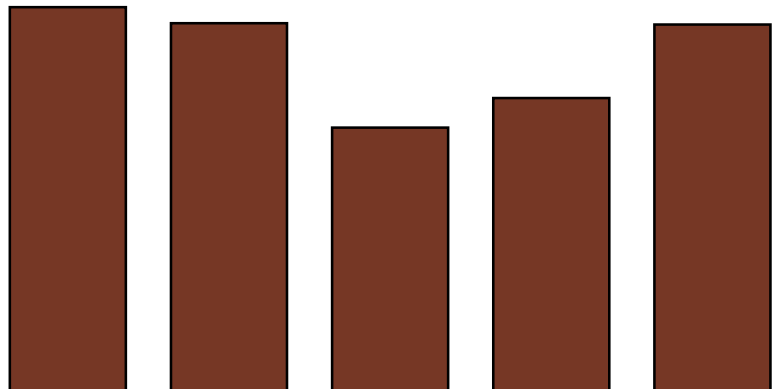




# 2019 Wyoming Workforce Annual Report



Wyoming Department of Workforce Services,  
Research & Planning



# 2019 Wyoming Workforce Annual Report

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**“Your Source for Wyoming Labor Market Information”**

## Who We Are

Research & Planning (R&P) functions as an exclusively statistical entity within the Wyoming Department of Workforce Services. R&P collects, analyzes, and publishes timely and accurate labor market information (LMI) meeting established statistical standards. We work to make the labor market more efficient by providing the public and the public's representatives with the information needed for evidence-based, informed decision making.



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## Welcome

### Dear Reader,

Welcome to the 2019 edition of the *Wyoming Workforce Annual Report*, produced by the Research & Planning (R&P) section of the Wyoming Department of Workforce Services in partnership with the Wyoming Workforce Development Council. This report provides an overview of Wyoming's economy and workforce. Highlights from this year's report include:

- Wyoming's average monthly employment increased by 2,608 jobs (1.0%) from 2017 to 2018. Mining added 1,052 jobs (5.4%), while construction added 715 (3.7%; see page 11).
- Wyoming's estimated resident population declined for the third straight year in 2018, down 0.2% compared to 2017 (see page 16).
- Wyoming's unemployment rate for 2018 was 4.1%, compared to 4.2% in 2017 (see page 19). The number of unemployed workers receiving Unemployment Insurance benefits decreased by 24.1% (see page 21).
- The number of nonresidents working in Wyoming increased by 14.8%, while the number of residents working decreased by 9.5% (see page 33).
- New short-term projections indicate Wyoming will add more than 5,000 jobs from 2018 to 2020 (see page 37).

Thank you for taking the time to review this report. I encourage you to contact us with questions, suggestions, or to share your thoughts on future research.

Best Regards,  
 Tony Glover, Manager  
 Research & Planning, Wyoming  
 Department of Workforce Services

## Chapter 1: Introduction

# Driven by Demographics and Downturns: Wyoming's 2018 Labor Market at a Glance

by: Michael Moore, Editor

Wyoming's economy showed marked growth from 2017 to 2018, but jobs, payroll, and the labor force remained noticeably lower than pre-economic downturn levels. This report from the Research & Planning (R&P) section of the Wyoming Department of Workforce Services provides a thorough overview of Wyoming's labor market in 2018, along with short-term occupational and industry projections to provide some idea of where the state's job market may be headed. In addition, three chapters focus on workplace safety, and several chapters discussed recent R&P research.

### Understanding the Data: Pieces of a Puzzle

The Research & Planning (R&P) section of the Wyoming Department of Workforce Services collects, analyzes, and publishes timely and accurate labor market information (LMI) meeting established statistical standards. Data are collected through various federal and state programs, and also are acquired through several memoranda of understanding (MOU) with state agencies in Wyoming and several other states.

Each chapter in this publication provides details from a different program or data source. Each data source can be viewed as a puzzle piece of sorts, and putting all of the pieces together can provide a clear picture of Wyoming's economy. Table 1.1 (see page 5) provides an overview of some of the data presented in this report.

The Quarterly Census of Employment and Wages (QCEW) and wage records are based on employers' quarterly Unemployment Insurance (UI) tax filings. As noted by Bullard (2015), UI-covered employment represents approximately 91.5% of Wyoming's total wage and salary employment.

The QCEW (see Chapter 2) provides a count of the number of jobs worked. According to data from the QCEW, Wyoming's average monthly employment increased by 2,608 jobs, or 1.0%. Total wages increased by \$608.5 million (4.9%) over the year, and the state's average annual wage increased by \$1,792 (3.9%).

In contrast, *wage records* represent an individual's wage history and provide a count of the number of people working in Wyoming. As shown in Chapter 6, the number of individuals with wages in Wyoming at any time in 2018 increased by 4,552 (1.3%). The average annual earnings of persons working in Wyoming increased by \$874 (2.5%).

Wyoming's labor market in 2018 was heavily influenced by the demographics of the population. By linking wage records to several other administrative databases, such as a driver's license file obtained from the Wyoming Department of Transportation, R&P is able to identify many characteristics of the state's labor market, including employment and wages by gender and age (see Chapter 6). Wage records are also used to identify turnover (see Chapter 8)

(Text continued on page 6)

Table 1.1: Wyoming's Labor Market at a Glance, 2017 and 2018

Chapter	Source	Title	2018	2017	Change, 2017-2018	
					N	%
2	Quarterly Census of Employment and Wages (QCEW)	Average Monthly Employment	272,118	269,510	2,608	1.0
		Total Wages (in Billions)	\$13.1	\$12.5	\$0.6	4.9
		Average Annual Wage	\$48,062	\$46,270	\$1,792	3.9
3	U.S. Census Bureau	Population (Estimated)	577,737	578,934	-1,197	-0.2
4	Local Area Unemployment Statistics (LAUS)	Labor Force	289,574	292,923	-3,349	-1.1
		Employed	277,820	280,689	-2,869	-1.0
		Unemployed	11,754	12,234	-480	-3.9
		Unemployment Rate	4.1	4.2	-0.1	-2.4
5	Unemployment Insurance (UI) Claims	Benefit Recipients	13,543	17,849	-4,306	-24.1
		Benefit Exhaustees	3,195	4,718	-1,523	-32.3
		Exhaustion Rate	23.6	23.4	0.2	0.9
		Benefit Expenses (in Millions)	\$49.5	\$67.9	-\$18.4	-27.1
6	Wage Records	Total Persons Working	343,836	339,284	4,552	1.3
		<i>Gender</i>				
		Women	137,942	139,917	-1,975	-1.4
		Men	159,654	161,600	-1,946	-1.2
		Nonresidents	46,240	37,767	8,473	22.4
		Average Annual Wage	\$36,346	\$35,471	\$874	2.5
		Women	\$29,869	\$28,870	\$1,000	3.5
		Men	\$47,803	\$45,962	\$1,841	4.0
		Nonresidents	\$16,105	\$15,041	\$1,064	7.1
		Women's Wages as a Percentage of Men's Wages	62.5	62.8	-0.3	-0.5
		<i>Age</i>				
		<25	50,693	51,606	-913	-1.8
		25-34	66,210	68,560	-2,350	-3.4
		35-44	61,026	60,336	690	1.1
		45-54	50,554	51,843	-1,289	-2.5
		55+	68,723	68,775	-52	-0.1
8	WY Quarterly Turnover Reports	Average Quarterly Hires	55,527	53,092	2,435	4.6
		Average Total Persons Working	313,388	311,056	2,332	0.7
9	Commuting <sup>a</sup>	<i>Inflow<sup>b</sup></i>				
		Total Transactions	288,596	287,130	1,466	0.5
		Total Inflow (%)	22.0	21.2	0.8	3.8
		% from Another WY County	9.8	9.6	0.2	2.1
		% from Another State	12.2	11.6	0.6	5.2
		<i>Outflow<sup>c</sup></i>				
		Total Transactions	270,472	267,982 <sup>d</sup>	2,490	0.9
		Total Outflow (%)	16.7	15.6	1.1	7.1
		% to Another WY County	10.4	10.3	0.1	1.0
		% to a Partner State <sup>c</sup>	6.3	5.3	1.0	18.9

<sup>a</sup>Commuting data are from 2018Q1, the most recent quarter for which data were available.

<sup>b</sup>Inflow: workers commuting into a county of employment from a different county of residence or state.

<sup>c</sup>Outflow: workers commuting from a county of residence to another county of employment or one of eight partner states. Partner states are those states with which Research & Planning has data-sharing agreements: Colorado, Montana, Nebraska, New Mexico, Ohio, South Dakota, Texas, and Utah.

<sup>d</sup>2017Q1 outflow does not include persons commuting to Utah due to missing data.

Prepared by M. Moore, Research & Planning, WY DWS, 4/23/19.

**Box 1.1: The Differences in Wyoming's Economic Downturns**

Previous Economic Downturn	Most Recent Economic Downturn
<ul style="list-style-type: none"> <li>• 2009Q1-2010Q1               <ul style="list-style-type: none"> <li>» Lasted 5 quarters</li> </ul> </li> <li>• Collapse in energy prices</li> <li>• Began during national Great Recession               <ul style="list-style-type: none"> <li>» Other states lost jobs too</li> </ul> </li> <li>• Increase in population, labor force</li> <li>• Large increase in Unemployment Insurance claims</li> </ul>	<ul style="list-style-type: none"> <li>• 2015Q2-2016Q4               <ul style="list-style-type: none"> <li>» Lasted 7 quarters</li> </ul> </li> <li>• Oil and natural gas prices fell; demand for coal dropped</li> <li>• Surrounding states saw job growth               <ul style="list-style-type: none"> <li>» People could go elsewhere for work</li> </ul> </li> <li>• Decrease in population, labor force</li> <li>• Moderate increase in Unemployment Insurance claims</li> </ul>

(Text continued from page 4)

and commuting patterns (see Chapter 9). Commuting patterns provide a great deal of information, such as how many individuals commute from one county of residence to another county for work, and also how many out-of-state workers have wages in Wyoming. A new commuting pattern model developed by R&P also makes it possible to determine employment and wages for Wyoming residents commuting to eight other states.

The Local Area Unemployment Statistics (LAUS) program discussed in Chapter 4 provides estimates on Wyoming's resident labor force, which includes all persons in the civilian noninstitutional population ages 16 and older classified as either employed or unemployed (BLS, 2018). In 2018, Wyoming's resident labor force was 289,574, with 277,820 employed and 11,754 unemployed. The unemployment rate is calculated by dividing the number of unemployed persons by the state's labor force; in 2018, Wyoming's unemployment rate was 4.1%.

Unemployment Insurance (UI) claims data provide information on the number of benefit recipients and exhaustees, along with benefit expenses (see Chapter 5). UI claims data also include the number of recipients and exhaustees by industry and county, along with selected demographics of benefit recipients such as age, gender, the number of weeks eligible for benefits, and more.

### Impacts of Economic Downturns

Most chapters in this publication refer to the two periods of economic downturn in Wyoming over the last decade. R&P has defined *economic downturn* as a period of at least two consecutive quarters of over-the-year decline in average monthly employment (the number of jobs worked) and total wages, based on data from the QCEW. The *previous economic downturn* lasted five quarters from 2009Q1 to 2010Q1, while the *most recent economic downturn* lasted seven quarters from 2015Q2 to 2016Q4.

It is important to understand the very distinct causes and effects of each downturn, and how the most recent downturn helped shape Wyoming's economy and labor market in 2018 (see Box 1.1). The previous economic downturn lasted five quarters and began during the national Great Recession, which started in December 2007 and lasted through June 2009 (NBER, 2010). In addition, the previous downturn also was influenced by collapsing energy costs. The most recent economic downturn resulted from a substantial decline in the demand for and cost of natural resources such as coal, oil, and natural gas (Gallagher, 2016), but occurred during a time of growth for many surrounding states.

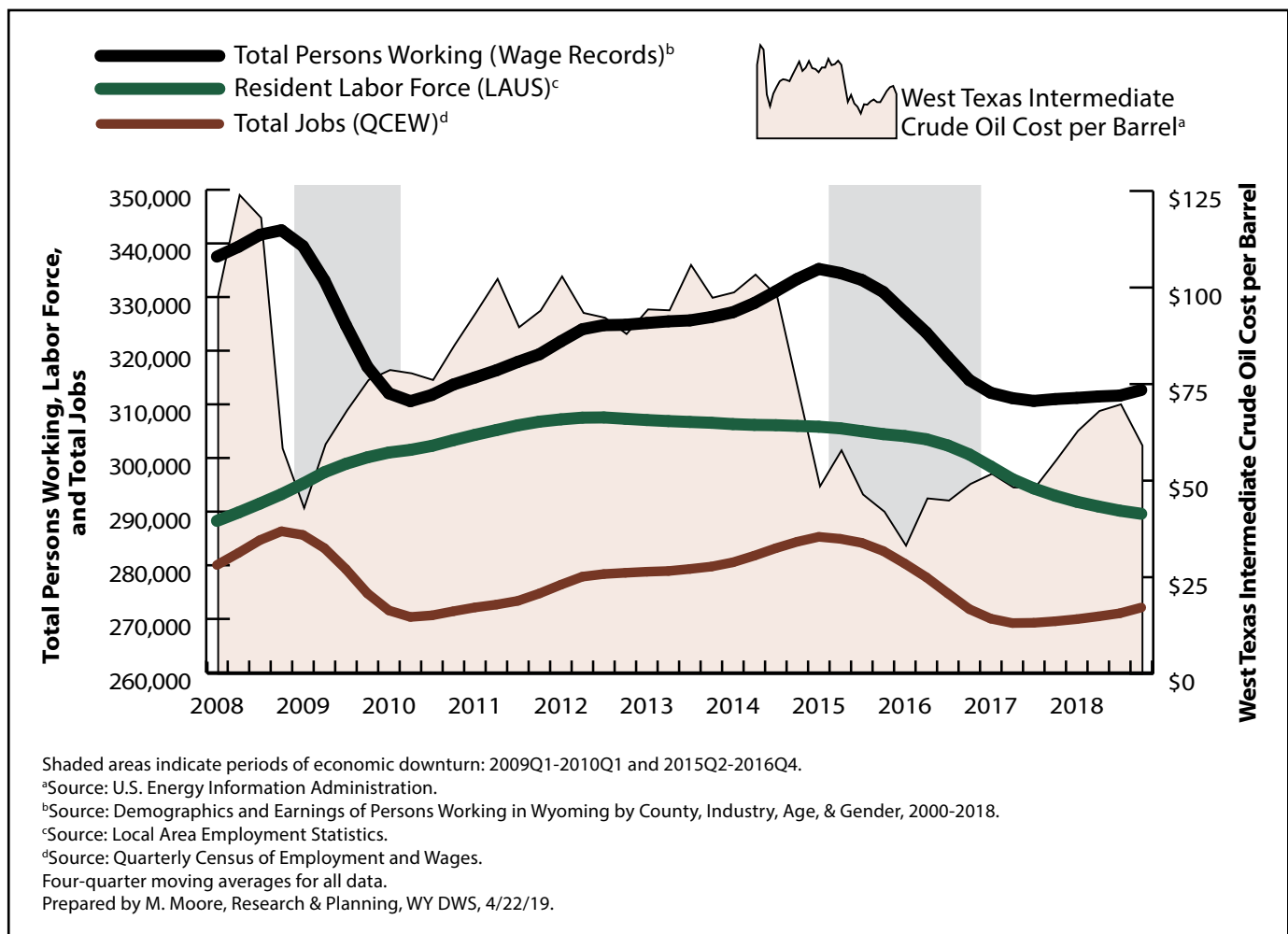
As illustrated in Figure 1.1, both economic

downturns were preceded by declining energy prices. West Texas Intermediate crude oil prices dropped substantially in 2008, from a high of \$133.88 per barrel in June to a low of \$41.12 in December, just prior to the start of Wyoming's previous economic downturn (EIA, 2018). Similarly, oil prices dropped prior to the start of the most recent downturn, from a high of \$105.79 in June 2014 to \$47.22 in January 2015.

Figure 1.1 also shows how the two economic downturns affected some components of Wyoming's labor market that are presented in Table 1.1, including total persons working, resident labor force, and the number of jobs. Wyoming's population

(see Chapter 3) and resident labor force (see Chapter 4) both increased during the previous downturn, but decreased during the recent downturn. Because the previous downturn began during the Great Recession, Wyoming and its surrounding states all lost jobs for a prolonged period. During the most recent downturn, however, surrounding states such as Colorado, Idaho, and Utah added jobs at a substantial rate (see Figure 2.4, page 14). Wyoming residents who lost their jobs during the most recent downturn likely found work elsewhere and left the state.

As discussed in Chapter 6, large numbers of workers in their 20s and early-50s left Wyoming from 2015 to



**Figure 1.1: Selected Components of Wyoming's Labor Market, 2008-2018**

2017. Because of this demographic change, Wyoming employers were left with a smaller pool of young workers and experienced workers when the state began adding jobs in late 2017 and 2018. As a result, Wyoming experienced a surge of out-of-state workers in 2018 after they had exhausted the local labor supply.

Nonresidents have historically made up a large portion of workers in industries such as construction and leisure & hospitality. In 2018, however, nonresidents made up an increasing portion of industries that historically have been dominated by resident workers, such as information, financial activities, and professional & business services.

If Wyoming's population and resident labor force continue to decrease while the state adds jobs, employers may continue to turn to nonresident workers to fill job openings.

## Conclusion

Although employment levels remained noticeably lower than pre-downturn levels, Wyoming's economy and job market showed marked improvement from 2017 to 2018 as the state added 2,608 jobs and more than \$600 million more in total wages. Table 1.1 (see page 5) provides a summary of the workforce data presented in this annual report.

Wyoming's labor market in 2018 was shaped in part by the demographics of the workforce and the effects of the most recent economic downturn. Population estimates and wage records both indicate that substantial numbers of young workers in their 20s and more experienced workers in their early 50s left the state

and the labor force after 2015. The number of nonresidents working in Wyoming has greatly increased over the last three years, perhaps indicating that employers are turning to out-of-state workers to fill the void created by those workers who left the state following the most recent economic downturn.

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## Chapter 2: Quarterly Census of Employment and Wages

### Construction Sector Adds Jobs for the First Time in 3 Years

by: Michael Moore, Editor

Wyoming's average monthly employment increased from prior-year levels during each quarter of 2018 as the state continued to recover from the economic downturn that began in 2015. The state's average monthly employment increased from 269,510 in 2017 to 272,118 in 2018 (2,608 jobs, or 1.0%; see Table 2.1). Particularly noteworthy was the growth in construction, which added 715 jobs (3.7%). The construction sector added jobs during the third and fourth quarters of 2018, the first such over-the-year increase in jobs since first quarter 2015Q1 (2015Q1).

Employment and wage information in this chapter are based on data from the Quarterly Census of Employment and Wages (QCEW), a "near-census of employment in the states" (Manning and Saulcy, 2013). The QCEW is based on employers' quarterly wage and employment reports to the Unemployment Insurance (UI) tax section of the Wyoming Department of Workforce Services. Approximately 91% of employment is covered by Unemployment Insurance in Wyoming.

This chapter includes annual and quarterly data through 2018Q4, the most recent quarter for which data were available at the time of this publication. This chapter provides information on employment and wages at the state,

**Table 2.1: Average Monthly Employment (Jobs Worked), Total Wages, and Average Annual Wage for Wyoming, 2017 and 2018**

	2018	2017	Change, 2017-2018	
			N	%
Average Monthly Employment	272,118	269,510	2,608	1.0
Total Wages	\$13.1 Billion	\$12.5 Billion	\$608.5 Million	4.9
Average Annual Wage	\$48,062	\$46,270	\$1,792	3.9

Source: Quarterly Census of Employment and Wages.  
Prepared by M. Moore, Research & Planning, WY DWS, 4/16/19.

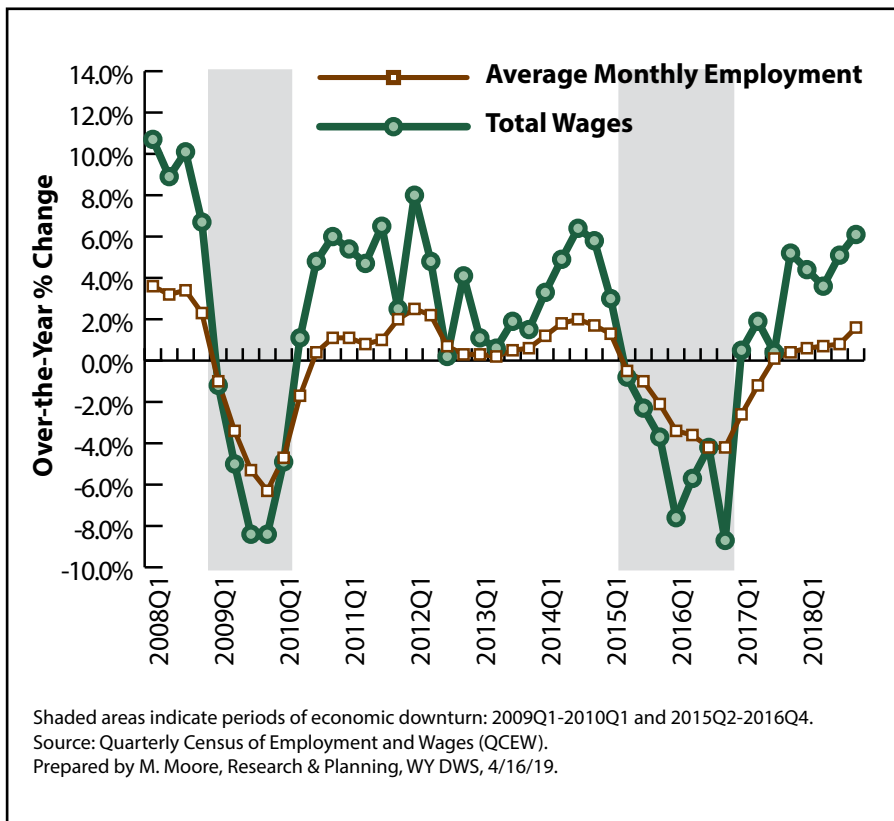
industry, and county levels.

For this publication, *economic downturn* refers to a period of at least two consecutive quarters of over-the-year decline in average monthly employment (the number of jobs worked) and total wages according to data from the QCEW. Over the last 10 years, Wyoming has experienced two such periods of economic downturn: 2009Q1 to 2010Q1 and 2015Q2 to 2016Q4. The previous downturn coincided with the national Great Recession and lasted from 2009Q1 to 2010Q1. The most recent downturn began in 2015Q2 due to a decline in the prices of and demand for coal, oil, and natural gas.

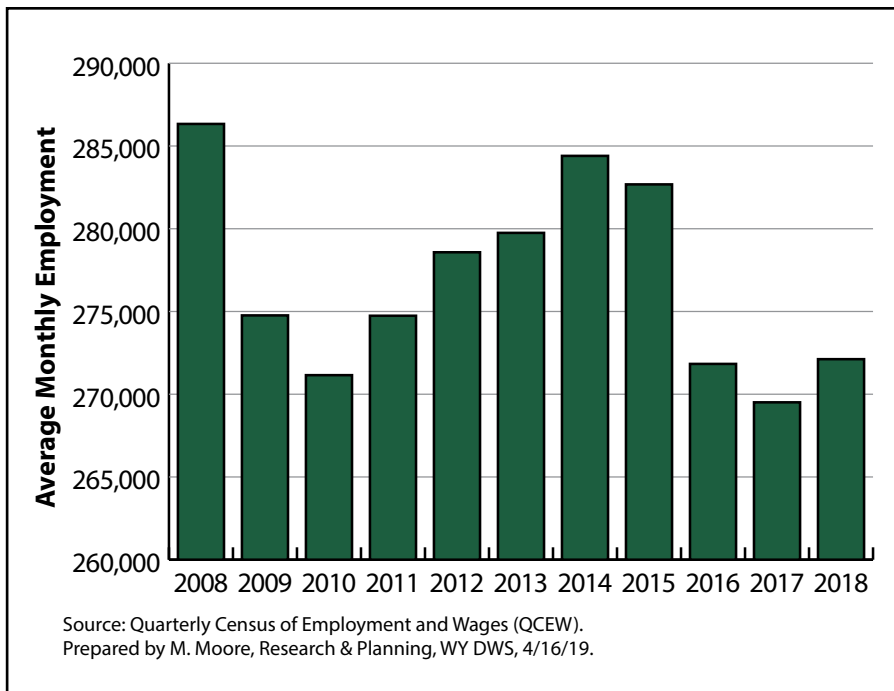
As shown in Figure 2.1 (see page 10), Wyoming's total wages decreased from prior-year levels during each quarter from 2015Q2 to 2016Q4, and increased from prior-year levels during each quarter from 2017Q1 to 2018Q4. An increase in average monthly employment trailed the increase in total wages by three quarters, and then increased from prior-year levels

#### Find it Online

**Quarterly Census of Employment and Wages**  
[http://doe.state.wy.us/LMI/toc\\_202.htm](http://doe.state.wy.us/LMI/toc_202.htm)



**Figure 2.1: Over-the-Year Percent Change in Average Monthly Employment (Number of Jobs Worked) and Total Wages in Wyoming, 2008Q1-2018Q4**



**Figure 2.2: Average Monthly Employment (Number of Jobs Worked) in Wyoming, 2008-2018**

during each quarter in 2018. As shown in Figure 2.1, average monthly employment has increased at a slower rate compared to the recovery period following the previous downturn.

Wyoming's average monthly employment in 2018 was 272,118. While this was an increase compared to 2017, it was still considerably lower than pre-downturn levels (see Figure 2.2).

## Industry

This chapter primarily discusses industries at the two-digit sector level as defined by the North American Industry Classification System (NAICS; see Box 2.1, page 15), but QCEW data for some three-digit subsectors and four-digit industry groups are available online.

Table 2.2 (see page 11) shows that at the two-digit major industry level, some industries in Wyoming experienced an increase in average monthly employment from 2017Q3 to 2018Q3, such as mining, including oil & gas (NAICS 21; 5.4%), professional & business services (NAICS

## QUARTERLY CENSUS OF EMPLOYMENT AND WAGES

54-56; 3.8%), construction (NAICS 23; 3.7%), and manufacturing (NAICS 31-33; 3.6%), among others.

