

2019 WORKFORCE PROFILE

Waukesha County



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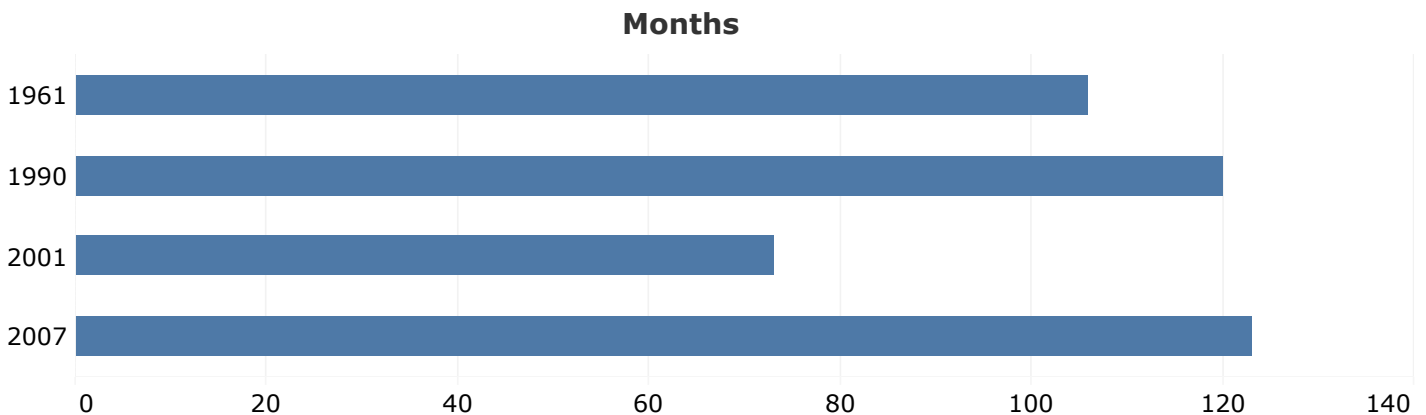


2019 Wisconsin Overview

The county workforce profiles provide snapshots of the labor market for each of the 72 Wisconsin counties. In addition to a static PDF version, each county profile will be available as an interactive document in which the reader can do additional manipulation of some tables. The profiles begin with an overview of the entire state's labor market outlook. From there, the profiles highlight the respective labor market with analyses of the current and projected population and labor force, community patterns, industries, occupations, and wages. We conclude each profile with an examination of the impact of automation on the county's workforce.

Record Economic Expansion

The economic expansion is now the longest on record. This current expansion surpassed the previous mark of 120 months set in the 1991-2001 stretch in June 2019. What has been good for the country has been good for Wisconsin and most other states.



*Bureau of Labor Statistics, OEA

Wisconsin's workforce and employment numbers have attained new highs. Employment exceeded the 3 million mark in the summer of 2016. Wisconsin jobs reached new highs in 2019 with not-seasonally adjusted, total non-farm jobs breaking through 3 million at 3.026 million in June 2019. The state's unemployment rate has reached lows not seen since at least 1976, 2.8% in the months of April and May of 2019. New unemployment rate lows were also recorded for the U.S. as a whole at 3.6%. Thirty of 72 Wisconsin counties reached new job highs in the last two years. Thirty state counties hit new unemployment rate lows. Initial and continued unemployment insurance claims have been tracking at 40-year lows over the past three years.

Given that new records are being set largely across the board for expansion longevity, employment highs, and unemployment lows, the question turns to when will the trends reverse.

Economic expansions don't die of old age. Expansions are usually curtailed by decreasing jobs, spending, investments, inflation, or interest rate pressures. Decreasing jobs lead to lower incomes that result in less consumption, which is the driving force in the U.S. economy. Employment numbers are not good indicators of pending recessions. In fact, they are a lagging indicator of economic downturns and recoveries.

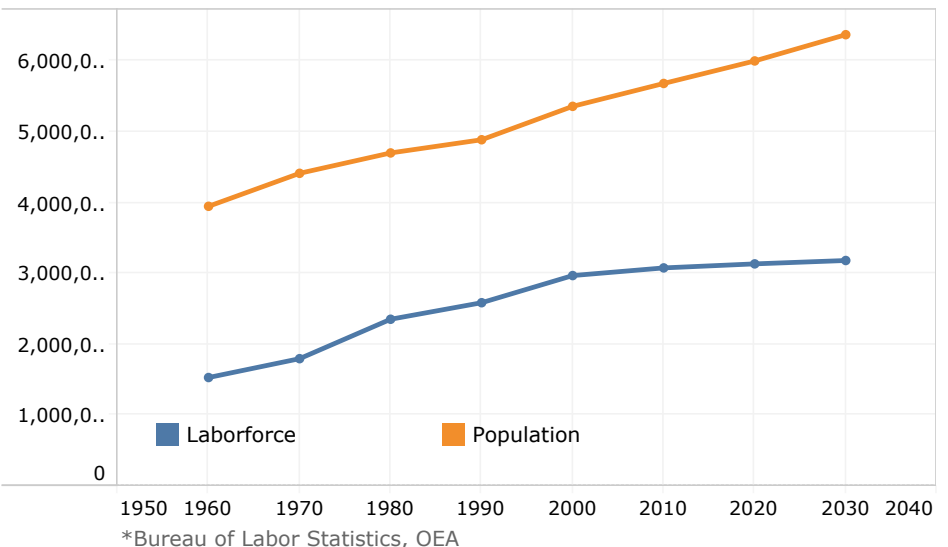
What's next in the short-run?

