

# Wisconsin Economy and Workforce: 2020

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## Wisconsin's Economy and Workforce in 2020

The economic story of 2020 is about the Covid-19 pandemic (C19). Below is a summary of the economic and workforce effects of the pandemic on Wisconsin.

*Note: the economic impacts of Covid-19 have been devastating. Unprecedented employment and economic losses have occurred. The nature of the catastrophe has also generated unprecedented gains in employment and economic activity. For example, the U.S. lost some 22 million jobs in March and April. It has gained back over 12 million of those jobs over the course of several months. The net effect being that as of December 2020 the U.S. is still down 10 million jobs from February. Furthermore, it is not useful to compare changes in common metrics as a difference of a percentage point or two is next to irrelevant against changes of 30% to 50%.*

Wisconsin began 2020 with continued job growth, albeit somewhat slower than 2019. Labor force numbers, jobs, and employment rates were at or near historic levels. The economic cycle had surpassed the longest expansion for which we have reliable data, some 128 months in February of 2020. The expansion was preceded by the worst recession since the Great Depression of the 1930s.

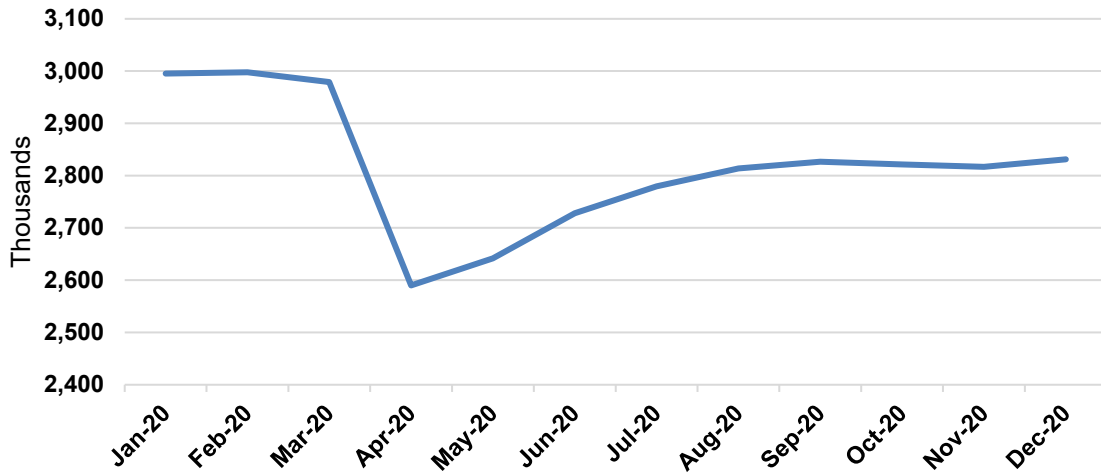
Unemployment rates at the peak of the Great Depression were pegged at about 25% in 1933, three years after the collapse of the stock market and the economy. Unemployment rates during the Great Recession peaked at 10.0% for the U.S. in October 2009 and 9.3% for Wisconsin in January 2010. The peaks occurred some three years after the official beginning of the recession in December 2007. Employment is a lagging indicator of economic health.

The U.S. lost 8.05 million jobs from peak to trough through the Great Recession. Wisconsin dropped 177,200 jobs on a seasonally adjusted basis from its peak in June 2007 to the nadir in January 2010.

The economic and employment reaction to the pandemic was different – immediate and drastic. Policy response to C19 was announced broadly in March 2020. By April, the ramifications were stark in the data. The U.S. lost 21 million jobs essentially overnight. Wisconsin dropped 407,800 jobs from February to April 2020. The recovery was equally immediate, but not as pronounced. National and state jobs began to recover already in May and the unemployment situation improved, however, the gains were paltry compared to the losses. As of December 2020, the U.S. had gained back 12.3 million of jobs lost. Wisconsin recovered 241,100.

## Wisconsin Total Non-farm Jobs (Seasonally Adjusted)

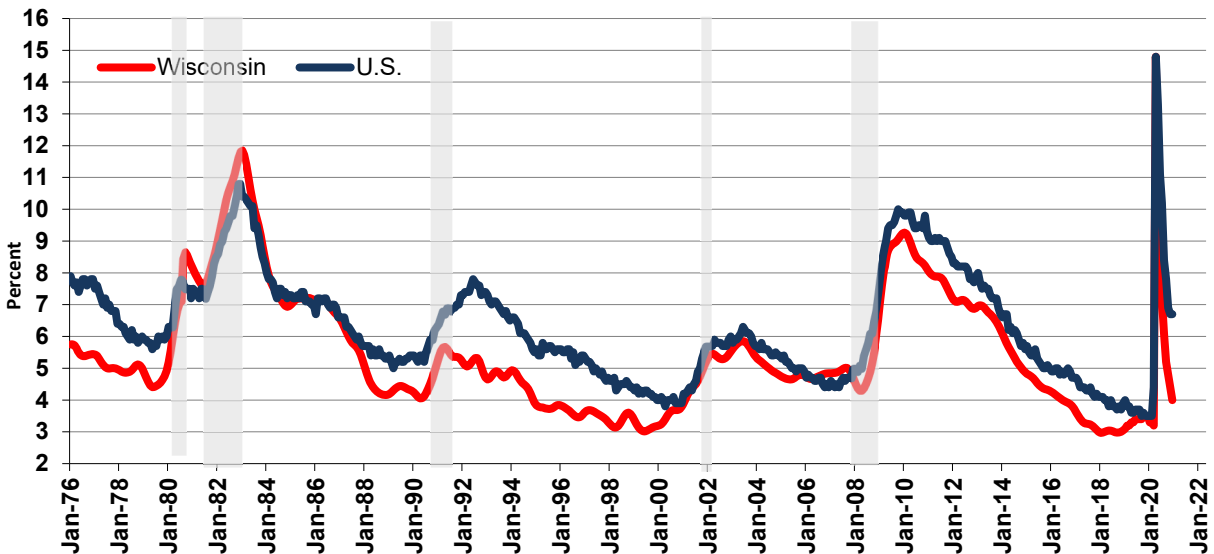
Source: BLS, CES



Likewise, the unemployment rates turned around quickly, but not to the same degree. The U.S. unemployment rate increased from 3.5% in February 2020 to 14.8% in April. The national unemployment rate for December was down to 6.7%. Wisconsin's unemployment rate went from 3.2% in March to 14.8% in April. Wisconsin's seasonally adjusted unemployment rate was 4.0% in December.

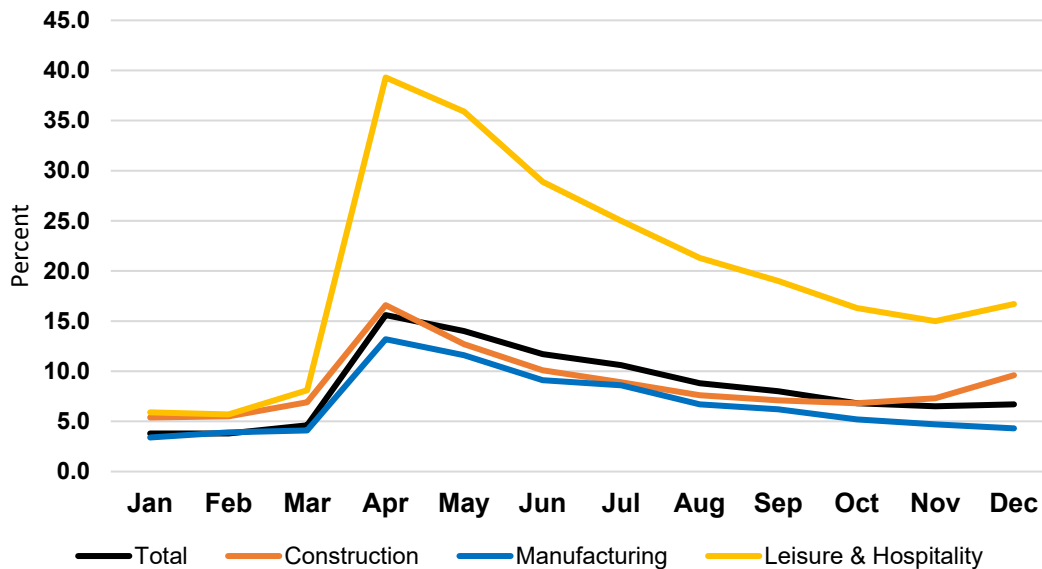
## Unemployment Rates (Seasonally Adjusted)

Source: BLS, LAUS



Unemployment rates varied by industry. The U.S. not-seasonally adjusted unemployment rate for all workers 16 years of age and older increased from 3.8% in February 2020 to 14.4% by April. It had fallen to 7.7% by September. Industry unemployment rates varied by severity but followed a similar pattern. U.S. construction unemployment rates went from 5.5% in February to 16.6% in April and back down to 7.1% in September before increasing again into year-end. The Manufacturing unemployment rate was 3.9% in February, 13.2% in April, 6.2% in September, and 4.3% in December. Leisure & Hospitality rates went from 5.7% to 39.3% in April and down to 16.7% by December, still extremely high by historical standards. *(Note: state unemployment rates by industry are much less robust and subject to significant err. Wisconsin industry unemployment rate patterns are likely to be similar to those of the U.S.)*