Table 2.2 also shows average monthly employment at more detailed levels in mining. At the three-digit subsector level, support activities for mining (NAICS 213) added 1,217 jobs (14.6%) over the year, while both oil & gas extraction (NAICS 211) and mining, except oil & gas (NAICS 212) lost jobs. At the four-digit detailed

industry level, coal mining lost 98 jobs (-1.8%).

Over the year, job losses occurred in some industries, such as educational services (NAICS 61; -6.1%), information (NAICS 51; -3.4%), and retail trade (NAICS 44-45; -1.4%). Job losses were also seen in state (-1.6%), and local (-1.6%) government.

As previously mentioned, Wyoming's

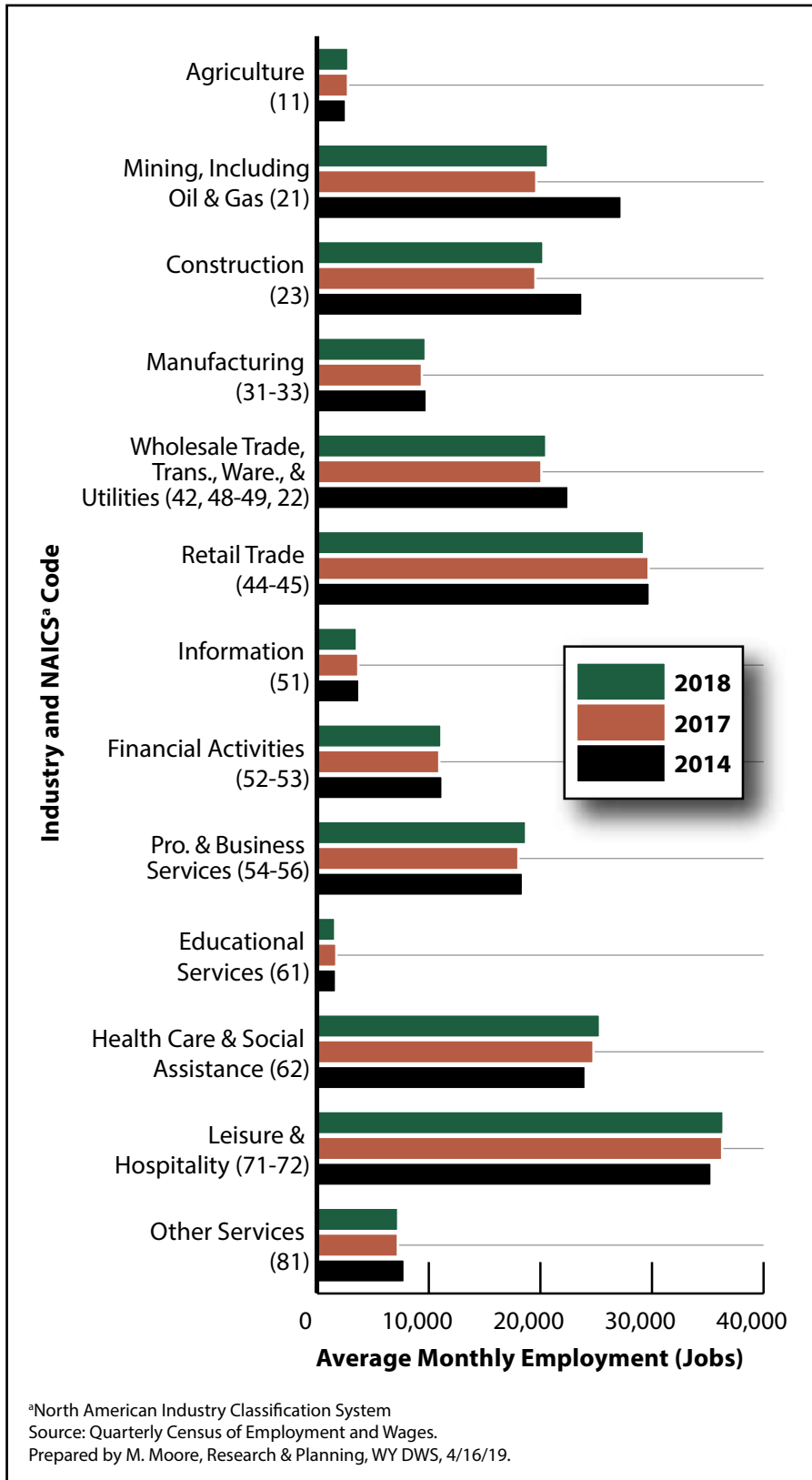
**Table 2.2: Average Monthly Employment (Jobs Worked) in Wyoming by Industry, 2017 and 2018**

		Change, 2017-2018			
NAICS <sup>a</sup> Code	Industry	2018	2017	N	%
<b>Private Sector</b>					
	Total	207,280	203,740	3,540	1.7
<b>Goods Producing Industries</b>	11 Agriculture, Forestry, Fishing & Hunting	2,789	2,755	33	1.2
	21 Mining, Including Oil & Gas	20,684	19,631	1,052	5.4
	211 Oil & Gas Extraction	3,039	3,124	-86	-2.7
	212 Mining, Except Oil & Gas	8,101	8,180	-79	-1.0
	2121 Coal Mining	5,381	5,478	-98	-1.8
	213 Support Activities for Mining	9,544	8,328	1,217	14.6
	23 Construction	20,267	19,552	715	3.7
	31-33 Manufacturing	9,717	9,380	337	3.6
<b>Service Providing Industries</b>	42, 48-49, 22 Wholesale Trade, Transportation, Warehousing, & Utilities	20,523	20,095	429	2.1
	44-45 Retail Trade	29,280	29,698	-418	-1.4
	51 Information	3,554	3,679	-126	-3.4
	52-53 Financial Activities	11,129	10,938	191	1.7
	54-56 Professional & Business Services	18,716	18,030	686	3.8
	61 Educational Services	1,608	1,712	-104	-6.1
	62 Health Care & Social Assistance	25,340	24,758	582	2.4
	71-72 Leisure & Hospitality	36,411	36,286	125	0.3
	81 Other Services, Except Public Administration	7,254	7,225	30	0.4
<b>Government</b>					
	Total	64,838	65,770	-933	-1.4
	Federal Government	7,520	7,521	-2	0.0
	State Government	12,528	12,737	-209	-1.6
	Local Government	44,790	45,512	-722	-1.6
	Local Educational Services	22,472	22,808	-337	-1.5
	Local Health Care & Social Assistance	8,388	8,705	-317	-3.6
<b>Total, All Industries</b>					
	<b>Total</b>	<b>272,118</b>	<b>269,510</b>	<b>2,608</b>	<b>1.0</b>

<sup>a</sup>North American Industry Classification System.

Source: Quarterly Census of Employment and Wages.

Prepared by M. Moore, Research & Planning, WY DWS, 4/16/19.



**Figure 2.3: Average Monthly Employment in Wyoming by Private Industry Sector, 2014-2018**

most recent economic downturn was the result of lower prices of and demand for natural resources, such as oil, gas, and coal. McGrath (2017) observed that, “being at the mercy of fluctuating oil prices has created waves of expansion and contraction in Wyoming’s labor market and economy,” and that some industries were more affected than others by the most recent economic downturn. Industries that support the mining sector — such as construction and wholesale trade, transportation, warehousing, & utilities — experienced the greatest job losses during the recent downturn. In contrast, health care & social assistance is driven more by the aging baby boom generation than economic changes, and was not as affected by the recent downturn.

Mining, construction, and wholesale trade, transportation, warehousing, & utilities experienced job growth from 2017 to 2018, but employment in those industries remained substantially lower than pre-downturn levels from 2014 (see Figure 2.3). In comparison, employment in health care & social assistance and leisure & hospitality increased from 2014 to 2018.

## Employment and Wages by County

Table 2.3 shows over-the-year job growth in average monthly employment in Converse County (6.0%) was substantially greater than in other county from 2017 to 2018. According to Moore (2019), of the 450 jobs that Converse County added from 2017Q3 to 2018Q3, the majority were in construction (264) and mining (128).

Several counties with small

populations added jobs over the year, including Crook (3.7%), Johnson (2.8%), and Weston (2.1%) counties. Six counties showed an over-the-year decrease of at least 1.0% in average monthly employment: Hot Springs (-3.4%), Big Horn (-1.9%), Niobrara (-1.3%), Fremont (-1.3%), Platte (-1.2%), and Goshen (-1.0%).

Wyoming's two most populous counties experienced moderate over-the-year growth similar to the statewide average of 1.0%: Natrona County added 532 jobs (1.4%), while Laramie County added 399 jobs (0.9%).

**Table 2.3: Average Monthly Employment and Total Wages in Wyoming by County of Employment, 2017-2018**

County	Average Monthly Employment				Total Wages (in Millions of Dollars)			
			Change				Change	
	2018	2017	N	%	2018	2017	\$	%
Albany	15,529	15,463	66	0.4	\$633.8	\$623.8	\$10.0	1.6
Big Horn	4,016	4,094	-78	-1.9	\$163.9	\$165.2	-\$1.3	-0.8
Campbell	24,779	24,305	474	1.9	\$1,430.9	\$1,348.7	\$82.2	6.1
Carbon	6,857	6,783	74	1.1	\$335.8	\$311.3	\$24.4	7.8
Converse	5,944	5,609	335	6.0	\$318.9	\$285.6	\$33.2	11.6
Crook	2,429	2,342	87	3.7	\$107.1	\$97.7	\$9.5	9.7
Fremont	15,150	15,342	-192	-1.3	\$625.2	\$611.6	\$13.6	2.2
Goshen	4,305	4,347	-42	-1.0	\$161.4	\$158.9	\$2.5	1.6
Hot Springs	1,884	1,951	-67	-3.4	\$70.7	\$68.3	\$2.4	3.5
Johnson	3,240	3,153	87	2.8	\$127.4	\$116.4	\$11.0	9.5
Laramie	45,996	45,597	399	0.9	\$2,168.7	\$2,073.1	\$95.6	4.6
Lincoln	6,322	6,232	90	1.5	\$296.6	\$283.4	\$13.2	4.7
Natrona	38,605	38,073	532	1.4	\$1,941.1	\$1,819.3	\$121.9	6.7
Niobrara	887	899	-11	-1.3	\$31.9	\$31.4	\$0.5	1.5
Park	13,745	13,670	75	0.5	\$557.3	\$542.3	\$15.0	2.8
Platte	3,513	3,556	-43	-1.2	\$160.5	\$158.6	\$1.9	1.2
Sheridan	13,313	13,241	72	0.5	\$559.1	\$533.8	\$25.3	4.7
Sublette	4,114	4,043	71	1.8	\$233.8	\$230.6	\$3.2	1.4
Sweetwater	22,263	22,208	55	0.2	\$1,310.0	\$1,288.2	\$21.9	1.7
Teton	20,954	20,777	177	0.9	\$1,009.2	\$947.1	\$62.1	6.6
Uinta	8,214	8,172	42	0.5	\$333.9	\$325.8	\$8.1	2.5
Washakie	3,615	3,629	-14	-0.4	\$147.7	\$147.8	-\$0.1	-0.1
Weston	2,269	2,222	48	2.1	\$92.9	\$85.5	\$7.5	8.7
Nonclassified	4,174	3,803	371	9.8	\$260.8	\$216.0	\$44.8	20.7
<b>Total</b>	<b>272,118</b>	<b>269,510</b>	<b>2,608</b>	<b>1.0</b>	<b>\$13,078.6</b>	<b>\$12,470.1</b>	<b>\$608.5</b>	<b>4.9</b>

Source: Quarterly Census of Employment and Wages.

Prepared by M. Moore, Research & Planning, WY DWS, 4/16/19.

## Job Growth in Surrounding States

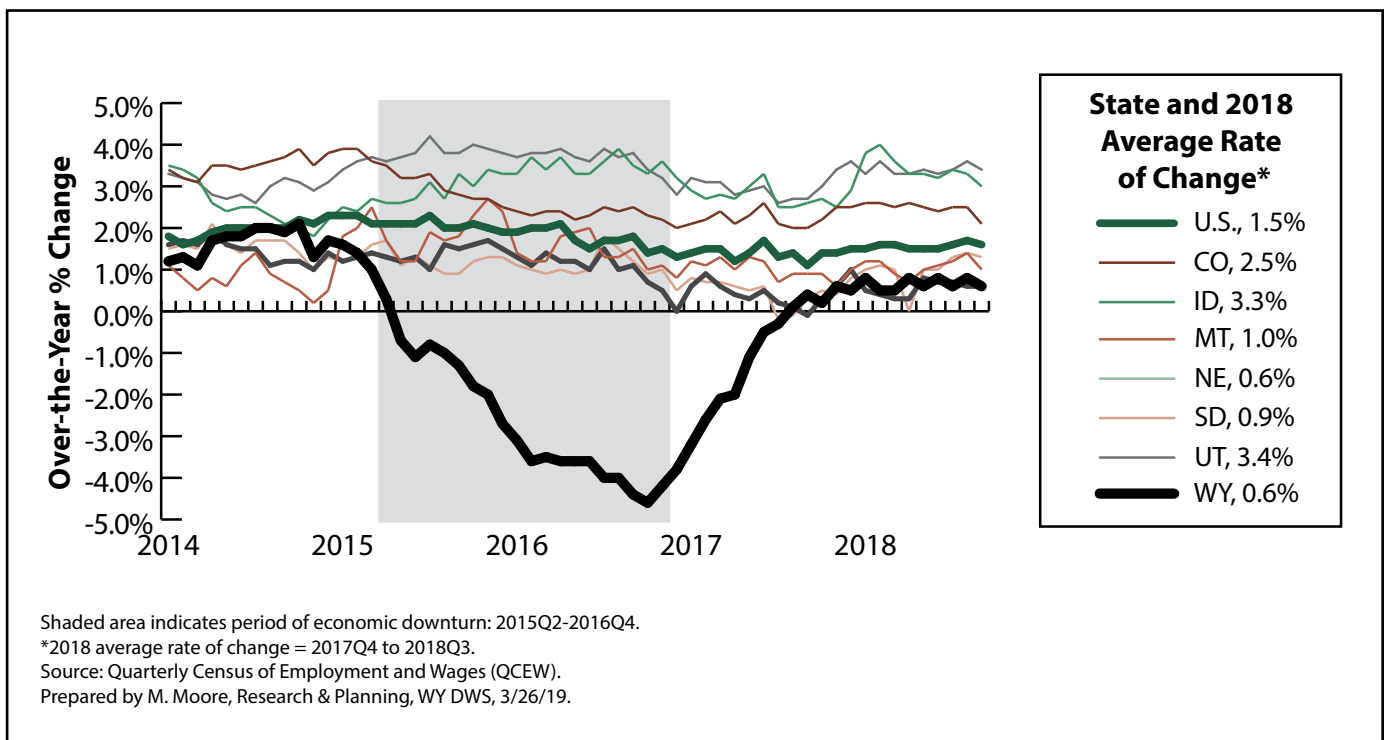
Over the last five years, which included an extended period of job losses for Wyoming, surrounding states mostly experienced consistent job growth (see Figure 2.4). During late 2017 and throughout 2018, Wyoming showed job growth, but at a noticeably lower rate than most surrounding states and the national average. In 2018, the average rate of change from prior-year levels for Wyoming was 0.6%, similar to rates in Nebraska (0.6%) and South Dakota (0.9%), but substantially lower than states such as Utah (3.4%), Idaho (3.3%), and Colorado (2.5%). The national rate of change for 2018 was 1.5%.

The trend illustrated in Figure 2.4 provides some context for the declining Wyoming population discussed in Chapter

3. Liu (2018) explained that “changes in employment always tend to drive and lead the change in migration in the state.” As Wyoming experienced substantial job losses throughout much of 2015, 2016, and 2017, surrounding states added jobs. Because of this, Wyoming residents likely left for work in other states and haven’t come back.

## Conclusion

After a lengthy period of job losses, Wyoming began adding jobs in late 2017 and throughout 2018. While employment remained considerably lower than pre-downturn levels, several industries added jobs in 2018, including mining, construction, manufacturing, and professional business services. However, Wyoming’s job growth continued to lag behind many surrounding states and the nation as a whole.



**Figure 2.4: Over-the-Year Percent Change in Average Monthly Employment (Number of Jobs Worked) in Wyoming, Surrounding States, and the U.S., January 2014 to September 2018**

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Liu, W. (2018, December). Wyoming population declined slightly. Economic Analysis Division, Wyoming Administration and Information. Retrieved March 26, 2019, from <http://eativ.state.wy.us/pop/ST-18EST.pdf>

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## Box 2.1: North American Industry Classification System Structure

Industries are classified according to the North American Industry Classification System (NAICS). For example, mining, quarrying, & oil & gas extraction is an industry sector with the two-digit NAICS code 21. Within the mining sector are three subsectors: oil & gas extraction (NAICS 211), mining, except oil & gas (NAICS 212), and support activities for mining (NAICS 213). Within the support activities for mining subsector are several six-digit national detailed industry sectors, including drilling oil & gas wells (NAICS 213111), support activities for oil & gas operations (NAICS 213112), and support activities for coal mining (NAICS 213113).

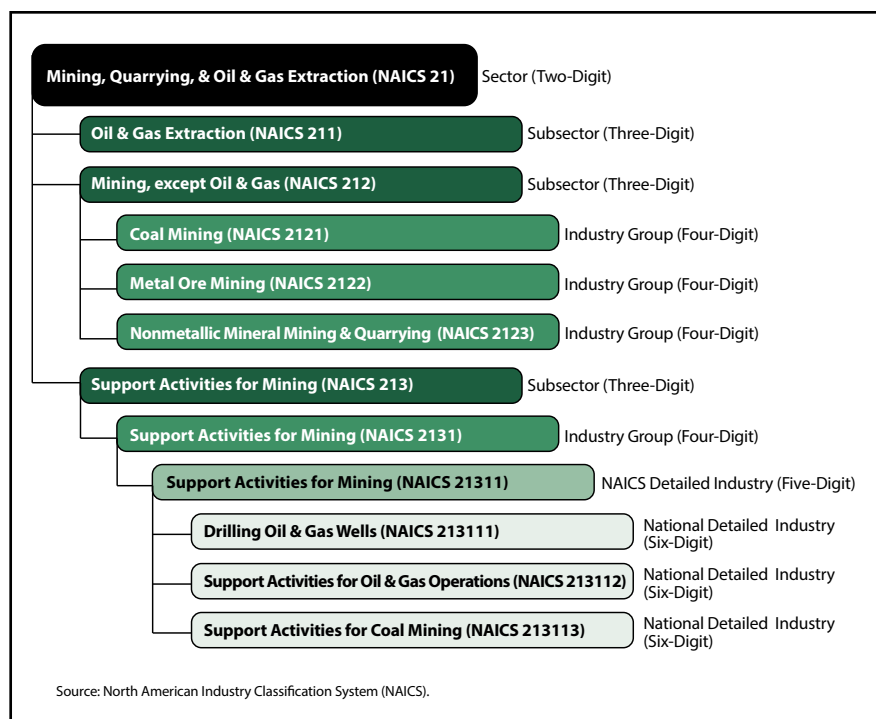


Figure: North American Industry Classification System (NAICS) Structure of Selected Levels for Mining, Including Oil & Gas Sector (NAICS 21)

## Chapter 3: Population Estimates

# Wyoming Population Decline Continues in 2018

by: Michael Moore, Editor

Wyoming's estimated resident population in 2018 was 577,737, a 0.2% decrease from the 578,934

in 2017, according to data from the U.S. Census Bureau (2018). After several years of steady growth, Wyoming's population has dropped each year since 2015 (see Figure 3.1).

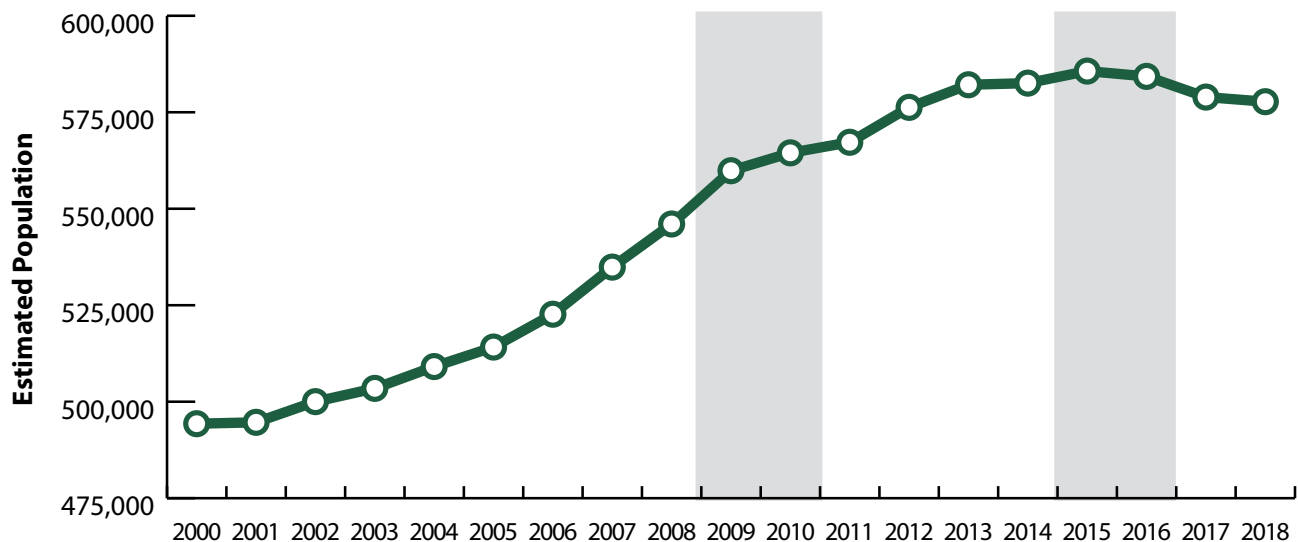
**Table 3.1: Wyoming's Estimated Resident Population and Over-the-Year Change, 2010-2018**

Year	Population	Over-the-Year Change	
		N	%
2010	564,483		
2011	567,224	2,741	0.5
2012	576,270	9,046	1.6
2013	582,123	5,853	1.0
2014	582,548	425	0.1
2015	585,668	3,120	0.5
2016	584,290	-1,378	-0.2
2017	578,934	-5,356	-0.9
2018	577,737	-1,197	-0.2
<b>Change, 2015-2018</b>		<b>-7,931</b>	<b>-1.4</b>

Source: U.S. Census Bureau, Population Division.  
Prepared by M. Moore, Research & Planning, WY DWS, 3/29/19.

As shown in Table 3.1, Wyoming's resident population declined from an estimated 585,668 in 2015, a loss of 1.4% (7,931 individuals) from 2015 to 2018.

According to Liu (2018), Wyoming experienced a natural increase of 1,893 individuals from 2017 to 2018, based on 6,840 births compared to 4,947 deaths. However, Wyoming's net migration from 2016 to 2017 was -3,100; in other words, 3,100 more individuals left the state than migrated into the state.



Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.

Source: U.S. Census Bureau, Population Division.

Prepared by M. Moore, Research & Planning, WY DWS, 4/4/19.

**Figure 3.1: Estimated Resident Population of Wyoming, 2000-2018**

## POPULATION ESTIMATES

Liu also noted that although Wyoming's natural resources & mining industry has driven the state's recovery, "increased operational efficiency of drilling businesses means that less workers were hired back amid energy industry's revival." As discussed in Chapter 2 of this publication, several industries added jobs from 2017 to 2018, but employment levels were still noticeably lower than pre-downturn levels

in 2014, and fewer jobs drew fewer people to Wyoming. By comparison, neighboring states such as Colorado, Idaho, and Utah continued to experience strong economic growth (see Figure 2.4, page 14).

Although population estimates were not available by age for 2018 at the time this publication was printed, estimates from 2017 showed that the greatest decreases from 2015 to 2017 were seen among individuals in their

20s and early- to mid-50s.

Table 3.2 shows that 13 of Wyoming's 23 counties experienced a decline in population from 2017 to 2018. The greatest percentage loss was seen in Hot Springs County (-2.8%), followed by Washakie (-1.9%) and Carbon (-1.8%) counties. No counties saw an increase of 1.0% or higher; the greatest population increase was seen in Lincoln County (0.9%).

## References

Liu, W. (2018, December 19). Wyoming population declined slightly. Wyoming Administration & Information, Economic Analysis Division. Retrieved April 4, 2019, from <http://eativ.state.wy.us/pop/ST-18EST.pdf>

U.S. Census Bureau, Population Division (2018, December 6). Annual estimates of the resident population for the United States, regions, states, and Puerto Rico: April 1, 2010 to July 1, 2018. Retrieved March 26, 2019, from <https://www.census.gov/data/datasets/time-series/demo/popest/2010s-state-total.html>

**Table 3.2: Resident Population Estimates for Wyoming by County, 2017-2018**

County	2018	2017	Over-the-Year Change	
			N	%
Albany	38,601	38,430	171	0.4
Big Horn	11,881	11,879	2	0.0
Campbell	46,140	46,251	-111	-0.2
Carbon	14,971	15,242	-271	-1.8
Converse	13,640	13,744	-104	-0.8
Crook	7,450	7,424	26	0.4
Fremont	39,531	39,834	-303	-0.8
Goshen	13,376	13,404	-28	-0.2
Hot Springs	4,555	4,686	-131	-2.8
Johnson	8,460	8,442	18	0.2
Laramie	98,976	98,460	516	0.5
Lincoln	19,434	19,259	175	0.9
Natrona	79,115	79,556	-441	-0.6
Niobrara	2,388	2,397	-9	-0.4
Park	29,324	29,189	135	0.5
Platte	8,566	8,561	5	0.1
Sheridan	30,233	30,132	101	0.3
Sublette	9,813	9,759	54	0.6
Sweetwater	43,051	43,547	-496	-1.1
Teton	23,081	23,261	-180	-0.8
Uinta	20,299	20,456	-157	-0.8
Washakie	7,885	8,035	-150	-1.9
Weston	6,967	6,986	-19	-0.3
<b>Total</b>	<b>577,737</b>	<b>578,934</b>	<b>-1,197</b>	<b>-0.2</b>

Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018. U.S. Census Bureau, Population Division.

