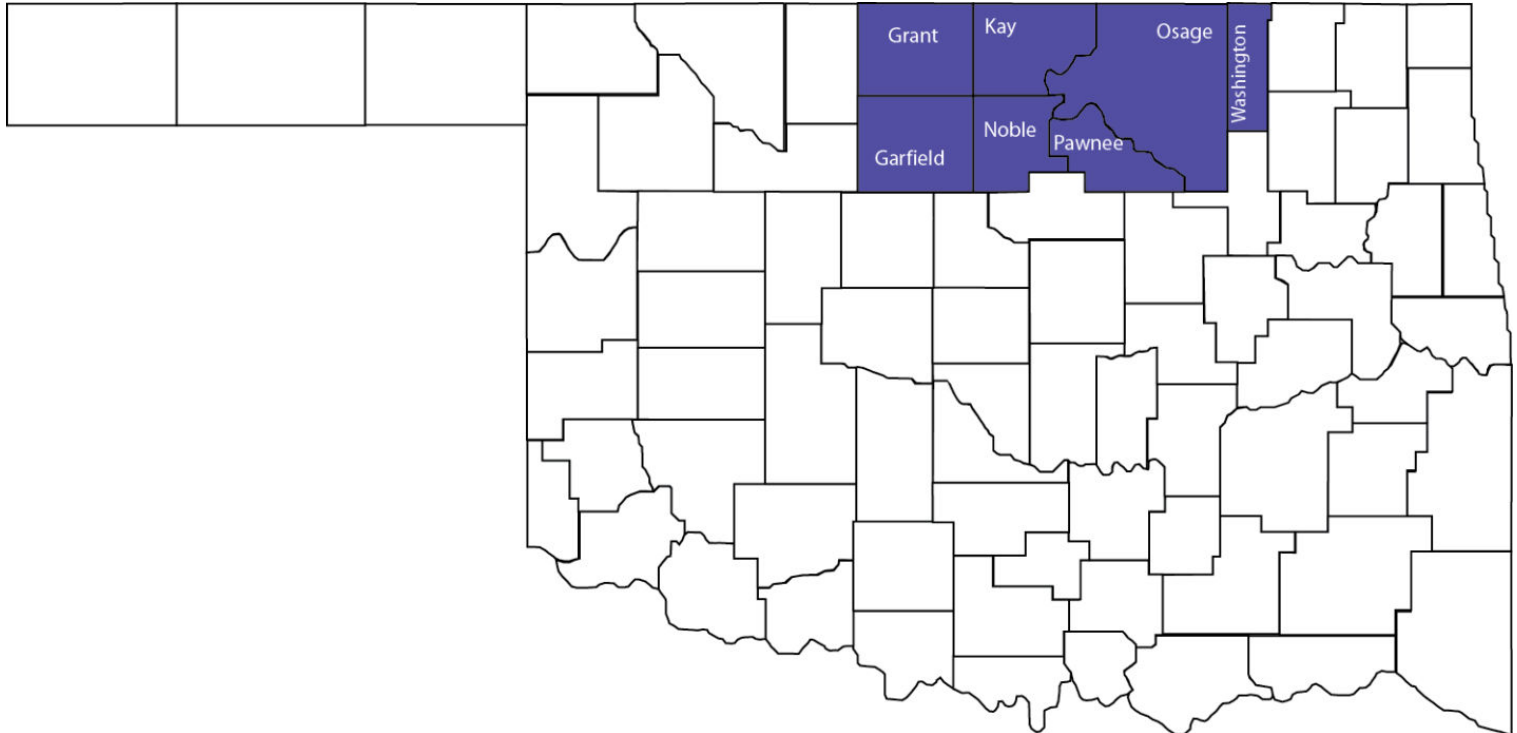# Northern Oklahoma Region Report

January 2015

Overview

The Northern Oklahoma region is comprised of seven counties: Garfield, Grant, Kay, Noble, Osage, Pawnee, and Washington.
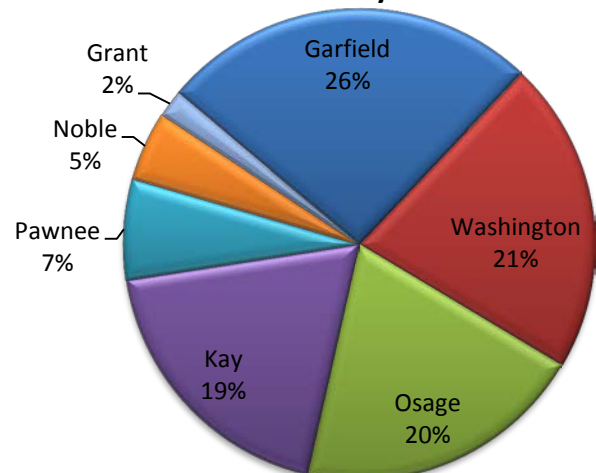

Population of Northern Oklahoma

Garfield, Grant, Kay, Noble, Pawnee, Osage, and Washington counties combine for an estimated population of 239,960. Northern Oklahoma is home to approximately 6.2% of the population in the state. Enid is the largest city in the region with an estimated population of 50,725.

- According to the 2013 Census Bureau estimate, Garfield County is the most populated county in the region with an estimated population of 62,270. Washington County is second with 51,580 people.
- Grant County is the least populated county in the region, with an estimated population of 4,530.
- Since 2010, the region hasn't experienced significant population change. Garfield County grew by 2.8%. Washington and Osage grew by just over 1%.
- Since 2010, Kay County experienced a population decrease of -2%. Grant County saw no change.

Northern Oklahoma Percentage of Population by County

Source: ACS 2008-2012

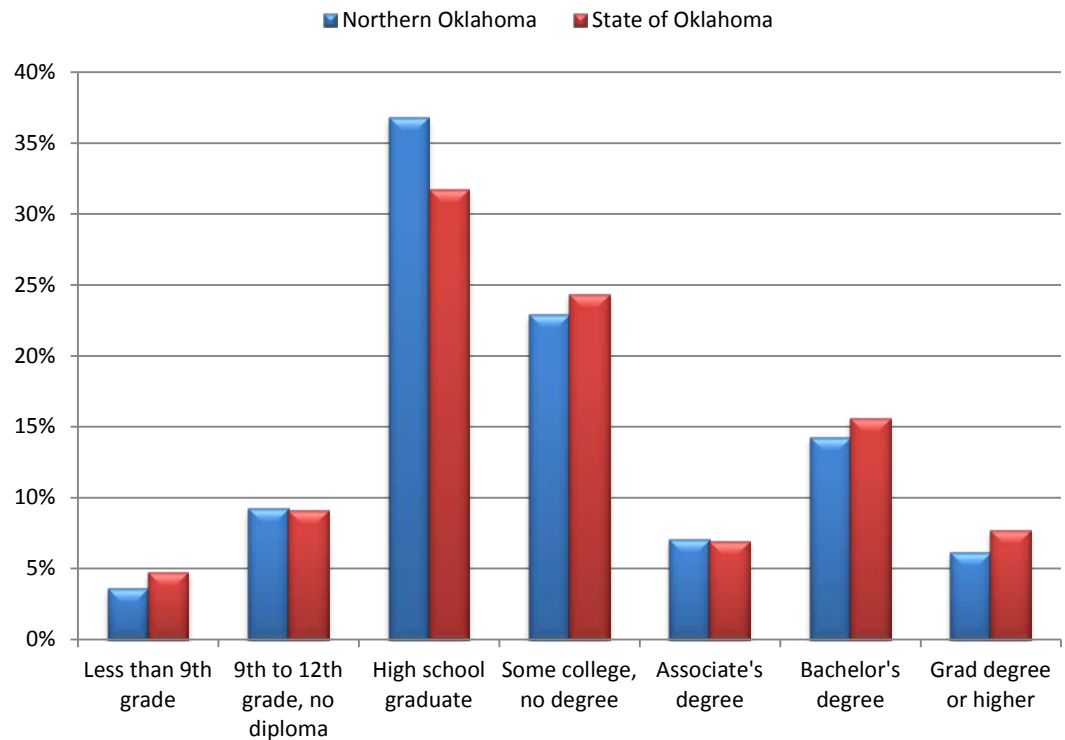**Northern Oklahoma Population Breakdown by Race:**

