Spokane Area Workforce Roadmaps

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Prepared for:

Spokane Area Workforce Development Council
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About Camoin Associates

Camoin Associates has provided economic development consulting services to municipalities, economic development agencies, and private enterprises since 1999. We specialize in real estate market analysis to evaluate the feasibility and impacts of proposed projects. Through the services offered, Camoin Associates has had the opportunity to serve EDOs and local and state governments from Maine to California; corporations and organizations that include Lowes Home Improvement, FedEx, Volvo (Nova Bus) and the New York Islanders; as well as private developers proposing projects in excess of $600 million. Our reputation for detailed, place-specific, and accurate analysis has led to projects in 26 states and garnered attention from national media outlets including *Marketplace* (NPR), *Forbes* magazine, and *The Wall Street Journal*. Additionally, our marketing strategies have helped our clients gain both national and local media coverage for their projects in order to build public support and leverage additional funding. The firm currently has offices in Saratoga Springs, NY; Portland, ME; and Brattleboro, VT. To learn more about our experience and projects in all of our service lines, please visit our website at www.camoinassociates.com. You can also find us on Twitter @camoinassociate and on Facebook.

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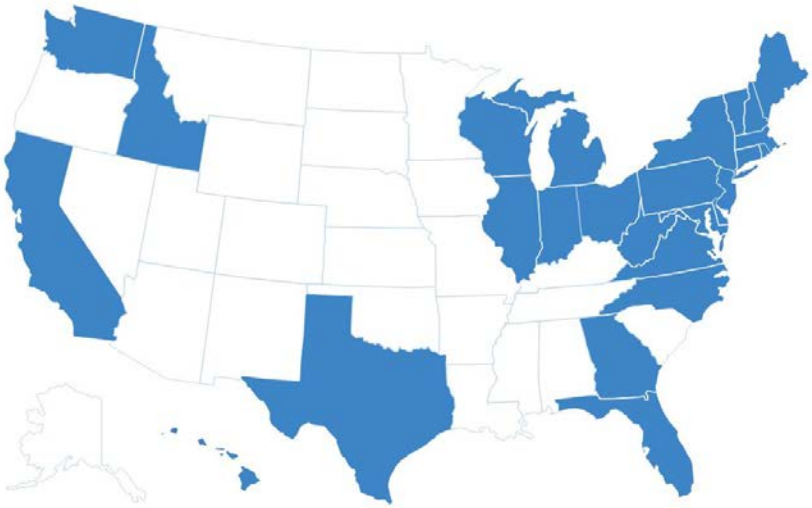

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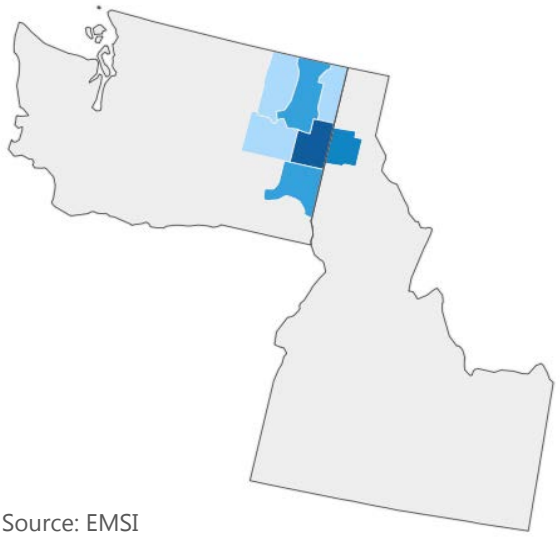
Industry Roadmap Introduction

The four industries examined in this analysis are Manufacturing, Transportation & Warehousing, Finance & Insurance, and Professional, Scientific and Technical Services. These industry groups are among the largest employers in the Spokane Area and have demonstrated strong historic growth. A summary of trends in each industry is provided in the following sections while each industry is examined in more detail in its respective "industry roadmap."

For the purposes of this analysis, the "Spokane Area" is defined as Ferry, Lincoln, Pend Oreille, Spokane, Stevens, and Whitman Counties in Washington State and Kootenai County in Idaho State. This region generally represents the labor shed from which employers in the Spokane Area attract workers. In addition to examining regional trends, changes in employment in each of these counties are also assessed to better understand regional variations in employment in the targeted industries.

Throughout this report, employment trends in the Spokane Area are compared to other geographies, specifically Washington and Idaho States (combined) and the United States. These comparisons help provide a context to better understand the employment trends occurring in the Spokane Area.

The Spokane Area



Source: EMSI

Target Industry Overview

The following table summarizes key statistics for the Manufacturing, Finance & Insurance, Transportation & Warehousing, and Professional, Scientific, and Technical Services industries. Key findings about each industry are provided below. Each industry group is examined in more detailed in subsequent sections of this report.

Targeted Industry Overview, 2 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	% of 2015 Jobs	Average Earnings Per Worker	Location Quotient	2005-2015 # Change in Jobs	2005-2015 % Change in Jobs
31-33	Manufacturing	25,702	7.3%	$63,240	0.92	258	1.0%
48-49	Transportation & Warehousing	8,472	2.4%	$55,806	0.74	632	8.1%
52	Finance & Insurance	13,444	3.8%	$73,236	0.96	-67	-0.5%
54	Prof., Scientific, and Technical Services	15,941	4.6%	$57,834	0.72	3,164	24.8%
	Total (All Industries)	**350,097**		**$48,170**	**n/a**	**22,016**	**6.7%**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Manufacturing

- The Manufacturing industry accounts for 25,700 jobs, representing 7% of the region's employment. Of the targeted industries, the Manufacturing industry is the largest employer.
- Since 2005, the industry has grown slightly even as the Manufacturing industry contracted nationally.
- At $63,000, average earnings per worker in the Manufacturing industry are over 30% higher than earnings per worker in the region overall.

- The Manufacturing industry has a location quotient of 0.92, meaning it is slightly less concentrated in the Spokane Area than in the US overall.

Transportation & Warehousing

- Of the four targeted industries, the Transportation & Warehousing industry is the smallest in terms of employment. As of 2015, the industry accounted for 8,470 jobs, which represents over 2% of jobs in the Spokane Area.
- The industry has grown significantly since 2005, adding over 600 jobs, an increase of 8%.
- Average earnings per worker for the Transportation & Warehousing industry are $55,800, 16% higher than the average earnings in the Spokane Area.
- With a location quotient of 0.74, employment in the Transportation & Warehousing industry is over 25% less concentrated in the Spokane Area than in the nation.

Finance & Insurance

- The Finance & Insurance industry accounts for 13,400 of jobs, representing nearly 4% of employment in the Spokane Area.
- Employment in this industry has contracted slightly since 2005, shedding nearly 70 jobs. However, employment in the Spokane Area declined at a lower rate than the nation, where the industry contracted by 2%, and Washington and Idaho States, where industry employment contracted by nearly 7%.
- Average earnings per worker in the Finance & Insurance industry are $73,000, 52% higher than the regional average. These earnings are also significantly higher than average earnings in the other targeted industries.
- Employment in this industry is nearly as concentrated in the Spokane Area as it is the nation.

Professional, Scientific, and Technical Services

- With nearly 16,000 jobs, employment in the Professional, Scientific, and Technical Services industry is the second highest of the targeted industries and represents 4.6% of employment in the Spokane Area.
- Employment in the industry has grown significantly since 2005, increasing by nearly 25% even through the recession. This growth mirrors employment growth in Washington and Idaho States and outpaces growth in the US.
- At $57,800, the average earnings per worker are 20% higher than the average for the region.
- The industry is nearly 30% less concentrated in the Spokane Area than in the US overall.

Historic Changes in Employment, Compared to Idaho and Washington States and the Nation

The table below summarizes past changes in employment in each of the targeted industries and compares these changes to historic trends in Washington and Idaho States and the nation. Key findings from this analysis are below.

- Since 2005, the Spokane Area economy has added over 22,000 jobs, an increase of nearly 7%. This outpaces employment growth at the national level, which increased by 5% over the same period. However, it lags the combined employment growth of the states of Idaho and Washington, which grew by over 11%.
- While employment in the Manufacturing industry contracted by over 13% nationally between 2005 and 2015, employment in this industry grew slightly in the Spokane Area. However, this growth lags behind the nearly 6% increase in Manufacturing employment experienced in Washington and Idaho States.
- Employment growth in the Transportation & Warehousing industry mirrors the growth experienced by the industry at the national level. However, growth in this industry lags behind the 10% combined growth experienced in Washington and Idaho States.
- In the Spokane Area, employment in the Finance & Insurance industry decreased slightly, shedding nearly 70 jobs between 2005 and 2015. However, the industry contracted at a much lower rate in the Spokane Area than Washington and Idaho States and the nation, where employment contracted by 6.8% and 2.4%, respectively.
- Nationally, employment in the Professional, Scientific, and Technical (PST) Services industry grew substantially between 2005 and 2015, expanding by 19%. In the Spokane Area and Washington and Idaho States, growth in this industry exceeded the national average, with employment in the PST Services industry in these geographies growing by nearly 25% and 26%, respectively.

Targeted Industry Employment Changes, 2 Digit NAICS - State/Nation Comparison

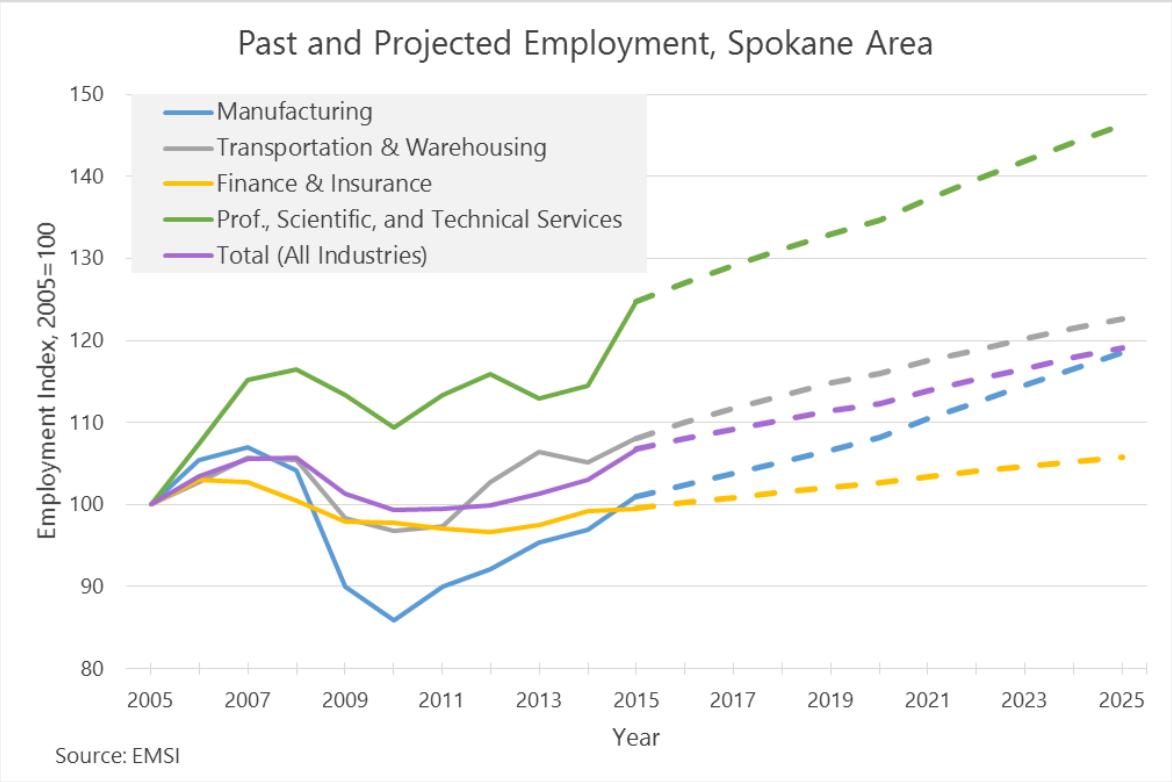
NAICS	Description	Spokane Area 2005-2015 % Change	WA/ID States 2005-2015 % Change	USA 2005-2015 % Change
31-33	Manufacturing	1.0%	5.9%	-13.4%
48-49	Transportation & Warehousing	8.1%	10.4%	8.1%
52	Finance & Insurance	-0.5%	-6.8%	-2.4%
54	Prof., Scientific, and Technical Services	24.8%	25.9%	19.0%
	Total (All Industries)	**6.7%**	**11.2%**	**5.0%**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Changes in Employment (Historic and Projected) – Targeted Industries Comparison

The chart below presents past and projected changes in employment in the Spokane Area's overall economy as well as trends in each of the targeted industries. Key findings from this analysis are below.

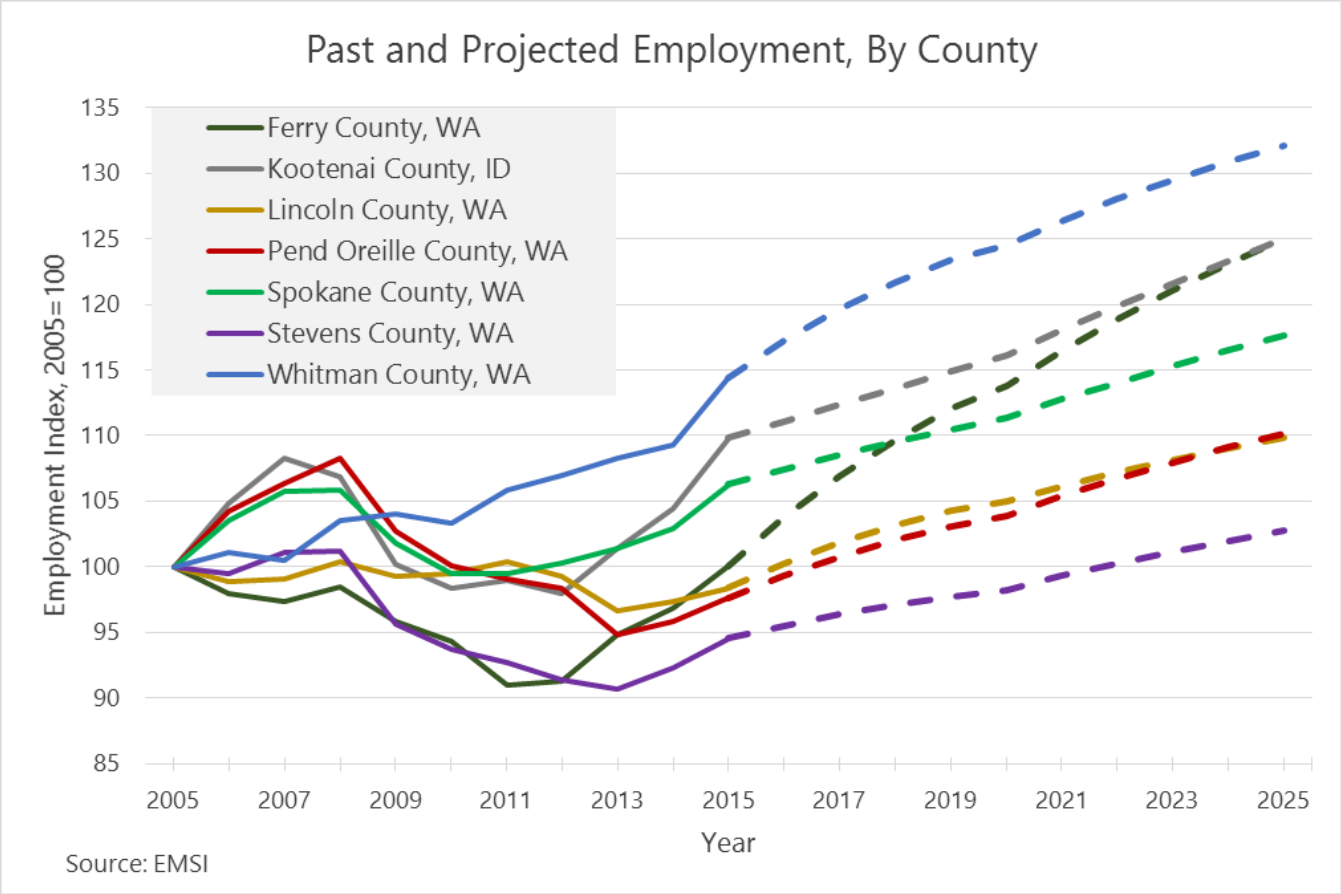
- Due to the recent recession, employment in the Spokane area declined from its 2008 peak of 346,500 jobs to 326,260 jobs in 2011, a contraction of nearly 6%. Since this decline, employment in the region has recovered and exceeded pre-recession employment in 2015. Employment in the region is expected to continue to grow over the coming years, increasing by 11% by 2025.
- Of the targeted industries, Manufacturing suffered the most during the recent recession, shedding over 5,000 jobs between its pre-recession peak in 2007 and 2010. Since 2010, the industry has recovered some of these losses, although employment has still not reached the pre-recession high. The industry is projected to demonstrate strong growth over the coming decade.
- The Transportation & Warehousing Industry increased by over 8%, adding 630 jobs between 2005 and 2015. With nearly 8,500 jobs in 2015, the industry exceeds its pre-recession employment peak. The industry is projected to increase employment by another 13.5% over the next 10 years.
- Between 2005 and 2015, the Finance & Insurance industry contracted slightly, shedding nearly 70 jobs, representing a 0.5% employment decrease. As of 2015, employment in the industry had not recovered to its pre-recession peak of 13,900 jobs. Over the next 10 years, employment in the industry is expected grow by 6%.
- Of the targeted industries, the Professional, Scientific, and Technical Services industry grew at the fastest rate, increasing employment by nearly 25%, or 3,100 jobs. This dramatically outpaces growth of the Spokane Area's economy overall. The industry is projected to grow by another 17% by 2025.



Past and Projected Employment, by County

The chart below presents past and projected changes in employment in each of the Spokane Area's seven counties. Key findings from this analysis is below.

- Overall, employment growth has favored counties in the Spokane Area with a larger economic base. By 2015, employment in Spokane and Kootenai Counties had recovered to their respective pre-recession peaks. Kootenai County's employment in 2015 actually exceeded its 2007 employment peak of 63,500 jobs.
- In absolute terms, Spokane County added the most jobs between 2005 and 2015, increasing employment by 14,000 jobs, or 6%. The County is projected to add another 25,800 jobs by 2025.
- Employment in Whitman County grew at the highest rate between 2005 and 2015, increasing employment by 14%. This county's employment did not contract with the recession and has grown significantly since 2010.
- Conversely, employment in the counties with a smaller economic base, specifically Stevens, Pend Oreille, and Lincoln Counties, has not recovered to pre-recession levels. In Ferry County, employment had just recovered to pre-recession levels by 2015.
- For many of these smaller counties, employment declined for a longer period than the larger counties. In Stevens, Pend Oreille, and Lincoln Counties, the lowest employment numbers were recorded in 2013. By 2013, other counties in the region had started recovering from the recession.



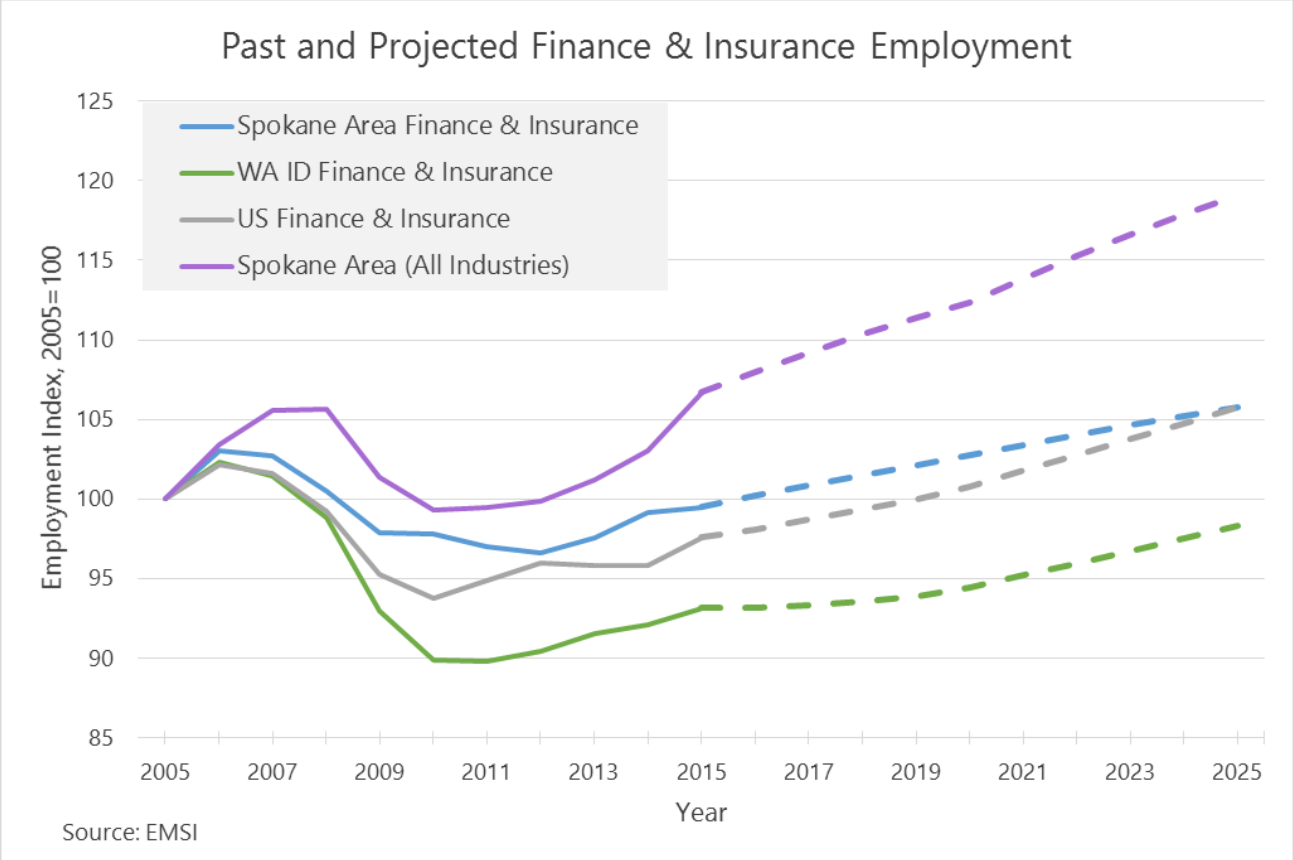
Finance & Insurance Industry Workforce Roadmap

Finance & Insurance: Past and Projected Changes in Employment

In the chart below, past and projected changes in the Finance & Insurance industry were analyzed and compared to the Washington and Idaho States and the nation. Changes in the Finance & Insurance industry were also compared to employment trends in the Spokane Area economy overall.

Key Findings:

- In the Spokane Area, pre-recession employment in the Finance & Insurance peaked in 2006 with nearly 14,000 jobs. The peak in the Finance & Insurance industry pre-dates the peak in overall Spokane Area employment by approximately 2 years. Employment in the region's Finance & Insurance industry is expected to recover to its pre-recession peak by 2020.
- While pre-recession employment in all geographies peaked in 2006, employment declined for a longer period in the Spokane Area than in Washington and Idaho States and the US. In the Spokane Area, employment continued to decline through 2012 and began recovering jobs in 2013. US Finance & Insurance employment began recovering in 2011 and employment in Washington and Idaho States began recovering in 2012.
- During the recession, Finance & Insurance employment contracted less severely in the Spokane Area than in Washington and Idaho States and the US. Regional employment contracted by 6% while state and US employment contracted by 12% and 8%, respectively.
- Employment in the Finance & Insurance industry declined more steeply and for a longer period in the recent recession than employment in the Spokane Area overall. Overall employment has also recovered at a faster pace over recent years and is projected to grow at a higher rate in the future.



Source: EMSI

Industry Overview

Key findings about the sectors that compose the Finance & Insurance industry are below. A detailed table presenting key data about the Finance & Insurance industry in the Spokane Area is on the following page.

- In 2015, employment in the Finance & Insurance industry reached 13,440 jobs. This accounted for nearly 4% of all employment in the Spokane Area.
- The Depository Credit Intermediation sector accounts for over a third of employment in the Finance & Insurance industry in the Spokane Area. This sector primarily represents traditional banking operations that receive deposits and loan money to individuals and businesses.
- The Finance & Insurance sectors with the highest 2015 employment were Depository Credit Intermediation; Agencies, Brokerages, and Other Insurance Related Activities; Insurance Carriers; Nondepository Credit Intermediation; and Securities and Commodity Contracts Intermediation and Brokerage. Employment in these top sectors ranged from 631 to 5,074 jobs.

Earnings per Worker

- Average earnings per worker in the Finance & Insurance industry is $73,200, over 30% higher than the overall average in the Spokane Area.
- Average earnings per Finance & Insurance industry worker are over 30% lower in the Spokane Area than in the nation overall and 17% lower than earnings in Washington and Idaho States.
- At $185,468, the Securities and Commodity Contracts Intermediation and Brokerage sector has the highest average earnings per employee. These earnings are over double the average earnings per worker in the Insurance Carriers sector, which has the second highest average earnings.
- At the other end of the spectrum are the earnings for banking-related sectors and other insurance-related activities. While these earnings are low for the Finance & Insurance industry, they are still much higher than the average earnings per workers for the Spokane Area economy overall.

Location Quotient (LQ)

- With a location quotient of 0.96, regional employment in the industry is slightly less concentrated than employment in the US overall. In Washington and Idaho States, employment in the Finance & Insurance industry is 28% less concentrated than employment in the nation.
- The employment in the Depository Credit Intermediation sector is over 30% more concentrated in the Spokane Area than the US overall, represented by a location quotient of 1.33. This is the highest Finance & Insurance location quotient in the Spokane Area. The employment in the Insurance Carriers and Agencies, Brokerages, and Other Insurance Related Activities sectors are also slightly more concentrated than employment in the US.

Gross Regional Product (GRP)

- Overall, the Finance & Insurance industry contributes over $2.3 billion to the Gross Regional Product of the Spokane Area. This represents about 7% of the total GRP for the Spokane Area.
- The Depository Credit Intermediation sector contributes over $871 million to the region's GRP, accounting for 38% of the total Finance & Insurance industry GRP. This sector also has the highest employment in the Finance & Insurance industry.

- While it only accounts for 4% of Finance & Insurance employment, the Other Financial Investment Activities sector accounts for 12% of Finance & Insurance GRP. The sector is highly efficient, with a GRP per worker of over $600,000.

Finance & Insurance Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
5221	**Depository Credit Intermediation**	**5,074**	**$63,189**	**1.33**	**38%**	**$871,756,700**
5222	**Nondepository Credit Intermediation**	**637**	**$67,954**	**0.48**	**5%**	**$84,410,514**
5223	Activities Related to Credit Intermediation	362	$74,716	0.53	3%	$52,359,357
5231	**Securities and Commodity Contracts Intermediation and Brokerage**	**631**	**$185,468**	**0.62**	**5%**	**$155,878,244**
5239	Other Financial Investment Activities	493	$64,354	0.43	4%	$296,029,488
5241	**Insurance Carriers**	**2,995**	**$83,125**	**1.04**	**22%**	**$594,961,630**
5242	**Agencies, Brokerages, and Other Insurance Related Activities**	**3,250**	**$60,242**	**1.07**	**24%**	**$264,848,533**
52	Total (All Finance and Insurance)	13,444	$73,236	0.96	100%	$2,377,204,801

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 largest industries

For industries with fewer than 10 workers, analyst assumes 5 workers

Historic Change in Employment (2005 to 2015)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis are below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with employment growth between 2005 and 2015.

Finance & Insurance Industry Historic Change

	Spokane Area	WA and ID States	United States
2005-2015 Change In Employment	-0.5%	-6.8%	-2.4%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Key Findings:

- The Finance & Insurance industry contracted slightly between 2005 and 2015, shedding nearly 70 jobs, a decrease of 0.5%. However, if measured from the employment low of just over 13,000 jobs during the recession, employment growth in the industry has been positive. From its 2012 employment low, the Finance & Insurance industry has added nearly 400 jobs, an increase of 3%.
- While employment in the Finance & Insurance industry contracted slightly over this period, it fared better than employment in Washington and Idaho States and the US. Finance & Insurance employment in these geographies contracted by nearly 7% and 2.5%, respectively.
- The Finance & Insurance sectors that added jobs between 2005 and 2015 were Agencies, Brokerages, and Other Insurance Related Activities; Depository Credit Intermediation; and Other Financial Investment Activities. These sectors added between 622 jobs and 60 jobs over this period.
- Most Finance & Insurance sectors contracted between 2005 and 2015. In some cases, the declines were moderate, for example, the Securities and Commodity Contract Intermediation and Brokerage sector shed 19 jobs, contracting by 3%. However, other contractions were more substantial. The Nondepository Credit Intermediation and Activities Related to Credit Intermediation sectors each contracted by 42%, shedding 460 and 260 jobs, respectively.
- Employment in the Insurance Carriers industry also declined, contracting by 7%, or nearly 240 jobs. Even after this decline, the sector accounted for 22% of Finance & Insurance industry jobs in 2015, the third largest sector. The sector also has the second highest average earnings per worker, at $83,000.
- The Agencies, Brokerages, and Other Insurance Related Activities sector added the most jobs between 2005 and 2015, increasing employment by nearly 25%, or 600 jobs. This is the second largest sector in the industry, accounting for 24% of Finance & Insurance employment. The sector has the lowest average earnings per worker in the Finance & Insurance industry.
- The Depository Credit Intermediation sector saw the second highest employment growth between 2005 and 2015, in absolute terms. The sector added 262 jobs over this period, expanding employment by 5%. As of 2015, the Depository Credit Intermediation sector was the largest Finance & Insurance employer, accounting for nearly 40% of industry employment.

Finance & Insurance Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
5221	**Depository Credit Intermediation**	**4,812**	**4,920**	**5,074**	**262**	**5%**
5222	Nondepository Credit Intermediation	1,097	738	637	-460	-42%
5223	Activities Related to Credit Intermediation	622	399	362	-260	-42%
5231	Securities and Commodity Contracts Intermediation and Brokerage	649	695	631	-19	-3%
5239	**Other Financial Investment Activities**	**433**	**546**	**493**	**60**	**14%**
5241	Insurance Carriers	3,234	2,967	2,995	-238	-7%
5242	**Agencies, Brokerages, and Other Insurance Related Activities**	**2,628**	**2,906**	**3,250**	**622**	**24%**
52	Total (All Finance and Insurance)	13,511	13,214	13,444	-67	-0.5%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates industries with positive historic employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Projected Change in Employment (2015 to 2021)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis are below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with projected employment growth between 2015 and 2021.

Finance & Insurance Industry Projected Change

	Spokane Area	WA and ID States	United States
2015-2021 Change In Employment	3.9%	2.2%	4.3%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

- Overall, employment in the Finance & Insurance industry is projected to grow by 4%, adding 525 jobs between 2015 and 2021. Employment growth in the Spokane Area is expected to outpace growth in Washington and Idaho States. However, growth will lag behind the 4.3% employment growth projected in the US over the same period.
- The Depository Credit Intermediation sector is projected to add the most jobs, increasing employment by 7%, or 330 jobs. The sector also demonstrated strong growth between 2005 and 2015, adding over 260 jobs during that period. This sector is expected to continue to be the largest in the Finance & Insurance industry.
- The Agencies, Brokerages, and Other Insurance Related Activities is also projected to grow substantially between 2015 and 2021, expanding employment by 9%, or 280 jobs. The sector also demonstrated strong growth between 2005 and 2015, increasing employment by over 600 jobs.
- Nondepository Credit Intermediation and Activities Related to Credit Intermediation are expected to continue to shed jobs over the coming years, however at a lower rate than the decline between 2005 and 2015. The Nondepository Credit Intermediation sector is expected to lose 79 jobs, contracting by 12% while the Activities Related to Credit Intermediation is projected to lose 93 jobs, contracting by 26%.
- Several industries that lost jobs between 2005 and 2015 are expected to grow modestly by 2021. The Securities and Commodity Contracts Intermediation and Brokerage sector declined by 3% between 2005 and 2015 but is expected to increase employment by 7% by 2021, adding 43 jobs. Similarly, the Insurance Carriers sector, which contracted by 7% between 2005 and 2015, is projected to add 42 jobs by 2021, a 1% increase in employment.

Finance & Insurance Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
5221	**Depository Credit Intermediation**	**5,074**	**5,279**	**5,406**	**331**	**7%**
5222	Nondepository Credit Intermediation	637	569	558	-79	-12%
5223	Activities Related to Credit Intermediation	362	309	269	-93	-26%
5231	**Securities and Commodity Contracts Intermediation and Brokerage**	**631**	**649**	**674**	**43**	**7%**
5239	**Other Financial Investment Activities**	**493**	**490**	**494**	**1**	**0%**
5241	**Insurance Carriers**	**2,995**	**3,012**	**3,038**	**42**	**1%**
5242	**Agencies, Brokerages, and Other Insurance Related Activities**	**3,250**	**3,405**	**3,529**	**279**	**9%**
52	Total (All Finance and Insurance)	13,444	13,714	13,969	525	4%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates industries with positive projected employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Competitiveness Analysis

Shift share analysis distinguishes an industry's employment growth in a specific area that is attributable to local competitive advantages from growth that is attributable to national employment trends or overall industry employment trends.

The shift share analysis helps to answer the question of "*Why is employment growing or declining in this industry*?" Is it simply related to the industry growing nationally or are we more competitive regionally? To do this, shift share analysis splits regional job growth into three components: the national growth effect, industrial mix effect, and regional competitive effect.

A shift share analysis is based on four factors:

- **The Industrial Mix Effect** – The industrial mix effect represents the share of regional industry growth explained by the growth of the specific industry at the national level. To arrive at this number, the national growth rate of the total economy is subtracted from the national growth rate of the specific industry, and this growth percentage is applied to the regional jobs in that industry.
- **The National Growth Effect** – The national growth effect explains how much of the regional industry's growth is explained by the overall growth of the national economy: if the nation's economy overall is growing, you would generally expect to see some positive change in each industry in your local region (the proverbial "rising tide that lifts all boats").
- **The Expected Change** – This is simply the rate of growth of the particular industry at the national level. The expected change is the sum of the industrial mix and the national growth effects.
- **The Regional Competitive Effect** – The regional competitive effect is the most vital in the shift share analysis. It explains how much of the change in a given industry is due to some unique competitive advantage that the region possesses, because the growth cannot be explained by national trends in that industry or the economy as whole. This effect is calculated by taking the total regional growth of the given industry and subtracting the national growth for that same industry. Note that this effect can be positive even as regional employment in the industry declines. This would indicate that regional decline is less than the national decline.

Key findings from the Competiveness Analysis are below. A detailed supporting table at the 4-digit NAICS code level is presented on the following page.

- Employment in the Finance & Insurance industry contracted in the US between 2005 and 2015, even as overall US employment grew. The industry also contracted in the Spokane Area, however, employment contracted at a much lower rate, relative to the national decline. Due to the overall contraction in the industry, nearly 260 jobs are estimated to have been created or retained due to the competitiveness of the Spokane Area's Finance & Insurance industry.
- The Finance & Insurance sectors with the highest competitive effect in the Spokane Area were Depository Credit Intermediation and Agencies, Brokerages, and Other Insurance Related Activities. Based on national trends, the Depository Credit Intermediation would have been expected to decline by over 200 jobs in the Spokane Area over the past 10 years. Despite this national decline, the sector actually added over 260 jobs in the region. The Agencies, Brokerages, and Other Insurance Related Activities grew at a faster rate than would have been expected considering national industry trends. Therefore, over 100 of the new jobs can be attributed to local competitiveness.
- Conversely, several sectors lost jobs or added fewer jobs than would have been expected, based on national industry trends. These include Nondepository Credit Intermediation, Insurance Carriers, Activities Related to Credit Intermediation, and Other Financial Investment Activities. While employment growth in the region's Other Financial Investment Activities sector was strong, it lagged employment growth in the nation.

Finance & Insurance Industry Competitiveness Analysis (2005-2015), 4 Digit NAICS - Spokane Area

NAICS	Description	Ind. Mix Effect	Nat'l Growth Effect	Expected Change	Competitive Effect
5221	**Depository Credit Intermediation**	**-459**	**241**	**-218**	**480**
5222	Nondepository Credit Intermediation	-327	55	-272	-188
5223	Activities Related to Credit Intermediation	-134	31	-103	-157
5231	**Securities and Commodity Contracts Intermediation and Brokerage**	**-103**	**33**	**-70**	**52**
5239	Other Financial Investment Activities	122	22	144	-84
5241	Insurance Carriers	-228	162	-66	-172
5242	**Agencies, Brokerages, and Other Insurance Related Activities**	**378**	**132**	**510**	**112**
52	Total (All Finance and Insurance)	-1,002	677	-325	258

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

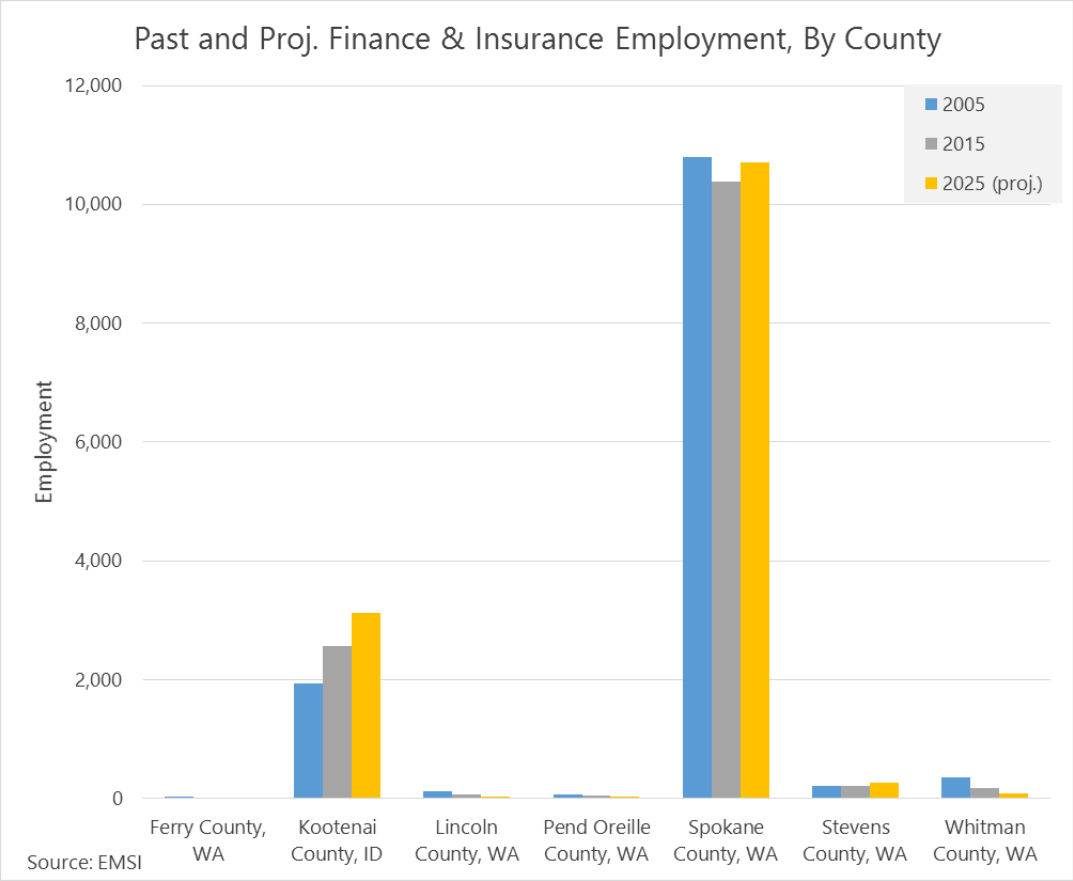
Bold designates industries with highest competitive effect

For industries with fewer than 10 workers, analyst assumes 5 workers

Employment by County

Employment in the Spokane Area varies by county. The chart below presents 2015 Finance & Insurance employment in each county as well as past and projected changes in employment. Key findings from this analysis are below.

- Over 75% of Finance & Insurance employment occurs in Spokane County, which accounts for over 10,300 Finance & Insurance jobs. Kootenai County has the second highest Finance & Insurance employment in the region, with 2,500 jobs, or 19% of regional Finance & Insurance employment.
- While regionally, the Finance & Insurance industry contracted slightly between 2005 and 2015, the industry grew by over 600 jobs in Kootenai County. Kootenai was the only county in the Spokane Area where employment grew over this period.
- Between 2005 and 2015, Finance & Insurance employment declined in Spokane County, shedding over 400 jobs, a 4% decrease. Employment in Whitman County declined at the highest rate over this period, contracting by over 50%, a decrease of 185 jobs.
- Over the next 10 years, Kootenai County is expected to account for most of the growth in the Finance & Insurance industry, adding 550 jobs, an increase of 21%.
- Spokane County is also expected to add a significant number of jobs over the next 10 years. By 2025, the county is expected to have over 10,700 Finance & Insurance jobs, an increase of over 330 jobs.
- Whitman County is expected to continue to shed jobs over the next 10 years, contracting by 44%, or 75 jobs, by 2025. Lincoln and Pend Oreille Counties are also expected to lose Finance & Insurance jobs over this period.

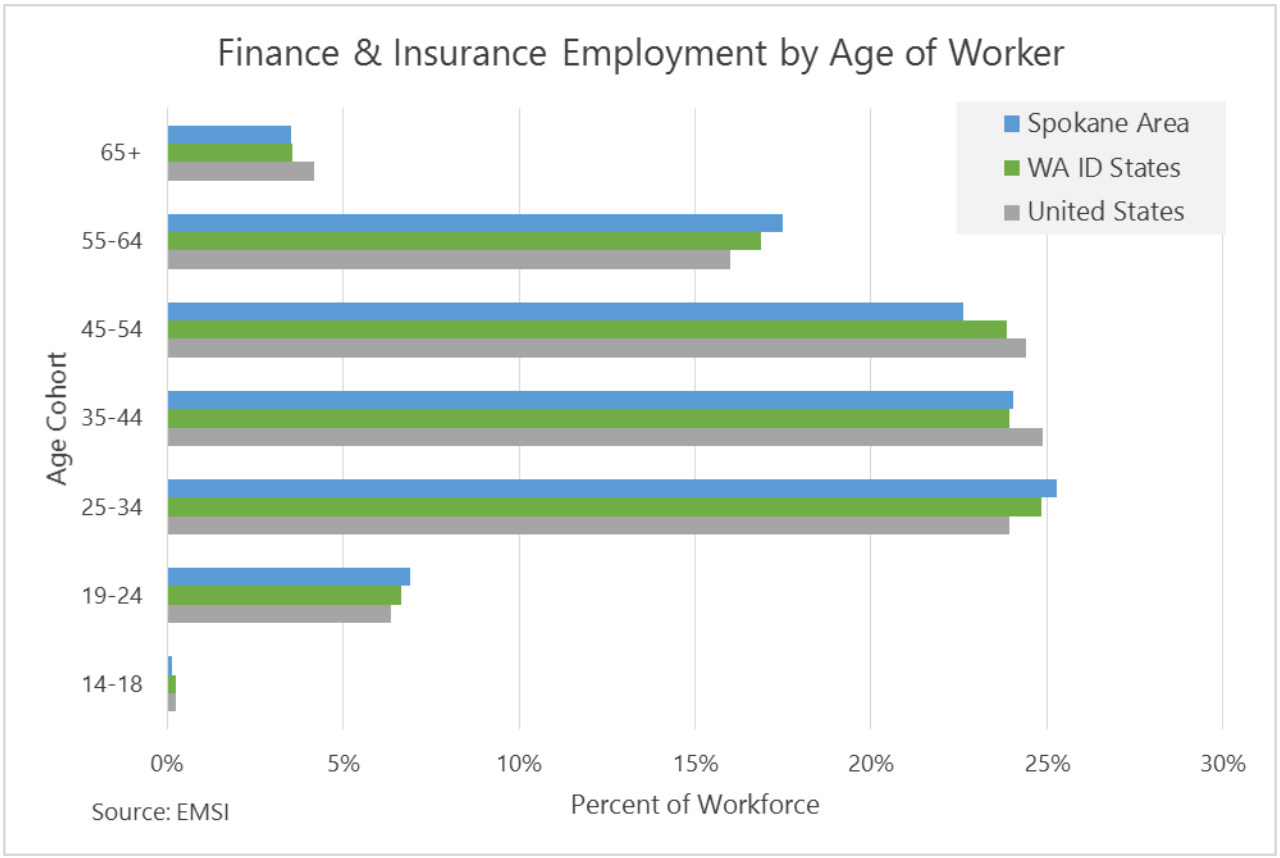


Employment by Age of Worker

The age of workers employed in an industry can factor significantly in demand for new workers. As older workers retire from the workforce, they will need to be replaced by younger workers with the skills and experience to meet employer needs. As the baby boomer generation retires from the workforce, finding the workers to fill vacant positions can present a challenge to employers.