Prepared by M. Moore, Research & Planning, WY DWS, 4/18/18.

## Chapter 4: Local Area Unemployment Statistics

### Labor Force, Unemployment Rate Continue to Decrease

by: Carola Cowan, BLS Programs Supervisor

Wyoming's average annual unemployment rate for 2018 was 4.1%, down from 4.2% in 2017, according to data from the Local Area Unemployment Statistics (LAUS) program (see Table 4.1). During the last decade, the unemployment rate steadily declined from a high of 6.4% in 2010 to 4.1% in 2014 before increasing to 5.3% in 2016 due to large layoffs in Wyoming's energy sector during the recent economic downturn (see Chapter 2).

how the decline in the unemployment rate in 2017 and 2018 was associated with a large decline in the labor force. Wyoming's

labor force (see Box 4.1, page 19) has seen a steady decline since a high of 307,267 in 2012 to a low of 289,574 in 2018. The

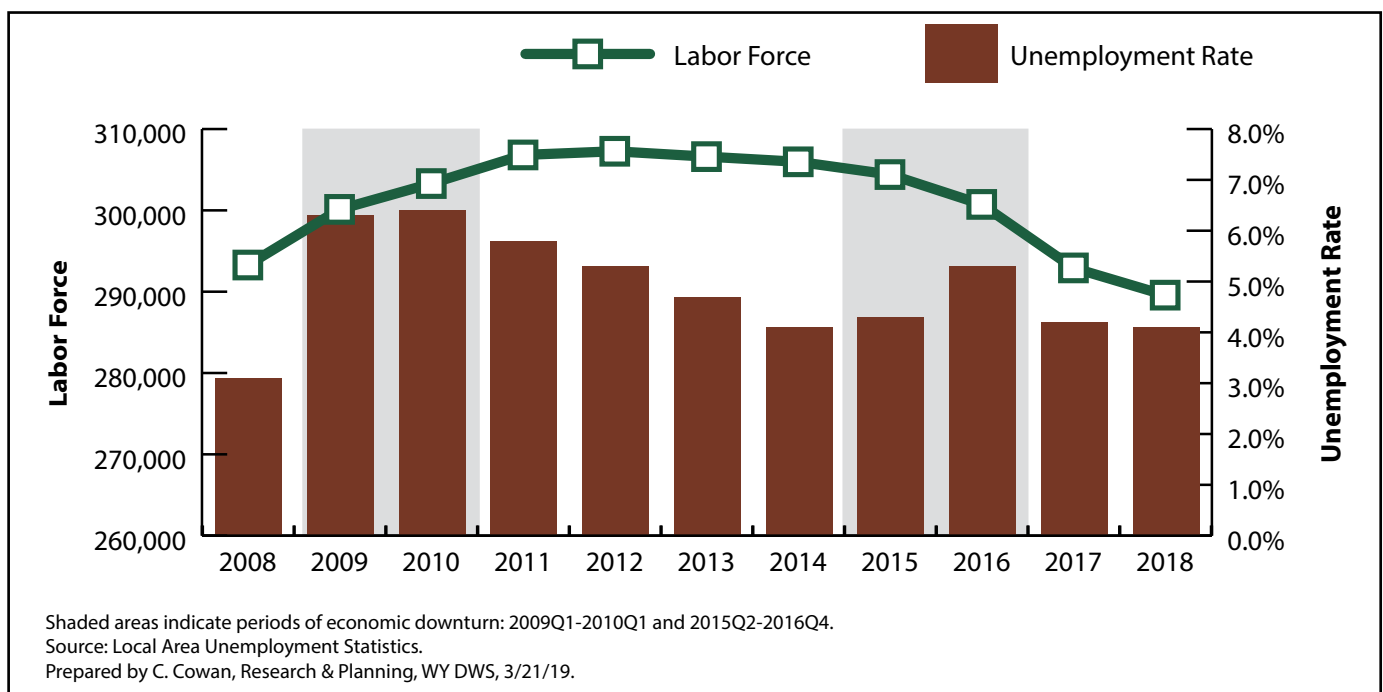
**Table 4.1: Wyoming Labor Force and Unemployment Rate, 2008-2017**

Year	Labor Force	Employed	Unemployed	Unemployment Rate
2008	293,279	284,310	8,969	3.1
2009	300,120	281,150	18,970	6.3
2010	303,297	283,744	19,553	6.4
2011	306,815	289,019	17,796	5.8
2012	307,267	290,932	16,335	5.3
2013	306,608	292,131	14,477	4.7
2014	305,970	293,302	12,668	4.1
2015	304,403	291,295	13,108	4.3
2016	300,732	284,681	16,051	5.3
2017	292,923	280,689	12,234	4.2
2018	289,574	277,820	11,754	4.1

Source: Local Area Unemployment Statistics.

Prepared by C. Cowan, Research & Planning, WY DWS, 3/21/19.

Figure 4.1 illustrates



**Figure 4.1: Wyoming Labor Force and Unemployment Rate, 2008-2018**

## LOCAL AREA UNEMPLOYMENT STATISTICS

last time the labor force was lower was in 2007, prior to the national Great Recession and Wyoming's previous economic downturn. Wyoming's population and labor force increased during the previous downturn, but decreased during the most recent downturn (see Box 1.1, page 6). As mentioned in Chapter 2 of this report, surrounding states experienced job growth during Wyoming's most recent downturn, and it appears as though some of Wyoming's workforce left the state to find employment elsewhere.

In 2018, the lowest annual unemployment rates were seen in Niobrara (2.8%), Teton (3.0%), and Crook (3.2%) counties, while Fremont (5.2%), Big Horn (4.7%) and Natrona (4.6%) counties had the highest (see Table 4.2). Twelve counties saw a reduction in their average annual unemployment rate from the previous year, most notably Campbell (-0.8%), Converse (-0.8%), and Natrona (-0.6%) counties. All three of these counties are highly dependent on jobs in Wyoming's

mining sector. Niobrara County had no change, and 10 counties saw an increase, including Big Horn (0.5%), Goshen (0.4%), and Albany (0.4%) counties.

**Table 4.2: Wyoming Unemployment Rate by County, 2017-2018**

County	2018	2017	Change
Albany	3.3	2.9	0.4
Big Horn	4.7	4.2	0.5
Campbell	4.1	4.9	-0.8
Carbon	3.8	4.0	-0.2
Converse	3.7	4.5	-0.8
Crook	3.2	3.5	-0.3
Fremont	5.2	5.5	-0.3
Goshen	3.3	2.9	0.4
Hot Springs	3.7	3.9	-0.2
Johnson	4.0	4.2	-0.2
Laramie	3.9	3.7	0.2
Lincoln	3.8	3.7	0.1
Natrona	4.6	5.2	-0.6
Niobrara	2.8	2.8	0.0
Park	4.4	4.3	0.1
Platte	3.8	3.7	0.1
Sheridan	4.0	3.9	0.1
Sublette	4.2	4.5	-0.3
Sweetwater	4.2	4.5	-0.3
Teton	3.0	2.8	0.2
Uinta	4.4	4.5	-0.1
Washakie	4.2	4.0	0.2
Weston	3.5	4.0	-0.5
Total	4.1	4.2	-0.1

Source: Local Area Unemployment Statistics.  
Prepared by C. Cowan, Research & Planning, WY DWS,  
3/21/19.

### Find it Online

**Local Area Unemployment Statistics**  
<http://doe.state.wy.us/LMI/LAUS.htm>

## Box 4.1: Calculating the Unemployment Rate

The *unemployment rate* is one of the most important economic indicators on which to measure the health of economies. The unemployment rate is calculated by taking the number of unemployed and dividing it by the total number of people in the labor force. The *labor force* is defined as the number of employed plus the number of unemployed individuals. Individuals less than 16 years of age, inmates of institutions, or members of the Armed Forces are excluded from the labor force, as are people who don't have a job and are not looking for employment. The number of unemployed is counted by place of residence. If a person loses his job in Wyoming and moves out of state, he is not included in Wyoming's unemployment rate, but in the state to which he moved.

## Chapter 5: Unemployment Insurance Claims

### UI Recipients, Benefit Expenses Reach a Decade Low

by: Sherry Wen, Principal Economist

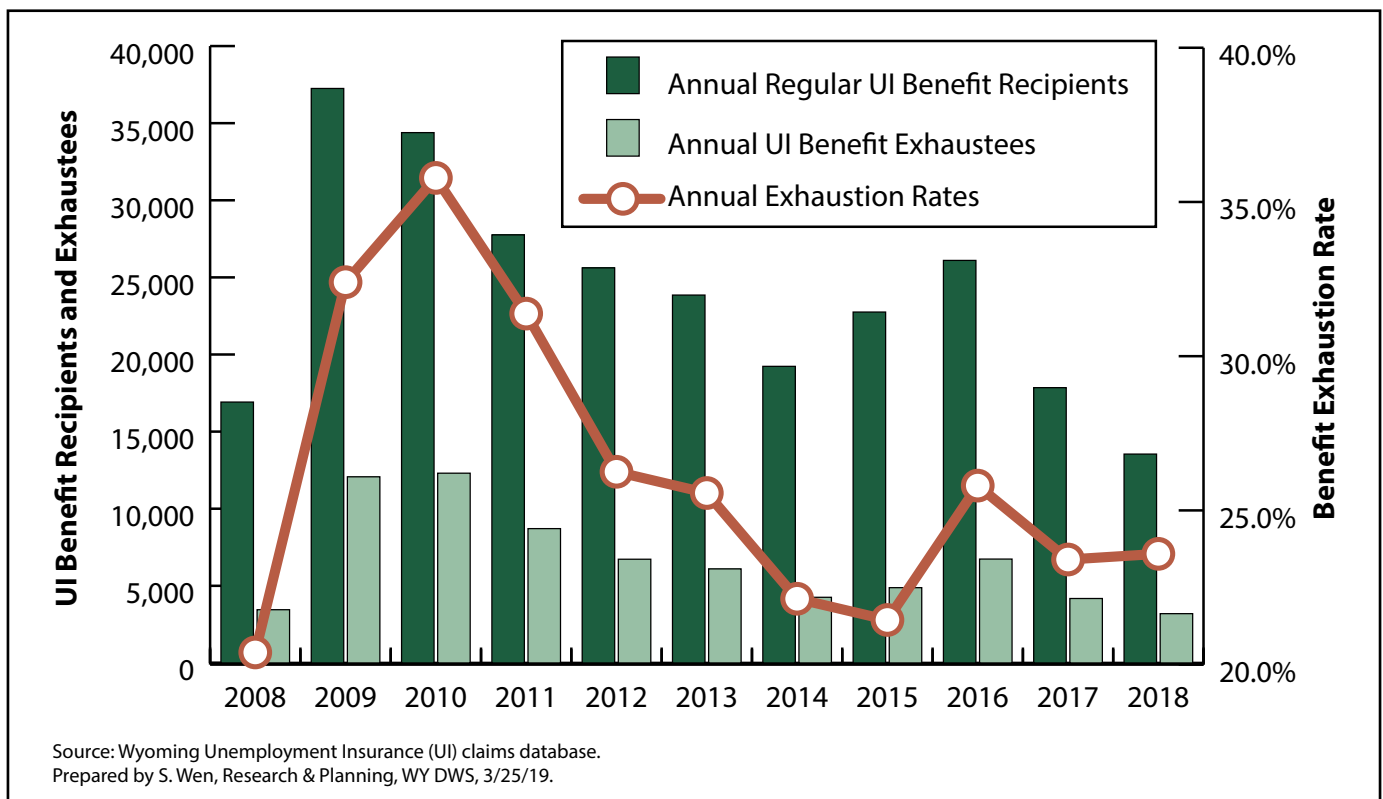
**T**otal Unemployment Insurance (UI) benefit expenses and UI recipients continued to decrease in 2018 from the previous year. Most industries and counties showed double-digit drops in both UI benefit expenses and recipients.

#### Benefit Recipients and Exhaustees

A total of 13,543 unemployed workers received UI benefits in Wyoming in 2018, down 24.1% from the 17,849 in 2017 (see Figure 5.1). In addition, fewer UI recipients exhausted their regular UI benefits (3,195 exhaustees in 2018 compared to 4,178 in

2017). However, the benefit exhaustion rate remained largely unchanged from 2017 (23.4%) to 2018 (23.6%).

These statistics provide a mixed overview of Wyoming's economy. Fewer UI recipients could be an indication that fewer people lost jobs in 2018 and needed to collect UI benefits as their temporary financial support. But the similar exhaustion rate (number of exhaustees divided by number of UI recipients) may indicate that job opportunities did not improve much from 2017 to 2018. This seems consistent with average employment changes discussed in Chapter 2, which increased only 1.0% from 2017 to 2018.



**Figure 5.1: Wyoming Annual UI Benefit Recipients, Exhaustees, and Exhaustion Rates, 2008-2018**

## UNEMPLOYMENT INSURANCE CLAIMS

Table 5.1 shows that at the county level, all counties experienced a decrease in UI recipients over the year. Most counties showed double-digit decreases, with the exception of Big Horn, Goshen, Hot Springs, Platte, and Washakie counties. Out-of-state UI recipients made up 17.7% of total UI recipients in 2018, less than the 19.6% in 2017. Natrona and Laramie accounted for the largest proportions of 2018 claimants (13.6%

and 13.3%, respectively), followed by Fremont County (7.0%). Over the year, the largest decrease was seen in out-of-state UI benefit recipients (-1,093, or -31.3%), followed by Natrona County (-729, or -28.3%) and Campbell County (-410, or -32.8%).

At the industry level, nearly one-third (29.3% or 3,967 individuals) of total UI recipients in 2018 were in construction (see Table 5.2,

page 22) Accommodation & food services accounted for 14.8% of all UI recipients, followed by administrative & waste services (6.9%), retail trade (6.7%), and health care & social assistance (6.3%). Table 5.2 also shows that the majority (67.1%) of UI recipients in a nonclassified industry resided in other states, as did more than one-third (34.9%) of UI recipients in accommodation & food services.

**Table 5.1: Unemployment Insurance Recipients in Wyoming by County of Residence for Claimant, 2017 and 2018**

County	2018		2017		Change	
	N	Column %	N	Column %	N	Row %
Albany	459	3.4	511	2.9	-52	-10.2
Big Horn	240	1.8	262	1.5	-22	-8.4
Campbell	840	6.2	1,250	7.0	-410	-32.8
Carbon	274	2.0	365	2.0	-91	-24.9
Converse	197	1.5	321	1.8	-124	-38.6
Crook	87	0.6	137	0.8	-50	-36.5
Fremont	943	7.0	1,236	6.9	-293	-23.7
Goshen	164	1.2	172	1.0	-8	-4.7
Hot Springs	81	0.6	89	0.5	-8	-9.0
Johnson	166	1.2	199	1.1	-33	-16.6
Laramie	1,796	13.3	2,186	12.2	-390	-17.8
Lincoln	275	2.0	321	1.8	-46	-14.3
Natrona	1,846	13.6	2,575	14.4	-729	-28.3
Niobrara	21	0.2	35	0.2	-14	-40.0
Park	712	5.3	865	4.8	-153	-17.7
Platte	156	1.2	166	0.9	-10	-6.0
Sheridan	648	4.8	825	4.6	-177	-21.5
Sublette	128	0.9	174	1.0	-46	-26.4
Sweetwater	792	5.8	1,059	5.9	-267	-25.2
Teton	696	5.1	839	4.7	-143	-17.0
Uinta	319	2.4	435	2.4	-116	-26.7
Washakie	176	1.3	193	1.1	-17	-8.8
Weston	97	0.7	138	0.8	-41	-29.7
Out-of-State	2,401	17.7	3,494	19.6	-1,093	-31.3
<b>Total</b>	<b>13,543</b>	<b>100.0</b>	<b>17,849</b>	<b>100.0</b>	<b>-4,306</b>	<b>-24.1</b>

Source: Wyoming Unemployment Insurance (UI) claims database.  
Prepared by S. Wen, Research & Planning, WY DWS, 3/25/19.

Table 5.3 (see page 22) shows that compared to the previous year, UI recipients decreased in all industries, except utilities (no change) agriculture (5.4%), and management of companies & enterprises (16.7%). The largest decreases were seen in construction (1,447, or 26.7%), accommodation & food services (491, or 19.7%), and retail trade (414, or 31.4%).

In terms of the UI exhaustion rate, mining (17.3%) and construction (18.0%) had the lowest rates in 2018. In contrast, 36.6% of the UI recipients in finance & insurance exhausted their benefits, followed by educational services (36.4%) and management of companies & enterprises (35.7%).

(Text continued on page 23)

## UNEMPLOYMENT INSURANCE CLAIMS

**Table 5.2: Wyoming Unemployment Insurance Recipients by Industry and Residency, 2018**

NAICS <sup>a</sup> Code	Industry	Wyoming Residents		Out-of-State Residents		Total	
		N	Row %	N	Row %	N	Column %
11	Agriculture, Forestry, Fishing, & Hunting	138	88.5	18	11.5	156	1.2
21	Mining, Quarrying, & Oil & Gas Extraction	576	88.1	78	11.9	654	4.8
22	Utilities	28	96.6	1	3.4	29	0.2
23	Construction	3,297	83.1	670	16.9	3,967	29.3
31-33	Manufacturing	532	94.0	34	6.0	566	4.2
42	Wholesale Trade	248	93.6	17	6.4	265	2.0
44-45	Retail Trade	809	89.3	97	10.7	906	6.7
48-49	Transportation & Warehousing	458	83.9	88	16.1	546	4.0
51	Information	111	89.5	13	10.5	124	0.9
52	Finance & Insurance	149	92.5	12	7.5	161	1.2
53	Real Estate & Rental & Leasing	143	88.3	19	11.7	162	1.2
54	Professional & Technical Services	324	88.5	42	11.5	366	2.7
55	Mgmt. of Companies & Enterprises	10	71.4	4	28.6	14	0.1
56	Administrative & Waste Services	857	91.5	80	8.5	937	6.9
61	Educational Services	249	91.5	23	8.5	272	2.0
62	Health Care & Social Assistance	811	94.5	47	5.5	858	6.3
71	Arts, Entertainment, & Recreation	174	88.3	23	11.7	197	1.5
72	Accommodation & Food Services	1,302	65.1	697	34.9	1,999	14.8
81	Other Services	259	91.8	23	8.2	282	2.1
92	Public Administration	570	72.4	217	27.6	787	5.8
	Nonclassified	97	32.9	198	67.1	295	2.2
<b>Total</b>		<b>11,142</b>	<b>82.3</b>	<b>2,401</b>	<b>17.7</b>	<b>13,543</b>	<b>100.0</b>

<sup>a</sup>North American Industry Classification System.

Source: Wyoming Unemployment Insurance (UI) claims database.

Prepared by S. Wen, Research &amp; Planning, WY DWS, 3/25/19.

**Table 5.3: Wyoming Unemployment Insurance (UI) Recipients and Benefit Exhaustion Rates by Industry, 2017-2018**

NAICS <sup>a</sup> Code	Industry	UI Recipients		Change		Exhaustion Rate	
		2018	2017	N	%	2018	2017
11	Agriculture, Forestry, Fishing, & Hunting	156	148	8	5.4%	26.9%	23.6%
21	Mining, Quarrying, & Oil & Gas Extraction	654	1,028	-374	-36.4%	17.3%	25.1%
22	Utilities	29	29	0	0.0%	27.6%	34.5%
23	Construction	3,967	5,414	-1,447	-26.7%	18.0%	19.0%
31-33	Manufacturing	566	708	-142	-20.1%	21.4%	19.6%
42	Wholesale Trade	265	406	-141	-34.7%	27.9%	29.6%
44-45	Retail Trade	906	1,320	-414	-31.4%	31.6%	28.6%
48-49	Transportation & Warehousing	546	687	-141	-20.5%	20.9%	23.6%
51	Information	124	126	-2	-1.6%	32.3%	34.1%
52	Finance & Insurance	161	187	-26	-13.9%	36.6%	26.2%
53	Real Estate & Rental & Leasing	162	200	-38	-19.0%	32.7%	28.0%
54	Professional & Technical Services	366	486	-120	-24.7%	24.3%	25.7%
55	Mgmt. of Companies & Enterprises	14	12	2	16.7%	35.7%	25.0%
56	Administrative & Waste Services	937	1,099	-162	-14.7%	27.5%	25.1%
61	Educational Services	272	290	-18	-6.2%	36.4%	31.4%
62	Health Care & Social Assistance	858	1,084	-226	-20.8%	27.5%	24.6%
71	Arts, Entertainment, & Recreation	197	220	-23	-10.5%	30.5%	25.0%
72	Accommodation & Food Services	1,999	2,490	-491	-19.7%	22.2%	19.7%
81	Other Services	282	377	-95	-25.2%	28.7%	28.6%
92	Public Administration	787	1,098	-311	-28.3%	28.7%	28.5%
	Nonclassified	295	440	-145	-33.0%	25.4%	38.6%
<b>Total</b>		<b>13,543</b>	<b>17,849</b>	<b>-4,306</b>	<b>-24.1%</b>	<b>23.6%</b>	<b>23.4%</b>

<sup>a</sup>North American Industry Classification System.

Source: Wyoming Unemployment Insurance (UI) claims database.

Prepared by S. Wen, Research &amp; Planning, WY DWS, 3/25/19.

## UNEMPLOYMENT INSURANCE CLAIMS

(Text continued from page 21)

Other demographic trends of UI recipients and the relationship with UI exhaustion rates seem more consistent over the years (see Table 5.4). For example, the data show that older UI benefit recipients had higher exhaustion rates, which indicates that older unemployed workers in general had more difficulty finding reemployment than younger individuals in Wyoming. In addition, women were more likely than men to exhaust their UI benefits.

Table 5.4 also shows that the higher wages an individual made before being laid off (total base period wages), the lower the UI exhaustion rate. A higher pre-layoff wage would make an individual qualify for more weeks of UI benefits. Recipients may receive UI benefits for a maximum of 26 weeks. The maximum benefit amount is \$475 per week. The more weeks of eligibility for UI benefits also was linked with a lower exhaustion rate, as more time allowed recipients to find a job before exhausting their benefits. For example, 19.5% of recipients who were eligible for

**Table 5.4: Selected Demographics of Unemployment Insurance Recipients, Exhaustees, and Exhaustion Rate, 2017 and 2018**

Category		2018			2017		
		UI Benefit Recipients	UI Benefit Exhaustees	Exhaustion Rate	UI Benefit Recipients	UI Benefit Exhaustees	Exhaustion Rate
Age	16-24	997	145	14.5	1,449	204	14.1
	25-34	3,223	610	18.9	4,437	816	18.4
	35-44	2,912	616	21.2	3,824	848	22.2
	45-54	2,765	660	23.9	3,638	908	25.0
	55-64	2,821	817	29.0	3,568	1,037	29.1
	65+	825	347	42.1	933	365	39.1
Gender	Men	8,952	1,876	21.0	12,144	2,636	21.7
	Women	4,591	1,319	28.7	5,705	1,542	27.0
Total Base Period Wages	\$0-\$9,999	1,037	363	35.0	1,464	405	27.7
	\$10,000-\$19,999	2,858	948	33.2	3,548	1,093	30.8
	\$20,000-\$29,999	2,932	785	26.8	3,691	924	25.0
	\$30,000-\$39,999	2,403	462	19.2	3,164	663	21.0
	\$40,000-\$49,999	1,666	244	14.6	2,275	403	17.7
	\$50,000-\$59,999	1,042	138	13.2	1,386	240	17.3
	\$60,000+	1,605	255	15.9	2,321	450	19.4
Weeks Eligible for Benefit	0-9	81	7	8.6	217	0	0.0
	10-14	1,314	652	49.6	1,696	719	42.4
	15-19	2,250	770	34.2	2,886	968	33.5
	20-25	3,776	737	19.5	4,960	915	18.4
	Maximum = 26	6,122	1,029	16.8	8,090	1,576	19.5
Number of Employers in Base Period	1	7,158	1,631	22.8	9,233	2,100	22.7
	2	3,620	891	24.6	4,693	1,157	24.7
	3	1,545	389	25.2	2,192	538	24.5
	4	691	163	23.6	951	216	22.7
	5 or More	516	121	23.4	760	167	22.0
	Unknown	13	0	0.0	20	0	0.0
<b>Total</b>		<b>13,543</b>	<b>3,195</b>	<b>23.6</b>	<b>17,849</b>	<b>4,178</b>	<b>23.4</b>

Source: Wyoming Unemployment Insurance (UI) claims database.

Prepared by S. Wen, Research & Planning, WY DWS, 3/25/19.