- 79% of residents in Northern Oklahoma identify themselves as White. This is higher than the statewide average of 75.5%.
- With 18,850 people, American-Indian is the second most populous group in Northern Oklahoma. They account for 8% of the population.
- Two or More Races and Black or African-American make up 6.2% and 4% of the population respectively. Asian, and Native Hawaiian or Pacific Islander accounts for a negligible percent of the population.
- Hispanics, which are categorized as an ethnicity by the Census Bureau, make up 5.3% of the total population in Northern Oklahoma, below the statewide average of 9.6%.

Two or More
6%

Other
2%

American Indian
8%

Black or African-American
4%

White
79%
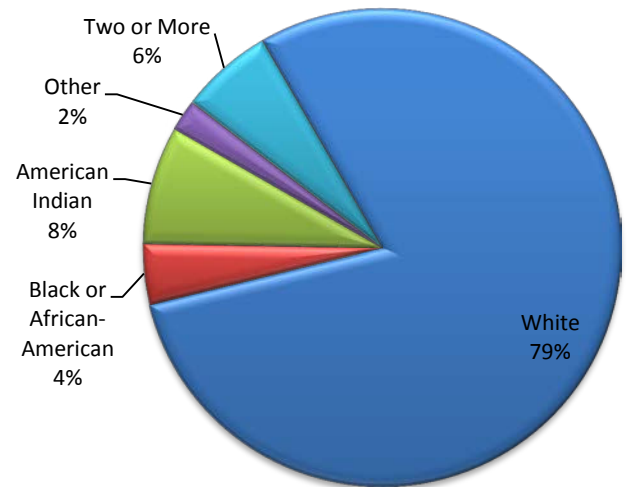
Source: ACS 2008-2012

Educational Attainment in Northern Oklahoma:

- 87.2% of people residing in Northern Oklahoma have attained at least a high school diploma. This is just above the state average of 86.2%.
- Northern Oklahoma lags behind the state averages in attainment of Bachelor's degree and Grad degree or higher. However, the gap is very small, neither being greater than 1.5%.
- Northern Oklahoma is slightly higher in attainment of Associate's degree than the state average.
- In terms of the furthest level of educational attainment achieved, Northern Oklahoma has a higher percentage of "9th to 12th grade", and "High school graduate" than state averages.
- Northern Oklahoma has a lower percentage of individuals whose highest educational attainment is "Less than 9th grade" than the state average.
- Northern Oklahoma's educational attainment numbers are very close to the state averages. The largest gap in attainment is High school graduate: 36.8% in Northern Oklahoma, compared to the state average of 31.7%.

■ Northern Oklahoma ■ State of Oklahoma

Source: ACS 2008-2012

Age and Sex Data in Northern Oklahoma:

- According to EMSI's third quarter of 2014 population estimate, there are 240,310 people living in Northern Oklahoma. Of that, there are 119,005 men and 121,305 women. 49.5% of the population in Northern Oklahoma is male and 50.5% is female.
- Statewide, EMSI calculates Oklahoma has a population of 3,867,960. Of that, men make up 50.4% of the population, while women make up 49.6%. In real numbers that comes out to 1,950,115 men and 1,917,845 women.
- The trend in population figures shows similarities between Northern Oklahoma and the state average with and hourglass shape, and both having lower percentages of adults in the 35-49 age groups. However, Northern Oklahoma has a higher percentage of individuals in the 45-64 age group, and slightly less in the 20-29 age group than the state average. The Northern Oklahoma chart shows higher percentage of the population is at the top, indicating a slightly older population than the state average.
- The largest age cohort in Northern Oklahoma is the 55-59 age bracket; followed closely by ages 50-54 and ages 5-9.