As this is being written in November 2019, job numbers are still climbing, earnings and income are rising, retail sales are expanding, debt-to-income ratio is low, and inflation is subdued at about 2%. Housing sales are relatively flat, vehicle sales have leveled off, and some European countries' economies are sagging. The primary unknown at the moment is the status of tariff and trade policy on the North American countries' trade agreement and trade with China. The uncertainty is dampening capital investment, injecting volatility in the equity markets, and causing household cogitation.

What are the long-run influences?

The primary long-term challenge facing Wisconsin's economic future is its workforce quantity. The demographic situation facing the state, other upper Midwest states, and most western state economies will advance unaltered in the coming decades. The number of retiring baby boomers nearly match the influx of new workers, resulting in a slow growing workforce that is constraining employers' abilities across industries to secure talent. Many businesses report the lack of available workers have hindered expansion and, in some cases, even curtailed their ability to meet current product orders.

Wisconsin Population and Labor Force



The blue-line, orange-line graph to the right portrays the labor force facing Wisconsin and other upper-Midwest states. While Wisconsin's population will continue to grow over the next 20 years, the workforce faces serious constraints. The curve began to flatten in 2008 as the first baby boomers (those born in 1946) reached age 62 and began to leave the workforce.

Baby boomers continue to exit the workforce in great numbers. However, the labor force participation rates for workers over 55 years of age have risen significantly. The need or want to remain in the workforce has assisted in staving off more severe worker shortages.

Our analysis shows a marked decrease in per capita personal income growth in the coming decades. The consequences for shared tax burden will be real and require new policy discussions about the social contract for infrastructure and government services.

One of the remedies for labor scarcity and increased productivity is the incorporation of labor-saving technology in the workplace. As such, not only does Wisconsin have a quantity challenge, the state must also make all available workers technologically savvy. The propensity for automation varies by occupation, but routine activities are the most susceptible to displacement.

To summarize, the state needs to find every body it can and get everybody trained up to their maximum potential.

Waukesha County Population and Demographics

With over 400,000 residents, Waukesha County is the third most populous county in Wisconsin. The county seat, City of Waukesha, is the largest municipality in the county. The chart below displays the population and population change among the largest municipalities. All 10 municipalities grew between 2010 and 2018. The overall county growth rate of 2.96% was slower than the nation (6.09%) but outpaced statewide growth (2.27%). The Village of Menomonee Falls witnessed the largest increase with a net total of 1,948 new residents. The City of Pewaukee grew at the fastest rate among the top 10 municipalities (9.41%). A common linking the two communities is the interstate access. Pewaukee has a unique feature with its lake and public beach located in its downtown area. Pewaukee Lake is the furthest east among the many bodies of water in Waukesha County's popular "Lake Country."

10 Most Populous Municipalities in County

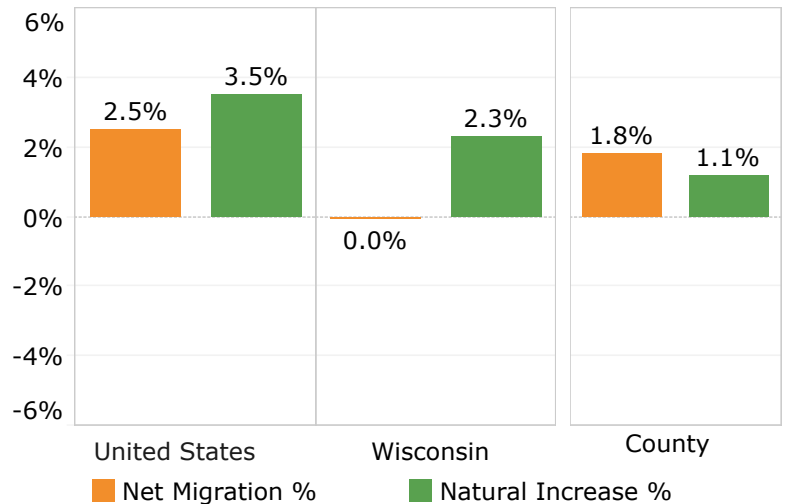
| | 2010 Census | 2018 Final Estimate D | Numeric Change | Percent Change |
|--------------------------|--------------------|-----------------------|-------------------|----------------|
| Waukesha, City | 70,718 | 71,731 | 1,013 | 1.43% |
| New Berlin, City | 39,584 | 40,349 | 765 | 1.93% |
| Brookfield, City | 37,920 | 39,323 | 1,403 | 3.70% |
| Menomonee Falls, Village | 35,626 | 37,574 | 1,948 | 5.47% |
| Muskego, City | 24,135 | 24,812 | 677 | 2.81% |
| Oconomowoc, City | 15,759 | 16,889 | 1,130 | 7.17% |
| Pewaukee, City | 13,195 | 14,436 | 1,241 | 9.41% |
| Sussex, Village | 10,518 | 11,114 | 596 | 5.67% |
| Lisbon, Town | 10,157 | 10,369 | 212 | 2.09% |
| Hartland, Village | 9,110 | 9,293 | 183 | 2.01% |
| Waukesha County | 389,891 | 401,446 | 11,555 | 2.96% |
| United States | 308,400,408 | 327,167,434 | 18,767,026 | 6.09% |
| Wisconsin | 5,686,986 | 5,816,231 | 129,245 | 2.27% |

Source: Demographic Services Center, Wisconsin Department of Administration

Components of Change

Population change can be broken into net migration (those moving into the county minus those leaving) and natural increase (births minus deaths). Waukesha County measured a 1.8% increase through net migration, which has an immediate impact on the county's labor force. The county also gained population through a natural increase, which is largely a function of age. Waukesha County has a higher median age than the state (43.1 years vs 39.2 years). However, the county is young enough to still expect a positive natural increase. As a rough estimate, counties with a median age under 44.2 years old can expect a positive natural increase.