## UNEMPLOYMENT INSURANCE CLAIMS

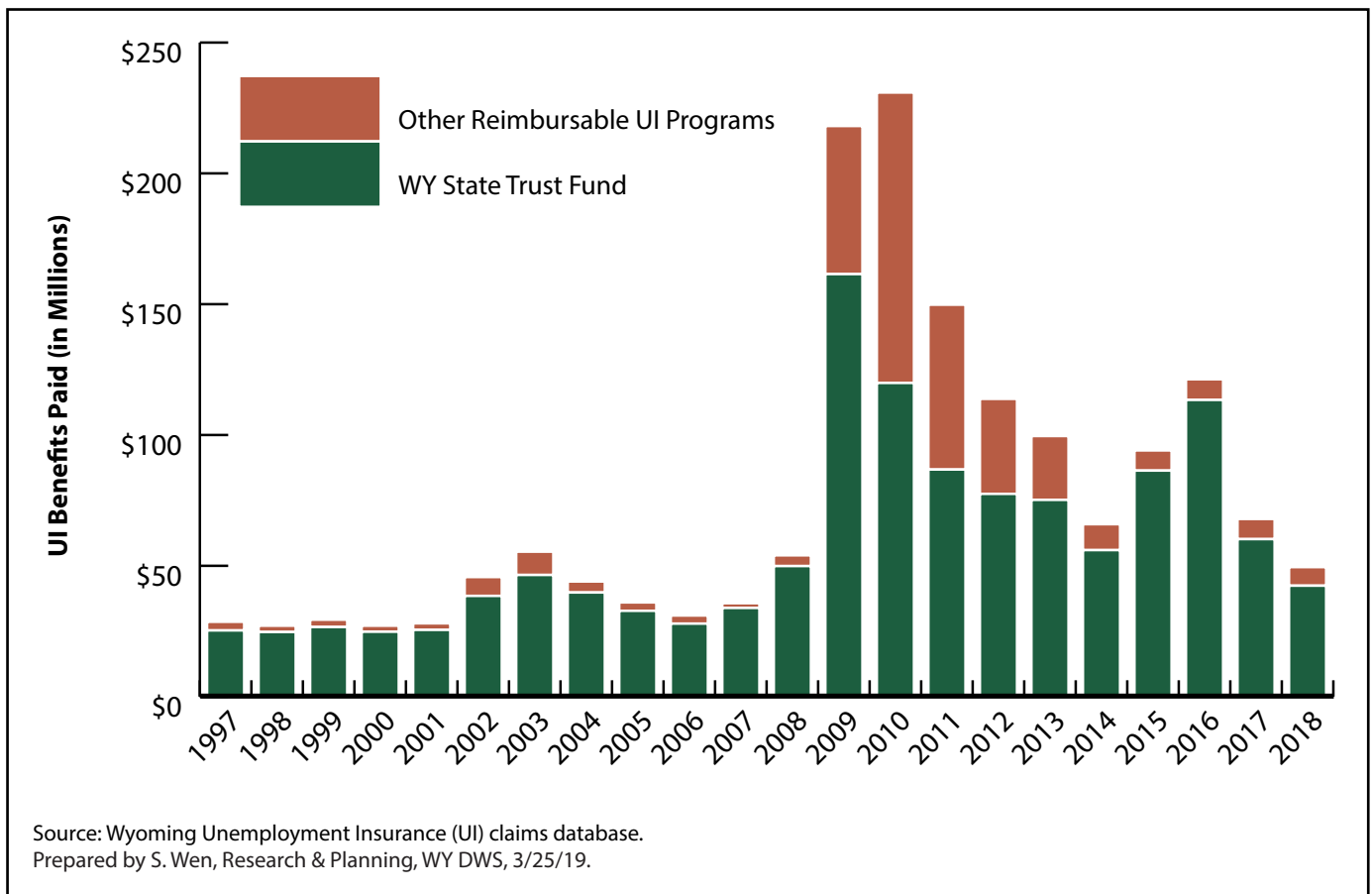
20-25 weeks in 2018 exhausted their benefits, compared to 49.6% of recipients who were eligible for 10-14 weeks. The only exception was the group with zero to nine weeks, which had an 8.6% exhaustion rate. It could be that individuals in this group were under much greater pressure to find work sooner, and would take any jobs they could.

### Statewide UI Benefit Expenses

In 2018, the UI division of the Wyoming Department of Workforce Services paid a total of \$49.5 million in UI benefits to unemployed workers, a 27.1% decrease

from the previous year and the lowest level of the past 11 years (see Figure 5.2). Total UI benefit expenses peaked at \$231.0 million in 2010 during the previous economic downturn that followed the national Great Recession. Benefit expenses decreased from 2010 to 2014 and then increased during the most recent economic downturn in 2015 and 2016, before decreasing again in 2017 and 2018. However, total UI benefit expenses have never returned to levels seen prior to the previous economic downturn, which averaged \$36.8 million annually.

Nearly one-third (30.4%, or \$15.0 million) of total UI benefits in 2018 were paid to those who worked in construction industry (see Table 5.5, page 25). Accommodation



**Figure 5.2: Unemployment Insurance Benefits Paid in Wyoming, 1997 to 2018**

## UNEMPLOYMENT INSURANCE CLAIMS

& food services accounted for 11.9% (\$5.9 million), followed by administrative & waste services (7.3%, or \$3.6 million). From 2017 to 2018, all industries experienced a double-digit decrease in UI benefit expenses, except utilities (-0.2%). The largest decrease was seen in construction (-\$6.5 million, or -30.1%).

Most counties showed a double-digit percentage decrease in UI benefit expenses from 2017 to 2018, with the exception

of Albany (-0.5%), Big Horn (-0.2%), and Goshen (2.4%) counties (see Table 5.6, page 26). Out-of-state claimants accounted for 19.7% of total UI benefit expenses in 2018, compared to 21.8% in 2017. Natrona County accounted for the largest share of benefit expenses in both 2017 (14.6%) and 2018 (13.2%). Natrona County also experienced the greatest over-the-year decrease (-\$3.4 million, or -34.2%), followed by Campbell County (-\$1.8 million, or -37.6%).

**Table 5.5: Unemployment Insurance Benefit Expenses by Industry for Wyoming, 2017-2018**

County	2018		2017		Change	
	UI Benefit	Column %	UI Benefit	Column %	\$	Row %
Agriculture	\$447,099	0.9	\$528,986	0.8	-\$81,887	-15.5
Mining	\$2,712,042	5.5	\$4,056,587	6.0	-\$1,344,545	-33.1
Utilities	\$139,911	0.3	\$140,136	0.2	-\$225	-0.2
Construction	\$15,016,474	30.4	\$21,469,075	31.6	-\$6,452,601	-30.1
Manufacturing	\$1,908,579	3.9	\$2,663,328	3.9	-\$754,749	-28.3
Wholesale Trade	\$1,161,547	2.3	\$1,770,125	2.6	-\$608,578	-34.4
Retail Trade	\$3,134,421	6.3	\$4,541,464	6.7	-\$1,407,043	-31.0
Transportation & Warehousing	\$2,063,682	4.2	\$2,801,386	4.1	-\$737,704	-26.3
Information	\$490,971	1.0	\$649,457	1.0	-\$158,486	-24.4
Finance & Insurance	\$684,335	1.4	\$885,886	1.3	-\$201,551	-22.8
Real Estate & Rental & Leasing	\$705,191	1.4	\$892,870	1.3	-\$187,679	-21.0
Professional & Technical Services	\$1,244,969	2.5	\$1,991,680	2.9	-\$746,711	-37.5
Mgmt.of Companies & Enterprises	\$27,909	0.1	\$49,118	0.1	-\$21,209	-43.2
Administrative & Waste Services	\$3,599,390	7.3	\$4,435,592	6.5	-\$836,202	-18.9
Educational Services	\$1,065,467	2.2	\$1,349,842	2.0	-\$284,375	-21.1
Health Care & Social Assistance	\$3,047,306	6.2	\$3,766,208	5.5	-\$718,902	-19.1
Arts, Entertainment, & Recreation	\$797,664	1.6	\$914,101	1.3	-\$116,437	-12.7
Accommodation & Food Services	\$5,892,298	11.9	\$7,040,132	10.4	-\$1,147,834	-16.3
Other Services (except Public Administration)	\$1,067,011	2.2	\$1,708,684	2.5	-\$641,673	-37.6
Public Administration	\$3,170,066	6.4	\$4,200,329	6.2	-\$1,030,263	-24.5
Nonclassified*	\$1,082,976	2.2	\$2,023,828	3.0	-\$940,852	-46.5
<b>Total</b>	<b>\$49,459,308</b>	<b>100.0</b>	<b>\$67,878,814</b>	<b>100.0</b>	<b>-\$18,419,506</b>	<b>-27.1</b>

Source: Wyoming Unemployment Insurance (UI) claims database.  
Prepared by S. Wen, Research & Planning, WY DWS, 3/25/19.

## UNEMPLOYMENT INSURANCE CLAIMS

### Conclusion

Statewide UI benefit expenses and the number of UI recipients decreased notably

from 2017 to 2018, which indicates that fewer layoffs happened statewide compared with the previous year and the state economy continued improving. This is consistent with the steady increase in Wyoming's average monthly employment.

**Table 5.6: Unemployment Insurance Benefit Expenses by County for Wyoming, 2017-2018**

County	2018		2017		Change	
	UI Benefit	Column %	UI Benefit	Column %	\$	Row %
Albany	\$1,666,356	3.4	\$1,674,034	2.5	-7,678	-0.5
Big Horn	\$839,119	1.7	\$841,139	1.2	-2,020	-0.2
Campbell	\$3,014,059	6.1	\$4,826,415	7.1	-1,812,356	-37.6
Carbon	\$990,371	2.0	\$1,485,117	2.2	-494,746	-33.3
Converse	\$794,108	1.6	\$1,141,824	1.7	-347,716	-30.5
Crook	\$254,967	0.5	\$474,816	0.7	-219,849	-46.3
Fremont	\$3,483,244	7.0	\$4,713,013	6.9	-1,229,769	-26.1
Goshen	\$543,877	1.1	\$531,013	0.8	12,864	2.4
Hot Springs	\$197,666	0.4	\$360,661	0.5	-162,995	-45.2
Johnson	\$573,264	1.2	\$740,417	1.1	-167,153	-22.6
Laramie	\$6,457,535	13.1	\$7,861,779	11.6	-1,404,244	-17.9
Lincoln	\$1,055,681	2.1	\$1,237,989	1.8	-182,308	-14.7
Natrona	\$6,544,974	13.2	\$9,940,453	14.6	-3,395,479	-34.2
Niobrara	\$44,298	0.1	\$122,291	0.2	-77,993	-63.8
Park	\$2,456,032	5.0	\$2,959,178	4.4	-503,146	-17.0
Platte	\$512,580	1.0	\$669,810	1.0	-157,230	-23.5
Sheridan	\$2,295,430	4.6	\$2,972,542	4.4	-677,112	-22.8
Sublette	\$470,223	1.0	\$616,834	0.9	-146,611	-23.8
Sweetwater	\$2,838,426	5.7	\$3,999,111	5.9	-1,160,685	-29.0
Teton	\$2,397,386	4.8	\$2,816,313	4.1	-418,927	-14.9
Uinta	\$1,225,468	2.5	\$1,741,474	2.6	-516,006	-29.6
Washakie	\$647,495	1.3	\$752,757	1.1	-105,262	-14.0
Weston	\$311,631	0.6	\$559,930	0.8	-248,299	-44.3
Unknown (WY)	\$82,124	0.2	\$26,104	0.0	56,020	214.6
Out-of-State	\$9,762,994	19.7	\$14,813,800	21.8	-5,050,806	-34.1
<b>Total</b>	<b>\$49,459,308</b>	<b>100.0</b>	<b>\$67,878,814</b>	<b>100.0</b>	<b>-18,419,506</b>	<b>-27.1</b>

Source: Wyoming Unemployment Insurance (UI) claims database.

Prepared by S. Wen, Research & Planning, WY DWS, 3/25/19.

### Find it Online

#### Unemployment Insurance Claims Data

<https://doe.state.wy.us/LMI/ui.htm>

## Chapter 6: Demographics of Wyoming's Workforce

### Increase in Nonresidents Working in Wyoming in 2018

by: Michael Moore, Editor

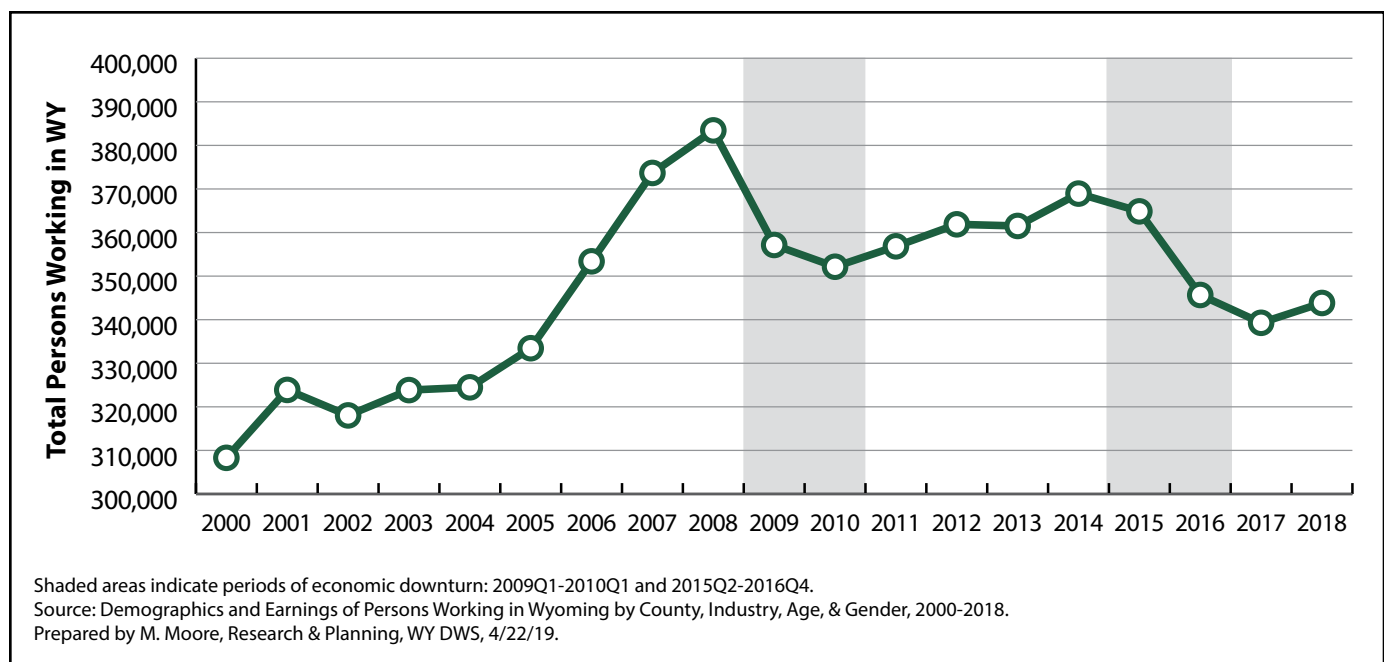
The total number of persons working in Wyoming at any time increased slightly (0.4%) from 2017 to 2018, the first over-the-year increase since 2015. There were 344,543 persons working in Wyoming in 2018, more than during the early 2000s but still substantially lower than pre-economic downturn levels in 2008 and 2014 (see Figure 6.1).

The numbers of individuals working in Wyoming presented in this chapter are based on employers' quarterly wage and employment reports to the Unemployment Insurance (UI) tax section of the Wyoming Department of Workforce Services; these are referred to as *wage records*. As noted by Bullard (2015), UI covered employment represents approximately 91.5% of Wyoming's total wage and salary employment. Any individual who had

wages in Wyoming at any time from 2000 to 2018 is included in the summary counts presented in this chapter. Each individual is counted only once.

By linking the Wage Records database with other administrative databases, such as the driver's license file from the Wyoming Department of Transportation, R&P is able to identify demographic information and other variables for each county and industry, including number of persons working, average annual wages, average number of quarters worked, average number of employers, gender, and age.

The four quarters of 2018 demographics data discussed in this article were made available just before printing deadlines. Complete demographics tables from each



**Figure 6.1: Total Number of Persons Working in Wyoming at Any Time, 2000-2017**

## DEMOGRAPHICS OF WYOMING'S WORKFORCE

calendar year will be published online at [https://doe.state.wy.us/LMI/earnings\\_tables.htm](https://doe.state.wy.us/LMI/earnings_tables.htm), with articles published in *Wyoming Labor Force Trends*.

This chapter provides a sample of the type of research that can be accomplished by linking wage records to other administrative databases. Further examples can be found online at <https://doe.state.wy.us/LMI/wagerecords.htm>.

### Industry

In 2018, 40.2% of all persons working in Wyoming at any time were women, while 46.4% were men (see Table 6.1). The remaining 13.4% were *nonresidents*, or individuals for whom demographic data

are not available. Nonresidents are primarily individuals commuting to Wyoming for work from other states, or individuals who have moved to Wyoming but have not yet established residency.

As shown in Table 6.1, the distribution of persons working in Wyoming varied by industry. Women comprised the majority of all persons working in industries such as health care & social assistance (76.2%), educational services (65.1%), and financial activities (57.1%), while men accounted for the largest proportion of all persons working in mining (79.1%), wholesale trade, transportation, warehousing, & utilities (74.3%), and manufacturing (73.6%). Some industries had a high percentage of nonresident workers, including construction (27.7%) and leisure & hospitality (27.6%).

**Table 6.1: Total Persons Working in Wyoming by Industry and Gender, 2018**

NAICS <sup>a</sup> Code	Industry	Women		Men		Nonresidents <sup>b</sup>		Total	
		N	%	N	%	N	%	N	%
11	Agriculture, Forestry, Fishing, & Hunting	898	21.9	2,418	58.8	793	19.3	4,109	100.0
21	Mining	2,367	9.2	20,383	79.1	3,027	11.7	25,777	100.0
23	Construction	2,818	8.2	22,022	64.1	9,506	27.7	34,346	100.0
31-33	Manufacturing	2,304	19.9	8,492	73.6	753	6.5	11,549	100.0
42, 48-49, 22	Wholesale Trade, Transportation, Warehousing, & Utilities	4,491	19.3	17,242	74.3	1,492	6.4	23,225	100.0
44-45	Retail Trade	18,527	46.4	17,384	43.6	3,976	10.0	39,887	100.0
51	Information	1,549	36.5	2,346	55.2	353	8.3	4,248	100.0
52-53	Financial Activities	7,533	57.1	4,799	36.4	851	6.5	13,183	100.0
54-56	Professional & Business Services	9,352	35.2	12,285	46.3	4,912	18.5	26,549	100.0
61	Educational Services	21,361	65.1	9,920	30.2	1,558	4.7	32,839	100.0
62	Health Care & Social Assistance	27,895	76.2	6,723	18.4	1,978	5.4	36,596	100.0
71-72	Leisure & Hospitality	21,932	40.0	17,781	32.4	15,112	27.6	54,825	100.0
81	Other Services	3,478	40.3	4,121	47.7	1,032	12.0	8,631	100.0
92	Public Administration	13,347	48.3	13,597	49.2	677	2.5	27,621	100.0
	Unclassified	90	20.0	141	31.3	220	48.7	451	100.0
<b>Total, All Industries</b>		<b>137,942</b>	<b>40.2</b>	<b>159,654</b>	<b>46.4</b>	<b>46,240</b>	<b>13.4</b>	<b>343,836</b>	<b>100.0</b>

<sup>a</sup>North American Industry Classification System.

<sup>b</sup>Nonresidents are individuals for whom demographic data are not available.

Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.

## DEMOGRAPHICS OF WYOMING'S WORKFORCE

Table 6.2 shows the differences in persons working in Wyoming by industry and age. Some industries employed large proportions of younger workers under age 25, including leisure & hospitality (27.5%) and retail trade (23.9%). In some industries, more than one in four (25.0%) of all workers were age 55 or older; this included educational services (27.9%), public administration (27.7%), and wholesale trade, transportation, warehousing, & utilities (26.2%). Prior research from R&P showed that those industries with a high concentration of individuals age 55 or older were also

industries with a high percentage of jobs that required a bachelor's degree or higher. Glover (2012) noted that:

“Wyoming youth appear to have difficulty finding jobs in industries that require a higher education, such as health care & social assistance, educational services, and public administration. Members of the [baby] boom generation (those born between 1946 and 1964) tend to hold onto jobs in these industries longer, reducing the opportunities for younger workers.”

**Table 6.2: Total Persons Working in Wyoming by Industry and Age, 2018**

NAICS <sup>a</sup> Code	Industry	Under 25		25-34		35-44		45-54		55 or Older		Non-residents <sup>b</sup>		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
11	Agriculture, Forestry, Fishing, & Hunting	634	15.4	657	15.6	540	13.2	480	11.1	998	24.6	800	20.1	4,109	100.0
21	Mining	1,700	6.5	5,840	22.2	6,075	23.6	4,147	16.3	4,976	19.8	3,039	11.6	25,777	100.0
23	Construction	3,829	11.0	6,156	17.7	5,568	16.4	4,241	12.8	5,018	15.2	9,534	26.9	34,346	100.0
31-33	Manufacturing	1,291	11.1	2,540	21.6	2,401	20.8	1,997	17.1	2,555	22.7	765	6.7	11,549	100.0
42, 48-49, 22	Wholesale Trade, Transportation, Warehousing, & Utilities	1,850	7.9	4,537	19.2	5,025	21.5	4,330	18.6	5,975	26.2	1,508	6.6	23,225	100.0
44-45	Retail Trade	9,580	23.9	7,502	18.8	5,710	14.0	5,153	12.8	7,927	20.0	4,015	10.5	39,887	100.0
51	Information	628	14.7	869	20.2	815	18.8	696	16.4	882	21.4	358	8.5	4,248	100.0
52-53	Financial Activities	1,221	9.2	2,867	21.8	2,709	20.2	2,239	16.7	3,283	25.0	864	7.1	13,183	100.0
54-56	Professional & Business Services	3,012	11.3	4,920	18.6	4,465	16.8	3,778	14.3	5,432	21.0	4,942	18.0	26,549	100.0
61	Educational Services	2,534	7.6	5,801	17.2	7,344	22.3	6,599	20.1	8,956	27.9	1,605	4.9	32,839	100.0
62	Health Care & Social Assistance	4,746	12.9	8,423	22.9	7,368	20.0	6,048	16.4	7,974	22.0	2,037	5.8	36,596	100.0
71-72	Leisure & Hospitality	15,191	27.5	9,287	16.7	5,853	10.3	4,121	7.3	5,178	9.3	15,195	28.9	54,825	100.0
81	Other Services	1,308	15.1	1,682	19.1	1,449	16.8	1,230	14.2	1,915	22.4	1,047	12.4	8,631	100.0
92	Public Administration	3,148	11.3	5,073	18.4	5,643	20.3	5,459	19.7	7,597	27.7	701	2.6	27,621	100.0
	Unclassified	21	4.8	56	15.6	61	14.0	36	9.4	57	14.4	220	41.8	451	100.0
	<b>Total, All Industries</b>	<b>50,693</b>	<b>14.7</b>	<b>66,210</b>	<b>19.3</b>	<b>61,026</b>	<b>17.7</b>	<b>50,554</b>	<b>14.7</b>	<b>68,723</b>	<b>20.0</b>	<b>46,630</b>	<b>13.6</b>	<b>343,836</b>	<b>100.0</b>

<sup>a</sup>North American Industry Classification System.

<sup>b</sup>Nonresidents are individuals for whom demographic data are not available.

Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.

## DEMOGRAPHICS OF WYOMING'S WORKFORCE

Since 2011, the number of baby boomers reaching the traditional retirement age of 65 has increased substantially each year. Industries that have a high percentage of jobs requiring at least a bachelor's degree and a large proportion of workers age 55 or older may present future employment opportunities for younger Wyoming workers with a postsecondary education.

### Demographics by County

Many of Wyoming's least populous counties had the greatest proportion of

women working in 2018, including Niobrara (53.5%), Goshen (48.3%), and Hot Springs (48.0%) counties (see Table 6.3). The counties with the greatest proportions for men working in 2018 were those with a large presence of jobs related to oil and mining, such as Campbell (53.6%), Sweetwater (51.9%), Natrona (49.8%), and Sublette (49.6%) counties. In Teton County, which relies on large numbers of out-of-state workers to fill tourism-related jobs, more than one-third (38.9%) of all workers were nonresidents in 2018.

Overall, 14.7% of persons working in Wyoming in 2018 were younger than 25

**Table 6.3: Total Persons Working in Wyoming by County of Employment and Gender, 2018**

County	Women		Men		Nonresidents <sup>a</sup>		Total	
	N	%	N	%	N	%	N	%
Albany	8,403	43.8	9,045	47.1	1,745	9.1	19,193	100.0
Big Horn	2,098	40.7	2,523	49.0	533	10.3	5,154	100.0
Campbell	11,572	37.7	16,431	53.6	2,658	8.7	30,661	100.0
Carbon	3,422	35.1	4,247	43.6	2,078	21.3	9,747	100.0
Converse	2,850	38.5	3,531	47.7	1,020	13.8	7,401	100.0
Crook	1,209	40.8	1,327	44.8	426	14.4	2,962	100.0
Fremont	8,949	46.0	8,585	44.1	1,932	9.9	19,466	100.0
Goshen	2,523	48.3	2,328	44.6	373	7.1	5,224	100.0
Hot Springs	1,119	48.0	1,053	45.2	158	6.8	2,330	100.0
Johnson	1,750	44.1	1,833	46.2	387	9.7	3,970	100.0
Laramie	24,825	43.2	26,769	46.6	5,834	10.2	57,428	100.0
Lincoln	3,238	41.2	3,615	45.9	1,015	12.9	7,868	100.0
Natrona	20,228	40.7	24,739	49.8	4,723	9.5	49,690	100.0
Niobrara	545	53.5	406	39.8	68	6.7	1,019	100.0
Park	7,348	43.1	7,470	43.8	2,229	13.1	17,047	100.0
Platte	1,913	42.8	2,075	46.5	479	10.7	4,467	100.0
Sheridan	7,115	45.5	7,165	45.8	1,353	8.7	15,633	100.0
Sublette	1,857	34.5	2,670	49.6	859	15.9	5,386	100.0
Sweetwater	10,212	36.7	14,450	51.9	3,155	11.4	27,817	100.0
Teton	8,234	27.2	10,256	33.9	11,803	38.9	30,293	100.0
Uinta	4,678	43.4	4,652	43.2	1,439	13.4	10,769	100.0
Washakie	1,958	44.8	2,118	48.4	299	6.8	4,375	100.0
Weston	1,328	45.4	1,314	44.9	286	9.7	2,928	100.0
Unknown	568	18.9	1,052	35.0	1,388	46.1	3,008	100.0
<b>Total</b>	<b>137,942</b>	<b>40.2</b>	<b>159,654</b>	<b>46.4</b>	<b>46,240</b>	<b>13.4</b>	<b>343,836</b>	<b>100.0</b>

<sup>a</sup>Nonresidents are individuals for whom demographic data are not available.

Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.

Prepared by M. Moore, Research & Planning, WY DWS, 4/23/19.

## DEMOGRAPHICS OF WYOMING'S WORKFORCE

(see Table 6.4). Albany County had the largest proportion of workers younger than 25 (23.0%), likely due to the number of college students living in that county. Approximately one in five (20.0%) of all persons working in Wyoming were age

55 or older. Many smaller, more rural counties had a greater proportion of workers 55 or older, including Niobrara (30.5%), Washakie (28.1%), Hot Springs (27.3%), Crook (25.6%), and Weston (25.5%) counties.