Northern Oklahoma Age/Sex Percentage of Population
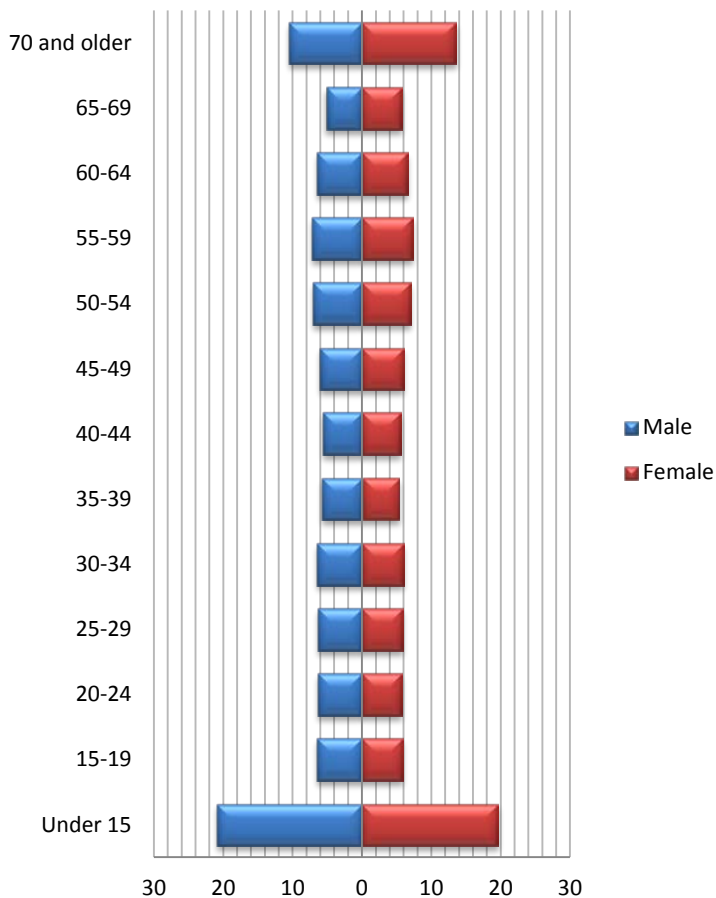
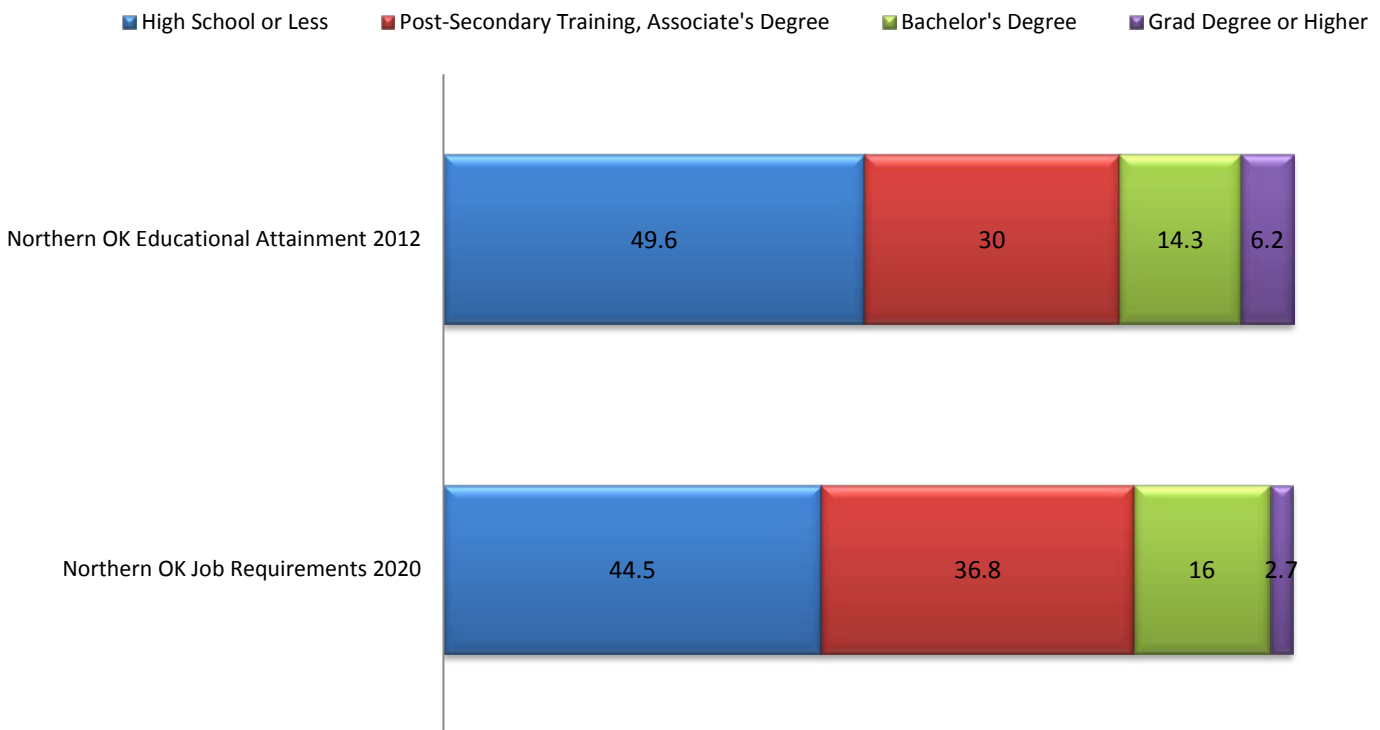**Oklahoma Age/Sex by Percentage of Population**
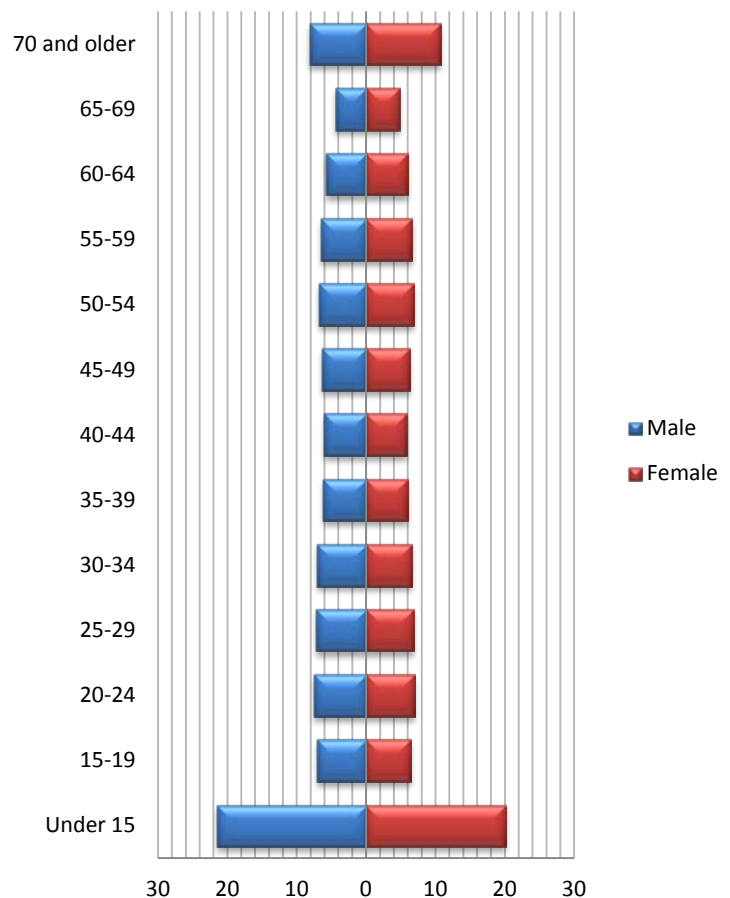
Source: EMSI 2014.3

Northern Oklahoma Education Gap

- By current projections, in 2020, 44.5% of jobs in Northern Oklahoma will require a high school degree or less, and 36.8% will require post-secondary training—currently 30% of individuals in Northern Oklahoma have some post-secondary training.
- If projected trends continue, by 2020 there will be a gap for jobs that require post-secondary training or an Associate's Degree, and a surplus of individuals with a high school degree or less to fill jobs that require a high school education level. Fortunately, none of the gaps are too large, and there are colleges and universities in the region to provide necessary skills to residents and help alleviate the training gap.
- There will be a smaller gap in jobs requiring a Bachelor's degree than post-secondary training.
- There is also a surplus of individuals in the Grad Degree or Higher category compared with job requirements for that sector in 2020.

Northern Oklahoma Educational Gap for Jobs by 2020

■ High School or Less ■ Post-Secondary Training, Associate's Degree ■ Bachelor's Degree ■ Grad Degree or Higher

	High School or Less	Post-Secondary Training, Associate's Degree	Bachelor's Degree	Grad Degree or Higher
Northern OK Educational Attainment 2012	49.6	30	14.3	6.2
Northern OK Job Requirements 2020	44.5	36.8	16	2.7

Source: EMSI 2014.3 Class of Worker; US Census Quick Facts

Northern Oklahoma Educational Assets

CareerTechs, colleges and universities in Northern Oklahoma are instrumental in developing the regions workforce. They are assets that allow the region and the rest of the state to supply organizations and companies with the labor and skills necessary to keep them operational and competitive in a global economy.

CareerTechs

Autry Technology Center
- (Enid)

Pioneer Technology Center
- (Ponca City)

Tri County Technology Center
- (Bartlesville)

Colleges and Universities

In addition to the Career Techs in the region, there are three colleges and universities.