The age of workers in the Spokane Area's Finance & Insurance industry were compared to the age of Finance & Insurance workers in Washington and Idaho States and the US. Key findings from this analysis are below.

- Overall, the age of workers in the Spokane Area's Finance & Insurance industry mirrors age demographics in Washington and Idaho States and the nation. However, in the Spokane Area, employment is more concentrated in workers between the ages of 55 and 64 than the states or nation. These workers may be approaching retirement age.
- Finance & Insurance employment in the Spokane Area is less concentrated than the states and nation in the 45-54 age cohort. This cohort accounts for 22.6% of local Finance & Insurance industry, while nationally, it accounts for over 24.4%.
- In the Spokane Area, Finance & Insurance employment in more concentrated in the 25-34 age cohort, relative to Washington and Idaho States and the nation. The local industry is also slightly more concentrated in the 19-24 age cohort.



Economic Impact

To understand the impact the Finance & Insurance industry has on the region's economy, the direct, indirect, and induced effects of the industry were analyzed.

Economic Impact, Finance & Insurance - Spokane Area

	Employment	Business Revenues	Labor Income
Direct Impact	20,647	$3,744,172,970	$1,352,279,421
Indirect Impact	7,776	$323,816,339	$132,268,098
Induced Impact	16,972	$1,534,119,940	$622,481,461
Total Impact	**45,395**	**$5,602,109,248**	**$2,107,028,979**

Source: EMSI 2015.3

*Includes "Extended Proprietor" jobs and income, which is not included in other portions of the industry analysis

Key Findings:

- For every job in the Finance & Insurance industry, another 1.20 jobs are created throughout the region.[1] The total employment impact of the Finance & Insurance industry is 45,400 jobs, including over 20,500 direct jobs and over 24,500 indirect and induced jobs.
- For every direct dollar of business revenue generated in the Finance & Insurance industry, another 0.50 dollars are generated throughout the region's economy. The $3.7 billion of Finance & Insurance revenues generated in the Spokane Region grew to over $5.6 billion of business revenues as the funds circulated through the regional economy.
- For every $1 of direct labor, another 56 cents of earnings cycle through the economy. The $1.35 billion of Finance & Insurance labor income generates another $750 million of indirect and induced earnings, for a total earnings impact of $2.1 billion in the Spokane Region.

Economic Multipliers, Finance & Insurance - Spokane Area

	Employment	Business Revenues	Labor Income	Total Jobs Per Million $ of Direct Revenues
Economic Multiplier	2.20	1.50	1.56	12.12

Source: EMSI 2015.3

Key Definitions:

- **Direct Impact:** represents employment, purchases, and earnings in the Finance & Insurance industry
- **Indirect Impact:** represents the economic impacts of suppliers to the Finance & Insurance industry in terms of employment, business revenues, and labor income. For example, in order to supply the Finance &

[1] Included in these job counts are self-employed workers, as well as extended proprietors for whom these jobs are not their primary source of income but still represent Finance & Insurance and other economic activity. This could include, for example, those who do freelance work on the side.

Insurance industry with a product, a business may have to hire workers, pay wages, and purchase inputs from other suppliers.

- **Induced Impact:** represents the economic impact of Finance & Insurance workers as they spend their earnings in the local economy
- **Economic Multiplier:** represents the total change per change in industry (job, dollar of earnings, dollar of business revenues). For example, an employment multiplier of 3 means that for every new job in an industry, an additional 2 jobs are created elsewhere in the economy.

Finance & Insurance Occupations

Jobs in the Finance & Insurance industry are primarily comprised of four main occupational groups: Management Occupations; Business and Financial Operations Occupations; Sales and Related Occupations; and Office and Administrative Occupations. The Office and Administrative Support Occupation group is the largest occupational group in the Finance & Insurance industry, representing over 5,400 jobs.

This report analyzes the occupations that make up the Finance & Insurance industry, including current and projected employment, the expected number of annual openings over the coming years, the educational requirements of the occupation, and the number of relevant degrees awarded in the region.

Key statistics about each occupational group are presented in the following sections:

- Key Occupations: an overview of 5 occupations that have a high number of openings and a high proportion of workers with some postsecondary education
- Overview: including the current and projected number of jobs in the Finance & Insurance industry and median hourly earnings for each occupation
- Projected Annual Openings: the number of annual openings in each occupation, broken down by new and replacement demand
- Labor Supply and Demand Analysis: the number of openings in each occupation are compared to the number of related program completions, to produce a "completions-to-openings" ratio, and the typical level of education required to enter the field

Sources:

Economic Modeling Specialists, Intl. (EMSI): current employment, projections, wages, openings, and completions data.

Bureau of Labor Statistics (BLS): typical entry-level education requirements (national) and the breakdown of occupations by level of education in 2012/2013 (national)

Insurance Sales Agents

Definition: Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as an independent broker, or be employed by an insurance company. (Source: O*NET)

Typical Job Titles: Account Executive, Account Manager, Agent, Insurance Agent, Insurance Broker, Insurance Sales Agent, Producer, Sales Agent, Sales Representative, Underwriting Sales Representative (Source: O*NET)

Key Statistics: Insurance Sales Agents

2015 F&I Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
2,285	$16.28	81	0	84%	26%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- Insurance Sales Agents is the largest occupational group in the Finance and Insurance industry, accounting for nearly 2,300 jobs in 2015. Between 2005 and 2015, the occupation added nearly 400 jobs, increasing by over 20%. Over the next 10 years, the occupation is expected to continue to add new jobs, expanding by 6%, or 135 jobs.
- Over the next 10 years, the Insurance Sales Agent occupational group is projected to have 80 openings annually in the Finance & Insurance industry. The vast majority of openings are expected to be created by replacement demand, with just 17% of opening created by new demand.
- The median hourly wages in this occupation are over $2 lower than the median for the Spokane Area economy overall. However, these wages are higher than the median for occupations that typically require less than a 2-year degree.
- According to the BLS, only a high school diploma is typically required to enter this occupation. However, over 80% of workers in this occupational group in 2012/2013 had some postsecondary education. Approximately 40% of workers have a Bachelor's degree while another 26% have some college education but no degree.
- In the Spokane Area, over a quarter of workers in this occupational group over the age of 55 or older. These workers may be planning to retire over the next 5 to 15 years, resulting in vacancies in the occupation.
- While there are no educational completions specifically related to this occupational group in the region, Washington State University does offer a Bachelor of Finance degree, which awards approximately 140 degrees annually. Through this program, undergraduate students can concentrate their studies in the insurance field.

Tellers

Definition: Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions. (Source: O*NET)

Typical Job Titles: Account Representative, Bank Teller, Customer Relationship Specialist, Customer Service Associate (CSA), Customer Service Representative (CSR), Member Services Representative, Personal Banking Representative, Roving Teller, Teller, Teller Coordinator (Source: O*NET)

Key Statistics: Tellers

2015 F&I Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
1,236	$13.11	69	0	64%	17%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- Tellers is the second largest occupational group in the Finance & Insurance industry, representing over 1,200 jobs in 2015. However, the group has declined slightly since 2005, shedding approximately 100 jobs. Over the next 10 years, employment in this occupational group is expected to grow by just 20 jobs.
- Despite the low growth in employment, the Tellers occupational group is expected to have the second highest number of openings in the Finance & Insurance industry group, with nearly 70 openings expected annually. These openings are due almost exclusively to replacement demand. While in some occupations, replacement demand is driven by retirements, it is more likely that replacement demand in the Tellers occupational group is due to non-retirement turnover, specifically workers leaving the occupation for other employment.
- Median wages for this occupation are $13 per hour, approximately $6 lower than the median for the Spokane Area overall.
- The BLS categorizes this occupation as one that typically requires a high school diploma or equivalent to enter the field. However, based on a national assessment of employment and education levels, the BLS has determined that nearly two thirds of workers in this field have some form of postsecondary education. This includes approximately 33% of workers who began but did not complete a Bachelor's degree.
- Compared to the Finance & Insurance industry overall, the Tellers occupational group has fewer older workers approaching retirement age. The largest group of workers in this occupational group is between the ages of 25 and 34, which represents approximately 30% of employment in the Tellers occupation.
- At this time, educational institutions in the region do not offer degrees or certifications related to this occupational group. However, employers may not require formal education to qualify for this occupation and may prefer applicants with customer service, clerical, and mathematical-related work experience.

Insurance Claims and Policy Processing Clerks

Definition: Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives. (Source: O*NET)

Typical Job Titles: Call Center Representative, Claim Processing Specialist, Claim Service Representative, Claim Technician, Claims Clerk, Claims Customer Service Representative (Claims CSR), Claims Processor, Claims Representative, Claims Service Representative, Claims Technician, Account Administrator, Account Manager, Administrative Underwriter, Agency Service Representative, Associate Financial Representative, Customer Service Technician, Field Secretary, Insurance Analyst, Premium Representative, Processing Clerk (Source: O*NET)

Key Statistics: Insurance Claims and Policy Processing Clerks

2015 F&I Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
931	$17.44	36	4	73%	20%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- In 2015, the Insurance Claims and Policy Processing Clerks accounted for approximately 930 jobs in the Finance & Insurance industry. The occupational group has grown slightly over the past 10 years, adding over 40 jobs. This growth is expected to continue, with employment in the occupation expanding by another 7% by 2025.
- Over the next 10 years, nearly 40 openings are projected in this occupation annually, most of which are expected to be in the Finance & Insurance industry. Openings in this occupational group are driven by replacement demand, accounting for 80% of the annual openings.
- Median hourly wages are $17.44 for this occupation, approximately $1.50 less than the median hourly wage for all Spokane Area jobs. However, this median wage is $2.00 higher than the median for all jobs that require less than a 2-year degree.
- Approximately 1 in 5 workers in this occupational group are approaching retirement age. The wave of retirements expected over the next 10 to 15 years will likely create opportunities for new workers to enter this field, despite the modest employment growth expected.
- According to the BLS, this occupation typically requires only a high school diploma, however, nearly 75% of workers in this field nationally have some postsecondary education, including over a third who have some college but no degree.
- In 2014, approximately 60 degrees or certificates related to this occupational group were awarded in the Spokane Area. These degrees were awarded by programs at Spokane Falls Community College, Spokane Community College, and North Idaho College. However, due to competition for graduates with these academic credentials by other occupational groups, only 4 of the 63 awards are expected to enter the Insurance Claims and Policy Processing Clerks occupational group. However, some employers may be hiring workers qualified for this occupation through work experience or on-the-job training and may not require a specialized credential.

Customer Service Representatives

Definition: Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. (Source: O*NET)

Typical Job Titles: Account Manager, Account Representative, Call Center Representative, Client Services Representative, Customer Care Representative (CCR), Customer Service Agent, Customer Service Representative (Customer Service Rep), Customer Service Specialist, Member Services Representative, Sales Facilitator (Source: O*NET)

Key Statistics: Customer Service Representatives

2015 F&I Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
1,148	$14.37	282	4	69%	15%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Customer Service Representatives occupational group is one of the largest groups in the Finance & Insurance industry, as well as the Spokane Area overall. In the Finance & Insurance industry, the occupational group accounts for nearly 1,150 jobs while economy wide, the group accounts for 6,600 jobs. In the Finance & Insurance industry, the number of Customer Service Representatives jobs has increased modestly over the past 10 years and is expected to expand by another 10% by 2025, adding over 115 jobs. This largely mirrors employment growth in the occupation economy-wide.
- Economy-wide, over 280 openings are expected in the Customer Service Representatives occupational group, of which, 45 are estimated to be in the Finance & Insurance industry. Openings are primarily being driven by replacement demand, with approximately 74% of the openings attributed to replacement demand and 26% attributed to new demand.
- The median wage for this occupation is $14.37 per hour, which is slightly lower than the median for occupations that typically require less than a 2-year degree and about $4.50 lower than the overall median wage in the Spokane Area.
- According to the BLS, the Customer Service Representatives occupational group typically requires a high school diploma to enter the field. However, nationally, nearly 70% of workers in this field have some form of postsecondary education. Approximately a third of workers in this field have some college but no degree while 21% have a Bachelor's degree.
- The Customer Service Representatives occupational group is young, relative to most other occupational groups. Workers aged 55 and older only account for 15% of the jobs while 46% are under the age of 35.
- In the Spokane Area, 6 postsecondary non-degree awards related to the Customer Service Representatives occupational group are awarded annually at Spokane Community College. However, due to competition for workers with these credentials, 4 of the 6 graduates would be expected to enter the Customer Service Representatives field. However, employers may not expect formal postsecondary educational credentials to enter this occupation and may prefer applicants with prior related experience.

Personal Financial Advisors

Definition: Advise clients on financial plans using knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Duties include assessing clients' assets, liabilities, cash flow, insurance coverage, tax status, and financial objectives. (Source: O*NET)

Typical Job Titles: Account Executive, Analyst, Certified Financial Planner (CFP), Financial Advisor, Financial Consultant, Financial Counselor, Financial Planner, Investment Advisor, Portfolio Manager, Registered Representative (Source: O*NET).

Key Statistics: Personal Financial Advisors

2015 F&I Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
562	$40.03	21	41	96%	28%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- In 2015, the Personal Financial Advisors occupational group accounted for over 560 jobs in the Finance & Insurance industry. Employment has grown modestly over the past 10 years and is expected to grow by another 13% over the next 10 years, adding over 70 jobs.
- Over the next 10 years, 21 openings are projected in this occupation annually, the majority of which are expected to be in the Finance & Insurance industry. Over 60% of openings are due to replacement demand while 39% are due to new demand.
- The Median hourly wage in this occupation are $40, significantly higher than the overall median for the Spokane Area and most other Finance & Insurance occupations.
- 28% of workers in this occupation are over the age of 55 and may be planning to retire over the next 5 to 15 years. Retirements in this occupation may create opportunities for new workers to enter the field.
- According to the BLS, this occupation typically requires a Bachelor's degree and nationally, nearly all workers have some kind of postsecondary education. Over 50% of workers have a Bachelor's degree while another 20% have a Master's degree.
- Due the number of 4-year colleges and universities in the Spokane Area, there are significantly more academic degrees being awarded annually the Personal Financial Adivsors openings. The largest program related to this occupational group is the Finance Bachelor's degree program offered at Washington State University, with over 140 graduates annually. Eastern Washington University also offers a Finance major, with approximately 70 graduates annually. Graduates from these programs may also enter the Loan Officers, Financial Managers, and Financial Analysts occupational groups.

Finance & Insurance Occupation Overview

Selection Criteria for Occupations Included:

- At least 100 jobs in the Finance & Insurance industry
- At least 5 openings annually

Data Included:

- 2015 Jobs
- Percent of Jobs in the Finance & Insurance Industry
- 2015 to 2025 Change (absolute change and percent change)
- Median Hourly Earnings

Key Findings:

- The largest Finance & Insurance occupational group is Insurance Sales Agents, which accounts for 2,285 jobs, 17% of all the jobs in the Finance & Insurance industry. Employment in this occupational group is nearly twice as high as the next largest occupational group, Tellers. The size of these occupational groups emphasize the dominance of the insurance agencies and retail banking sectors within the Finance & Insurance industry in the Spokane Area.
- Overall, the Finance & Insurance industry is expected to have modest growth over the next 10 years. Occupations within the industry group as also expected to grow modestly over the next 10 years, with few experiencing double digit growth. The fastest growing occupational groups in the Finance & Insurance industry include Secretaries and Administrative Assistants, Personal Financial Advisors, General and Operations Managers, Business Operations Specialists, and Customers Service Representatives. The occupational groups expected to add the most jobs over the next 10 years are Insurance Sales Agents, Customer Service Representatives, and Personal Financial Advisors.
- Compared to other industry groups, the Finance & Insurance industry has more jobs with high median hourly earnings. These high wages are concentrated in in the Management and Business & Financial Operations broad occupational groups. However, in the Sales and Related and Office and Administrative Support broad occupational groups, median wages are lower, with most falling between $13 and $16 per hour.
- Several of the key occupations in the Finance & Insurance industry are shared among many other industry groups. For example, while Customer Service Representatives are the third largest occupational group in the industry, representing nearly 1,150 jobs, the Finance & Insurance industry only accounts for 17% of all Customer Service Representative jobs in the Spokane Area.

Management and Business & Financial Operations Occupations

Overview: Management and Business & Financial Operations Occupations

SOC	Description	2015 F&I Jobs	% of Jobs in F&I Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
11-3031	Financial Managers	315	30%	26	8%	$42.54
11-1021	General and Operations Managers	196	5%	23	12%	$38.12
13-1031	Claims Adjusters, Examiners, and Investigators	402	65%	20	5%	$26.88
13-1199	Business Operations Specialists, All Other	102	6%	11	10%	$30.26
13-2011	Accountants and Auditors	127	5%	12	9%	$27.33
13-2051	Financial Analysts	122	37%	7	6%	$31.67
13-2052	**Personal Financial Advisors**	**562**	**87%**	**71**	**13%**	**$40.03**
13-2053	Insurance Underwriters	165	94%	-7	-4%	$27.09
13-2072	Loan Officers	812	85%	-6	-1%	$30.49

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the F&I industry

Sales and Related Occupations

Overview: Sales and Related Occupations

SOC	Description	2015 F&I Jobs	% of Jobs in F&I Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
41-3021	**Insurance Sales Agents**	**2,285**	**99%**	**135**	**6%**	**$16.28**
41-3031	Securities, Commodities, and Financial Services Sales Agents	671	93%	39	6%	$18.18

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the F&I industry

Office and Administrative Support Occupations

Overview: Office and Administrative Support Occupations

SOC	Description	2015 F&I Jobs	% of Jobs in F&I Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
43-1011	First-Line Supervisors of Office and Administrative Support Workers	515	16%	49	9%	$22.80
43-3011	Bill and Account Collectors	111	15%	-2	-2%	$15.76
43-3031	Bookkeeping, Accounting, and Auditing Clerks	285	6%	23	8%	$17.39
43-3071	Tellers	1,236	99%	23	2%	$13.11
43-4011	Brokerage Clerks	114	93%	4	3%	$23.16
43-4051	**Customer Service Representatives**	**1,148**	**17%**	**118**	**10%**	**$14.37**
43-4131	Loan Interviewers and Clerks	430	83%	6	1%	$16.82
43-4141	New Accounts Clerks	180	98%	-1	0%	$17.08
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	209	3%	32	15%	$15.77
43-9041	**Insurance Claims and Policy Processing Clerks**	**931**	**91%**	**65**	**7%**	**$17.44**
43-9061	Office Clerks, General	218	3%	17	8%	$13.97

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the F&I industry

Projected Annual Openings

Selection Criteria for Occupations Included:

- At least 100 jobs in the Finance & Insurance industry
- At least 5 openings annually

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Estimated Annual Openings (Finance & Insurance): of the annual openings, the number estimated to be in the Finance & Insurance industry. The number of openings is only provided for an occupation, but not the portion of the occupation in a certain industry. To estimate the number of openings specifically in the Finance & Insurance industry, Camoin Associates assessed the number of new jobs expected in the Finance & Insurance industry over the next 10 years and the portion of Finance & Insurance jobs in the occupation overall.
- New Demand: job openings in an occupation created by new jobs being added to an occupation/industry
- Replacement Demand: jobs openings in an occupation created by workers retiring or other turnover

Key Findings:

- Due to the relatively low employment growth in the Finance & Insurance industry expected over the next 10 years, openings in the industry are largely driven by replacement demand. In some cases, such as the Loan Officers occupational group, replacement demand accounts for 100% of the openings, due an expected decline in the total number of jobs.
- Despite the low employment growth projected, several occupational groups are expected to have a high demand for new workers. For example, the Insurance Sales Agents occupational group is expected to have 80 openings annually in the Finance & Insurance industry, despite just 13 new jobs projected annually.

Management and Business & Financial Operations Occupations

Projected Annual Openings: Management and Business & Financial Operations Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (F&I)	Estimated % New Demand	% Replacement Demand
11-3031	Financial Managers	36	9	29%	71%
11-1021	General and Operations Managers	149	6	37%	63%
13-1031	Claims Adjusters, Examiners, and Investigators	18	12	17%	83%
13-1199	Business Operations Specialists, All Other	45	3	42%	58%
13-2011	Accountants and Auditors	120	5	21%	79%
13-2051	Financial Analysts	15	4	17%	83%
13-2052	**Personal Financial Advisors**	**21**	**18**	**39%**	**61%**
13-2053	Insurance Underwriters	5	5	0%	100%
13-2072	**Loan Officers**	**24**	**19**	**0%**	**100%**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of F&I Annual Openings

Sales and Related Occupations

Projected Annual Openings: Sales and Related Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (F&I)	Estimated % New Demand	% Replacement Demand
41-3021	**Insurance Sales Agents**	**81**	**80**	**17%**	**83%**
41-3031	**Securities, Commodities, and Financial Services Sales Agents**	**24**	**22**	**18%**	**82%**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of F&I Annual Openings

Office and Administrative Support Occupations

Projected Annual Openings: Office and Administrative Support Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (F&I)	Estimated % New Demand	% Replacement Demand
43-1011	**First-Line Supervisors of Office and Administrative Support Workers**	**126**	**18**	**27%**	**73%**
43-3011	Bill and Account Collectors	27	3	0%	100%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	109	5	44%	56%
43-3071	**Tellers**	**69**	**68**	**3%**	**97%**
43-4011	Brokerage Clerks	4	4	11%	89%
43-4051	**Customer Service Representatives**	**282**	**45**	**26%**	**74%**
43-4131	Loan Interviewers and Clerks	8	6	11%	89%
43-4141	New Accounts Clerks	6	6	0%	100%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	161	6	54%	46%
43-9041	**Insurance Claims and Policy Processing Clerks**	**36**	**33**	**20%**	**80%**
43-9061	Office Clerks, General	222	7	26%	74%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of F&I Annual Openings

Labor Supply and Demand Analysis

Selection Criteria for Occupations Included:

- At least 100 jobs in the Finance & Insurance industry
- At least 5 openings annually

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Annual Related Completions: represents all degrees awarded in educational programs that could funnel workers into the occupation
- Completions Allocated to Occupation: as most educational programs prepare graduates for multiple occupations, this statistic assesses the number of graduates that would be expected to enter a specific occupational field, based on the amount of competition for those graduates from other occupational groups.
- Completions to Openings Ratio: compares the number of "completions allocated to occupation" to the number of annual openings. A ratio of 1 would signify that there are exactly the same number of graduates as openings. If the ratio is less than 1, there are fewer educational awards than the number of annual openings while a ratio greater than 1 would mean there are more educational awards than openings.
- Typical Level of Education Required: determined by the Bureau of Labor Statistics (BLS), this represents the level of education typically required nationally to enter an occupational field. This may vary widely based on the industry and location.
- Percent of Workers with Postsecondary Education: determined by the Bureau of Labor Statistics, this number represents the proportion of workers in the occupational group that have some college, a postsecondary non-degree award, an Associate's degree, Bachelor's degree, or more advanced level of education.

Key Findings:

- While many Finance & Insurance occupations do not have any or enough degrees being awarded in related programs, it is possible that employers do not require a formal educational credential or prefer work experience or on-the-job training to train employees.
- The BLS categorizes many Finance & Insurance industry occupations as requiring only a high school diploma, however, it is much more common for workers in these fields to have some postsecondary education. For many of these occupations, a large portion of the workers nationally completed some college but did not receive a degree.
- Due to the number of 4-year colleges and universities in the Spokane Area, the occupational groups that typically require a Bachelor's degree have more than enough graduates from regional institutions to fill their employment needs. While these graduates present a potential pool of applicants for these employers, some graduates may not be planning to stay in the region for work.
- Some educational programs related to the Finance & Insurance industry have many occupations that compete for the same graduates. For example, the Bookkeeping, Accounting, and Auditing Clerks has over 120 related academic awards from regional institutions, however, graduates from those programs may enter the other accounting or clerk-related occupational groups.

Management and Business & Financial Operations Occupations

Labor Supply and Demand Analysis: Management and Business & Financial Operations Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required (Nationally)	% of Workers with Postsecondary Education*
11-3031	Financial Managers	36	215	72	2.01	Bachelor's degree	88%
11-1021	General and Operations Managers	149	907	360	2.42	Bachelor's degree	83%
13-1031	Claims Adjusters, Examiners, and Investigators	18	0	0	0.00	High school diploma or equivalent	83%
13-1199	Business Operations Specialists, All Other	45	0	0	0.00	High school diploma or equivalent	88%
13-2011	Accountants and Auditors	120	420	372	3.10	Bachelor's degree	96%
13-2051	Financial Analysts	15	215	29	2.01	Bachelor's degree	97%
13-2052	Personal Financial Advisors	21	215	41	2.01	Bachelor's degree	96%
13-2053	Insurance Underwriters	5	0	0	0.00	Bachelor's degree	85%
13-2072	Loan Officers	24	215	48	2.01	Bachelor's degree	86%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Sales and Related Occupations

Labor Supply and Demand Analysis: Sales and Related Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required (Nationally)	% of Workers with Postsecondary Education
41-3021	Insurance Sales Agents	81	0	0	0.00	High school diploma or equivalent	84%
41-3031	Securities, Commodities, and Financial Services Sales Agents	24	0	0	0.00	Bachelor's degree	92%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Office and Administrative Support Occupations

Labor Supply and Demand Analysis: Office and Administrative Support Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required (Nationally)	% of Workers with Postsecondary Education
43-1011	First-Line Supervisors of Office and Administrative Support Workers	126	10	10	0.08	High school diploma or equivalent	75%
43-3011	Bill and Account Collectors	27	0	0	0.00	High school diploma or equivalent	68%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	109	124	67	0.61	High school diploma or equivalent	69%
43-3071	Tellers	69	0	0	0.00	High school diploma or equivalent	64%
43-4011	Brokerage Clerks	4	124	2	0.61	High school diploma or equivalent	75%
43-4051	Customer Service Representatives	282	6	4	0.01	High school diploma or equivalent	69%
43-4131	Loan Interviewers and Clerks	8	0	0	0.00	High school diploma or equivalent	72%
43-4141	New Accounts Clerks	6	0	0	0.00	High school diploma or equivalent	73%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	161	10	9	0.06	High school diploma or equivalent	69%
43-9041	Insurance Claims and Policy Processing Clerks	36	63	4	0.11	High school diploma or equivalent	73%
43-9061	Office Clerks, General	222	63	25	0.11	High school diploma or equivalent	67%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

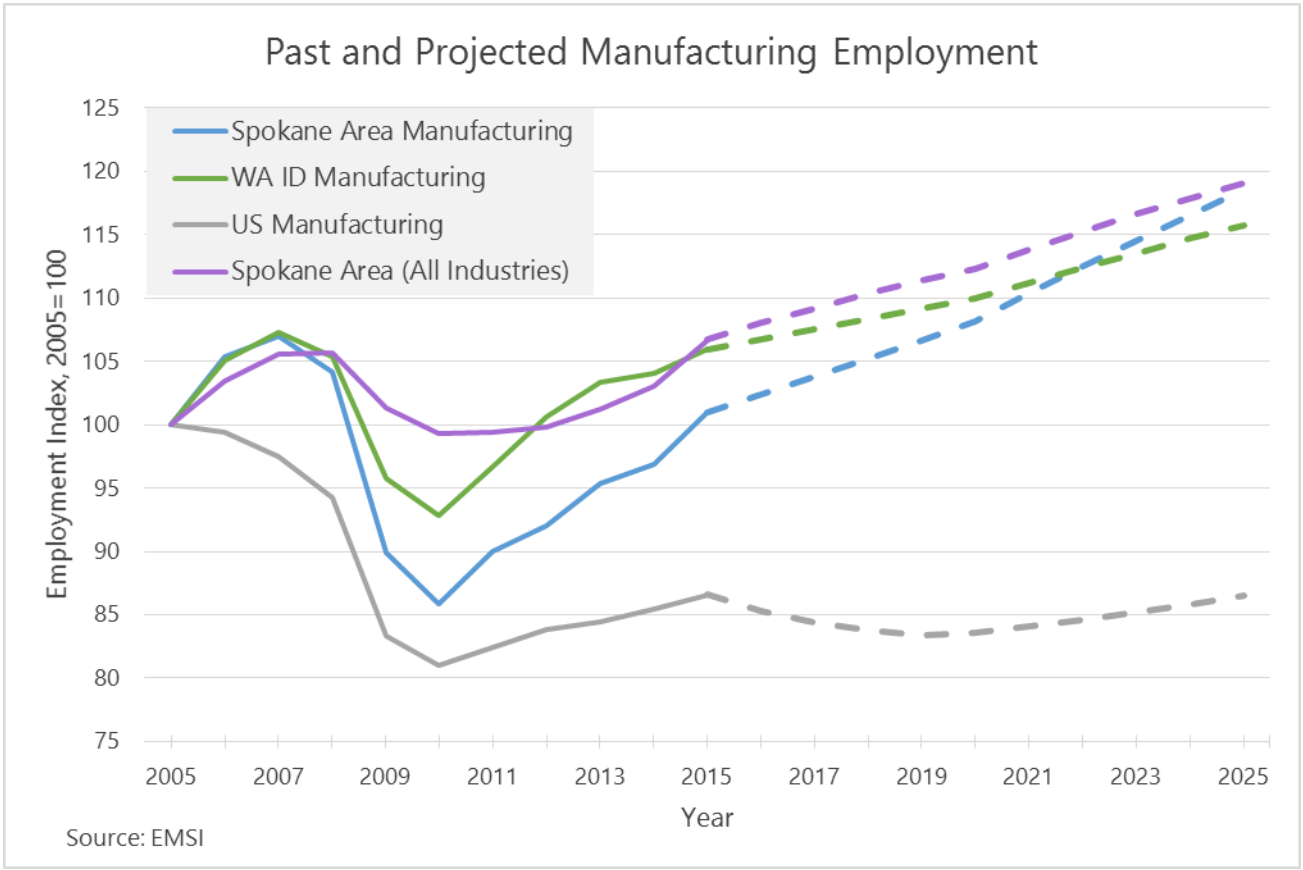
Manufacturing Industry Workforce Roadmap

Manufacturing: Past and Projected Changes in Employment

In the chart below, past and projected changes in the Manufacturing industry were analyzed and compared to the Washington and Idaho States and the nation. Changes in the Manufacturing industry were also compared to employment trends in the Spokane Area economy overall.

Key Findings:

- Compared to the Spokane Area economy overall, employment in Spokane's Manufacturing industry declined more steeply between 2005 and 2010. However, employment in the Manufacturing industry is projected to grow at a higher rate over the next 10 years.
- Between 2010 and 2015, the industry staged a rapid recovery, surpassing 2005 employment levels by 1%. The industry has not yet reached its pre-recession employment peak of 27,000 jobs. Growth in the industry is projected to continue through 2025.
- In the Spokane Area, the Manufacturing industry declined less steeply and for fewer years than in the US. The Spokane Manufacturing industry has also expanded employment more quickly than US Manufacturing since 2010. Despite slow growth at the national level, the Spokane Manufacturing industry is projected to grow rapidly over the next 10 years.
- The Spokane Manufacturing industry grew at a similar rate as the Washington and Idaho State's industry between 2005 and 2007. However, after the 2007 peak in employment, the Spokane Area Manufacturing industry declined more steeply than employment in the two states. The industry has recovered quickly at both the regional and state level.



Industry Overview

Key findings about the 30 largest sectors in the Manufacturing industry are below. A detailed table presenting key data about the Manufacturing industry in the Spokane Area is on the following page.

- In 2015, employment in the Manufacturing industry reached 25,700 jobs. This accounted for approximately 7% of all employment in the Greater Spokane region.
- The Manufacturing industry in the region is diverse, with no one sector accounting for more than 10% of employment. The largest sector, Electrical Equipment Manufacturing, accounts for 9% of employment.
- The Manufacturing sectors with the highest 2015 employment were Electrical Equipment, Plastics Product, Architectural and Structural Metals, Household and Institutional Furniture and Kitchen Cabinet, and Aerospace Product and Parts Manufacturing. Employment in these top sectors ranged from 988 to 2,208 jobs.

Earnings per Worker

- Average earnings per worker in the Manufacturing industry is over 30% higher than the overall average in the Spokane Area.
- Average earnings per Manufacturing worker are 19% lower in the Spokane Area than in the nation overall. The average earnings per worker in the Spokane Area are 28% lower than earnings in Washington and Idaho States.
- At $107,000, Navigational, Manufacturing, Electromedical, and Control Instruments has the highest average earnings per employee. This is followed closely by the average earnings recorded in the Alumina and Aluminum Production and Processing sector.
- Conversely, the Other Wood Product Manufacturing industry has the lowest earnings per worker ($36,336). This is followed by the Household and Institutional Furniture and Kitchen Cabinet Manufacturing.

Location Quotient (LQ)

- With a location quotient of 0.92, the industry is slightly less concentrated than employment in the US overall. In Washington and Idaho States, employment in the Manufacturing industry is slightly more concentrated than employment in the nation.
- The Electrical Equipment Manufacturing sector has the highest location quotient in the Spokane Area, at 6.80, meaning employment in this industry is nearly 7 times more concentrated in the Spokane Area than in the US overall. The second most concentrated industry is the Alumina and Aluminum Production and Processing sector, with a LQ of 6.13. These sectors are also among the largest industries in the region.

Gross Regional Product (GRP)

- Overall, the Manufacturing industry contributes nearly $3 billion to the Gross Regional Product of the Spokane Area. This represents about 9% of the total GRP for the Greater Spokane Region.
- The Pharmaceutical and Medicine Manufacturing sector contributes over $315 million to the region's GRP, 11% of the total Manufacturing industry GRP. In addition to being the largest contributor to the Manufacturing industry's GRP, this industry is highly efficient – with a GRP per job of $373,000, over three times the Manufacturing industry's average. This is the highest GRP per job of sectors in the Manufacturing industry.
- Electrical Equipment Manufacturing is the second highest contributor to GRP in the Manufacturing industry, with a GRP of over $190 million. However, the GRP per job is 26% lower than the industry's average.

Manufacturing Industry Overview, 4 Digit NAICS - Spokane Area (30 Largest Sectors)

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
3118	Bakeries and Tortilla Manufacturing	585	$48,627	0.83	2%	$49,862,556
3121	Beverage Manufacturing	454	$51,575	0.97	2%	$128,129,594
3211	**Sawmills and Wood Preservation**	**814**	**$61,849**	**3.83**	**3%**	**$72,935,129**
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	406	$58,685	2.55	2%	$31,521,506
3219	Other Wood Product Manufacturing	487	$36,336	0.96	2%	$21,100,540
3221	Pulp, Paper, and Paperboard Mills	338	$95,512	1.49	1%	$60,803,920
3231	Printing and Related Support Activities	606	$40,539	0.59	2%	$40,780,746
3254	**Pharmaceutical and Medicine Manufacturing**	**851**	**$82,467**	**1.32**	**3%**	**$317,416,219**
3261	**Plastics Product Manufacturing**	**1,440**	**$51,521**	**1.15**	**6%**	**$105,490,044**
3273	Cement and Concrete Product Manufacturing	731	$65,708	1.78	3%	$53,646,870
3312	Steel Product Manufacturing from Purchased Steel	402	$54,715	2.94	2%	$27,938,612
3313	**Alumina and Aluminum Production and Processing**	**799**	**$104,905**	**6.13**	**3%**	**$99,726,767**
3314	Nonferrous Metal (except Aluminum) Production and Processing	542	$56,594	3.83	2%	$111,391,956
3315	**Foundries**	**889**	**$65,848**	**3.17**	**3%**	**$68,807,264**
3322	Cutlery and Handtool Manufacturing	295	$45,776	3.43	1%	$13,049,765
3323	**Architectural and Structural Metals Manufacturing**	**1,343**	**$52,599**	**1.63**	**5%**	**$85,796,589**
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	740	$54,913	0.85	3%	$50,247,157
3331	Agriculture, Construction, and Mining Machinery Manufacturing	294	$61,367	0.53	1%	$27,854,197
3332	Industrial Machinery Manufacturing	289	$73,763	1.17	1%	$25,246,575
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	396	$45,029	1.39	2%	$30,618,169
3335	Metalworking Machinery Manufacturing	581	$78,851	1.38	2%	$55,191,083
3339	Other General Purpose Machinery Manufacturing	291	$68,703	0.48	1%	$35,833,447
3341	Computer and Peripheral Equipment Manufacturing	348	$66,904	0.93	1%	$31,385,058
3344	Semiconductor and Other Electronic Component Manufacturing	481	$51,857	0.57	2%	$51,660,701
3345	**Navigational, Measuring, Electromedical, and Control Instruments Manufacturing**	**768**	**$107,185**	**0.87**	**3%**	**$154,868,555**
3353	**Electrical Equipment Manufacturing**	**2,208**	**$84,186**	**6.80**	**9%**	**$190,916,456**
3364	**Aerospace Product and Parts Manufacturing**	**988**	**$82,860**	**0.91**	**4%**	**$161,369,386**
3371	**Household and Institutional Furniture and Kitchen Cabinet Manufacturing**	**1,103**	**$37,975**	**1.90**	**4%**	**$38,297,785**
3372	Office Furniture (including Fixtures) Manufacturing	429	$53,254	1.70	2%	$79,024,640
3399	Other Miscellaneous Manufacturing	486	$49,343	0.70	2%	$42,277,179
31	Total (All Manufacturing)	25,702	$63,240	0.92	100%	$2,804,141,993

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 10 largest industries

For industries with fewer than 10 workers, analyst assumes 5 workers

Historic Change in Employment (2005 to 2015)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis are below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with the highest employment growth between 2005 and 2015.

Manufacturing Industry Historic Change

	Spokane Area	WA and ID States	United States
2005-2015 Change In Employment	1.0%	5.9%	-13.4%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Key Findings:

- Overall, the Manufacturing industry grew only modestly between 2005 and 2015, adding 258 jobs, an increase of 1%. However, the growth in the industry was much more substantial if measured from 2010. From an employment low of just under 22,000 jobs in 2010, the Manufacturing industry has added nearly 4,000 jobs, an increase of 17%.
- The Manufacturing sectors that added the most jobs between 2005 and 2015 were Electrical Equipment; Aerospace Product and Parts; Pharmaceutical and Medicine; Steel Product Manufacturing from Purchased Steel; and, Foundries Manufacturing sectors. These sectors added between 258 jobs and 1,358 jobs over this period.
- The Manufacturing sectors that shed the most jobs between 2005 and 2015 were Other Wood Product; Printing and Related Support Activities; Navigational, Measuring, Electromedical, and Control Instruments; Computer and Peripheral Equipment; and Sawmills and Wood Preservation Manufacturing.
- Generally, Manufacturing industry sectors related to the forestry and wood products contracted over this period, with the exception of Pulp, Paper, and Paperboard Mills, which grew by 18%.
- The Electrical Equipment Manufacturing sector experienced the most employment growth in absolute terms, increasing by 160% from 850 jobs in 2005 to 2,208 jobs in 2015. This sector represents nearly 9% of employment in the Spokane Area and has average earnings per workers of over $84,000.
- The Steel Product Manufacturing from Purchased Steel sector grew at the fastest rate, adding nearly 400 jobs between 2005 and 2015. In 2015, employment in this sector was nearly three times more concentrated in the Spokane Area than in the US overall.
- The Aerospace Product and Parts Manufacturing sector grew substantially between 2005 and 2015, adding over 500 jobs, an increase of 106%. Earnings per worker in this industry are also significantly higher than the average earnings in the Manufacturing industry overall.

Manufacturing Industry Historic Change, 4 Digit NAICS - Spokane Area (30 Largest Sectors)

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
3118	Bakeries and Tortilla Manufacturing	608	682	585	-23	-4%
3121	Beverage Manufacturing	213	260	454	241	113%
3211	Sawmills and Wood Preservation	1,057	705	814	-243	-23%
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	616	391	406	-210	-34%
3219	Other Wood Product Manufacturing	957	441	487	-470	-49%
3221	Pulp, Paper, and Paperboard Mills	285	278	338	52	18%
3231	Printing and Related Support Activities	959	663	606	-354	-37%
3254	**Pharmaceutical and Medicine Manufacturing**	**378**	**687**	**851**	**473**	**125%**
3261	Plastics Product Manufacturing	1,403	1,251	1,440	37	3%
3273	Cement and Concrete Product Manufacturing	1,002	739	731	-271	-27%
3312	**Steel Product Manufacturing from Purchased Steel**	**5**	**208**	**402**	**397**	**7949%**
3313	Alumina and Aluminum Production and Processing	798	678	799	2	0%
3314	Nonferrous Metal (except Aluminum) Production and Processing	387	452	542	154	40%
3315	**Foundries**	**631**	**641**	**889**	**258**	**41%**
3322	Cutlery and Handtool Manufacturing	213	203	295	82	38%
3323	Architectural and Structural Metals Manufacturing	1,201	1,111	1,343	142	12%
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	531	569	740	210	40%
3331	Agriculture, Construction, and Mining Machinery Manufacturing	208	190	294	86	42%
3332	Industrial Machinery Manufacturing	441	277	289	-152	-34%
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	543	474	396	-147	-27%
3335	Metalworking Machinery Manufacturing	563	483	581	18	3%
3339	Other General Purpose Machinery Manufacturing	373	269	291	-82	-22%
3341	Computer and Peripheral Equipment Manufacturing	667	362	348	-319	-48%
3344	Semiconductor and Other Electronic Component Manufacturing	298	450	481	184	62%
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	1,115	903	768	-347	-31%
3353	**Electrical Equipment Manufacturing**	**850**	**1,517**	**2,208**	**1,358**	**160%**
3364	**Aerospace Product and Parts Manufacturing**	**480**	**727**	**988**	**508**	**106%**
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	1,239	764	1,103	-137	-11%
3372	Office Furniture (including Fixtures) Manufacturing	632	483	429	-203	-32%
3399	Other Miscellaneous Manufacturing	583	489	486	-97	-17%
31	Total (All Manufacturing)	25,444	21,851	25,702	258	1%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 industries with highest historic employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Projected Change in Employment (2015 to 2021)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis is below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with the highest projected employment growth between 2015 and 2021.

Manufacturing Industry Projected Change

	Spokane Area	WA and ID States	United States
2015-2021 Change In Employment	9.3%	5.0%	-2.9%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

- Overall, employment in the Manufacturing industry is projected to grow by 9%, adding over 2,300 jobs between 2015 and 2021. Employment growth in the Spokane Area is expected to outpace growth in Washington and Idaho States and the US.
- The Electrical Equipment; Architectural and Structural Metals; Pharmaceutical and Medicine; Semiconductor and Other Electronic Component; and, Metalworking Machinery Manufacturing industry sectors are projected to add the most jobs between 2015 and 2021. Growth in these sectors is projected to range from 166 to 707 jobs.
- The Navigational, Measuring, Electromedical, and Control Instruments; Office Furniture (including Fixtures); Cement and Concrete Product; Other Miscellaneous; and Other Wood Product Manufacturing sectors are projected to shed the most jobs over the coming years. Employment in these sectors also declined between 2005 and 2015.
- The Electrical Equipment Manufacturing sector is projected to add the most jobs, increasing employment by over 700 jobs, or 32%. This sector also added the most jobs between 2005 and 2015.
- The Semiconductor and Other Electronic Component Manufacturing industry sector is projected to increase employment at the fastest rate, adding over 200 jobs, an increase of 43%.
- The Navigational, Measuring, Electromedical, and Control Instruments Manufacturing sector is projected to shed over 130 jobs between 2015 and 2021. This is the largest decrease of any Manufacturing sector. This sector also lost 30% of jobs between 2005 and 2015.
- The employment growth in the Pharmaceutical and Medicine Manufacturing sector that occurred between 2005 and 2015 is projected to continue through 2021, but at a lower rate. The sector is expected to add another 200 jobs by 2021, an increase of 25%. Average earnings per worker in this sector are nearly $82,500, 30% higher than the Manufacturing industry's average for the region.