**Table 6.4: Total Persons Working in Wyoming by County of Employment and Age, 2018**

County	Under 25		25-34		35-44		45-54		55 or Older		Non-residents <sup>b</sup>		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Albany	4,423	23.0	4,367	22.8	3,048	15.9	2,375	12.3	3,222	16.8	1,758	9.2	19,193	100.0
Big Horn	780	15.1	840	16.3	886	17.2	836	16.3	1,265	24.5	547	10.6	5,154	100.0
Campbell	4,318	14.1	6,606	21.5	6,411	20.9	4,676	15.3	5,969	19.5	2,681	8.7	30,661	100.0
Carbon	1,242	12.7	1,711	17.6	1,536	15.8	1,254	12.9	1,917	19.7	2,087	21.3	9,747	100.0
Converse	1,089	14.7	1,338	18.1	1,253	16.9	1,146	15.5	1,548	20.9	1,027	13.9	7,401	100.0
Crook	465	15.7	444	15.0	436	14.7	432	14.6	757	25.6	428	14.4	2,962	100.0
Fremont	2,657	13.6	3,716	19.1	3,455	17.7	3,058	15.7	4,636	23.8	1,944	10.1	19,466	100.0
Goshen	893	17.1	936	17.9	879	16.8	813	15.6	1,322	25.3	381	7.3	5,224	100.0
Hot Springs	339	14.5	414	17.8	413	17.7	364	15.6	637	27.3	163	7.1	2,330	100.0
Johnson	593	14.9	655	16.5	703	17.7	640	16.1	989	24.9	390	9.9	3,970	100.0
Laramie	9,017	15.7	11,859	20.7	10,271	17.9	9,062	15.8	11,329	19.7	5,890	10.2	57,428	100.0
Lincoln	1,203	15.3	1,233	15.7	1,448	18.4	1,200	15.3	1,743	22.2	1,041	13.1	7,868	100.0
Natrona	7,517	15.1	10,614	21.4	9,627	19.4	7,502	15.1	9,668	19.5	4,762	9.5	49,690	100.0
Niobrara	143	14.0	140	13.7	166	16.3	188	18.4	311	30.5	71	7.1	1,019	100.0
Park	2,550	15.0	2,943	17.3	2,619	15.4	2,462	14.4	4,228	24.8	2,245	13.1	17,047	100.0
Platte	593	13.3	728	16.3	734	16.4	791	17.7	1,136	25.4	485	10.9	4,467	100.0
Sheridan	2,508	16.0	2,898	18.5	2,808	18.0	2,468	15.8	3,578	22.9	1,373	8.8	15,633	100.0
Sublette	694	12.9	960	17.8	1,007	18.7	802	14.9	1,056	19.6	867	16.1	5,386	100.0
Sweetwater	4,191	15.1	5,444	19.6	5,615	20.2	4,222	15.2	5,166	18.6	3,179	11.3	27,817	100.0
Teton	2,479	8.2	4,881	16.1	4,090	13.5	3,199	10.6	3,760	12.4	11,884	39.2	30,293	100.0
Uinta	1,744	16.2	1,915	17.8	2,004	18.6	1,576	14.6	2,085	19.4	1,445	13.4	10,769	100.0
Washakie	657	15.0	696	15.9	754	17.2	735	16.8	1,230	28.1	303	7.0	4,375	100.0
Weston	445	15.2	508	17.3	496	16.9	444	15.2	746	25.5	289	9.9	2,928	100.0
Unknown	153	5.1	364	12.1	367	12.2	309	10.3	425	14.1	1,390	46.2	3,008	100.0
<b>Total</b>	<b>50,693</b>	<b>14.7</b>	<b>66,210</b>	<b>19.3</b>	<b>61,026</b>	<b>17.7</b>	<b>50,554</b>	<b>14.7</b>	<b>68,723</b>	<b>20.0</b>	<b>46,630</b>	<b>13.6</b>	<b>343,836</b>	<b>100.0</b>

<sup>a</sup>Nonresidents are individuals for whom demographic data are not available.

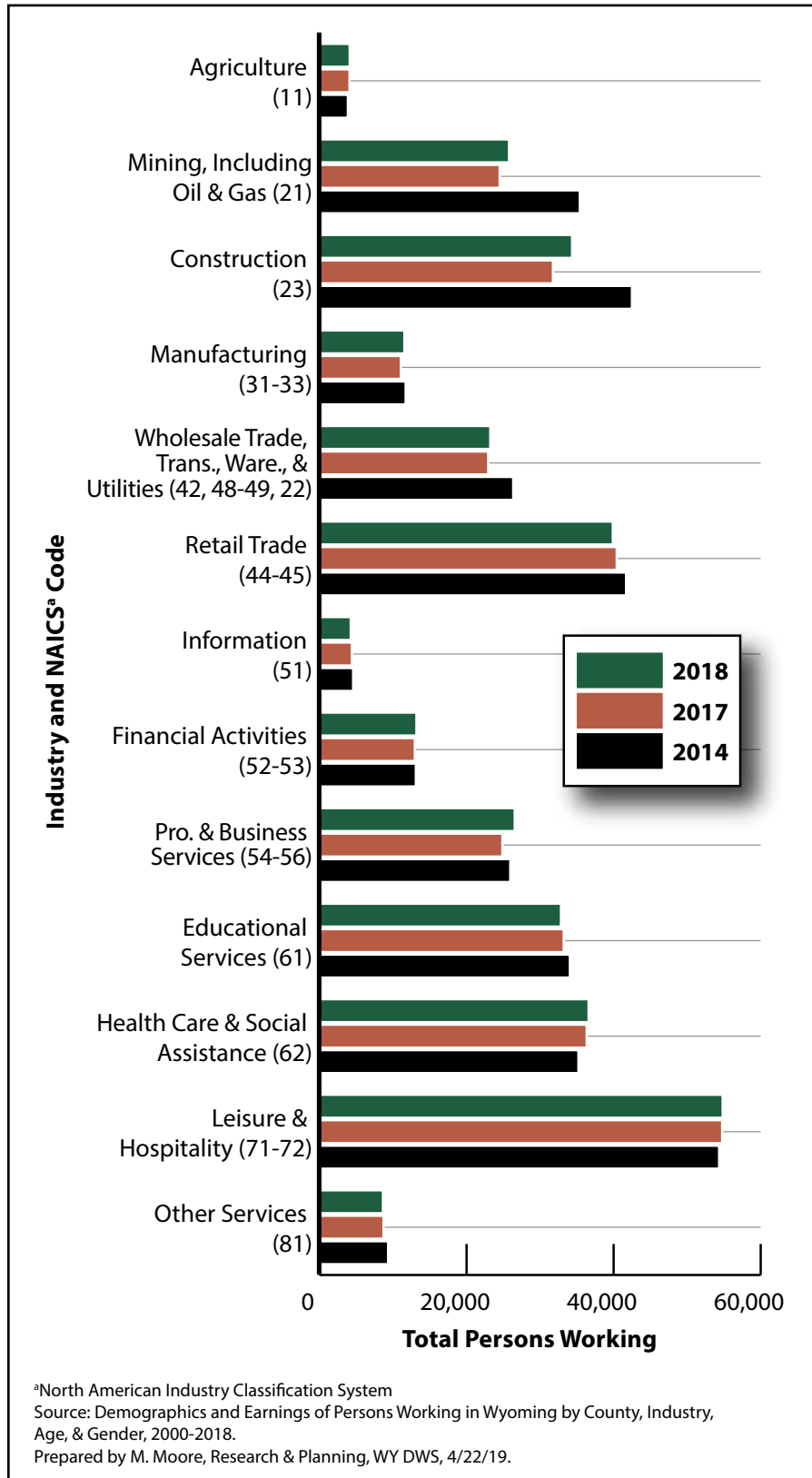
Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.  
Prepared by M. Moore, Research & Planning, WY DWS, 4/23/19.

## Find it Online

### Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender

[https://doe.state.wy.us/LMI/earnings\\_tables.htm](https://doe.state.wy.us/LMI/earnings_tables.htm)

## DEMOGRAPHICS OF WYOMING'S WORKFORCE



### Changes in Persons Working

The total number of persons working in Wyoming at any time increased from 2017 to 2018 but remained substantially lower than pre-downturn levels from 2014 in several industries, such as mining, construction, and wholesale trade, transportation, warehousing, & utilities (see Figure 6.2). The number of persons in mining, for example, increased from 24,500 in 2017 to 25,777 in 2018, an over-the-year increase of 5.2%, but still substantially lower than the 35,408 individuals working in mining in 2014.

The changes in the numbers of persons working were often similar to the changes in the number of jobs worked presented in Chapter 2. Industries that added jobs from 2017 to 2018, such as mining and construction, saw an increase in the number of persons working those jobs. Industries that lost jobs often saw a decrease in persons working. For example, retail trade lost 418 jobs from 2017 to 2018 (-1.4%), with 535 fewer persons working (-1.3%).

**Figure 6.2: Total Number of Persons Working in Wyoming at Any Time by Private Industry Sector, 2014-2018**

### Increase in Nonresidents, Decrease in Residents

As illustrated in Figure 6.3, the numbers of men and women working in Wyoming at any time declined during each of the last four years. From 2014 to 2018, the number of

women working in Wyoming declined by 6.3%, while the number of men declined by 12.0% (see Table 6.5). In comparison, the number of nonresidents working in Wyoming increased by 14.8% from 2014 to 2018. In 2018, there were more nonresidents working in Wyoming than any other year since 2000, with the exception of 2007 and 2008.

The increase in nonresidents working in Wyoming may be due in part to recent population and demographic changes. As discussed in Chapter 3, Wyoming's population declined from 582,548 in 2014 to 577,737 in 2018 (-4,811 or -0.8%). Although population estimates were not available by age for 2018, estimates from 2017 showed that the greatest decreases from 2015 to 2017 were seen among individuals in their 20s and early- to mid-50s (see Chapter 3). Table 6.6 (see page 34) shows that similar changes were seen among persons working in Wyoming at any time from 2015 to 2018. The total number of persons working declined by 6.8%, with greater declines seen

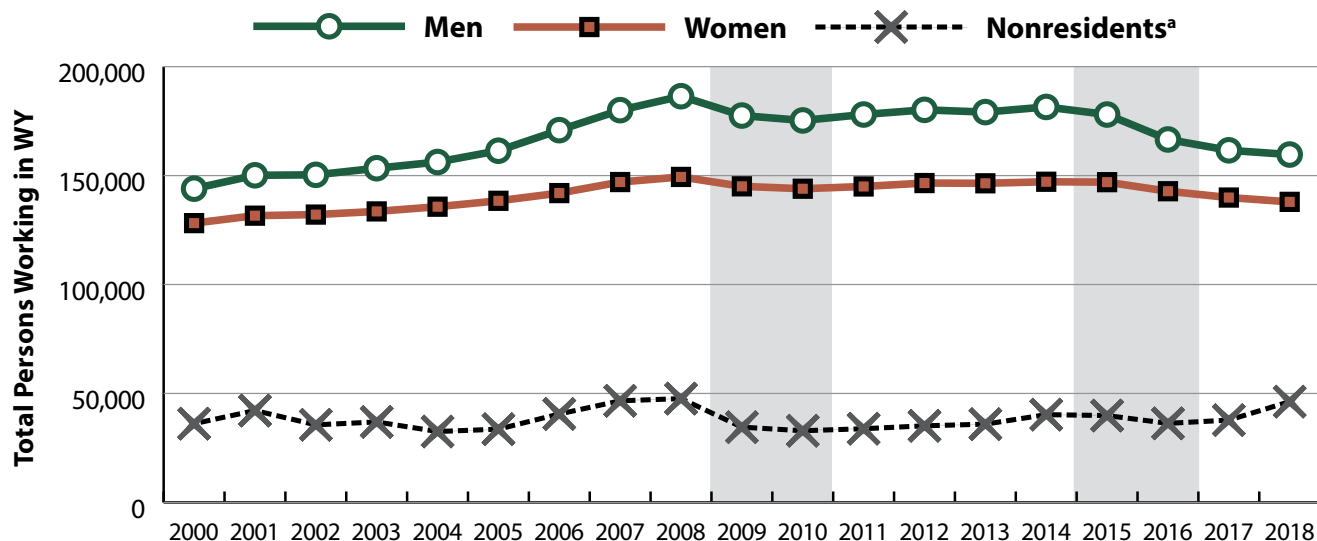
**Table 6.5: Total Persons Working in Wyoming at Any Time by Gender and Residency, 2014-2018**

Gender	2018	2014	Change, 2014-2018	
			N	%
WY Residents	297,596	328,671	-31,075	-9.5
Women	137,942	147,169	-9,227	-6.3
Men	159,654	181,502	-21,848	-12.0
Nonresidents <sup>a</sup>	46,240	40,268	5,972	14.8
<b>Total</b>	<b>343,836</b>	<b>368,939</b>	<b>-25,103</b>	<b>-6.8</b>

Nonresidents are individuals for whom demographic data are not available.

Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.



Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.

<sup>a</sup>Nonresidents are individuals for whom demographic data are not available.

Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.

**Figure 6.3: Total Number of Persons Working in Wyoming at Any Time by Gender and Residency, 2000-2018**

## DEMOGRAPHICS OF WYOMING'S WORKFORCE

in individuals ages 20-24 (-18.4%), 25-34 (-14.8%), and 45-54 (-14.0%). The number of persons age 65 or older working at any time increased by 11.5%

During times of economic expansion,

**Table 6.6: Total Persons Working in Wyoming at Any Time by Age, 2014-2018**

Gender	2018	2014	Change, 2014-2018	
			N	%
Under 20	19,956	21,979	-2,023	-9.2
20-24	30,737	37,654	-6,917	-18.4
25-34	66,210	77,693	-11,483	-14.8
35-44	61,026	62,189	-1,163	-1.9
45-54	50,554	58,778	-8,224	-14.0
55-64	49,595	52,731	-3,136	-5.9
65 or Older	19,128	17,159	1,969	11.5
Nonresidents <sup>a</sup>	46,630	40,756	5,874	14.4
<b>Total</b>	<b>343,836</b>	<b>368,939</b>	<b>-25,103</b>	<b>-6.8</b>

<sup>a</sup>Nonresidents are individuals for whom demographic data are not available.

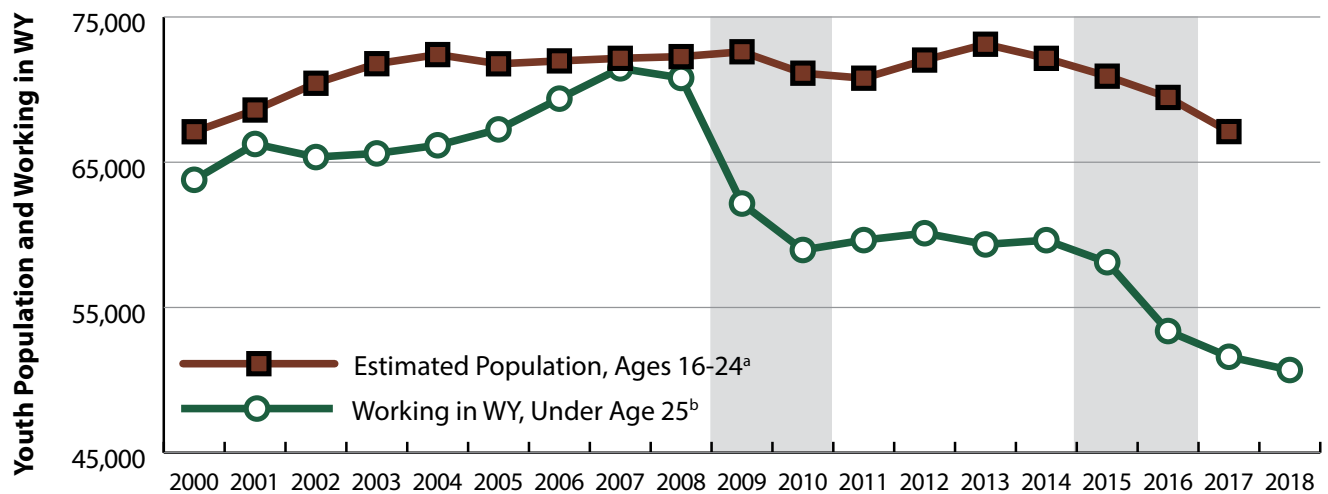
Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.

Wyoming employers have historically imported labor from other states after exhausting the local labor supply. This may have been the case in 2018: because so many younger workers in their 20s and more experienced workers in their 50s left the state during the recent economic downturn, employers may have had a smaller pool of resident workers from which to hire as the state added jobs while recovering from the downturn. Once employers exhausted the resident labor supply in 2017 and 2018, they may have turned to out-of-state workers to fill job openings.

### Decline in Young Workers

The total number of Wyoming workers younger than 25 in 2018 was 50,693, lower than at any point since at least 2000. As shown in Figure 6.4, the number of workers younger than 25 has declined at a noticeably greater rate than the estimated population of



Shaded areas indicate periods of economic downturn: 2009Q1-2010Q1 and 2015Q2-2016Q4.

<sup>a</sup>Source: U.S. Census Bureau Annual Estimates of the Resident Population by Single Year of Age, 2000-2017.

<sup>b</sup>Source: Demographics and Earnings of Persons Working in Wyoming by County, Industry, Age, & Gender, 2000-2018.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.

**Figure 6.4: Estimated Youth Population and Total Youth Working in Wyoming at Any Time, 2000-2018**

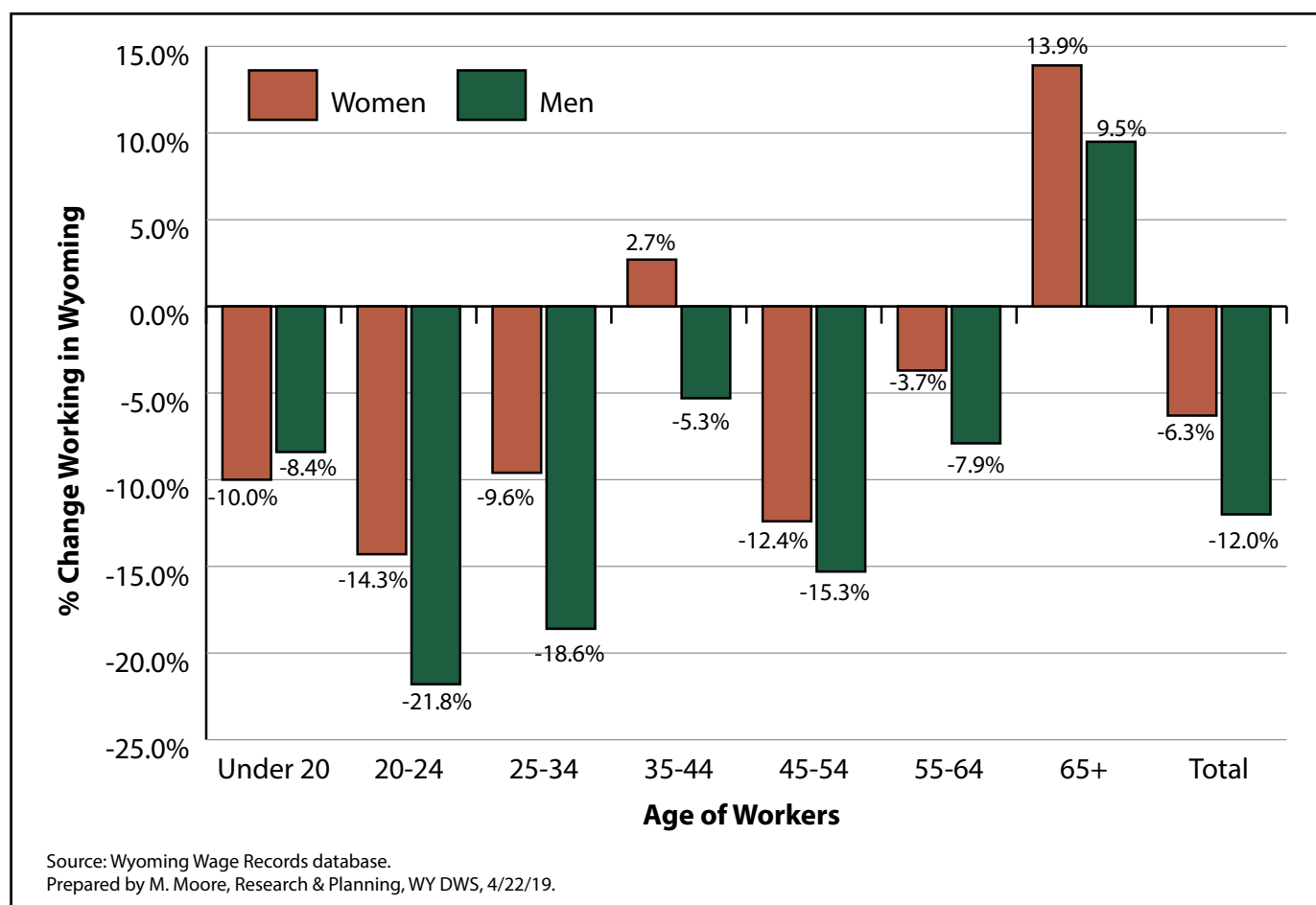
individuals ages 16-24 since 2008. This indicates that a smaller proportion of Wyoming's young population participated in the labor force in the years since the previous economic downturn.

Harris (2013) and Moore (2017) both demonstrated that younger male workers are the most likely to lose their jobs during times of economic downturn in Wyoming. As noted by the U.S. Bureau of Labor Statistics (2016), during economic downturns, employers tend to retain older, more experienced workers and let go of younger, less experienced workers. This can be seen in Figure 6.5, which shows that the greatest decreases in persons working from 2014 to 2018 were seen in men ages 20-24 (-21.8%) and ages 25-34 (-18.6%).

### Increase in Older Workers

As mentioned in Chapter 3, Wyoming's population of individuals age 65 or older increased substantially from 2015 to 2017. Likewise, the number of persons age 65 or older working in Wyoming at any time increased by 11.5% from 2014 to 2018.

The population increase is partially due to more baby boomers (individuals born between 1946 and 1964) aging from the 55-64 age bracket into the 65 or older bracket. The increase in older workers reflects the aging of the population, and also shows that more people are working past the traditional retirement age of 65.



**Figure 6.5: Percentage Change in Persons Working in Wyoming at Any Time by Gender and Age, 2014-2018**

The number of women age 65 or older working in Wyoming increased at a greater rate (13.9%) compared to men (9.5%) from 2014 to 2018 (see Figure 6.5). Scommegna (2018) noted several possible reasons for the increase in older workers, such as increased life expectancy, changes in Social Security program incentives, declining availability of employer-provided health benefits for retirees, more women reaching older ages with longer work histories compared to previous generations, and the growing number of part-time jobs, among other factors.

## Conclusion

The total number of persons working in Wyoming at any time increased from 2017 to 2018, but remained considerably lower than pre-economic downturn levels from 2014. The number of resident women and men working in Wyoming declined for the third straight year, so the overall increase in persons working was driven by more nonresidents working in Wyoming than at any time since 2000, with the exception of 2007 and 2008. In addition, the 50,693 workers under age 25 represented a new 19-year low for Wyoming as the number and proportion of young workers in Wyoming's labor market continued to decline. Also, the number of older workers increased, as more baby boomers continued to work past age 65.

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## Chapter 7: Short-Term Industry and Occupational Projections

### Mining Leads Projected Job Growth for 2018-2020

by: Patrick Manning, Principal Economist

Wyoming is projected to add more than 5,000 jobs from 2018 to 2020, according to the most recent short-term industry and occupational projections from the Research & Planning (R&P) section of the Wyoming Department of Workforce Services. Short- and long-term projections are available at <https://doe.state.wy.us/LMI/projections.htm>.

#### Industry Projections

Industries are classified according to the North American Industry Classification System (NAICS; see Box 2.1, page 15). The industry projections are developed at the three-digit NAICS subsector level and then summed to the two-digit sectors shown Table 7.1 (see page 38).

The short-term industry projections indicate that Wyoming's employment is expected to grow by 5,461 jobs (2.0%) from second quarter 2018 (2018Q2) to second quarter 2020 (2020Q2). At the two-digit level, job growth is forecast for all sectors, with the exception of construction (NAICS 23; -237, or -1.2%), retail trade (NAICS 44-45; -258, or -0.9%), information (NAICS 51; -78, or -0.2%), and government (-59, or -0.2%).

The largest job growth is projected in mining (NAICS 21; 1,608 jobs, or 7.9%), followed by accommodation & food services (NAICS 72; 830, or 2.5%), transportation & warehousing (NAICS 48-49; 556, or 4.3%), and wholesale trade (NAICS 42; 544, or 6.7%).

Over the last decade, Wyoming has experienced two periods of economic downturn: 2009Q1 to 2010Q1 and 2015Q2-2016Q4 (see Chapter 1). As noted in the introduction of this report, an *economic downturn* is defined as at least two consecutive quarters of over-the-year decrease in average monthly employment and total wages based on data from the Quarterly Census of Employment and Wages (QCEW). During both economic downturns, mining experienced substantial job losses, and employment in mining bottomed out in 2016Q3 with slightly less than 18,000 jobs, the fewest mining jobs in Wyoming since 2003Q1 (see Chapter 2). Since then, however, mining has seen increases in employment through the time of the base period used in these projections (2018Q2).

Projections are based on historic trends of how employment levels respond to market conditions. Oil prices were relatively favorable for Wyoming suppliers at the time of these projections, and therefore employment levels were expected to continue increasing. While the oil production conditions are currently relatively advantageous for Wyoming, the global energy supply/demand situation could change abruptly.

#### Find it Online

##### Wyoming Short-Term Projections

<https://doe.state.wy.us/LMI/projections.htm>

## SHORT-TERM PROJECTIONS

To put the 2020Q2 projected employment of 21,919 in mining into perspective, the most recent peak employment levels in the mining sector were approximately 28,000 in 2011Q4 and 2012Q1 when West Texas Intermediate crude oil prices hovered around \$100 per barrel (EIA, 2018). The 2016Q3 lows in employment were preceded by crude oil prices as low as \$30 per barrel. At the time these projections were produced, crude oil hovered around \$50 per barrel.