Northern Oklahoma College
- (Enid, Tonkawa)

Northwestern Oklahoma State University
- (Enid)

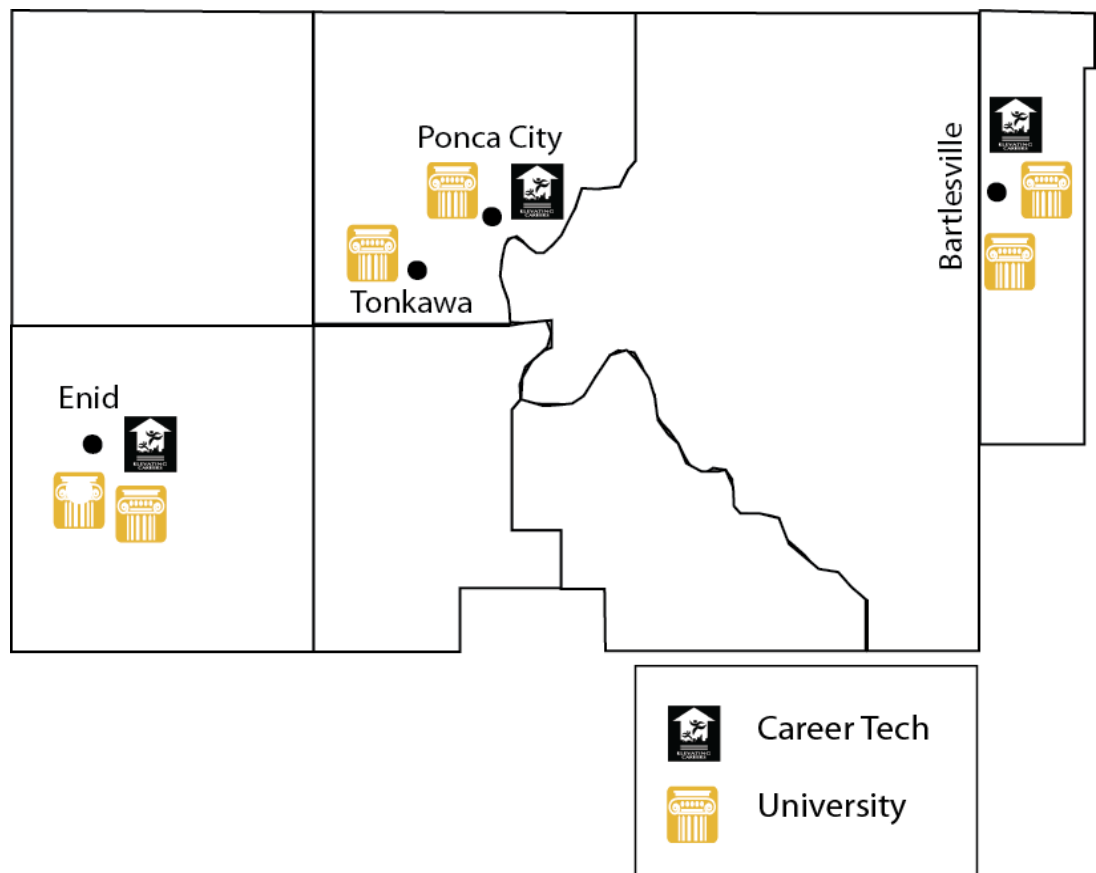**University Center at Ponca City**
- (Ponca City)

Oklahoma Wesleyan University
- (Bartlesville)

Rogers State University
- (Bartlesville)

Source: OK CareerTech; Oklahoma State Regents for Higher Education

Commuter Data

- According to the commuting data, 75% of the people in Northern Oklahoma work in the county they live; 6% stay within the region but travel outside their county; and 19% commute outside the region for work.
- Kay and Garfield counties both have more than 90% of the residents work in the county they live.
- Osage and Pawnee both have at least 50% of the people leave the county or region for work.
- Grant County has the greatest percentage of people work in the region, but not in the county they live.
- Noble, Osage, and Pawnee counties all have high percentages of people who commute outside the region for work. Many of those people may travel to nearby Tulsa for work.
- Garfield, Kay, and Washington counties have the highest percentage of individuals who live and work in the same county. They are also home to the three largest cities in the region- Enid, Ponca City, and Bartlesville.

- The commuter data shows that as a whole, the majority of people in Northern Oklahoma live and work in the same region. This illustrates that residents in the region would prefer to stay within close distance to their homes when commuting to their workplaces.
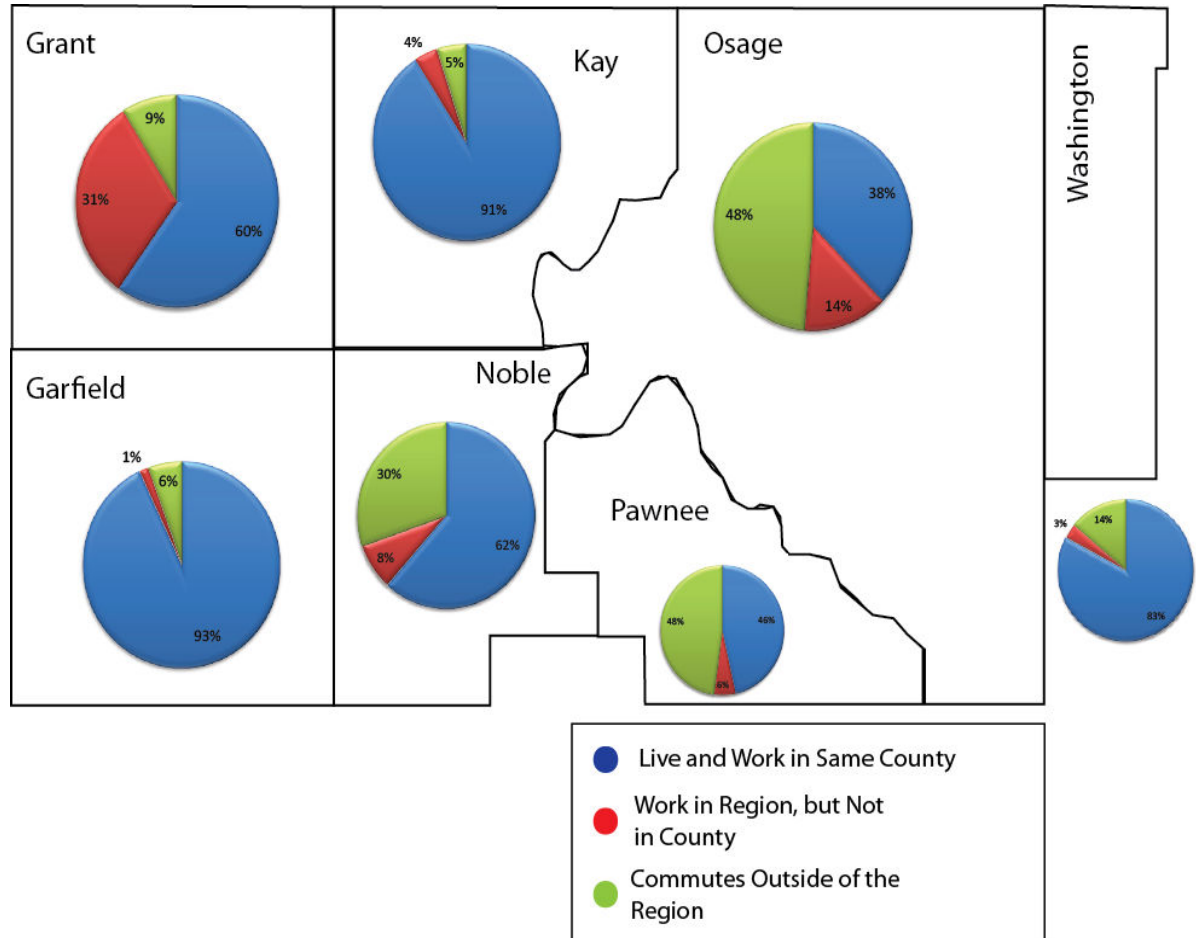
Source: ACS Residence County to Workplace County Flows for the United States and Puerto Rico

Economic Data

Unemployment Rate:

- As shown through the five year historical unemployment rate, Northern Oklahoma has generally stayed below the state average for the duration, with the exception of early 2010 and 2011. The difference between the region and state average has remained very small. The largest gaps came in late 2012 and 2013.
- The Northern Oklahoma unemployment rate has stayed below the national average over the five year historical period.
- Both Northern Oklahoma and the State average have experienced a gradual decline in the unemployment rate over the five year historical period. As of November 2014, Northern Oklahoma's unemployment rate is 4%. The state unemployment rate is 4.4%.