### U.S. Industry Unemployment Rates

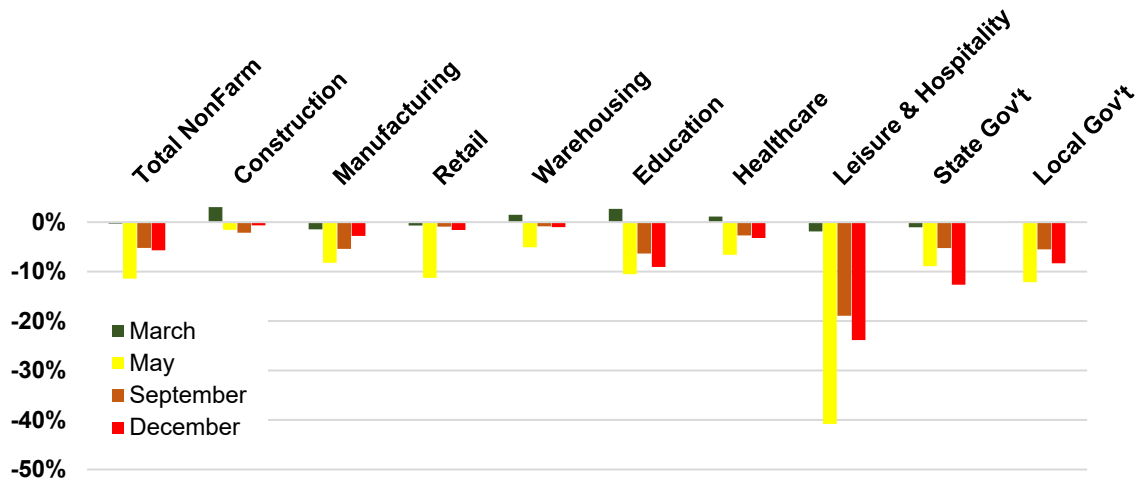


Covid-19 effects on employment varied by industry within Wisconsin. Tourism related industries were more severely impacted. Construction and manufacturing industries saw lesser disruptions. Overall job losses in Wisconsin for the month of April 2020 amounted to 13.3% year-over-year (y/y) on a seasonally adjusted basis. Construction was off 5.1% y/y. Manufacturing was down 9.4%. The Leisure & Hospitality (L&E) industry suffered 50.1% losses with jobs counts falling to half of the total from April of 2019.

Subsequent recoveries were varied as well. By December, construction had actually gained jobs, y/y. Manufacturing was down just 2.8%. L&E, as a whole, was still down 22.1%, with the Arts & Recreation sector alone off 33.1%. Retail overall was relatively unaffected by year-end (down 1.5%), but shifts occurred among retailers with big box stores holding up much better than smaller brick and mortar shops. On-line shopping increased y/y.

## Wisconsin Job Changes by Industry

Source: BLS, CES

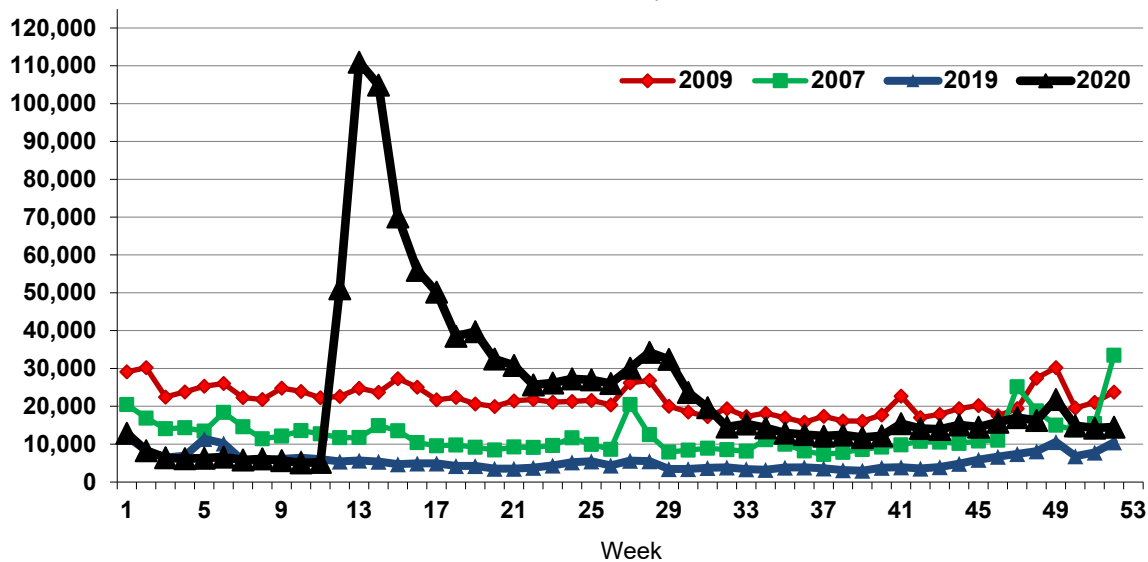


The Covid-19 employment effects also vary by demographics: age, gender, race, and ethnicity. One of the most notable is that the industries that have been most impacted by Covid-19, recreation and entertainment venues, are predominately staffed by minorities. As a result, unemployment rates among people of color have increased more than the general population.

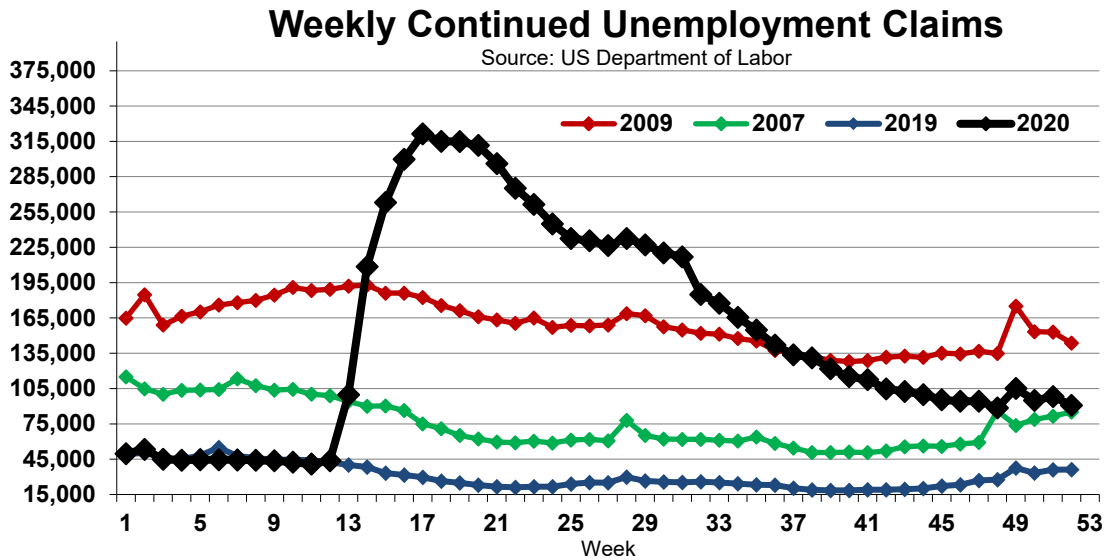
Unemployment insurance benefit claims mimic and may portend what is happening in the employment numbers. Wisconsin weekly initial unemployment insurance claims (IUI) spiked in the first weeks of the pandemic activities. From being slightly lower than previous years, IUIC rocketed over 105,000 in the course of two weeks. The peak was short-lived, but year-end levels are still twice 2019 figures.

## Weekly Initial Unemployment Claims

US Department of Labor

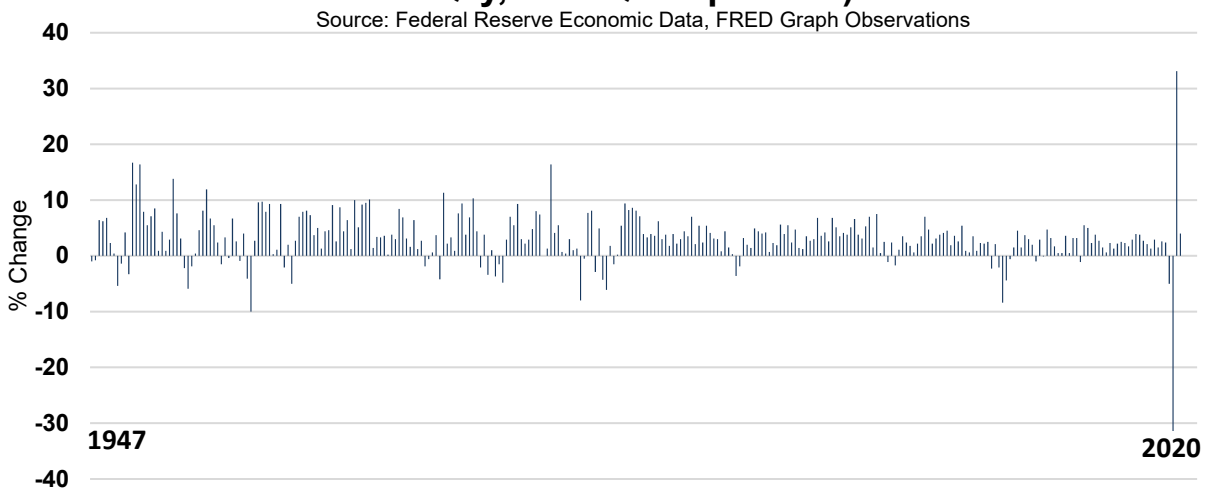


Continued claims (CUIC) correspondingly surged. Continued claims are the accumulation of initial claims minus reemployment. CUIC also shot higher by 275,000 over the course of April. CUIC declines have been more muted as many workers have not been recalled to their jobs.



