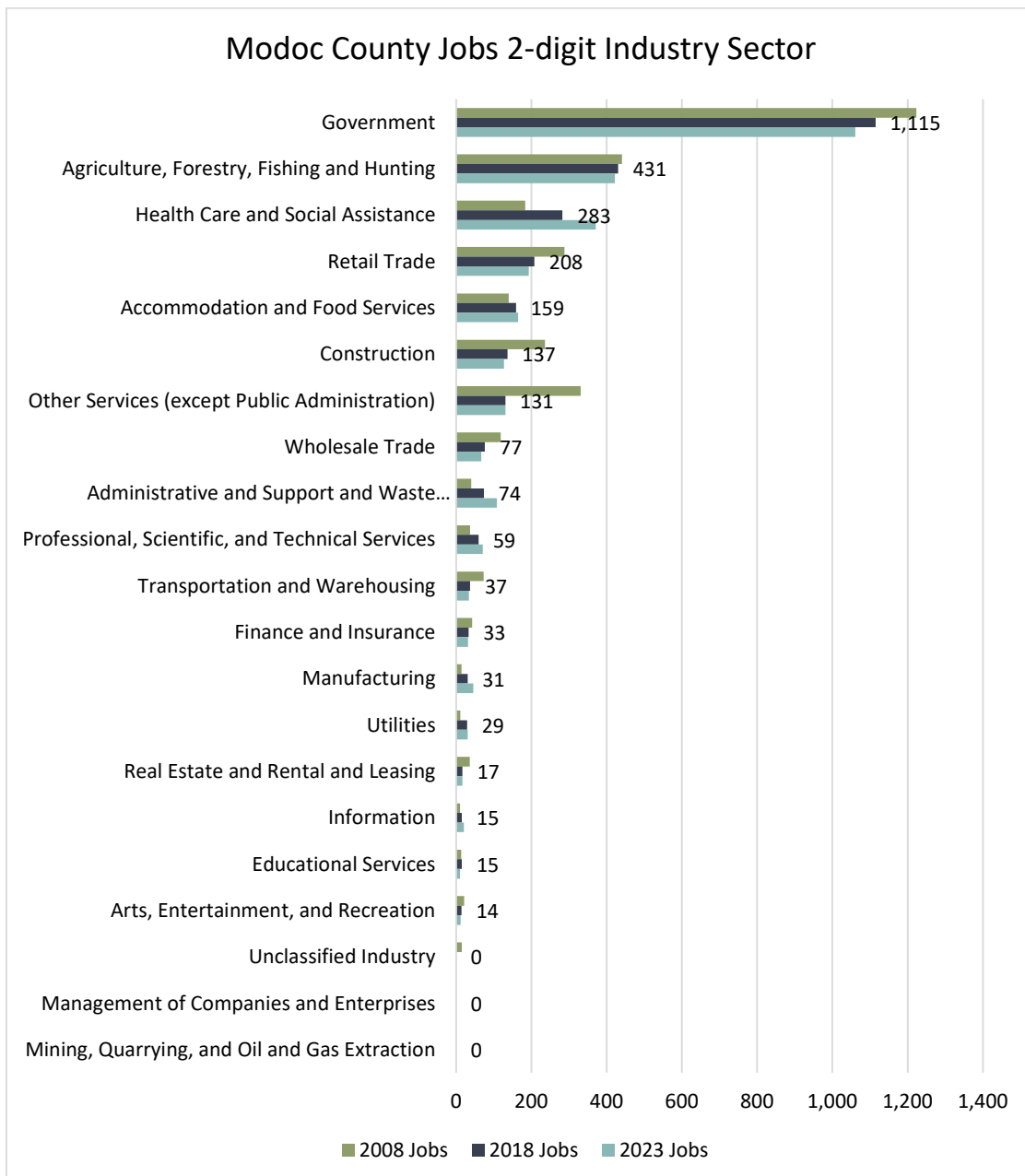
Location Quotient (LQ) measures how concentrated or specialized an industry is in a particular county and helps to demonstrate what makes a particular county's economy unique. A number greater than 1.25 indicates that the particular sector is considerably more concentrated than the national average. 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.⁹

⁹ Data from this section are from Economic Modeling Specialists International (EMSI), 2019.2 Class of Worker.

Industry Mix

The broad industry sectors in Modoc County employing the most workers are Government (1,115; 39%); Agriculture, Forestry, Fishing and Hunting (431; 15%); Health Care and Social Assistance (283; 10%); and Retail Trade (208; 7%).