Five Year Unemployment Rate- Northern Oklahoma, State, and Nationally

Legend: —— Northern Oklahoma —— Oklahoma —— United States
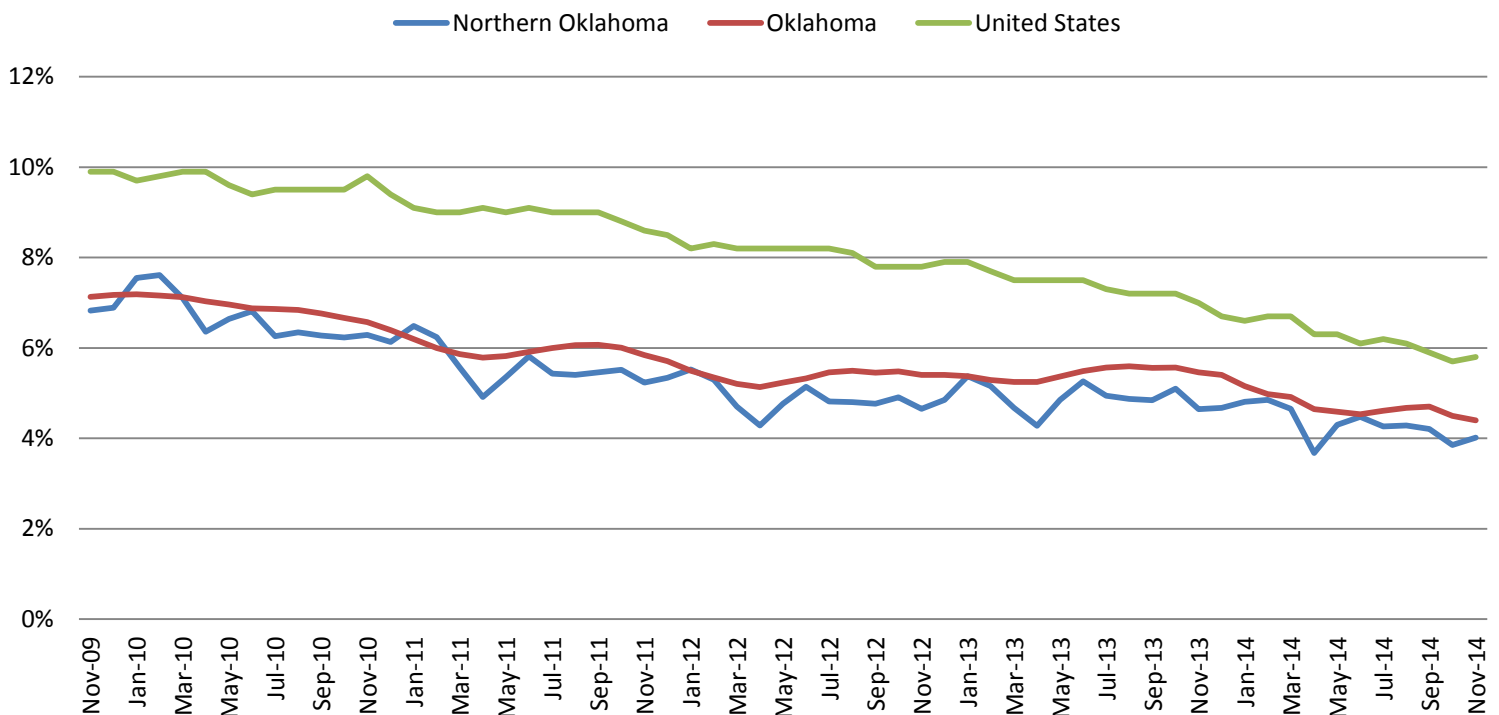
Source: Bureau of Labor Statistics, Local Area Unemployment Statistics

Total Employment:

- In real numbers, Northern Oklahoma has 121,100 people in the labor force, and 116,230 are employed. That equates to 96% of the labor force in the region is employed.
- Garfield County has the largest population, labor force, and number of people employed in the region. Garfield County also is tied for the second lowest unemployment rate.
- Grant County has the smallest labor force and the lowest unemployment rate in the region. Noble County has the second smallest labor force and tied for second lowest unemployment rate.
- Pawnee County has the third smallest labor force, but the highest unemployment rate.

Total Employment by County in Northern Oklahoma, November 2014
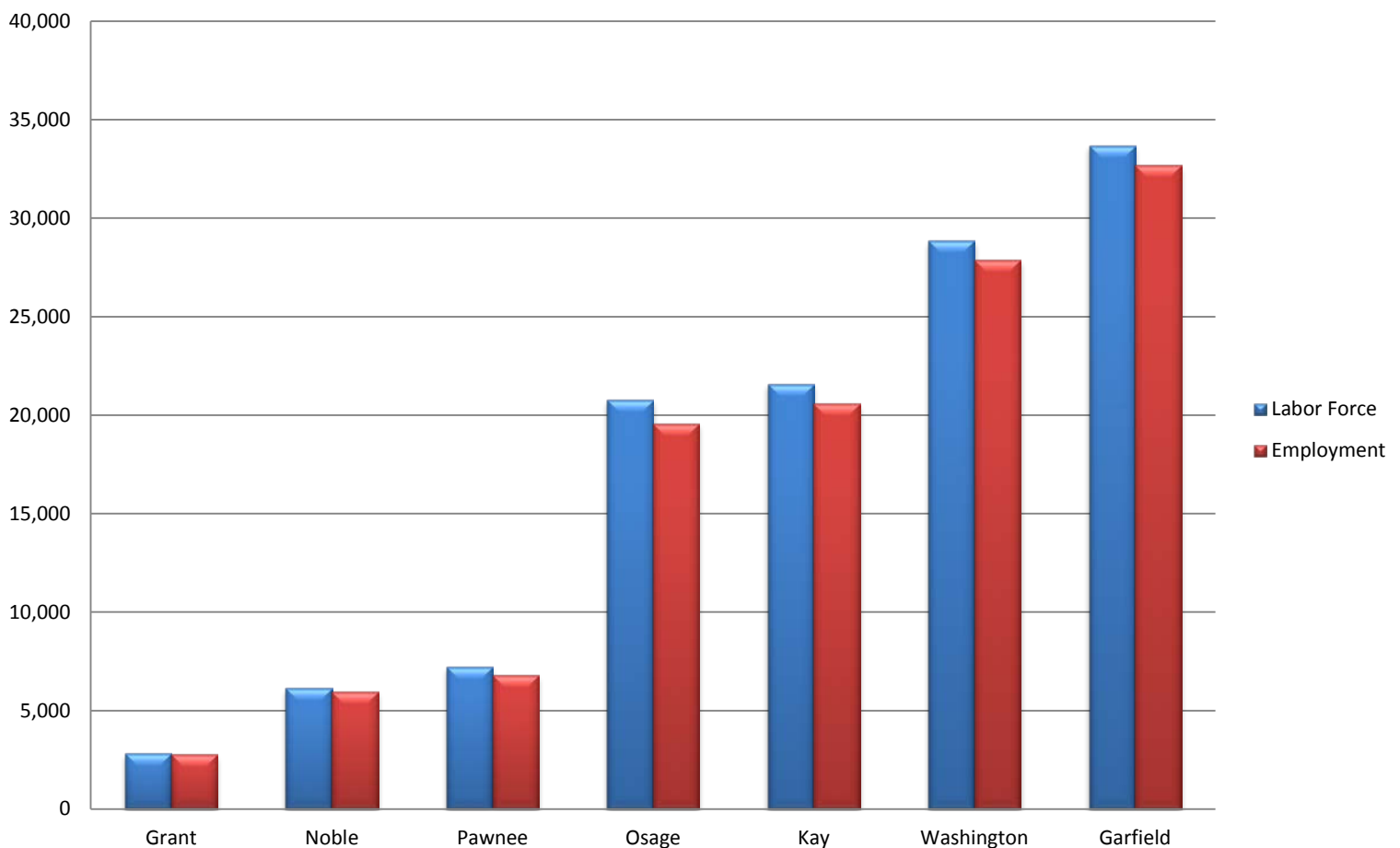
Source: Bureau of Labor Statistics, Local Area Unemployment Statistics