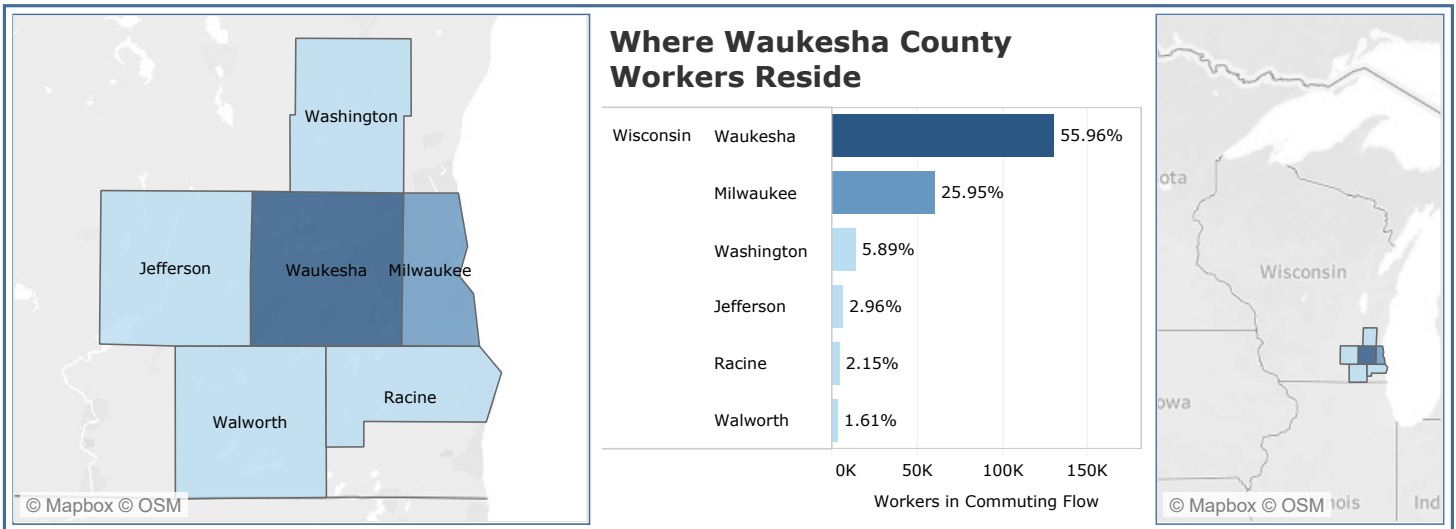
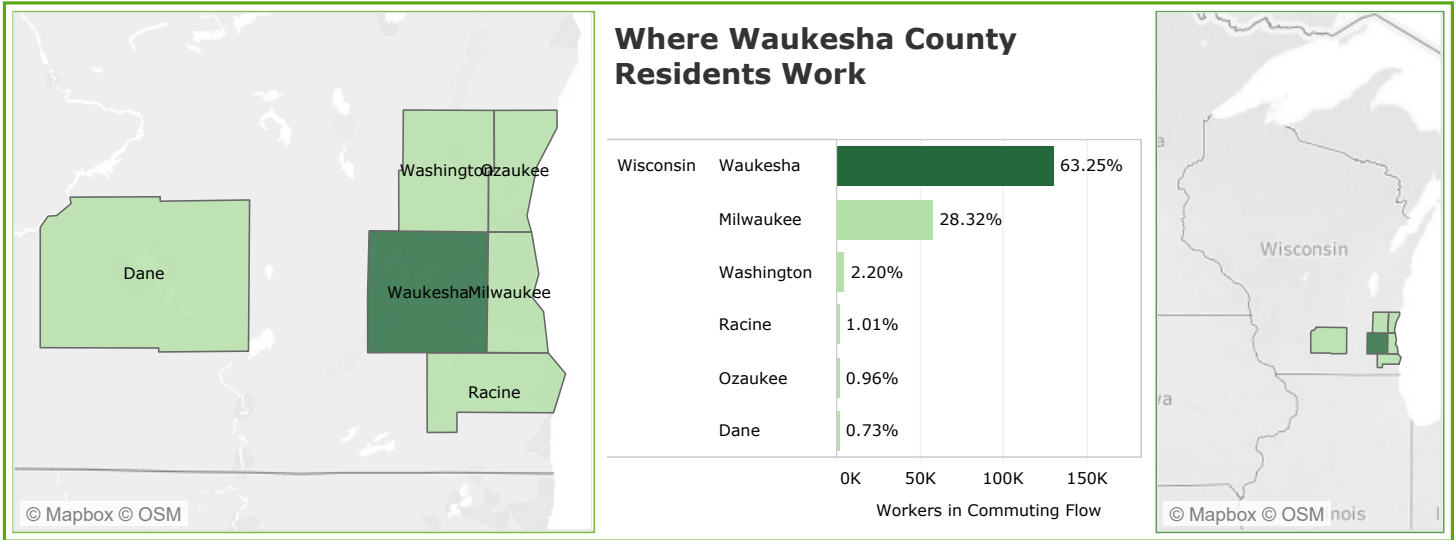
Components of Population Change



Waukesha County Worker Commute

Residents Work

About one out of every three employed Waukesha County residents works outside of the county. The map below shows the top five work destinations among these residents. The majority of residents commuting outside of the county travel east down the I-94 corridor, with more than 58,000 residents working in Milwaukee County. The average commuting time is slightly shorter than the national average (24 minutes vs. 26.4 minutes).