Manufacturing Industry Projected Change, 4 Digit NAICS - Spokane Area (30 Largest Sectors)

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
3118	Bakeries and Tortilla Manufacturing	585	550	531	-54	-9%
3121	Beverage Manufacturing	454	496	524	70	15%
3211	Sawmills and Wood Preservation	814	782	807	-7	-1%
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	406	415	444	37	9%
3219	Other Wood Product Manufacturing	487	431	431	-56	-12%
3221	Pulp, Paper, and Paperboard Mills	338	333	333	-5	-1%
3231	Printing and Related Support Activities	606	572	566	-40	-7%
3254	**Pharmaceutical and Medicine Manufacturing**	**851**	**976**	**1,064**	**213**	**25%**
3261	Plastics Product Manufacturing	1,440	1,481	1,529	89	6%
3273	Cement and Concrete Product Manufacturing	731	662	664	-67	-9%
3312	Steel Product Manufacturing from Purchased Steel	402	456	487	85	21%
3313	Alumina and Aluminum Production and Processing	799	791	793	-7	-1%
3314	Nonferrous Metal (except Aluminum) Production and Processing	542	523	512	-30	-6%
3315	Foundries	889	907	938	50	6%
3322	Cutlery and Handtool Manufacturing	295	348	391	96	33%
3323	**Architectural and Structural Metals Manufacturing**	**1,343**	**1,520**	**1,688**	**345**	**26%**
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	740	823	883	142	19%
3331	Agriculture, Construction, and Mining Machinery Manufacturing	294	282	282	-13	-4%
3332	Industrial Machinery Manufacturing	289	318	358	68	24%
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	396	410	441	46	12%
3335	**Metalworking Machinery Manufacturing**	**581**	**672**	**747**	**166**	**29%**
3339	Other General Purpose Machinery Manufacturing	291	327	361	70	24%
3341	Computer and Peripheral Equipment Manufacturing	348	354	353	5	1%
3344	**Semiconductor and Other Electronic Component Manufacturing**	**481**	**595**	**690**	**209**	**43%**
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	768	662	635	-133	-17%
3353	**Electrical Equipment Manufacturing**	**2,208**	**2,630**	**2,915**	**707**	**32%**
3364	Aerospace Product and Parts Manufacturing	988	1,093	1,124	136	14%
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	1,103	1,104	1,170	67	6%
3372	Office Furniture (including Fixtures) Manufacturing	429	368	348	-81	-19%
3399	Other Miscellaneous Manufacturing	486	443	426	-59	-12%
31	Total (All Manufacturing)	25,702	26,773	28,084	2,383	9%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 industries with highest projected employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Competitiveness Analysis

Shift share analysis distinguishes an industry's employment growth in a specific area that is attributable to local competitive advantages from growth that is attributable to national employment trends or overall industry employment trends.

The shift share analysis helps to answer the question of "*Why is employment growing or declining in this industry*?" Is it simply related to the industry growing nationally or are we more competitive regionally? To do this, shift share analysis splits regional job growth into three components: the national growth effect, industrial mix effect, and regional competitive effect.

A shift share analysis is based on four factors:

- **The Industrial Mix Effect** – The industrial mix effect represents the share of regional industry growth explained by the growth of the specific industry at the national level. To arrive at this number, the national growth rate of the total economy is subtracted from the national growth rate of the specific industry, and this growth percentage is applied to the regional jobs in that industry.
- **The National Growth Effect** – The national growth effect explains how much of the regional industry's growth is explained by the overall growth of the national economy: if the nation's economy overall is growing, you would generally expect to see some positive change in each industry in your local region (the proverbial "rising tide that lifts all boats").
- **The Expected Change** – This is simply the rate of growth of the particular industry at the national level. The expected change is the sum of the industrial mix and the national growth effects.
- **The Regional Competitive Effect** – The regional competitive effect is the most vital in the shift share analysis. It explains how much of the change in a given industry is due to some unique competitive advantage that the region possesses, because the growth cannot be explained by national trends in that industry or the economy as whole. This effect is calculated by taking the total regional growth of the given industry and subtracting the national growth for that same industry. Note that this effect can be positive even as regional employment in the industry declines. This would indicate that regional decline is less than the national decline.

Key findings from the Competiveness Analysis is below. A detailed supporting table at the 4-digit NAICS code level is presented on the following page.

- Employment in the Manufacturing industry contracted in the US between 2005 and 2015, even as overall employment grew. Despite this contraction, the Manufacturing industry in the Spokane Area managed to grow slightly, adding 258 jobs. Due to the overall contraction in the industry, over 3,600 jobs are estimated to have been created or retained due to the competitiveness of the Spokane Area's Manufacturing industry.
- The most competitive (highest number of jobs attributed to characteristics of the region) Manufacturing sectors in the Spokane Area were Electrical Equipment,; Pharmaceutical and Medical; Aerospace Product and Parts; Foundries; and, Steel Product from Purchased Steel Manufacturing industries.
- The industries that were less competitive than the nation in terms of employment growth (meaning they either lost jobs at a higher rate or added jobs at a lower rate than would have been expected based on national industry trends) were Navigational, Measuring, Electromedical, and Control Instruments; Computer and Peripheral Equipment; Other Wood Product; Industrial Machinery; and Other General Purpose Machinery Manufacturing.

Manufacturing Industry Competitiveness Analysis (2005-2015), 4 Digit NAICS - Spokane Area (30 Largest Sectors)

NAICS	Description	Ind. Mix Effect	Nat'l Growth Effect	Expected Change	Competitive Effect
3118	Bakeries and Tortilla Manufacturing	5	30	35	-59
3121	Beverage Manufacturing	38	11	49	193
3211	Sawmills and Wood Preservation	-308	53	-255	12
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	-288	31	-257	47
3219	Other Wood Product Manufacturing	-363	48	-315	-155
3221	Pulp, Paper, and Paperboard Mills	-95	14	-81	133
3231	Printing and Related Support Activities	-350	48	-302	-52
3254	**Pharmaceutical and Medicine Manufacturing**	**-23**	**19**	**-4**	**477**
3261	Plastics Product Manufacturing	-242	70	-172	209
3273	Cement and Concrete Product Manufacturing	-292	50	-242	-29
3312	**Steel Product Manufacturing from Purchased Steel**	**0**	**0**	**0**	**398**
3313	Alumina and Aluminum Production and Processing	-202	40	-162	164
3314	Nonferrous Metal (except Aluminum) Production and Processing	-65	19	-46	200
3315	**Foundries**	**-187**	**32**	**-155**	**413**
3322	Cutlery and Handtool Manufacturing	-78	11	-67	149
3323	Architectural and Structural Metals Manufacturing	-163	60	-103	244
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	22	27	49	161
3331	Agriculture, Construction, and Mining Machinery Manufacturing	30	10	40	46
3332	Industrial Machinery Manufacturing	-75	22	-53	-99
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	-120	27	-93	-54
3335	Metalworking Machinery Manufacturing	-73	28	-45	63
3339	Other General Purpose Machinery Manufacturing	-22	19	-3	-78
3341	Computer and Peripheral Equipment Manufacturing	-158	33	-125	-194
3344	Semiconductor and Other Electronic Component Manufacturing	-65	15	-50	234
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	-172	56	-116	-232
3353	**Electrical Equipment Manufacturing**	**-86**	**43**	**-43**	**1,401**
3364	**Aerospace Product and Parts Manufacturing**	**8**	**24**	**32**	**476**
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	-514	62	-452	315
3372	Office Furniture (including Fixtures) Manufacturing	-147	32	-115	-88
3399	Other Miscellaneous Manufacturing	-142	29	-113	15
31	Total (All Manufacturing)	-4,688	1,274	-3,414	3,671

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

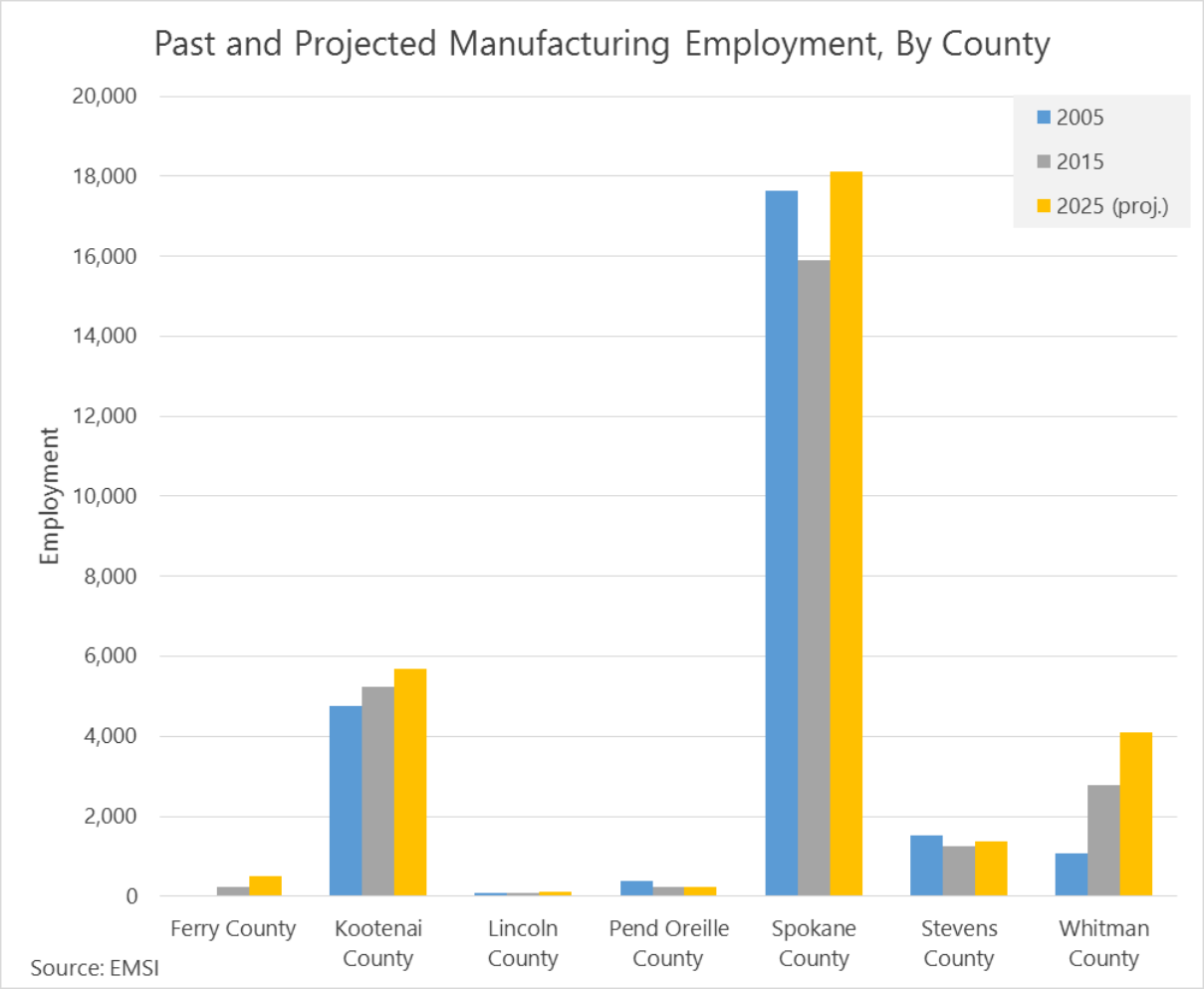
Bold designates 5 industries with highest competitive effect

For industries with fewer than 10 workers, analyst assumes 5 workers

Employment by County

Employment in the Spokane Area varies by county. The chart below presents 2015 Manufacturing employment in each county as well as past and projected changes in employment. Key findings from this analysis are below.

- Over 60% of Manufacturing employment occurs in Spokane County, which accounts for nearly 16,000 Manufacturing jobs. Kootenai County has the second highest Manufacturing employment in the region, with 5,200 jobs, or 20% of regional Manufacturing employment.
- While regionally, the Manufacturing industry had slow employment growth between 2005 and 2015, the industry declined in Spokane County. Manufacturing employment contracted by 10% in the county, shedding over 1,700 jobs. However, the industry is expected to add over 2,200 jobs in the county over the next 10 years, an increase of 14%.
- The Manufacturing industry grew at the fastest rate in Ferry County, which added over 200 jobs between 2005 and 2015. Manufacturing employment in this county is projected to continue to grow over the next 10 years, expanding by another nearly 120%.
- In terms of absolute growth, Whitman County added the most Manufacturing jobs, increasing employment by over 1,700 jobs. Employment in the industry is projected to continue to grow over the next 10 years, expanding employment by another 48%.

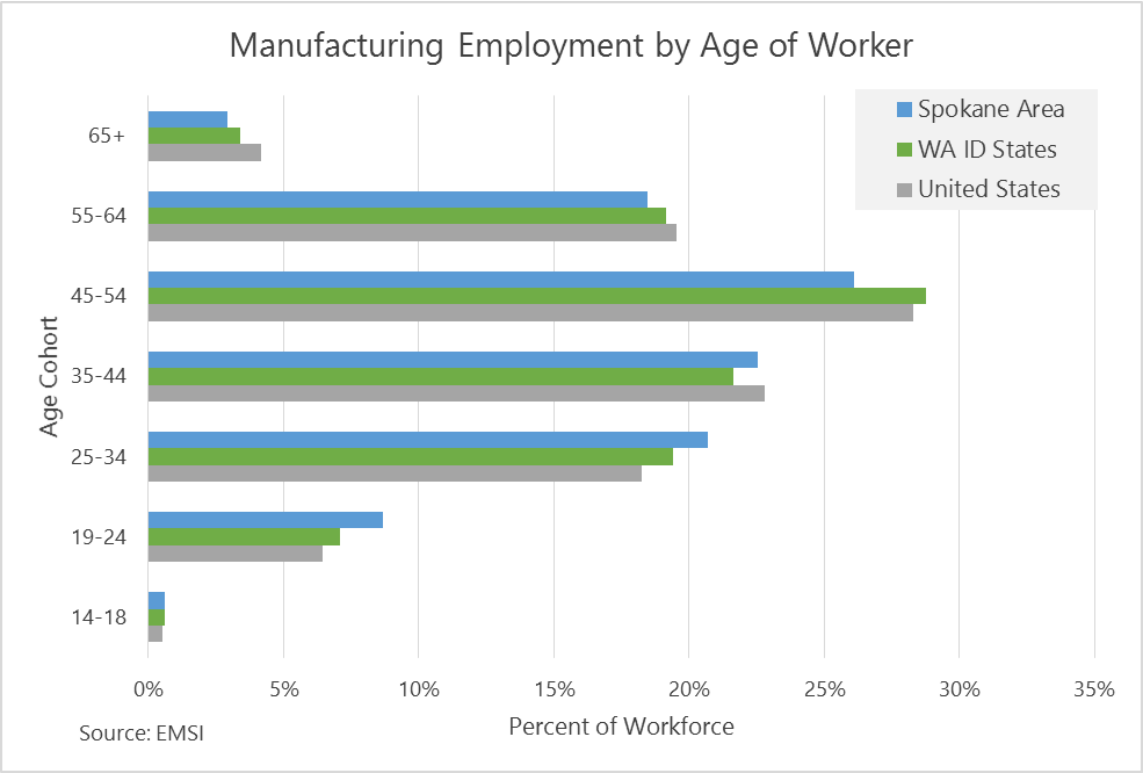


Employment by Age of Worker

The age of workers employed in an industry can factor significantly in demand for new workers. As older workers retire from the workforce, they will need to be replaced by younger workers with the skills and experience to meet employer needs. As the baby boomer generation retires from the workforce, finding the workers to fill vacant positions can present a challenge to employers.

The age of workers in the Spokane Area's Manufacturing were compared to the age of Manufacturing workers in Washington and Idaho States and the US. Key findings from this analysis are below.

- Overall, the Manufacturing employment in the Spokane area is less concentrated in older age cohorts than the industry in Washington and Idaho State and the US. Conversely, a larger portion of Manufacturing workers in the Spokane Area are between the ages of 19 and 34.
- Manufacturing employment in the three geographies is most concentrated in the 45-54 age cohort. This group represents between 26% to 28% of all workers in the Manufacturing industry. Compared to Washington and Idaho States and the nation, the Manufacturing employment in the Spokane Area is less concentrated in this age cohort.



Economic Impact

To understand the impact the Manufacturing industry has on the region's economy, the direct, indirect, and induced effects of the industry were analyzed.

Economic Impact, Manufacturing - Spokane Area

	Employment	Business Revenues	Labor Income
Direct Impact	25,942	$7,999,772,963	$1,596,103,053
Indirect Impact	9,534	$1,201,872,430	$433,177,420
Induced Impact	20,785	$1,961,733,255	$807,549,239
Total Impact	**56,261**	**$11,163,378,648**	**$2,836,829,711**

Source: EMSI 2015.3

*Includes "Extended Proprietor" jobs and income, which is not included in other portions of the industry analysis

Key Findings:

- For every job in the Manufacturing industry, another 1.17 jobs are created throughout the region.[2] The total employment impact of the Manufacturing industry is 56,200 jobs, including nearly 26,000 direct jobs and over 30,000 indirect and induced jobs.
- For every direct dollar of business revenue generated in the Manufacturing industry, another 0.40 dollars are generated throughout the region's economy. The nearly $8 billion of Manufacturing revenues generated in the Spokane Region grew to over $11 billion of business revenues as the funds circulated through the regional economy.
- For every $1 of direct labor, another 78 cents of earnings cycle through the economy. The nearly $1.6 billion of Manufacturing labor income generates another $1.24 billion of indirect and induced earnings, for a total earnings impact of $2.8 billion in the Spokane Region.

Economic Multipliers, Manufacturing - Spokane Area

	Employment	Business Revenues	Labor Income	Total Jobs Per Million $ of Direct Revenues
Economic Multiplier	2.17	1.40	1.78	7.03

Source: EMSI 2015.3

Key Definitions:

- **Direct Impact:** represents employment, purchases, and earnings in the Manufacturing industry
- **Indirect Impact:** represents the economic impacts of suppliers to the Manufacturing industry in terms of employment, business revenues, and labor income. For example, in order to supply the Manufacturing

[2] Included in these job counts are self-employed workers, as well as extended proprietors for whom these jobs are not their primary source of income but still represent Manufacturing and other economic activity. This could include, for example, those who do freelance work on the side.

industry with a product, a business may have to hire workers, pay wages, and purchase inputs from other suppliers.

- **Induced Impact:** represents the economic impact of Manufacturing workers as they spend their earnings in the local economy
- **Economic Multiplier:** represents the total change per change in industry (job, dollar of earnings, dollar of business revenues). For example, an employment multiplier of 3 means that for every new job in an industry, an additional 2 jobs are created elsewhere in the economy.

Manufacturing Occupations

Jobs in the Manufacturing industry are primarily comprised of four main occupational groups: Production Occupations; Installation, Maintenance, and Repair Occupations; Architecture and Engineering Occupations; and Management and Business and Financial Operations Occupations. The Production Occupation group is the largest occupational group in the Manufacturing industry, representing over 13,000 jobs.

This report analyzes the occupations that make up the Manufacturing industry, including current and projected employment, the expected number of annual openings over the coming years, the educational requirements of the occupation, and the number of relevant degrees awarded in the region.

Key statistics about each occupational group are presented in the following sections:

- Key Occupations: an overview of 5 occupations that have a high number of openings and a high proportion of workers with some postsecondary education
- Overview: including the current and projected number of jobs in the Manufacturing industry and median hourly earnings for each occupation
- Projected Annual Openings: the number of annual openings in each occupation, broken down by new and replacement demand
- Labor Supply and Demand Analysis: the number of openings in occupation are compared to the number of related program completions, to produce a "completions-to-openings" ratio, and the typical level of education required to enter the field

Key Findings

- According to the Bureau of Labor Statistics, most production occupations require only a postsecondary non-degree award (generally, a certificate) or less to enter the occupation. The median wage for occupations with this level of educational requirement in the Spokane Area is $15.41. However, in the Manufacturing industry, over 5,000 jobs with a similar level of education exceed this wage.
- Manufacturing occupations in the region were connected to related educational programs using the National Center for Education Statistics (NCES) SOC to CIP Crosswalk. Based on this analysis, the Spokane Area does not offer programs for several of the larger Manufacturing occupations. This may be due in part to the needs of employers in the region, who may not require a formal credential to qualify for a position or who may prefer work experience or on-the-job training to formal education. However, many of these occupations have a significant portion of workers with some postsecondary education. This will be investigated further in the Key Occupations and Labor Supply and Demand Analysis sections.

Sources:

Economic Modeling Specialists, Intl. (EMSI): current employment, projections, wages, openings, and completions data.

Bureau of Labor Statistics (BLS): typical entry-level education requirements (national) and the breakdown of occupations by level of education (national)

First Line Supervisors of Production and Operating Workers

Definition: Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. (Source: O*NET)

Typical Job Titles: Assembly Supervisor, Department Manager, Manufacturing Supervisor, Molding Supervisor, Plant Manager, Production Manager, Production Supervisor, Shift Supervisor, Supervisor, Team Leader (Source: O*NET)

Key Statistics: First Line Supervisors of Production and Operating Workers

2015 Manufacturing Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
1,033	$23.94	42	27	52%	23%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- First Line Supervisors of Production and Operation Workers is one of the largest Production Occupation groups in the Manufacturing industry, with over 1,000 jobs. The occupation is projected to grow by 17% over the next 10 years, adding over 170 jobs.
- Over the next 10 years, this occupational group is expected to have over 40 openings annually, with most of those openings in the Manufacturing industry. Openings are expected to be created equally from new and replacement demand.
- 23% of workers in this occupational group are aged 55 and older. While this may present an opportunity for new workers to enter the field, employers may face a challenge replacing retirees with equally skilled and experienced new workers.
- With median wages of nearly $24 per hour, this occupational group has higher wages than Spokane Area overall and has one of the highest median wages of all Production occupations.
- According to the BLS, a postsecondary non-degree award is typically required to enter this occupation, however, nationally, over half of workers in this industry have some kind of postsecondary degree, one of the highest portions of degreed workers in the Production Occupations group.
- In the Spokane Area, there are nearly 140 completions annually at Washington State University in the Operations Management and Supervision program, which is associated with this occupation. However, several other occupations are also associated with this program, some of which have higher wages than those offered by the First Line Supervisors occupation. For this reason, just 27 of the 137 related completions are assumed to enter this occupation, for a Completions-to-Openings ratio of 0.65. This means that for every 10 openings, there are 6.5 workers graduating with a related degree. However, some employers may accept applicants without formal credentials for these positions.

Machinists

Definition: Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures. (Source: O*NET)

Typical Job Titles: Gear Machinist, Journeyman Machinist, Machine Operator, Machine Repair Person, Machinist, Maintenance Machinist, Maintenance Specialist, Production Machinist, Set-Up Machinist, Tool Room Machinist (Source: O*NET)

Key Statistics: Machinists

2015 Manufacturing Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
799	$17.09	55	21	43%	25%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Machinists occupational group is the third largest in the Manufacturing industry, representing nearly 800 jobs in 2015. The occupational group is expected to grow by nearly 250 jobs over the next ten years, an increase of over 30%. This is the second largest increase in jobs of all Manufacturing occupations.
- Over the next ten years, the Machinist occupational group is expected to have over 50 openings annually, with most of those openings in the Manufacturing industry. Job openings in this occupation are created almost evenly by new demand and replacement demand.
- A quarter of workers in this industry group are age 55 and older. These workers may be planning to retire over the next decade, resulting in a large number of vacancies in the occupation that employers may struggle to fill.
- Median wages for this occupation are over $17 per hour, $2 below the median wage for all Spokane Area workers but higher than the median for occupations that typically require less than a 2 year degree.
- According to the BLS, the Machinist occupation typically requires a high school diploma to enter the field and long-term on-the-job training. However, nationally, 43% of workers in the Machinist occupation have some postsecondary education.
- In 2014, there were nearly 40 certificates awarded in the Machine Tool Technology/Machinist course at Spokane Community College and North Idaho College. As graduates of this program may go into multiple occupations, 21 of these graduates are assumed to enter the Machinist occupation, leading to a Completions-to-Openings Ratio of 0.37, or nearly 4 graduates for every 10 openings. However, some employers may be hiring workers qualified for this occupation through work experience or on-the-job training and may not require a specialized credential.

Inspectors, Testers, Sorters, Samplers, and Weighers

Definition: Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment. (Source: O*NET)

Typical Job Titles: Inspector, Picker / Packer, Quality Assurance Auditor, Quality Assurance Inspector, Quality Assurance Technician, Quality Auditor, Quality Control Inspector, Quality Control Technician, Quality Inspector, Quality Technician (Source: O*NET)

Key Statistics: Inspectors, Testers, Sorters, Samplers, and Weighers

2015 Manufacturing Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
479	$19.03	37	0	54%	25%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- In 2015, the Inspectors, Testers, Sorters, Samplers, and Weighers occupation accounts for nearly 500 jobs in the Manufacturing industry and over 700 jobs overall in the Spokane Area. The number of jobs in this occupation is expected to grow by over 30% over the next 10 years in the Manufacturing industry alone, increasing by 150 jobs.
- Over the next 10 years, nearly 40 openings are expected in this occupation annually, with approximately 27 in the Manufacturing industry. Of these openings, 55% are being created by new demand and 45% by replacement demand.
- This occupational group may experience a wave of retirements over the next 10 years. In 2015, 1 in 4 workers in this occupational group were aged 55 and older.
- Median hourly earnings are $19 for this occupation. This is similar to the overall median hourly wage for all jobs in the Spokane Area and nearly $4 higher than the median for occupations that typically require a postsecondary non-degree award or less.
- According to the BLS, this occupation typically requires only a high school diploma, however, over half of workers in this field nationally have some postsecondary education. At this point, there are no programs in the Spokane Area producing graduates related to this occupation. However, some employers may be hiring workers qualified for this occupation through work experience or on-the-job training and may not require a specialized credential.

Industrial Machinery Mechanics

Definition: Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. (Source: O*NET)

Typical Job Titles: Fixer, Industrial Machinery Mechanic, Industrial Mechanic, Loom Fixer, Machine Adjuster, Maintenance Mechanic, Maintenance Technician, Master Mechanic, Mechanic, Overhauler (Source: O*NET)

Key Statistics: Industrial Machinery Mechanics

2015 Manufacturing Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
463	$21.70	58	7	48%	26%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Industrial Machinery Mechanics occupation includes nearly 900 jobs in the Spokane Area, including over 460 jobs in the Manufacturing industry. In the Manufacturing industry alone, the occupation is expected to increase by over 130 jobs, growing by 29%.
- Nearly 60 openings in this occupation are expected annually over the coming years; approximately 29 of which are estimated to be in the Manufacturing industry. Of these openings, 54% are being created by replacement demand.
- The median wage for this occupation is $21.70, over $2 more than the region's overall median wage and significantly higher than the median wage for jobs that typically require a postsecondary non-degree award or less.
- Over a quarter of workers in the Industrial Machinery Mechanics occupational group are age 55 or older. These workers may be planning to retire over the next decade, resulting in vacancies in the occupation.
- According to the BLS, the Industrial Machinery Mechanics occupation typically requires a high school diploma. However, nearly half of workers in the occupation have some postsecondary education.
- In the Spokane Area, 14 degrees are awarded annually in the Industrial Mechanics and Maintenance Technology program at North Idaho College and Spokane Community College, a program related to this occupation. Due to competition for these graduates, 7 could be allocated to the Industrial Machinery Mechanics occupation, for a Completions-to-Openings ratio of 0.12. This means that for every 10 openings, there is 1 worker graduating with a related degree. However, some employers may accept applicants without formal credentials for these positions.

Computer-Controlled Machine Tool Operators, Metal and Plastic

Definition: Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

Typical Job Titles: Brake Press Operator; Computer Numerical Control Lathe Operator (CNC Lathe Operator); Computer Numerical Control Machine Operator (CNC Machine Operator); Computer Numerical Control Machinist (CNC Machinist); Computer Numerical Control Mill Operator (CNC Mill Operator); Computer Numerical Control Operator (CNC Operator); Computer Numerical Control Set-Up and Operator (CNC Set-Up and Operator); Machine Operator; Machine Set-Up, Operator; Machinist

Key Statistics: Computer-Controlled Machine Tool Operators, Metal and Plastic

2015 Manufacturing Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
352	$18.16	27	0	51%	17%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- In 2015, the Computer-Controlled Machine Tool Operators occupation group accounted for over 350 jobs in the Manufacturing industry. This number is expected to increase by over 140 jobs by 2025, an increase of 40%. This is one of the highest rates of growth in the Manufacturing industry.
- Over the next 10 years, nearly 30 openings are expected in this occupation annually, with 54% of these openings created by new demand.
- Relative to other Manufacturing occupational groups, the Computer-Controlled Machine Tool Operators (Metal and Plastic) occupational group is relatively young. Just 17% of workers in this field are nearing retirement.
- Median hourly earnings in this occupation are over $18. This is slightly below the overall median hourly earnings for the Spokane Area but approximately $3 higher than the median for jobs that typically require a postsecondary non-degree award or less.
- According to the BLS, this occupation typically requires only a high school diploma. However, over half of workers in this occupation nationally have some postsecondary education. At this point, there are no programs in the Spokane Area producing graduates related to this occupation but employers may accept applicants without formal credentials for these positions.

Manufacturing Occupation Overview

Selection Criteria for Occupations Included:

- At least 100 jobs in the Manufacturing industry
- At least 5 openings annually
- Employment growth projected over the next 10 years

Data Included:

- 2015 Jobs
- Percent of Jobs in the Manufacturing Industry
- 2015 to 2025 Change (absolute change and percent change)
- Median Hourly Earnings

Key Findings:

- The largest Manufacturing Production occupation is Team Assemblers. This occupational group accounts for over 1,600 jobs in the Manufacturing industry. The occupational group is expected to add over 250 jobs over the next 10 years, a 15% increase in employment.
- The second largest occupational group is First Line Supervisors of Production and Operating Workers and is expected to add over 170 jobs by 2025, increasing by 17%. This occupation also has the median hourly wages of nearly $24, the second highest of Production Occupations analyzed.
- Computer-Controlled Machine Tool Operators are projected to have one of the highest rates of growth over the next 10 years, increasing by over 140 jobs, or 40%. This occupational group is closely associated with advanced manufacturing and shifts to automated manufacturing practices.

Production Occupations

Overview: Manufacturing Production Occupations

SOC	Description	2015 Mfg. Jobs	% of Jobs in Manufacturing Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
51-1011	**First-Line Supervisors of Production and Operating Workers**	**1,033**	**73%**	**171**	**17%**	**$23.94**
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	166	87%	32	19%	$26.53
51-2021	Coil Winders, Tapers, and Finishers	140	100%	57	41%	$16.92
51-2022	**Electrical and Electronic Equipment Assemblers**	**535**	**92%**	**151**	**28%**	**$14.09**
51-2041	Structural Metal Fabricators and Fitters	138	79%	53	38%	$17.44
51-2092	**Team Assemblers**	**1,666**	**76%**	**254**	**15%**	**$13.50**
51-2099	Assemblers and Fabricators, All Other	150	49%	36	24%	$11.21
51-4011	**Computer-Controlled Machine Tool Operators, Metal and Plastic**	**352**	**98%**	**141**	**40%**	**$18.16**
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	563	89%	43	8%	$14.10
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	253	98%	26	10%	$15.63
51-4041	**Machinists**	**799**	**82%**	**245**	**31%**	**$17.09**
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	290	97%	26	9%	$16.33
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	222	96%	25	11%	$17.65
51-4121	**Welders, Cutters, Solderers, and Brazers**	**568**	**61%**	**151**	**27%**	**$17.46**
51-6031	Sewing Machine Operators	251	77%	36	14%	$10.98
51-7011	Cabinetmakers and Bench Carpenters	394	94%	60	15%	$16.14
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	218	93%	34	15%	$13.85
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	119	67%	17	14%	$17.90
51-9061	**Inspectors, Testers, Sorters, Samplers, and Weighers**	**479**	**68%**	**150**	**31%**	**$19.03**
51-9111	Packaging and Filling Machine Operators and Tenders	309	64%	50	16%	$12.27
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	365	94%	57	15%	$14.53
51-9198	Helpers--Production Workers	338	73%	91	27%	$11.56
51-9199	Production Workers, All Other	146	55%	34	23%	$13.78

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the Manufacturing industry

Installation, Maintenance, and Repair Operations

Overview: Installation, Maintenance, and Repair Occupations

SOC	Description	2015 Mfg. Jobs	% of Jobs in Manufacturing Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	110	10%	18	16%	$29.34
49-9041	Industrial Machinery Mechanics	463	51%	133	29%	$21.70
49-9071	Maintenance and Repair Workers, General	390	11%	72	18%	$17.47

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Architecture & Engineering Occupations

Overview: Architecture & Engineering Occupations

SOC	Description	2015 Mfg. Jobs	% of Jobs in Manufacturing Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
17-2071	Electrical Engineers	204	50%	55	27%	$42.72
17-2112	Industrial Engineers	243	79%	75	31%	$33.60
17-2141	Mechanical Engineers	287	56%	72	25%	$34.27
17-3023	Electrical and Electronics Engineering Technicians	128	44%	29	23%	$30.56

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Management and Business & Financial Operations Occupations

Overview: Management and Business & Financial Operations Occupations

SOC	Description	2015 Mfg. Jobs	% of Jobs in Manufacturing Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
11-3051	Industrial Production Managers	229	85%	53	23%	$34.62
11-9041	Architectural and Engineering Managers	108	42%	29	26%	$54.91
11-1021	General and Operations Managers	423	10%	90	21%	$38.12
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	230	35%	39	17%	$24.20
13-2011	Accountants and Auditors	150	6%	32	21%	$27.33

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Annual Openings

Selection Criteria for Occupations Included:

- At least 100 jobs in the Manufacturing industry
- At least 5 openings annually
- Employment growth projected over the next 10 years

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Estimated Annual Openings (Manufacturing): of the annual openings, the number estimated to be in the Manufacturing industry. The number of openings is only provided for an occupation, but not the portion of the occupation in a certain industry. To estimate the number of openings specifically in the Manufacturing industry, Camoin Associates assessed the number of new jobs expected in the Manufacturing industry over the next 10 years and the portion of Manufacturing jobs in the occupation overall.
- New Demand: job openings in an occupation created by new jobs being added to an occupation/industry
- Replacement Demand: jobs openings in an occupation created by workers retiring or other turnover

Production Occupations

Projected Annual Openings: Manufacturing Production Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (Manufacturing)	Estimated % New Demand	% Replacement Demand
51-1011	**First-Line Supervisors of Production and Operating Workers**	**42**	**33**	**51%**	**49%**
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	7	6	52%	48%
51-2021	Coil Winders, Tapers, and Finishers	8	8	74%	26%
51-2022	**Electrical and Electronic Equipment Assemblers**	**26**	**24**	**62%**	**38%**
51-2041	Structural Metal Fabricators and Fitters	15	12	44%	56%
51-2092	**Team Assemblers**	**72**	**56**	**46%**	**54%**
51-2099	Assemblers and Fabricators, All Other	14	7	56%	44%
51-4011	**Computer-Controlled Machine Tool Operators, Metal and Plastic**	**27**	**26**	**54%**	**46%**
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	11	9	45%	55%
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	9	9	30%	70%
51-4041	**Machinists**	**55**	**46**	**53%**	**47%**
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	7	6	41%	59%
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	7	7	36%	64%
51-4121	**Welders, Cutters, Solderers, and Brazers**	**48**	**31**	**49%**	**51%**
51-6031	Sewing Machine Operators	7	7	55%	45%
51-7011	Cabinetmakers and Bench Carpenters	14	13	46%	54%
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	6	6	57%	43%
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	9	6	27%	73%
51-9061	**Inspectors, Testers, Sorters, Samplers, and Weighers**	**37**	**27**	**55%**	**45%**
51-9111	Packaging and Filling Machine Operators and Tenders	20	13	39%	61%
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	14	13	43%	57%
51-9198	Helpers--Production Workers	22	16	58%	42%
51-9199	Production Workers, All Other	14	8	43%	57%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of Manufacturing Annual Openings

Installation, Maintenance, and Repair Operations

Projected Annual Openings: Installation, Maintenance, and Repair Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (Manufacturing)	% New Demand	% Replacement Demand
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	44	5	36%	64%
49-9041	Industrial Machinery Mechanics	58	29	46%	54%
49-9071	Maintenance and Repair Workers, General	112	15	47%	53%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Architecture & Engineering Occupations

Projected Annual Openings: Architecture & Engineering Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (Manufacturing)	% New Demand	% Replacement Demand
17-2071	Electrical Engineers	19	11	52%	48%
17-2112	Industrial Engineers	20	16	47%	53%
17-2141	Mechanical Engineers	31	18	39%	61%
17-3023	Electrical and Electronics Engineering Technicians	11	6	50%	50%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Management and Business & Financial Operations Occupations

Projected Annual Openings: Management and Business & Financial Operations Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (Manufacturing)	% New Demand	% Replacement Demand
11-3051	Industrial Production Managers	12	10	53%	47%
11-9041	Architectural and Engineering Managers	13	6	49%	51%
11-1021	General and Operations Managers	149	18	51%	49%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	20	8	47%	53%
13-2011	Accountants and Auditors	120	8	39%	61%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Labor Supply and Demand Analysis

Selection Criteria for Occupations Included:

- At least 100 jobs in the Manufacturing industry
- At least 5 openings annually
- Employment growth projected over the next 10 years

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Annual Related Completions: represents all degrees awarded in educational programs that could funnel workers into the occupation
- Completions Allocated to Occupation: as most educational programs prepare graduates for multiple occupations, this statistic assesses the number of graduates that would be expected to enter a specific occupational field, based on the amount of competition for those graduates from other occupational groups.
- Completions to Openings Ratio: compares the number of "completions allocated to occupation" to the number of annual openings. A ratio of 1 would signify that there are exactly the same number of graduates as openings. If the ratio is less than 1, there are fewer educational awards than the number of annual openings while a ratio greater than 1 would mean there are more educational awards than openings.
- Typical Level of Education Required: determined by the Bureau of Labor Statistics (BLS), this represents the level of education typically required nationally to enter an occupational field. This may vary widely based on the industry and location.
- Percent of Workers with Postsecondary Education: determined by the Bureau of Labor Statistics, this number represents the proportion of workers in the occupational group that have some college, a postsecondary non-degree award, an Associate's degree, Bachelor's degree, or more advanced level of education.

Key Findings:

- While many production occupations do not have degrees being awarded in related programs, it is possible that employers do not require a formal educational credential or prefer work experience or on-the-job training to train employees.
- However, in some Production Occupations, nearly half of workers have some postsecondary education nationally, which many signify that employers are more and more frequently requiring advanced education to qualify for these positions and new programs may need to be developed in the Spokane Area to keep up with this demand.
- For non-Production Occupations, there are typically a much higher number of educational awards than openings in the Spokane Area. This is largely due to the higher educational requirements of these occupations (typically a Bachelor's degree or higher) and the presence of large, four year universities in the region. However, many of the graduates of these institutions may be planning to leave the region after graduation and therefore, may not be filling local openings.

Production Occupations

Labor Supply and Demand Analysis: Manufacturing Production Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education
51-1011	First-Line Supervisors of Production and Operating Workers	42	137	27	0.65	Postsecondary non-degree award	52%
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	7	0	0	0.00	High school diploma or equivalent	50%
51-2021	Coil Winders, Tapers, and Finishers	8	0	0	0.00	High school diploma or equivalent	37%
51-2022	Electrical and Electronic Equipment Assemblers	26	0	0	0.00	High school diploma or equivalent	37%
51-2041	Structural Metal Fabricators and Fitters	15	0	0	0.00	High school diploma or equivalent	38%
51-2092	Team Assemblers	72	0	0	0.00	High school diploma or equivalent	35%
51-2099	Assemblers and Fabricators, All Other	14	0	0	0.00	High school diploma or equivalent	35%
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	27	0	0	0.00	High school diploma or equivalent	51%
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	11	39	4	0.37	High school diploma or equivalent	28%
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	9	39	3	0.37	High school diploma or equivalent	28%
51-4041	Machinists	55	39	21	0.37	High school diploma or equivalent	43%
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	7	0	0	0.00	High school diploma or equivalent	33%
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	7	39	3	0.37	High school diploma or equivalent	30%
51-4121	Welders, Cutters, Solderers, and Brazers	48	64	55	1.16	High school diploma or equivalent	31%
51-6031	Sewing Machine Operators	7	51	14	1.90	Less than high school	20%
51-7011	Cabinetmakers and Bench Carpenters	14	0	0	0.00	High school diploma or equivalent	33%
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	6	0	0	0.00	High school diploma or equivalent	27%
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	9	0	0	0.00	High school diploma or equivalent	58%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	37	0	0	0.00	High school diploma or equivalent	54%
51-9111	Packaging and Filling Machine Operators and Tenders	20	0	0	0.00	High school diploma or equivalent	23%
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	14	0	0	0.00	High school diploma or equivalent	31%
51-9198	Helpers--Production Workers	22	0	0	0.00	Less than high school	28%
51-9199	Production Workers, All Other	14	0	0	0.00	High school diploma or equivalent	33%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Installation, Maintenance, and Repair Operations

Labor Supply and Demand Analysis: Installation, Maintenance, and Repair Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	44	137	29	0.65	High school diploma or equivalent	58%
49-9041	Industrial Machinery Mechanics	58	14	7	0.12	High school diploma or equivalent	48%
49-9071	Maintenance and Repair Workers, General	112	0	0	0.00	High school diploma or equivalent	45%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Architecture & Engineering Occupations

Labor Supply and Demand Analysis: Architecture & Engineering Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education
17-2071	Electrical Engineers	19	178	84	4.56	Bachelor's degree	97%
17-2112	Industrial Engineers	20	7	4	0.22	Bachelor's degree	94%
17-2141	Mechanical Engineers	31	338	118	3.83	Bachelor's degree	96%
17-3023	Electrical and Electronics Engineering Technicians	11	41	41	3.76	Associate's degree	73%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Management and Business & Financial Operations Occupations

Labor Supply and Demand Analysis: Management and Business & Financial Operations Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education
11-3051	Industrial Production Managers	12	921	28	2.47	Bachelor's degree	78%
11-9041	Architectural and Engineering Managers	13	945	314	25.16	Bachelor's degree	96%
11-1021	General and Operations Managers	149	907	360	2.42	Bachelor's degree	83%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	20	0	0	0.00	High school diploma or equivalent	80%
13-2011	Accountants and Auditors	120	420	372	3.10	Bachelor's degree	96%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

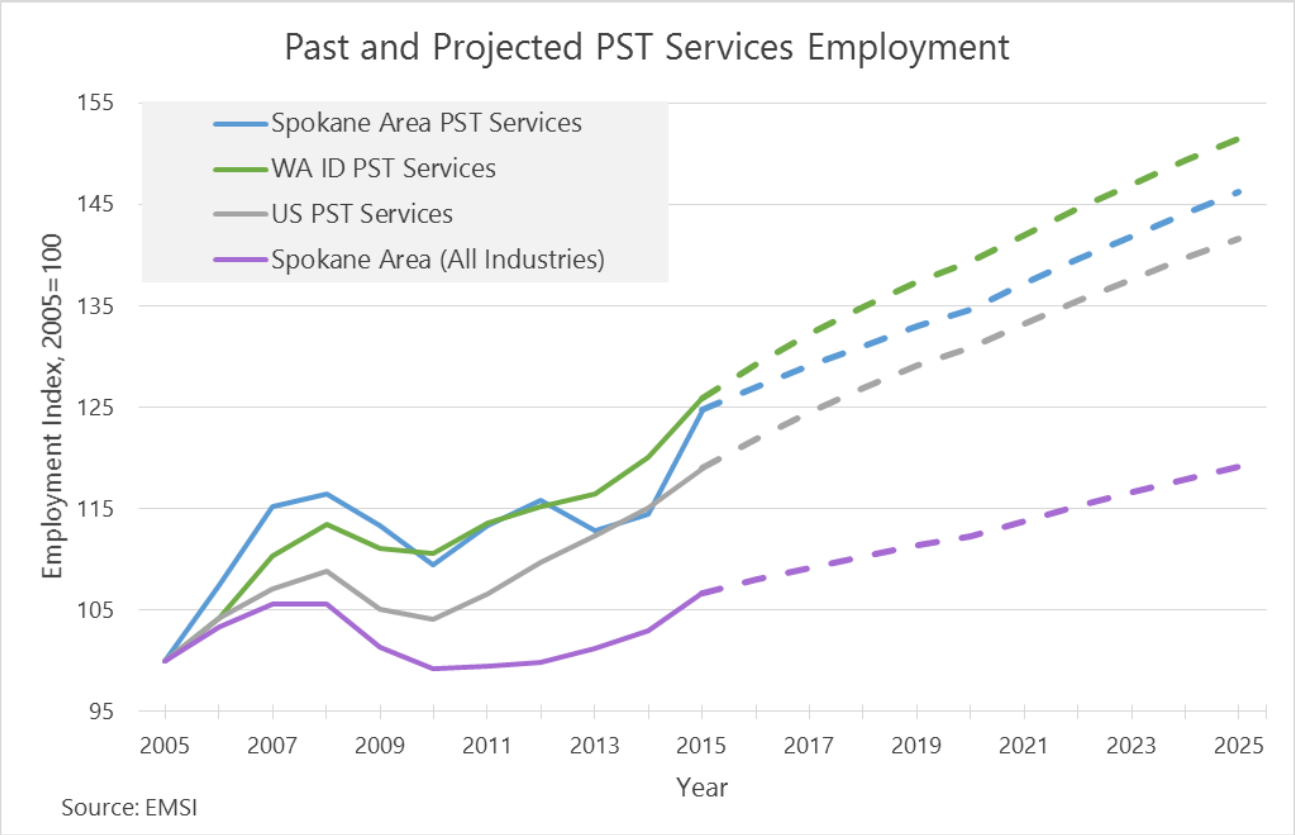
Professional, Scientific, and Technical Services Industry Workforce Roadmap

Past and Projected Changes in Employment

In the chart below, past and projected changes in the Professional, Scientific, and Technical (PST) Services industry were analyzed and compared to the Washington and Idaho States and the nation. Changes in the PST Services industry were also compared to employment trends in the Spokane Area economy overall.