The economic activity measures illustrate a similar pattern, although the data are quarterly and current only through the third quarter of 2020. U.S. Gross Domestic Product (GDP), a measure of goods and services conducted in the country dropped an incredible 31.4% in the second quarter of 2020 on a seasonally adjusted annual rate. Nothing has ever come close in modern U.S. history. The recovery was as equally unprecedented. Third quarter U.S. GDP surged 33.1%. Still U.S. GDP was down 2.5% from previous peak in fourth quarter of 2019, a number that is historically recessionary.

### U.S. Gross Domestic Product % Change (SAAR, Q'ly, 1947Q2 to present)



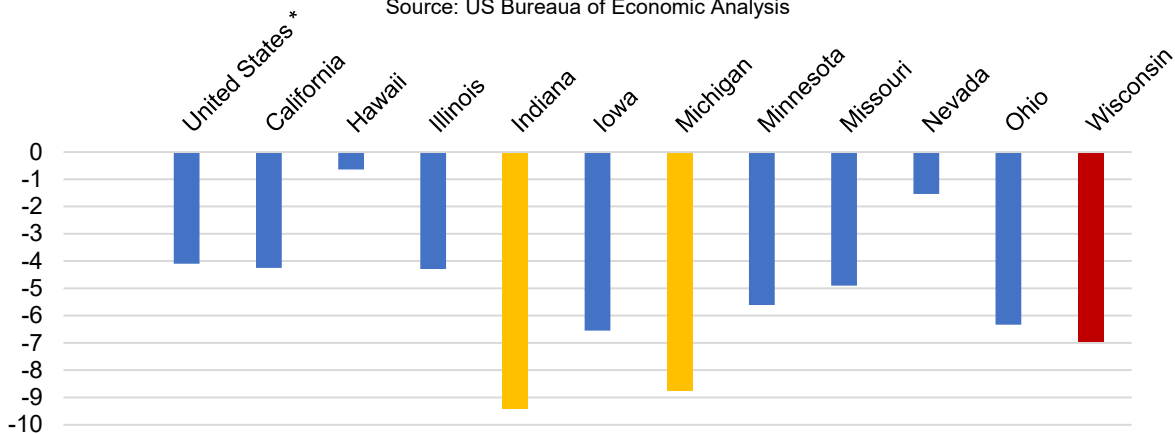
The Wisconsin situation is similar. Second quarter Wisconsin GDP was down 32.6%. Every state was down by at least twenty percent. High tourism states such as Hawaii and Nevada were down over 42%.

The contribution of GDP varies from state to state. In states such as Wisconsin, Indiana, and Michigan, manufacturing industries play a larger role in the overall economy. Nevada and Hawaii major industry concentrations are in tourism industries such as Accommodations & Food Services.

Preliminary numbers show Wisconsin aggregate second quarter wages down 4.0%.

### Contributions to percent change in real GDP: Manufacturing (Percentage points)

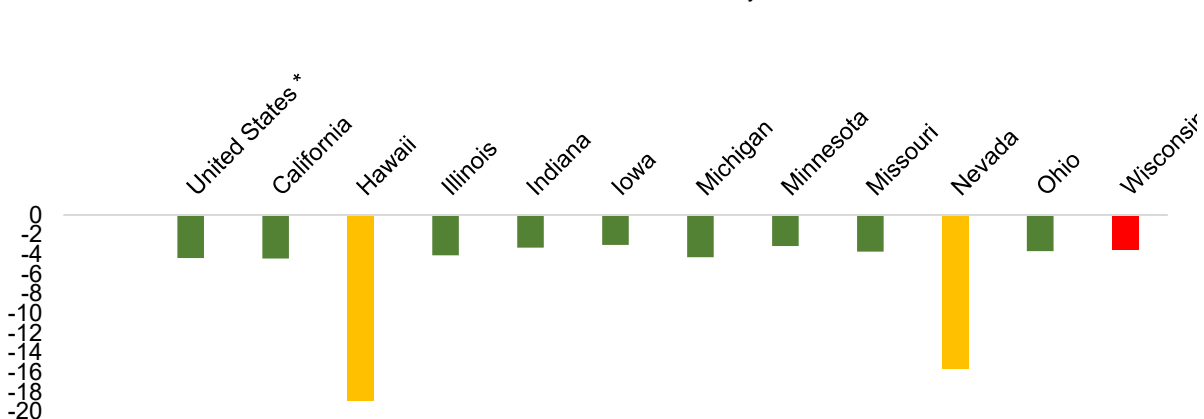
Source: US Bureau of Economic Analysis



As noted above, Accommodation and Food Services play a much larger role in states such as Nevada and Hawaii.

### Contributions to percent change in real GDP: Accommodations & Food Service (Percentage Points)

Source: US Bureau of Economic Analysis



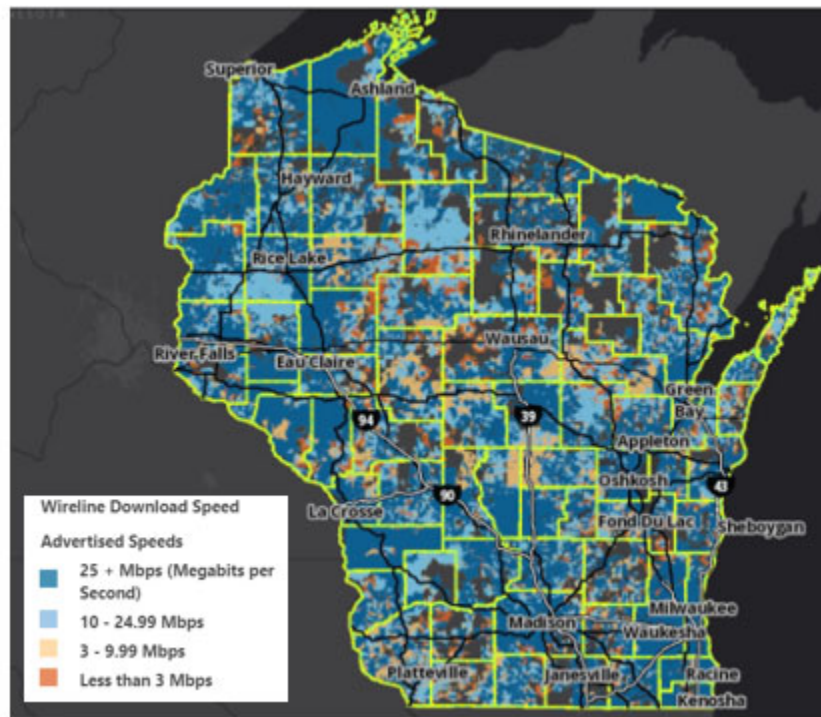
## Wisconsin Gaps in Internet Access

The need to social distance to contain the coronavirus has led to a dramatic increase in all things "virtual". Around 37% of Wisconsin adults live in households where at least one adult has substituted some or all of their typical in-person work for telework because of the coronavirus pandemic.<sup>1</sup> Additionally, education at all levels has scrambled to utilize hybrid models or provide online options. The transition has been impressive, but not seamless. The learning curve to rapidly pivot has been a challenge for the workforce and the education system. However, the larger challenge is among residents that do not have access to high speed internet in their home. The lack of access is a major barrier to utilizing these new virtual options. There are currently extensive discrepancies in access to high speed internet across the state based on several factors.

Lack of connectivity remains a tangible barrier to high speed internet in some of the most rural parts of the state. Over 17% of the state's population does not have access to broadband speeds of 25 megabits per second (mbps) or higher<sup>2</sup>. The map below shows that lack of connectivity makes high speed internet inaccessible to residents in parts of the state based on the lack of available infrastructure. This is referred to as a "last mile" issue that prevents residents from bringing high speed internet into their homes.