Workers Reside

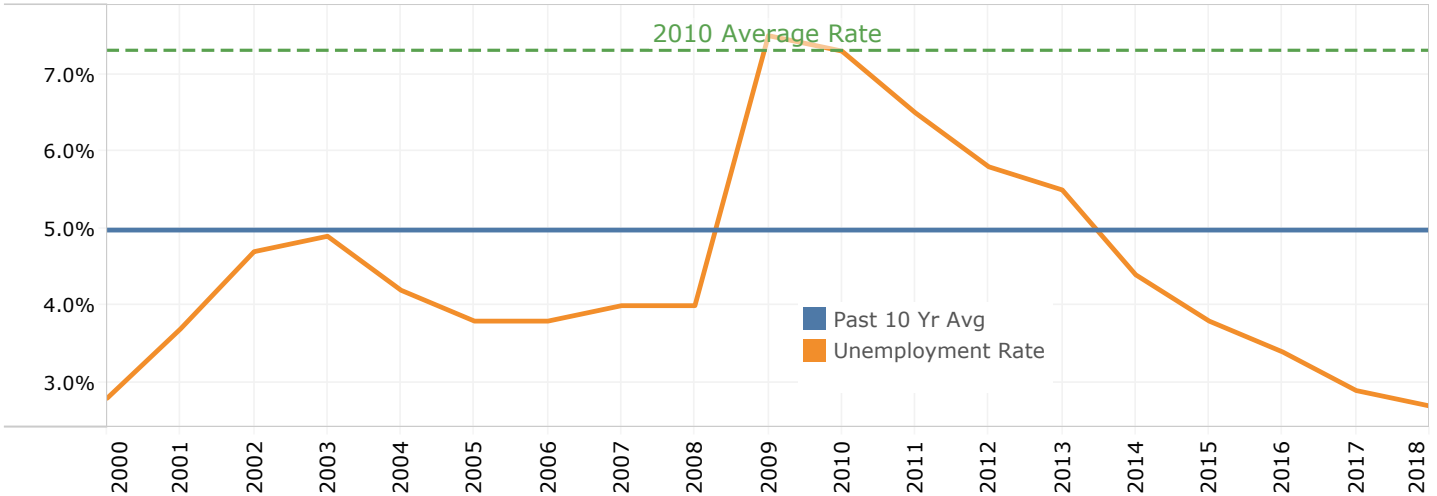
Almost 44% of Waukesha County workers live in a different county, with more than a quarter of the total workforce coming from Milwaukee County. Waukesha County actually pulls slightly more workers from Milwaukee County (60,353) than it sends (58,271). Workers traveling from Milwaukee County to Waukesha County tend to have lower paying jobs than workers that travel from Waukesha County to Milwaukee County.

*source: 2011-2015 5-Year American Community Survey Commuting Flows, US Census Bureau

Labor Force Dynamics

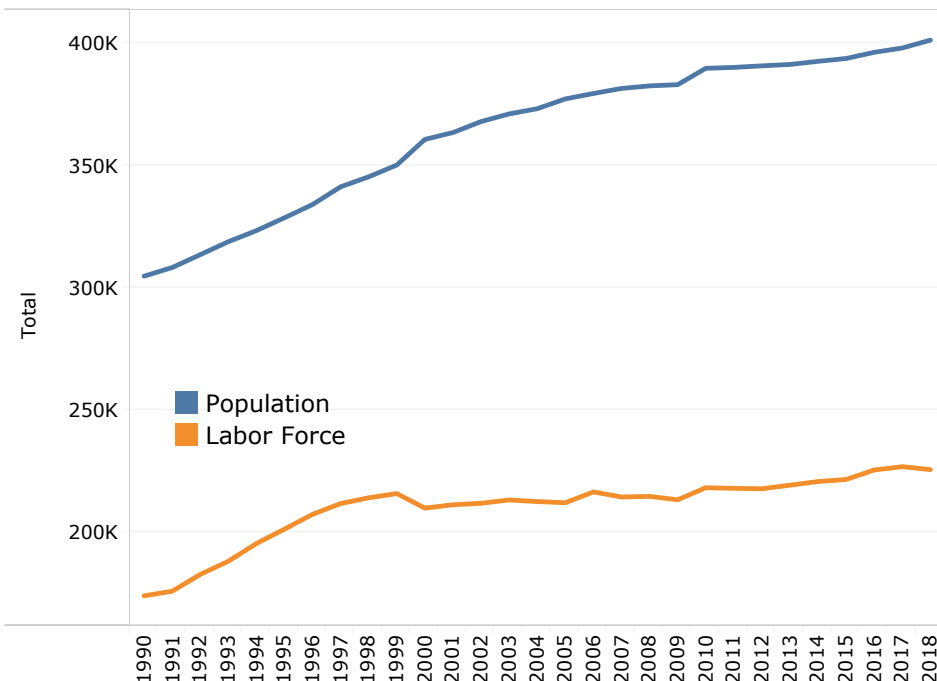
The unemployment rate represents the proportion of residents that do not have a job but are actively seeking work as a share of the total labor force. The Waukesha County unemployment rate reached a high of 7.5% in 2009 following the Great Recession and declined to a low of 2.7% in 2018. The steady decline in this important measure is consistent with both the nation and the state. The national unemployment rate peaked at 9.6% in 2010 and declined to 3.9% by 2018. Wisconsin's rate hit 8.7% and has since declined to 3.0%. Low unemployment rates signify a tight labor market, which means employers have difficulty finding available workers. Due to the tight labor market, employers must find ways to attract workers who are marginally attached to the labor force as well as address barriers to employment that may deter otherwise qualified candidates.