Key Findings:

- Between 2005 and 2015, employment in the PST Services industry grew more rapidly than employment in the Spokane Area economy overall. This rapid growth is expected to continue over the next 10 years, with the PST Services industry increasing employment by 17% while overall regional employment grows by 12%.
- Pre-recession employment peaked in 2008, with over 14,880 jobs in the PST Services industry. By 2010, the industry reached its employment low of just under 14,000 workers, a decline of 6% from 2008. Since 2010, employment has recovered rapidly, although not steadily. By 2015, employment in the Spokane Area PST Services industry exceeded the pre-recession peak by over 1,000 jobs.
- During the recent recession, employment in the PST Services industry in the Spokane Area declined more steeply and had a less consistent recovery than the industry in the US and Washington and Idaho States. Overall, the PST Services industry in the Spokane Area outpaced industry growth in the US and slightly lagged growth in Washington and Idaho States between 2005 and 2015.
- Between 2015 and 2025, the industry is expected to continue to grow at a high rate in the three geographies. In the Spokane Area, the industry is projected to add over 3,000 jobs, expanding employment by 17%. This growth rate is slightly lower than projected growth in Washington and Idaho States and the nation.



Industry Overview

Key findings about the Professional, Scientific, and Technical (PST) Services industry are below. A detailed table presenting key data about the industry in the Spokane Area is on the following page.

- In 2015, employment in the PST Services industry reached nearly 16,000 jobs. This accounted for 4.5% of all employment in the Spokane Area.
- The PST Services industry in the region has a broad base of employment. The largest sector, Computer Systems Design and Related Services, accounts for nearly 2,900 jobs, or 18% of industry employment.
- The PST Services sectors with the highest 2015 employment were the Computer Systems Design and Related; Accounting, Tax Preparation, Bookkeeping, and Payroll; Architectural, Engineering, and Related; Legal; and Management, Scientific, and Technical Consulting Services sectors. Employment in these sectors ranged from 2,880 to 2,000 jobs.

Earnings per Worker

- Average earnings per worker in the PST Services industry is 20% higher than the overall average in the Spokane Area.
- Average earnings per PST Services worker are nearly 38% lower in the Spokane Area than in the nation overall. The average earnings per worker in the Spokane Area are 32% lower than earnings in Washington and Idaho States.
- At $85,000, the Computer Systems Design and Related Services sector has the highest average earnings per worker, 47% higher than the average earnings for the PST Services industry overall. This is also the largest sector in the PST Services industry.
- Conversely, the Specialized Design Services sector has average earnings per worker of $19,000, the lowest average earnings in the industry. This sector represents 2% of PST Services employment.

Location Quotient (LQ)

- With a location quotient of 0.72, employment in the industry is over 25% less concentrated in the Spokane Area than in the US overall. In Washington and Idaho States, employment in the PST Services industry is nearly as concentrated as employment in the nation.
- The Other Professional, Scientific, and Technical Services sector has a location quotient of 1.08, the highest PST Services location quotient in the Spokane Area. The second most concentrated industry is the Accounting, Tax Preparation, Bookkeeping, and Payroll Services. This is also the second largest sector in the industry.

Gross Regional Product (GRP)

- Overall, the PST Services industry contributes over $1.1 billion to the Gross Regional Product of the Spokane Area. This represents about 4% of the total GRP for the Spokane Area. The average GRP per job in the PST Services industry is just over $70,000.
- The Computer Systems Design and Related Service sector contributes over $235 million to the region's GRP, 21% of the total PST Services industry GRP. The sector is also the largest PST Services sector in the region.
- At $89,000, the Legal Services industry has the highest GRP per worker. This is over 25% higher than the overall average GRP per worker for the PST Services industry.

Professional, Scientific, & Technical Services Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
5411	**Legal Services**	**2,141**	**$57,314**	**0.71**	**13%**	**$191,066,425**
5412	**Accounting, Tax Preparation, Bookkeeping, and Payroll Services**	**2,765**	**$52,569**	**1.05**	**17%**	**$159,918,407**
5413	**Architectural, Engineering, and Related Services**	**2,630**	**$65,964**	**0.77**	**16%**	**$180,894,120**
5414	Specialized Design Services	393	$18,944	0.67	2%	$12,536,914
5415	**Computer Systems Design and Related Services**	**2,883**	**$85,081**	**0.63**	**18%**	**$235,117,312**
5416	**Management, Scientific, and Technical Consulting Services**	**2,024**	**$52,394**	**0.57**	**13%**	**$125,025,680**
5417	Scientific Research and Development Services	119	$70,549	0.08	1%	$9,746,985
5418	Advertising, Public Relations, and Related Services	1,090	$55,575	0.87	7%	$93,142,100
5419	Other Professional, Scientific, and Technical Services	1,896	$27,751	1.08	12%	$112,195,439
54	Total (All PST Services)	15,941	$57,834	0.72	100%	$1,119,643,380

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 largest industries

For industries with fewer than 10 workers, analyst assumes 5 workers

Historic Change in Employment (2005 to 2015)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis are below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with the highest employment growth between 2005 and 2015.

PST Services Industry Historic Change

	Spokane Area	WA and ID States	United States
2005-2015 Change In Employment	24.8%	25.9%	19.0%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Key Findings:

- The PST Services industry grew rapidly between 2005 and 2015, adding over 3,100 jobs, an increase of nearly 25%. This the third highest rate of growth of all industries in the Spokane Area.
- The PST Services sectors that added the most jobs between 2005 and 2015 were Computer Systems Design and Related; Management, Scientific, and Technical Consulting; Accounting, Tax Preparation, Bookkeeping, and Payroll; Architectural, Engineering, and Related; Other Professional, Scientific, and Technical Services sectors. These sectors added between 1,060 jobs and 195 jobs over this period.
- The PST Services sectors that shed jobs between 2005 and 2015 were Advertising, Public Relations, and Related; Legal; and Scientific Research and Development Services sectors. While the Scientific Research and Development Services industry lost a significant number of jobs between 2005 and 2011, declining from 143 to 85 jobs, it started recovering some of those losses in 2012.
- In absolute terms, Computer Systems Design and Related Services experienced the most growth, adding over 1,000 jobs, a 58% increase in employment. By 2015, this sector was the largest in the PST Services industry, accounting for nearly 2,900 jobs, or 18% of PST Services employment. This sector also has the highest earnings per worker in the PST Services industry.
- The Management, Scientific, and Technical Consulting Services sector grew at the fastest rate, adding over 1,000 jobs between 2005 and 2015, doubling employment in the sector. Despite this growth, employment in the sector is still only 57% as concentrated in the Spokane Area as in the US overall.
- The Accounting, Tax Preparation, Bookkeeping and Payroll Services sector also grew substantially between 2005 and 2015, adding over 600 jobs, an increase of 30%. This is the second largest PST Services sector, with employment slightly more concentrated than employment in the US overall.

Professional, Scientific, & Technical Services Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
5411	Legal Services	2,195	2,252	2,141	-53	-2%
5412	**Accounting, Tax Preparation, Bookkeeping, and Payroll Services**	**2,127**	**2,549**	**2,765**	**638**	**30%**
5413	**Architectural, Engineering, and Related Services**	**2,136**	**2,340**	**2,630**	**494**	**23%**
5414	Specialized Design Services	347	294	393	46	13%
5415	**Computer Systems Design and Related Services**	**1,823**	**2,196**	**2,883**	**1,060**	**58%**
5416	**Management, Scientific, and Technical Consulting Services**	**994**	**1,218**	**2,024**	**1,031**	**104%**
5417	Scientific Research and Development Services	143	101	119	-24	-17%
5418	Advertising, Public Relations, and Related Services	1,313	1,139	1,090	-223	-17%
5419	**Other Professional, Scientific, and Technical Services**	**1,700**	**1,895**	**1,896**	**195**	**11%**
54	Total (All PST Services)	12,777	13,985	15,941	3,164	25%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 industries with highest historic employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Projected Change in Employment (2015 to 2021)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis are below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with the highest projected employment growth between 2015 and 2021.

PST Services Industry Projected Change

	Spokane Area	WA and ID States	United States
2015-2021 Change In Employment	10.0%	12.8%	12.0%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

- Overall, employment in the PST Services industry is projected to grow by 10%, adding nearly 1,600 jobs between 2015 and 2021. Employment growth in the Spokane Area is expected to lag growth in Washington and Idaho States and the US slightly. Growth in the PST Services industry is projected to outpace employment growth in the Spokane Area economy overall.
- The Computer Systems Design and Related; Management, Scientific, and Technical Consulting; Accounting, Tax Preparation, Bookkeeping, and Payroll; Architectural, Engineering, and Related; and Other Professional, Scientific, and Technical Services sectors are projected to add the most jobs between 2015 and 2021. Growth in these sectors is projected to range from 720 to 85 jobs.
- The Advertising, Public Relations and Related and Scientific Research and Development Services sector are the only PST Services sectors projected to lose jobs over by 2021. The Advertising, Public Relations, and Related Services sector is expected to shed 135 jobs while the Scientific Research and Development Services sector is projected to lose 21 jobs. These sectors also lost employment between 2005 and 2015.
- The Computer Systems Design and Related Services sector is projected to add the most jobs between 2015 and 2021, increasing employment by over 700 jobs, or 25%. This sector also added the most jobs between 2005 and 2015.
- The Management, Scientific, and Technical Consulting Services sector, which doubled employment between 2005 and 2015, is expected to continue to grow at a high rate. Between 2015 and 2021, the sector is projected to add nearly 500 more jobs, expanding employment by 24%.
- Employment growth in the Accounting, Tax Preparation, Bookkeeping, and Payroll Services sector is projected to continue, but at a lower rate than the growth experienced between 2005 and 2015. Between 2015 and 2021, the sector is expected to grow by over 200 jobs, expanding employment by 8%. Between 2005 and 2015, the sector added nearly 640 jobs, increasing employment by 30%.

Professional, Scientific, & Technical Services Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
5411	Legal Services	2,141	2,129	2,153	12	1%
5412	**Accounting, Tax Preparation, Bookkeeping, and Payroll Services**	**2,765**	**2,888**	**2,994**	**229**	**8%**
5413	**Architectural, Engineering, and Related Services**	**2,630**	**2,696**	**2,792**	**162**	**6%**
5414	Specialized Design Services	393	416	435	42	11%
5415	**Computer Systems Design and Related Services**	**2,883**	**3,286**	**3,604**	**721**	**25%**
5416	**Management, Scientific, and Technical Consulting Services**	**2,024**	**2,295**	**2,517**	**493**	**24%**
5417	Scientific Research and Development Services	119	103	98	-21	-18%
5418	Advertising, Public Relations, and Related Services	1,090	999	955	-135	-12%
5419	**Other Professional, Scientific, and Technical Services**	**1,896**	**1,935**	**1,982**	**86**	**5%**
54	Total (All PST Services)	15,941	16,746	17,531	1,590	10%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 industries with highest projected employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Competitiveness Analysis

Shift share analysis distinguishes an industry's employment growth in a specific area that is attributable to local competitive advantages from growth that is attributable to national employment trends or overall industry employment trends.

The shift share analysis helps to answer the question of "*Why is employment growing or declining in this industry*?" Is it simply related to the industry growing nationally or are we more competitive regionally? To do this, shift share analysis splits regional job growth into three components: the national growth effect, industrial mix effect, and regional competitive effect.

A shift share analysis is based on four factors:

- **The Industrial Mix Effect** – The industrial mix effect represents the share of regional industry growth explained by the growth of the specific industry at the national level. To arrive at this number, the national growth rate of the total economy is subtracted from the national growth rate of the specific industry, and this growth percentage is applied to the regional jobs in that industry.
- **The National Growth Effect** – The national growth effect explains how much of the regional industry's growth is explained by the overall growth of the national economy: if the nation's economy overall is growing, you would generally expect to see some positive change in each industry in your local region (the proverbial "rising tide that lifts all boats").
- **The Expected Change** – This is simply the rate of growth of the particular industry at the national level. The expected change is the sum of the industrial mix and the national growth effects.
- **The Regional Competitive Effect** – The regional competitive effect is the most vital in the shift share analysis. It explains how much of the change in a given industry is due to some unique competitive advantage that the region possesses, because the growth cannot be explained by national trends in that industry or the economy as whole. This effect is calculated by taking the total regional growth of the given industry and subtracting the national growth for that same industry. Note that this effect can be positive even as regional employment in the industry declines. This would indicate that regional decline is less than the national decline.

Key findings from the Competiveness Analysis are below. A detailed supporting table at the 4-digit NAICS code level is presented on the following page.

- Employment in the PST Services industry grew at a high rate in the US, outpacing overall employment growth in the nation between 2005 and 2015. Based on these national industry trends, the PST Services industry in the Spokane Area was expected to add 2,400 jobs. However, regionally, the industry added over added over 3,100 jobs, increasing employment by 25%. Of these 3,100 jobs, over 700 can be attributed to the competitiveness of the industry locally.
- The PST Services sectors with the highest competitive effect in the Spokane Area were Management, Scientific, and Technical Consulting; Architectural, Engineering, and Related; and Accounting, Tax Preparation, Bookkeeping and Payroll Services sectors.
- The sectors that were less competitive than the nation in terms of employment growth (meaning they either lost jobs at a higher rate or added jobs at a lower rate than would have been expected based on national industry trends) were Advertising, Public Relations, and Related; Other Professional, Scientific, and Technical; and Scientific Research and Development Services sectors.

Professional, Scientific, & Technical Services Industry Competitiveness Analysis (2005-2015), 4 Digit NAICS - Spokane Area

NAICS	Description	Ind. Mix Effect	Nat'l Growth Effect	Expected Change	Competitive Effect
5411	Legal Services	-208	110	-98	45
5412	**Accounting, Tax Preparation, Bookkeeping, and Payroll Services**	**187**	**107**	**294**	**345**
5413	**Architectural, Engineering, and Related Services**	**27**	**107**	**134**	**360**
5414	Specialized Design Services	-23	17	-6	52
5415	**Computer Systems Design and Related Services**	**807**	**91**	**898**	**162**
5416	**Management, Scientific, and Technical Consulting Services**	**406**	**50**	**456**	**575**
5417	Scientific Research and Development Services	11	7	18	-43
5418	Advertising, Public Relations, and Related Services	-39	66	27	-250
5419	Other Professional, Scientific, and Technical Services	356	85	441	-246
54	Total (All PST Services)	1,783	640	2,423	741

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

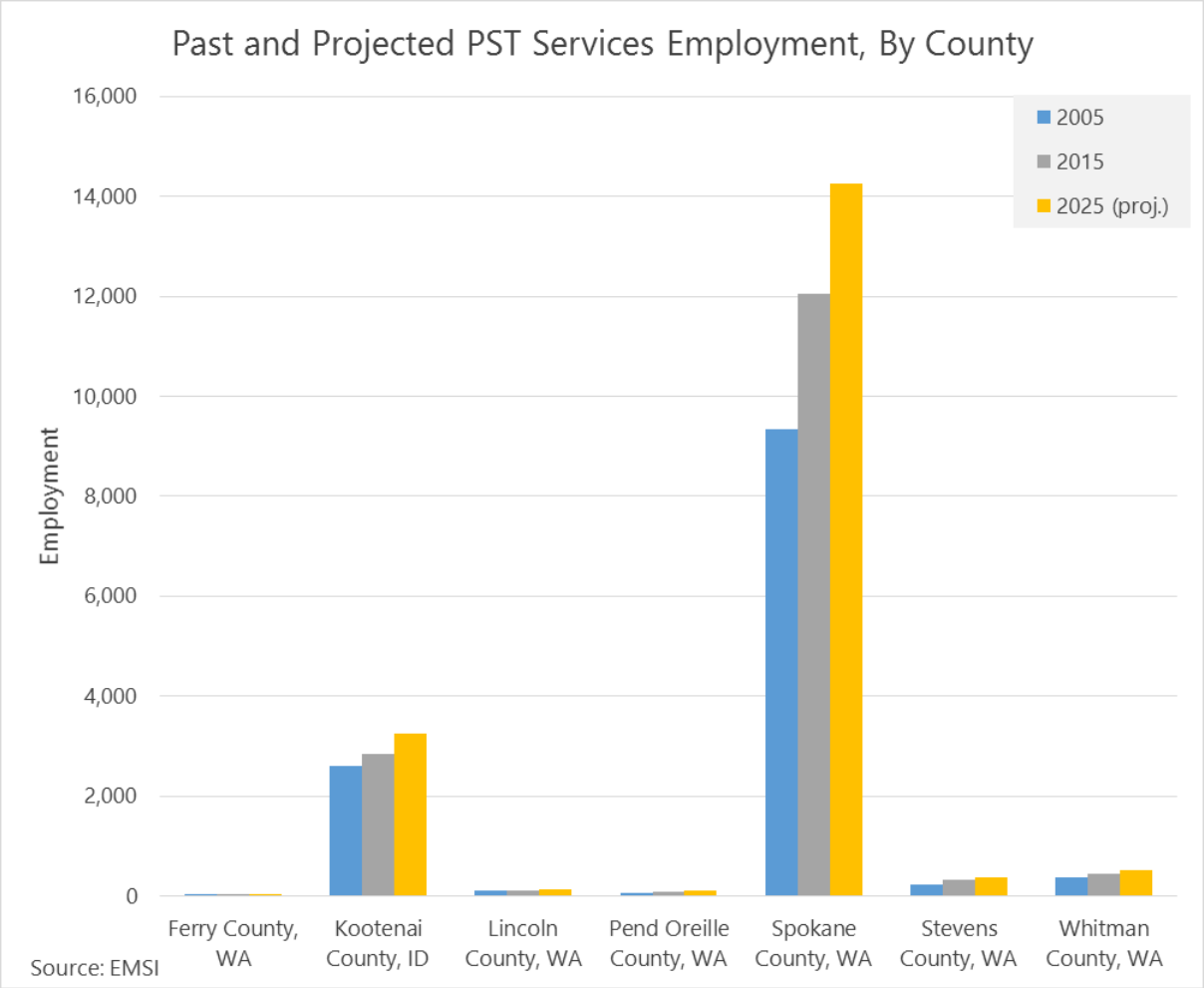
Bold designates industries with highest competitive effect

For industries with fewer than 10 workers, analyst assumes 5 workers

Employment by County

Employment in the Spokane Area varies by county. The chart below presents 2015 PST Services employment in each county as well as past and projected changes in employment. Key findings from this analysis are below.

- 75% of PST Services employment occurs in Spokane County, which accounts for over 12,000 PST Services jobs. Kootenai County has the second highest PST Services employment in the region, with 2,800 jobs, or nearly 18% of regional PST Services employment.
- Between 2005 and 2015, employment in the PST Services industry grew in all Spokane Area counties except Ferry County, where the industry contracted slightly. The industry is projected to add jobs in all 7 counties.
- The PST Services industry in Spokane County added the most jobs between 2005 and 2015, increasing employment by 2,700 jobs, or 29%. This growth is projected to continue through 2025, with nearly 2,200 more jobs expected to be added in the county.
- Pend Oreille County grew at the highest rate, increasing PST Services employment by 32 jobs, or 46%. The PST Services industry in the county is expected to add another 23 jobs by 2025.
- In Kootenai County, the industry is expected to grow at a higher rate between 2015 and 2025 than it did between 2005 and 2015, even as regional growth in the industry slows over this period.



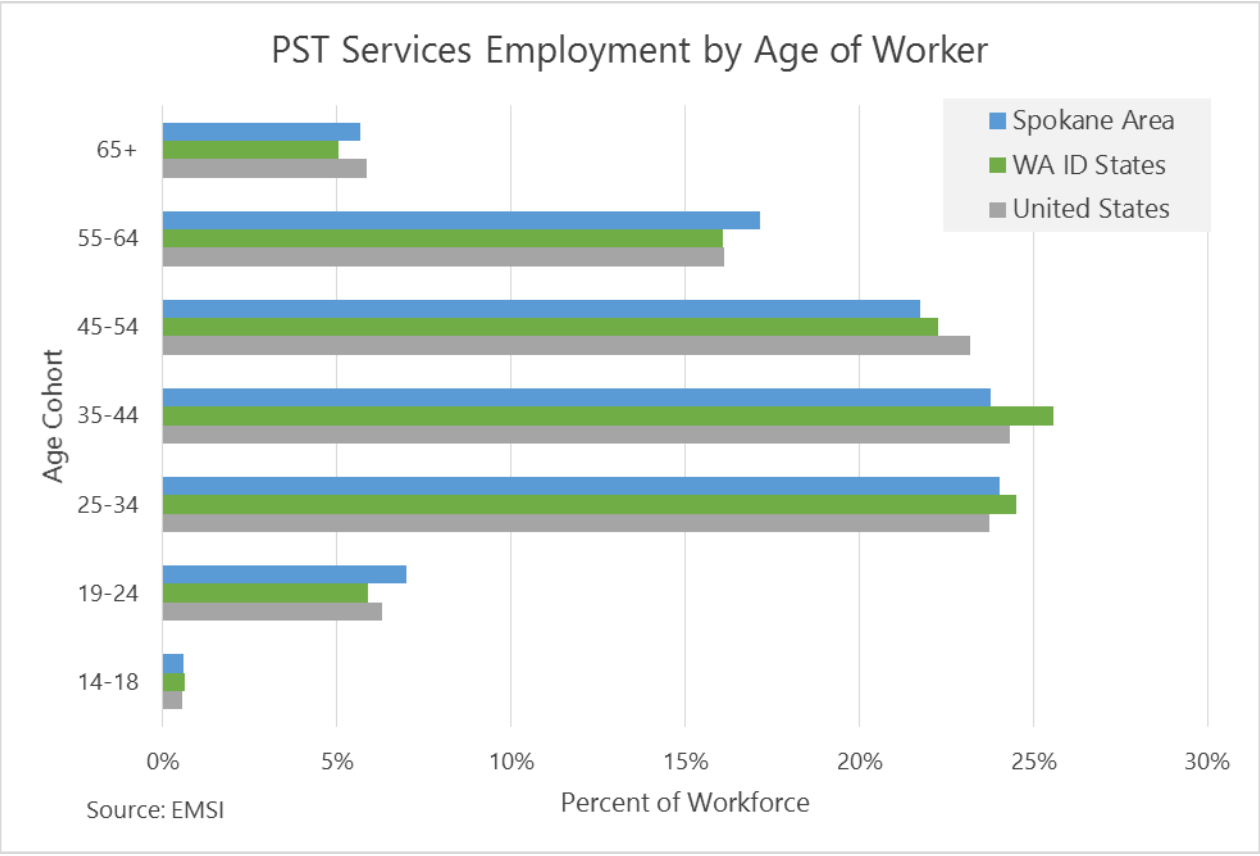
Source: EMSI

Employment by Age of Worker

The age of workers employed in an industry can factor significantly in demand for new workers. As older workers retire from the workforce, they will need to be replaced by younger workers with the skills and experience to meet employer needs. As the baby boomer generation retires from the workforce, finding the workers to fill vacant positions can present a challenge to employers.

The age of workers in the Spokane Area's PST Services industry was compared to the age of PST Services workers in Washington and Idaho States and the US. Key findings from this analysis are below.

- The PST Services industry is slightly more concentrated in the 65+ age cohort than the industry's workforce in Washington and Idaho states. In the 55-64 age cohort, the Spokane Area industry is more concentrated than both the states and nation. The regional industry has a smaller portion of workers in the 45-54 age cohort.
- The PST Services industry in the Spokane Area is also more concentrated in the 19-24 age cohort than employment in this industry nationally and Washington and Idaho states. The higher than average concentration in this age cohort may reflect employment of college or university students in this field.



Economic Impact

To understand the impact the PST Services industry has on the region's economy, the direct, indirect, and induced effects of the industry were analyzed.

Economic Impact, PST Services - Spokane Area

	Employment	Business Revenues	Labor Income
Direct Impact	20,342	$1,717,485,665	$949,314,453
Indirect Impact	3,212	$309,620,889	$111,221,210
Induced Impact	8,692	$843,693,071	$332,659,302
Total Impact	**32,246**	**$2,870,799,625**	**$1,393,194,965**

Source: EMSI 2015.3

*Includes "Extended Proprietor" jobs and income, which is not included in other portions of the industry analysis

Key Findings:

- For every job in the PST Services industry, another 0.59 jobs are created throughout the region.[3] The total employment impact of the PST Services industry is 32,200 jobs, including 20,000 direct jobs and nearly 12,000 indirect and induced jobs.
- For every direct dollar of business revenue generated in the PST Services industry, another 0.67 dollars are generated throughout the region's economy. The $1.7 billion of PST Services revenues generated in the Spokane Area grew to nearly $2.9 billion of business revenues as the funds circulated through the regional economy.
- For every $1 of direct labor, another 47 cents of earnings cycle through the economy. The nearly $950 million of PST Services labor income generates another $440 million of indirect and induced earnings, for a total earnings impact of nearly $1.4 billion in the Spokane Region.

Economic Multipliers, PST Services - Spokane Area

	Employment	Business Revenues	Labor Income	Total Jobs Per Million $ of Direct Revenues
Economic Multiplier	1.59	1.67	1.47	18.78

Source: EMSI 2015.3

Key Definitions:

- **Direct Impact:** represents employment, purchases, and earnings in the PST Services industry
- **Indirect Impact:** represents the economic impacts of suppliers to the PST Services industry in terms of employment, business revenues, and labor income. For example, in order to supply the PST Services

[3] Included in these job counts are self-employed workers, as well as extended proprietors for whom these jobs are not their primary source of income but still represent PST Services and other economic activity. This could include, for example, those who do freelance work on the side.

industry with a product, a business may have to hire workers, pay wages, and purchase inputs from other suppliers.

- **Induced Impact:** represents the economic impact of PST Services workers as they spend their earnings in the local economy
- **Economic Multiplier:** represents the total change per change in industry (job, dollar of earnings, dollar of business revenues). For example, an employment multiplier of 3 means that for every new job in an industry, an additional 2 jobs are created elsewhere in the economy.

Professional, Scientific, & Technical Services Occupations

Jobs in the PST Services industry are spread over a wide range of occupational groups, including Legal Occupations; Art, Design, Entertainment, and Sports Occupations; Architecture & Engineering Occupations; Management Occupations; Business and Financial Operations Occupations; Sales and Related Occupations; and Office and Administrative Occupations.

This report analyzes the occupations that make up the PST Services industry, including current and projected employment, the expected number of annual openings over the coming years, the educational requirements of the occupation, and the number of relevant degrees awarded in the region.

Key statistics about each occupational group are presented in the following sections:

- Key Occupations: an overview of 5 occupations that have a high number of openings and a high proportion of workers with some postsecondary education
- Overview: including the current and projected number of jobs in the PST Services industry and median hourly earnings for each occupation
- Projected Annual Openings: the number of annual openings in each occupation, broken down by new and replacement demand
- Labor Supply and Demand Analysis: the number of openings in each occupation are compared to the number of related program completions, to produce a "completions-to-openings" ratio, and the typical level of education required to enter the field

Sources:

Economic Modeling Specialists, Intl. (EMSI): current employment, projections, wages, openings, and completions data.

Bureau of Labor Statistics (BLS): typical entry-level education requirements (national) and the breakdown of occupations by level of education in 2012/2013 (national)

Management Analysts

Definition: Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants. (Source: O*NET)

Typical Job Titles: Administrative Analyst, Business Analyst, Employment Programs Analyst, Management Analyst, Program Management Analyst, Quality Control Analyst (Source: O*NET)

Key Statistics: Management Analysts

2015 PST Services Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
484	$31.87	34	103	95%	35%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed
*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Management Analysts occupational group is one of the fastest growing occupational groups in the PST Services industry. Since 2005, employment in the occupational group has increased by 20%, adding 80 jobs. This growth is expected to continue, with the occupation adding another 100 jobs over the next 10 years, an increase of 22%.
- Over the next 10 years, the Management Analysts occupational group is projected to have over 30 openings annually, of which nearly 20 are expected to be in the PST Services industry. Approximately 55% of these openings will be due to the employment growth in the occupational group, the remainder due to turnover and retirements.
- At $31.87, median hourly earnings in this occupational group are significantly higher than the overall median for all Spokane Area jobs. These wages are among the highest in the industry group.
- According to the BLS, a Bachelor's degree is typically required to enter this occupational group. This requirement is validated by the high portion of workers in this field nationally who have some postsecondary education, which accounts for 95% of Management Analysts. In 2012/2013, over 40% of Management Analysts had a Bachelor's degree, 28% had a Master's, and 7% had a doctoral or professional degree.
- In the Spokane Area, over a third of workers in this occupational group are aged 55 or older. Due to this high portion of workers nearing retirement age, there may be significant opportunities for new workers to enter this field, especially coupled with the relatively high rate of employment growth projected over the next 10 years. However, many workers enter this field after retirement and may, therefore, be willing to work past the traditional age of retirement.
- Over 1,000 degrees are awarded annually related to this occupational group in the Spokane Area. These degrees are primarily in the undergraduate and graduate Business Administration and Management programs and the Organizational Leadership graduate program. However, graduates with these credentials may enter a range of different occupational groups – resulting in just 100 of these completions being allocated to the Management Analysts occupation. This is still significantly higher than the number of annual openings in the occupation, however, some of these graduates may not pursue employment locally.

Accountants and Auditors

Definition: Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others. Install or advise on systems of recording costs or other financial and budgetary data. (Source: O*NET)

Typical Job Titles: Accountant, Accounting Manager, Accounting Officer, Accounting Supervisor, Business Analyst, Certified Public Accountant (CPA), Cost Accountant, Financial Reporting Accountant, General Accountant, Staff Accountant, Assurance Manager, Assurance Senior, Audit Manager, Audit Partner, Auditor, Auditor-in-Charge, Deputy for Audit, Financial Auditor, Internal Audit Director, Internal Auditor (Source: O*NET)

Key Statistics: Accountants and Auditors

2015 PST Services Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
1,031	$27.33	120	372	96%	24%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed
*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- Accountants and Auditors is the largest occupational group in the PST Services industry, representing over 1,000 jobs in 2015. This occupational group has grown rapidly over the past 10 years, adding over 200 jobs, an increase of 25%. This growth is projected to continue, expanding employment by another 18%, an increase of nearly 200 jobs. Approximately 57% of Accountant and Auditor jobs are outside of the PST Services industry, for a total regional employment of over 2,200 jobs.
- Due in part to the high rate of growth, the Accountants and Auditors occupational group is expected to have over 120 openings economy-wide, with over 50 of those expected to be in the PST Services industry. This is the highest number of annual openings in the industry. Despite rapid growth, employment demand is still driven by replacement demand, which accounts for 65% of openings.
- Median wages for this occupation are over $27 per hour, significantly higher than the median for the Spokane Area overall.
- According to the BLS, workers typically need a Bachelor's degree to enter the Accountants and Auditors occupation. This is validated by the high portion of workers nationally with a Bachelor's degree or higher, which accounted for 78% of Accountant and Auditor workers in 2012/2013.
- Workers over the age of 55 account for nearly a quarter of all workers in this field. These workers may be planning to retire over the next decade, creating additional opportunities for new workers to enter the field and a challenge for employers.
- Due to the number of 4-year colleges and universities in the Spokane Area, the region is producing a significant number of graduates with the credentials to enter the Accountants and Auditors occupational group. However, some of these graduates may leave the region to pursue opportunities elsewhere.

Software Developers, Applications

Definition: Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers. (Source: O*NET)

Typical Job Titles: Application Integration Engineer, Applications Developer, Business Systems Analyst, Computer Consultant, Programmer Analyst, Software Architect, Software Developer, Software Development Engineer, Software Engineer, Technical Consultant (Source: O*NET)

Key Statistics: Software Developers, Applications

2015 PST Services Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
356	$36.78	39	54	98%	11%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- In 2015, the Software Developers (Applications) occupational group accounted for over 350 jobs. While this does not make the occupational group the largest in the industry, it is one of the fastest growing. Between 2005 and 2015, the occupational group added 140 jobs, increasing by 67%. This growth is expected to continue into 2025, with 48% employment growth, or 170 additional jobs, projected.
- Over the next 10 years, nearly 40 openings are expected in this occupation annually, of which over half are expected to be in the PST Services industry. Openings in this occupational group are driven by new demand, which accounts for 76% of the annual openings.
- Median hourly wages are over $36 for this occupation, significantly higher than the overall median for the Spokane Area and among the highest hourly wages in the PST Services industry.
- The Software Developers (Applications) workforce is relatively young. Workers over the age of 55 account for just 11% of workers while over 60% of workers are between the ages of 25 and 44.
- According to the BLS, employers typically require that workers have a Bachelor's degree to enter this field. This requirement is validated by the portion of workers with some postsecondary education in this occupational group nationally. According to a 2012/2013 BLS report, 50% of workers in this field had a Bachelor's degree while another 30% had a Master's degree,
- In 2014, over 170 degrees or certificates were awarded related to the Software Developers (Applications) occupational group. Due to competition for these graduates, approximately 54 have been allocated to this occupational group. While this exceeds the number of openings by over 10, some of these graduates may not stay in the Spokane Area after graduating.

Sales Representatives, Services, All Other

Definition: Represents a broad range of sales personnel, for example. In the Spokane Area, most workers in this industry group are employed in the information technology and electronics fields. (Source: Camoin Associates)

Typical Job Titles: Sales Representatives, IT Specialists (Source: Camoin Associates)

Key Statistics: Sales Representatives, Services, All Other

2015 PST Services Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
434	$21.48	84	1	82%	20%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Sales Representatives (Services – All Other) occupational group accounts for over 430 jobs in the PST Services industry cluster. In the Spokane Area, these workers are involved primarily in the computer, information technology, and marketing research related industry sectors. The occupational group declined slightly between 2005 and 2015 but is projected to increase by over 25% by 2025, adding over 120 jobs. This growth will primarily be in the computer and IT-related industry sectors.
- Economy-wide, over 80 openings are projected in the Sales Representatives (Services – All Other) occupational group, of which, 25 are estimated to be in the PST Services industry. Openings are expected to be driven nearly equally by new and replacement demand.
- The median wage for this occupation is $21.48 per hour, which is approximately $2 higher than the median for all jobs in the Spokane Area. Relative to other PST Services occupations, this wage is on the lower end.
- According to the BLS, the Sales Representatives (Services – All Other) occupational group typically requires a high school diploma to enter the field. However, nationally, over 80% of workers in this field have some form of postsecondary education. Approximately a quarter have some college education but no degree while 40% have a Bachelor's degree.
- The occupational group is older, with approximately one fifth of Sales Representatives (Services – All Other) workers in the Spokane Area over the age of 55. These workers may be planning to retire over the next decade, creating opportunities for new workers to enter the field. However, the large number of retirements may negatively impact employers.
- In the Spokane Area, 7 certificates related to this occupational group were awarded in 2014 through Washington State University. Due to competition with other occupations, 1 of these awards is estimated to enter the Sales Representatives (Services – All Other) field. However, employers may not require a formal educational credential to enter the field and may prefer workers with specific experience or offer their own on the job training.

Computer User Support Specialists

Definition: Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. (Source: O*NET)

Typical Job Titles: Computer Specialist, Computer Support Specialist, Computer Technician, Electronic Data Processing Auditor (EDP Auditor), Help Desk Analyst, Information Technology Specialist (IT Specialist), Network Support Specialist, Network Technician, Support Specialist, Technical Support Specialist (Source: O*NET)

Key Statistics: Computer User Support Specialists

2015 PST Services Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
278	$20.99	48	129	88%	14%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed
*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- In 2015, the Computer User Support Specialists occupational group accounted for nearly 280 jobs in the PST Services industry, while an additional 1,000 workers in this occupational group work in other industries in the Spokane Area. The occupational group has grown dramatically over the past 10 years in the PST Services industry, increasing employment by nearly 90%, or 129 jobs. This growth is expected to continue, with another 117 jobs added by 2025.
- Over the next 10 years, 48 openings are projected in this occupation annually, 17 of which are expected to be in the PST Services industry. Over 70% of openings are due to new demand while 29% will be due to replacement demand.
- The median hourly wage in this occupation are $21, approximately $2 higher than the overall median for the Spokane Area. Compared to other PST Services industry occupational groups, the median hourly wage for Computer User Support Specialist is on the lower end.
- The occupational group is relatively young, with just 14% of the worker over the age of 55. Approximately 55% of workers are between the ages of 25 and 44.
- According to the BLS, this occupation typically requires some college but not a degree. While workers with some college but no degree do account for 28% of workers in this occupational group, nearly a third have a Bachelor's degree.
- Due the number of 4-year colleges and universities in the Spokane Area, there are significantly more academic degrees being awarded annually this field than openings. Most of these awards are for a Bachelor's degree in Computer Science or for an industry certification that requires less than a year of schooling. The number of awards for programs related to this occupation have been growing recently, with most of the increases in Associate's degree and certificate programs.

Professional, Scientific, & Technical Services Occupation Overview

Selection Criteria for Occupations Included:

- At least 100 jobs in the PST Services industry
- At least 5 openings annually

Data Included:

- 2015 Jobs
- Percent of Jobs in the Professional, Scientific, & Technical Services Industry
- 2015 to 2025 Change (absolute change and percent change)
- Median Hourly Earnings

Key Findings:

- The PST Services industry represents a diverse group of industry sectors, ranging from scientific research and development to legal and accounting offices. For this reason, the occupations included in this industry group are also very diverse and include scientists, veterinarians, lawyers, engineers, software developers, and graphic designers. The largest occupation in the industry is Accountants and Auditors, which accounts for over 1,000 jobs in the PST Services industry, or 6.5% of the industry employment. This occupational group has also grown substantially over the last 10 years, adding over 200 jobs. Between 2015 and 2025, the occupational group is expected to add 190 jobs in the PST Services industry alone.
- Overall, the PST Services industry is expected to grow rapidly over the next 10 years, in both the Spokane Area and nationally. The occupations expected to grow at the fastest rates are related to the computer, software, and IT industries.
- While the industry overall is expected to grow rapidly over the coming years, some PST Services occupations are expected to show low or negative growth. For example, the second largest occupational group in the industry, Lawyers, is projected to add only 20 jobs over the next 10 years, an increase of 3%. Employment in the Legal Secretaries occupational group is expected to contract slightly over the same period, shedding 14 jobs.
- The median hourly wages range widely in the PST Services industry, from $12 for Veterinarian Assistants to nearly $46 for Computer and Information System Managers. Generally, the highest wages are associated with business, finance, and technology-related occupational groups, while the lowest wages are associated with creative (Graphic Designer, Photographers) and administrative and support occupations.

Legal Occupations

Overview: Legal Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
23-1011	Lawyers	810	65%	22	3%	$37.45
23-2011	Paralegals and Legal Assistants	408	69%	53	13%	$20.95

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Arts, Design, Entertainment, Sports, and Media Occupations

Overview: Arts, Design, Entertainment, Sports, and Media Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
27-1024	Graphic Designers	277	44%	26	10%	$16.35
27-1025	Interior Designers	126	69%	16	13%	$15.46
27-4021	Photographers	283	84%	71	25%	$12.32

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Architecture & Engineering Occupations

Overview: Architecture & Engineering Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
17-1011	Architects, Except Landscape and Naval	185	89%	-14	-8%	$28.79
17-2051	Civil Engineers	314	42%	56	18%	$35.93
17-2141	Mechanical Engineers	125	25%	24	19%	$34.27

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Management and Business & Financial Operations Occupations

Overview: Management and Business & Financial Operations Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
11-3021	Computer and Information Systems Managers	123	27%	47	38%	$45.80
11-9199	Managers, All Other	190	14%	24	13%	$27.71
11-1021	General and Operations Managers	301	7%	70	23%	$38.12
13-1111	**Management Analysts**	**484**	**51%**	**106**	**22%**	**$31.87**
13-1161	Market Research Analysts and Marketing Specialists	277	27%	80	29%	$23.69
13-1199	Business Operations Specialists, All Other	128	7%	41	32%	$30.26
13-2011	**Accountants and Auditors**	**1,031**	**43%**	**190**	**18%**	**$27.33**
13-2082	Tax Preparers	253	99%	26	10%	$15.15

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Computer and Mathematical Occupations

Overview: Computer and Mathematical Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
15-1121	**Computer Systems Analysts**	**279**	**37%**	**114**	**41%**	**$35.34**
15-1131	Computer Programmers	208	52%	58	28%	$26.24
15-1132	**Software Developers, Applications**	**356**	**44%**	**172**	**48%**	**$36.78**
15-1134	Web Developers	164	52%	63	38%	$23.73
15-1142	Network and Computer Systems Administrators	120	23%	36	30%	$32.43
15-1151	**Computer User Support Specialists**	**278**	**22%**	**117**	**42%**	**$20.99**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Healthcare Practitioners and Technical & Healthcare Support Occupations

Overview: Healthcare Practitioners and Technical & Healthcare Support Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
29-1131	Veterinarians	185	95%	8	4%	$40.55
29-2056	Veterinary Technologists and Technicians	167	95%	49	30%	$14.50
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	218	81%	17	8%	$12.16

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Sales and Related Occupations

Overview: Sales and Related Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
41-3011	Advertising Sales Agents	288	51%	-34	-12%	$22.09
41-3099	Sales Representatives, Services, All Other	434	26%	121	28%	$21.48

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Office and Administrative Support Occupations

Overview: Office and Administrative Support Occupations

SOC	Description	2015 PST Services Jobs	% of Jobs in PST Services Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
43-1011	First-Line Supervisors of Office and Administrative Support Workers	178	5%	28	16%	$22.80
43-3021	Billing and Posting Clerks	243	13%	27	11%	$15.19
43-3031	Bookkeeping, Accounting, and Auditing Clerks	644	13%	69	11%	$17.39
43-4051	Customer Service Representatives	303	5%	63	21%	$14.37
43-4171	Receptionists and Information Clerks	229	9%	13	6%	$13.49
43-6012	Legal Secretaries	369	76%	-14	-4%	$17.64
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	411	7%	72	17%	$15.77
43-9061	Office Clerks, General	398	6%	53	13%	$13.97

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the PST Services industry

Projected Annual Openings

Selection Criteria for Occupations Included:

- At least 100 jobs in the PST Services industry
- At least 5 openings annually

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Estimated Annual Openings (PST Services): of the annual openings, the number estimated to be in the PST Services industry. The number of openings is only provided for an occupation, but not the portion of the occupation in a certain industry. To estimate the number of openings specifically in the PST Services industry, Camoin Associates assessed the number of new jobs expected in the PST Services industry over the next 10 years and the portion of PST Services jobs in the occupation overall.
- New Demand: job openings in an occupation created by new jobs being added to an occupation/industry
- Replacement Demand: jobs openings in an occupation created by workers retiring or other turnover

Key Findings:

- Due to the rapid employment growth expected in the PST Services industry, openings in many occupations are being driven by new demand. This is especially true of technology-related occupational groups, where the workforce is younger and retirement is a smaller factor in demand for new workers.
- The Accountants and Auditors occupational group has the most annual openings projected in the industry. While this group is expected to add nearly 200 new jobs over the next 10 years, this employment growth only accounts for 35% of expected employment demand, with retirements and other turnover contributing the remaining 65%.