### Wisconsin Internet Speeds

Source: Public Service Commission of Wisconsin, Wisconsin Broadband Office



Gaps in high speed internet access among households go well beyond the presence of physical infrastructure. Data tracked through the American Community Survey (ACS) can be used to break down internet access on a relatively granular level. While the percentages reported in the five-year file are changing, the source provides valuable insights about differences among different groups. The table below displays the percent share of households with broadband



internet subscriptions by income level. The share of households increases substantially with each income bracket.

### Wisconsin Internet Speeds

Source: US Census Bureau, American Community Survey

All Households	80.4%
<i>Less than \$20,000:</i>	<i>54.5%</i>
<i>\$20,000 to \$74,999:</i>	<i>77.2%</i>
<i>\$75,000 or more:</i>	<i>93.7%</i>

The table below displays the percentage of the total population that lives in a household with a broadband internet subscription by various socioeconomic variables. The difference comparison between Black or African American and the total population is particularly extreme. Additionally, availability of internet by household varies widely by education levels ranging from 60.1% for residents without a high school diploma to over 93% for residents with a bachelor's degree or higher.

### Wisconsin Residents Living in a Household with High Speed Internet

Source: US Census Bureau, American Community Survey

<b>Total Population</b>	<b>85.1%</b>
<b>AGE</b>	
<i>Under 18 years</i>	<i>89.6%</i>
<i>18 to 64 years</i>	<i>88.0%</i>
<i>65 years and over</i>	<i>67.1%</i>
<b>RACE AND HISPANIC OR LATINO ORIGIN</b>	
<i>White alone</i>	<i>86.1%</i>
<i>Black or African American alone</i>	<i>72.8%</i>
<i>American Indian and Alaska Native alone</i>	<i>75.5%</i>
<i>Asian alone</i>	<i>90.5%</i>
<i>Native Hawaiian and Other Pacific Islander alone</i>	<i>60.7%</i>
<i>Some other race alone</i>	<i>74.7%</i>
<i>Two or more races</i>	<i>86.6%</i>
<i>Hispanic or Latino origin (of any race)</i>	<i>80.6%</i>
<i>White alone, not Hispanic or Latino</i>	<i>86.2%</i>
<b>EDUCATIONAL ATTAINMENT</b>	
Household population 25 years and over	83.1%
<i>Less than high school graduate or equivalency</i>	<i>60.1%</i>
<i>High school graduate, some college or associate's</i>	<i>81.0%</i>
<i>Bachelor's degree or higher</i>	<i>93.3%</i>
<b>EMPLOYMENT STATUS</b>	
Civilian population 16 years and over	84.0%
In labor force	89.3%
Employed	89.6%
Unemployed	80.4%
Not in labor force	72.8%

Internet access isn't solely dependent on physical infrastructure and is not simply a rural/urban issue. This can be demonstrated by reviewing the Milwaukee metropolitan area as an example of how variations exist even when infrastructure is not a barrier. As the largest and most population dense metro area in the state, the four-county region is well connected with broadband internet. However, there are still large discrepancies in internet access among the residents. Large parts of the population have not made it the "last foot" to get broadband into the household. The map below shows that a number of census tracts, primarily in parts of the City of Milwaukee, have low rates of broadband internet subscriptions. The more affluent surrounding areas have higher subscription rates. The table below compares Milwaukee County to the surrounding WOW region that includes Waukesha, Ozaukee, and Washington counties. The lowest share of households with broadband among all census tracts in the surrounding WOW counties is 70.5%. Over a third of Milwaukee County's 298 census tracts are below that mark. Additionally, 90% or more of households have broadband internet subscriptions in 36.4% of the WOW counties' 132 census tracts.

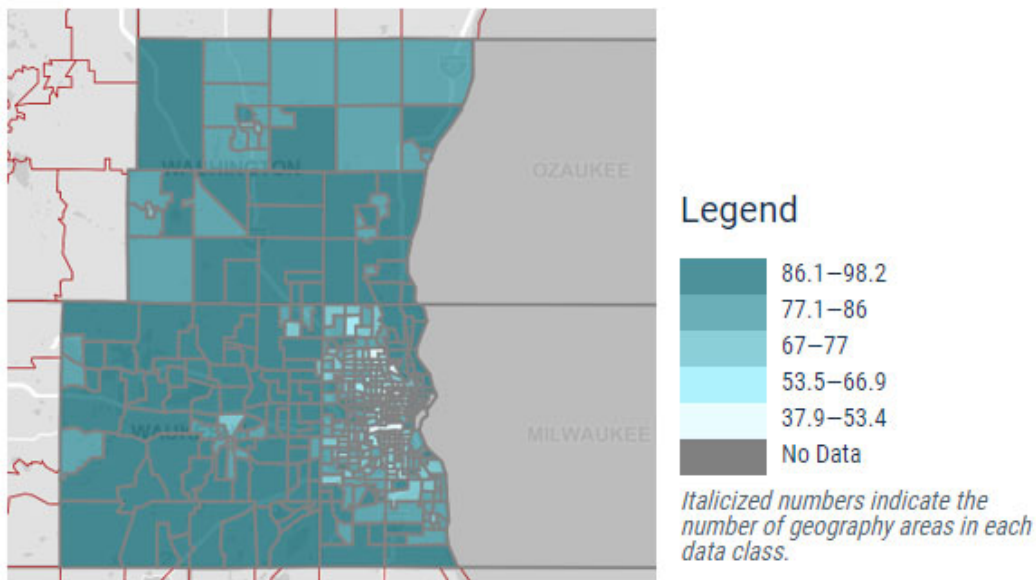
### Milwaukee Area Broadband Subscription Rates

Source: US Census Bureau, American Community Survey

% of Population with broadband subscription	Milwaukee County	WOW Counties
Under 50%	5.4%	0.0%
50%-70.4%	29.9%	0.0%
70.5%-79.9%	29.2%	10.6%
80%-89.9%	29.2%	53.0%
90%+	6.4%	36.4%
	100.0%	100.0%

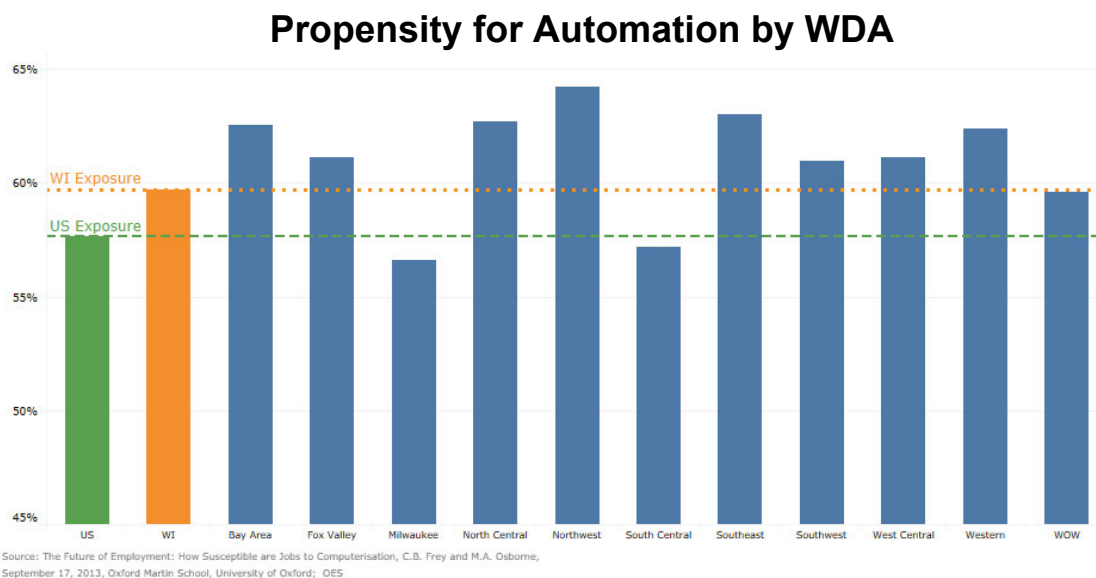
### Internet Access by Census Tract in the Milwaukee Metropolitan Area