Waukesha County Unemployment Rates - Not Seasonally Adjusted



Source: Local Area Unemployment Statistics, Bureau of Labor Statistics

Population and Labor Force



Source: Local Area Unemployment Statistics, Bureau of Labor Statistics and Wisconsin Department of Administration

Waukesha County Labor Force Components

Two factors influence the size of the labor force. The first is the size of the working age population. The primary way to improve this in the short term is by increasing net migration. The second influencing factor is the labor force participation rate (LFPR). The LFPR faces downward pressure due to an aging population. Wisconsin's LFPR is holding steady at around 85% for residents between 25 and 54 years old. LFPR starts to decline at around 55 years old and declines sharply after participants turn age 60.

Industry Employment and Wages 2018 Employment and Wage Distribution by Industry Waukesha County

| | 2018 Annual Average Employment | 1-year change | Total Payroll (2018) | |
|----------------------------------|--------------------------------|---------------|----------------------|--|
| Trade, Transportation, Utilities | 48,956 | -72 | \$2,330,365,687 | |
| Public Administration | 6,262 | 37 | \$296,984,630 | |
| Professional & Business Services | 36,272 | 203 | \$2,493,483,502 | |
| Other services | 8,366 | 124 | \$310,419,058 | |
| Natural Resources | 548 | 18 | \$26,882,217 | |
| Manufacturing | 42,659 | 597 | \$2,916,690,551 | |
| Leisure & Hospitality | 21,297 | 17 | \$355,727,827 | |
| Information | 4,708 | -62 | \$457,232,208 | |
| Financial Activities | 16,376 | -282 | \$1,302,342,375 | |
| Education & Health | 41,403 | 437 | \$2,045,780,427 | |
| Construction | 17,140 | 970 | \$1,188,890,513 | |
| All industries | 243,987 | 1,987 | \$13,724,798,995 | |

Source: WI DWD, Labor Market Information, QCEW, June 2019

The table above displays both employment and payroll by industry sector as a percent of total employment in the county. These data are based on the location of the employer, which means it includes the workers who commute from outside of the county. The Trade, Transportation, and Utilities sector had the highest share of employment (20.07%). The Manufacturing sector was just behind with 17.48% of employment but had the largest share of payroll (21.25%).

One way of identifying key industry drivers in a local economy is by comparing it to a larger reference economy. Waukesha County has a particularly high concentration of employment in the Manufacturing sector when compared to the United States. The county's employment share in this sector is about double that of the nation. Waukesha County is particularly strong in the sectors of Machinery Manufacturing, Fabricated Metal Product Manufacturing, Printing and Related Support Activities, and Electrical Equipment, Appliance, and Component Manufacturing. All four sub-sectors employ more than 4,000 workers.

2018 Average Annual Wage by Industry

| | Wisconsin Average Annual Wage | County Average Annual Wage | 2018 % Wisconsin | 1-Year % Change* |
|----------------------------------|-------------------------------|----------------------------|------------------|------------------|
| Trade, Transportation, Utilities | \$41,901 | \$47,601 | 113.6% | 0.5% |
| Public Administration | \$47,859 | \$47,426 | 99.1% | 0.6% |
| Professional & Business Services | \$60,729 | \$68,744 | 113.2% | 3.3% |
| Other services | \$30,674 | \$37,105 | 121.0% | 1.9% |
| Natural Resources | \$39,444 | \$49,055 | 124.4% | -1.6% |
| Manufacturing | \$58,048 | \$68,372 | 117.8% | -0.2% |
| Leisure & Hospitality | \$18,757 | \$16,703 | 89.1% | -2.5% |
| Information | \$73,577 | \$97,118 | 132.0% | 8.5% |
| Financial Activities | \$71,474 | \$79,528 | 111.3% | 1.9% |
| Education & Health | \$49,185 | \$49,411 | 100.5% | 0.6% |
| Construction | \$61,909 | \$69,364 | 112.0% | 0.9% |
| All Industries | \$48,891 | \$56,252 | 115.1% | 1.4% |

Source: WI DWD, Labor Market Information, QCEW, June 2019
*Difference in the 2018 share of Wisconsin and the 2017 share of Wisconsin

The county pays higher wages per worker compared to the rest of the state. The Information sector paid the highest average wage at \$97,118 per worker in 2018. However, this industry makes up a small part of the county's total employment (1.93%). The Construction sector added the highest number of total workers over the year. Trade, Transportation, and Utilities along with the Manufacturing were the two largest sectors. There was little change in average wages in these sectors over the year.