Since 2013, each of those industries have been in decline and are projected to decline over the next five years with the exception of Health Care and Social Assistance. The industry had added 89 jobs over the last five years and is projected to add an additional 88 jobs by 2023. This is the largest growth in jobs by any industry in Modoc County. Government has and is projected to experience the greatest decline in jobs.



Other industries that have contributed to job growth over the last five years include Administrative and Support and Waste Management and Remediation Services (53 jobs); Manufacturing (14 jobs); Transportation and Warehousing (9 jobs); and Professional, Scientific, and Technical Services (8 jobs).

Looking deeper into job change in the county, competitive effect reveals how many jobs were created or retained due uniquely to characteristics of Modoc County. According to these data, Health Care and Social Assistance is the strongest (adding 68 jobs due to competitive effect). Others that performed better in Modoc County than other regions in the United States include Administrative and Support and Waste Management and Remediation Services (51 jobs) and Manufacturing (13 jobs). Modoc County does not have many industries with job growth due to competitive effect, indicating the county is not as competitive as others in the NoRTEC region.

Industries with the strongest location quotient score in Modoc County include Agriculture, Forestry, Fishing and Hunting; Utilities; and Government.

| Industry | 2013 Jobs | 2018 Jobs | Change 2013 – 2018 | % Change 2013-2018 | Change 2018-2023 | % Change 2018-2023 | 2018 LQ | Comp. Effect |
|--|-----------|-----------|--------------------|--------------------|------------------|--------------------|---------|--------------|
| Government | 1,170 | 1,115 | (55) | (5%) | (54) | (5%) | 2.58 | (78) |
| Agriculture, Forestry, Fishing and Hunting | 446 | 431 | (15) | (3%) | (9) | (2%) | 12.78 | (20) |
| Health Care and Social Assistance | 194 | 283 | 89 | 46% | 88 | 31% | 0.78 | 68 |
| Retail Trade | 271 | 208 | (63) | (23%) | (15) | (7%) | 0.72 | (75) |
| Accommodation and Food Services | 175 | 159 | (16) | (9%) | 5 | 3% | 0.65 | (39) |
| Construction | 147 | 137 | (10) | (7%) | (10) | (7%) | 0.86 | (37) |
| Other Services (except Public Administration) | 188 | 131 | (57) | (30%) | 0 | 0% | 0.96 | (69) |
| Wholesale Trade | 99 | 77 | (22) | (22%) | (10) | (13%) | 0.73 | (25) |
| Administrative and Support and Waste Management and Remediation Services | 21 | 74 | 53 | 252% | 34 | 46% | 0.41 | 51 |
| Professional, Scientific, and Technical Services | 51 | 59 | 8 | 16% | 11 | 19% | 0.32 | 2 |
| Transportation and Warehousing | 28 | 37 | 9 | 32% | (3) | (8%) | 0.36 | 4 |
| Finance and Insurance | 38 | 33 | (5) | (13%) | (2) | (6%) | 0.29 | (7) |
| Manufacturing | 17 | 31 | 14 | 82% | 15 | 48% | 0.14 | 13 |
| Utilities | 39 | 29 | (10) | (26%) | 2 | 7% | 2.94 | (10) |
| Real Estate and Rental and Leasing | 25 | 17 | (8) | (32%) | 0 | 0% | 0.35 | (11) |
| Information | <10 | 15 | Insf. Data | Insf. Data | 6 | 40% | 0.29 | 10 |
| Educational Services | 53 | 15 | (38) | (72%) | (4) | (27%) | 0.21 | (42) |
| Arts, Entertainment, and Recreation | 20 | 14 | (6) | (30%) | (2) | (14%) | 0.29 | (9) |
| Unclassified Industry | 13 | <10 | Insf. Data | Insf. Data | Insf. Data | Insf. Data | 0.53 | (15) |
| Management of Companies and Enterprises | 0 | 0 | 0 | 0% | 0 | 0% | 0.00 | 0 |
| Mining, Quarrying, and Oil and Gas Extraction | <10 | 0 | Insf. Data | Insf. Data | 0 | 0% | 0.00 | (0) |

Key Industries

The following table shows the 20 largest 4-digit NAICS industries in terms of employment in Modoc County in 2018. Between 2013 and 2018, a majority of sectors experienced decline in jobs, most notably by Support Activities for Crop Production (-34 jobs). The only sector to experience significant job growth in that time frame is General Medical and Surgical Hospitals (107 jobs) which is also projected to add to most jobs between 2018-2023. Over the next five years, Federal Government, Civilian is projected to experience the greatest decline in jobs (32 jobs), followed by Local Government, Excluding Education and Hospitals (23 jobs); and Animal Production (10 jobs).