As shown in Table 7.1, health care & social assistance (NAICS 62) is projected to grow slightly by 339 jobs (1.0%). Growth in this sector has been tempered somewhat due to a decrease in Wyoming's population

each year from 2015 to 2018 (Liu, 2018). This is also a reason that employment in educational services (NAICS 61) is expected to only grow modestly by 490 jobs (1.7%).

At the three-digit subsector level, there is more variation in increases and decreases than at the two-digit sector level. For example, Wyoming's manufacturing sector (NAICS 31-33) is projected to add 251 jobs overall (2.6%), but some subsectors are expected to decrease or maintain a constant level of employment, while others are expected to grow faster than average (see Table 7.2, page 39). For example, food manufacturing (NAICS 311) is expected to decrease by 21.5% while fabricated

**Table 7.1: Short-Term Industry Projections for Wyoming, 2018Q2-2020Q2**

NAICS <sup>a</sup> Code	Industry	Base 2018Q2	Proj 2020Q2	Change, 2018Q2- 2020Q2	
				N	%
	<b>Total</b>	<b>275,415</b>	<b>280,876</b>	<b>5,461</b>	<b>2.0</b>
11	Agriculture, Forestry, Fishing & Hunting	2,879	2,994	115	4.0
21	Mining, Including Oil & Gas	20,311	21,919	1,608	7.9
22	Utilities	2,546	2,576	30	1.2
23	Construction	20,049	19,812	-237	-1.2
31-33	Manufacturing	9,506	9,757	251	2.6
42	Wholesale Trade	8,140	8,684	544	6.7
44-45	Retail Trade	29,351	29,093	-258	-0.9
48-49	Transportation & Warehousing	12,830	13,386	556	4.3
51	Information	3,584	3,506	-78	-2.2
52	Finance & Insurance	6,894	6,959	65	0.9
53	Real Estate & Rental & Leasing	4,196	4,327	131	3.1
54	Professional, Scientific, & Technical Services	9,152	9,478	326	3.6
55	Management of Companies & Enterprises	870	885	15	1.7
56	Admin. & Support & Waste Mgmt. & Remediation Svcs.	8,628	9,117	489	5.7
61	Educational Services	28,840	29,330	490	1.7
62	Health Care & Social Assistance	33,027	33,366	339	1.0
71	Arts, Entertainment, & Recreation	3,734	3,924	190	5.1
72	Accommodation & Food Services	33,028	33,858	830	2.5
81	Other Services (except Government)	7,329	7,399	70	1.0
	Government	30,521	30,462	-59	-0.2

<sup>a</sup>North American Industry Classification System.

Prepared by P. Manning, Research & Planning, Wyoming DWS, 3/5/19.

Source: Wyoming Short-Term Projections, 2018-2020.

## SHORT-TERM PROJECTIONS

metal product manufacturing machinery manufacturing (NAICS 332) is projected to grow by 15.8%.

### Occupational Projections

Occupations are classified using the Standard Occupational Classification (SOC) system. Short-term occupational projections show anticipated job growth and openings due to workers exiting the workforce or changing occupations from 2018Q2 to 2020Q2. Total openings are calculated by projected growth or decline

(*numeric change*) in the number of jobs in a given occupation, plus the number of workers leaving the workforce (*exits*), plus the number of workers changing occupations (*transfers*). In almost all occupations, the total number of job openings is largely dictated by the number of workers leaving the workforce and the number of workers changing occupations. The projected growth or decline is generally a small component of total openings.

For example, Table 7.3 (see page 41) shows that the number of waiters & waitresses (SOC 35-3031) in Wyoming

**Table 7.2: Wyoming Short-Term Industry Projections for Manufacturing (NAICS 31-33) at the 3-Digit Subsector Level, 2018Q2-2020Q2**

NAICS <sup>a</sup> Code	Industry	Base 2018Q2	Proj 2020Q2	Change, 2018Q2- 2020Q2	
				N	%
	<b>Total, All Industries</b>	<b>275,415</b>	<b>280,876</b>	<b>5,461</b>	<b>2.0</b>
31-33	Manufacturing	9,506	9,757	251	2.6
311	Food Manufacturing	637	500	-137	-21.5
312	Beverage & Tobacco Product Manufacturing	469	517	48	10.2
313	Textile Mills	ND	ND	ND	ND
314	Textile Product Mills	156	160	4	2.6
316	Leather & Allied Product Manufacturing	17	17	0	0.0
321	Wood Product Manufacturing	447	450	3	0.7
323	Printing & Related Support Activities	223	209	-14	-6.3
324	Petroleum & Coal Products Manufacturing	1,335	1,356	21	1.6
325	Chemical Manufacturing	1,783	1,831	48	2.7
326	Plastics & Rubber Products Manufacturing	293	317	24	8.2
327	Nonmetallic Mineral Product Manufacturing	849	853	4	0.5
331	Primary Metal Manufacturing	ND	ND	ND	ND
332	Fabricated Metal Product Manufacturing	1,519	1,759	240	15.8
333	Machinery Manufacturing	611	630	19	3.1
334	Computer & Electronic Product Manufacturing	283	275	-8	-2.8
335	Electrical Equipment, Appliance, & Component Manufacturing	230	232	2	0.9
336	Transportation Equipment Manufacturing	233	237	4	1.7
337	Furniture & Related Product Manufacturing	179	176	-3	-1.7
339	Miscellaneous Manufacturing	142	134	-8	-5.6

<sup>a</sup>North American Industry Classification System.

N/D = not discloseable due to confidentiality.

Prepared by P. Manning, Research & Planning, Wyoming DWS, 3/5/19.

Source: Wyoming Short-Term Projections, 2018-2020.

## SHORT-TERM PROJECTIONS

is projected to grow from 5,571 in 2018Q2 to 5,711 in 2020Q2, a gain of 140, or 2.5%. However, an additional 835 openings are projected due to individuals exiting the occupation, and an additional 1,279 openings are projected due to transfers, the total number of openings (growth plus exits plus transfers) is projected to be 2,254.

Figure 7.1 shows that the vast majority (74.9%) of projected openings were in

occupations that require a high school diploma or less. Jobs requiring a bachelor's degree comprised 12.5% of total openings, followed by jobs requiring a postsecondary certificate or some college but no degree at 8.4%.

Table 7.3 shows the five occupations with the greatest projected openings for each education group. In addition, Table 7.3 also shows the types of projected openings for each occupation (growth,

exits, transfers, and total openings).

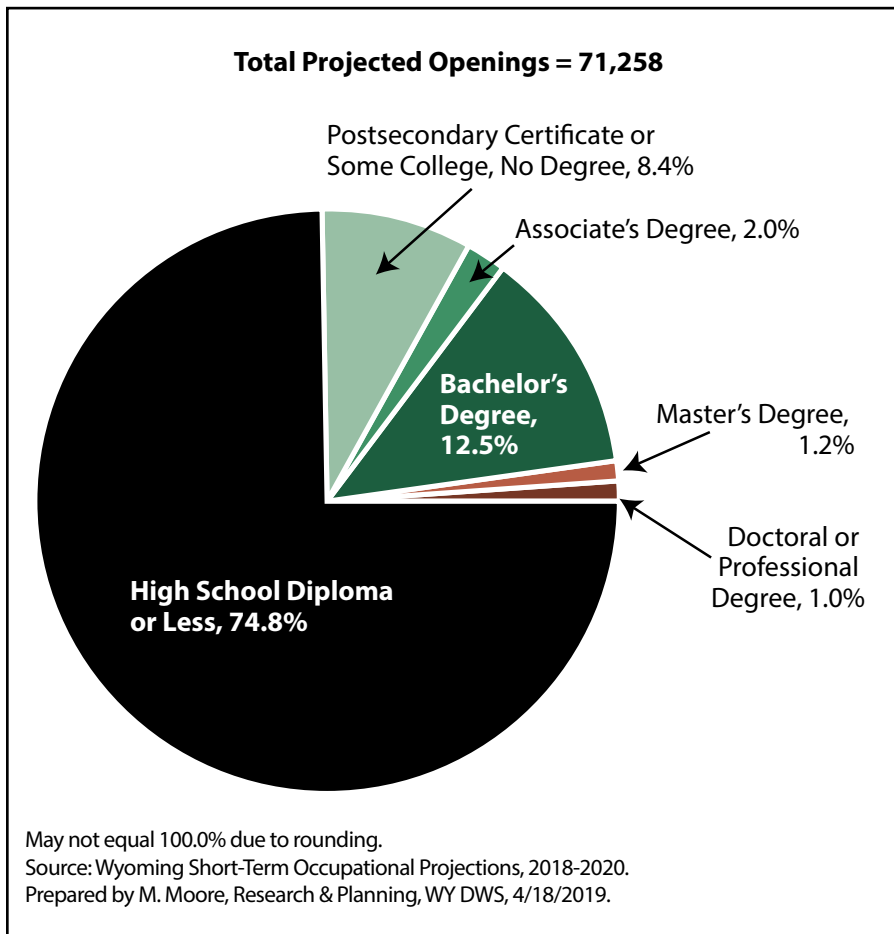
For example, among occupations requiring a bachelor's degree, the five occupations with the greatest number of projected openings were general & operations managers (952), substitute teachers (699), registered nurses (639), elementary school teachers, except special education (463), and accountants & auditors (389).

### Conclusion

Based on recent historic trends, Wyoming is projected to add more than 5,000 jobs from 2018Q2 to 2020Q2. Mining, including oil & gas, accommodation & food services, transportation & warehousing, and wholesale trade are projected to add the greatest number of jobs.

### Reference

U.S. Energy Information Administration. (2018). Spot prices for crude oil and petroleum products. Retrieved March 6, 2019, from <https://tinyurl.com/y9b4c4hu>



**Figure 7.1: Projected Total Job Openings in Wyoming by Educational Requirement, 2018-2020**

## SHORT-TERM PROJECTIONS

Table 7.3: Top 5 Occupations by Projected Total Openings for Wyoming by Educational Requirement, 2018-2020

SOC <sup>a</sup> CodeOccupation2018Q22020Q2				Number of Openings Due to:			
				Growth	Exits	Transfers	Total Openings
Total, All Occupations		294,461	300,165	5,704	27,753	37,801	71,258
High School Diploma or Less							
41-2011	Cashiers	6,819	6,729	-90	1,272	1,241	2,423
41-2031	Retail Salespersons	8,347	8,322	-25	1,055	1,323	2,353
35-3031	Waiters & Waitresses	5,571	5,711	140	835	1,279	2,254
35-3021	Combined Food Preparation & Serving Workers, Including Fast Food	4,803	4,982	179	866	906	1,951
43-9061	Office Clerks, General	6,432	6,499	67	759	739	1,565
Total, All Occupations		199,827	203,529	3,702	21,073	28,560	53,335
Postsecondary Certificate or Some College, No Degree							
43-3031	Bookkeeping, Accounting, & Auditing Clerks	3,353	3,373	20	416	323	759
31-1014	Nursing Assistants	3,095	3,133	38	378	315	731
25-9041	Teacher Assistants	3,018	3,064	46	334	277	657
49-3023	Automotive Service Technicians & Mechanics	1,747	1,777	30	111	213	354
39-5012	Hairdressers, Hairstylists, & Cosmetologists	775	766	-9	103	77	171
Total, All Occupations		26,325	26,950	625	2,481	2,848	5,954
Associate's Degree							
19-4093	Forest & Conservation Technicians	624	625	1	50	93	144
23-2011	Paralegals & Legal Assistants	531	551	20	36	72	128
19-4041	Geological & Petroleum Technicians	343	396	53	20	53	126
25-2011	Preschool Teachers, Except Special Ed.	697	689	-8	60	74	126
19-4031	Chemical Technicians	329	339	10	22	39	71
Total, All Occupations		7,249	7,417	168	491	780	1,439
Bachelor's Degree							
11-1021	General & Operations Managers	4,764	4,936	172	201	579	952
25-3098	Substitute Teachers	2,916	2,980	64	359	276	699
29-1141	Registered Nurses	5,068	5,190	122	294	223	639
25-2021	Elementary School Teachers, Exc. Special Ed.	2,915	2,966	51	194	218	463
13-2011	Accountants & Auditors	1,984	2,024	40	118	231	389
Total, All Occupations		49,918	50,927	1,009	3,073	4,840	8,922
Master's Degree							
21-1012	Educational, Guidance, School, & Vocational Counselors	582	598	16	43	77	136
25-4021	Librarians	387	392	5	43	29	77
21-1014	Mental Health Counselors	354	357	3	26	46	75
11-9032	Education Admin., Elem. & Secondary School	429	437	8	24	39	71
25-9031	Instructional Coordinators	336	342	6	32	28	66
Total, All Occupations		4,748	4,849	101	318	458	877
Doctoral or Professional Degree							
23-1011	Lawyers	1,024	1,041	17	41	45	103
25-1199	Postsecondary Teachers, All Other	446	455	9	33	34	76
29-1123	Physical Therapists	452	465	13	18	19	50
25-1071	Health Specialties Teachers, Postsecondary	209	220	11	16	16	43
19-3031	Clinical, Counseling, & School Psychologists	253	257	4	13	19	36
Total, All Occupations		6,394	6,493	99	317	315	731

Note: Growth + Exits + Transfers = Total Openings.

<sup>a</sup>Standard Occupational Classification.

Source: Wyoming Short-Term Occupational Projections, 2018-2020.

Prepared by P. Manning, Research &amp; Planning, WY DWS, 4/16/19.

## Chapter 8: Turnover

### Hiring Activity Spikes in Construction in 2018

by: Michael Moore, Editor

The Research & Planning (R&P) section of the Wyoming Department of Workforce Services publishes turnover data for Wyoming on a quarterly basis. By familiarizing themselves with the available data, employers, jobseekers, and policymakers can gain a better understanding of turnover trends at the state, county, and industry levels.

This chapter specifically focuses on how turnover data can be used to identify hiring trends in Wyoming. However, there are various components to turnover data, such as hires, exits, and continuous employment, among others. For more information on turnover data, please see <https://doe.state.wy.us/LMI/turnover.htm>.

Table 8.1 shows the average quarterly number of total hires in Wyoming by industry for 2017 and 2018. On average, there were 55,527 total hires per quarter in 2018 compared to 53,092 in 2017, an increase of 2,435, or 4.6%. Construction showed the greatest increase in total hires over the year, from 5,935 per quarter in 2017

to 7,076 in 2018 (1,141 total hires per quarter, or 19.2%).

Other industries with notable increases in total hires included professional & business services (416, or 7.9%), retail trade (246, or 3.6%), manufacturing

(177, or 14.5%), health care & social assistance (169, or 3.9%), and mining, including oil & gas (145, or 5.3%).

Figure 8.1 (see page 43) shows the seasonal differences in hiring in selected industries. For

**Table 8.1: Average Number of Quarterly Total Hires in Wyoming by Industry, 2017-2018**

NAICS <sup>a</sup> Code	Industry	2018	2017	Change	
				N	%
11	Agriculture	716	742	-26	-3.5
21	Mining, Including Oil & Gas	2,869	2,725	145	5.3
23	Construction	7,076	5,935	1,141	19.2
31-33	Manufacturing	1,392	1,215	177	14.5
42, 48-49, 22	Wholesale Trade, Trans., Warehousing, & Utilities	2,877	2,754	124	4.5
44-45	Retail Trade	7,120	6,874	246	3.6
51	Information	443	570	-127	-22.2
52-53	Financial Activities	1,469	1,482	-13	-0.9
54-56	Professional & Business Svcs.	5,672	5,257	416	7.9
61	Educational Services	3,182	3,071	111	3.6
62	Health Care & Social Assistance	4,547	4,378	169	3.9
71-72	Leisure & Hospitality	14,599	14,498	101	0.7
81	Other Services, Except Public Administration	1,531	1,516	16	1.0
92	Public Administration	1,930	1,876	54	2.9
99	Unclassified	105	202	-97	-47.8
<b>Total</b>		<b>55,527</b>	<b>53,092</b>	<b>2,435</b>	<b>4.6</b>

<sup>a</sup>North American Industry Classification System.

Source: Wyoming Wage Records Database.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.

#### Find it Online

##### Quarterly Turnover Data

<https://doe.state.wy.us/LMI/turnover.htm>

## TURNOVER

example, hiring activity in construction tends to peak during the second quarter each year, but industries such as mining and health care & social assistance don't fluctuate as much from one quarter to the next.

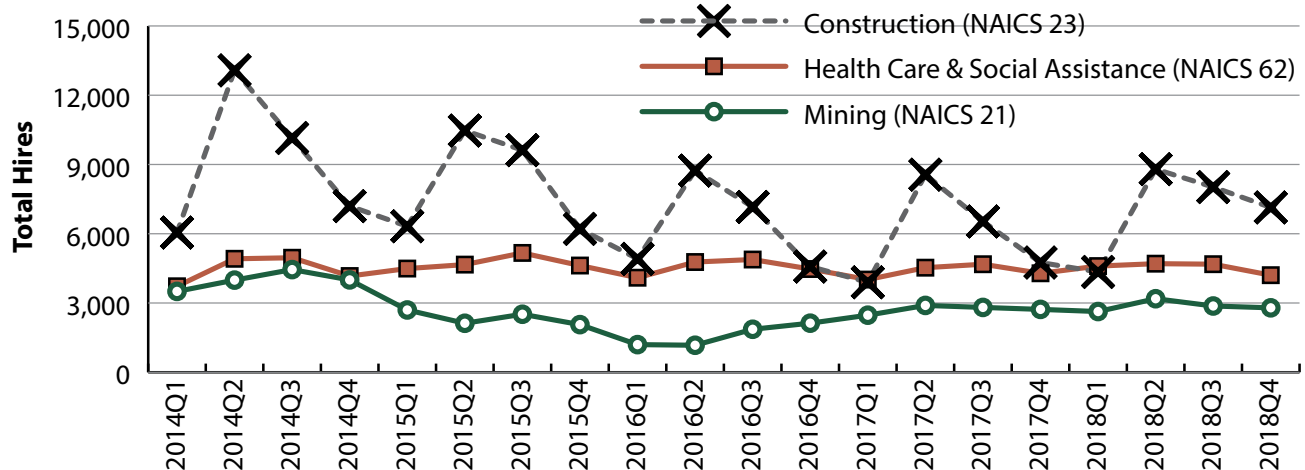
Table 8.2 shows that at the county level, the greatest percentage increase was seen in Converse County, as the average number of total hires increased from 952 in 2017 to 1,281 in 2018 (329, or 34.6%). As mentioned in Chapter 2, Converse County experienced 6.0% increase in average monthly employment from 2017 to 2018, so employers needed to hire more workers in order to fill jobs. The counties with the greatest increases in the average number of total hires were Laramie (490), Natrona (368), and Campbell (365) counties.

**Table 8.2: Average Number of Quarterly Total Hires in Wyoming by County of Employment, 2017-2018**

County	2018	2017	Change	
			N	%
Albany	3,078	2,824	254	9.0
Big Horn	715	721	-6	-0.9
Campbell	4,428	4,063	365	9.0
Carbon	1,595	1,346	249	18.5
Converse	1,281	952	329	34.6
Crook	418	444	-26	-5.7
Fremont	2,922	2,815	108	3.8
Goshen	677	662	15	2.3
Hot Springs	364	354	10	2.9
Johnson	673	632	42	6.6
Laramie	9,284	8,794	490	5.6
Lincoln	1,179	1,233	-54	-4.4
Natrona	8,059	7,691	368	4.8
Niobrara	143	147	-4	-2.7
Park	2,733	2,841	-108	-3.8
Platte	666	752	-86	-11.4
Sheridan	2,580	2,452	128	5.2
Sublette	783	838	-55	-6.5
Sweetwater	4,184	3,886	298	7.7
Teton	6,219	6,296	-78	-1.2
Uinta	1,670	1,678	-8	-0.5
Washakie	647	634	14	2.2
Weston	437	352	85	24.2
Unknown	812	690	123	17.8
<b>Total</b>	<b>55,527</b>	<b>53,092</b>	<b>2,435</b>	<b>4.6</b>

Source: Wyoming Wage Records Database.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.



Source: Wyoming Wage Records database, Research & Planning, WY DWS.

Prepared by M. Moore, Research & Planning, WY DWS, 4/22/19.

**Figure 8.1: Total Hires in Mining, Construction, and Health Care & Social Assistance in Wyoming, 2008Q1-2018Q3**

## Chapter 9: Commuting

# R&P Publishes New Interstate and Intercounty Commuting Data

by: Michael Moore, Editor

The Research & Planning (R&P) section of the Wyoming Department of Workforce Services has developed a new commuting pattern model that provides data on interstate and intercounty data for Wyoming and surrounding states. By linking several administrative databases, R&P was able to identify commuting patterns for Wyoming residents working in eight other states: Colorado, Montana, Nebraska, New Mexico, Ohio, South Dakota, Texas, and Utah.

Data on commuting patterns have many uses. Commuting patterns can help identify how much of a county's labor force travels to another county or state for work, and which counties rely more heavily on out-of-state workers. The data also provide an understanding of the flow of wages from one county or state to another.

### Methodology

The commuting pattern model discussed in this article was created by linking several administrative databases, including Wyoming Wage Records, Wyoming Department of Transportation (WYDOT) driver's license file, wage records from partner states with which R&P has data-sharing agreements, and more. By linking these databases, R&P was able to determine place of residence and place of employment.

Place of residence was identified using driver's license files that were obtained through memoranda of understanding with WYDOT and the

Colorado Department of Transportation. A person's residence across time was used to identify his or her place of residence. Expired and surrendered driver's licenses were excluded from this research. R&P was able to identify state and county of residence for individuals from Colorado and Wyoming. Place of residence was not available for workers from other states, so those individuals are listed as unknown on the county inflow tables in this report.

Place of employment was determined from wage records for Wyoming and the eight previously mentioned partner states. If an individual worked for an employer with multiple jobsites, place of employment was assigned to the most likely employer location based on distance, county of employer unit, and county of residence, among other variables. Places of employment were not mutually exclusive; for example, an individual who had wages in Wyoming and Colorado would be counted twice.

This chapter focuses specifically on data from first quarter 2018 (2018Q1); while intercounty commuting data were available for Wyoming as recently as 2018Q3, interstate commuting data for all eight partner states were only available through 2018Q1. Wyoming intercounty commuting patterns through 2018Q3 are available online at <https://doe.state.wy.us/>

### Find it Online

#### Quarterly Commuting Data

<https://doe.state.wy.us/LMI/commute.htm>

## COMMUTING

LMI/commute.htm, and more current interstate commuting patterns will be published as those data become available to R&P.

### Discussion

This chapter includes tables on *inflow* (workers commuting into a county of employment from a different county of residence or a different state; see Table 9.1) and *outflow* (workers commuting from a county of residence to another county of employment or one of eight partner states; see Table 9.2, page 46).

The statewide average inflow rate in 2018Q1 was 22.0%. This means that of the 288,596 people working in Wyoming, 22.0% commuted from another county or state (see Table 9.1). The average intercounty inflow rate was 9.8%, and the average interstate inflow rate was 12.2%.

Teton County, which has historically relied on large numbers of out-of-state workers to fill jobs in the leisure & hospitality industry, had the greatest inflow rate at 41.4% (see Table 9.1). Of the individuals commuting to Teton County for work, 1,844 (8.7%) came from another Wyoming county, 427 (2.0%) came from Colorado, and 6,545 (30.7%) came from

**Table 9.1: Total Persons Working in Wyoming by County of Employment, 2018Q1 (Inflow)**

County of Employment	Total	Commuting from Another WY County		Commuting from Another State		Total Inflow	
		N	%	N	%	N	%
<b>Total</b>	<b>288,596</b>	<b>28,148</b>	<b>9.8</b>	<b>35,259</b>	<b>12.2</b>	<b>63,407</b>	<b>22.0</b>
Albany	16,879	1,970	11.7	2,101	12.4	4,071	24.1
Big Horn	4,403	719	16.3	465	10.6	1,184	26.9
Campbell	27,253	3,378	12.4	2,178	8.0	5,556	20.4
Carbon	7,255	610	8.4	1,000	13.8	1,610	22.2
Converse	5,852	918	15.7	510	8.7	1,428	24.4
Crook	2,173	418	19.2	319	14.7	737	33.9
Fremont	16,566	994	6.0	1,582	9.5	2,576	15.5
Goshen	4,588	272	5.9	455	9.9	727	15.8
Hot Springs	2,100	352	16.8	143	6.8	495	23.6
Johnson	3,329	469	14.1	175	5.3	644	19.3
Laramie	49,760	2,436	4.9	7,805	15.7	10,241	20.6
Lincoln	6,421	596	9.3	690	10.7	1,286	20.0
Natrona	44,454	4,419	9.9	3,696	8.3	8,115	18.3
Niobrara	893	176	19.7	133	14.9	309	34.6
Park	13,236	1,208	9.1	955	7.2	2,163	16.3
Platte	3,738	530	14.2	431	11.5	961	25.7
Sheridan	13,831	1,368	9.9	1,045	7.6	2,413	17.4
Sublette	4,509	678	15.0	769	17.1	1,447	32.1
Sweetwater	23,501	2,177	9.3	2,152	9.2	4,329	18.4
Teton	21,306	1,844	8.7	6,972	32.7	8,816	41.4
Uinta	9,059	928	10.2	907	10.0	1,835	20.3
Washakie	3,970	589	14.8	285	7.2	874	22.0
Weston	2,424	283	11.7	211	8.7	494	20.4
Unknown	1,096	816	74.5	280	25.5	1,096	—

Source: Wyoming Commuting Patterns, Research & Planning, WY DWS.

Prepared by M. Moore, Research & Planning, WY DWS, 4/25/19.

## COMMUTING

an unknown state or country (see Table 9.3, page 47). Overall, \$67.2 million in total wages were paid to individuals who commuted into Teton County, with \$48.4 million paid to commuters from other states and countries, and \$18.8 million paid to commuters from other Wyoming counties.

Many of Wyoming's least populous counties have the greatest outflow rates (see Table 9.2). Nearly half (47.1%) of the 2,716 Crook County residents commuted to another county or state. Of the 3,079 Weston County residents with wages, 37.3% commuted to another county or state.