Source: US Census Bureau, American Community Survey

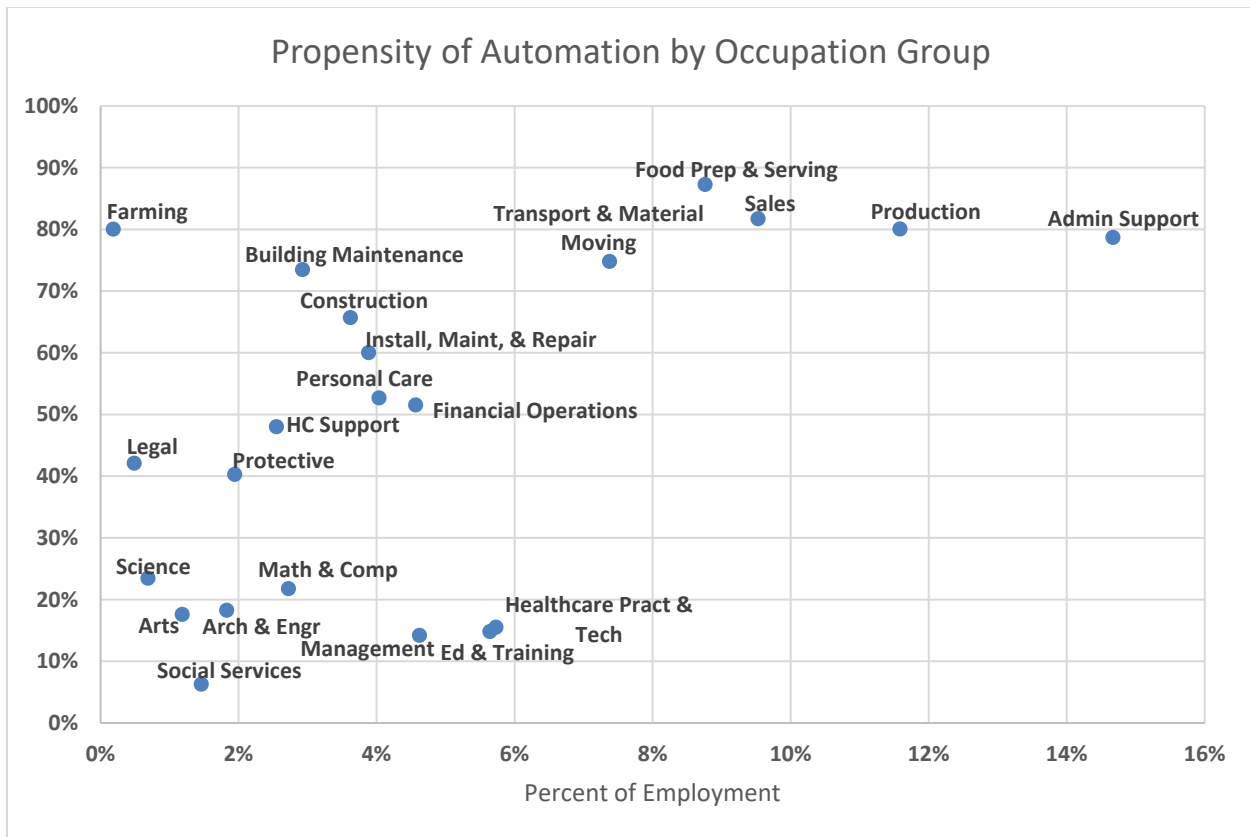


Elements of the work-from-home economy and best practices from virtual learning will remain after the pandemic is over. The innovations that have been developed out of necessity can be used to help better meet Wisconsin's workforce needs. For example, increased work-from-home options could be used to help alleviate talent shortages by providing flexible scheduling options that benefit workers. However, access to high speed internet is needed to reap the benefits of virtual options. There are gaps across the state for a number of different reasons. Whether the issue is connecting the "last mile" or the "last foot", lack of access could lead to increased equity gaps if not addressed. Suffice it to say that ubiquitous access to the best telecommunications technology and networks at every level should be the accepted and required standard. Those unable or unwilling to adopt and embrace it will be further disadvantaged in most every aspect of economic competitiveness, health, and wellbeing

## Covid Recession and Automation



Before the Covid-19 pandemic and the subsequent labor market turmoil, there was already a focus on how automation will alter the landscape in Wisconsin.<sup>3</sup> Discussions on elements of the "Fourth Industrial Revolution" combined with various quantitative studies pointed to significant impacts on the horizon, but it was still unclear how those changes will be felt across different parts of the economy. There were some broad conclusions that could be accepted as a "consensus", such as the highly concentrated automation exposures at the lower end of the income distribution and in some of the largest employment sectors such as production, transportation, and service, but the specific ways in which the nature of work could change as a result of this are still elusive.<sup>4</sup> Many speculate about a potential "jobs apocalypse" but that ignores the fact that occupations are collections of tasks, and tasks evolve over time.<sup>5</sup>



Above, the various occupation groups in Wisconsin are ordered by their overall share of total employment on the x axis (bottom) vs. the propensity of that occupation group to be automated on the y axis (side). The skillsets required to do many of the jobs on the low end of the graph above (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. Education and Healthcare, for example, fall into this category. Occupations located near the top are particularly exposed to future automation trends. Production occupations, for example, fall into this category but also make up a high share of employment. It's important to note that not all occupations in these fields are likely to be automated in the immediate future; it depends largely on skills. For example, occupations that are repetitive and don't require a high degree of manual dexterity, problem solving, creativity or adaptation are more likely to be automated. Likewise, Transportation and Material Moving is in an industry moving steadily into self-driving vehicles and highly automated warehouses. Varying automation propensity between the state's workforce development areas as seen on the previous page are primarily due to differing concentrations of the various occupation groups on the above graph.

Data unavailability makes it difficult to pinpoint the effects of automation during and after the COVID era, but anecdotal evidence points to an acceleration of pre-pandemic trends. As long ago as it may seem now, back in February 2020, the number of job openings in the labor market actually exceeded the number of unemployed job seekers.<sup>6</sup> The tightening labor market already gave employers plenty of incentive to look for ways to automate the production process and satisfy unmet demand. The public health crisis and economic fallout put additional pressure on employers to continue this trend through two distinct avenues:

- Using the Great Recession as an example, some firms tend to use downturns as an opportunity to increase automation. This favors workers who are already equipped with the requisite education, knowledge, and skills - often of the nonroutine variety. To a limited extent, the implementation of labor-saving technologies is countercyclical.<sup>7</sup> Another way to view it is that there is more pressure on employers to cut labor costs during recessions, which can lead to increased automation.
- The pandemic has brought about its own unique challenges, mainly regarding how to maintain productivity when personal interaction is not an option. The most obvious manifestation of this is the dramatic increase in telecommuting as noted above.

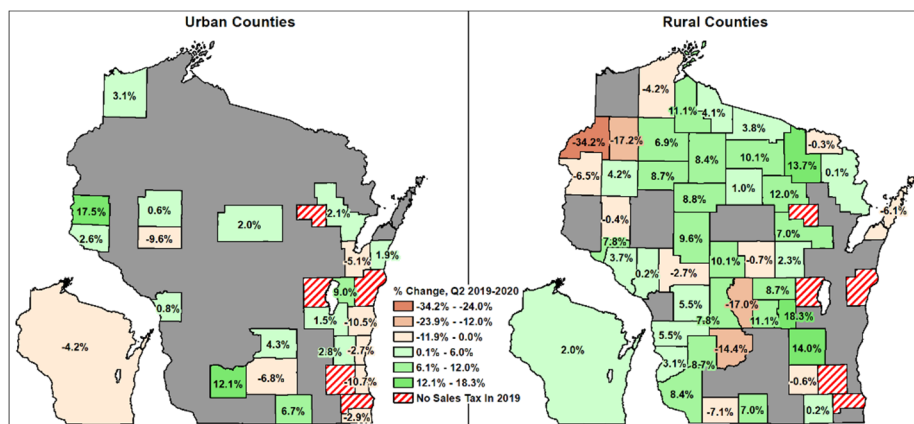
One sector that has been the subject of accelerated automation in recent months is the food industry, where the need to ensure the safety of food workers and consumers alike has been particularly pronounced. On the production side, labor shortages in fruit picking were exacerbated by closed borders and restricted movement, which in turn provided additional incentives to invest in technologies such as harvesting robots and driverless tractors.<sup>8</sup> The impact on in-person establishments such as grocery stores and restaurants focus on the further implementation of self-checkout stations, automated floor cleaners, and voice and facial recognition technologies that can take orders and assign tables.<sup>8</sup> It is unknown how much of this acceleration is simply a matter of short-term necessity or the start of a longer-term trend. Especially in terms of hospitality and food service, part of the dining experience is innately human, which could prove undesirable to automate even if it becomes technologically feasible.<sup>8</sup>

## Sales Tax Collection

The COVID-19 stay at home order in late March affected sales tax collections in Wisconsin. However, it impacted rural counties less than urban counties on average. During the second quarter of 2020, the sales tax distribution for rural counties increased 2% when compared to 2019, for urban counties sales tax this redistribution decreased 4.2% compared to 2019. The graphic below maps urban counties on the left and rural counties on the right. The urban map shows that 14 of the 21 urban counties saw positive growth and that 13 of the 46 rural counties saw negative growth.

### Sales Tax Change by County

Source: WI Department of Revenue



Most of the urban counties that saw positive growth were outside of larger population centers. The counties that contain the some of the largest cities in Wisconsin (Milwaukee County, Dane

County, Brown County, Eau Claire County) saw their sales tax distribution decline. A contributing factor was a larger share of the counties' workforce working in occupations that were able to work from home, thus reducing certain services. Some examples of these services are gasoline purchases, restaurant dining during the workday, and even purchasing work clothes and getting haircuts. Also, these counties have large convention centers and sporting venues that could not be used during the stay at home order, which reduced traveler purchases.