Industry Employment Projections
WOW WDA - Industry Projections 2016-2026
Washington, Ozaukee, and Waukesha Counties

| Industry | 2016 Employment | Projected 2026 Employment | Employment Change | Percent Change |
|---|--------------------|------------------------------|----------------------|-------------------|
| Total All Industries | 363,595 | 395,297 | 31,702 | 8.7% |
| Natural Resources and Mining | 2,240 | 2,452 | 212 | 9.5% |
| Construction | 18,398 | 20,412 | 2,014 | 10.9% |
| Manufacturing | 66,452 | 65,176 | -1,276 | -1.9% |
| Trade, Transportation, and Utilities | 67,309 | 72,181 | 4,872 | 7.2% |
| Information | 5,729 | 5,855 | 126 | 2.2% |
| Financial Activities | 21,430 | 23,572 | 2,142 | 10.0% |
| Professional and Business Services | 44,614 | 51,493 | 6,879 | 15.4% |
| Education and Health Services | 64,413 | 73,469 | 9,056 | 14.1% |
| Leisure and Hospitality | 30,917 | 35,421 | 4,504 | 14.6% |
| Other Services (except Government) | 19,742 | 21,155 | 1,413 | 7.2% |
| Public Administration | 10,669 | 11,085 | 416 | 3.9% |
| Self Employed and Unpaid Family Workers | 11,682 | 13,026 | 1,344 | 11.5% |

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development, December 2018

While studying past trends is useful, DWD also produces projections of industry and occupation employment into the future. Wisconsin is split in 11 Workforce Development Areas (WDAs) and projections are updated every two years. Waukesha County is part of the WOW WDA, which also includes Washington and Ozaukee counties. New for the 2016-2026 projections, the Bureau of Labor Statistics (BLS) has changed the methodology to better project the workforce of the dynamic new economy in which a worker will likely have many occupations in a lifetime. The workforce is constantly evolving. Workers leave an occupation for reasons other than retirement or death, such as changing careers, promotions, or completing retraining programs. The new BLS "separations" methodology accounts for these different types of job changes (i.e. job growth, job exits, job transfers). The Occupation Employment Projections discussion on the next page reviews the impact of this revision.

Regional employment is expected to grow by 8.7% over the 10-year period, or almost 32,000 workers. For the purposes of comparison, statewide employment is projected to grow by 6.8% during the same timeframe. Growth is expected in almost all industries. Manufacturing is the exception as a modest decline is expected. The industry projections shown here forecast levels of filled positions rather than demand. This illustrates the issues associated with the aging population. While growth in the labor force is slowing and, in some counties, declining, job growth is expected to continue. The aging population will increase the need for replacements. Employers may have trouble finding replacement workers even if overall employment in the industry declines. As a result, businesses that are already having difficulty filling job openings vacated by retirees will also strain to fill new openings. This could restrict job growth by limiting businesses' ability to expand. Solutions to these problems will differ for each business but will likely include a combination of developing a talent pipeline such as Wisconsin Fast Forward training grants or business alliances aimed at marketing specific careers; increasing focus on talent attraction and retention; engaging under-utilized workforces; increasing automation; and retaining retirees in non-conventional work arrangements.

Occupational Employment Projections WOW WDA - Occupation Projections 2016-2026 Washington, Ozaukee, and Waukesha Counties