Top Industries in Northern Oklahoma

Industry
Government
Health Care and Social Assistance
Mining, Quarrying, and Oil and Gas Extraction
Manufacturing
Construction
Administrative and Support and Waste Management and Remediation Services
Other Services (except Public Administration)
Professional, Scientific, and Technical Services
Wholesale Trade
Finance and Insurance

Wages by County:

- In 2014, the Northern Oklahoma average wage is $47,410; this is less than the state average of $49,720 by $2,310. The difference between the Northern Oklahoma counties and the state average ranges from $6,070 more in Washington County to $8,430 less in Osage County.
- The two largest counties in the region- Garfield and Washington- also have the highest average wage.
- As a region, the average wages are below the state average. Three counties in the region have wages higher than the state average: Washington, Garfield, and Grant.
- Grant County has the smallest labor force, lowest unemployment rate and one of the highest wages in the region.
- Kay County has the third largest labor force, and the third lowest average wage.

Source: EMSI 2014.3

Top Wages by Industry:
- Most top industry earnings in Northern Oklahoma are comparable state average wages with the exception of three industries. The "Information" industry earns nearly $20,000 less in Northern Oklahoma than the state average. "Utilities" earns $16,350 less in Northern Oklahoma than the state average. However, "Management of Companies" earns $12, 740 more than the state average.
- The industries in Northern Oklahoma that compare closest to state averages are "Construction", "Professional Services" and "Wholesale Trade".
- "Construction" and "Information" are the two top earning industries in Northern Oklahoma that have average earnings less the state's yearly average earnings of $49,720.

Average Earnings by Industry in Northern Oklahoma and State of Oklahoma

■ Northern Oklahoma   ■ State of Oklahoma
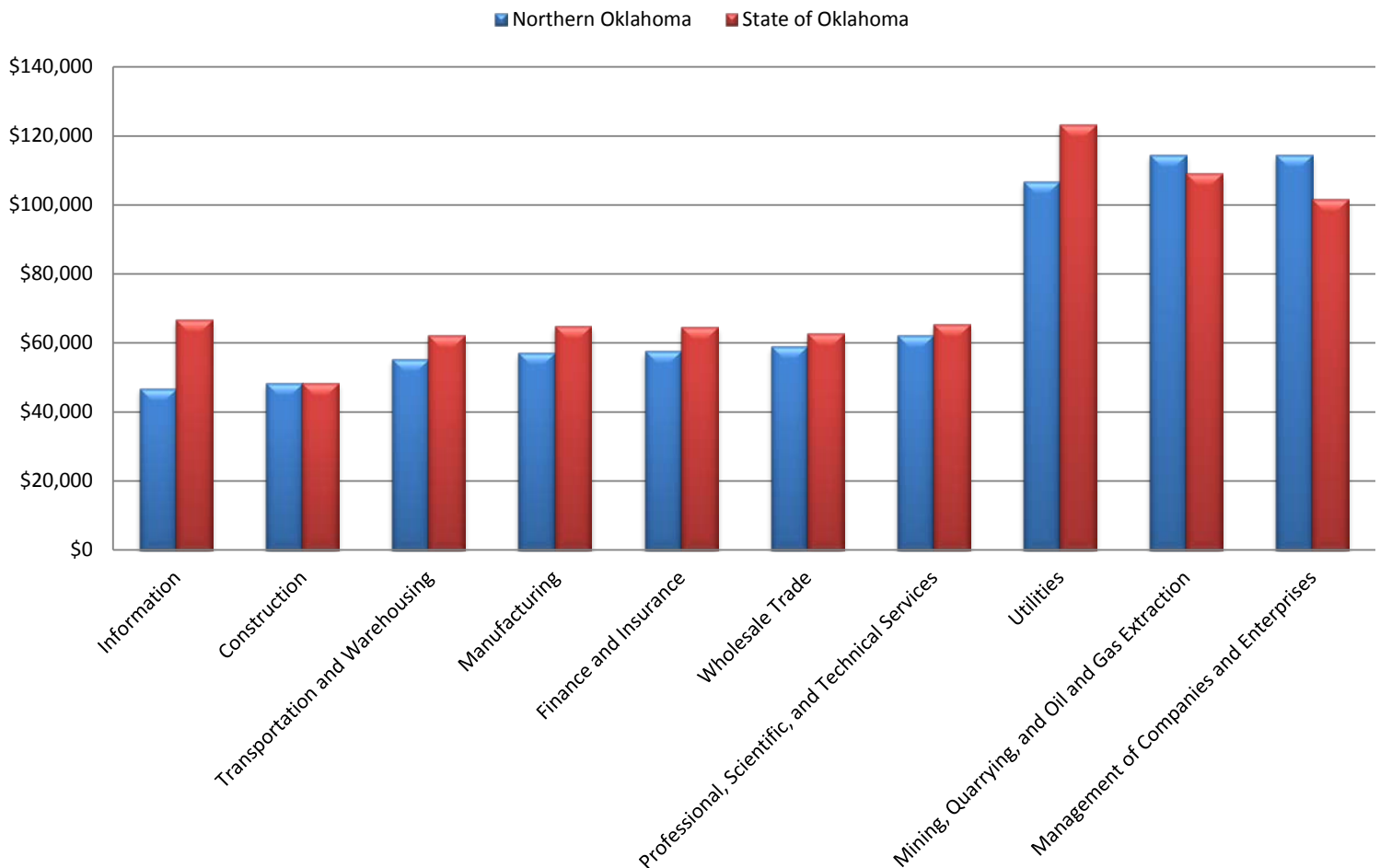
Source: EMSI 2014.3

Major Employers in Northern Oklahoma

Listed below are some of the more significant employers in the region. Commerce in Northern Oklahoma is not primarily concentrated in any one area; however there are a significant number of oil and gas extraction, manufacturing, and health and social service employers in the area.