Legal Occupations

Projected Annual Openings: Legal Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
23-1011	**Lawyers**	**30**	**17**	**13%**	**87%**
23-2011	Paralegals and Legal Assistants	17	12	43%	57%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Arts, Design, Entertainment, Sports, and Media Occupations

Projected Annual Openings: Arts, Design, Entertainment, Sports, and Media Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
27-1024	Graphic Designers	22	11	25%	75%
27-1025	Interior Designers	7	5	31%	69%
27-4021	Photographers	13	12	62%	38%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Architecture & Engineering Occupations

Projected Annual Openings: Architecture & Engineering Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
17-1011	Architects, Except Landscape and Naval	6	5	0%	100%
17-2051	Civil Engineers	30	14	39%	61%
17-2141	Mechanical Engineers	31	7	33%	67%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Management and Business & Financial Operations Occupations

Projected Annual Openings: Management and Business & Financial Operations Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
11-3021	Computer and Information Systems Managers	18	7	71%	29%
11-9199	Managers, All Other	37	7	32%	68%
11-1021	General and Operations Managers	149	13	53%	47%
13-1111	**Management Analysts**	**34**	**19**	**55%**	**45%**
13-1161	Market Research Analysts and Marketing Specialists	43	12	65%	35%
13-1199	Business Operations Specialists, All Other	45	6	69%	31%
13-2011	**Accountants and Auditors**	**120**	**54**	**35%**	**65%**
13-2082	Tax Preparers	9	9	30%	70%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Computer and Mathematical Occupations

Projected Annual Openings: Computer and Mathematical Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
15-1121	**Computer Systems Analysts**	**37**	**16**	**69%**	**31%**
15-1131	Computer Programmers	20	12	49%	51%
15-1132	**Software Developers, Applications**	**39**	**23**	**76%**	**24%**
15-1134	Web Developers	15	9	68%	32%
15-1142	Network and Computer Systems Administrators	19	6	62%	38%
15-1151	**Computer User Support Specialists**	**48**	**17**	**71%**	**29%**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Healthcare Practitioners and Technical & Healthcare Support Occupations

Projected Annual Openings: Healthcare Practitioners and Technical & Healthcare Support Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
29-1131	Veterinarians	9	8	9%	91%
29-2056	Veterinary Technologists and Technicians	7	7	72%	28%
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	8	6	27%	73%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Sales and Related Occupations

Projected Annual Openings: Sales and Related Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
41-3011	Advertising Sales Agents	20	10	0%	100%
41-3099	**Sales Representatives, Services, All Other**	**84**	**25**	**48%**	**52%**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Office and Administrative Support Occupations

Projected Annual Openings: Office and Administrative Support Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (PST Services)	Estimated % New Demand	% Replacement Demand
43-1011	First-Line Supervisors of Office and Administrative Support Workers	126	7	38%	62%
43-3021	Billing and Posting Clerks	61	7	36%	64%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	109	13	52%	48%
43-4051	**Customer Service Representatives**	**282**	**15**	**42%**	**58%**
43-4171	Receptionists and Information Clerks	104	8	17%	83%
43-6012	Legal Secretaries	6	5	0%	100%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	161	13	57%	43%
43-9061	Office Clerks, General	222	14	38%	62%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of PST Services Annual Openings

Labor Supply and Demand Analysis

Selection Criteria for Occupations Included:

- At least 100 jobs in the PST Services industry
- At least 5 openings annually

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Annual Related Completions: represents all degrees awarded in educational programs that could funnel workers into the occupation
- Completions Allocated to Occupation: as most educational programs prepare graduates for multiple occupations, this statistic assesses the number of graduates that would be expected to enter a specific occupational field, based on the amount of competition for those graduates from other occupational groups.
- Completions to Openings Ratio: compares the number of "completions allocated to occupation" to the number of annual openings. A ratio of 1 would signify that there are exactly the same number of graduates as openings. If the ratio is less than 1, there are fewer educational awards than the number of annual openings while a ratio greater than 1 would mean there are more educational awards than openings.
- Typical Level of Education Required: determined by the Bureau of Labor Statistics (BLS), this represents the level of education typically required nationally to enter an occupational field. This may vary widely based on the industry and location.
- Percent of Workers with Postsecondary Education: determined by the Bureau of Labor Statistics, this number represents the proportion of workers in the occupational group that have some college, a postsecondary non-degree award, an Associate's degree, Bachelor's degree, or more advanced level of education.

Key Findings:

- While some PST Services occupations do not have any or enough degrees being awarded in related programs, it is possible that employers do not require a formal educational credential or prefer work experience or on-the-job training to train employees.
- The BLS categorizes many PST Services industry occupations as requiring only a high school diploma, however, it is much more common for workers in these fields to have some postsecondary education. In some cases, as many as 88% of workers in the occupation nationally have some postsecondary education, despite the BLS classification.
- The majority of PST Services occupational groups require some postsecondary education, typically a Bachelor's degree, to enter the fields, according to the BLS. These jobs also typically pay a higher wage than those that require less than a 4-year degree. This educational requirement limits the pool of applicants for these positions and prevents less educated workers from accessing higher wages.
- Due to the number of 4-year colleges and universities in the Spokane Area, the occupational groups that typically require a Bachelor's degree typically have more than enough graduates from regional institutions to fill their employment needs. While these graduates present a potential pool of applicants for these employers, some graduates may not be planning to stay in the region for work.

Legal Occupations

Labor Supply and Demand Analysis: Legal Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required (Nationally)	% of Workers with Postsecondary Education*
23-1011	Lawyers	30	160	145	4.91	Doctoral or professional degree	100%
23-2011	Paralegals and Legal Assistants	17	18	15	0.87	Associate's degree	88%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Arts, Design, Entertainment, Sports, and Media Occupations

Labor Supply and Demand Analysis: Arts, Design, Entertainment, Sports, and Media Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required (Nationally)	% of Workers with Postsecondary Education*
27-1024	Graphic Designers	22	94	51	2.32	Bachelor's degree	88%
27-1025	Interior Designers	7	27	27	3.86	Bachelor's degree	88%
27-4021	Photographers	13	37	31	2.44	High school diploma or equivalent	86%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Architecture & Engineering Occupations

Labor Supply and Demand Analysis: Architecture & Engineering Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required (Nationally)	% of Workers with Postsecondary Education*
17-1011	Architects, Except Landscape and Naval	6	41	13	2.20	Bachelor's degree	99%
17-2051	Civil Engineers	30	205	144	4.87	Bachelor's degree	98%
17-2141	Mechanical Engineers	31	338	118	3.83	Bachelor's degree	96%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Management and Business & Financial Operations Occupations

Labor Supply and Demand Analysis: Management and Business & Financial Operations Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required (Nationally)	% of Workers with Postsecondary Education*
11-3021	Computer and Information Systems Managers	18	449	92	5.12	Bachelor's degree	96%
11-9199	Managers, All Other	37	891	102	2.74	High school diploma or equivalent	83%
11-1021	General and Operations Managers	149	907	360	2.42	Bachelor's degree	83%
13-1111	Management Analysts	34	1,004	103	3.01	Bachelor's degree	95%
13-1161	Market Research Analysts and Marketing Specialists	43	209	103	2.41	Bachelor's degree	96%
13-1199	Business Operations Specialists, All Other	45	0	0	0.00	High school diploma or equivalent	88%
13-2011	Accountants and Auditors	120	420	372	3.10	Bachelor's degree	96%
13-2082	Tax Preparers	9	124	5	0.61	High school diploma or equivalent	85%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Computer and Mathematical Occupations

Labor Supply and Demand Analysis: Computer and Mathematical Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education
15-1121	Computer Systems Analysts	37	75	23	0.63	Bachelor's degree	95%
15-1131	Computer Programmers	20	278	87	4.41	Bachelor's degree	95%
15-1132	Software Developers, Applications	39	174	54	1.37	Bachelor's degree	98%
15-1134	Web Developers	15	429	65	4.42	Associate's degree	95%
15-1142	Network and Computer Systems Administrators	19	117	19	1.01	Bachelor's degree	92%
15-1151	Computer User Support Specialists	48	290	129	2.68	Some college, no degree	88%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Healthcare Practitioners and Technical & Healthcare Support Occupations

Labor Supply and Demand Analysis: Healthcare Practitioners and Technical & Healthcare Support Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education*
29-1131	Veterinarians	9	121	121	13.60	Doctoral or professional degree	100%
29-2056	Veterinary Technologists and Technicians	7	0	0	0.00	Associate's degree	75%
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	8	0	0	0.00	High school diploma or equivalent	69%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Sales and Related Occupations

Labor Supply and Demand Analysis: Sales and Related Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education*
41-3011	Advertising Sales Agents	20	0	0	0.00	High school diploma or equivalent	87%
41-3099	Sales Representatives, Services, All Other	84	7	1	0.01	High school diploma or equivalent	82%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Office and Administrative Support Occupations

Labor Supply and Demand Analysis: Office and Administrative Support Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education*
43-1011	First-Line Supervisors of Office and Administrative Support Workers	126	10	10	0.08	High school diploma or equivalent	75%
43-3021	Billing and Posting Clerks	61	124	37	0.61	High school diploma or equivalent	67%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	109	124	67	0.61	High school diploma or equivalent	69%
43-4051	Customer Service Representatives	282	6	4	0.01	High school diploma or equivalent	69%
43-4171	Receptionists and Information Clerks	104	78	19	0.18	High school diploma or equivalent	63%
43-6012	Legal Secretaries	6	6	6	0.94	High school diploma or equivalent	69%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	161	10	9	0.06	High school diploma or equivalent	69%
43-9061	Office Clerks, General	222	63	25	0.11	High school diploma or equivalent	67%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

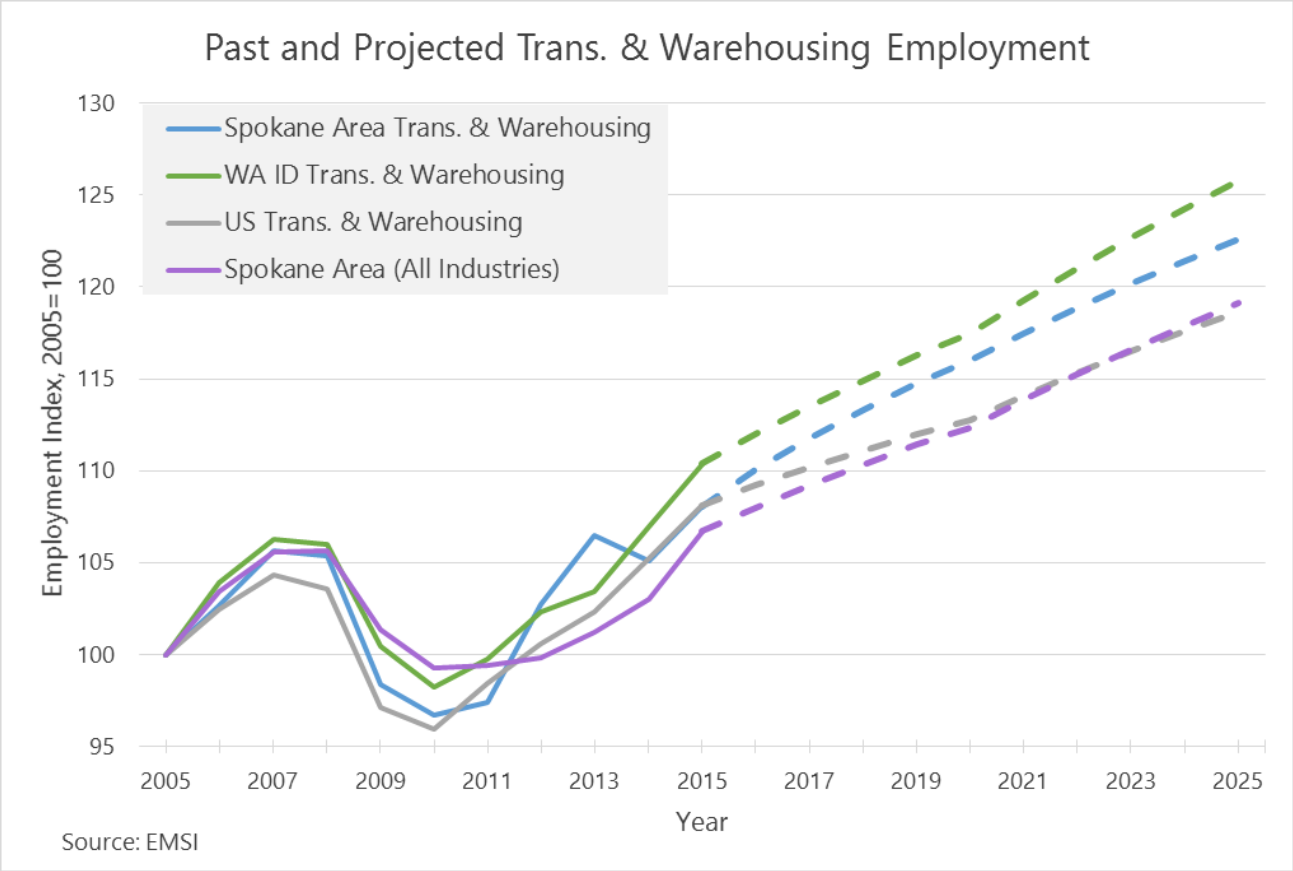
Transportation & Warehousing Industry Workforce Roadmap

Past and Projected Changes in Employment

In the chart below, past and projected changes in the Transportation & Warehousing (T&W) industry were analyzed and compared to Washington and Idaho States and the nation. Changes in the T&W industry were also compared to employment trends in the Spokane Area economy overall.

Key Findings:

- Compared to the Spokane Area economy overall, employment in Spokane's T&W industry declined more steeply between 2005 and 2010. However, employment in the industry recovered more rapidly and is projected to grow at a higher rate over the next 10 years than employment in the Spokane Area overall.
- From a pre-recession employment peak of nearly 8,300 jobs in 2007, employment in the T&W industry declined to an employment low of just under 7,600 jobs in 2010. Since 2010, the industry has recovered rapidly, surpassing pre-recession employment by the year 2013. In 2015, the industry accounted for nearly 8,500 jobs. The industry is projected to grow by another 13.5% by 2025.
- In the Spokane Area, the T&W industry declined more steeply than the industry in Washington and Idaho States between 2007 and 2010. The Spokane Area T&W industry has also recovered employment at a lower rate than Washington and Idaho states.
- Employment in the Spokane Area T&W industry mirrored the 2005-2010 decline of the industry nationally. However, in the Spokane Area, the T&W industry has recovered more rapidly and is projected to grow at a higher rate than the industry nationally over the next 10 years.



Industry Overview

Key findings about the sectors that comprise the Transportation & Warehousing (T&W) industry are below. A detailed table presenting key data about the T&W industry in the Spokane Area is on the following page.

- In 2015, employment in the T&W industry reached 8,470 jobs. This accounted for approximately 2% of all employment in the Greater Spokane region.
- The largest T&W industry sector, General Freight Trucking, accounts for 28% of T&W employment. This sector is twice the size of the next largest sector, Courier and Express Delivery Services.

Earnings per Worker

- At $55,800, the average earnings per worker in the T&W industry is 16% higher than the overall average in the Spokane Area. Average earnings per T&W worker are 6% lower in the Spokane Area than in the nation overall and 9% lower than earnings in Washington and Idaho States.
- The Pipeline Transportation of Natural Gas sector has the highest earnings per worker in the T&W industry, over 3 times the average for the industry. This sector is relatively small, in terms of employment, accounting for just 35 jobs.
- The Rail Transportation sector has the second highest average earnings per worker, $93,700. This is nearly 70% higher than the industry average. This sector accounts for over 950 jobs, 11% of T&W employment.

Location Quotient (LQ)

- With a location quotient of 0.74, employment in the T&W the industry is over 25% less concentrated than employment in the US overall. In Washington and Idaho States, employment in the T&W industry is about 15% less concentrated than employment in the nation.
- Employment in the Support Activities for Air Transportation sector is over twice as concentrated in the Spokane Area than in the US overall. This is also one of the largest T&W sectors in the region, accounting for nearly 900 jobs.
- The Rail Transportation sector is over 75% more concentrated than employment in the sector nationally. This sector is also among the largest in the industry and has the second highest average earnings per worker.

Gross Regional Product (GRP)

- Overall, the T&W industry contributes nearly $750 million to the Gross Regional Product of the Spokane Area. This represents about 2% of the total GRP for the Spokane Area.
- The General Freight Trucking sector is the largest contributor to the T&W industry's GRP, accounting for nearly $175 million of GRP, or 23% of the industry total. This is also the T&W largest employer in the region.
- After the General Freight Trucking sector, the Rail Transportation sector has the second highest GRP, contributing over $165 million to the T&W industry's total GRP. This industry is highly efficient, with a GRP per job of nearly $174,000, the third highest of all T&W sectors. This is nearly double the average GRP per job for the industry overall.
- While they account for few jobs, the sectors related to oil and natural gas pipeline transportation have high average GRP per job.

Transportation & Warehousing Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
4811	Scheduled Air Transportation	361	$55,650	0.39	4%	$28,920,828
4812	Nonscheduled Air Transportation	74	$81,897	0.83	1%	$11,684,170
4821	**Rail Transportation**	**954**	**$93,690**	**1.77**	**11%**	**$165,855,505**
4841	**General Freight Trucking**	**2,384**	**$54,369**	**0.90**	**28%**	**$174,789,560**
4842	**Specialized Freight Trucking**	**747**	**$48,456**	**0.70**	**9%**	**$42,864,467**
4852	Interurban and Rural Bus Transportation	49	$20,143	1.19	1%	$3,265,980
4853	Taxi and Limousine Service	57	$18,086	0.17	1%	$3,827,258
4854	School and Employee Bus Transportation	396	$18,583	0.90	5%	$7,663,662
4855	Charter Bus Industry	42	$22,963	0.61	0%	$1,350,506
4859	Other Transit and Ground Passenger Transportation	70	$24,220	0.30	1%	$2,756,656
4862	Pipeline Transportation of Natural Gas	35	$184,327	0.54	0%	$9,090,897
4869	Other Pipeline Transportation	14	$93,422	0.70	0%	$2,352,177
4872	Scenic and Sightseeing Transportation, Water	32	$12,557	0.81	0%	$590,087
4879	Scenic and Sightseeing Transportation, Other	18	$18,237	2.37	0%	$623,667
4881	**Support Activities for Air Transportation**	**883**	**$64,946**	**2.13**	**10%**	**$88,986,842**
4882	Support Activities for Rail Transportation	38	$34,494	0.49	0%	$1,172,947
4883	Support Activities for Water Transportation	17	$40,375	0.08	0%	$1,354,425
4884	Support Activities for Road Transportation	241	$30,686	1.01	3%	$8,956,725
4885	Freight Transportation Arrangement	243	$69,096	0.49	3%	$20,874,247
4889	Other Support Activities for Transportation	11	$19,852	0.15	0%	$345,849
4921	**Couriers and Express Delivery Services**	**1,043**	**$51,702**	**0.85**	**12%**	**$87,963,957**
4922	Local Messengers and Local Delivery	236	$29,986	1.51	3%	$16,595,891
4931	Warehousing and Storage	522	$49,778	0.30	6%	$64,018,992
48-49	Total (All Transporation & Warehousing)	8,472	$55,806	0.74	100%	$746,466,409

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 largest industries

For industries with fewer than 10 workers, analyst assumes 5 workers

Historic Change in Employment (2005 to 2015)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis are below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with the highest employment growth between 2005 and 2015.

Transportation & Warehousing Industry Historic Change

	Spokane Area	WA and ID States	United States
2005-2015 Change In Employment	8.1%	10.4%	8.1%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Key Findings:

- Overall, the Transportation & Warehousing industry grew quickly between 2005 and 2015, adding 630 jobs, an increase of 8%. However, growth in the industry is more substantial if measured from 2010. From an employment low of just under 7,600 jobs in 2010, the T&W industry has added nearly 900 jobs, an increase of 12%.
- The T&W sectors that added the most jobs between 2005 and 2015 were the Support Activities for Air Transportation, Warehousing and Storage, General Freight Trucking, Freight Transportation Arrangement, and Scheduled Air Transportation sectors. These sectors added between 300 jobs and 100 jobs over this period.
- The Specialized Freight Trucking industry shed the most jobs between 2005 and 2015, declining by over 140 jobs, or 16%. While overall, employment in this sector declined from 2005, the industry has been growing since 2010. In 2010, the sector accounted for just over 700 jobs. By 2015, the sector accounted for nearly 750 jobs, an increase of nearly 40 jobs.
- The Warehousing and Storage sector added 260 jobs between 2005 and 2015, nearly doubling 2005 employment. Most of this growth occurred between 2010 and 2015. Even with this strong growth over the past 10 years, employment in this sector is only 30% as concentrated in the Spokane Area as it is nationally.
- The Support Activities for Air Transportation sector increased employment by over 50%, adding 300 jobs between 2005 and 2015. This is among the largest sectors in the T&W industry and has above average earnings, relative to the T&W industry overall. By 2015, employment in this industry was over twice as concentrated as employment nationally.
- The Freight Transportation Arrangement sector also grew rapidly between 2005 and 2015, adding 100 jobs, a 73% increase. Average earnings per worker in this sector are 24% higher than average earnings for the industry overall. Despite the rapid growth over the past 10 years, employment in this sector is only 50% as concentrated in the Spokane Area as employment nationally.

Transportation & Warehousing Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
4811	**Scheduled Air Transportation**	**262**	**264**	**361**	**100**	**38%**
4812	Nonscheduled Air Transportation	105	108	74	-30	-29%
4821	Rail Transportation	909	895	954	45	5%
4841	**General Freight Trucking**	**2,244**	**2,097**	**2,384**	**140**	**6%**
4842	Specialized Freight Trucking	891	708	747	-144	-16%
4852	Interurban and Rural Bus Transportation	35	71	49	14	40%
4853	Taxi and Limousine Service	120	87	57	-63	-53%
4854	School and Employee Bus Transportation	425	380	396	-29	-7%
4855	Charter Bus Industry	119	58	42	-78	-65%
4859	Other Transit and Ground Passenger Transportation	81	64	70	-11	-14%
4862	Pipeline Transportation of Natural Gas	17	30	35	18	103%
4869	Other Pipeline Transportation	10	21	14	3	34%
4872	Scenic and Sightseeing Transportation, Water	93	41	32	-61	-65%
4879	Scenic and Sightseeing Transportation, Other	5	5	18	13	259%
4881	**Support Activities for Air Transportation**	**582**	**858**	**883**	**301**	**52%**
4882	Support Activities for Rail Transportation	22	29	38	15	68%
4883	Support Activities for Water Transportation	5	5	17	12	249%
4884	Support Activities for Road Transportation	241	176	241	0	0%
4885	**Freight Transportation Arrangement**	**141**	**159**	**243**	**102**	**73%**
4889	Other Support Activities for Transportation	5	5	11	6	115%
4921	Couriers and Express Delivery Services	1,078	999	1,043	-36	-3%
4922	Local Messengers and Local Delivery	173	207	236	63	37%
4931	**Warehousing and Storage**	**262**	**293**	**522**	**260**	**99%**
48-49	Total (All Transporation & Warehousing)	7,840	7,583	8,472	632	8%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 industries with highest historic employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Projected Change in Employment (2015 to 2021)

The table below summarizes changes in employment in the Spokane Area, Washington and Idaho States (combined), and the United States. Key findings from this analysis are below.

A more detailed table presenting changes at the 4-digit NAICS code level is on the following page. Rows with bold text designate the industries with the highest projected employment growth between 2015 and 2021.

Transportation & Warehousing Industry Projected Change

	Spokane Area	WA and ID States	United States
2015-2021 Change In Employment	8.7%	8.0%	5.5%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

- Overall, employment in the Transportation & Warehousing industry is projected to grow by 9%, adding over 730 jobs between 2015 and 2021. Employment growth in the Spokane Area is expected to outpace growth in Washington and Idaho States and the US.
- The Support Activities for Air Transportation, General Freight Trucking, Warehousing and Storage, Rail Transportation, and Freight Transportation sectors are projected to add the most jobs between 2015 and 2021. Growth in these sectors is expected to range from 270 to 63 jobs.
- The Support Activities for Air Transportation sector is expected to add the most jobs between 2015 and 2021, increasing employment by 270 jobs, or 31%. This sector also added the most jobs between 2005 and 2015, increasing employment by over 300 jobs. By 2021, this sector is expected to be the second largest in the T&W industry.
- The Warehousing and Storage sector is projected to continue to grow between 2015 and 2021, but at a lower rate than the growth experienced over the past 10 years. By 2021, the sector is expected to add 144 jobs, an increase of nearly 30%.
- The General Freight Trucking sector is projected to grow at a slightly higher rate between 2015 and 2021 than it did over the past 10 years. The sector is expected to add nearly 190 jobs, an 8% increase in employment. This is the largest T&W sector in the Spokane Area.
- Between 2015 and 2021, the Rail Transportation sector is expected to grow by 8%, adding nearly 80 jobs. Projected growth in this sector will exceed the 5% employment growth experienced over the past 10 years. In 2015, employment in this sector was over 75% more concentrated in the Spokane Area than in the nation overall and accounted for 22% of the industry's GRP, despite employing only 11% of industry workforce.

Transportation & Warehousing Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
4811	Scheduled Air Transportation	361	375	391	30	8%
4812	Nonscheduled Air Transportation	74	64	58	-17	-22%
4821	**Rail Transportation**	**954**	**995**	**1,031**	**78**	**8%**
4841	**General Freight Trucking**	**2,384**	**2,485**	**2,568**	**184**	**8%**
4842	Specialized Freight Trucking	747	734	741	-6	-1%
4852	Interurban and Rural Bus Transportation	49	46	43	-5	-11%
4853	Taxi and Limousine Service	57	54	52	-5	-9%
4854	School and Employee Bus Transportation	396	415	432	36	9%
4855	Charter Bus Industry	42	31	28	-14	-33%
4859	Other Transit and Ground Passenger Transportation	70	72	73	3	5%
4862	Pipeline Transportation of Natural Gas	35	37	38	3	8%
4869	Other Pipeline Transportation	14	14	13	0	-2%
4872	Scenic and Sightseeing Transportation, Water	32	14	5	-27	-85%
4879	Scenic and Sightseeing Transportation, Other	18	21	24	6	34%
4881	**Support Activities for Air Transportation**	**883**	**1,051**	**1,152**	**270**	**31%**
4882	Support Activities for Rail Transportation	38	37	37	-1	-2%
4883	Support Activities for Water Transportation	17	20	22	4	25%
4884	Support Activities for Road Transportation	241	228	225	-16	-7%
4885	**Freight Transportation Arrangement**	**243**	**279**	**306**	**63**	**26%**
4889	Other Support Activities for Transportation	11	12	12	1	10%
4921	Couriers and Express Delivery Services	1,043	1,035	1,038	-4	0%
4922	Local Messengers and Local Delivery	236	242	243	6	3%
4931	**Warehousing and Storage**	**522**	**616**	**666**	**144**	**28%**
48-49	Total (All Transporation & Warehousing)	8,472	8,886	9,209	737	9%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates 5 industries with highest projected employment growth

For industries with fewer than 10 workers, analyst assumes 5 workers

Competitiveness Analysis

Shift share analysis distinguishes an industry's employment growth in a specific area that is attributable to local competitive advantages from growth that is attributable to national employment trends or overall industry employment trends.

The shift share analysis helps to answer the question of "*Why is employment growing or declining in this industry*?" Is it simply related to the industry growing nationally or are we more competitive regionally? To do this, shift share analysis splits regional job growth into three components: the national growth effect, industrial mix effect, and regional competitive effect.

A shift share analysis is based on four factors:

- **The Industrial Mix Effect** – The industrial mix effect represents the share of regional industry growth explained by the growth of the specific industry at the national level. To arrive at this number, the national growth rate of the total economy is subtracted from the national growth rate of the specific industry, and this growth percentage is applied to the regional jobs in that industry.
- **The National Growth Effect** – The national growth effect explains how much of the regional industry's growth is explained by the overall growth of the national economy: if the nation's economy overall is growing, you would generally expect to see some positive change in each industry in your local region (the proverbial "rising tide that lifts all boats").
- **The Expected Change** – This is simply the rate of growth of the particular industry at the national level. The expected change is the sum of the industrial mix and the national growth effects.
- **The Regional Competitive Effect** – The regional competitive effect is the most vital in the shift share analysis. It explains how much of the change in a given industry is due to some unique competitive advantage that the region possesses, because the growth cannot be explained by national trends in that industry or the economy as whole. This effect is calculated by taking the total regional growth of the given industry and subtracting the national growth for that same industry. Note that this effect can be positive even as regional employment in the industry declines. This would indicate that regional decline is less than the national decline.

Key findings from the Competiveness Analysis are below. A detailed supporting table at the 4-digit NAICS code level is presented on the following page.

- Nationally, employment in the T&W industry grew by over 8% between 2005 and 2015. Based on these national industry-wide trends, the T&W industry in the Spokane Area would have been expected to add 637 jobs over this period. The industry generally met this expectation, adding 632 jobs.
- While overall, the T&W industry slightly underperformed expectations, some sectors added jobs at a higher rate than would have been expected based on national industry trends. The sectors with the highest competitive effect in the Spokane Area were General Freight Trucking, Support Activities for Air Transportation, Warehousing and Storage, Scheduled Air Transportation, and Freight Transportation Arrangement sectors.
- The largest T&W industry sector, General Freight Trucking, grew in the Spokane Area even as employment in the industry contracted nationally. The Scheduled Air Transportation sector also grew in the region, despite a national employment contraction in this sector.
- The Specialized Freight Trucking sector lost jobs in the Spokane Area, even as the sector grew nationally. Based on national industry trends, the sector would have been expected to add 85 jobs in the Spokane Area, however, the sector lost over 140 jobs between 2005 and 2015.

Transportation & Warehousing Industry Competitiveness Analysis (2005-2015), 4 Digit NAICS - Spokane Area

NAICS	Description	Ind. Mix Effect	Nat'l Growth Effect	Expected Change	Competitive Effect
4811	**Scheduled Air Transportation**	**-38**	**13**	**-25**	**124**
4812	Nonscheduled Air Transportation	-21	5	-16	-15
4821	Rail Transportation	-13	46	33	12
4841	**General Freight Trucking**	**-155**	**112**	**-43**	**182**
4842	Specialized Freight Trucking	40	45	85	-229
4852	Interurban and Rural Bus Transportation	-6	2	-4	18
4853	Taxi and Limousine Service	14	6	20	-83
4854	School and Employee Bus Transportation	41	21	62	-92
4855	Charter Bus Industry	-14	6	-8	-70
4859	Other Transit and Ground Passenger Transportation	45	4	49	-61
4862	Pipeline Transportation of Natural Gas	2	1	3	15
4869	Other Pipeline Transportation	6	1	7	-3
4872	Scenic and Sightseeing Transportation, Water	-6	5	-1	-59
4879	Scenic and Sightseeing Transportation, Other	1	0	1	11
4881	**Support Activities for Air Transportation**	**91**	**29**	**120**	**181**
4882	Support Activities for Rail Transportation	11	1	12	3
4883	Support Activities for Water Transportation	0	0	0	7
4884	Support Activities for Road Transportation	33	12	45	-45
4885	**Freight Transportation Arrangement**	**12**	**7**	**19**	**83**
4889	Other Support Activities for Transportation	0	0	0	8
4921	Couriers and Express Delivery Services	-36	54	18	-54
4922	Local Messengers and Local Delivery	8	9	17	47
4931	**Warehousing and Storage**	**69**	**13**	**82**	**178**
48-49	Total (All Transporation & Warehousing)	244	393	637	-5

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

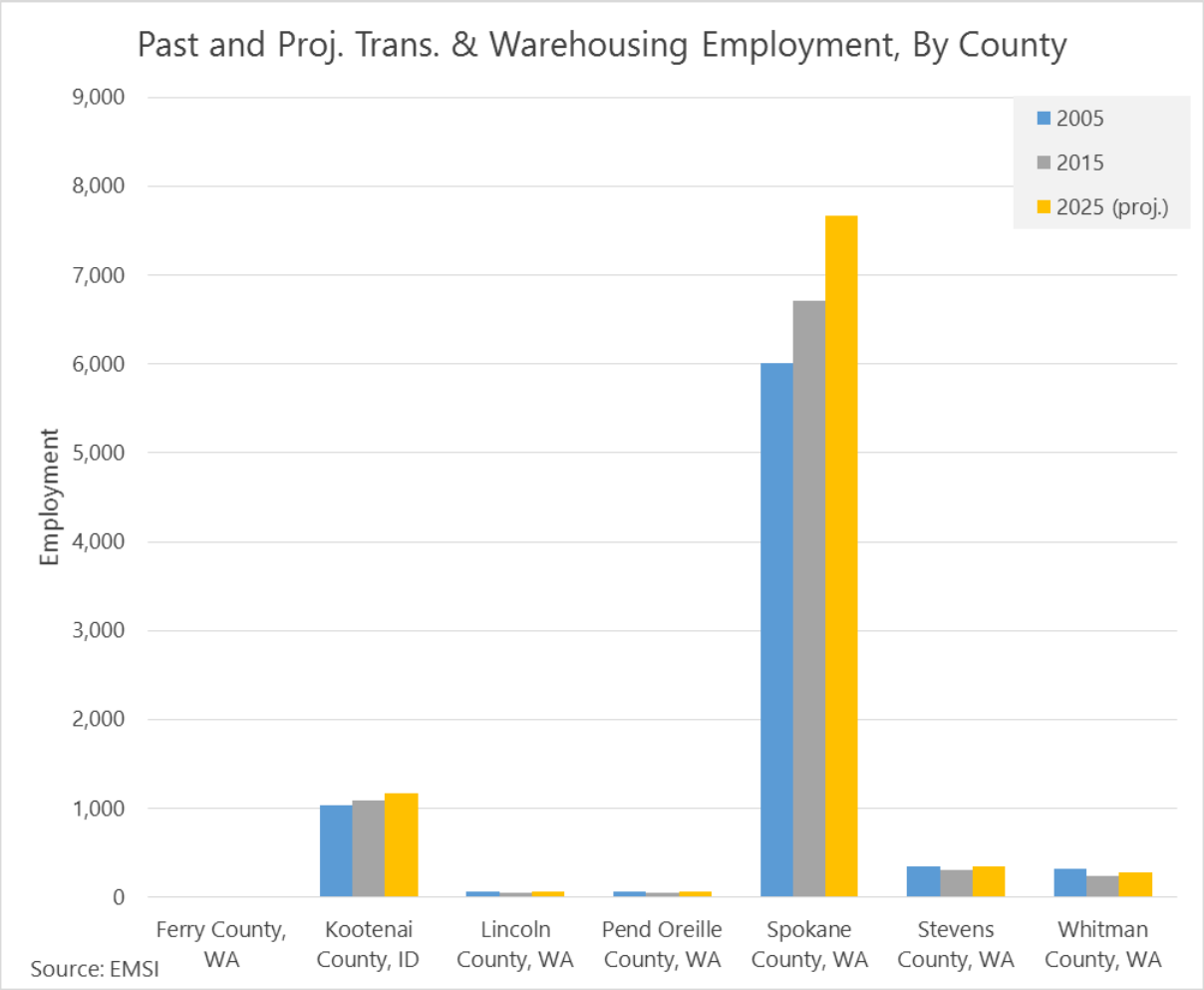
Bold designates 5 industries with highest competitive effect

For industries with fewer than 10 workers, analyst assumes 5 workers

Employment by County

Employment in the Spokane Area varies by county. The chart below presents 2015 Transportation & Warehousing employment in each county as well as past and projected changes in employment. Key findings from this analysis are below.

- Nearly 80% of T&W employment occurs in Spokane County, which accounts for 6,700 T&W jobs. Kootenai County has the second highest T&W employment in the region, with nearly 1,100 jobs, or 13% of regional T&W employment.
- The T&W industry grew at the highest rate Spokane County, where the industry added over 700 jobs, an increase of 12%. This outpaces overall T&W employment growth in the region. T&W employment in the county is projected to grow by another 14% by 2025, adding 950 jobs.
- Most counties in the Spokane Area saw T&W employment decrease between 2005 and 2015. Whitman County declined the most, shedding 82 jobs, a 25% contraction. However, every county is expected to add jobs in the T&W industry over the next 10 years.

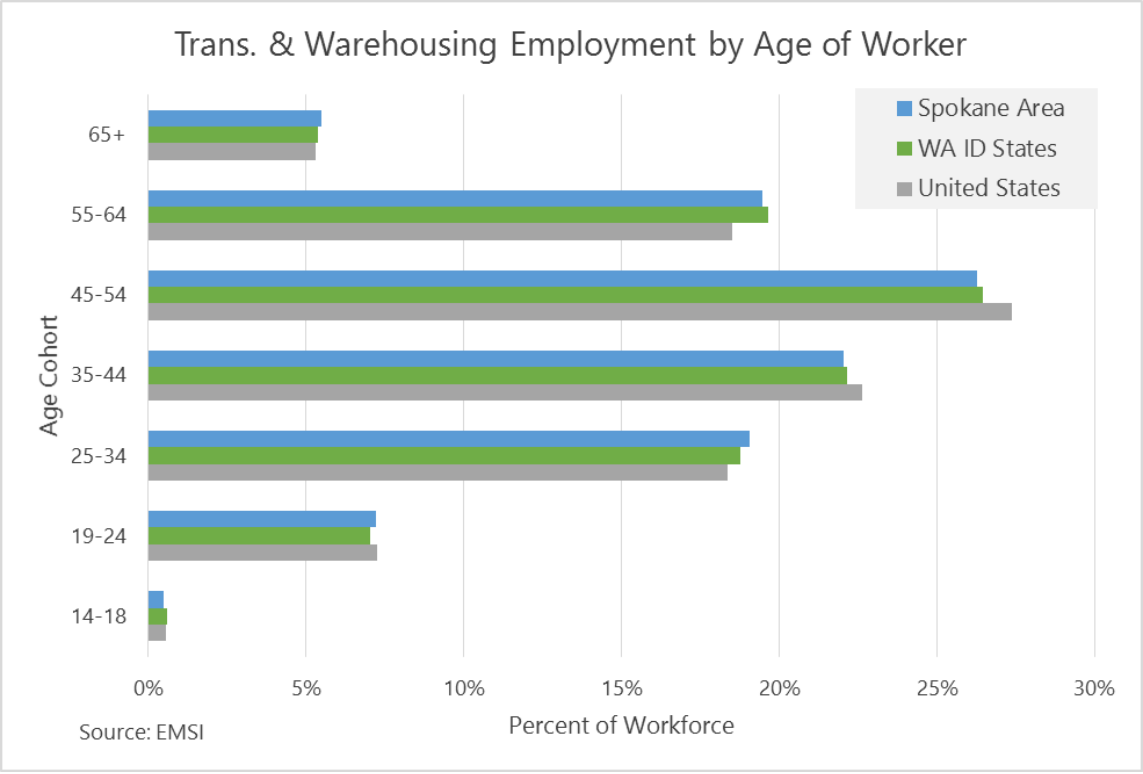


Employment by Age of Worker

The age of workers employed in an industry can factor significantly in demand for new workers. As older workers retire from the workforce, they will need to be replaced by younger workers with the skills and experience to meet employer needs. As the baby boomer generation retires from the workforce, finding the workers to fill vacant positions can present a challenge to employers.

The age of workers in the Spokane Area's T&W industry were compared to the age of T&W workers in Washington and Idaho States and the US. Key findings from this analysis are below.

- Overall, the age of workers in the T&W industry in the Spokane Area largely mirrors the age of workers in the industry nationally and in Washington and Idaho States. Spokane Area industry employment is slightly more concentrated than the nation in the 55-64 age cohort while it is less concentrated than the nation in the 35-44 and 45-54 age cohorts.
- A slightly higher portion of T&W employment in the Spokane Area is between the ages of 25 and 34 than the states or nation.



Economic Impact

To understand the impact the Transportation & Warehousing industry has on the region's economy, the direct, indirect, and induced effects of the industry were analyzed.

Economic Impact, Trans. & Warehousing - Spokane Area

	Employment	Business Revenues	Labor Income
Direct Impact	10,055	$1,537,694,353	$523,272,683
Indirect Impact	2,320	$313,294,172	$101,866,833
Induced Impact	5,855	$567,109,003	$227,520,178
Total Impact	**18,230**	**$2,418,097,527**	**$852,659,694**

Source: EMSI 2015.3

*Includes "Extended Proprietor" jobs and income, which is not included in other portions of the industry analysis

Key Findings:

- For every job in the T&W industry, another 0.81 jobs are created throughout the region.[4] The total employment impact of the T&W industry is 18,230 jobs, including over 10,000 direct jobs and 8,175 indirect and induced jobs.
- For every direct dollar of business revenue generated in the T&W industry, another 0.57 dollars are generated throughout the region's economy. The $1.5 billion of T&W revenues generated in the Spokane Area grew to $2.4 billion of business revenues as the funds circulated through the regional economy.
- For every $1 of direct labor, another 63 cents of earnings cycle through the economy. The nearly $520 million of T&W labor income generates another $330 million of indirect and induced earnings, for a total earnings impact of $850 million in the Spokane Region.

Economic Multipliers, Trans. & Warehousing - Spokane Area

	Employment	Business Revenues	Labor Income	Total Jobs Per Million $ of Direct Revenues
Economic Multiplier	1.81	1.57	1.63	11.86

Source: EMSI 2015.3

Key Definitions:

- **Direct Impact:** represents employment, purchases, and earnings in the T&W industry
- **Indirect Impact:** represents the economic impacts of suppliers to the T&W industry in terms of employment, business revenues, and labor income. For example, in order to supply the T&W industry with a product, a business may have to hire workers, pay wages, and purchase inputs from other suppliers.

[4] Included in these job counts are self-employed workers, as well as extended proprietors for whom these jobs are not their primary source of income but still represent Transportation & Warehousing and other economic activity. This could include, for example, those who do freelance work on the side.

- **Induced Impact:** represents the economic impact of T&W workers as they spend their earnings in the local economy
- **Economic Multiplier:** represents the total change per change in industry (job, dollar of earnings, dollar of business revenues). For example, an employment multiplier of 3 means that for every new job in an industry, an additional 2 jobs are created elsewhere in the economy.

Transportation & Warehousing Occupations

Jobs in the Transportation & Warehousing industry are primarily comprised of three main occupational groups: Transportation and Material Moving Occupations; Installation, Maintenance, and Repair Occupations; and Office and Administrative Occupations. The Transportation & Material Moving Occupation group is the largest occupational group in the T&W industry, representing over 4,600 jobs.

This report analyzes the occupations that make up the Transportation & Warehousing industry, including current and projected employment, the expected number of annual openings over the coming years, the educational requirements of the occupation, and the number of relevant degrees awarded in the region.

Key statistics about each occupational group are presented in the following sections:

- Key Occupations: an overview of 4 occupations that have a high number of openings and a high proportion of workers with some postsecondary education
- Overview: including the current and projected number of jobs in the Transportation & Warehousing industry and median hourly earnings for each occupation
- Projected Annual Openings: the number of annual openings in each occupation, broken down by new and replacement demand
- Labor Supply and Demand Analysis: the number of openings in each occupation are compared to the number of related program completions, to produce a "completions-to-openings" ratio, and the typical level of education required to enter the field

Sources:

Economic Modeling Specialists, Intl. (EMSI): current employment, projections, wages, openings, and completions data.

Bureau of Labor Statistics (BLS): typical entry-level education requirements (national) and the breakdown of occupations by level of education in 2012/2013 (national)

Heavy and Tractor-Trailer Truck Drivers

Definition: Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license. (Source: O*NET)

Typical Job Titles: Delivery Driver, Driver, Line Haul Driver, Log Truck Driver, Over the Road Driver (OTR Driver), Production Truck Driver, Road Driver, Semi Truck Driver, Tractor Trailer Operator, Truck Driver (Source: O*NET)

Key Statistics: Heavy and Tractor-Trailer Truck Drivers

2015 T&W Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
2,365	$18.57	119	0	34%	28%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Heavy and Tractor-Trailer Truck Drivers is by the far the largest occupational group in the T&W industry group, representing over 2,300 jobs, a quarter of all jobs in the industry. The occupational group is also a significant employer in other industries, such as Manufacturing. While the occupational group only grew modestly between 2005 and 2015, it is projected to have more significant growth over the next 10 years, adding early 230 jobs, a 10% increase in employment.
- Over the next 10 years, the Heavy and Tractor-Trailer Truck Drivers occupational group is expected to have nearly 120 openings annually, of which over half are expected to be in the T&W industry. These openings will be driven primarily by replacement demand, which accounts for 65% of openings, while new demand accounts for 35% of openings.
- In the Spokane Area, 28% of workers in this occupational group are aged 55 or older. As these workers may be planning to retire over the next 10 years, this presents an opportunity for new workers to enter the field. However, it also poses a challenge to employers, who will need to replace many experienced workers over a relatively short period of time.
- At $18.57, the Median Hourly Wages in this occupational group are slightly below the median for all jobs in the Spokane Area, however, they are approximately $3 higher than the median for jobs that require less than a 2-year degree.
- According to the BLS, a postsecondary non-degree award is typically required to enter this occupational group. In this case, this designation reflects that a commercial driver's license (CDL) is typically required of workers in this occupational group.
- According to the National Center of Education Statistics, there were no certificates awarded associated with this occupational group in the Spokane Area. However, Spokane Community College offers a Professional Truck Driver Training that prepares students to receive their CDL. As the CDL is a requirement of workers in this field, it is critical that the pipeline of workers is sufficient to fill the 119 Heavy and Tractor-Trailer Truck Drivers openings expected annually.