| Industry | 2018 Jobs | Change 2013-2018 | % Change 2013-2018 | Projected Change 2018-2023 | Projected % Change 2018-2023 |
|--|-----------|------------------|--------------------|----------------------------|------------------------------|
| Local Government, Excluding Education and Hospitals | 451 | (10) | (2%) | (23) | (5%) |
| Education and Hospitals (Local Government) | 384 | (28) | (7%) | (5) | (1%) |
| Federal Government, Civilian | 214 | (28) | (12%) | (32) | (15%) |
| Crop Production | 191 | 11 | 6% | 7 | 4% |
| Restaurants and Other Eating Places | 121 | (21) | (15%) | (3) | (2%) |
| Support Activities for Crop Production | 109 | (34) | (24%) | (7) | (6%) |
| Animal Production | 107 | (3) | (3%) | (10) | (9%) |
| General Medical and Surgical Hospitals | 107 | 107 | Insf. Data | 66 | 62% |
| Grocery Stores | 84 | 6 | 8% | 0 | 0% |
| Individual and Family Services | 84 | (9) | (10%) | 21 | 25% |
| State Government, Excluding Education and Hospitals | 52 | 11 | 27% | 7 | 13% |
| Social Advocacy Organizations | 43 | 4 | 10% | 8 | 19% |
| Automotive Repair and Maintenance | 42 | 1 | 2% | 4 | 10% |
| Waste Collection | 40 | Insf. Data | Insf. Data | 26 | 65% |
| Gasoline Stations | 38 | (23) | (38%) | (5) | (13%) |
| Petroleum and Petroleum Products Merchant Wholesalers | 37 | 1 | 3% | (12) | (32%) |
| Traveler Accommodation | 35 | 8 | 30% | 9 | 26% |
| Residential Building Construction | 30 | (2) | (6%) | (1) | (3%) |
| Electric Power Generation, Transmission and Distribution | 29 | (10) | (26%) | 2 | 7% |
| Other Specialty Trade Contractors | 27 | (2) | (7%) | (2) | (7%) |

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

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

- Office and Administrative Support Occupations (321 jobs)
- Education, Training, and Library Occupations (248 jobs)
- Management Occupations (231 jobs)
- Farming, Fishing, and Forestry Occupations (225 jobs)

The median hourly earnings for all occupations range from \$11.59/hr. for Personal Care and Service Occupations to \$35.64/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 that have a strong concentration of workers (above an LQ of 1.25) in Modoc County include:

- Farming, Fishing, and Forestry Occupations (10.52)
- Life, Physical, and Social Science Occupations (4.69)
- Protective Service Occupations (2.31)
- Education, Training, and Library Occupations (1.52)
- Management Occupations (1.43)

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 | 321 | 11.2% | \$16.47 | 0.77 |
| Education, Training, and Library Occupations | 248 | 8.6% | \$19.51 | 1.52 |
| Management Occupations | 231 | 8.0% | \$26.93 | 1.43 |
| Farming, Fishing, and Forestry Occupations | 225 | 7.8% | \$14.73 | 10.52 |
| Transportation and Material Moving Occupations | 213 | 7.4% | \$16.54 | 1.09 |
| Sales and Related Occupations | 181 | 6.3% | \$12.90 | 0.64 |
| Healthcare Practitioners and Technical Occupations | 173 | 6.0% | \$34.79 | 1.09 |
| Food Preparation and Serving Related Occupations | 153 | 5.3% | \$11.86 | 0.64 |
| Personal Care and Service Occupations | 149 | 5.2% | \$11.59 | 1.21 |
| Protective Service Occupations | 148 | 5.2% | \$26.11 | 2.31 |
| Construction and Extraction Occupations | 148 | 5.1% | \$16.55 | 1.12 |
| Life, Physical, and Social Science Occupations | 111 | 3.9% | \$19.35 | 4.69 |
| Installation, Maintenance, and Repair Occupations | 110 | 3.8% | \$19.78 | 0.98 |
| Business and Financial Operations Occupations | 95 | 3.3% | \$27.04 | 0.64 |
| Building and Grounds Cleaning and Maintenance Occupations | 87 | 3.0% | \$12.76 | 0.82 |
| Production Occupations | 77 | 2.7% | \$17.72 | 0.46 |
| Community and Social Service Occupations | 59 | 2.0% | \$18.44 | 1.24 |
| Healthcare Support Occupations | 56 | 2.0% | \$14.75 | 0.72 |
| Arts, Design, Entertainment, Sports, and Media Occupations | 27 | 0.9% | \$19.65 | 0.51 |
| Computer and Mathematical Occupations | 21 | 0.7% | \$30.27 | 0.25 |
| Architecture and Engineering Occupations | 19 | 0.7% | \$31.25 | 0.40 |
| Legal Occupations | 11 | 0.4% | \$35.64 | 0.45 |
| Military-only occupations | <10 | Ins | Insf. Data | 0.38 |