Uinta and Goshen counties had the greatest proportion of workers with wages in another state (12.0%; see Table 9.2). As shown in Table 9.4 (see page 47), 8.0% of all Uinta County residents with wages commuted to Utah for work. The average quarterly wage for Uinta County residents commuting to Utah was \$8,743, noticeably less than Uinta County residents who commuted to other Wyoming counties such as Sweetwater (\$18,889), Lincoln (\$15,193), and Natrona (\$13,295). This may be an indication that Uinta County residents aren't necessarily traveling to Utah for higher wages, and that other factors may influence their decisions to travel out of state for work.

**Table 9.2: Total Wyoming Residents Working in Wyoming or a Partner State<sup>a</sup> by County of Residence, 2018Q1 (Outflow)**

County of Residence	Total	Commuting to Another WY County		Commuting to Another State		Total Outflow	
		N	%	N	%	N	%
<b>Total</b>	<b>270,472</b>	<b>28,148</b>	<b>10.4</b>	<b>17,135</b>	<b>6.3</b>	<b>45,283</b>	<b>16.7</b>
Albany	15,563	1,637	10.5	1,118	7.2	2,755	17.7
Big Horn	4,469	1,006	22.5	244	5.5	1,250	28.0
Campbell	24,821	1,798	7.2	1,326	5.3	3,124	12.6
Carbon	6,909	885	12.8	379	5.5	1,264	18.3
Converse	6,643	1,923	28.9	296	4.5	2,219	33.4
Crook	2,716	1,003	36.9	277	10.2	1,280	47.1
Fremont	16,460	1,591	9.7	879	5.3	2,470	15.0
Goshen	5,052	587	11.6	604	12.0	1,191	23.6
Hot Springs	2,056	365	17.8	86	4.2	451	21.9
Johnson	3,731	848	22.7	198	5.3	1,046	28.0
Laramie	45,238	2,483	5.5	3,236	7.2	5,719	12.6
Lincoln	7,676	2,021	26.3	520	6.8	2,541	33.1
Natrona	41,005	2,783	6.8	1,883	4.6	4,666	11.4
Niobrara	808	165	20.4	59	7.3	224	27.7
Park	13,227	1,363	10.3	791	6.0	2,154	16.3
Platte	3,699	667	18.0	255	6.9	922	24.9
Sheridan	13,770	1,181	8.6	1,171	8.5	2,352	17.1
Sublette	3,994	651	16.3	281	7.0	932	23.3
Sweetwater	22,050	1,519	6.9	1,359	6.2	2,878	13.1
Teton	13,598	551	4.1	557	4.1	1,108	8.1
Uinta	9,772	1,381	14.1	1,167	12.0	2,548	26.1
Washakie	4,049	719	17.8	234	5.8	953	23.5
Weston	3,079	942	30.6	207	6.7	1,149	37.3
Unknown	1,096	79	90.8	8	9.2	87	—

<sup>a</sup>Partner states are those states with which Research & Planning has data-sharing agreements: Colorado, Montana, Nebraska, New Mexico, Ohio, South Dakota, Texas, and Utah.

Source: Wyoming Commuting Patterns, Research & Planning, WY DWS.

Prepared by M. Moore, Research & Planning, WY DWS, 4/25/19.

## Conclusion

The new commuting pattern model developed by R&P provides a large amount of data that provide a better understanding of interstate and intercounty commuting in Wyoming. Inflow and outflow tables similar to Tables

**Table 9.3: Total Persons Working in Teton County by Place of Residence, 2018Q1 (Inflow)**

Place of Residence	N	%	Total Wages	Average Quarterly Wage
<b>Total</b>	<b>21,306</b>	<b>100.0</b>	<b>\$218,310,755</b>	<b>\$10,246</b>
<b>Wyoming</b>	<b>14,334</b>	<b>67.3</b>	<b>\$169,905,871</b>	<b>\$11,853</b>
<b>Teton County</b>	<b>12,490</b>	<b>58.6</b>	<b>\$151,062,850</b>	<b>\$12,095</b>
<b>Other WY County</b>	<b>1,844</b>	<b>8.7</b>	<b>\$18,843,021</b>	<b>\$10,219</b>
Lincoln	1,167	5.5	\$12,893,229	\$11,048
Sublette	180	0.8	\$1,683,590	\$9,353
Fremont	95	0.4	\$851,983	\$8,968
Albany	86	0.4	\$643,742	\$7,485
Laramie	64	0.3	\$359,952	\$5,624
Sweetwater	52	0.2	\$476,042	\$9,155
Natrona	49	0.2	\$473,974	\$9,673
Park	40	0.2	\$292,294	\$7,307
Uinta	21	0.1	\$371,887	\$17,709
Sheridan	17	0.1	\$114,054	\$6,709
Carbon	13	0.1	\$133,547	\$10,273
Campbell	13	0.1	\$116,368	\$8,951
Johnson	13	0.1	\$124,882	\$9,606
Washakie	8	0.0	\$86,751	\$10,844
Converse	5	0.0	\$73,027	\$14,605
Hot Springs	5	0.0	\$45,119	\$9,024
Goshen	4	0.0	\$24,140	\$6,035
Big Horn	4	0.0	\$21,286	\$5,322
Platte	4	0.0	\$38,596	\$9,649
<b>Other States</b>	<b>6,972</b>	<b>32.7</b>	<b>\$48,404,884</b>	<b>\$6,943</b>
Colorado	427	2.0	\$3,488,359	\$8,169
Unknown	6,545	30.7	\$44,916,525	\$6,863
<b>Total Inflow</b>	<b>8,816</b>	<b>41.4</b>	<b>\$67,247,905</b>	<b>\$7,628</b>

Missing counties indicate no data or a count less than 3, making those data nondiscloseable due to confidentiality.

Source: Wyoming Commuting Patterns, Research & Planning, WY DWS.

Prepared by T. Glover and M. Moore, Research & Planning, WY DWS, 4/25/19.

9.3 and 9.4 in this chapter are available online at <https://doe.state.wy.us/LMI/commute.htm>.

**Table 9.4: Total Uinta County Residents Working in Wyoming or a Partner State<sup>a</sup> by Place of Employment, 2018Q1 (Outflow)**

Place of Employment	N	%	Total Wages	Average Quarterly Wage
<b>Total</b>	<b>9,772</b>	<b>100.0</b>	<b>\$98,142,951</b>	<b>\$10,043</b>
<b>Wyoming</b>	<b>8,605</b>	<b>88.1</b>	<b>\$86,271,090</b>	<b>\$10,026</b>
<b>Uinta County</b>	<b>7,224</b>	<b>73.9</b>	<b>\$64,118,040</b>	<b>\$8,876</b>
<b>Other WY County</b>	<b>1,381</b>	<b>14.1</b>	<b>\$22,153,050</b>	<b>\$16,041</b>
Sweetwater	819	8.4	\$15,469,951	\$18,889
Lincoln	142	1.5	\$2,157,386	\$15,193
Natrona	91	0.9	\$1,209,856	\$13,295
Laramie	60	0.6	\$535,630	\$8,927
Albany	51	0.5	\$210,810	\$4,134
Sublette	37	0.4	\$482,103	\$13,030
Unknown	32	0.3	\$292,410	\$9,138
Fremont	30	0.3	\$337,242	\$11,241
Campbell	21	0.2	\$389,869	\$18,565
Teton	21	0.2	\$371,887	\$17,709
Park	20	0.2	\$116,351	\$5,818
Carbon	12	0.1	\$141,154	\$11,763
Converse	8	0.1	\$77,882	\$9,735
Big Horn	7	0.1	\$28,209	\$4,030
Platte	6	0.1	\$152,405	\$25,401
Sheridan	6	0.1	\$43,679	\$7,280
Johnson	4	0.0	\$13,200	\$3,300
Hot Springs	3	0.0	\$57,252	\$19,084
Washakie	3	0.0	\$21,077	\$7,026
<b>Other States</b>	<b>1,167</b>	<b>11.9</b>	<b>\$11,871,861</b>	<b>\$10,173</b>
UT	785	8.0	\$6,862,999	\$8,743
TX	153	1.6	\$2,708,915	\$17,705
CO	134	1.4	\$1,545,023	\$11,530
NM	37	0.4	\$365,034	\$9,866
MT	35	0.4	\$249,131	\$7,118
NE	9	0.1	\$71,561	\$7,951
OH	9	0.1	\$61,647	\$6,850
SD	5	0.1	\$7,551	\$1,510
<b>Total Outflow</b>	<b>2,548</b>	<b>26.1</b>	<b>\$34,024,911</b>	<b>\$13,354</b>

Missing counties indicate no data or a count less than 3, making those data nondiscloseable due to confidentiality.

<sup>a</sup>Partner states are those states with which Research & Planning has data-sharing agreements: Colorado, Montana, Nebraska, New Mexico, Ohio, South Dakota, Texas, and Utah.

Source: Wyoming Commuting Patterns, Research & Planning, WY DWS.

Prepared by T. Glover and M. Moore, Research & Planning, WY DWS, 4/25/19.

## Chapter 10: New Hires

# Wyoming Employers Add Nearly 90,000 New Hires in 2017

by: Michael Moore, Editor; methodologist: Lisa Knapp, Senior Research Analyst

During any given quarter, Wyoming employers hire thousands of individuals to fill jobs. Among these total hires are *new hires*, or individuals who have never before worked for that specific employer.

The Wyoming New Hires Job Skills Survey is conducted by the Research & Planning section of the Wyoming Department of Workforce Services on a quarterly basis, based on a sample of new hires. The purpose of this survey is to

collect information about jobs that are filled in the state, such as occupation, typical job duties, wages and benefits, license and certification requirements, necessary job skills, employers' satisfaction with their new hires' skills, and more. In addition, by linking New Hires Survey data with several administrative databases, R&P is able to identify demographics of new hires, such as gender and age.

New Hires Survey results are published

annually, and contain a wealth of information about the state's job and labor markets. In 2017, there were 88,561 new hires in Wyoming. As shown in Table 10.1, the majority of all new hires worked in occupations with no formal educational requirement (52.0%) or in occupations that required a high school diploma or equivalent (33.0%); together, these two categories accounted for 85.0% of all new hires.

The remaining 13,292 new hires (15.0%) worked in occupations that required some education beyond a high school diploma, from some college courses or a postsecondary certificate to a master's degree or doctoral degree. As shown in Table 10.1, for example, 5.9% of all new hires occupations required a bachelor's degree, while 5.8% required a postsecondary certificate.

Table 10.1 also shows the differences in median hourly wage by educational requirement. Occupations with no formal educational

**Table 10.1: Total Number of New Hires in Wyoming by Typical Educational Requirement, 2017**

Education <sup>a</sup>	N	%	Median Hourly Wage
<b>Total<sup>b</sup></b>	<b>88,561</b>	<b>100.0</b>	<b>\$12.00</b>
No Formal Requirement	45,966	52.0	\$9.89
High School Diploma or Equivalent	29,218	33.0	\$15.44
More than a High School Diploma	13,292	15.0	\$21.21
Some College, No Degree	819	0.9	\$14.57
Postsecondary Certificate	5,116	5.8	\$16.77
Associate's Degree	893	1.0	\$16.79
Bachelor's Degree	5,224	5.9	\$23.57
Master's Degree	590	0.7	\$26.63
Doctoral or Professional Degree	649	0.7	\$46.66

<sup>a</sup>Typical education required to enter the occupation as identified by O\*Net.

<sup>b</sup>May not sum to the total due to rounding.

Source: Wyoming New Hires Job Skills Survey.

Prepared by L. Knapp and M. Moore, Research & Planning, WY DWS, 4/15/19.

## Find it Online

### Wyoming New Hires Job Skills Survey Data

<https://doe.state.wy.us/LMI/newhires.htm>

requirement had a median hourly wage of \$9.89, compared to \$16.77 for jobs that required a postsecondary certificate and \$23.57 for jobs that required a bachelor's degree.

This chapter provides a few examples of the type of information available from the New Hires Survey. Comprehensive new hires data for 2017 are available online at <https://doe.state.wy.us/LMI/newhires.htm>.

## Discussion

For this chapter, five occupations were selected to illustrate the type of information available from the New Hires Survey: computer user support specialists, paralegals & legal assistants, registered nurses, heating, air conditioning & refrigeration mechanics, and truck drivers, heavy & tractor-trailer (see Table 10.2). These five occupations were chosen for several reasons. First, each occupation had at least 100 estimated new hires, and the occupations required varying degrees of postsecondary education. In addition, these five occupations work in different sectors of Wyoming's economy with

different skillsets, and the demographics of the individuals hired for these jobs were noticeably different from one another. The educational requirements discussed in this article represent the typical level of education required to enter a specific occupation as identified by the U.S. Bureau of Labor Statistics.

The occupation that required more than a high school diploma with the greatest number of new hires was truck drivers, heavy & tractor-trailer (2,956; see Table 10.2). All five occupations discussed in this chapter had greater hourly wages than the overall total (\$12.00) on average. Registered nurses had the highest wage (\$26.00) of the five occupations.

Figure 10.1 (see page 50) shows new hires characteristics such as benefits offered, full- and part-time job status, and retainment.

In general, occupations requiring more than a high school diploma were offered benefits at a greater rate than the statewide average. Computer user support specialists were far more likely than the other occupations to be offered benefits such as health insurance, access to a

**Table 10.2: Total Number of New Hires in Wyoming by Typical Educational Requirement, 2017**

SOC <sup>a</sup> Code	Occupation	Education <sup>b</sup>	N	Median Hourly Wage
<b>Total, All Occupations</b>			<b>88,561</b>	<b>\$12.00</b>
<b>Subtotal, Occupations Requiring More than a High School Diploma</b>			<b>13,292</b>	<b>\$21.21</b>
15-1151	Computer User Support Specialists	Some College, No Degree	250	\$18.00
23-2011	Paralegals & Legal Assistants	Associate's Degree	127	\$15.00
29-1141	Registered Nurses	Bachelor's Degree	846	\$26.00
49-9021	Heating, Air Conditioning, & Refrigeration Mechanics	Postsecondary Certificate	257	\$15.00
53-3032	Truck Drivers, Heavy & Tractor-Trailer	Postsecondary Certificate	2,956	\$18.25

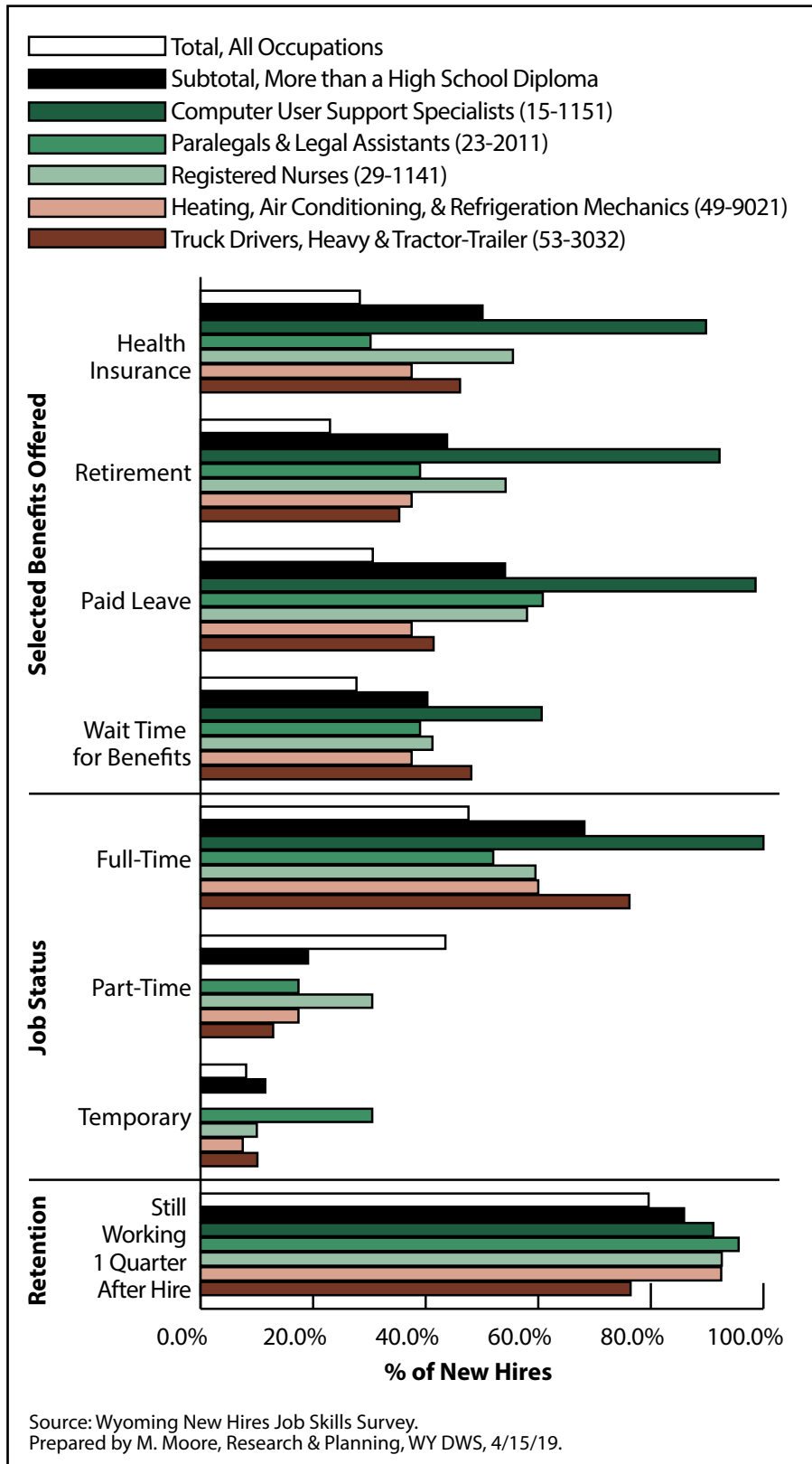
<sup>a</sup>Standard Occupational Classification.

<sup>b</sup>Typical education required to enter the occupation as identified by O\*Net.

Source: Wyoming New Hires Job Skills Survey.

Prepared by L. Knapp and M. Moore, Research & Planning, WY DWS, 4/15/19.

## NEW HIRES



**Figure 10.1: 2017 Wyoming New Hires: Percent Offered Selected Benefits, Job Status, and Percent Still Working One Quarter After Hire for Occupations Requiring More than a High School Diploma**

retirement plan, and paid leave. For example, 89.8% of computer user support specialists were offered health insurance, compared to 30.2% of paralegals & legal assistants and 55.5% of registered nurses.

In terms of hours worked, 100.0% of all computer user support specialists were hired to work full-time, compared to 76.2% of truck drivers and 59.5% of registered nurses. Paralegals & legal assistants had the highest percentage of new hires who were hired on a temporary basis (30.5%)

*Retention* refers to the percentage of new hires still working for the same employer one quarter after hire. The overall retainment rate for new hires was 79.6%, compared to 85.9% of new hires in occupations requiring more than a high school diploma. All five of the occupations in Figure 10.1 had retainment rates of greater than 90%, except truck drivers (76.4%).

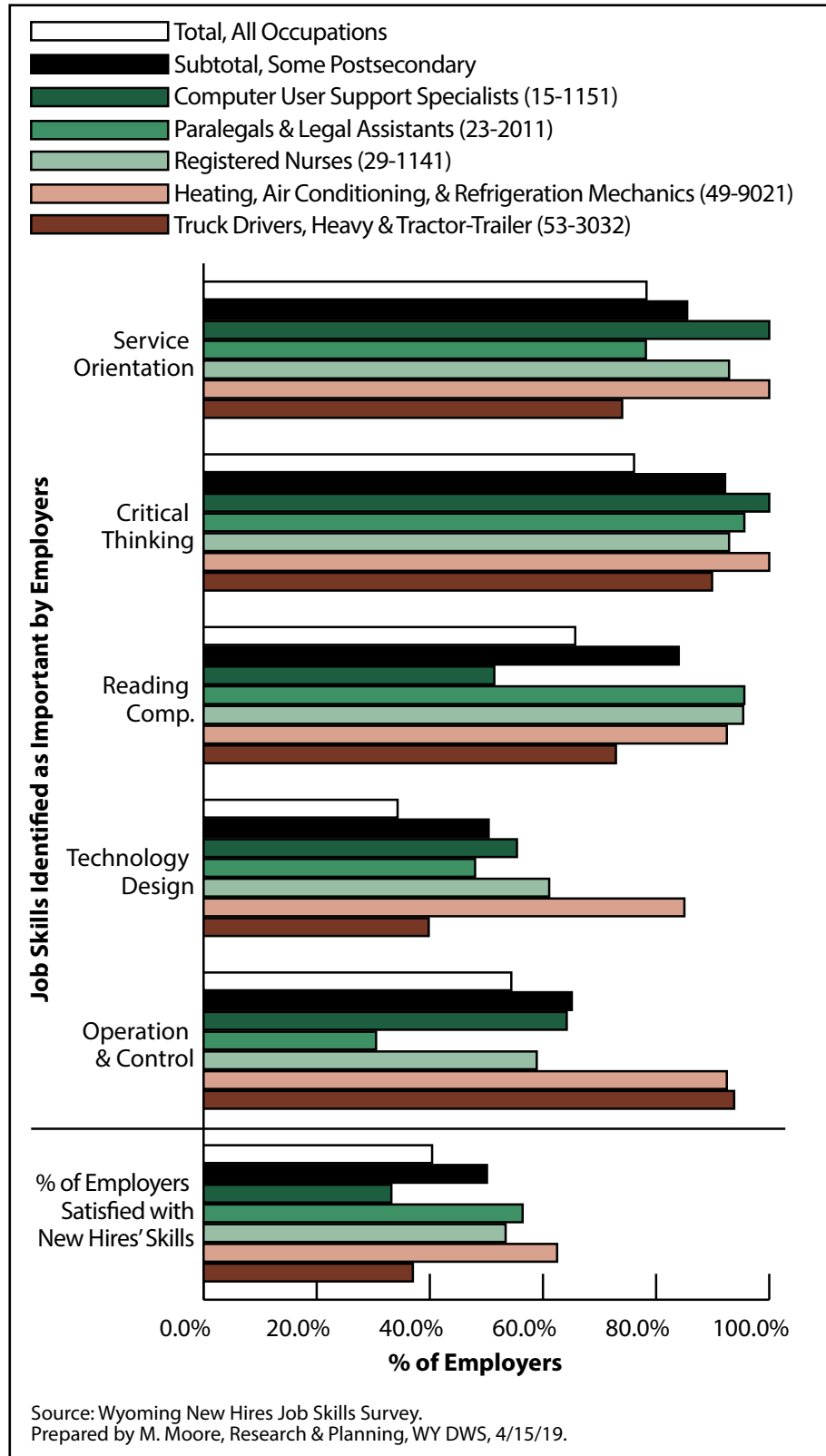
The New Hires Survey asks employers to rate the level of importance of five selected skills in terms of performing a job's duties and activities: service orientation, critical thinking, reading

## NEW HIRES

comprehension, technology design, and operation & control. Figure 10.2 shows that 100.0% of the employers who responded identified service orientation and critical thinking as important skills for computer user support specialists and heating, air conditioning, & refrigeration mechanics. Technology design was most important for heating, air conditioning, & refrigeration mechanics, while operation & control was most important for truck drivers.

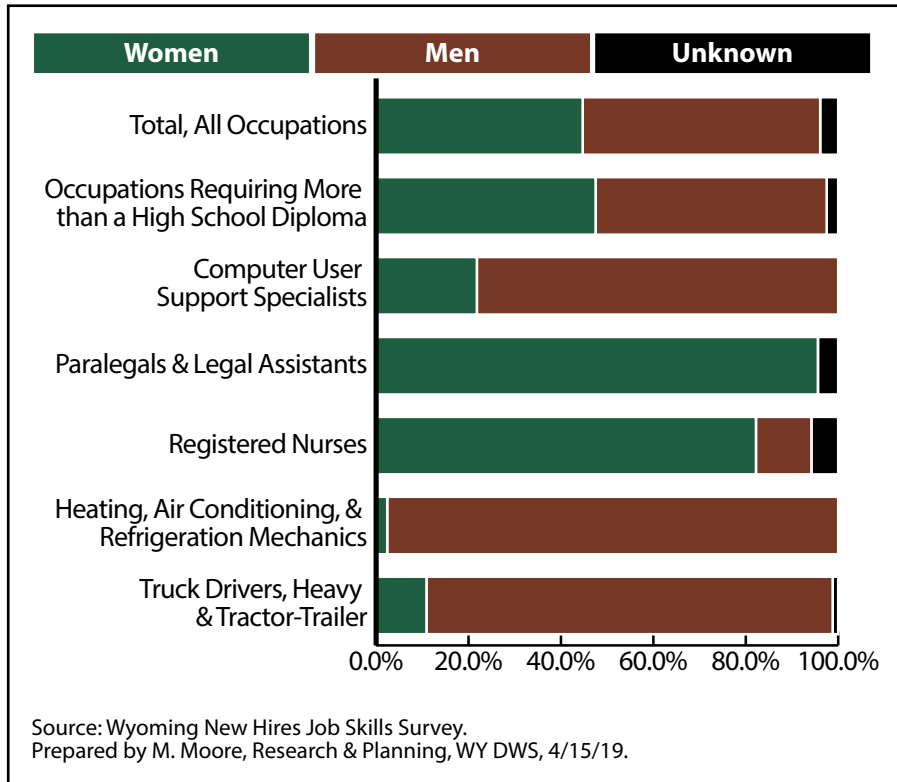
Employers are also asked to rate their satisfaction with new hires' skills. As shown in Figure 10.2, heating, air conditioning, & refrigeration mechanics had the greatest percentage of employers satisfied with their skills (62.5%), while computer user support specialists had the lowest (33.2%).

Figure 10.3 (see page 52) shows the difference in gender among the selected occupations. Women made up the majority of new hires in paralegal & legal assistants (95.6%) and registered nurses (82.2%), while men made up the majority of heating, air conditioning, & refrigeration mechanics (97.6%) and truck drivers (87.9%).