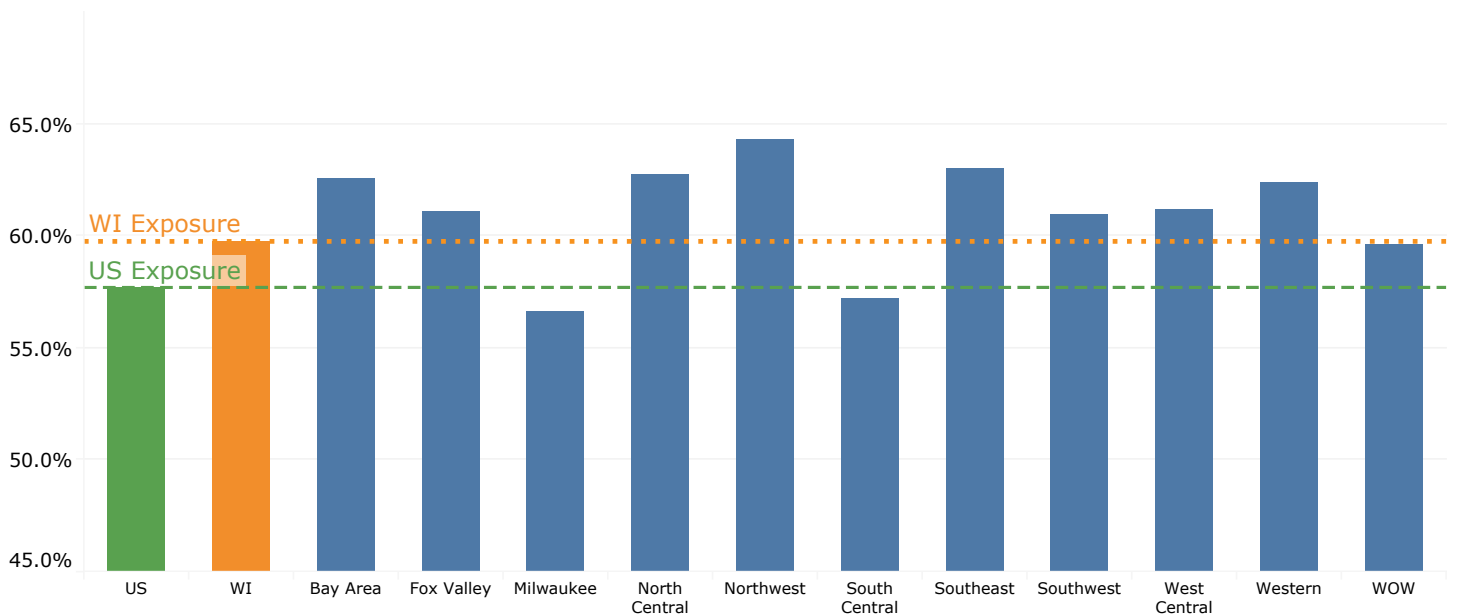
| Occupation Title | 2016 Employment | 2026 Projected Employment | Occupational Openings | Percent Change (2016-2026) | |
|--|-----------------|---------------------------|-----------------------|----------------------------|--|
| Total, All | 363,600 | 395,300 | 44,690 | 8.7% | |
| Management | 19,800 | 22,350 | 1,880 | 12.9% | |
| Business and Financial Operations | 20,040 | 22,980 | 2,170 | 14.7% | |
| Computer and Mathematical | 11,220 | 13,720 | 1,060 | 22.3% | |
| Architecture and Engineering | 8,320 | 8,840 | 650 | 6.3% | |
| Life, Physical, and Social Science | 1,720 | 1,940 | 180 | 12.8% | |
| Community and Social Service | 3,350 | 4,040 | 470 | 20.6% | |
| Legal | | | | | |
| Education, Training, and Library | 19,170 | 20,150 | 1,810 | 5.1% | |
| Arts, Design, Entertainment, Sports, and Media | 5,470 | 5,710 | 590 | 4.4% | |
| Healthcare Practitioners and Technical | 16,470 | 19,180 | 1,190 | 16.5% | |
| Healthcare Support | 7,280 | 8,820 | 1,060 | 21.2% | |
| Protective Service | 4,680 | 4,950 | 640 | 5.8% | |
| Food Preparation and Serving Related | 29,500 | 33,830 | 5,820 | 14.7% | |
| Building and Grounds Cleaning and Maintenance | 11,960 | 12,990 | 1,630 | 8.6% | |
| Personal Care and Service | 16,090 | 19,470 | 2,900 | 21.0% | |
| Sales and Related | 38,400 | 41,600 | 5,390 | 8.3% | |
| Office and Administrative Support | 54,210 | 56,100 | 6,430 | 3.5% | |
| Farming, Fishing, and Forestry | | | | | |
| Construction and Extraction | 16,030 | 17,570 | 1,830 | 9.6% | |
| Installation, Maintenance, and Repair | 12,700 | 13,660 | 1,330 | 7.6% | |
| Production | 42,490 | 40,940 | 4,430 | -3.6% | |
| Transportation and Material Moving | 21,820 | 23,310 | 2,910 | 6.8% | |

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development, December 2018

While industry projections have their uses, a more functional approach is projected occupational need. Occupational projections are separated into three categories: growth, labor force exits, and occupational transfers. Retirement will be a key driver in the "labor force exits" category. While actual retirement age varies among individuals, age 65 can be used as a rough proxy for expected retirement. We are approximately at the half way point of baby boomers retiring. Occupational transfers can include workers that advance in careers or make lateral movements into different occupations. As a general rule, a higher need for replacements due to transfers can be expected in lower paying occupations.

An examination of projected occupational employment reveals a higher need for replacements than filling new positions due to growth. Occupational transfers and labor force exits make up over 90% of projected annual openings. Facing the challenges of an aging baby boomer population, an increased importance must be placed on the availability and skill sets of young workers entering the region's workforce. While the total need is comparatively small, the Architecture and Engineering occupation category stands out as the fastest growing field. Jobs in this group are typically high paying, and growth in this area would bring additional income and spending power into the region.