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 \$11.34 for Fast Food and Counter Workers to \$37.87 for Registered Nurses. Registered Nurses experienced the greatest job growth of any top occupations, adding 20 jobs over the last five years and is projected to continue that trend into the next five years. No other occupation added double-digit job growth over the last five years, however Personal Care Aides are projected to add the second most jobs by 2023 (13 jobs).

The occupation with the greatest decline between 2013-2018 was Cashiers (26 jobs), which also has a relatively low median hourly earnings. Again, Cashiers was the only occupation to experience double-digit job decline over the last five years and projections into 2023 indicate that Miscellaneous Life, Physical, and Social Science Technicians is projected to decline the most in jobs (9).

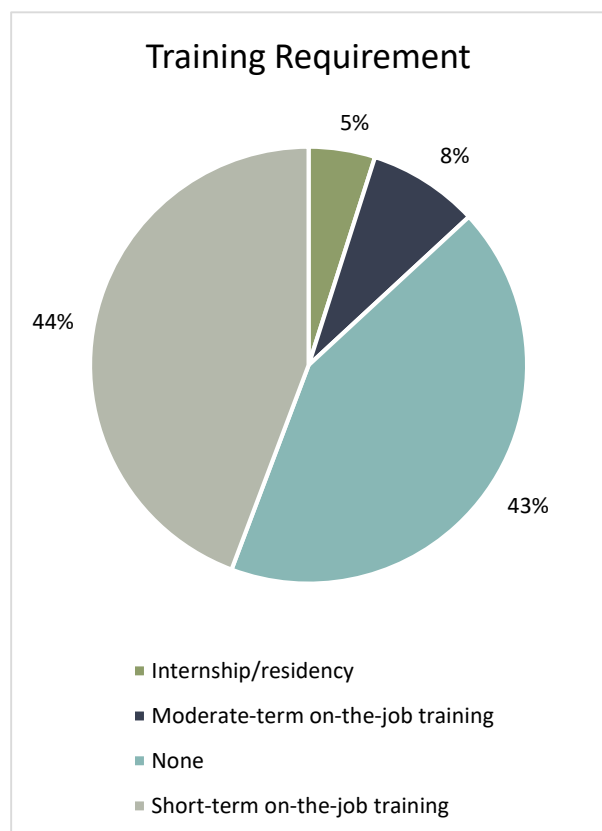
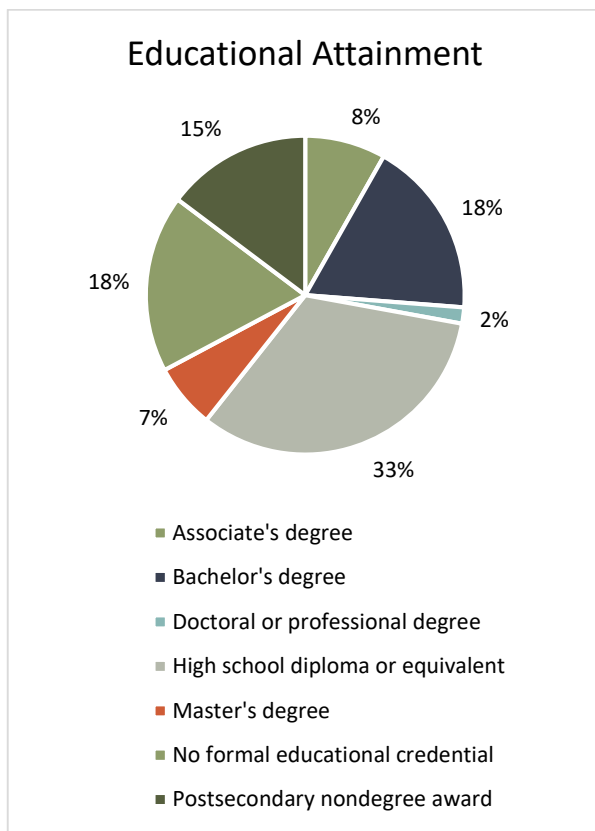
| Occupation | 2018 Employment | Change 2013-2018 | | Projected Change 2018-2023 | | Projected Annual Openings | Median Hourly Earnings |
|--|-----------------|------------------|-------|----------------------------|-------|---------------------------|------------------------|
| Miscellaneous Agricultural Workers | 176 | 2 | 1% | (2) | (1%) | 33 | \$14.08 |
| Farmers, Ranchers, and Other Agricultural Managers | 85 | 1 | 1% | (2) | (2%) | 8 | \$18.13 |
| Miscellaneous Life, Physical, and Social Science Technicians | 78 | (7) | (8%) | (9) | (12%) | 10 | \$17.62 |
| Cashiers | 77 | (26) | (25%) | (7) | (9%) | 17 | \$11.53 |
| Driver/Sales Workers and Truck Drivers | 73 | 3 | 4% | 3 | 4% | 10 | \$19.11 |
| Secretaries and Administrative Assistants | 72 | (3) | (4%) | 3 | 4% | 10 | \$16.22 |
| Miscellaneous Teachers and Instructors | 69 | (4) | (5%) | (3) | (4%) | 10 | \$13.67 |
| Registered Nurses | 65 | 20 | 44% | 19 | 29% | 8 | \$37.87 |
| Laborers and Material Movers, Hand | 61 | (4) | (6%) | 4 | 7% | 11 | \$12.54 |
| Building Cleaning Workers | 57 | (9) | (14%) | 4 | 7% | 10 | \$11.79 |
| Personal Care Aides | 55 | 6 | 12% | 13 | 24% | 13 | \$11.40 |
| Elementary and Middle School Teachers | 55 | 5 | 10% | (2) | (4%) | 6 | \$31.25 |
| Teacher Assistants | 44 | (3) | (6%) | (2) | (5%) | 6 | \$13.38 |
| Secondary School Teachers | 43 | 5 | 13% | (2) | (5%) | 5 | \$26.22 |
| Bailiffs, Correctional Officers, and Jailers | 43 | 1 | 2% | (3) | (7%) | 4 | \$33.86 |
| Office Clerks, General | 41 | (4) | (9%) | 0 | 0% | 6 | \$15.11 |
| Cooks | 39 | (4) | (9%) | (1) | (3%) | 6 | \$12.80 |
| Firefighters | 36 | 0 | 0% | (2) | (6%) | 4 | \$21.15 |