The majority of rural counties saw an increase of sales tax distributions during the second quarter of 2020 when compared to the second quarter of 2019. The summer of 2020 saw a surge of vacationers wanting to camp and enjoy the outdoors. Many Wisconsinites that usually travel out of Wisconsin decided to stay closer to home and spend their money at rural campgrounds, gas stations, restaurants, etc. Nationally, housing demand in rural areas has increased due to variety of factors, most notably the pandemic. There are instances of increased housing demand in rural Wisconsin as well. The below table shows that, year-over-year, rural county sale tax distributions grew 5.2% versus urban county growth of 2.7%.

### Sales Tax Change: Rural vs. Urban Counties

Source: WI Department of Revenue

2019-2020										
	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total	
Area	Difference	% Change	Difference	% Change	Difference	% Change	Difference	% Change	Difference	% Change
Rural	\$ 1,687,891	5.8%	\$ 532,127	2.0%	\$ 3,081,158	8.4%	\$ 1,395,107	3.9%	\$ 6,696,283	5.2%
Urban	\$ 4,229,154	5.5%	\$ (3,009,713)	-4.2%	\$ 1,129,288	1.3%	\$ 6,144,569	7.2%	\$ 8,493,299	2.7%
Wisconsin	\$ 5,917,046	5.6%	\$ (2,477,586)	-2.5%	\$ 5,966,760	4.9%	\$ 7,539,676	6.2%	\$ 16,945,896	3.8%

## Regional Summary

The Covid-19 recession is affecting each region of the state in different ways and to different degrees of severity. It is still too early to fully analyze the economic impact of the pandemic. However, some early indicators can be used to assess the situation and provide some insights on what to expect in the future.

### Southeastern WDA

The Southeastern Workforce Development Area (WDA) consists of Kenosha County, Racine County, and Walworth County. The WDA is bordered by Milwaukee and Waukesha Counties to the north and the State of Illinois to the south. It has strong economic ties to these neighbors.

#### Labor Force

An estimated 236,389 of Southeastern WDA residents out of 245,860 labor force participants were employed in 2019. These employment numbers are measured through the Local Area Unemployment Statistics (LAUS) program that includes the self-employed and those working in a family business. The associated unemployment rate in 2019 was 3.9% for the region. The not seasonally adjusted unemployment rate shot up to 16.1% in April immediately following pandemic related shutdowns. There were variations in the rate among the counties but all three experienced historically drastic increases in the unemployment rate. It dropped to 4.5% as of December. While improving steadily, challenges still exist. Initial claims for unemployment insurance, an indicator of layoffs, remained more than twice as high in December compared to the end of 2019.

## *Jobs and Wages*

The Southeastern WDA made up 6.4% of the state's job base in 2019. Industry numbers for the region are not yet available, but statewide estimates by industry can be used to provide some insights. As noted above in the statewide summary, total non-farm employment in Wisconsin was lower in December when compared to the same month from 2019, and the employment change varies widely across industries. Leisure and Hospitality has been the hardest hit and remains well below its 2019 level. Construction is the only industry to gain employment. The region has a relatively higher share of employment in leisure and hospitality industries and a relatively low share in construction. Conversely, the presence of an Amazon distribution center and related employment associated with distributing online purchases is favorable for employment in the region. Also, sales tax revenue increased in Kenosha County and Walworth County when compared to the third quarter of 2019. Among all the uncertainty, it is safe to say that the recovery will be mixed within the region. It will be increasingly important to monitor how sectors are improving as more information becomes available.

## WOW WDA

The WOW Workforce Development Area consists of three counties in the southeastern part of the state. The region includes Waukesha County, Ozaukee County, and Washington County. The WOW WDA is undoubtedly linked to the Milwaukee WDA. Much of the past growth and development in the region is a direct result of urban sprawl from the City of Milwaukee. The region relies on Milwaukee as a cultural and employment center, and Milwaukee relies on WOW residents to work and engage in recreation in the city.

## *Labor Force*

An estimated 340,725 residents out of 350,922 labor force participants in the WDA were employed in 2019. This employment measure includes the self-employed and those working in a family business. The number of unemployed residents in the region stood at 10,197, and the associated unemployment rate in 2019 was 2.9%. The not seasonally adjusted unemployment rate shot up to 13.3% in April immediately following pandemic related shutdowns. There were variations in the rate among the counties but all three experienced historically drastic increases in the unemployment rate. It dropped to 3.4% as of December. While improving steadily, challenges still exist. Initial claims for unemployment insurance, an indicator of layoffs, remained about 1.5 times higher when compared to the same week of the previous year.

## *Jobs and Wages*

In the calendar year 2019, the WOW WDA made up about 12% of the state job base. The economic impact of COVID has been wide reaching. However, the magnitude and subsequent recovery in the region will vary depending on if it is being examined from the "place of residence" or "place of work" perspective. Place of residence refers to the employment status of residents that live in the three-county area while place of work refers to jobs at employers located in the region. WOW residents tend to be highly educated relative to the rest of the state and neighboring regions. Many make the commute to neighboring Milwaukee County. As a broad generality, WOW county residents were either less impacted or are bouncing back more quickly. Employers located in WOW have an employment mix that can be expected to bounce back more slowly. A large chunk of the workers in lower skilled positions that were harder hit



come from outside of the WDA. It will be important to keep a close eye on recovery statics from neighboring areas as well as within the region.

## Milwaukee WDA

The Milwaukee WDA consists of Milwaukee County and holds the distinction of being Wisconsin's only single county WDA. However, it is undoubtedly linked to its surrounding regions, and it would be naïve to ignore the regional interdependence. The relatively small geographic size of Milwaukee provides the opportunity for employers to draw from a potential workforce that includes surrounding areas, and Milwaukee WDA residents can look outside the region for desirable career prospects.

### *Labor Force*

An estimated 448,251 Milwaukee residents out of 466,908 labor force participants were employed in 2019. This employment measure includes the self-employed and those working in a family business. The not seasonally adjusted unemployment rate shot up to 16.5% in April immediately following pandemic related shutdowns. It dropped to 5.6% as of December, which is the most recent preliminary estimate. Pressing challenges still exist as the unemployment rate has been decreasing slowly when compared to neighboring WDAs and the rest of the state. Initial claims for unemployment insurance, an indicator of layoffs, provide additional evidence that the economic impact of COVID remains prevalent. Claims were more than two times higher in the first week of 2021 when compared to the first week of 2020.

### *Jobs and Wages*

The Milwaukee WDA accounted for 16.9% of the state's job base in 2019. Covered employment in Milwaukee averaged 486,540 jobs per month. This high share means that the economic health of the WDA has a large impact on the state's economy even though it is only one county. Education and Health is Milwaukee County's largest industry sector. Both education and health employment were greatly impacted by COVID. Healthcare employment was initially it hard as elective procedures where essentially shut down. The lingering shift away from in person instruction at all levels as taken a toll on education, particularly among support staff and student workers. While hospitals have struggled to maintain enough capacity to treat the influx of patients due to COVID, elective appointments and procedures were largely halted during the spring. Healthcare professionals experienced layoffs as a result. It will be increasingly important to monitor different sectors as more information becomes available.

## Fox Valley WDA

The Fox Valley WDA is composed of six counties in northeastern Wisconsin: Calumet, Fond du Lac, Green Lake, Waupaca, Waushara, and Winnebago.

### *Labor Force*

The Fox Valley WDA is ranked as the seventh largest labor force out of the 11 WDA's. In December 2020, Fox Valley's labor force totaled 220,519 participants consisting of 212,972 employed and 7,547 unemployed. From December 2019 to December 2020, the labor force lost 999 participants, a 0.5% decrease. Employment in the Fox Valley decreased by 2,042, or 0.9%. As a comparison, the entire state experienced a net loss of 2.3% over the same period.



Employment losses affected the Fox Valley's six counties with varying degrees of severity. On the lower end of the spectrum, Winnebago County experienced a 0.3% decline. In contrast, Waushara County's decrease was more apparent at 2.3%.

The Fox Valley's unemployment rate was 3.4% in December 2020; a 0.5 percentage point increase from 2019. Additionally, this rate was lower than the statewide rate of 4.0%. Generally, the Fox Valley region experiences a lower unemployment rate than that seen statewide, and this has remained the case over the course of the ongoing recession.

The Fox Valley's Labor Force Participation Rate (LFPR) in 2019 was 66.0%. The regional LFPR decreased by 0.9 percentage points relative to 2018.

### *Jobs and Wages*

One of the drawbacks of traditional economic datasets is the lag between the reference period and release. The Quarterly Census of Employment and Wages (QCEW) program is one example. As of this writing, the most recent information covers June 2020. The past summer was a time of rapid rebounding, but the national and state level jobs reports point to a much slower recovery over the fall and winter. Taking this into consideration, the best way to discuss local trends is to make year over year comparisons – while also keeping in mind that the experience of the past six months is not fully captured here.

As of June, the total job base in the Fox Valley region numbered 176,421 jobs, 14,656 fewer jobs than in 2019, down about 7.7%.