Automation Exposure by Workforce Development Area



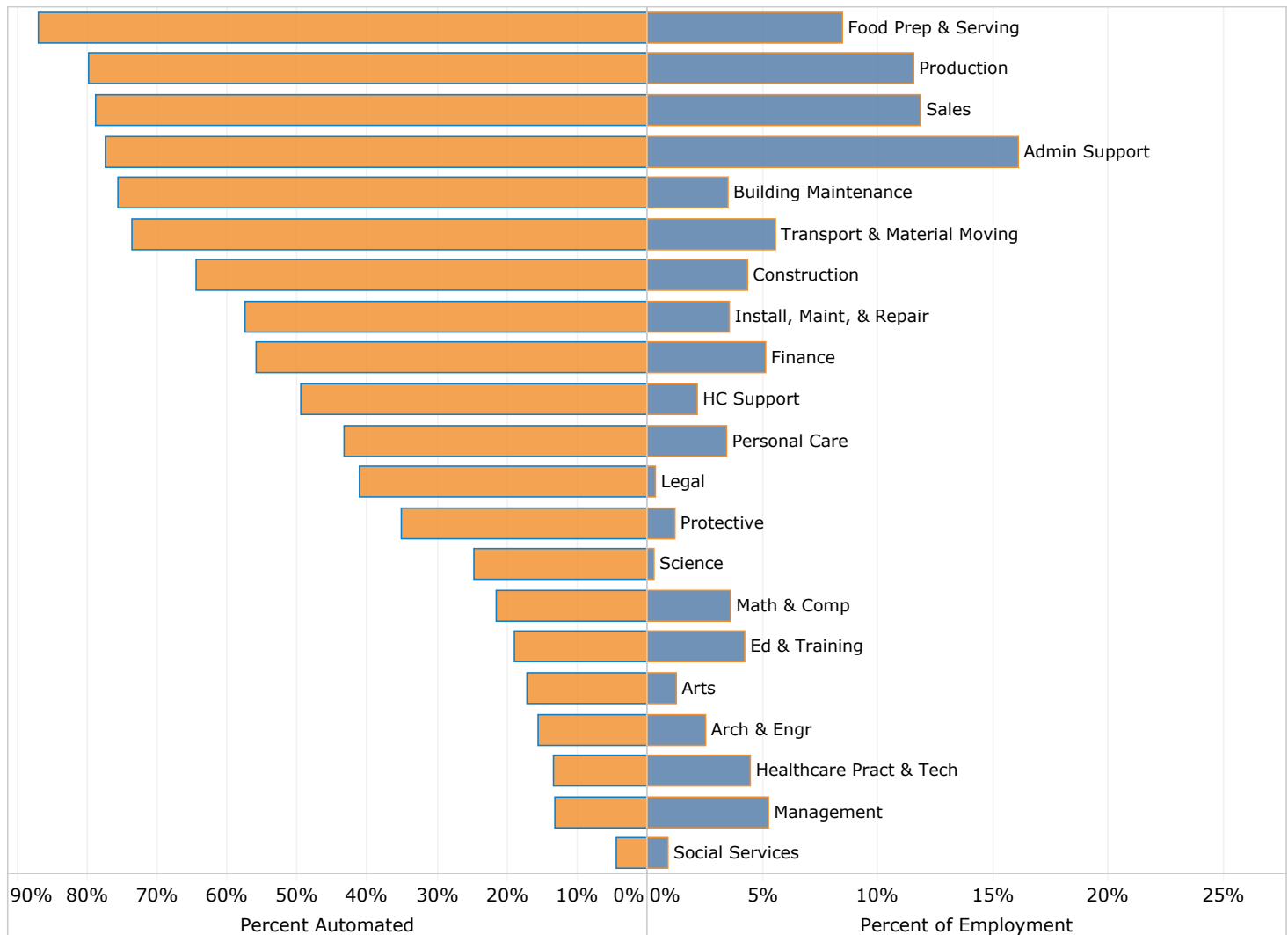
Source: The Future of Employment: How Susceptible are Jobs to Computerisation, C.B. Frey and M.A. Osborne, September 17, 2013, Oxford Martin School, University of Oxford; OES

Technological advancements are changing the occupational landscape of the nation and Wisconsin is no exception. Developments in the fields of artificial intelligence, the internet of things (ability of electronic devices to communicate with each other), autonomous transportation, and many others are widely expected to have significant impacts on the nature of work, both in terms of the job mix and the skillsets needed to succeed in the labor market. By merging occupational-level probabilities of automation from a 2013 Oxford study with employment data from the Occupational Employment Statistics data set, we are able to estimate the overall level of exposure to automation and compare it across different geographies, which is identified in the chart above.

An estimated 60% of current jobs in the WOW WDA have the propensity for automation. Automation is often incorrectly perceived as the creation of an autonomous robot workforce. The more accurate characterization is that automation will replace routine and repetitive tasks. Human capital will still be essential for parts of the job that cannot be automated. Local employers list problem solving as one of the top three most valued "essential skills" across all job functions. Communication and collaboration are also highly valued. Workers strong in these areas will be well positioned to thrive. Employers need to hire adaptable employees as job duties in the workforce continue to evolve.

Further analysis of the interactions between automation and other occupational characteristics yields some interesting conclusions that have broad implications on the labor market. Automation exposure is anticipated to continue contributing to inequality both in terms of wages and education. In other words, automation exposure has a strong tendency to decrease as wages and educational requirements associated with the job increase. Technological advancements can also help mitigate the workforce quantity challenge by enhancing labor productivity, which is essential for continued economic prosperity without increasing labor force. Of note, these developments are also anticipated to accelerate the evolution of workplace skills, which puts additional emphasis on the roles of postsecondary education and upskilling while still on the job.

Automation Exposure by Occupation Group for WOW WDA Washington, Ozaukee, and Waukesha Counties



Source: The Future of Employment: How Susceptible are Jobs to Computerisation, C.B. Frey and M.A. Osborne, September 17, 2013, Oxford Martin School, University of Oxford; OES

The table above compares the propensity for automation to the current level of employment in each occupational category. The occupation groups with relatively low percent automated tend to require more non-routine work. The skillsets required to do many of these jobs (such as interacting with the environment, creativity, problem solving, and working with others) render them less exposed to automation, at least as technology stands now. The area of concern tends to be those occupations at the top of the graph. These occupations generally do not require a high degree of manual dexterity, problem solving, creativity, or adaptation. A high share of the tasks currently performed by workers in these occupations have the potential to be automated. One of the more disruptive and possibly unexpected occupation group on the list is Transportation and Materials Moving. These occupations are impacted by the growth of self-driving vehicles and highly automated warehouses.

While replacing jobs in a number of areas, automation will also create new jobs in other areas. The challenge is that the new jobs will not be in the same area or require the same skills as the jobs that are replaced. The ability of the workforce to adapt to these rapid changes and the new occupations they will bring will be essential to continued economic progress going forward.