| Occupation | 2018 Employment | Change 2013-2018 | | Projected Change 2018-2023 | | Projected Annual Openings | Median Hourly Earnings |
|--|-----------------|------------------|-------|----------------------------|-----|---------------------------|------------------------|
| Miscellaneous Healthcare Support Occupations | 35 | 9 | 35% | 5 | 14% | 7 | \$15.92 |
| Fast Food and Counter Workers | 34 | (6) | (15%) | 2 | 6% | 7 | \$11.34 |

Education & Training Requirements for High Demand Jobs

The top high demand jobs in Modoc County include Registered Nurses; Personal Care Aides; Refuse and Recyclable Material Collectors; and Heavy and Tractor-Trailer Truck Drivers. Of all high demand jobs, 50% require some type of postsecondary educational attainment. Only 18% of jobs do not require any formal educational credential.

Average hourly earnings for high demand jobs range from \$11.72/hr. for Combined Food Preparation and Serving Workers, Including Fast Food to \$36.38/hr. for Registered Nurses. Less than half of the high demand jobs earn an hourly wage above \$15.00/hr. which could have an economic impact on the region as these occupations become in demand and are associated with low earnings.



| Description | 2023 Jobs | Change 2018 - 2023 | Annual Openings | Avg. Hourly Earnings | Typical Entry Level Education | Typical On-The-Job Training |
|--|-----------|--------------------|-----------------|----------------------|-----------------------------------|-----------------------------------|
| Registered Nurses | 84 | 19 | 8 | \$36.38 | Bachelor's degree | None |
| Personal Care Aides | 68 | 13 | 11 | \$12.00 | High school diploma or equivalent | Short-term on-the-job training |
| Refuse and Recyclable Material Collectors | 25 | 8 | 4 | Insf. Data | No formal educational credential | Short-term on-the-job training |
| Heavy and Tractor-Trailer Truck Drivers | 59 | 5 | 7 | \$21.42 | Postsecondary nondegree award | Short-term on-the-job training |
| Medical Secretaries | 25 | 4 | 3 | \$16.53 | High school diploma or equivalent | Moderate-term on-the-job training |
| Nursing Assistants | 17 | 3 | 2 | \$14.10 | Postsecondary nondegree award | None |
| Cleaners of Vehicles and Equipment | 13 | 3 | 2 | \$12.86 | No formal educational credential | Short-term on-the-job training |
| Medical Assistants | 13 | 2 | Insf. Data | \$15.17 | Postsecondary nondegree award | None |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners | 26 | 2 | 3 | \$14.85 | No formal educational credential | Short-term on-the-job training |
| Maids and Housekeeping Cleaners | 35 | 2 | 5 | \$11.78 | No formal educational credential | Short-term on-the-job training |
| Customer Service Representatives | 14 | 2 | Insf. Data | \$16.45 | High school diploma or equivalent | Short-term on-the-job training |
| Laborers and Freight, Stock, and Material Movers, Hand | 25 | 2 | 4 | \$14.26 | No formal educational credential | Short-term on-the-job training |
| Managers, All Other | 22 | 1 | Insf. Data | \$32.64 | Bachelor's degree | None |
| Accountants and Auditors | 17 | 1 | Insf. Data | \$28.13 | Bachelor's degree | None |
| Social and Human Service Assistants | 20 | 1 | 2 | \$18.81 | High school diploma or equivalent | Short-term on-the-job training |