Employer	City	Industry
Phillips 66 Company	Bartlesville	Oil and Natural Gas Extraction
Conoco Phillips Company	Bartlesville; Ponca City	Oil and Natural Gas Extraction
Vance Air Force Base	Enid	Government
Ditch Witch	Perry	Construction Machinery Manufacturing
AdvancePierre Foods	Enid	Meat Processing
Enid Public Schools	Enid	Elementary and Secondary Schools
Atwood Distributing	Enid	Hardware Stores
Jane Phillips Medical Center	Bartlesville	General Medical and Surgical Hospital
Bartlesville Public Schools	Bartlesville	Elementary and Secondary Schools
Ponca City Public Schools	Ponca City	Elementary and Secondary Schools
Wal-Mart	Multiple Cities	Warehouse Clubs and Supercenters
INTEGRIS Bass Baptist Health Center	Enid	General Medical and Surgical Hospital
Osage Tribal Council	Pawhuska	American Indian Tribal Government
St Mary's Regional Medical Center	Enid	General Medical and Surgical Hospital
Marsau Enterprises, Inc.	Enid	Wholesale Trade
TPI Staffing Services	Enid; Ponca City	Temporary Help Services
United Community Action Program	Pawnee	Community Development
Hamm & Phillips Service Company	Enid	Specialized Freight Trucking
Baker Petrolite Corporation	Barnsdall	Petroleum and Coal Products Manufacturing
First Council Casino	Newkirk	Casino
Ponca City Medical Center	Ponca City	General Medical and Surgical Hospital
Northern Oklahoma College	Tonkawa	Junior College
Schlumberger	Ponca City	Oil and Gas Machine Manufacturing
Osage Casino	Multiple Cities	Casino
Parrish Enterprises Ltd	Enid	Machine Shops
Mertz Manufacturing	Ponca City	Construction Machinery Manufacturing
Shebester-Bechtel Inc.	Blackwell	Support Activities for Oil and Gas

Source: EMSI 2014.3, OneSource

Ecosystems Impact in Northern Oklahoma on Occupations and Salaries

The Oklahoma Department of Commerce identified five ecosystems in Oklahoma important to the economy to generate wealth, have employment growth potential, or where the state has a competitive advantage (Aerospace and Defense, Energy, Agriculture and Bioscience, Information and Financial Services, and Transportation and Distribution). In each ecosystem, there are critical occupations necessary for future growth and advancement. In addition to the five statewide ecosystems, there are ecosystems at the regional level important for regional economies.

Aerospace & Defense

Based on 2014 job numbers there are 4,760 jobs in the Aerospace & Defense Ecosystem in Northern Oklahoma with average earnings of approximately $59,370

As a projection of demand by 2020, total employment in the Aerospace and Defense ecosystem will increase to 4,950 jobs in Northern Oklahoma, an increase of 190 jobs for the region.

The list below encompasses some of the critical occupations for the Aerospace and Defense ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Aerospace and Defense ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Occupation	Median Hourly Earnings	Education Level
55-9999	Military occupations	$16.45	N/A
51-4121	Welders, Cutters, Solderers, and Brazers	$16.35	Moderate-term on-the-job training
49-9041	Industrial Machinery Mechanics	$28.74	Long-term on-the-job training
17-2141	Mechanical Engineers	$31.33	Bachelor's degree
17-2051	Civil Engineers	$40.07	Bachelor's degree
49-3011	Aircraft Mechanics and Service Technicians	$21.59	Postsecondary non-degree award
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$17.68	Moderate-term on-the-job training
15-1151	Computer User Support Specialists	$18.71	Moderate-term on-the-job training
15-1131	Computer Programmers	$29.73	Bachelor's degree
17-2071	Electrical Engineers	$35.39	Bachelor's degree
15-1132	Software Developers, Applications	$27.52	Bachelor's degree

Source: EMSI 2014.3

As previously mentioned, the critical occupations above are necessary for the Aerospace & Defense ecosystem to thrive. Just as important, these critical occupations are necessary for other industries as well. Other industries that demand these occupations include government, construction machine manufacturing, oil and gas machine manufacturing, and oil and gas extraction, among others in Northern Oklahoma.

Energy

Based on 2014 job numbers there are 11,950 jobs in the Energy Ecosystem in Northern Oklahoma with average earnings of $103,015.

As a projection of demand, by 2020 total employment in the Energy ecosystem will grow to 13,240 jobs in Northern Oklahoma, an addition of 1,290 jobs for the region.

The list below encompasses some of the critical occupations for the Energy ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Energy ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Occupation	Median Hourly Earnings	Education Level
47-5071	Roustabouts, Oil and Gas	$16.60	Moderate-term on-the-job training
47-5011	Derrick Operators, Oil and Gas	$20.90	Short-term on-the-job training
17-2171	Petroleum Engineers	$64.28	Bachelor's degree
51-4121	Welders, Cutters, Solderers, and Brazers	$16.35	Moderate-term on-the-job training
53-3032	Heavy and Tractor-Trailer Truck Drivers	$16.93	Postsecondary non-degree award
47-5012	Rotary Drill Operators, Oil and Gas	$25.74	Moderate-term on-the-job training
11-1021	General and Operations Managers	$36.78	Bachelor's degree
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	$26.24	Long-term on-the-job training
47-5013	Service Unit Operators, Oil, Gas, and Mining	$17.90	Moderate-term on-the-job training
47-2061	Construction Laborers	$12.82	Short-term on-the-job training
49-9041	Industrial Machinery Mechanics	$28.74	Long-term on-the-job training
53-7073	Wellhead Pumpers	$21.01	Moderate-term on-the-job training

Source: EMSI 2014.3

As previously mentioned, these occupations are necessary for the Energy ecosystem to thrive. Just as important, they are necessary for other industries as well. Other industries that demand these occupations include: crude oil and gas extraction, general freight trucking, construction machine manufacturing, and pipeline construction, among others.

Agriculture & Bioscience

Based on 2014 job numbers there are 5,390 jobs in the Agriculture & Bioscience ecosystem in Northern Oklahoma with average earnings of $54,990.

As a projection of demand, by 2020 total employment in the Agriculture and Bioscience ecosystem will increase to 6,120 jobs, a gain of 730 jobs for the region.

The list below encompasses some of the critical occupations for the Agriculture and Bioscience ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Agriculture and Bioscience ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Occupation	Median Hourly Earnings	Education Level
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	$10.80	Short-term on-the-job training
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$11.98	Short-term on-the-job training
51-3023	Slaughterers and Meat Packers	$9.12	Short-term on-the-job training
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$10.77	Short-term on-the-job training
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$17.68	Moderate-term on-the-job training
51-9198	Helpers--Production Workers	$11.86	Short-term on-the-job training
53-7064	Packers and Packagers, Hand	$8.98	Short-term on-the-job training
53-3032	Heavy and Tractor-Trailer Truck Drivers	$16.93	Postsecondary non-degree award
49-9071	Maintenance and Repair Workers, General	$14.40	Long-term on-the-job training
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	$11.26	Short-term on-the-job training
17-2051	Civil Engineers	$40.07	Bachelor's degree
51-8091	Chemical Plant and System Operators	$31.06	Long-term on-the-job training

Source: EMSI 2014.3

As previously mentioned, these occupations are necessary for the Agriculture & Bioscience ecosystem to thrive. Just as important, they are necessary for other industries as well. Other industries that demand these occupations include: animal production, general freight trucking, support for oil and gas extraction, and others in Northern Oklahoma.

Information & Financial Services

Based on 2014 job numbers there are 4,670 jobs in the Information & Financial Services ecosystem in Northern Oklahoma with average wages of $71,600.

As a projection of demand, by 2020 total employment in the Information and Financial Services ecosystem will increase to 5,260 jobs in Northern Oklahoma, an increase of 590 jobs for the region.