The Manufacturing supersector saw a decrease of 4,031 jobs year-over-year, down 8.5%. Across all industries, this was the largest numeric decline during the period. Leisure and Hospitality experienced the largest proportional decrease, down 19.6% (3,526 jobs). Education & Health Services also experienced losses of almost equal magnitude (3,473 jobs). Trade, Transportation, & Utilities, the region's third largest supersector, lost 1,251 jobs. Conversely, Natural Resources & Mining was the only one to experience a net gain during the period (212 jobs).

Total area wages in the second quarter of the year decreased from \$2.29 billion in 2019 to \$2.08 billion in 2020 based on QCEW numbers. Area wages declined by \$204 million (8.91%) over the year as of the second quarter; this rate of decline was more rapid than the statewide rate of 4.08%. Paradoxically, average weekly wages increased in five of the six counties in the region. Every county except for Winnebago (-\$22) experienced average weekly wage gains ranging from \$23 (Waupaca) to \$76 (Calumet). This is primarily a reflection of job losses that are more highly concentrated at the lower end of the income spectrum, which artificially inflates the arithmetic average.

### **Bay Area WDA**

The Bay Area WDA is composed of 11 counties in northeastern Wisconsin: Brown, Door, Florence, Kewaunee, Manitowoc, Marinette, Menominee, Oconto, Outagamie, Shawano, and Sheboygan. It is not the most populous Workforce Development Area, nor does it contain the largest labor force or job base. Further, because the area is geographically large, changes in the labor force, jobs, wages, and income will vary, sometimes significantly, from one county to the next.

## *Labor Force*

The Bay Area WDA has the 3rd largest labor force of the 11 WDAs. In December 2020, Bay Area's labor force totaled 431,763 participants consisting of 416,100 employed and 15,663 unemployed. From December 2019 to December 2020, the labor force decreased by 3,054 participants, or 0.7%. While the number of employed decreased by 1.2% over the year, the number of unemployed rose by 13.7%.

The Bay Area's unemployment rate was 3.6% in December 2020; a 0.4 percentage point increase from 2019. This rate was lower than the statewide rate of 4.0%. In recent years, the Bay Area region experienced a lower unemployment rate than that seen statewide, and this has remained the case over the course of the ongoing recession.

The Bay Area's LFPR in 2019 was 66.8%. The regional LFPR decreased by 1.0 percentage points relative to 2018.

## *Jobs and Wages*

The Quarterly Census of Employment and Wages (QCEW) program provides detailed industry information about the region, but there is a lag between the reference period and release. As of this writing the most recent information covers June 2020. The past summer was a time of rapid rebounding, but the national and state level jobs reports point to a much slower recovery over the fall and winter. Taking this into consideration, the best way to discuss local trends is to make year over year comparisons – while also keeping in mind that the experience of the past six months is not fully captured here.

As of June, the total job base in the Bay Area region numbered 400,045 jobs, 37,116 fewer jobs than in 2019, down about 8.49%.

Leisure and Hospitality experienced the largest decrease of jobs year-over-year (11,598), down 24.3%. The Manufacturing supersector saw a decrease of 7,313 jobs, down 7.61%. Education & Health Services also experienced losses of roughly equal magnitude to manufacturing (6,650 jobs). Trade, Transportation, & Utilities, the region's third largest supersector, lost 3,770 jobs. Unlike the Fox Valley, no industries in the Bay Area experienced a net gain during the period.

Total area wages in the second quarter of the year decreased from \$4.99 billion in 2019 to \$4.75 billion in 2020 based on QCEW data. Area wages declined by \$239 million (4.79%) over this period; this rate of decline was more rapid than the statewide rate of 4.08%. Paradoxically, average weekly wages increased in all eleven counties in the region. Average weekly wage gains ranged from \$27 (Florence) to \$100 (Menominee). This is primarily a reflection of job losses that are more highly concentrated at the lower end of the income spectrum, which artificially inflates the arithmetic average.

## **Northwest WDA**

The Northwest WDA region consists of Ashland, Bayfield, Burnett, Douglas, Iron, Price, Rusk, Sawyer, Taylor, and Washburn counties.

## *Labor Force*

The Covid-19 pandemic has affected the number of employed residents in Northwest Wisconsin negatively, just as it has in the other regions of Wisconsin. The Governor of Wisconsin decreed a stay at home order from March 23 through May 26. The number of employed residents during the first month of the order decreased from 80,313 in March to 71,589 in April 2020, which was a decrease of -10.9%. When compared to April 2019, the decline was an even lower -13.3%. The number of employed residents began to rebound in May with an increase of 7.0% and continued to grow in June with an increase of 4.5% before leveling off in July. In August and September, there were further moderate increases in employment, while October through December posted slight declines. When comparing December 2019 and December 2020, the number of employed Northwest Wisconsin residents decreased 2.8%.

When the number of employed decreased, the number of those unemployed naturally increased. In March 2020, before the stay at home order, the number of unemployed Northwest Wisconsin residents was 5,239 with an unemployment rate of 6.1%. The number of unemployed residents in Northwest Wisconsin in April 2020 catapulted to 18,097 with an unemployment rate of 20.2%. When the number of employed began to increase in May 2020, the number of unemployed decreased to 11,102. The unemployment rate declined to 12.7%. As of December 2020, the number and rate of unemployment was still higher than what they were in December 2019. The number of unemployed was 8.1% higher and the unemployment rate was 0.5 percentage points higher.

The unemployment trends were seen in real time through unemployment claims, which are reported weekly. In week 12, Northwest Wisconsin initial unemployment insurance claims increased from 194 in week 11 to 1,252. That was an increase of 1,058 or 545%. In week 13, the first week of the Wisconsin stay at home order, Northwest Wisconsin initial unemployment insurance claims increased from 1,252 in week 12 to 2,766. In week 14 the initial claims were 2,517, starting a decline that continued for the rest of 2020, except for small increases in July and November. Naturally, because of the increases of the initial unemployment insurance claims in week 12, the week 13 weekly claims started to swell, until it reached its peak of 7,951 in week 17. The weekly claims continued to gradually decrease until week 46. Seasonally, weekly claims begin to increase around that week each year. As of the first week of 2020, weekly claims were still 1,377 higher than in week 1 of 2020, or 75.4%.

## *Jobs and Wages*

Covered employment located within the Northwest WDA region totaled 66,333 jobs, in the second quarter of 2019. Due to the pandemic stay at home order, the region had only 58,867 jobs in the second quarter of 2020, which was an 11.3% decrease. The two industry super sectors that lost the most jobs were Education & Health Services with a decline of 1,794 or -11.9%, and Leisure & Hospitality with a decline of 2,879 or -33.5%.

Though the number of jobs decreased, the average weekly wage increased by 9.1% during this time period. Normally wages do not increase by this much. The larger than usual increase in wages suggests that the jobs that were lost due to the pandemic were lower paying jobs. The two industry super sectors that saw the highest percentage increase in wages were Financial Activities at 13.3%, and Leisure & Hospitality at 14.1%.

Wisconsin's Northwoods was among the regions that saw yearly increases in sales tax distributions. Three of WDA 7's counties did see negative growth: Burnett, Washburn, and

Bayfield. When comparing quarter 1 of 2020 to 2019, Northwest Wisconsin sales tax distributions increased 8.3%, in quarter 2 increased 0.2%, and in quarter 3 had the highest increase in Wisconsin of 10.9%.

## West Central WDA

The West Central WDA is composed of nine counties in northwestern Wisconsin: Barron, Clark, Chippewa, Dunn, Eau Claire, Pepin, Pierce, Polk and St. Croix. It has been among the state's fastest growing regions in terms of population and economic growth in recent years.

### *Labor Force*

The West Central region comprises between eight and nine percent of Wisconsin's total workforce, with a mix of urban and rural areas throughout. West Central Wisconsin's annual total labor force was about 262,785 in 2019, down 0.63% from 2018, despite continued population growth, highlighting global trends associated with the retirement of the baby boomers. Labor force trends changed dramatically in 2020 as the effects of the Covid-19 pandemic rippled through the economy. The unemployment rate skyrocketed to 15.0% in April. The unemployment rate was coming back down to earth by the end of the year. The December rate was 4.2% compared to 3.8% in the same month of 2019, but it will take additional time for the region to return all the way back to pre-COVID levels.

### *Jobs and Wages*

Covered employment in West Central totaled 196,720 jobs, about 6.8% of Wisconsin's job base in 2019. Statewide estimates by industry can be used to provide some insights since regional data through the end of the year is yet to be released. Employment in Education on the state level remains well below pre-COVID levels. This sector has been heavily impacted by the loss of positions for student workers and laid off staff in support occupations. It is something to monitor in the region since the WDA is home to multiple UW colleges and campuses in Wisconsin's technical college system.

Sales tax revenue has proven to be a very small but pleasantly surprising bright spot for the region. Every county in the region has seen an increase in sales tax revenue when comparing the third quarter of 2020 to the third quarter of 2019. The exact cause of this increase is unknown. One possible explanation could be that people in other parts of the state and bordering parts of Minnesota turned to smaller and more socially distant recreational offerings in the region since plane travel and larger gatherings were not available. Among all the uncertainty, it is safe to say that the recovery will be mixed within the region.