| Food Preparation Workers | 15 | 1 | 2 | \$12.55 | No formal educational credential | Short-term on-the-job training |
| Combined Food Preparation and Serving Workers, Including Fast Food | 33 | 1 | 6 | \$11.72 | No formal educational credential | Short-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 |
|---|-----------|--------------------|-----------------|----------------------|-----------------------------------|-----------------------------------|
| Nonfarm Animal Caretakers | 11 | 1 | Insf. Data | Insf. Data | High school diploma or equivalent | Short-term on-the-job training |
| Maintenance and Repair Workers, General | 26 | 1 | 3 | \$16.93 | High school diploma or equivalent | Moderate-term on-the-job training |
| Recreational Therapists | 0 | 0 | 0 | \$0.00 | 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).

| Connection between Top Occupations and Key Industries | |
|---|--|
| Top Occupation | Key Industries |
| Registered Nurses | <ul style="list-style-type: none"> Government Health Care and Social Assistance |
| Personal Care Aides | <ul style="list-style-type: none"> Health Care and Social Assistance |
| Refuse and Recyclable Material Collectors | <ul style="list-style-type: none"> Administrative and Support and Waste Management and Remediation Services |
| Heavy and Tractor-Trailer Truck Drivers | <ul style="list-style-type: none"> Transportation and Warehousing Administrative and Support and Waste Management and Remediation Services Agriculture, Forestry, Fishing and Hunting |

DETAILED INDUSTRY ANALYSIS

The following section provides an in-depth look at 4-digit NAICS sectors that are important to the Modoc County economy. These industry sectors include Agriculture 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 Agriculture Industries

The top agriculture industries in Modoc County are Crop Production (191 jobs); Support Activities for Crop Production (109 jobs); and Animal Production (107 jobs). The latter two industries have declined over the last five years and are projected to continue that trend into 2023. Support Activities for Crop Production, which has the third highest LQ score (12.39), also has the highest average earnings (\$53,679). This is concerning since this industry is projected to experience the greatest job loss between 2013-2023.

| Industry | 2018 Jobs | '13-'18 Change | CE '13-'18 | '18-'23 Change | CE '18-'23 | '18 LQ | Average Earnings |
|---|-----------|----------------|------------|----------------|------------|--------|------------------|
| Crop Production | 191 | 11 | 16 | 7 | 7 | 13.39 | \$48,765 |
| Support Activities for Crop Production | 109 | (34) | (45) | (7) | (14) | 12.39 | \$53,679 |
| Animal Production | 107 | (3) | (5) | (10) | (8) | 14.14 | \$31,403 |
| Logging | 12 | Insf. Data | 7 | 1 | 2 | 9.91 | \$64,323 |
| Support Activities for Animal Production | <10 | Insf. Data | 2 | Insf. Data | (1) | 9.69 | Insf. Data |
| Support Activities for Forestry | <10 | Insf. Data | 1 | Insf. Data | 0 | 10.26 | Insf. Data |
| Timber Tract Operations | 0 | 0 | 0 | 0 | 0 | 0.00 | \$0 |
| Hunting and Trapping | 0 | Insf. Data | (1) | 0 | 0 | 0.00 | \$0 |
| Fishing | 0 | 0 | 0 | 0 | 0 | 0.00 | \$0 |
| Forest Nurseries and Gathering of Forest Products | 0 | 0 | 0 | 0 | 0 | 0.00 | \$0 |