Labor and Freight, Stock, and Material Movers, Hand

Definition: Manually move freight, stock, or other materials or perform other general labor. Includes all manual laborers not elsewhere classified. (Source: O*NET)

Typical Job Titles: Dock Worker, Laborer, Line Tender, Loader, Material Handler, Merchandise Pickup/Receiving Associate, Receiver, Receiving Associate, Shipping and Receiving Materials Handler, Warehouse Worker (Source: O*NET)

Key Statistics: Laborers and Freight, Stock, and Material Movers, Hand

2015 T&W Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
858	$12.25	208	0	32%	15%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Laborers and Freight, Stock, and Material Movers (Hand) accounts for 10% of employment in the T&W industry. In 2015, this occupational group represented over 850 jobs, having increased employment by 100 jobs since 2005, a 13% increase. This growth is expected to continue, with employment expanding by another 15% by 2025, adding over 130 jobs. The T&W industry only represents 20% of total employment in this occupational group. The Manufacturing industry is also a major employer of these workers.
- The Laborers and Freight, Stock, and Material Movers (Hand) occupational group is projected to have over 200 openings annually over the next 10 years, of which, over 40 are expected to be in the T&W industry. The relatively high number of openings is due in part to the size of the industry, the strong employment growth expected, and non-retirement turnover in the occupational group. Replacement demand is expected to be responsible for nearly 70% of openings while new demand accounts for approximately 30%.
- Overall, workers in this occupational group are young, with workers over the age of 55 accounting for just 15% of employment. Coupled with the low wages and the high rate of turnover, this suggests that this occupation is entry-level – workers may begin in this occupational group, gain experience, and then move into different fields in the T&W or other industries.
- At $12.25, the median hourly wages in this industry are low relative to the median for all Spokane jobs. Within the T&W industry, these wages are also on the lower end. Low wages may contribute in part to the high turnover in this occupational group.
- According to the BLS, the typical entry level education required of workers in this occupational group is less than a high school diploma. Nationally, just a third of workers in this field have a postsecondary credential or degree.
- In the Spokane Area, no credentials or degrees related to this occupational group were awarded in 2014. However, with the high turnover rate and low typical education requirements, it is unlikely that employers require a postsecondary credential to enter the field. However, a postsecondary credential may be required to move from this occupational group into a higher paying occupations in the T&W industry.

Light Truck or Delivery Services Drivers

Definition: Drive a light vehicle, such as a truck or van, with a capacity of less than 26,000 pounds Gross Vehicle Weight (GVW), primarily to deliver or pick up merchandise or to deliver packages. May load and unload vehicle. (Source: O*NET)

Typical Job Titles: Bulk Delivery Driver, Delivery Driver, Driver, Driver/Merchandiser, Package Car Driver, Package Delivery Driver, Route Driver, Route Supervisor, Service Provider, Truck Driver (Source: O*NET)

Key Statistics: Light Truck or Delivery Services Drivers

2015 T&W Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
551	$14.75	45	0	34%	23%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- In 2015, the Light Truck or Delivery Services Drivers occupational group accounted for over 550 jobs in the T&W industry, accounting for 6.5% of all T&W jobs. Employment growth in this occupational group has been modest over the past 10 years. This low growth is expected to continue between 2015 and 2025, with the occupational group projected to add just 17 jobs, a 3% increase in employment. The Light Truck of Delivery Services Drivers occupational group also has significant employment in other industries, including Retail Trade, Wholesale Trade, and Manufacturing.
- Over the next 10 years, 34 annual openings are projected in this occupational group, of which, 11 are expected to be in the T&W industry group. Openings in this industry group are primarily driven by replacement demand, which accounts for 85% of openings. New demand accounts for 15%.
- Nearly a quarter of workers in this occupational group are aged 55 or older. Over the next decade, these employees may be planning to retire, creating a demand for new workers. While this presents an opportunity for workers interested in entering the field, it may pose a challenge to employers.
- Median hourly wages are nearly $15 for this occupation in the Spokane Area, $4 lower than the median for all jobs in the region and similar, but slightly lower, than the median wage for jobs that require less than a 2-year degree.
- According to the BLS, employers typically require that workers have a high school diploma or equivalent to enter this field. Nationally, only a third of workers in this occupational group have a postsecondary degree or credential.
- In 2014, there were no degrees or credentials awarded in the Spokane Area related to this occupational group. However, employers in the area may not require formal postsecondary education to qualify for jobs in this occupational group and may prefer applicants with relevant experience or to conduct their own on-the-job training.

Aircraft Mechanics and Service Technicians

Definition: Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists. (Source: O*NET)

Typical Job Titles: Aircraft Maintenance Director, Aircraft Maintenance Supervisor, Aircraft Maintenance Technician (Aircraft Maintenance Tech), Aircraft Mechanic, Aircraft Restorer, Aircraft Technician, Airframe and Powerplant Mechanic (A and P Mechanic), Aviation Maintenance Technician (AMT), Aviation Mechanic, Helicopter Mechanic (Source: O*NET)

Key Statistics: Aircraft Mechanics and Service Technicians

2015 T&W Employment	Median Hourly Wages	Annual Openings (All Industries)	Annual Related Completions	2012/2013 % of Workers with Postsecondary Education*	% of Workers Age 55 and older
291	$26.62	23	0	70%	20%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

- The Aircraft Mechanics and Service Technicians occupational group accounts for over 400 jobs in the Spokane Area, of which, nearly 300 jobs are in the T&W industry. Aircraft Mechanics and Service Technicians are also employed in the Manufacturing industry, due to the presence of the aerospace manufacturing firms. In the T&W industry, these workers are generally associated with the growth in air transportation. The occupational group has grown rapidly in the T&W industry, increasing employment by over 90 workers between 2005 and 2015, a 47% increase. This growth is expected to continue over the next 10 years, with employment projected to grow by another 90 workers, a 30% expansion in employment.
- Over the next 10 years, 23 annual openings are projected for this occupational group, of which, 18 openings are expected to be in this T&W industry. Openings are expected to be driven nearly equally by new and replacement demand.
- Workers in this occupational group are aging, with approximately 20% of Aircraft Mechanics and Service Technicians aged 55 or older. These workers may be planning to retire over the next 10 years, creating demand for workers to fill open positions. Given the specialized training required for this occupational group and the rapid growth in employment, these retirements may pose a serious challenge to the region's employers.
- The median wage for this occupation is $26.62 per hour, which is significantly higher than the median wage for all Spokane Area jobs. Wages in this occupational group are among the highest in the T&W industry group.
- According to the BLS, the Aircraft Mechanics and Service Technicians occupational group typically requires a postsecondary non-degree award to enter the field. Nationally, 70% of workers in this field have some postsecondary education.
- In the Spokane Area, no certificates or degrees were awarded related to this occupational group. However, there are over 300 degrees and certificates awarded annually in other mechanic/repair/technician-related programs. It is possible that some of these programs may adequately prepare workers for employment in the Aircraft Mechanics and Service Technicians occupational group.

Transportation & Warehousing Occupation Overview

Selection Criteria for Occupations Included:

- At least 100 jobs in the Transportation & Warehousing industry
- At least 5 openings annually

Data Included:

- 2015 Jobs
- Percent of Jobs in the Transportation & Warehousing Industry
- 2015 to 2025 Change (absolute change and percent change)
- Median Hourly Earnings

Key Findings:

- Employment in the T&W industry is relatively concentrated in few large occupational groups, specifically Heavy and Tractor-Trailer Truck Drivers, Laborers and Freight, Stock, and Material Movers (Hand), and Light Truck or Delivery Drivers. Combined, these three occupational groups account for 45% of all T&W employment.
- While overall, the industry is expected to experience relatively low growth, certain occupational groups within the industry are expected to grow rapidly. The Heavy and Tractor-Trailer Truck Drivers, Laborers and Freight, Stock, and Material Movers (Hand), and Bus Drivers occupational groups are expected to experience over 10% employment growth while the Aircraft Mechanics and Service Technicians occupational group is projected to expand by over 30%.
- Some of the largest occupational group in the T&W industry have significant employment in other industry clusters as well. Specifically, occupations related to packing and shipping are also closely tied to the Manufacturing industry. The Aircraft Mechanics and Service Technicians occupational group is also employed by the Manufacturing industry due to the presence of aerospace manufacturing firms.
- For the largest occupational groups, median hourly wages range from around $12 to over $27. Overall, the industry is dominated by lower wage jobs. However, the jobs that typically require some postsecondary credential are typically associated with higher wages.
- Overall, educational requirements are also very low in the T&W industry – most occupational group require a high school diploma and very few require a Bachelor's or Associate's degree.

Transportation and Material Moving Occupations

Overview: Transportation and Material Moving Occupations

SOC	Description	2015 T&W Jobs	% of Jobs in T&W Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	153	32%	16	10%	$24.80
53-3022	Bus Drivers, School or Special Client	349	27%	46	13%	$12.69
53-3032	**Heavy and Tractor-Trailer Truck Drivers**	**2,365**	**56%**	**229**	**10%**	**$18.57**
53-3033	Light Truck or Delivery Services Drivers	551	31%	17	3%	$14.75
53-4011	Locomotive Engineers	162	100%	21	13%	$26.55
53-4031	Railroad Conductors and Yardmasters	171	100%	22	13%	$27.03
53-7062	**Laborers and Freight, Stock, and Material Movers, Hand**	**858**	**20%**	**132**	**15%**	**$12.25**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the Transportation & Warehousing industry

Installation, Maintenance, and Repair Occupations

Overview: Installation, Maintenance, and Repair Occupations

SOC	Description	2015 T&W Jobs	% of Jobs in T&W Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
49-3011	Aircraft Mechanics and Service Technicians	291	69%	90	31%	$26.62
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	138	24%	13	9%	$18.58

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the Transportation & Warehousing industry

Office and Administrative Support Occupations

Overview: Office and Administrative Support Occupations

SOC	Description	2015 T&W Jobs	% of Jobs in T&W Industry	2015 - 2025 # Change	2015 - 2025 % Change	Median Hourly Earnings (All Industries)
43-4051	Customer Service Representatives	133	2%	26	20%	$14.37
43-5032	Dispatchers, Except Police, Fire, and Ambulance	149	38%	17	11%	$18.72
43-9061	Office Clerks, General	113	2%	13	11%	$13.97

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations that added the most jobs in the Transportation & Warehousing industry

Projected Annual Openings

Selection Criteria for Occupations Included:

- At least 100 jobs in the Transportation & Warehousing industry
- At least 5 openings annually

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Estimated Annual Openings (Transportation & Warehousing): of the annual openings, the number estimated to be in the T&W industry. The number of openings is only provided for an occupation, but not the portion of the occupation in a certain industry. To estimate the number of openings specifically in the T&W industry, Camoin Associates assessed the number of new jobs expected in the T&W industry over the next 10 years and the portion of T&W jobs in the occupation overall.
- New Demand: job openings in an occupation created by new jobs being added to an occupation/industry
- Replacement Demand: jobs openings in an occupation created by workers retiring or other turnover

Key Findings:

- Due to the slow employment growth projected in the T&W industry overall, openings for most occupations are primarily driven by replacement demand. However, openings in the Aircraft Mechanics and Service Technicians occupational group is nearly equally driven by new and replacement demand.
- Most openings are in packing and shipping-related occupational groups, such as Heavy and Tractor-Trailer Truck Drivers and Laborers and Freight, Stock, and Material Movers (Hand). Replacement demand accounts for 65% and 69% of openings in these occupational groups, respectively.
- The Customer Service Representatives and Office Clerks (general) occupational groups have more significant employment in other industry groups. Overall, these occupational groups are projected to have over 280 and 220 openings annually, respectively. Of these openings, fewer than 10 are expected to be in the T&W industry.

Transportation and Material Moving Occupations

Projected Annual Openings: Transportation and Material Moving Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (T&W)	Estimated % New Demand	% Replacement Demand
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	18	6	26%	74%
53-3022	Bus Drivers, School or Special Client	34	11	41%	59%
53-3032	**Heavy and Tractor-Trailer Truck Drivers**	**119**	**66**	**35%**	**65%**
53-3033	Light Truck or Delivery Services Drivers	45	11	15%	85%
53-4011	Locomotive Engineers	7	7	29%	71%
53-4031	Railroad Conductors and Yardmasters	8	8	28%	72%
53-7062	**Laborers and Freight, Stock, and Material Movers, Hand**	**208**	**42**	**31%**	**69%**

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of Transportation & Warehousing Annual Openings

Installation, Maintenance, and Repair Occupations

Projected Annual Openings: Installation, Maintenance, and Repair Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (T&W)	Estimated % New Demand	% Replacement Demand
49-3011	Aircraft Mechanics and Service Technicians	23	18	49%	51%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	19	4	29%	71%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of Transportation & Warehousing Annual Openings

Office and Administrative Support Occupations

Projected Annual Openings: Office and Administrative Support Occupations

SOC	Description	Annual Openings (All Industries)	Est. Annual Openings (T&W)	Estimated % New Demand	% Replacement Demand
43-4051	Customer Service Representatives	282	6	40%	60%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	19	6	26%	74%
43-9061	Office Clerks, General	222	4	33%	67%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Bold designates occupations with the highest number of Transportation & Warehousing Annual Openings

Labor Supply and Demand Analysis

Selection Criteria for Occupations Included:

- At least 100 jobs in the Transportation & Warehousing industry
- At least 5 openings annually

Data Included:

- Annual Openings (All Industries): represents the average number of job openings over the next 10 years due to retirements/turnover (replacement demand) and economic growth (new demand)
- Annual Related Completions: represents all degrees awarded in educational programs that could funnel workers into the occupation
- Completions Allocated to Occupation: as most educational programs prepare graduates for multiple occupations, this statistic assesses the number of graduates that would be expected to enter a specific occupational field, based on the amount of competition for those graduates from other occupational groups.
- Completions to Openings Ratio: compares the number of "completions allocated to occupation" to the number of annual openings. A ratio of 1 would signify that there are exactly the same number of graduates as openings. If the ratio is less than 1, there are fewer educational awards than the number of annual openings while a ratio greater than 1 would mean there are more educational awards than openings.
- Typical Level of Education Required: determined by the Bureau of Labor Statistics (BLS), this represents the level of education typically required nationally to enter an occupational field. This may vary widely based on the industry and location.
- Percent of Workers with Postsecondary Education: determined by the Bureau of Labor Statistics, this number represents the proportion of workers in the occupational group that have some college, a postsecondary non-degree award, an Associate's degree, Bachelor's degree, or more advanced level of education.

Key Findings:

- Based on this analysis, there are few educational programs related to occupations in the T&W industry in the Spokane Area. However, many occupations in this industry group typically require just a high school diploma to enter the field. Employers hiring workers for these positions may prefer some prior work experience or to conduct their own on-the-job training to hiring workers with a formal postsecondary credential.
- For the Heavy and Tractor-Trailer Truck Drivers occupational group, a commercial driver's license (CDL) is typically required. While there are nearly 120 annual openings projected in this occupational group (both in the T&W industry and in other industries), there are not an adequate number of programs training workers for this occupation in the Spokane Area, according to the National Center for Education Statistics.
- While there are no certifications awarded in the region specifically related to the Aircraft Mechanics and Service Technicians occupational group, educational institutions in the region do have other mechanic and technician-related programs. For example, there were over 60 credentials awarded related to the Bus and Truck Mechanics and Diesel Engine Specialists occupational group in 2014, while there are just 19 openings projected in this field annually.

Transportation and Material Moving Occupations

Labor Supply and Demand Analysis: Transportation and Material Moving Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education*
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	18	137	12	0.65	High school diploma or equivalent	57%
53-3022	Bus Drivers, School or Special Client	34	0	0	0.00	High school diploma or equivalent	45%
53-3032	Heavy and Tractor-Trailer Truck Drivers	119	0	0	0.00	Postsecondary non-degree award	34%
53-3033	Light Truck or Delivery Services Drivers	45	0	0	0.00	High school diploma or equivalent	34%
53-4011	Locomotive Engineers	7	0	0	0.00	High school diploma or equivalent	63%
53-4031	Railroad Conductors and Yardmasters	8	0	0	0.00	High school diploma or equivalent	63%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	208	0	0	0.00	Less than high school	32%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Installation, Maintenance, and Repair Occupations

Labor Supply and Demand Analysis: Installation, Maintenance, and Repair Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education*
49-3011	Aircraft Mechanics and Service Technicians	23	0	0	0.00	Postsecondary non-degree award	70%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	19	61	61	3.23	High school diploma or equivalent	39%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Office and Administrative Support Occupations

Labor Supply and Demand Analysis: Office and Administrative Support Occupations

SOC	Description	Annual Openings (All Industries)	Annual Related Completions	Completions Allocated to Occupation	Completions to Openings Ratio	Typical Level of Education Required	% of Workers with Postsecondary Education*
43-4051	Customer Service Representatives	282	6	4	0.01	High school diploma or equivalent	69%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	19	0	0	0.00	High school diploma or equivalent	63%
43-9061	Office Clerks, General	222	63	25	0.11	High school diploma or equivalent	67%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

*Nationally, includes Post-secondary non-degree awards, Associate's, Bachelor's and above

Manufacturing Targeted Sector Analysis

Aerospace Product and Parts Manufacturing

Industry Definition

Source: IBISWorld

Companies in this industry manufacture and overhaul complete aircraft, develop prototypes and convert aircraft. The industry also includes the manufacture, conversion and overhaul of aircraft engines and propulsion systems. Additionally, the industry makes related parts and auxiliary equipment.

National Perspective

Source: IBISWorld

The Aerospace Product and Parts Manufacturing industry experienced strong revenue growth between 2010 and 2015. This growth was largely driven by pent up demand due to low spending on new aircraft by airlines during the recent recession. As the economy has recovered and airline traffic has increased, airlines have begun replacing aging aircraft and increasing the size of their fleet, driving growth in the aerospace manufacturing industry. Additionally, growth in the industry has been driven by growing defense spending and airline traffic in the developing world.

While nationally, the Aerospace Product and Parts Manufacturing industry has experienced strong revenue growth between 2010 and 2015, it continues to face a range of challenges and obstacles. Recent decreases to the federal defense spending as well as spending shifting from large aircraft to new technologies, such as drones, threaten future revenue growth. While exports have been strong for the industry, accounting for approximately 50% of revenues, this market may also be under threat. Growth in the developing world is slowing and the US dollar is increasing in value, relative to rival currencies, making US exports more expensive. Additionally, the domestic industry faces competition from foreign imports, especially as the dollar strengthens.

The industry also has a range of opportunities. Due to the decline in fuel prices, some airlines may have budget surpluses that may be allocated to purchasing new aircraft and equipment. The industry also has opportunities for innovation, particularly to develop more fuel efficient aircraft. Finally, growing defense spending on drone technology offers new opportunities for startups and innovative businesses in the cluster.

Industry Overview

Employment in the Aerospace Product and Parts Manufacturing industry sector is most concentrated in the Aircraft Parts and Auxiliary Equipment Manufacturing sector, which accounts for nearly 90% of employment in the industry. The Aircraft Manufacturing sector is much smaller, representing just over 100 jobs in 2015.

Both industry sectors have higher than average earnings per worker, especially the Aircraft Manufacturing sector, the earnings of which exceed $100,000 per worker. Overall, earnings per worker in this cluster are nearly $20,000 higher than the overall average for the Manufacturing industry.

Employment in the Aerospace Product and Parts Manufacturing industry sector is over 3.5 times more concentrated in the Spokane Area than in the US overall.

Aerospace Product & Parts Manufacturing Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
336411	Aircraft Manufacturing	112	$108,996	0.22	11%	$20,289,521
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	859	$79,509	3.57	87%	$138,884,945
3364	Aerospace Product and Parts Manufacturing	988	$82,860	0.91	100%	$161,369,386

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The industry has grown rapidly since 2005, adding over 500 jobs. This growth was driven by the manufacturing of aircraft parts and equipment, rather than the manufacturing of aircraft themselves. The Aircraft Manufacturing sector actually shed nearly 20 jobs over this period, while the Other Aircraft Parts and Auxiliary Equipment Manufacturing sector added over 500 jobs, an increase of nearly 180%.

Aerospace Product & Parts Manufacturing Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
336411	Aircraft Manufacturing	131	175	112	-19	-15%
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	307	547	859	551	179%
3364	Aerospace Product and Parts Manufacturing	480	727	988	508	106%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Over the next 10 years, these trends are expected to continue, although the rate of growth will slow substantially. Overall, the cluster is expected to add over 130 jobs, expanding employment by 14%. Employment in the Aircraft Manufacturing industry is expected to continue to decline, shedding 11 jobs by 2021. However, over the same period, the Other Aircraft Parts and Auxiliary Equipment Manufacturing is expected to add over 150 jobs, increasing by 18%. By 2021, the Aerospace Product & Parts Industry is expected to account for well over 1,100 jobs.

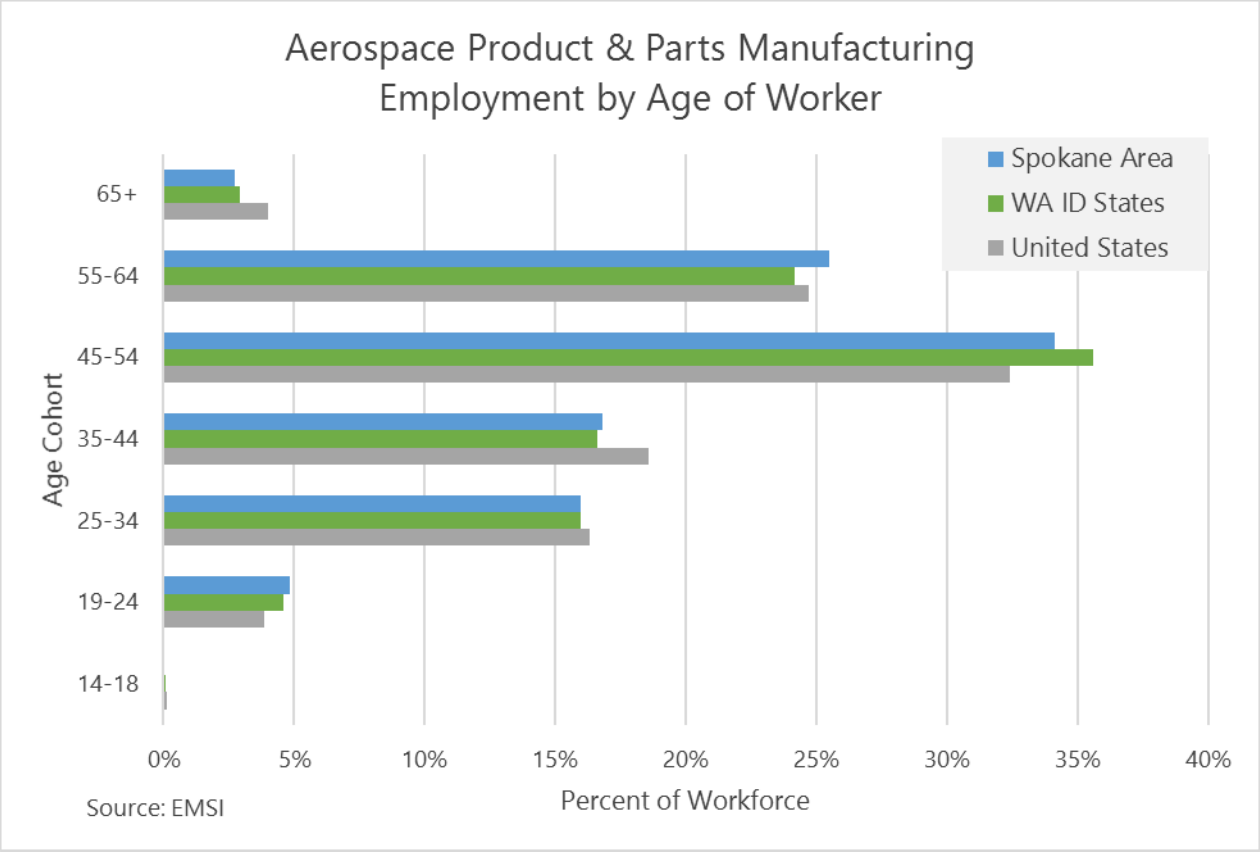
Aerospace Product & Parts Manufacturing Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
336411	Aircraft Manufacturing	112	104	101	-11	-10%
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	859	979	1,017	158	18%
3364	Aerospace Product and Parts Manufacturing	988	1,093	1,124	136	14%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

The distribution of workers in the Aerospace Product & Parts Manufacturing Industry largely mirrors the state and the nation. Nearly 30% of workers in region's industry are aged 55 or older while just 16% are between the ages of 25 to 34 and 17% are between the ages of 35 and 44. Another 34% of workers are between the ages of 45 and 54. With such a high proportion of workers nearing the age of retirement, the industry may face challenges developing a pipeline of workers to replace these experienced workers.


Aerospace Product & Parts Manufacturing
Employment by Age of Worker
Spokane Area
WA ID States
United States
65+
55-64
45-54
35-44
25-34
19-24
14-18
Age Cohort
0%
5%
10%
15%
20%
25%
30%
35%
40%
Percent of Workforce
Source: EMSI

Pharmaceutical and Medicine Manufacturing

National Perspective

Source: IBISWorld

The Pharmaceutical and Medicine Manufacturing industry is dominated by two primary groups: brand name drug manufacturers and generic drug manufacturers. Over the past 5 years, the two groups have experienced different trajectories in terms of revenue. For brand name pharmaceutical manufacturers, revenue has declined over the past 5 years while revenue for generic drug manufacturers has grown by $11 billion. This divergence is due in large part to the expiration of patents for "blockbuster" drugs, such as Lipitor, that has allowed generic pharmaceutical manufacturers to chip away at the sales of brand name manufacturers. Both groups are expected to experience revenue growth over the next 5 years.

Revenue in the industry is driven largely by demographics, federal regulation, and R&D investment. As the population ages, demand for the industry's products is expected to grow. Additionally, the Affordable Care Act (ACA) and the expansion of Medicaid in many states provides access to pharmaceutical products to millions of Americans who were previously un- or under-insured. However, even as the number of customers for pharmaceutical products grow, revenue growth may be dampened by government regulation and insurers negotiating lower prices or restricting the use of pharmaceutical products. Additionally, investment in research and development may decrease as the budget of the National Institute of Health declines.

Employment trends for brand name pharmaceutical manufacturers also differs from their generic counterparts. Over the past 5 years, employment at brand name pharmaceutical manufacturers has declined as R&D activities have been outsourced to Contract Research Organizations (CROs) and as manufacturers have merged and consolidated, eliminating duplicative plants and personnel. Generic manufacturers are expected to increase employment over the coming years as more patents expire and as the number of individuals with healthcare continues to expand.

While traditional prescription drug manufacturing is considered a mature industry and the identification of new drug compounds has slowed, the market for biologic drugs is growing and is a strong opportunity for actors in the industry. Biologics includes a range of products, including vaccines, blood and blood components, allergenics, somatic cells, gene therapy, tissues, and recombinant therapeutic proteins. The Biological Product Manufacturing sector, which includes the production of biologics, is one of the largest and fastest growing sectors Pharmaceutical and Medicine Manufacturing Industry sectors in the Spokane Area.

Like other manufacturers, businesses in the Pharmaceutical and Medicine Manufacturing industry face competition from foreign imports. The amount of drugs imported into the US over has grown steadily over the past 10 years and is projected to continue to grow. The strength of the dollar, relative to other global currencies, may result in additional import substitution while making pharmaceutical products exported from the US more expensive to foreign customers, further dampening demand. Additionally, increased competition domestically within the industry, coupled with the capital intensive nature of pharmaceutical production, may drive some actors out of the industry or result in further consolidation and streamlining of companies, leading to layoffs.

Industry Overview

In the Spokane Area, the Pharmaceutical and Medicine Manufacturing Industry accounted for 850 jobs. Overall, employment in the industry is slightly more concentrated than the US, with a location quotient of 1.32. However, the Biological Product Manufacturing sector is extremely concentrated in the region, with a LQ of 10.33. This sector is also the largest in the Pharmaceutical and Medicine Manufacturing industry, accounting for over 680 jobs, or 80% of employment in the industry.

Average earnings per worker in the Pharmaceutical and Medicine Manufacturing industry are high, at $82,467, nearly $20,000 higher than the overall average for the manufacturing industry.

Pharmaceutical and Medicine Manufacturing Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
325412	Pharmaceutical Preparation Manufacturing	134	$85,287	0.28	16%	$33,027,694
325413	In-Vitro Diagnostic Substance Manufacturing	35	$110,178	0.65	4%	$9,583,107
325414	Biological Product (except Diagnostic) Manufacturing	683	$80,512	10.33	80%	$274,499,958
3254	Pharmaceutical and Medicine Manufacturing	851	$82,467	1.32	100%	$317,416,219

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The Pharmaceutical and Medicine Manufacturing industry has grown rapidly since 2005, adding over 470 jobs, an expansion of 125%. While all sectors in this industry experienced some growth, it was largely driven by the Biological Product Manufacturing sector, which added over 330 jobs. The Pharmaceutical Preparation Manufacturing and In-Vitro Diagnostic Substance Manufacturing sectors grew rapidly, expanding from very low employment numbers in 2005.

Pharmaceutical and Medicine Manufacturing Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
325412	Pharmaceutical Preparation Manufacturing	24	96	134	110	468%
325413	In-Vitro Diagnostic Substance Manufacturing	5	21	35	30	591%
325414	Biological Product (except Diagnostic) Manufacturing	351	570	683	332	95%
3254	Pharmaceutical and Medicine Manufacturing	378	687	851	473	125%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Growth in the Pharmaceutical and Medicine Manufacturing industry is expected to continue to grow over the coming years, but at a lower rate. Between 2015 and 2021, the industry is projected to add over 210 jobs, an expansion of 25%. The Biological Product Manufacturing industry will again drive employment growth in the industry, adding over 200 jobs. The Pharmaceutical Preparation Manufacturing sector is projected to contract slightly, shedding 9 jobs between 2015 and 2021.

Pharmaceutical and Medicine Manufacturing Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
325412	Pharmaceutical Preparation Manufacturing	134	127	125	-9	-7%
325413	In-Vitro Diagnostic Substance Manufacturing	35	44	50	16	46%
325414	Biological Product (except Diagnostic) Manufacturing	683	805	889	206	30%
3254	Pharmaceutical and Medicine Manufacturing	851	976	1,064	213	25%

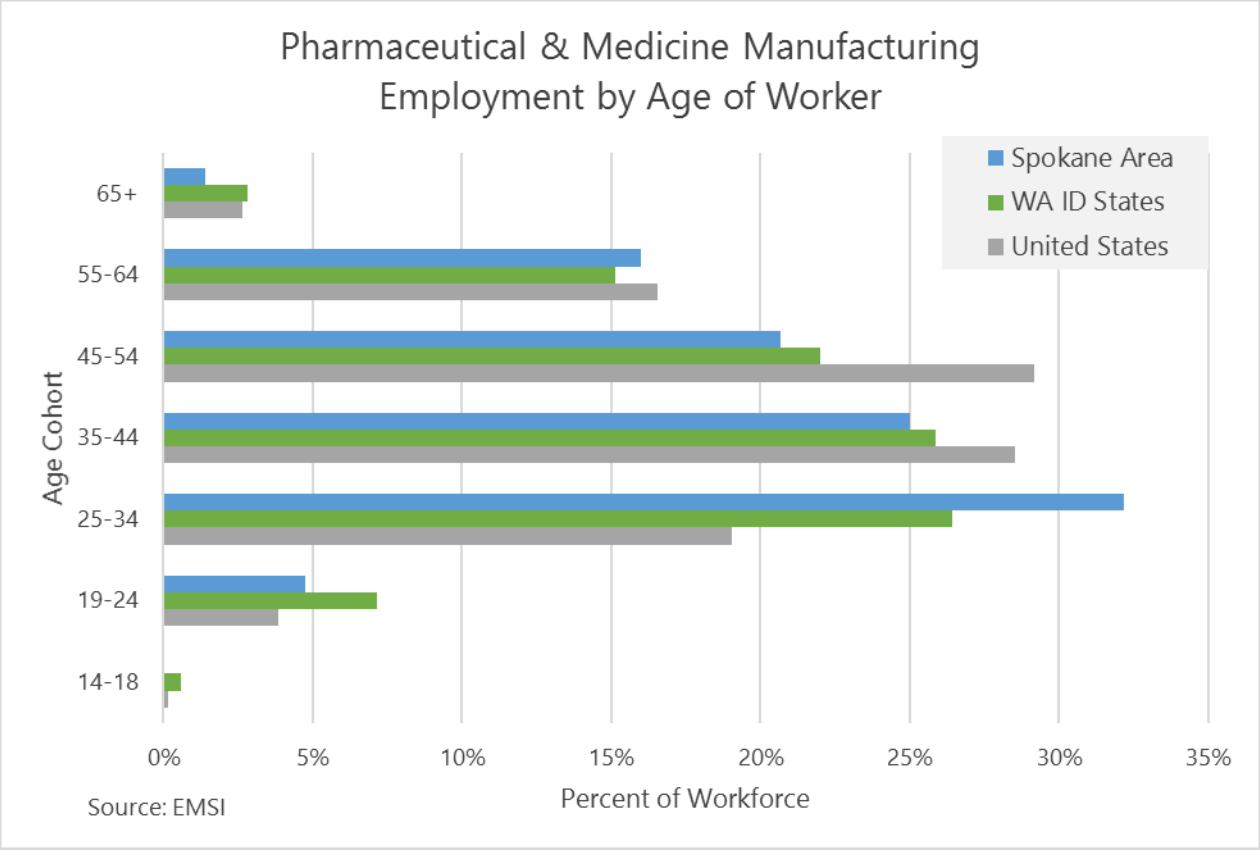
Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Relative to the Manufacturing industry overall, employment in the Pharmaceutical and Medicine Manufacturing industry is more concentrated in younger age brackets. Additionally, the industry in the Spokane Area is more concentrated in 25 to 34 age cohort than the same industry in Washington and Idaho States and the US. The high

proportion of younger workers is likely due to the industry's recent rapid growth, which required it to quickly hire more workers.

Due to the overall youth of the industry's workforce in the Spokane Area, the industry may require fewer workers due to retirements. However, even with the high concentration in the 25 to 34 age cohort, 17% of workers in the industry are over the age of 55 and another 29% are between the ages of 45 and 54. Many of these workers will likely be retiring over the next 10 to 15 years.



Semiconductor and Other Electrical Component Manufacturing

Industry Definition

Source: IBISWorld

This industry includes companies that manufacture semiconductors and electronic components. Products in this industry include integrated circuits, memory chips, microprocessors, diodes, transistors and other optoelectronic devices, printed circuits, circuit boards, transformers, and connectors.

National Perspective

Source: IBISWorld

The Semiconductor and Other Electronic Component Manufacturing industry primarily sells its products to the appliance manufacturing and consumer electronics industries. These industries both suffered during the recent recession, as building construction and consumer spending shrank. Even as demand from these sectors has grown, the industry has faced negative revenue growth over the past 5 years. While the industry is projected to show positive revenue growth over the coming years, the industry's growth is still expected to lag behind growth in the nation's overall GDP.

The industry's sluggish growth, even as the economy overall has recovered, can largely be attributed to import substitution and some domestic companies moving operations offshore to areas with lower labor costs. In addition to lower labor costs, foreign competitors have benefitted from the stronger dollar, which makes imports cheaper and US exports more expensive. Imports of this industry's products into the US increased at a rate of 1.4% annually between 2010 and 2015. Over the same period, industry exports from the US have declined at an annual rate of 4.1%. This trend is expected to continue. Foreign competitors are forcing US producers to sell goods for less, depressing revenue in the industry.

Even in this mature industry, there are a range of new opportunities for growth and innovation. As the consumer electronics industry continues to grow, demand for industry products are expected to grow as well. Smartphones are an especially important market for this industry, especially as consumers demand more sophisticated phones and other electronic devices that require more advanced electronic components. Additionally, there are opportunities to incorporate the industry's products into cars with more electronic and automatic safety features. Finally, the desire to create more energy efficient products could lead to innovation in the industry and the opportunity to create more valuable products.

Even as revenue begins growing again, employment in the industry is expected to remain stagnant over the coming years, largely due to automation and technological improvements in the manufacturing processes. Additionally, as the number of industry establishments in the US shrinks, the number of workers has correspondingly declined.

Industry Overview

The Semiconductor and Other Electrical Component Manufacturing industry accounts for nearly 500 jobs in the Spokane Area. The industry in the region is made up of a diverse group of sectors. The largest sector, Printed Circuit Assembly (Electronic Assembly) Manufacturing, accounts for nearly 250 jobs, or approximately 50% of employment in the industry. Overall, employment in the industry is approximately half as concentrated in the Spokane Area as the US overall, with an LQ of 0.57. However, Printed Circuit Assembly (Electronic Assembly) Manufacturing, the largest sector in the industry, is nearly twice as concentrated in the Spokane Area.

With average earnings per worker of $51,000, the Semiconductor and Other Electronic Component Manufacturing industry has lower earnings than the overall average for the Manufacturing industry. The Printed Circuit Assembly (Electronic Assembly) Manufacturing industry, which represents the largest number of jobs, has the lowest average

earnings in the industry. Other Electronic Component Manufacturing, which is the second largest sector, has average earnings much higher than the overall Manufacturing industry average.

Semiconductor and Other Electronic Component Manufacturing Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
334413	Semiconductor and Related Device Manufacturing	66	$40,818	0.16	14%	$2,736,886
334417	Electronic Connector Manufacturing	57	$66,524	1.25	12%	$6,852,078
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	243	$35,474	1.98	51%	$26,851,599
334419	Other Electronic Component Manufacturing	113	$86,163	0.75	23%	$15,090,780
3344	Semiconductor and Other Electronic Component Manufacturing	481	$51,857	0.57	100%	$51,660,701

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The industry has grown rapidly, increasing from approximately 300 jobs in 2005 to 480 jobs in 2015, an increase of 184 jobs, or 62%. Growth in the industry was driven by the Printed Circuit Assembly Manufacturing sector, which added nearly 200 jobs. The Semiconductor and Related Device Manufacturing and Electronic Connector Manufacturing, which represented very few jobs in 2005, added 60 jobs and 50 jobs, respectively.

Other Electronic Component Manufacturing, which was the largest sector in this industry in 2005, contracted by nearly 50% over the past 10 years, shedding over 100 jobs.

Semiconductor and Other Electronic Component Manufacturing Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
334413	Semiconductor and Related Device Manufacturing	5	14	66	61	1230%
334417	Electronic Connector Manufacturing	5	81	57	52	1040%
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	50	79	243	193	383%
334419	Other Electronic Component Manufacturing	220	243	113	-108	-49%
3344	Semiconductor and Other Electronic Component Manufacturing	298	450	481	184	62%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Growth in the industry is expected to continue over the next 10 years, with employment increasing by over 200 jobs, an expansion of over 40%. Growth in the industry will again be driven by the Printed Circuit Assembly (Electronic Assembly) Manufacturing industry, which is projected to expand employment by 66%, adding 160 jobs. The Semiconductor and Related Device Manufacturing and Electronic Connector Manufacturing sectors are also expected to expand employment.

The Other Electronic Component Manufacturing industry sector is expected to continue to shed jobs, but at a much lower rate. The industry is projected to lose 18 jobs, decreasing employment by 16%.

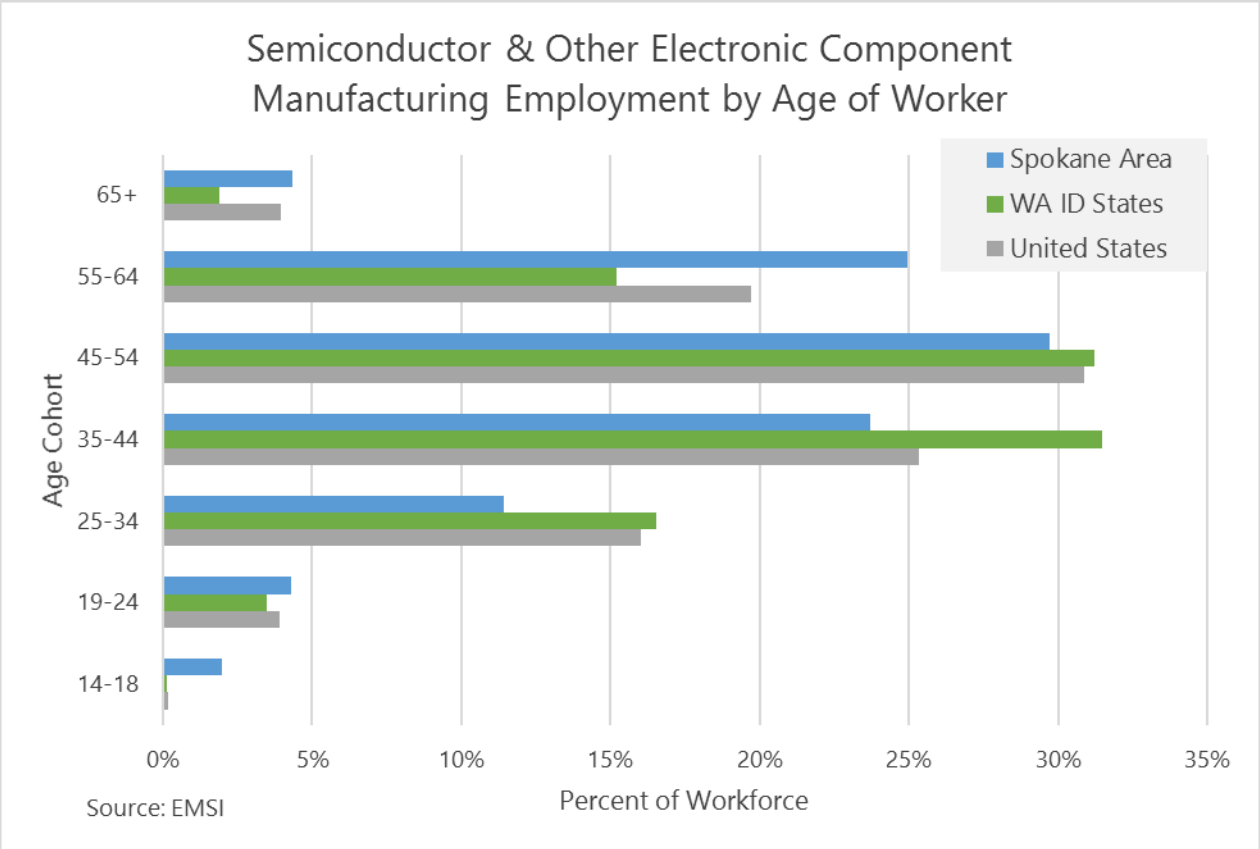
Semiconductor and Other Electronic Component Manufacturing Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
334413	Semiconductor and Related Device Manufacturing	66	79	93	26	39%
334417	Electronic Connector Manufacturing	57	81	98	41	72%
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	243	334	403	160	66%
334419	Other Electronic Component Manufacturing	113	100	95	-18	-16%
3344	Semiconductor and Other Electronic Component Manufacturing	481	595	690	209	43%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Employment in the Semiconductor and Other Component Manufacturing industry is more concentrated in the 55 to 64 and 65+ age cohorts than WA/ID States and the nation. Workers in these age cohort account for nearly 30% of employment in the region's industry while they account for 17% in Washington and Idaho States and 21% in the US overall. Conversely, the industry is less concentrated in lower age brackets, with just 11% of workers aged 25 to 34. With such a high proportion of workers over the age of 55, the Semiconductor and Other Component Manufacturing industry may have large numbers of workers retiring over the coming years.