## North Central WDA

The North Central WDA consists of nine counties located in the Northern center of Wisconsin: Adams, Forest, Langlade, Lincoln, Marathon, Oneida, Portage, Vilas, and Wood counties. Notable for this region is the relatively higher median age seen in many of the counties.

### *Labor Force*

In calendar year 2019, North Central's labor force totaled 211,835 participants consisting of 204,302 employed and 7,533 unemployed. The associated unemployment rate in 2019 was

3.6% for the region. In April of 2020, the region's non-seasonally adjusted unemployment rate felt the impact of the pandemic related shutdowns, spiking up to 14.6%. There were variations in the rate among the counties but all experienced historically drastic increases in the unemployment rate. It dropped to 4.2% as of December, which places the region above the statewide unemployment rate by 0.2 percentage points. While improving steadily, challenges still exist. Initial claims for unemployment insurance, an indicator of layoffs, remained more than twice as high in December compared to the end of 2019.

### *Jobs and Wages*

In calendar year 2019, the total job base in the North Central region numbered 194,516 jobs, making up 6.7% of the state's job base. Statewide estimates by industry can be used to provide some insights for the region. Leisure and Hospitality has been the hardest hit, and the region has a relatively higher share of employment in this industry. However, sales tax revenue provides some evidence to think that Leisure and Hospitality is doing relatively better in the region when compared to the rest of the state. Sales tax revenue increased in each county of the region for the first and third quarter of 2020 when compared to the same quarter of 2019. Sales tax revenue decreased in Adams County and Portage County for the second quarter of 2020 when compared to the same quarter of 2019. The presence of more distant recreation options in the region could be a contributing factor while large gatherings have been shut down. Among all the uncertainty, it is safe to say that the recovery will be mixed within the region.

## Western WDA

The Western WDA consists of Buffalo, Crawford, Jackson, Juneau, La Crosse, Monroe, Trempealeau, and Vernon counties.

### *Labor Force*

In calendar year 2019, Western's labor force totaled 158,735 participants consisting of 153,575 employed and 5,160 unemployed. The associated unemployment rate in 2019 was 3.3% for the region. In April of 2020, the region's not seasonally adjusted unemployment rate felt the impact of the pandemic related shutdowns, spiking up to 15.2%. There were variations in the rate among the counties but all experienced historically drastic increases in the unemployment rate. It dropped to 3.9% as of December, which places the region below the statewide unemployment rate by 0.1 percentage points. While improving steadily, challenges still exist. Initial claims for unemployment insurance, an indicator of layoffs, remained more than twice as high in December compared to the end of 2019.

### *Jobs and Wages*

In calendar year 2019, the total job base in the Western region numbered 142,308 jobs, making up 4.3% of the state's job base. It is too early to tell exactly how employment has been impacted, but statewide estimates by industry can be used to provide some insights. Leisure and Hospitality has been the hardest hit and remains well below its 2019 level. The region has a relatively lower share of employment in Leisure and Hospitality. Sales tax revenue decreased in only two counties within the region; in Monroe County in the first quarter of 2020 and in Jackson County in the second quarter, when compared to the same quarter of 2019. All the other counties within the region boasted sales tax revenue increases in the first, second, and third

quarters of 2020 when compared to the previous year. Among all the uncertainty, it is safe to say that the recovery will be mixed within the region.

## South Central WDA

The South-Central WDA consists of Columbia, Dane, Dodge, Jefferson, Marquette, and Sauk Counties.

### *Labor Force*

To demonstrate the speed of the pandemic's effect, regular initial claims filed in the South-Central WDA peaked in week 13 at 24.5 times more than the amount filed in week 13 of 2019 (14,544 vs. 593). For context, in week 11, regular initial claims filed in 2020 were fewer than the amount filed in 2019. As of the last week of 2020, regular initial claims filed were 1.8 times more than in the same week of 2019, while regular continued claims filed were 3.1 times higher for the last week.

Traditional labor market metrics can also be utilized to assess the pandemic's impact. The South-Central WDA's unemployment rate reached 12.6% in April 2020; it has since declined to 3.3% as of December 2020 (not seasonally adjusted). The WDA's December 2019 unemployment rate was 2.5%.

### *Jobs and Wages*

In 2019, South Central Wisconsin reported 474,690 jobs, growing 1.3% relative to 2018. Given that the figures are not seasonally adjusted, analyses below using monthly figures use year-over-year comparisons. Jobs bottomed in April 2020, while the next two months saw increases. Total jobs in the South-Central WDA declined 11.9% from April 2019 to April 2020 (-55,929). Given the nature of the pandemic and policies enacted to curb its spread, it is not surprising that the hardest hit supersectors include Leisure and Hospitality (-52.7%) and Other Services (-23.1%); within Other Services are businesses such as hair salons and drycleaners. Overall, all supersectors declined, with Trade, Transportation, and Utilities also experiencing a double-digit percentage decrease (-13.5%). By June 2020, year-over-year total jobs were down 8.5%. Only Leisure and Hospitality remained depressed a double-digit percentage (-31.9%), while the Information supersector posted a slight increase.

## Southwest WDA

The Southwest WDA consists of Grant, Green, Iowa, Lafayette, Richland, and Rock Counties.

### *Labor Force*

The onset of the pandemic was swift and profound. Regular initial claims filed in the Southwest WDA peaked in week 13 at 19.6 times more than the amount filed in week 13 of 2019 (5,153 vs. 263). Just two weeks prior in week 11, regular initial claims filed in 2020 were fewer than the amount filed in 2019. As of the last week of 2020, regular initial claims filed were 1.5 times more than in the same week of 2019, while regular continued claims filed were 2.4 times higher for the last week.

The Southwest WDA unemployment rate increased sharply in April 2020 to 15.0%, close to the state rate of 14.9% (not seasonally adjusted). Southwest data for December 2020 shows a rate 3.6%, a significant improvement yet still above the December 2019 rate of 3.2%.

### *Jobs and Wages*

In 2019, Southwest reported 121,953 jobs, a net increase of 0.7% over 2018. Given that the figures are not seasonally adjusted, analyses below using monthly figures use year-over-year comparisons. Jobs bottomed in April 2020, while the next two months saw increases. Total jobs in the Southwest WDA declined 13.8% from April 2019 to April 2020 (-16,848). Service supersectors that require high levels of personal contact posted the steepest decreases. Leisure and Hospitality declined 46.7%, while Other Services dropped 39.1%. Note the calculation for Other Services, which includes businesses such as hair salons and drycleaners, excludes Green County due to data suppression. Employment in all supersectors decreased; Trade, Transportation, and Utilities (-13.1%); Professional and Business Services (-11.0%); and Education and Health Services (-10.1%) were the next most affected. By June 2020, total jobs improved to an 8.5% year-over-year decline. Leisure and Hospitality remained the most impacted at 18.8% down. Construction added jobs year-over-year, the lone supersector to do so.

## References

1. US Census Bureau. Household Pulse Survey. <https://www.census.gov/data/experimental-data-products/household-pulse-survey.html>
2. Internet Access in Wisconsin. <https://broadbandnow.com/Wisconsin>
3. Advancing AI Wisconsin. *What to Expect from the Great Transformation*. See <https://advancingaiwisconsin.com/wp-content/uploads/What-to-Expect-from-the-Great-Transformation-20190319-v1.pdf>
4. Ryan Long. *Examining Job Automation in Wisconsin's Workforce*. Wisconsin Department of Workforce Development. See [https://jobcenterofwisconsin.com/wisconomy/wits\\_info/downloads/gala/WITS.presentation.automation.pdf](https://jobcenterofwisconsin.com/wisconomy/wits_info/downloads/gala/WITS.presentation.automation.pdf)
5. Mark Muro, Robert Maxim, and Jacob Whiton. *Automation and Artificial Intelligence: How Machines are Affecting People and Places*. January 24, 2019. Brookings. See <https://www.brookings.edu/research/automation-and-artificial-intelligence-how-machines-affect-people-and-places/>
6. Bureau of Labor Statistics (BLS), Job Openings and Labor Turnover Survey (JOLTS). See <https://www.bls.gov/charts/job-openings-and-labor-turnover/unemp-per-job-opening.htm>
7. Brad Hershbein and Lisa B. Kahn. *Do Recessions Accelerate Routine-Biased Technological Change? Evidence from Vacancy Postings*. September 2017. NBER Working Papers. See [https://www.nber.org/system/files/working\\_papers/w22762/w22762.pdf](https://www.nber.org/system/files/working_papers/w22762/w22762.pdf)
8. Marcus Casey and Ember Smith. *Automation from Farm to Table: Technology's Impact on the Food Industry*. November 23, 2020. Brookings. See <https://www.brookings.edu/blog/up-front/2020/11/23/automation-from-farm-to-table-technologys-impact-on-the-food-industry/>