Staffing Patterns for Agriculture

Diving deeper into the staffing patterns for the Agriculture industry, the top occupations include Miscellaneous Agricultural Workers; Farmers, Ranchers, and Other Agricultural Managers; Laborers and Material Movers, Hand; and First-Line Supervisors of Farming, Fishing, and Forestry Workers. Several occupations within the Agriculture industry in Modoc County account for less than 10 job. Of those with more than 10 jobs, First-Line Supervisors of Farming, Fishing, and Forestry Workers has the highest median hourly earnings (\$28.12/hr.) and is projected to only lose one job over the next five years. Miscellaneous Agricultural Workers makes up the majority of Agriculture employment in Modoc County, but it also ranked as one of the lowest median hourly earning occupations.

| Occupation | 2018 Employment | Change 2013-2018 | | Projected Change 2018-2023 | | Median Hourly Earnings |
|--|--------------------|---------------------|------------|----------------------------------|------------|------------------------------|
| Miscellaneous Agricultural Workers | 174 | 2 | 1% | (2) | (1%) | \$14.08 |
| Farmers, Ranchers, and Other Agricultural Managers | 85 | 1 | 1% | (2) | (2%) | \$18.13 |
| Laborers and Material Movers, Hand | 22 | (9) | (29%) | (1) | (5%) | \$12.54 |
| First-Line Supervisors of Farming, Fishing, and Forestry Workers | 16 | 0 | 0% | (1) | (6%) | \$28.12 |
| Graders and Sorters, Agricultural Products | 15 | (5) | (25%) | (1) | (7%) | \$24.91 |
| Driver/Sales Workers and Truck Drivers | 14 | (1) | (7%) | 0 | 0% | \$19.11 |
| Bus and Truck Mechanics and Diesel Engine Specialists | <10 | 0 | 0% | 0 | 0% | \$21.08 |
| Industrial Machinery Installation, Repair, and Maintenance Workers | <10 | 0 | 0% | 0 | 0% | \$25.24 |
| Aircraft Mechanics and Service Technicians | <10 | 0 | 0% | 0 | 0% | \$31.43 |
| Maintenance and Repair Workers, General | <10 | 0 | 0% | 0 | 0% | \$16.09 |
| First-Line Supervisors of Mechanics, Installers, and Repairers | <10 | 0 | 0% | 0 | 0% | \$27.23 |
| Forest and Conservation Workers | <10 | 1 | Insf. Data | 0 | 0% | \$11.24 |
| Miscellaneous Sales Representatives, Services | <10 | 0 | 0% | 0 | 0% | \$20.08 |
| Logging Workers | <10 | 5 | 125% | 1 | 11% | \$21.42 |
| Construction Equipment Operators | <10 | 1 | Insf. Data | 0 | 0% | \$21.75 |
| Electricians | <10 | 0 | 0% | 0 | 0% | \$19.76 |
| Miscellaneous Life, Physical, and Social Science Technicians | <10 | (1) | (100%) | 1 | Insf. Data | \$17.62 |
| First-Line Supervisors of Production and Operating Workers | <10 | 0 | 0% | 0 | 0% | \$24.10 |
| Welding, Soldering, and Brazing Workers | <10 | 1 | Insf. Data | 0 | 0% | \$18.22 |
| Chemical Processing Machine Setters, Operators, and Tenders | <10 | 0 | 0% | (1) | (50%) | \$17.31 |

Employment for Top Tourism Industries

Data for employment within the tourism industry in Modoc County is very limited. The top industry subsectors include Restaurants and Other Eating Places (121 jobs) and Traveler Accommodation (35 jobs). These two sectors have very low average earnings and LQ scores.