Electrical Equipment Manufacturing

Industry Definition

Source: IBISWorld

This industry manufactures power, distribution and specialty transformers; electric motors, generators and motor-generator sets; switchgear and switchboard apparatus; relays; and industrial controls. Electrical equipment manufacturers sell their products to other manufacturing industries, wholesalers and the construction sector.

National Perspective

Source: IBISWorld

The Electrical Equipment Manufacturing industry suffered during the recent recession, but has begun to recover. Between 2010 and 2015, revenue grew by just 0.3% annually. As new construction begins to increase over the coming years, it is expected that revenue in the industry will also grow, rising to an annual growth rate of 1.4% over the next 5 years. However, this growth still lags behind the projected growth in GDP.

In addition to the effects of the recession, the industry faces increasing competition from imports to the US and lower demand for its products abroad. Foreign products in this industry benefit from lower wages and the improving strength of the dollar relative to other currencies, which makes US exports more expensive. In 2015, imports met nearly 54% of domestic demand, in increase from nearly 46% in 2010.

Slow revenue growth and increased foreign competition have led to plant closures and consolidation in the industry. Overall, the number of US establishments in the industry has been decreasing, reflecting the more consolidated nature of the industry. Many domestic industries are also capitalizing on the lower wages elsewhere by moving some production offshore.

These changes are also impacting the industry's workforce. Some companies are retaining only highly skilled positions in the US while lower skilled production work is moved offshore. Others are replacing low skilled work with automation. Overall, the revenue per employee is increasing in the industry, due to technological advances, and the average earnings per employee is also increasing, reflecting the higher skilled nature of the work.

Industry Overview

The Electrical Equipment Manufacturing industry is one of the largest sub-clusters in the Spokane Area's Manufacturing industry, representing over 2,200 jobs. In the Spokane Area, the industry is comprised of two sectors: Switchgear and Switchboard Apparatus Manufacturing, which accounted for just 2% of jobs in the industry, and Relay and Industrial Control Manufacturing, which represents 2,160 jobs, or 98% of industry employment. Employment in the Relay and Industrial Control Manufacturing industry is also highly concentrated in the Spokane Area, with a location quotient of 20. Overall, employment in the Electrical Equipment Manufacturing industry is nearly 7 times more concentrated in the Spokane Area than in the US.

Average earnings per worker in the industry are approximately $20,000 higher in the Electrical Equipment Manufacturing industry than in the Manufacturing industry overall.

Electrical Equipment Manufacturing Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
335313	Switchgear and Switchboard Apparatus Manufacturing	47	$55,293	0.61	2%	$3,398,294
335314	Relay and Industrial Control Manufacturing	2,160	$84,824	20.60	98%	$169,446,466
3353	Electrical Equipment Manufacturing	2,208	$84,186	6.80	100%	$190,916,456

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The Electrical Equipment Manufacturing industry has grown rapidly in the Spokane Area since 2005. Over the past 10 years, the industry has added over 1,350 jobs, an increase of 160%. The large increase in employment was primarily driven by the Relay and Industrial Control Manufacturing industry, which added over 1,400 jobs, expanding from 730 jobs in 2005 to 2,160 jobs in 2015. The Switchgear and Switchboard Apparatus Manufacturing industry cluster also added jobs over this period.

Over the same period, two sectors in the Electrical Equipment Manufacturing industry contracted significantly and likely closed. The Power, Distribution, and Specialty Transformer and Motor and Generator Manufacturing sectors lost 89 and 29 jobs, respectively.

Electrical Equipment Manufacturing Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
335311	Power, Distribution, and Specialty Transformer Manufacturing	89	171	0	-89	-100%
335312	Motor and Generator Manufacturing	29	5	0	-29	-100%
335313	Switchgear and Switchboard Apparatus Manufacturing	5	56	47	42	846%
335314	Relay and Industrial Control Manufacturing	731	1,287	2,160	1,429	195%
3353	Electrical Equipment Manufacturing	850	1,517	2,208	1,358	160%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Growth in the Electrical Equipment Manufacturing industry is projected to continue over the coming years, though at lower rate. Between 2015 and 2021, the industry is expected to add over 700 jobs, increasing employment by 32%. This growth will again be driven by the Relay and Industrial Control Manufacturing sector, which is projected to add nearly 700 jobs, expanding employment by 32%. By 2021, the Electrical Equipment Manufacturing Industry is projected to account for over 2,900 jobs.

Electrical Equipment Manufacturing Industry Projected Change, 4 Digit NAICS - Spokane Area

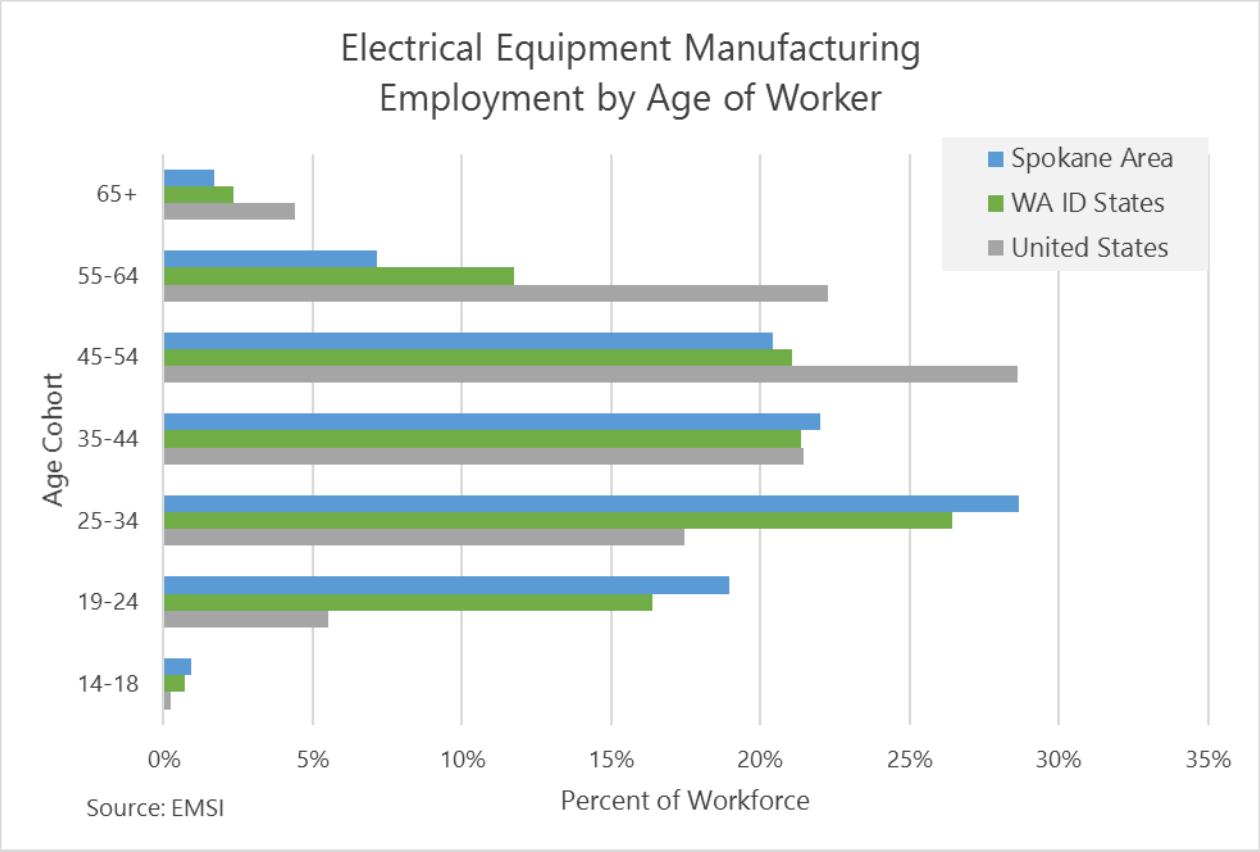
NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
335313	Switchgear and Switchboard Apparatus Manufacturing	47	55	59	12	25%
335314	Relay and Industrial Control Manufacturing	2,160	2,575	2,855	695	32%
3353	Electrical Equipment Manufacturing	2,208	2,630	2,915	707	32%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Relative to the US, employment in the Electrical Equipment Manufacturing industry is much more concentrated in lower age brackets. Workers under the age of 35 account for nearly 50% of industry workers in the Spokane Area while this same group accounts for just 23% of industry workers in the US. Conversely, the industry is less concentrated in workers over the age of 55, which accounts for just 9% of industry workers in the Spokane Area.

The relative youth of the industry's workforce in the Spokane Area is likely due to the recent rapid employment growth in the industry.


Electrical Equipment Manufacturing
Employment by Age of Worker
Spokane Area
WA ID States
United States
Age Cohort
65+
55-64
45-54
35-44
25-34
19-24
14-18
0%
5%
10%
15%
20%
25%
30%
35%
Percent of Workforce
Source: EMSI

Finance & Insurance Targeted Sector Analysis

Depository Credit Intermediation

Industry Definition

Source: IBISWorld

This industry comprises banks that provide financial services to retail and business clients in the form of commercial, industrial and consumer loans. Banks accept deposits from customers, which are used as sources of funding for loans. This industry includes products like savings accounts and certificates of deposit (CDs). Businesses in this industry are regulated by the Office of the Comptroller of the Currency. This also includes member-owner credit unions that provide deposit taking and lending services.

National Perspective

Source: IBISWorld

The Depository Credit Intermediation industry is primarily comprised of the Commercial Banking, Savings Institutions, and Credit Unions sectors. Revenue in these industry sectors is primarily driven by the housing market, including the number of sales and home prices, credit markets, stock market performance, consumer spending, and interest rates.

The Commercial Banking industry sector was heavily impacted by the recent recession and revenue has declined every year since 2008. In 2015, industry revenue began to recover and it is expected to increase at a 4% annual rate over the next 5 years. However, even as industry revenues have declined, the industry's profit margins have increased, due in large part to industry consolidation and growth in the stock market. The number of individual banks and banking establishments is expected to decline steadily over the coming years.

Government revenue is expected to reign in profits over the coming years and impose additional constraints on the banking industry. Additionally, technology is changing the business model of the industry and may result in a diminished role for retail banking establishments and industry employment. Many of the new jobs that are created by the industry are expected to be in the technology and related aspects of the industry, with fewer loan processing and banking clerk positions. As the skills and education demanded of these new workers increases, wages are also expected to increase.

The Savings Institutions industry sector was similarly affected by the recent recession. Recovery for this industry has been slow as it has ceded market share to commercial banks. The industry faces intense competition – both due to the number of businesses within the sector and businesses operating in other sectors offering similar services. Additionally, regulation for the industry is expected to grow in response to the 2008 financial crisis. These regulations will limit the industry's ability to increase revenue while also requiring the industry to retain a higher proportion of deposits.

The Credit Unions industry sector also faced declining revenue due to the financial crisis and subsequent recession. Revenue continued to decline through 2015, due to low interest rates, high capital requirements, and a slow housing market. The industry may face even more regulatory constraints and higher capital requirements over the coming years. However, businesses in the Credit Unions sectors have seen the number of members and value of deposits increase over the past 5 years. This is due, in part, to the negative public perception of large, national banks.

Similar to the Savings Institution sector, the Credit Unions sector faces intense competition from businesses outside of the industry sector, particularly the Commercial Banking sector. This sector is able to leverage name recognition and economies of scale to attract new customers. Additionally, the Commercial Banking sector offers a range of services, in addition to traditional depository and lending services, that businesses in the Credit Unions and Savings Institutions sectors are not able to offer. Finally, the Commercial Banking sector is able to offer online banking

services demanded by younger consumers that smaller competitors in the Savings Institutions and Credit Unions sectors may not be able to offer.

Industry Overview

The Depository Credit Intermediation industry is one of the largest employers in the Spokane Area. The industry accounts for over 5,000 jobs and nearly $900 million of the region's Gross Regional Product. Employment in the industry is primarily concentrated in the Commercial Banking and Credit Unions sectors, with a significant employment presence of the Savings Institutions sector as well. At over $63,000, average earnings per worker are higher than the regional average but low for the Finance & Insurance industry group.

Employment in the Depository Credit Intermediation industry is approximately a third more concentrated in the Spokane Area than in the US overall. Employment in Credit Unions, is significantly more concentrated in the Spokane Area than the nation, with a location quotient of over 2.6.

Depository Credit Intermediation Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
522110	Commercial Banking	2,962	$63,102	1.03	58%	$550,288,712
522120	Savings Institutions	643	$71,595	1.85	13%	$98,230,495
522130	Credit Unions	1,469	$59,665	2.62	29%	$222,939,918
5221	Depository Credit Intermediation	5,074	$63,189	1.33	100%	$871,756,700

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

Between 2005 and 2015, the Depository Credit Intermediation industry added over 260 jobs, expanding employment by 5%. However, this growth was not evenly distributed across all industry sectors. The Commercial Banking sector, which accounts for the greatest number of jobs in the industry group, contracted by 10% over this period, shedding nearly 330 jobs. Conversely, Credit Unions experienced strong employment growth, adding 450 jobs, an increase of 44%. The Savings Institutions sectors also grew rapidly, adding nearly 140 jobs, an increase of 28%.

Depository Credit Intermediation Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
522110	Commercial Banking	3,290	3,287	2,962	-328	-10%
522120	Savings Institutions	504	468	643	139	28%
522130	Credit Unions	1,018	1,165	1,469	451	44%
5221	Depository Credit Intermediation	4,812	4,920	5,074	262	5%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Growth is expected to continue in the industry over the coming years. Between 2015 and 2021, the industry is expected to add over 330 jobs, expanding employment by 7%. Employment in Commercial Banking is expected to rebound somewhat over this period, adding over 100 jobs, increasing 2015 employment by 4%.

Again, the Credit Unions sector is expected to drive industry growth, adding over 330 jobs, an increase of 23%. Over the same period, Savings Institutions are expected to shed over 100 jobs, contracting by 16%.

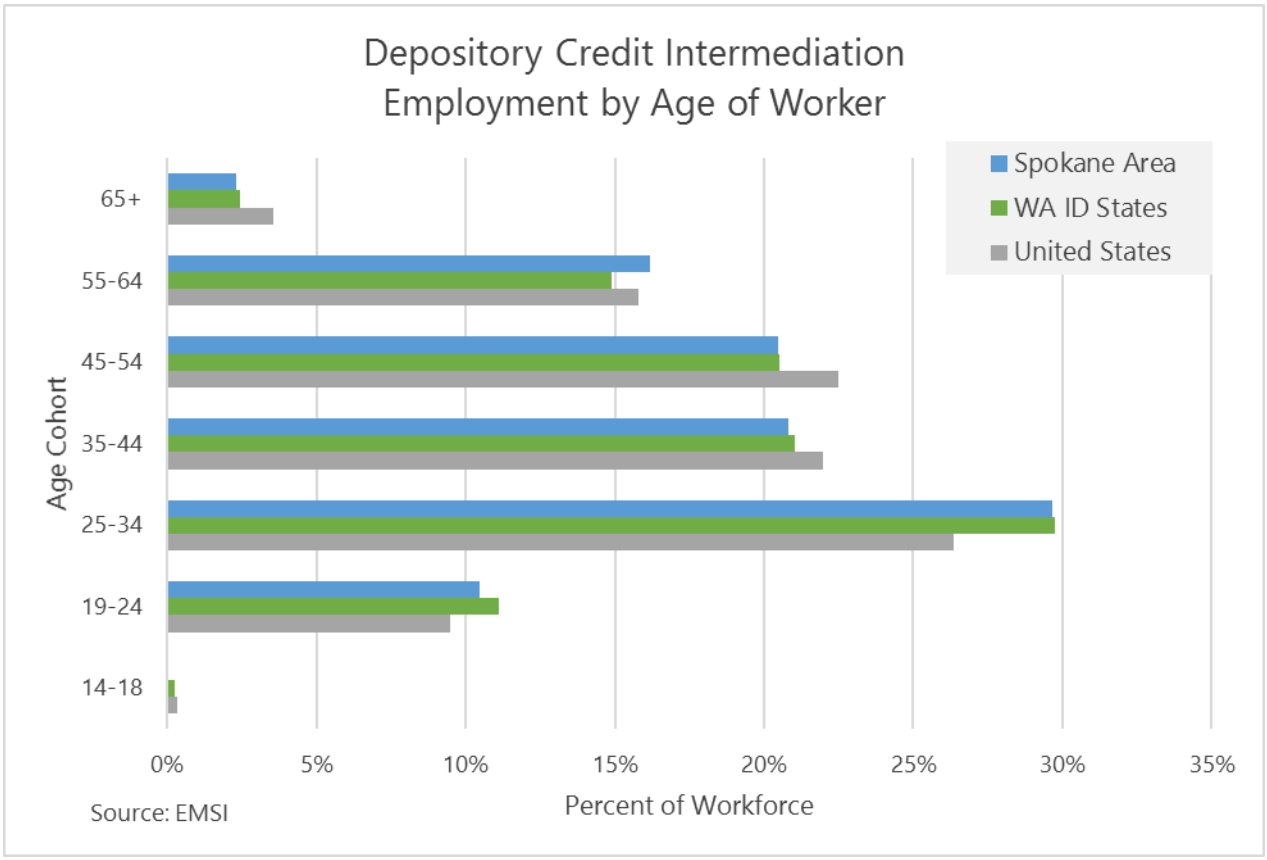
Depository Credit Intermediation Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
522110	Commercial Banking	2,962	3,017	3,066	104	4%
522120	Savings Institutions	643	598	538	-105	-16%
522130	Credit Unions	1,469	1,664	1,801	332	23%
5221	Depository Credit Intermediation	5,074	5,279	5,406	331	7%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Employment in the Depository Credit Intermediation industry in the Spokane Area largely mirrors the demographics of the industry in Washington and Idaho States. The industry's workforce is young, with 40% of workers under the age of 35 in the Spokane Area. This is similar to Washington and Idaho States and the US, although the local industry is slightly more concentrated in these age cohorts than the US overall. Locally, approximately one fifth of workers are between the age of 45 and 54 and another 18% are over the age of 55. While this industry is less concentrated in these age cohorts than others, it may still face waves of retirements over the coming years.



Agencies, Brokerages, and Other Insurance Related Activities

Industry Definition

Source: IBISWorld

This industry includes two major groups: individuals and businesses that primarily act as agents or brokers in selling insurance policies and annuities and operators that investigate, appraise and settle insurance claims; provide third-party administration services of insurance and pension funds; and offer insurance advisory and ratemaking services.

National Perspective

Source: IBISWorld

The Agencies, Brokerage, and Other Insurance Related Activities is composed of a variety of smaller industry sectors, including the Insurance Brokers and Agencies (the largest sector in this industry in the Spokane Area), Third Party Administration of Insurance and Pension Funds, and Claims adjusting sectors.

The Insurance Brokers and Agencies sector is primarily composed of independent insurance brokers that facilitate industry purchases. Most industry revenue is derived from commissions. For this reason, revenue is driven by three factors: policy pricing, demand for insurance, and the popularity of using brokers to purchase insurance. Industry revenue has grown steadily over the past 5 years, increasing by 2.6% annually. This trend is projected to continue over the next 5 years, despite growing competition from insurance companies and underwriters providing sales services directly to customers, rather than using insurance brokers. Even as revenue grows, these competitive pressures may reduce the industry's profitability.

In order to more effectively compete with direct sales from insurance companies, brokers are focusing on offering more value by acting as insurance consultants – advising clients on risk management. To effectively make this transition, brokers are focusing on hiring more highly skilled and experienced workers, which is expected to result in an increase to the average wages paid in the industry. Internet sales and new technology have helped insurance brokerages grow revenue at a faster pace than employment growth.

Insurance brokers are also responding to external and internal competition through mergers and acquisitions. Consolidation in the industry offers firms the opportunity to build economies of scale, offer more services, and enter niche markets.

The Third-Party Administrators and Insurance Claims Adjusters industry plays a critical role in the insurance and retirement markets by enabling businesses to outsource claims processing, administrative services and risk management. Revenue for this industry has grown rapidly over the past 5 years, increasing by 4.5% annually. Revenue growth has been driven by the strengthening economy, increasing demand for insurance products, the implementation of the Affordable Care Act (ACA), and growing pension funds as the unemployment rate has decreased and workers have felt more confident saving. Revenue growth is expected to continue over the next 5 years at a similar rate.

The industry is highly competitive. Many of the operators are small, with the majority existing as sole proprietorships with no employees. Downstream demand and new markets has created the opportunity for some firms to grow and benefit from economies of scale. However, the competitiveness of the industry is expected to reduce its profitability over the coming years. Consolidation and scale has also allowed some operators to invest in information technology upgrades, which has expanded the types of employees the industry employs to include IT professionals. Despite this, the number of employees has grown at a much lower rate than revenue, due to productivity gains.

Industry Overview

The Agencies, Brokerages, and Other Insurance Related Activities group is one of the largest Finance & Insurance industries. The industry accounts for 3,250 jobs in the Spokane Area. Industry employment is dominated by the Insurance Agencies and Brokerages sector, which accounts for nearly 2,600 jobs, or 80% of industry employment.

The Third Party Administration of Insurance and Pension Funds is also a large employer in this industry, accounting for nearly 500 jobs. This sector also has the highest average earnings per worker in the industry group.

Agencies, Brokerages, and Other Insurance Related Activities Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
524210	Insurance Agencies and Brokerages	2,591	$58,776	1.16	80%	$222,035,509
524291	Claims Adjusting	75	$50,801	0.45	2%	$10,221,728
524292	Third Party Administration of Insurance and Pension Funds	487	$70,276	1.11	15%	$21,514,552
524298	All Other Insurance Related Activities	97	$56,374	0.50	3%	$11,076,744
5242	Agencies, Brokerages, and Other Insurance Related Activities	3,250	$60,242	1.07	100%	$264,848,533

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The Agencies, Brokerages, and Other Insurance Related Activities industry has grown rapidly over the past 10 years, increasing employment by over 620 jobs, or 24%. Growth was driven by the industry's two largest sectors: Insurance Agencies and Brokerages and Third Party Administration of Insurance and Pension Funds, which added 412 and 215 jobs, respectively.

Over the same period, the Claims Adjusting sector contracted by 34%, shedding nearly 40 jobs.

Agencies, Brokerages, and Other Insurance Related Activities Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
524210	Insurance Agencies and Brokerages	2,179	2,475	2,591	412	19%
524291	Claims Adjusting	114	108	75	-38	-34%
524292	Third Party Administration of Insurance and Pension Funds	271	223	487	215	79%
524298	All Other Insurance Related Activities	64	101	97	34	53%
5242	Agencies, Brokerages, and Other Insurance Related Activities	2,628	2,906	3,250	622	24%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Employment growth is projected to continue, but at a lower rate. Between 2015 and 2021, the industry is expected to add nearly 280 jobs, increasing employment by 9%. Employment growth will again be driven by the Insurance Agencies and Brokerages sector, which is expected to add over 230 jobs, and the Third Party Administration of Insurance and Pension Funds sector, which is expected to add 60 jobs.

The Claims Adjusting sector is expected to continue to contract, shedding over 20 jobs, or 28% of employment.

Agencies, Brokerages, and Other Insurance Related Activities Industry Projected Change, 4 Digit NAICS - Spokane Area

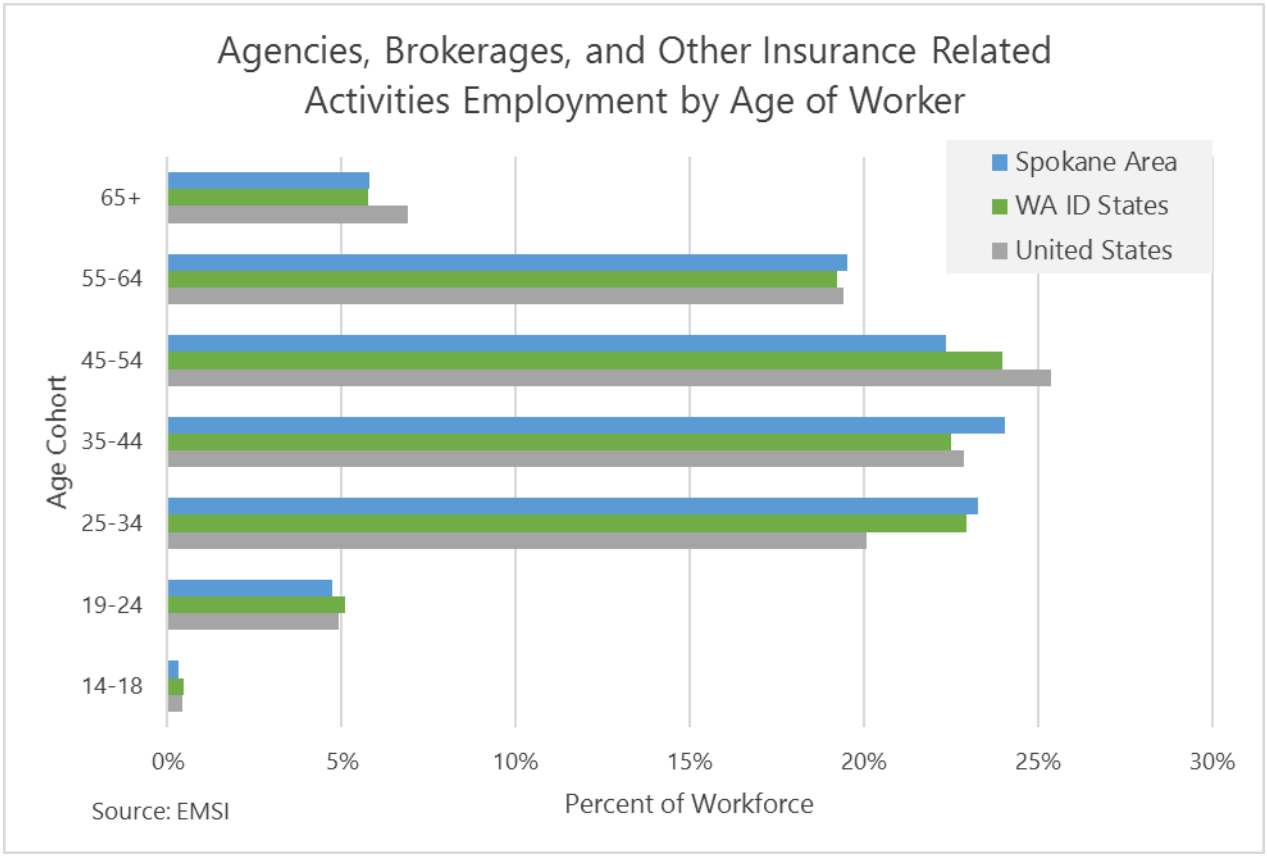
NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
524210	Insurance Agencies and Brokerages	2,591	2,725	2,824	232	9%
524291	Claims Adjusting	75	63	54	-21	-28%
524292	Third Party Administration of Insurance and Pension Funds	487	515	546	60	12%
524298	All Other Insurance Related Activities	97	102	105	8	8%
5242	Agencies, Brokerages, and Other Insurance Related Activities	3,250	3,405	3,529	279	9%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Age demographics of workers in the Agencies, Brokerages, and Other Insurance Related Activities industry in the Spokane Area are similar to those in Washington and Idaho States and the US. In the US, the industry is slightly more concentrated in older age brackets than the Spokane Area, where just 18% of workers are over the age of 55.

The Spokane Area is also more concentrated in the 25 to 34 age cohort, which accounts for 23% of local industry employment, than the US, where this cohort accounts for 20%.



Professional, Scientific, & Technical Services Targeted Sector Analysis

Accounting, Tax Preparation, Bookkeeping, and Payroll Services

Industry Definition

Source: IBISWorld

Firms in this industry are certified to audit the accounting records of public and private organizations and to demonstrate compliance to generally accepted accounting practices. Certified public accountants (CPAs), included in this industry, provide a variety of accounting services, including auditing accounting records, designing accounting systems, preparing financial statements, developing budgets and providing advice on matters related to accounting.

Tax Preparation Services are also an important sector of this industry. Firms in this industry sector provide tax return preparation services to individuals but do not offer accounting, bookkeeping, billing or payroll process services.

National Perspective

Source: IBISWorld

The Accounting, Tax Preparation, Bookkeeping, and Payroll Services industry group is primarily comprised of two industry sub groups: Accounting Services and Tax Preparation Services.

The Accounting Services industry has grown rapidly over the past 5 years, with revenue increasing at an annualized rate of 4.7%. In addition to revenue growth, the industry has also become increasingly profitable. Profitability has been driven by consolidation, with the major players acquiring small firms to increase market share and services, economic growth leading to demand for accounting services, and automation of some services, helping control the costs of labor. The industry does face increasing competition in the consumer market, especially as tax preparation and other accounting services become more widely adopted. However, losses to these new entrants are expected to be offset by growth in other service lines, such as growing number of US businesses, dynamic capital markets and initial public offerings, and advisory/consulting services.

The Tax Preparation Services industry has also grown rapidly over the past 5 years, with revenue increasing annually by over 4%. This revenue growth is projected to continue over the next 5 years but at a slightly lower rate. Growth has been driven largely by the economic recovery, which has led to more employed workers who need support filing taxes. Strong revenue growth has occurred despite increased competition from online tax service providers, such as TurboTax. Traditional tax preparation service providers have attempted to adapt to this challenge – offering lower prices, online services, and tax advisement and other add-on services, in addition to tax preparation services. Revenue from online, rather than in-person, tax preparation services is expected to continue to grow over the coming years.

The number of establishments and employees are expected to grow only modestly over the coming years, compared to growth in revenue. This is in part a result of the growth in online services, reducing the need for brick and mortar establishments and labor intensive in-person services. Further, as the industry focuses more on online services, skilled IT professionals will be essential. Additionally, the workers providing in-person services will require advanced tax preparation skills in order to offer the more sophisticated add-on services.

Industry Overview

The Accounting, Tax Preparation, Bookkeeping, and Payroll Services industry accounts for over 2,760 jobs in the Spokane Area. Other Accounting Services, which includes accountant, bookkeeping, and billing offices, but does not include offices of CPAs, in the largest sector in this industry group, accounting for nearly 1,600 jobs, or 58% of industry employment. Employment in this industry is also highly concentrated, relative to the nation.

Offices of CPAs and Tax Preparation Services are also large sectors, accounting for nearly 780 and over 300 jobs, respectively.

Overall, average earnings per worker in this industry are higher than the overall average for the Spokane Area and slightly lower than the average in the PST Services industry.

Accounting, Tax Preparation, Bookkeeping, and Payroll Services Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
541211	Offices of Certified Public Accountants	779	$59,454	0.74	28%	$58,970,315
541213	Tax Preparation Services	314	$27,858	0.95	11%	$11,931,872
541214	Payroll Services	79	$36,566	0.18	3%	$4,008,108
541219	Other Accounting Services	1,592	$54,876	1.95	58%	$85,008,112
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	2,765	$52,569	1.05	100%	$159,918,407

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

Overall, the Accounting, Tax Preparation, Bookkeeping, and Payroll Services industry has grown rapidly since 2005. Over the past 10 years, the industry has added nearly 640 jobs, expanding employment by 30%.

Growth in this industry has been driven by the Other Accounting Services sector, which has added 540 jobs. Tax Preparation services, the third largest sector in the industry, also demonstrated strong growth over the past 10 years, adding nearly 90 jobs, an increase of 39%.

The Offices of Certified Public Accountants has struggled to recover from the recession, with the number of jobs essentially unchanged since 2005.

Accounting, Tax Preparation, Bookkeeping, and Payroll Services Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
541211	Offices of Certified Public Accountants	778	803	779	1	0%
541213	Tax Preparation Services	226	272	314	88	39%
541214	Payroll Services	71	55	79	9	12%
541219	Other Accounting Services	1,052	1,419	1,592	540	51%
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	2,127	2,549	2,765	638	30%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Growth in the industry is expected to continue over the coming years, but at a lower rate. By 2021, the industry is expected to account for nearly 3,000 jobs, an increase of 230 jobs, or 8%. Other Accounting Services will again drive employment growth, adding nearly 170 over this period. Offices of CPAs and Payroll Services are expected to have stagnant employment growth over this period.

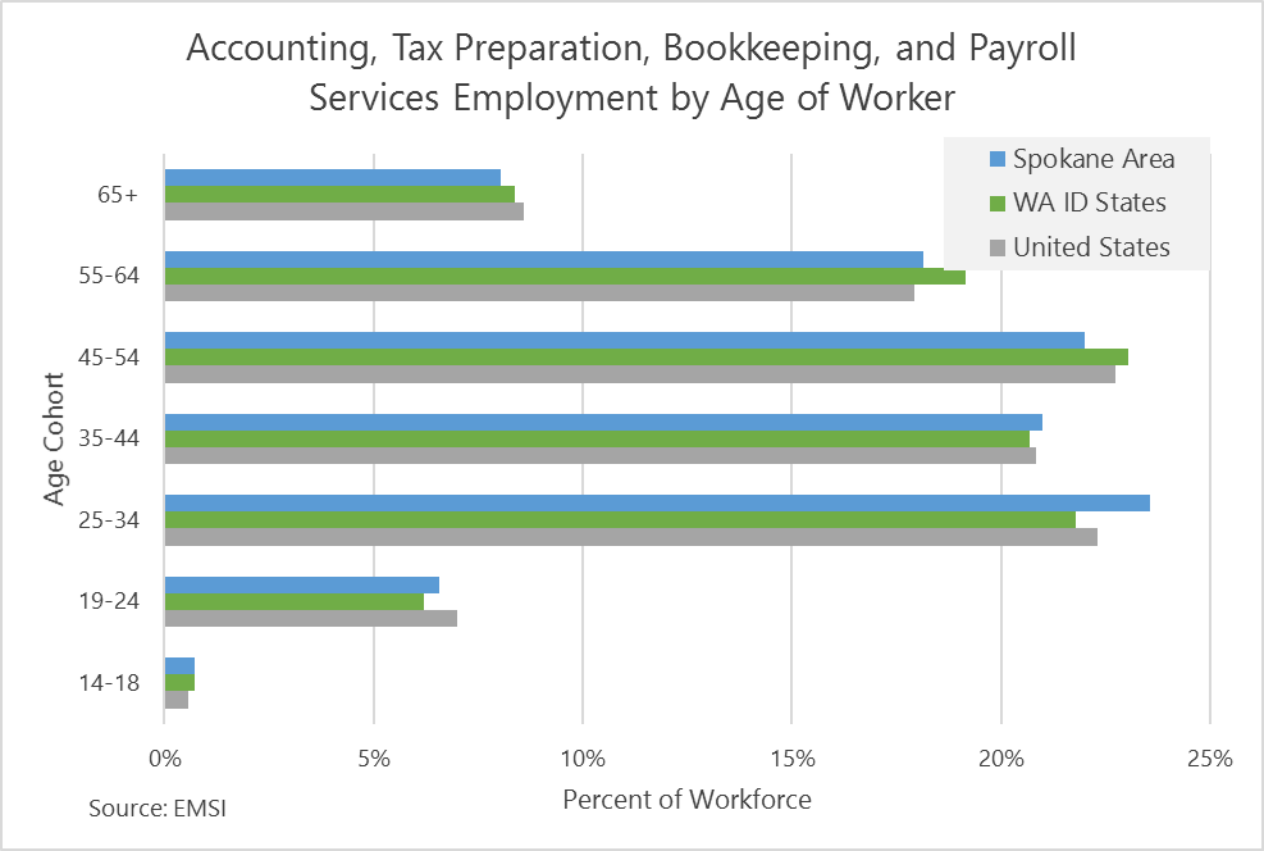
Accounting, Tax Preparation, Bookkeeping, and Payroll Services Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
541211	Offices of Certified Public Accountants	779	781	791	11	1%
541213	Tax Preparation Services	314	343	363	49	16%
541214	Payroll Services	79	79	80	1	1%
541219	Other Accounting Services	1,592	1,685	1,760	169	11%
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	2,765	2,888	2,994	229	8%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

The workforce demographics of the Accounting, Tax Preparation, Bookkeeping, and Payroll Services industry largely mirror Washington and Idaho States and the US. Across all three geographies, the workforce is concentrated in workers over the age of 55. This cohort accounts for over a quarter of workers. The Spokane Area also has a high concentration of younger workers, with the 25 to 34 age cohort accounting for nearly 25% of industry workers.



Computer Systems Design and Related Services

Industry Definition

Source: IBISWorld

The IT Consulting industry includes firms that provide the following services to client companies: writing, testing and supporting custom software; planning and designing integrated hardware, software and communication infrastructure; and on-site management of computer systems and data processing facilities.

National Perspective

Source: IBISWorld

The Computer Systems Design and Related Services industry sector has grown steadily over the past 5 years, with revenue increasing by over 2% annually. This trend is expected to continue over the coming years. Revenue growth can be explained in part by overall growth in the US economy. However, the increasingly central role technology plays in nearly every sector in the economy and businesses of all sizes has also contributed to revenue growth. The market for these consulting services is steadily growing as firms increasingly invest in IT systems, cloud computing, big data analysis, and online and mobile customer interfaces.

Both large and small firms play a large role in the industry. Major, national consulting firms, such as IBM and Accenture, also provide IT consulting services to clients However, small firms continue to play a large role in the industry, providing services to small clients as well as servicing smaller geographic areas outside of the typical market for larger firms.

The industry is highly competitive – with larger, established consulting firms entering the field or devoting additional resources to capitalizing on this market even as smaller firms begin operations. Though technology-driven, the industry is not immune to technological disruptions. For example, as cloud computing services (such as Sharepoint and Dropbox) increasingly replace local servers, IT services such as local server design and maintenance have suffered. At the same time, new products and services continue to be developed or grow in importance, such as mobile app development.

Employment grew rapidly over the past 5 years, increasing at an average annual rate of 4.2%. Employment growth was concentrated among the national IT consulting firms. As demand for workers grows, the average industry wages are also expected to grow. The industry requires highly skilled workers with advanced education and credentials in IT and software development. Competition among employers for this pool of workers is expected to drive up wages. Additionally, IT consulting firms are also competing with many other industry sectors for these workers. The skills of these workers will need to be regularly updated to keep up with product and service innovations.

Industry Overview

The Computer Systems Design and Related Services industry is one of the largest sectors in the Spokane Area's PST Services industry, accounting for nearly 2,900 jobs. Employment in the group is most heavily concentrated in the Custom Computer Programming Services and Computer System Design Services sectors, which account for over 1,330 and nearly 1,300 jobs, respectively. Combined, these sectors account for over 90% of workers.

While the Computer Systems Design and Related Services industry is large, it is approximately 40% less concentrated in the Spokane Area than in the US overall. Each sector present in the region is also between 33% and 56% less concentrated in the Spokane Area than in the US. This relatively low concentration of employment may signify that there are opportunities for additional industry employment growth in the region.

Average earnings per worker in the industry are high, nearly double the average for the region overall and approximately $30,000 higher than the PST Services industry. Computer Systems Design Services, the second largest sector, has the highest average earnings per worker in the industry.

Computer Systems Design and Related Services Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
541511	Custom Computer Programming Services	1,332	$78,309	0.67	46%	$96,987,543
541512	Computer Systems Design Services	1,287	$97,766	0.60	45%	$117,031,906
541513	Computer Facilities Management Services	78	$54,593	0.54	3%	$6,585,052
541519	Other Computer Related Services	187	$58,681	0.72	6%	$14,512,812
5415	Computer Systems Design and Related Services	2,883	$85,081	0.63	100%	$235,117,312

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The Computer Systems Design and Related Services industry has grown rapidly over the past decade. Between 2005 and 2015, the industry added 1,060 jobs, expanding employment by nearly 60%. The industry's largest sectors, Custom Computer Programming Services and Computer Systems Design Services, added the most jobs, increasing employment by approximately 600 and 550 jobs, respectively. Computer Facilities Management Services grew at the highest rate, increasing employment by nearly 170% over this period.

While most sectors shared in the employment growth, the Other Computer Related Services sector contracted over this period, shedding nearly 150 jobs, or 44% of employment.

Computer Systems Design and Related Services Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
541511	Custom Computer Programming Services	729	1,006	1,332	603	83%
541512	Computer Systems Design Services	732	869	1,287	554	76%
541513	Computer Facilities Management Services	29	98	78	49	167%
541519	Other Computer Related Services	333	223	187	-146	-44%
5415	Computer Systems Design and Related Services	1,823	2,196	2,883	1,060	58%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Employment growth in the Computer Systems Design and Related Services industry is expected to continue, but at a lower rate. Between 2015 and 2021, the industry is projected to expand employment by 25%, adding over 720 jobs.

Growth will again be driven by the two largest sectors, Custom Computer Programming and Computer Systems Design Services, which are projected to add approximately 250 jobs, combined.

The Other Computer Related Services sector is expected to continue to contract, shedding nearly 50 jobs.

Computer Systems Design and Related Services Industry Projected Change, 4 Digit NAICS - Spokane Area

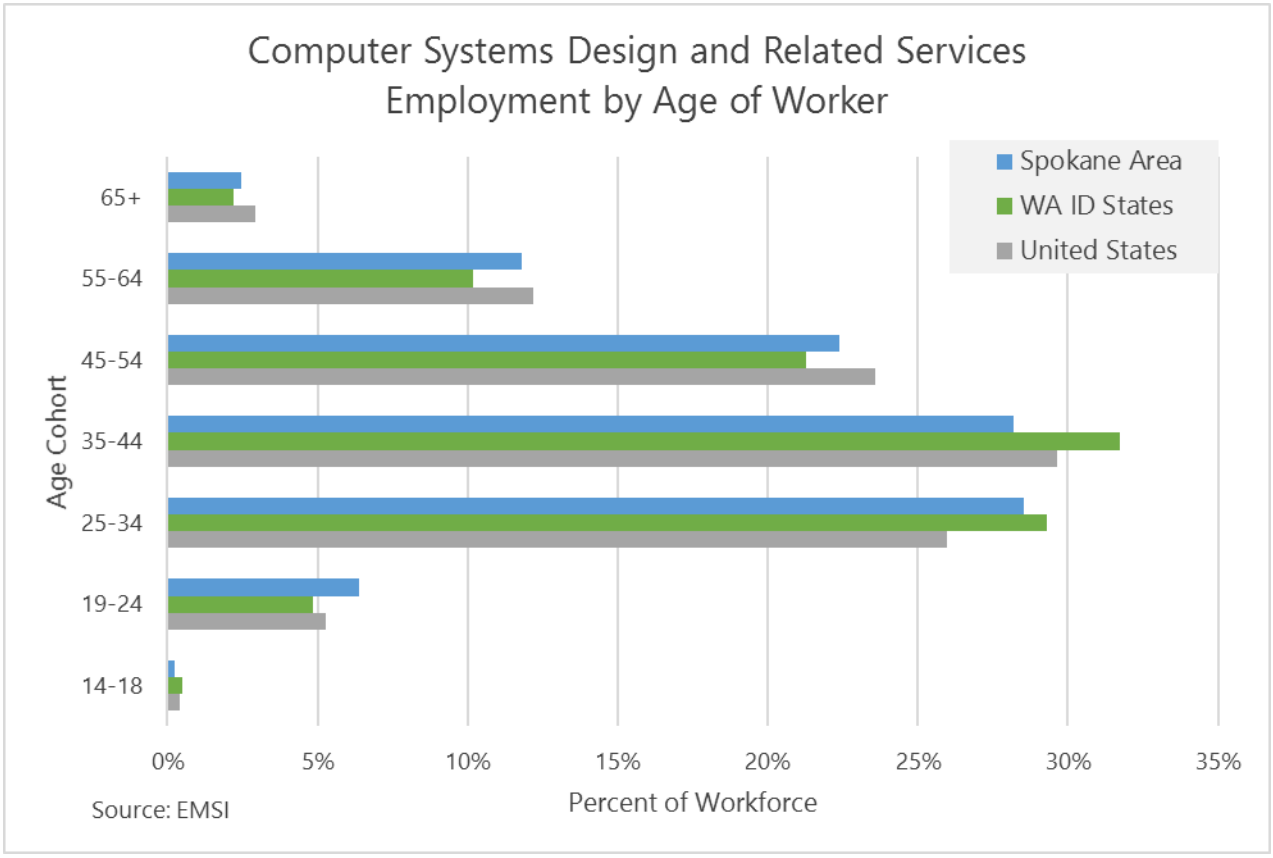
NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
541511	Custom Computer Programming Services	1,332	1,545	1,699	368	28%
541512	Computer Systems Design Services	1,287	1,503	1,669	382	30%
541513	Computer Facilities Management Services	78	90	96	18	24%
541519	Other Computer Related Services	187	148	140	-47	-25%
5415	Computer Systems Design and Related Services	2,883	3,286	3,604	721	25%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

The workforce of the Computer Systems Design and Related Services industry is young – with 35% of workers under the age of 35 in the Spokane Area and just 14% of workers over 55. These demographics are similar in Washington and Idaho States and the US, however, the nation's Computer Systems workforce is slightly older.