The list below encompasses some of the critical occupations for the Information and Financial Services ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Information and Financial Services ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Occupation	Median Hourly Earnings	Education Level
11-3031	Financial Managers	$38.76	Bachelor's degree
13-1031	Claims Adjusters, Examiners, and Investigators	$25.74	Long-term on-the-job training
13-2011	Accountants and Auditors	$24.68	Bachelor's degree
13-2052	Personal Financial Advisors	$23.99	Bachelor's degree
13-2072	Loan Officers	$26.72	Bachelor's degree
13-2082	Tax Preparers	$16.03	Moderate-term on-the-job training
15-1131	Computer Programmers	$29.73	Bachelor's degree
41-3031	Securities, Commodities, and Financial Services Sales Agents	$20.62	Bachelor's degree
43-3071	Tellers	$11.23	Short-term on-the-job training
43-4131	Loan Interviewers and Clerks	$15.07	Short-term on-the-job training
43-4141	New Accounts Clerks	$14.42	Moderate-term on-the-job training
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$12.85	Short-term on-the-job training

Source: EMSI 2014.3

As previously mentioned, these occupations are necessary for the Information & Financial Services ecosystem to thrive. Just as important, they are necessary for other industries as well. Other industries that demand these occupations include: commercial banking, oil and gas extraction, accounting services, and credit unions, among others.

Transportation & Distribution

Based on 2014 job numbers there are 5,800 jobs in the Transportation & Distribution ecosystem in Northern Oklahoma with average earnings of $58,360.

As a projection of demand, by 2020 total employment in the Transportation and Distribution ecosystem will increase to 6,140 jobs in Northern Oklahoma, an increase of 340 jobs for the region.

The list below encompasses some of the critical occupations for the Transportation and Distribution ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Transportation and Distribution ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Occupation	Median Hourly Earnings	Education Level
53-3032	Heavy and Tractor-Trailer Truck Drivers	$16.93	Postsecondary non-degree award
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$10.77	Short-term on-the-job training
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$22.07	Moderate-term on-the-job training
53-3033	Light Truck or Delivery Services Drivers	$13.81	Short-term on-the-job training
43-4051	Customer Service Representatives	$11.19	Short-term on-the-job training
53-7051	Industrial Truck and Tractor Operators	$13.13	Short-term on-the-job training
43-5081	Stock Clerks and Order Fillers	$9.89	Short-term on-the-job training
43-5071	Shipping, Receiving, and Traffic Clerks	$12.80	Short-term on-the-job training
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	$15.85	Long-term on-the-job training
51-2092	Team Assemblers	$13.58	Moderate-term on-the-job training
49-9071	Maintenance and Repair Workers, General	$14.40	Long-term on-the-job training

Source: EMSI 2014.3

As previously mentioned, these occupations are necessary for the Transportation & Distribution ecosystem to thrive. Just as important, they are necessary for other industries as well. Other industries that demand these occupations include: general freight trucking, construction machinery manufacturing, support for oil and gas extraction, and oil and gas machine manufacturing, among others.

Health Care (Regional Complementary)

Based on 2014 job numbers there are 8,280 jobs in the Health Care ecosystem in Northern Oklahoma with average wages of $49,420.

As a projection of demand, by 2020 total employment in the Health Care ecosystem will grow to 9,170 jobs in Northern Oklahoma, an addition of 890 jobs for the region.

The list below encompasses some of the critical occupations for the Health Care ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Health Care ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Description	Median Hourly Earnings	Education Level
31-1014	Nursing Assistants	$9.59	Postsecondary non-degree award
29-1141	Registered Nurses	$26.77	Associate's degree
29-2061	Licensed Practical and Licensed Vocational Nurses	$16.85	Postsecondary non-degree award
31-1011	Home Health Aides	$9.44	Short-term on-the-job training
31-9092	Medical Assistants	$11.44	Postsecondary non-degree award
39-9021	Personal Care Aides	$9.00	Short-term on-the-job training
31-9091	Dental Assistants	$14.92	Postsecondary non-degree award
29-1069	Physicians and Surgeons, All Other	$93.60	Doctoral or professional degree
29-2034	Radiologic Technologists	$23.07	Associate's degree
29-1062	Family and General Practitioners	$91.49	Doctoral or professional degree
29-2021	Dental Hygienists	$36.14	Associate's degree

Source: EMSI 2014.2

As previously mentioned, these occupations are necessary for the Health Care ecosystem to thrive. Just as important, they are necessary for other industries as well. Other industries that demand these occupations include: general medical hospitals, nursing care facilities, home health care services, services for persons with disabilities, and others.

Construction (Regional Complementary)

Based on 2014 job numbers there are 11,980 jobs in the Construction ecosystem in Northern Oklahoma with average wages of $52,090.

As a projection of demand, by 2020 total employment in the Construction ecosystem will grow to 13,240 jobs in Northern Oklahoma, an addition of 1,260 jobs for the region.

The list below encompasses some of the critical occupations for the Construction ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Construction ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Occupation	Median Hourly Earnings	Education Level
47-2061	Construction Laborers	$12.60	Short-term on-the-job training
51-4121	Welders, Cutters, Solderers, and Brazers	$16.39	Moderate-term on-the-job training
47-2031	Carpenters	$13.64	Apprenticeship
47-2152	Plumbers, Pipefitters, and Steamfitters	$15.67	Apprenticeship
51-2092	Team Assemblers	$13.60	Moderate-term on-the-job training
47-2111	Electricians	$21.21	Apprenticeship
51-2041	Structural Metal Fabricators and Fitters	$14.97	Moderate-term on-the-job training
51-4041	Machinists	$15.18	Long-term on-the-job training
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$17.49	Postsecondary non-degree award
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$10.83	Short-term on-the-job training
47-2211	Sheet Metal Workers	$12.32	Apprenticeship
47-2141	Painters, Construction and Maintenance	$13.59	Moderate-term on-the-job training

Source: EMSI 2014.3

As previously mentioned, these occupations are necessary for the Construction ecosystem to thrive. Just as important, they are necessary for other industries as well. Other industries that demand these occupations include: construction machinery manufacturing, oil and gas field machine manufacturing, machine shops, and site preparation contractors, among others in Northern Oklahoma.

Manufacturing (Regional Complementary)

Based on 2013 job numbers there are 10,300 jobs in the Manufacturing ecosystem in Northern Oklahoma with average wages of $61,050.

As a projection of demand, by 2020 total employment in the Manufacturing ecosystem will increase to 11,170 jobs in Northern Oklahoma, a gain of 870 jobs for the region.

The list below encompasses some of the critical occupations for the Manufacturing ecosystem in Northern Oklahoma. However, these occupations are not solely intended to serve the Manufacturing ecosystem, they are driven by demand and individuals with these work backgrounds will have transferable skills to other ecosystems.

SOC	Occupation	Median Hourly Earnings	Education Level
51-2092	Team Assemblers	$13.47	Moderate-term on-the-job training
51-4121	Welders, Cutters, Solderers, and Brazers	$15.74	Moderate-term on-the-job training
51-4041	Machinists	$16.59	Long-term on-the-job training
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$19.61	Moderate-term on-the-job training
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$10.54	Short-term on-the-job training
49-9041	Industrial Machinery Mechanics	$25.42	Long-term on-the-job training
51-2041	Structural Metal Fabricators and Fitters	$15.46	Moderate-term on-the-job training
51-9198	Helpers--Production Workers	$9.65	Short-term on-the-job training
51-8091	Chemical Plant and System Operators	$31.46	Long-term on-the-job training
49-9071	Maintenance and Repair Workers, General	$13.94	Long-term on-the-job training
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	$14.33	Moderate-term on-the-job training

Source: EMSI 2014.2

As previously mentioned, these occupations are necessary for the Manufacturing ecosystem to thrive. Just as important, they are necessary for other industries as well. Other industries that demand these occupations include: construction equipment manufacturing, oil and gas machine manufacturing, meat processing and machine shops, among others.