| Industry | 2018 Jobs | '13-'18 Change | CE '13-18' | '18-'23 Change | CE '18-23 | '18 LQ | Average Earnings |
|--|-----------|----------------|------------|----------------|-----------|--------|------------------|
| Restaurants and Other Eating Places | 121 | (21) | (41) | (3) | (12) | 0.64 | \$19,184 |
| Traveler Accommodation | 35 | 8 | 5 | 9 | 7 | 1.02 | \$27,041 |
| Special Food Services | <10 | Insf. Data | (2) | Insf. Data | (1) | 0.23 | Insf. Data |
| Other Amusement and Recreation Industries | <10 | Insf. Data | (5) | Insf. Data | (3) | 0.30 | Insf. Data |
| Independent Artists, Writers, and Performers | <10 | Insf. Data | 1 | Insf. Data | 0 | 1.24 | Insf. Data |
| RV (Recreational Vehicle) Parks and Recreational Camps | 0 | 0 | 0 | 0 | 0 | 0.00 | \$0 |
| Travel Arrangement and Reservation Services | 0 | 0 | 0 | 0 | 0 | 0.00 | \$0 |
| Rooming and Boarding Houses, Dormitories, and Workers' Camps | 0 | Insf. Data | (1) | 0 | 0 | 0.00 | \$0 |
| Scenic and Sightseeing Transportation, Other | 0 | 0 | 0 | 0 | 0 | 0.00 | \$0 |
| Scenic and Sightseeing Transportation, Water | 0 | 0 | 0 | 0 | 0 | 0.00 | \$0 |

Staffing Patterns for Tourism¹⁰

Within the Tourism industry in Modoc County, the top occupations include Cooks (28 jobs); Waiters and Waitresses (25 jobs); Fast Food and Counter Workers (25 jobs); Building Cleaning Workers (12 jobs); and Dishwashers (11 jobs). Job growth over the next five years is projected with Building Cleaning Workers (4 jobs) and Artists and Related Workers (1 job). All other occupations are projected to remain stagnant.

| Occupation | 2018 Employment | Change 2013-2018 | | Projected Change 2018-2023 | | Median Hourly Earnings |
|--|--------------------|---------------------|--------|----------------------------------|------|------------------------------|
| Cooks | 28 | (4) | (13%) | (1) | (4%) | \$12.80 |
| Waiters and Waitresses | 25 | (1) | (4%) | 0 | 0% | \$12.04 |
| Fast Food and Counter Workers | 25 | (5) | (17%) | 0 | 0% | \$11.34 |
| Building Cleaning Workers | 12 | 2 | 20% | 4 | 33% | \$11.79 |
| Dishwashers | 11 | (1) | (8%) | 0 | 0% | \$11.46 |
| Food Preparation Workers | <10 | (2) | (25%) | 0 | 0% | \$12.29 |
| Bartenders | <10 | 0 | 0% | 0 | 0% | \$12.56 |
| Food Servers, Nonrestaurant | <10 | 0 | 0% | 0 | 0% | \$16.08 |
| Dining Room and Cafeteria Attendants and Bartender Helpers | <10 | 0 | 0% | 0 | 0% | \$10.81 |
| Supervisors of Food Preparation and Serving Workers | <10 | (2) | (20%) | 0 | 0% | \$13.83 |
| Athletes, Coaches, Umpires, and Related Workers | <10 | (1) | (50%) | 0 | 0% | \$20.15 |
| Actors, Producers, and Directors | <10 | 0 | 0% | 0 | 0% | \$20.58 |
| Artists and Related Workers | <10 | (1) | (50%) | 1 | 100% | \$10.88 |
| Musicians, Singers, and Related Workers | <10 | 0 | 0% | 0 | 0% | \$18.03 |
| Miscellaneous Entertainers and Performers, Sports and Related Workers | <10 | 0 | 0% | 0 | 0% | \$21.93 |
| Security Guards and Gaming Surveillance Officers | <10 | (1) | (100%) | 0 | 0% | \$13.96 |
| Writers and Editors | <10 | 0 | 0% | 0 | 0% | \$20.85 |
| Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop | <10 | 1 | 33% | 0 | 0% | \$11.87 |
| First-Line Supervisors of Building and Grounds Cleaning and Maintenance Workers | <10 | 0 | 0% | 0 | 0% | \$15.65 |
| Office Clerks, General | <10 | 0 | 0% | 0 | 0% | \$15.11 |

¹⁰ 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" techniques¹¹, *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.

¹¹ 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

Agriculture

| NAICS | Description |
|-------|---|
| 1110 | Crop Production |
| 1151 | Support Activities for Crop Production |
| 1120 | Animal Production |
| 1152 | Support Activities for Animal Production |
| 1153 | Support Activities for Forestry |
| 1142 | Hunting and Trapping |
| 1133 | Logging |
| 1131 | Timber Tract Operations |
| 1132 | Forest Nurseries and Gathering of Forest Products |
| 1141 | Fishing |

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 |