These employment demographics emphasize the recent growth in this industry group and the requirement that workers are in touch with new technological innovations and requirements.



Management, Scientific, and Technical Consulting Services

Industry Definition

Source: IBISWorld

This industry provides a range of consulting services to businesses, nonprofits and public-sector agencies.

National Perspective

Source: IBISWorld

The Management, Scientific, and Technical Consulting Services industry group has been growing rapidly nationally over the past 5 years. The industry is comprised of a range of sectors, from management consulting services to engineering services.

Management Consulting Services has grown rapidly. Between 2010 and 2015, industry revenue increased by over 5% annually, dramatically outpacing growth in the economy overall. This trend is expected to continue over the coming years, though at a lower annual rate of 3.6%. The industry has benefitted from overall economic growth in the US and increasing corporate profits, which allowed business to budget funds for consulting services. Additionally, the economic disruption of the recent recession has also increased demand for consulting services, as businesses have attempted to mitigate risks by developing a stronger understanding of future economic trends and planning accordingly. Additionally, businesses began to outsource services to consulting firms that were formerly provided in-house.

The industry has a mix of large, national consulting firms and smaller firms that generally serve local or niche markets. Consolidation has been a key trend over the past 5 years, with national firms acquiring smaller consulting firms to increase market share or develop niche services. However, with low barriers to entry, the number of firms in the industry is expected to increase rapidly.

Another important sector in this industry is Environmental Consulting Services, which provides environmental assessments, site remediation planning, waste management, and natural resources management services primarily to construction, engineering, manufacturing, and government sectors. The industry was severely impacted by the recession, as governments at all levels cut funding for environmental assessments, causing revenue to decline consecutively from 2012 to 2014. However, as the economy has recovered, there has been a renewed investment by governments and corporations in reducing human impact on the environment. Additionally, as construction activity increases, environmental consulting firms will be necessary to help new construction meet new environmental standards. Generally, this industry has high wages due to the advanced education and skills required to work in the field.

Finally, the Scientific and Economic Consulting sector has also experienced rapid growth over the past 5 years, with revenue increasing at an average annual rate of over 5%. This trend is expected to continue over the next 5 years, with revenue growing by over 4% annually. Demand for the services of the sector is driven primarily by government and corporate spending, research & development investment, and natural resource mining and exploration activity.

Like other consulting industry sectors, many firms in this sector are sole proprietorships with few, if any, employees. The sector's low barriers to entry allow new firms to enter the field when demand for services and profitability is high. However, over the coming years, it is expected that larger, established firms will acquire smaller firms to increase market share and economies of scale. Generally, workers in this field are highly educated and experienced, commanding high wages in exchange of their specialized skills and advising services.

Industry Overview

The Management, Scientific, and Technical Consulting Services industry accounts for over 2,000 jobs in the Spokane Area. The industry group is diverse, with no one sector accounting for over 50% of employment. The largest sector,

Administrative Management and General Management Consulting Services, accounts for nearly 930 jobs, or 46% of employment. Marketing Consulting Services is the second largest sector, accounting for over 400 jobs and 20% of employment in the cluster.

Employment in this this industry group is less concentrated than employment in the US overall, with a Location Quotient of just 0.57. Employment in the industry's sectors are also less concentrated than employment in the US.

Management, Scientific, and Technical Consulting Services Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
541611	Administrative Management and General Management Consulting Services	928	$51,140	0.66	46%	$56,300,171
541612	Human Resources Consulting Services	156	$52,026	0.76	8%	$11,349,721
541613	Marketing Consulting Services	404	$48,799	0.64	20%	$27,402,622
541614	Process, Physical Distribution, and Logistics Consulting Services	38	$38,376	0.14	2%	$1,684,472
541618	Other Management Consulting Services	44	$60,732	0.19	2%	$2,703,926
541620	Environmental Consulting Services	116	$41,247	0.50	6%	$6,043,356
541690	Other Scientific and Technical Consulting Services	338	$64,622	0.56	17%	$19,541,412
5416	Management, Scientific, and Technical Consulting Services	2,024	$52,394	0.57	100%	$125,025,680

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

Employment in the industry doubled between 2005 and 2015 adding over 1,030 jobs. The Administrative Management and General Management Consulting Services added the most jobs, increasing employment by 540 jobs, a 141% increase. Marketing Consulting Services and Other Scientific and Technical Consulting Services also exhibited strong growth, adding nearly 300 and nearly 150 jobs, respectively.

Other sectors experienced slow or no growth over this period.

Management, Scientific, and Technical Consulting Services Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
541611	Administrative Management and General Management Consulting Services	386	551	928	542	141%
541612	Human Resources Consulting Services	108	112	156	48	45%
541613	Marketing Consulting Services	108	225	404	296	273%
541614	Process, Physical Distribution, and Logistics Consulting Services	37	24	38	1	2%
541618	Other Management Consulting Services	47	47	44	-3	-5%
541620	Environmental Consulting Services	117	102	116	-1	-1%
541690	Other Scientific and Technical Consulting Services	191	158	338	147	77%
5416	Management, Scientific, and Technical Consulting Services	994	1,218	2,024	1,031	104%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Employment growth is expected to continue over the coming years, but at a lower rate. The Management, Scientific, and Technical Consulting Services industry is projected to add nearly 500 jobs by 2021, expanding employment by 24%. The Administrative Management and General Management, Marketing, and Other Scientific and Technical Consulting Services are again expected to drive growth over this period.

Management, Scientific, and Technical Consulting Services Industry Projected Change, 4 Digit NAICS - Spokane Area

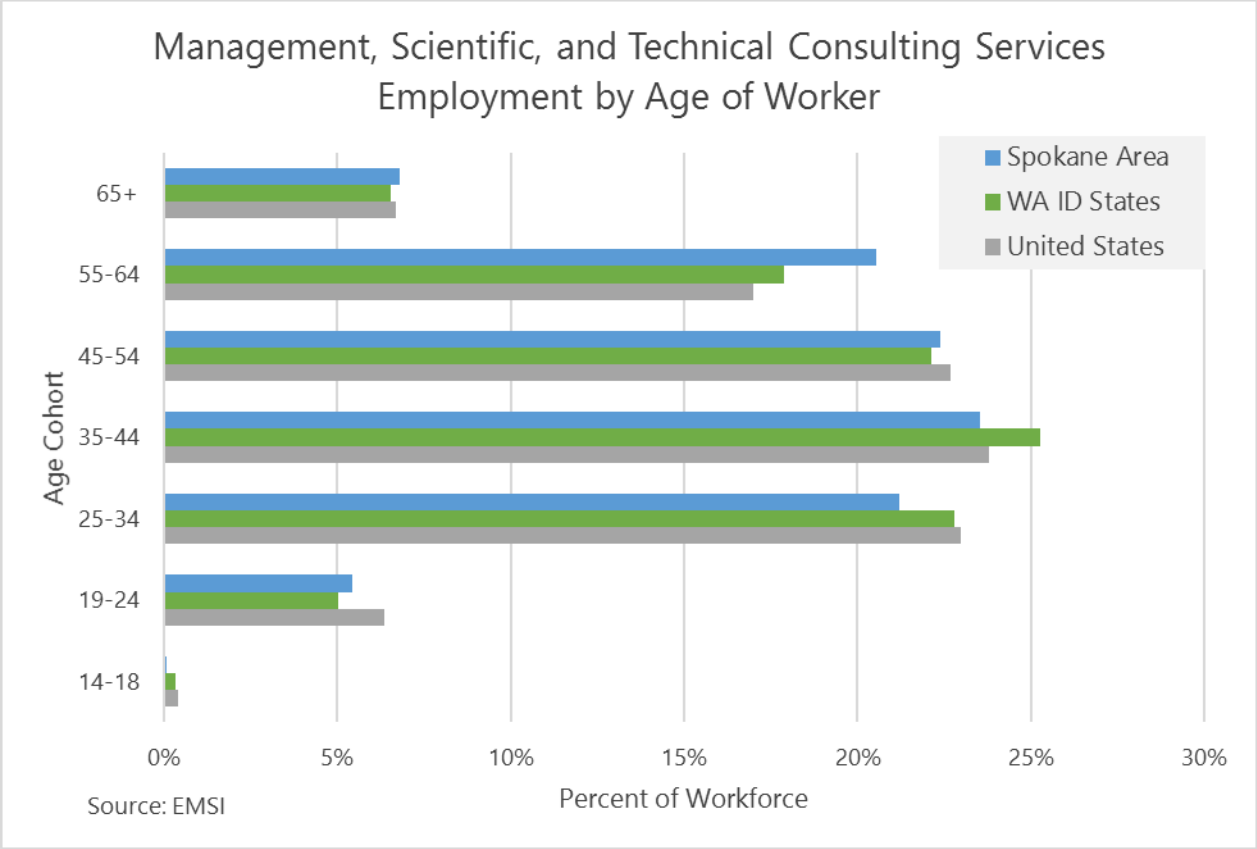
NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
541611	Administrative Management and General Management Consulting Services	928	1,074	1,183	255	27%
541612	Human Resources Consulting Services	156	161	169	13	9%
541613	Marketing Consulting Services	404	491	557	152	38%
541614	Process, Physical Distribution, and Logistics Consulting Services	38	38	38	1	2%
541618	Other Management Consulting Services	44	40	40	-4	-9%
541620	Environmental Consulting Services	116	109	109	-8	-7%
541690	Other Scientific and Technical Consulting Services	338	382	421	83	24%
5416	Management, Scientific, and Technical Consulting Services	2,024	2,295	2,517	493	24%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

The Management, Scientific, and Technical Consulting Services industry is concentrated among older age cohorts, especially in the Spokane Area. In the Spokane Area, workers over the age of 55 account for 27% of workers, while these cohorts are slightly less concentrated in the US and Washington and Idaho States. Conversely, these other geographies are slightly more concentrated is lower age brackets.

The age of this workforce reflects the industry's requirement that workers are highly educated and experienced. Additionally, many workers enter this field late in their career or after retirement, increasing the concentration in the higher age brackets.



Transportation & Warehousing Targeted Sector Analysis

Rail Transportation

Industry Definition

Source: IBISWorld

The Rail Transportation industry comprises companies that operate railroads across the United States. This includes large railroads (Class 1 railroads) and regional and local line-haul railroads that carry freight and passengers.

National Perspective

Source: IBISWorld

The Rail Transportation industry has experienced slow revenue growth over the past 5 years, despite some positive changes in the market. As demand for rail services from US oil producers has increased, coal production has declined, tempering the potential revenue growth. The outlook for Rail Transportation is a little brighter – industry revenue is expected to grow at an average annual rate of nearly 3% over the next 5 years. Further, based on Department of Transportation projections, the tonnage transported by rail could increase by 88% from 2002 levels by 2035.

The Rail Transportation industry primarily competes with the trucking industry for business. The Rail Transportation sectors offers cost effectiveness, fuel efficiency, an extensive network, and the ability to transport large volumes of product. The trucking industry, however, is able to offer unmatched flexibility with correspondingly higher costs. With the current low fuel prices, the trucking industry may compete more effectively on price with the Rail Transportation sector, luring business away.

While the Rail Transportation industry does not directly import or export its services, it is heavily impacted by US trade activity. It is estimated that approximately 40% of industry revenue is generated by industries highly affected by global trade, including coal, agriculture, and chemicals. The rail network transports cargo from ports into the interior of the US and to the east coast. When the Panama Canal expansion officially opens, cross-country rail transport may decline as merchant ships can more easily ship directly to ports in the Gulf of Mexico and east coast.

Like other transportation and distribution related industries, the Rail Transportation industry is focused on introducing new technology to automate processes and reduce reliance on unskilled labor. Employment has been stagnant over the past 5 years as the productivity, or revenue per employee, has risen due to new technology and infrastructure.

The industry is highly concentrated – with over 85% of revenue concentrated among the 4 largest players. The industry has high barriers to entry and low profit margins, deterring new entrants. Mergers in the 1980s and 1990s also contributed to concentration in the industry.

The transportation industry is moving to a model of "door-to-door" service – coordinating truck service with rail service to bring cargo from the rail station to its final destination.

Industry Overview

The Rail Transportation industry is among the largest clusters in the Transportation and Warehousing industry, accounting for over 950 employees. The industry is highly productive, with average earnings per worker exceeding $90,000, nearly $40,000 higher than the Transportation and Warehousing industry average.

Relative to the nation, employment in the industry is also over 75% more concentrated in the Spokane Area than in the US overall. This concentration reflects the region's role as a nexus of transportation and distribution infrastructure.

Rail Transportation Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
482110	Rail transportation	954	$93,690	1.77	100%	$165,855,505
4821	Rail Transportation	954	$93,690	1.77	100%	$165,855,505

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The industry suffered during the recession, losing approximately 90 jobs between its pre-recession peak in 2006 and its employment low in 2009. However, employment began recovering in 2010 and climbed to over 950 jobs by 2015, exceeding pre-recession employment. Overall, the industry has grown by 45 jobs over the past 10 years, an increase of 5%.

Rail Transportation Historic Industry Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
482110	Rail transportation	909	895	954	45	5%
4821	Rail Transportation	909	895	954	45	5%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Growth is expected to continue over the coming years, with industry employment increasing by 8%, or nearly 80 jobs. This outpaces projected growth in the US, where industry employment is expected to be stagnant, increasing by just 1% over the coming years.

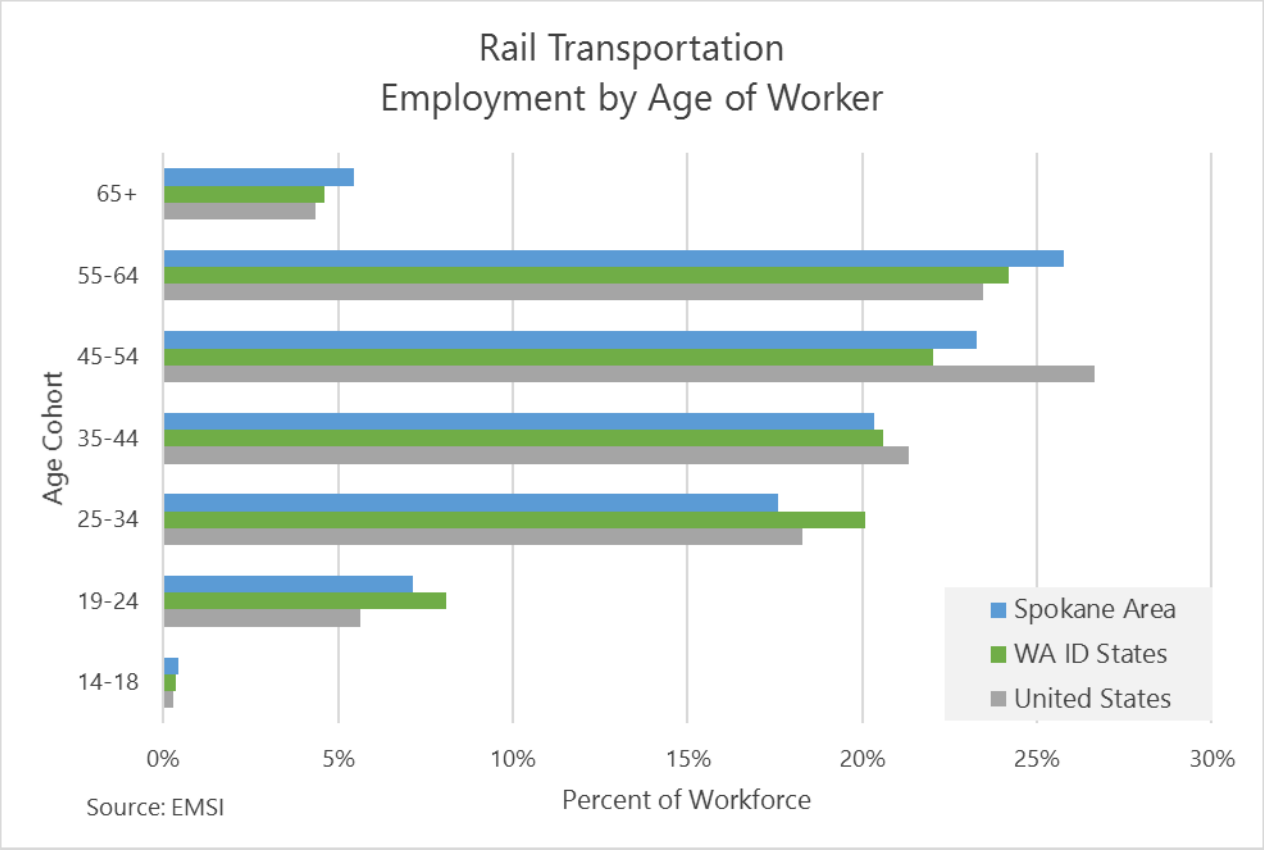
Rail Transportation Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
482110	Rail transportation	954	995	1,031	78	8%
4821	Rail Transportation	954	995	1,031	78	8%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Employment demographics in the industry largely mirrors the US and Washington and Idaho States. The Spokane Area, however, is slightly more concentrated in the 55-64 and 65+ age cohorts, with 31% of industry workers over the age of 55. The US is slightly more concentrated than the region and state in the 45 to 54 age cohort.


Rail Transportation
Employment by Age of Worker
65+
55-64
45-54
35-44
25-34
19-24
14-18
Age Cohort
0%
5%
10%
15%
20%
25%
30%
Percent of Workforce
Spokane Area
WA ID States
United States
Source: EMSI

General Freight Trucking

Industry Definition

Source: IBISWorld

The General Freight Trucking industry is primarily composed of two groups: Local Freight Trucking and Long-Distance Trucking.

Operators in the Local Freight Trucking industry provide general freight trucking services over short distances. General freight companies handle a variety of commodities, which are usually palletized and transported in a container or van trailer. Local general freight trucking companies commonly provide trucking within a metropolitan area that may cross state lines, and the trips are typically same-day return.

Operators in the Long-Distance Freight Trucking industry handle various commodities, usually palletized and transported in containers or van trailers. Establishments typically provide trucking between metropolitan areas and regions that may cross North American country borders. The industry includes establishments operating as truckload or less-than-truckload carriers.

National Perspective

Source: IBISWorld

The Local Freight Trucking industry is largely driven by consumer demand and activity in the Manufacturing industry. The industry contracted steeply during the recent recession and struggled to recover, only recovering to pre-recession revenue levels in 2014, as consumer confidence and spending began to increase. Since 2011, revenue has grown by 2% annually. This growth is projected to continue, with revenue increasing by an average of 2.4% over the next 5 years. While consumer spending is projected to continue to grow, driving growth in the industry, the Manufacturing industry is showing weakness, which may temper future growth.

The industry is experiencing increased demand for Just-in-Time (JIT) inventory management delivery services. These services are growing in popularity due to the desire of retailers, wholesalers, and manufacturers to keep inventories low and respond more effectively to consumer demands.

The industry's profitability has also grown over the past 5 years, as revenues have increased and fuel costs have declined. Over the same period, employment and the number of establishments has grown as well, however, the figures have not recovered to pre-recession peaks.

The Long Distance Trucking industry sector is experiencing revenue trends similar to the Local Freight Trucking sector. Over the past 5 years, revenues have increased at an average annual rate of 2.4% and are projected to continue to grow by just over 2% annually over the next 5 years. Industry growth has been driven by increases in consumer spending, industrial production, and international trade. Industry profit has also grown over this period, due both to growing revenue and to the drop in fuel prices.

While the industry does not directly import or export its services, industry revenue is closely tied to trade. Approximately 60% of goods traded among North American countries is transported by freight trucks. Therefore, as the volume of goods traded among these countries and shipped to and from coastal ports increases, demand for trucking services will also grow.

As the industry has recovered from the recession, competition for truck drivers has grown. This has led to increasing average wages in the industry, as firms attempt to attract and retain workers. Despite increasing wages, the industry has struggled to attract the commercial drivers needed to fuel growth and replace older truck drivers.

The number of operators in the industry has been growing, attracted by growing revenue as the economy has recovered. The industry is largely made up of small businesses, with nearly 90% of Long Distance Trucking firms being owner-operators.

Industry Overview

The General Freight Trucking industry is the largest Transportation and Warehousing employer in the Spokane Area, accounting for nearly 2,400 jobs. Long Distance trucking accounts for the most jobs in the industry cluster, representing over 80% of industry employment.

Earnings in the General Freight Trucking industry mirror the industry average. The lowest earnings are in the Local General Freight Trucking sector, while the average earnings per worker for long-distance trucking is much higher.

Employment in this industry is slightly less concentrate in the Spokane Area than in the US overall, with a Location Quotient of 0.90.

General Freight Trucking Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
484110	General Freight Trucking, Local	430	$44,892	0.63	18%	$24,346,452
484121	General Freight Trucking, Long-Distance, Truckload	1,638	$55,229	1.18	69%	$126,386,592
484122	General Freight Trucking, Long-Distance, Less Than Truckload	316	$62,830	0.55	13%	$24,056,516
4841	General Freight Trucking	2,384	$54,369	0.90	100%	$174,789,560

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

Employment in the industry has grown over the past 10 years, increasing by 140 jobs, or 6%, since 2005. Growth was driven by the General Freight Trucking (Long-Distance, Less Than a Truckload) sector, which added over 100 jobs since 2005, increasing employment by over 50%. The Local General Freight Trucking industry also grew rapidly, increasing employment by 24%. However, even with this growth, the sector has not reached its pre-recession employment peak of over 530 jobs.

The General Freight Trucking (Long-Distance, Less Than a Truckload) sector also suffered during the recession and has struggled to regain pre-recession employment levels. Since its employment low in 2010, the industry has added over 180 jobs but is still short of the 1,700 jobs in the industry in 2007.

General Freight Trucking Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
484110	General Freight Trucking, Local	348	461	430	82	24%
484121	General Freight Trucking, Long-Distance, Truckload	1,689	1,451	1,638	-51	-3%
484122	General Freight Trucking, Long-Distance, Less Than Truckload	207	184	316	108	52%
4841	General Freight Trucking	2,244	2,097	2,384	140	6%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Over the coming years, employment in the industry is expected to continue to grow, adding over 180 jobs, an increase of 8%. Growth is expected across all sectors but will be driven by the Long Distance Trucking industry.

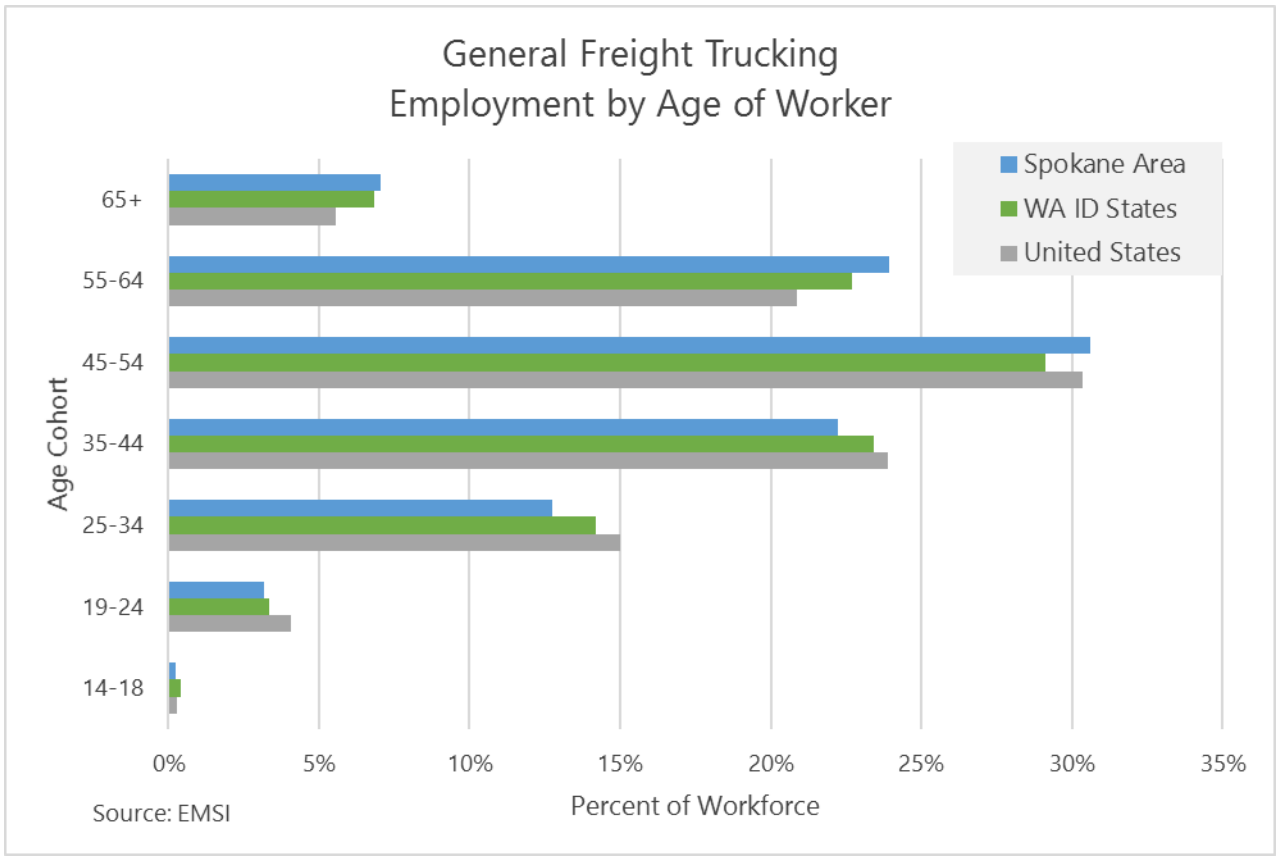
General Freight Trucking Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
484110	General Freight Trucking, Local	430	450	460	30	7%
484121	General Freight Trucking, Long-Distance, Truckload	1,638	1,673	1,710	73	4%
484122	General Freight Trucking, Long-Distance, Less Than Truckload	316	362	398	82	26%
4841	General Freight Trucking	2,384	2,485	2,568	184	8%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Age demographics in the General Freight Trucking industry largely mirrors demographics in the US and Washington and Idaho States. The Spokane Area is slightly less concentrated in younger age brackets (44 and younger) than the states and nation. Correspondingly, the local industry is more concentrated in workers aged 55 and up, with 31% of workers in these age cohorts.



Support Activities for Air Transportation

Industry Definition

Source: IBISWorld

Support Activities for Air Transportation is primarily divided into two sectors: Airport Operations and Aircraft Maintenance, Repair, and Overhaul.

Airport Operations includes businesses that operate international, national or civil airports or public flying fields. It also includes operators that support airports, offering aircraft refueling, aircraft parking, hangar space rental, air traffic control services, cargo handling services and others.

Companies in the Aircraft Maintenance, Repair, and Overhaul industry provide support services to air transportation operators, such as aircraft inspection and testing; ferrying aircraft between departure gates and taxiways; aircraft maintenance and repair; and aircraft and parts overhaul. The main industry services are commonly referred to as maintenance, repair and overhaul (MRO).

National Perspective

Source: IBISWorld

The Airport Operations industry has experienced strong growth, as airline travel has grown since the recent recession. As the number of passengers declined during the recession, revenue for the Airport Operations industry also steeply contracted. However, over the past 5 years, the industry has recovered strongly, with revenues increasing by 3.4% annually. Revenue growth has been driven in part by the improving economy, enabling businesses and individuals to travel, and the growing number of international visitors to the US, which has led international airlines to establish locations at US airports.

Over the next 5 years, revenue is projected to continue to grow, but at a lower rate. Industry growth is expected to be constrained by limited capacity for increasing services at airports. The federal government is planning to invest approximately $3 billion annually to improve airport infrastructure, which may increase airport capacity. International travel to the US is also expected to grow, especially as the middle class grows in emerging economies, such as China. Even as revenue grows, employment is in the industry is expected to decline by 2020, due largely to investments in infrastructure which reduce the need for unskilled labor.

The Aircraft Maintenance, Repair, and Overhaul industry has also recovered some losses experienced during the recession. However, revenue growth in the industry has been low, increasing by just 1.5% annually. Growth has been tempered by a shrinking US aircraft fleet and the replacement of old aircrafts with new planes, which require less maintenance. The industry has also been impacted by changes to defense budgets, which have transitioned from focusing large aircraft to smaller drones.

Revenue is expected to grow at a similar rate over the next 5 years, increasing by approximately 1.7% annually. Growth will be driven by growing domestic and international airline passenger traffic, increasing the wear and tear on aircraft. However, slow growth in the business and general aviation market and the shrinking number of aircraft in regional commercial fleets will dampen demand for industry services. Additionally, airlines are expected to continue to replace older aircraft with newer planes.

Competition in the industry is also expected to continue, putting more pressure on profit margins. Additionally, some airlines are servicing planes in lower-cost countries during international flights.

While employment has grown over the past 5 years, the industry has also begun investing in labor-saving equipment and technology to automate some processes. This may result in fewer workers required to support the industry, even as it continues to grow. Worker managing new advanced equipment will need to be more skilled and will likely command higher wages.

Industry Overview

The Support Activities for Air Transportation Industry is comprised of two industries in the Spokane Area: Other Airport Operations, which primarily includes administrative staff, and Other Support Activities for Air Transportation, which primarily includes aircraft mechanics, freight transporters, avionics technicians, and other administrative and janitorial personnel.

The Support Activities for Air Transportation industry accounts for over 880 jobs. Employment in the industry is over 2 times as concentrated in the Spokane Area as employment in the US overall and has average earnings per workers nearly $10,000 higher than the Transportation and Warehousing industry average.

The Other Support Activities for Air Transportation is the dominant sector in this industry group in the Spokane Area with nearly 750 jobs, or 84% of industry employment. With a location quotient of over 3, the industry is much more concentrated in the Spokane Area than in the US overall. This sector also has high average earnings of $70,000, over twice the average earnings of the industry's other sector, Other Airport Operations.

Support Activities for Air Transportation Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
488119	Other Airport Operations	130	$32,664	0.77	15%	$11,460,640
488190	Other Support Activities for Air Transportation	745	$70,396	3.12	84%	$76,048,038
4881	Support Activities for Air Transportation	883	$64,946	2.13	100%	$88,986,842

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The Support Activities for Air Transportation industry has grown rapidly since 2005, adding 300 jobs, an employment expansion of over 50%. This growth was almost entirely driven by the Other Support Activities for Air Transportation sector, which added nearly 300 jobs, increasing employment by over 65%.

Support Activities for Air Transportation Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
488119	Other Airport Operations	122	168	130	8	7%
488190	Other Support Activities for Air Transportation	450	680	745	295	66%
4881	Support Activities for Air Transportation	582	858	883	301	52%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Industry employment is expected to continue to grow over the coming years, but at a slightly lower rate. Between 2015 and 2021, the Support Activities for Air Transportation industry is expected to add 270 jobs, increasing employment by over 30%. The Other Support Activities industry is expected to drive this growth, increasing employment by 250 jobs. The Other Airport Operations sector is expected to add 20 jobs.

Support Activities for Air Transportation Industry Projected Change, 4 Digit NAICS - Spokane Area

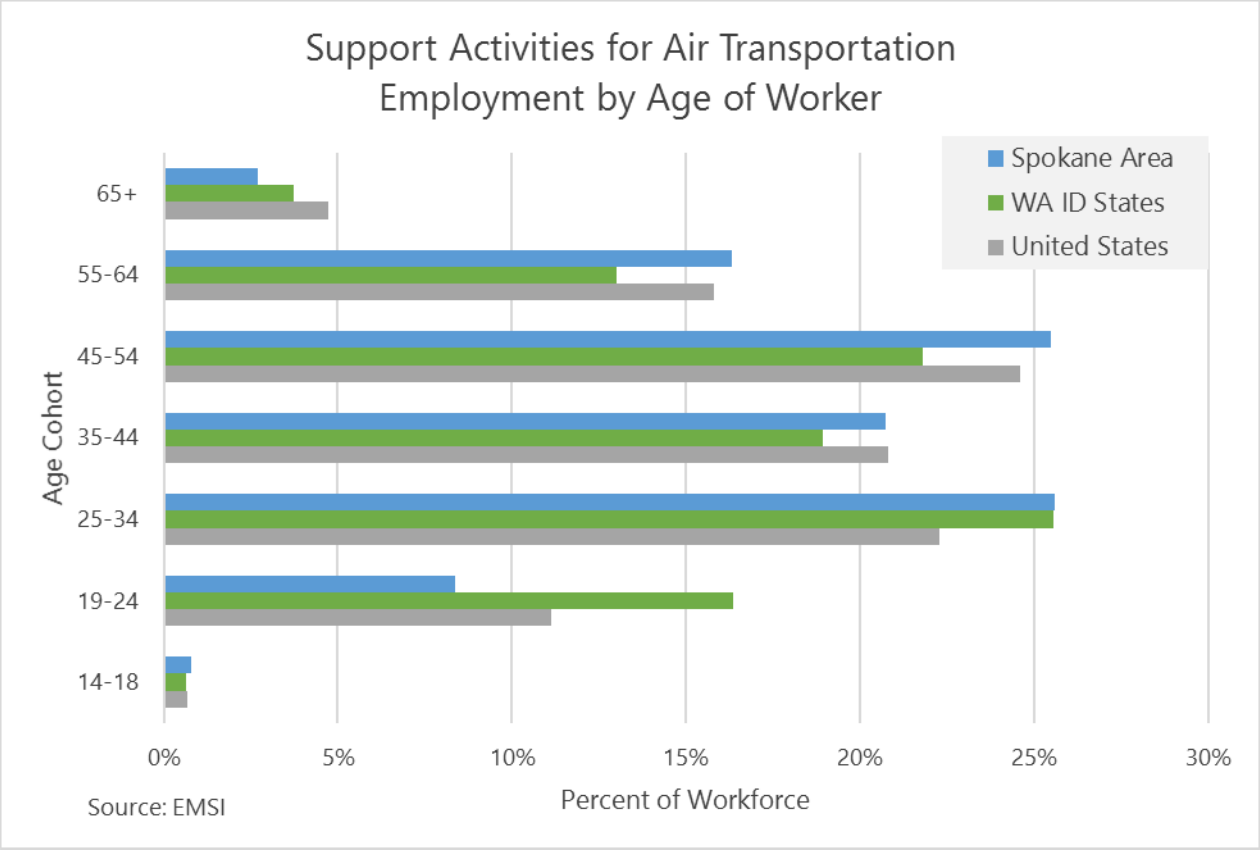
NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
488119	Other Airport Operations	130	144	151	20	16%
488190	Other Support Activities for Air Transportation	745	901	996	250	34%
4881	Support Activities for Air Transportation	883	1,051	1,152	270	31%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Employment in the Support Activities for Air Transportation industry is younger than other targeted sectors, with just 19% of workers aged 55 or older. Compared to the US and Washington and Idaho States, the Spokane Area industry is less concentrated in the 65+ age and 19-24 age cohorts.

In the Spokane Area, industry employment is considerably less concentrated in younger age cohorts than Washington and Idaho States. While workers under the age of 35 account for 43% of industry employment in the WA/ID States, these cohorts account for 35% of employment in the Spokane Area.



Warehousing & Storage

Industry Definition

Source: IBISWorld

Industry operators provide third-party storage warehousing and storage services to the manufacturing, wholesale and retail sectors. Operators generally use equipment such as forklifts, pallets and racks to handle goods in containers such as boxes, barrels and drums. This industry also includes establishments that operate refrigerated warehousing and storage facilities.

National Perspective

Source: IBISWorld

The Public Storage and Warehousing industry has grown steadily over the past 5 years, with revenue increasing by 2.5% annually. This growth was driven largely by growing demand from the retail sector as consumer spending increases and greater manufacturing output.

Revenue is expected to grow more rapidly over the coming years, increasing by an average of 4.7% annually. This growth will be driven by increasing consumer spending and international trade. The e-commerce industry will also continue to play a large role in industry growth.

The growth of online retailing has affected the industry's business model. The industry has largely benefitted from e-commerce growth, as e-commerce companies increase the number of distribution centers to be closer to customers and meet consumer demand more quickly. However, e-commerce has also presented a challenge to the industry's business model. Traditional retailers typically require storage and shipment of a large volume of goods in pallets while e-commerce generally ships a small number of items to individual customers. This individualized service requires more labor and space.

Due to growing demand and the labor-intensity of servicing the e-commerce sector, employment in the industry has grown rapidly over the past 5 years and this trend is expected to continue. The industry has been incorporating sophisticated technology and supply chain and inventory management systems into its operations, increasing the level of skill and education required of some employees. However, processing and packaging the small, individualized orders associated with the e-commerce industry generally requires more labor than preparing large bulk shipments for the traditional retail industry.

The Refrigerated Storage industry sector has experienced more volatile revenue growth over the past 5 years than the Public Storage and Warehousing industry, with industry revenue declining at an average annual rate of -0.1%. However, this trend is expected to reverse over the coming years, with industry revenue expected to grow by over 3% annually. This growth is expected to be driven by growing consumer spending, international trade, and frozen food and pharmaceutical manufacturing.

Like the Public Storage and Warehousing industry, the Refrigerated Storage industry sector has adopted new technologies to more efficiently manage inventories and supply chains. The operation of these systems requires more skilled employees and has led to an increase in the average wages paid by the industry. However, the automation of processes has also decreased the labor-intensity of the industry, which has led to a contracting national workforce, as unskilled labor is replaced by new technology. The number of workers is expected to grow, but at a lower rate than revenue as fewer workers are required to fuel the industry's growth.

Industry Overview

While the Warehousing and Storage sector is not the largest in the Transportation and Warehousing industry, it has grown rapidly over the past 10 years and is an important part of the overall distribution ecosystem in the area. The industry accounts for over 520 jobs in the Spokane Area.

The largest Warehousing and Storage sector in the Spokane Area is General Warehousing and Storage, which accounts for over 350 jobs, nearly 70% of employment in the cluster. Refrigerated Warehousing and Storage is also a significant employer in the region, accounting for over 70 jobs.

Average earnings per worker in the industry are low, generally at or slightly below the average earnings for the Transportation and Warehousing industry overall.

Warehousing & Storage Industry Overview, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	Average Earnings Per Worker	Location Quotient	% of Cluster	Gross Regional Product
493110	General Warehousing and Storage	352	$51,656	0.24	67%	$44,377,983
493120	Refrigerated Warehousing and Storage	73	$38,272	0.60	14%	$4,811,011
493130	Farm Product Warehousing and Storage	43	$56,121	1.78	8%	$5,155,851
493190	Other Warehousing and Storage	55	$48,073	0.53	10%	$9,674,146
4931	Warehousing and Storage	522	$49,778	0.30	100%	$64,018,992

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Historic Change in Employment

The Warehousing and Storage industry has grown rapidly since 2005, increasing employment by 260 jobs, or 99%. The General Warehousing and Storage sector drove that growth, adding over 200 jobs. The Refrigerated Warehousing and Storage industry also grew rapidly, increasing employment from approximately 30 jobs in 2005 to over 70 jobs in 2015. Despite this growth, the Refrigerated Warehousing and Storage sector has not recovered to its pre-recession employment peak.

Warehousing & Storage Industry Historic Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2005 Jobs	2010 Jobs	2015 Jobs	2005 - 2015 # Change	2005 -2015 % Change
493110	General Warehousing and Storage	147	137	352	205	139%
493120	Refrigerated Warehousing and Storage	34	75	73	39	112%
493130	Farm Product Warehousing and Storage	40	39	43	3	8%
493190	Other Warehousing and Storage	41	42	55	14	34%
4931	Warehousing and Storage	262	293	522	260	99%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Projected Change in Employment

Employment in the industry is expected to continue to grow over the coming years, but at a lower rate. Between 2015 and 2021, the industry is expected to add over 140 jobs, increasing employment by 28%. Again, the General Warehousing and Storage industry is expected to drive this growth, increasing employment by nearly 40%, adding 138 jobs. Refrigerated Warehousing and Storage is also expected to continue to grow, increasing employment by 14 jobs, or 19%.

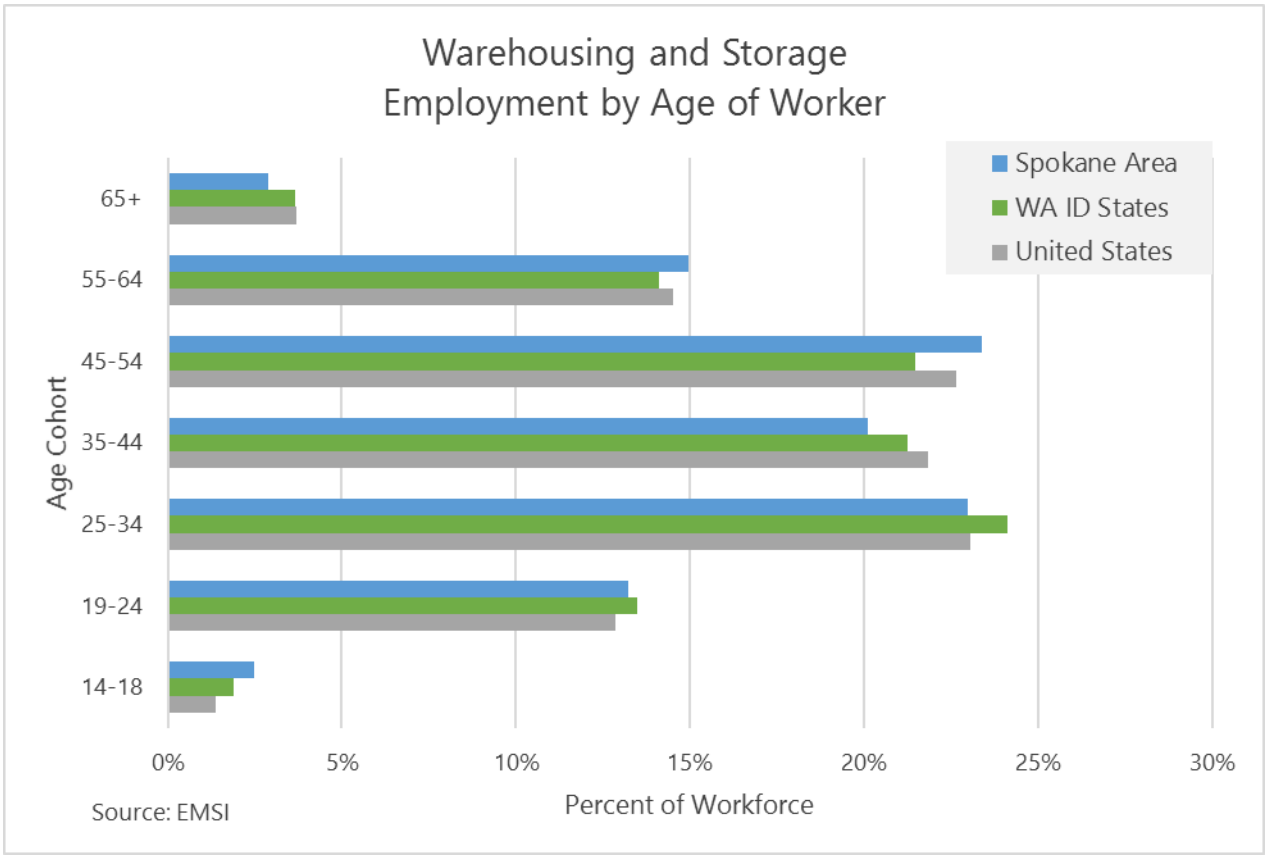
Warehousing & Storage Industry Projected Change, 4 Digit NAICS - Spokane Area

NAICS	Description	2015 Jobs	2018 Jobs	2021 Jobs	2015 - 2021 # Change	2015 -2021 % Change
493110	General Warehousing and Storage	352	436	490	138	39%
493120	Refrigerated Warehousing and Storage	73	82	87	14	19%
493130	Farm Product Warehousing and Storage	43	45	47	4	10%
493190	Other Warehousing and Storage	55	53	43	-12	-21%
4931	Warehousing and Storage	522	616	666	144	28%

Source: EMSI 2015.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Employment Demographics

Age demographics in this industry in the Spokane Area largely mirror the US and Washington and Idaho States. Relative to other blue collar industries, the Warehousing and Storage industry is less concentrated in workers aged 55 and older. In the Spokane Area, these workers account for just 18% of workers, similar to the concentration in Washington and Idaho States and the US. However, over 20% of workers are between the ages of 45 and 54 in the Spokane Area, slightly higher than the concentration in Washington and Idaho States and the US.



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