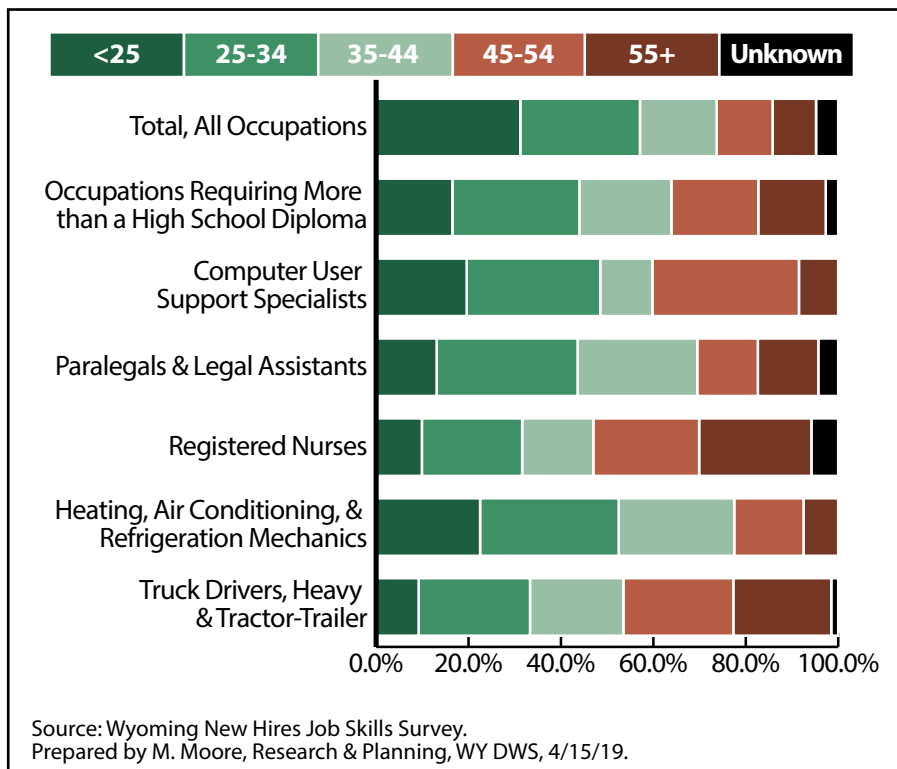


**Figure 10.2: 2017 Wyoming New Hires: Percent of Employers Who Identified Selected Job Skills as Important and Percent of Employers Who Indicated they Were Satisfied with New Hires' Skills for Occupations Requiring More than a High School Diploma**

## NEW HIRES



**Figure 10.3: Wyoming New Hires in Selected Occupations Requiring More than a High School Diploma by Gender, 2017**



**Figure 10.4: Wyoming New Hires in Selected Occupations Requiring More than a High School Diploma by Age Group, 2017**

Figure 10.4 shows the ages of new hires in the selected occupations. While individuals age 55 or older made up 9.4% of all new hires, some occupations had a substantially greater proportion of new hires age 55 or older, such as registered nurses (24.3%) and truck drivers (21.2%).

### Conclusion

The data from the Wyoming New Hires Job Skills Survey have many practical uses:

- Students and jobseekers can use the data to identify which occupations employers are hiring for, which have the highest wages, and which are most likely to offer selected benefits.
- Employers can use the data to compare wages and benefits for occupations.
- Training providers and policymakers can use the data to determine training needs by identifying skills that employers have identified as important and how satisfied employers are with the skills of their new hires.

## Chapter 11: Benefits

### Fewer Jobs Offered Access to Benefits

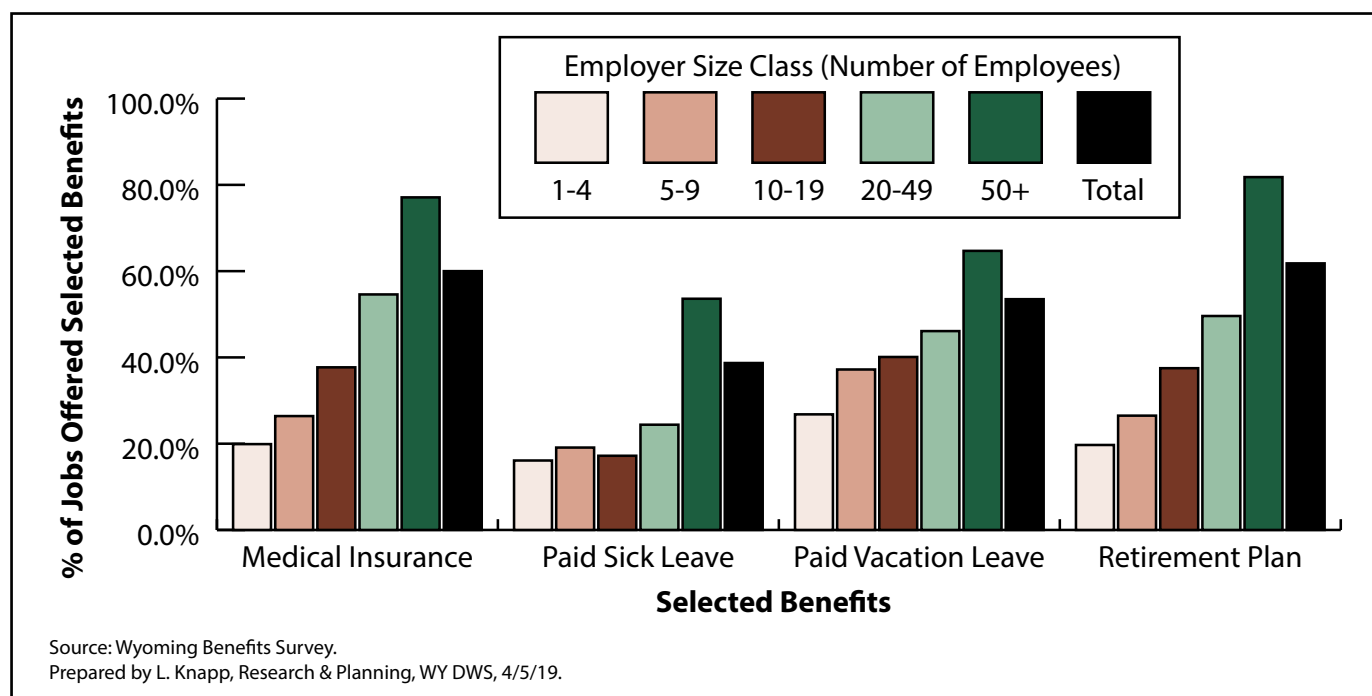
by: Lisa Knapp, Senior Research Analyst

The Wyoming Benefits Survey is used to collect information from state businesses about the benefits offered to their employees. The data from this survey are analyzed in terms of employer size class, industry, substate region, and as a time series. The results are published annually at <https://doe.state.wy.us/LMI/benefits.htm>.

Figure 11.1 shows the proportion of jobs offered selected benefits in 2017Q3. In general, a greater proportion of jobs in larger companies were offered these benefits. For example, approximately 19.9% of jobs in companies with 1-4 employees were offered medical insurance compared to 77.1% of those working for employers with 50 or more employees. Similarly 26.5% of jobs in companies with 5-9 employees were offered retirement plans while 81.8% of jobs in

companies with 50 or more employees were offered the benefit.

Table 11.1 (see page 54) shows the proportion of jobs offered selected benefits by industry. This proportion varied quite a bit by industry. For example, in natural resources & mining industry, 89.8% of jobs were offered medical insurance, 60.3% were offered paid sick leave, 82.0% were offered paid vacation leave, and 84.2% were offered paid retirement plans. In comparison, 27.0% of jobs in leisure and hospitality were offered medical insurance, 9.4% were offered paid sick leave, 30.7% were offered paid vacation leave, and 28.8% were offered retirement plans. The largest proportion of jobs offered medical insurance were in natural resources and mining (89.8%), education (81.0%), state and local government (78.4%), and manufacturing



**Figure 11.1: Percent of Wyoming Jobs Offered Selected Benefits by Employer Size Class, 2017Q3**

## BENEFITS

and wholesale trade (74.9% each). The largest proportions of jobs offered retirement plans were also found

in natural resources & mining (84.2%), education (84.2%), and state and local government (83.9%), as well

as in health care & social assistance (72.6%).

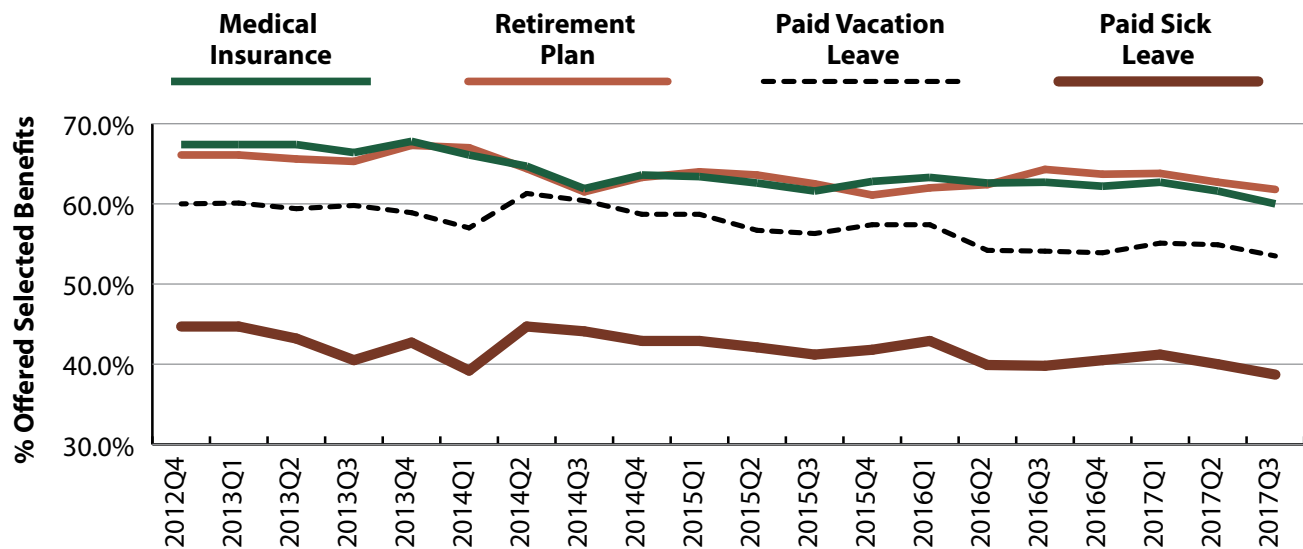
Figure 11.2 shows the change in the proportion of jobs offered selected benefits from 2012Q4 to 2017Q3. The proportion of jobs offered each benefit declined over this period. Among jobs offered medical insurance, 67.4% were offered the benefit in 2012Q4 and only 60.0% were offered the benefit in 2017Q3. The proportion of jobs offered paid sick leave declined from 44.7% in 2012Q4 to 38.7% in 2017Q3, and the proportion of jobs offered paid vacation leave declined from 60.0% in 2012Q3 to 53.5% in 2017Q4. Finally, 66.1% of jobs were offered retirement plans in 2012Q4 compared to 61.8% in 2017Q3.

**Table 11.1: Percent of Total Wyoming Jobs Offered Selected Benefits by Industry, 2017Q3**

Industry	Medical Insurance	Paid Sick Leave	Paid Vacation Leave	Retirement Plan
Natural Resources & Mining	89.8	60.3	82.0	84.2
Construction	50.8	13.5	42.9	46.4
Manufacturing	74.9	22.5	60.6	69.0
Wholesale Trade	74.9	39.3	59.0	71.1
Retail Trade	46.6	24.6	45.4	56.5
Transportation, Warehousing, & Utilities	72.8	38.5	69.2	65.6
Information	72.9	57.0	68.3	71.2
Financial Activities	63.5	28.6	43.8	64.4
Professional & Business Services	50.5	24.3	41.1	50.8
Educational Services	81.0	80.5	84.4	84.2
Health Care & Social Assist.	66.6	44.0	37.8	72.6
Leisure & Hospitality	27.0	9.4	30.7	28.8
Other Services	33.3	22.8	39.4	35.0
State & Local Government	78.4	78.1	79.2	83.9
<b>Total</b>	<b>60.0</b>	<b>38.7</b>	<b>53.5</b>	<b>61.8</b>

Source: Wyoming Benefits Survey.

Prepared by L. Knapp, Research & Planning, WY DWS, 4/5/19.



Source: Wyoming Benefits Survey.

Prepared by L. Knapp, Research & Planning, WY DWS, 4/5/19.

**Figure 11.2: Percent of Total Wyoming Jobs Offered Selected Benefits by Year and Quarter, 2012Q4-2017Q3**

## Chapter 12: Census of Fatal Occupational Injuries

### Wyoming Occupational Fatalities Decrease to 20 in 2017

by: David Bullard, Senior Economist

The number of occupational fatalities in Wyoming fell from 34 in 2016 to 20 in 2017 — a decrease of 14 deaths, or 41.2%, according to data from the Census of Fatal Occupational Injuries (CFOI), a joint effort of the U.S. Bureau of Labor Statistics and state labor market agencies, such as the Research & Planning (R&P) section of the Wyoming Department of Workforce Services.

In 2017, occupational fatalities were at their lowest level since 2009 (see Figure 12.1). Variations in fatalities from year to year are, to some extent, the result of the

random nature of work-related accidents. Furthermore, there is not always a direct relationship between workplace fatalities and workplace safety. For example, suicides and homicides that occur in the workplace are included as occupational fatalities. Occupational fatalities are counted in the state where the injury occurred, not necessarily the state of residence or the state of death.

In 2017, six deaths occurred in trade, transportation, & utilities (or 30.0% of all deaths; see Table 12.1, page 56). Five deaths occurred in the government sector (25.0%)

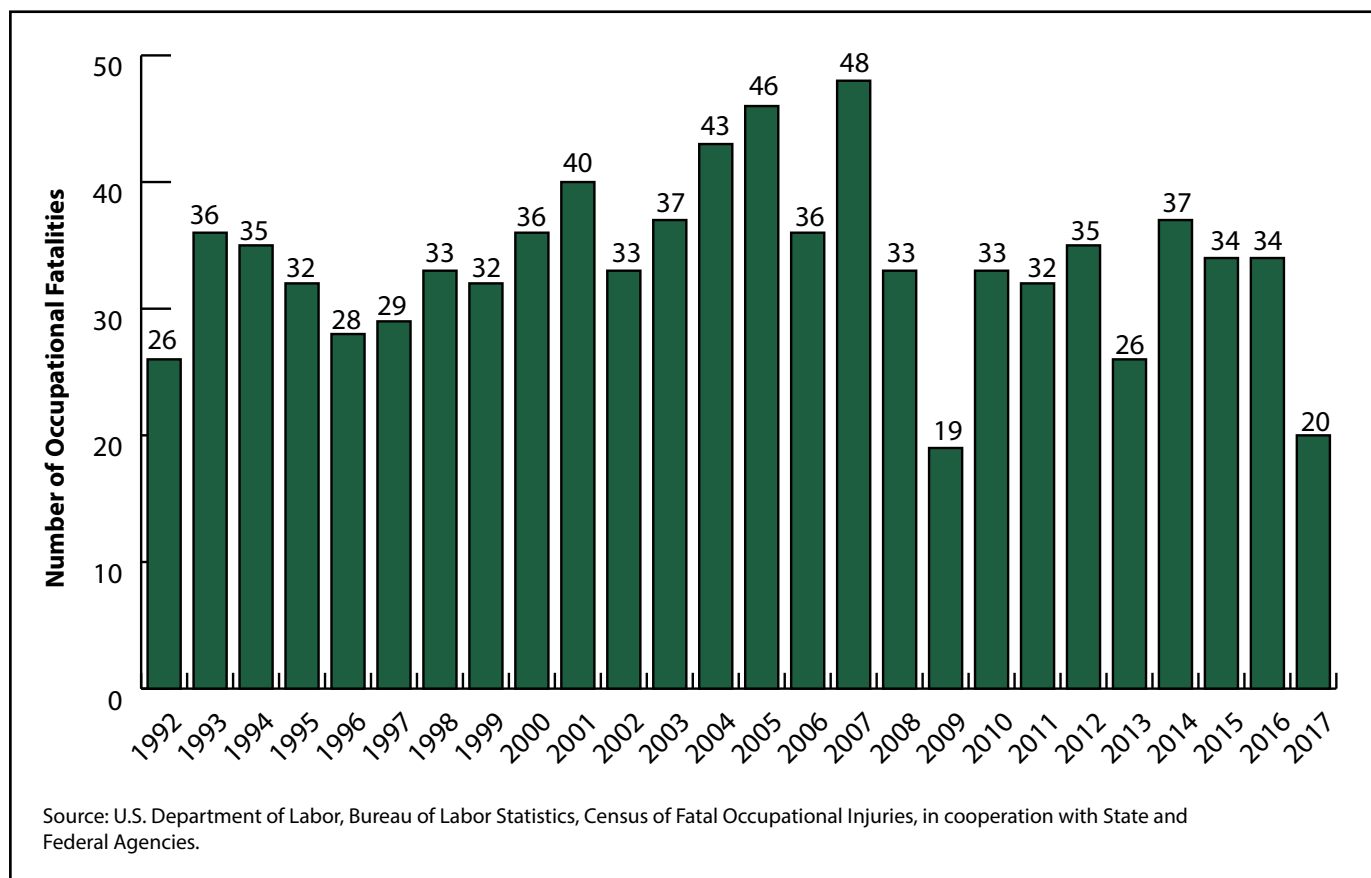


Figure 12.1: Wyoming Occupational Fatalities, 1992-2017

## CENSUS OF FATAL OCCUPATIONAL INJURIES

and four deaths occurred in natural resources & mining (20.0%). More than half (55.0%) of workplace

fatalities were the result of transportation incidents.

From 2003 to 2017,

transportation incidents made up 56.3% of all workplace deaths (see Figure 12.2). Transportation incidents include highway crashes as well as incidents involving aircraft and other vehicles.

**Table 12.1: Wyoming Occupational Fatalities by Selected Industry, 2017**

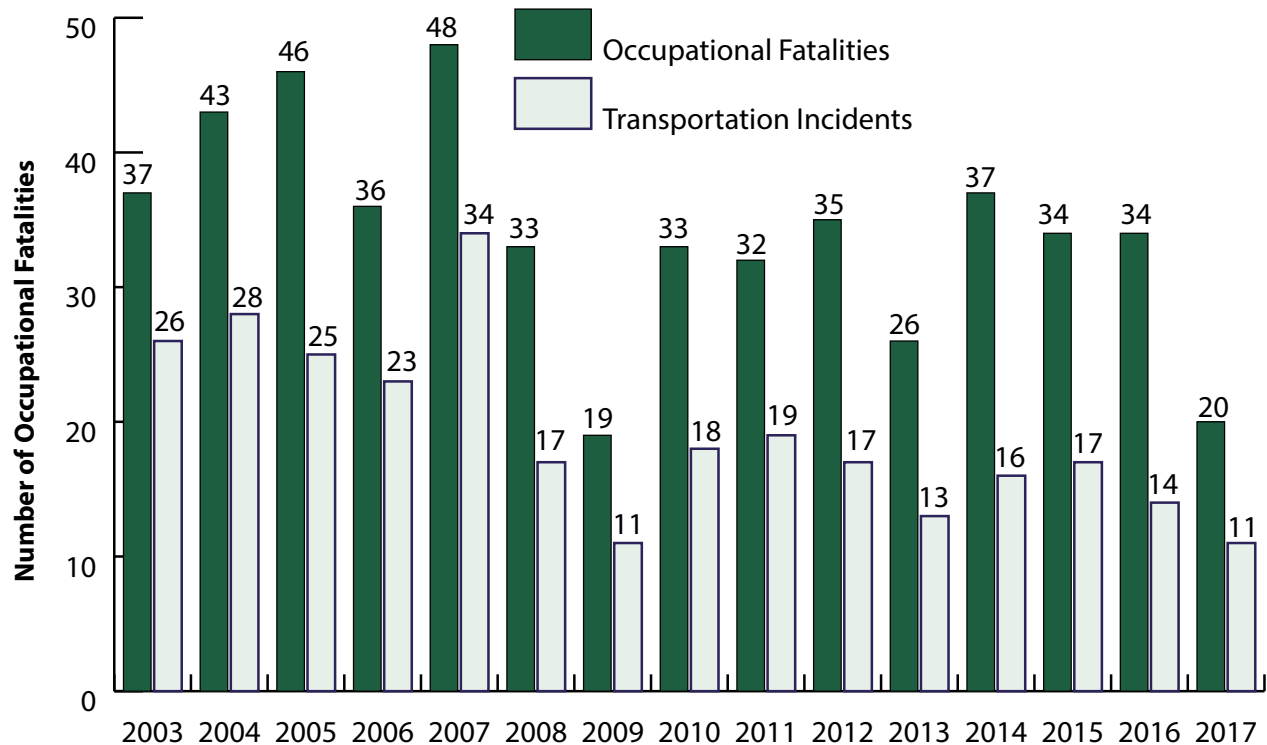
Industry	N	Column %
<b>Total</b>	<b>20</b>	<b>100.0</b>
Total Private	15	75.0
Natural Resources & Mining	4	20.0
Mining, Quarrying, & Oil & Gas Extraction	3	15.0
Trade, Transportation, & Utilities	6	30.0
Transportation & Warehousing	6	30.0
All Other Industries	5	25.0
Government	5	25.0

Source: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal Agencies, Census of Fatal Occupational Injuries.

### Find It Online

#### Census of Fatal Occupational Injuries

<https://doe.state.wy.us/LMI/CFOI/toc.htm>



Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries, in cooperation with State and Federal Agencies.

From 2003 to 2010 transportation incidents are based on the BLS Occupational Injury and Illness Classification System (OIICS). From 2011 to 2017 transportation incidents are based on OIICS 2.01. Due to substantial differences between OIICS 2.01 and the original OIICS structure, data for transportation incidents from 2011 forward should not be compared to prior years.

**Figure 12.2: Wyoming Occupational Fatalities and Transportation Incidents, 2003-2017**

## Chapter 13: Survey of Occupational Injuries and Illnesses

### Wyoming's Nonfatal Occupational Injury and Illness Incidence Rate Essentially Unchanged in 2017

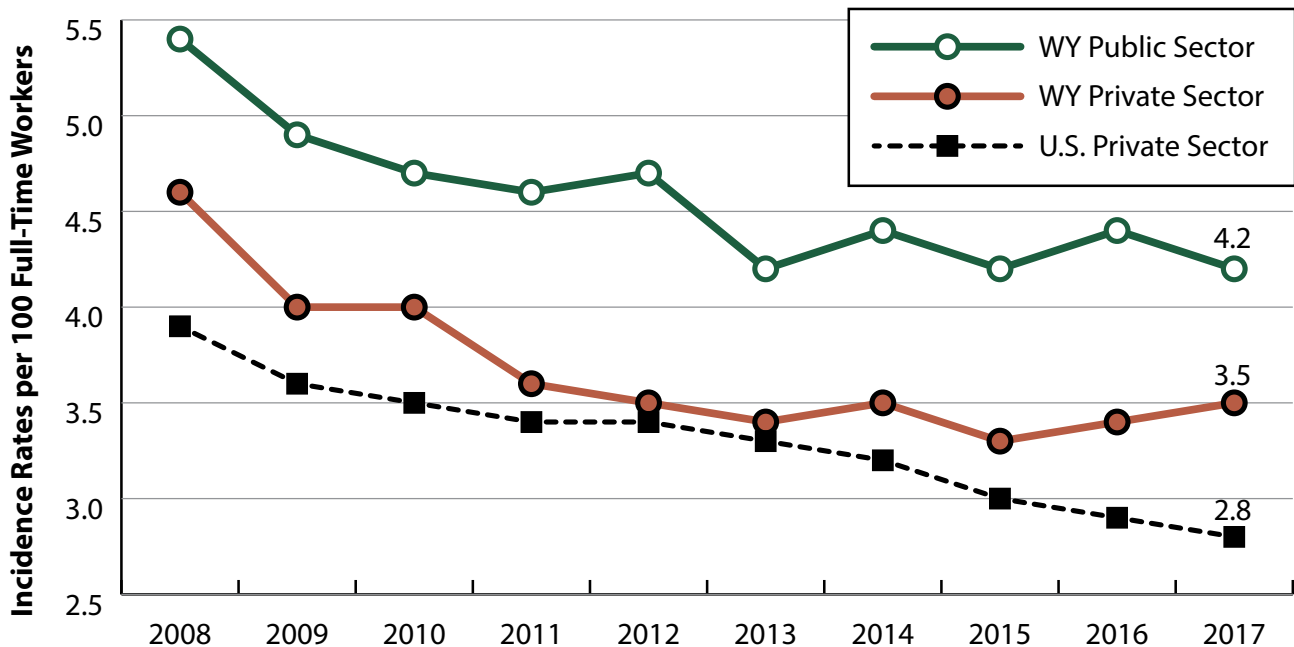
by: Chris McGrath, Senior Statistician

Wyoming's nonfatal occupational injury and illness incident rate across all industries was 3.7 in 2017, compared to 3.6 in 2016, according to the Survey of Occupational Injuries and Illnesses (SOII). The Research & Planning (R&P) section of the Wyoming Department of Workforce Services conducts the SOII for Wyoming in cooperation with the U.S. Bureau of Labor Statistics (BLS) annually as part of a nationwide data collection effort. Incidence rates represent the number of injuries and illnesses per 100 full-time workers.

As shown in Figure 13.1, the incidence rate for Wyoming's private sector in 2017 was 3.5, higher than the U.S. private sector rate of 2.8 but lower than the Wyoming public sector rate of 4.2. Since 2011, the incidence rate for Wyoming's private sector has remained between 3.3 and 3.6.

#### Find it Online

**Survey of Occupational Injuries and Illnesses**  
<https://doe.state.wy.us/LMI/OSH/toc.htm>



Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries & Illnesses in cooperation with participating state agencies.

Prepared by: C. McGrath, Research & Planning, WY DWS, 12/5/18.

**Figure 13.1: Incidence Rates per 100 Full-Time Workers for Total Nonfatal Occupational Injuries and Illnesses, Wyoming and the U.S., 2008-2017**

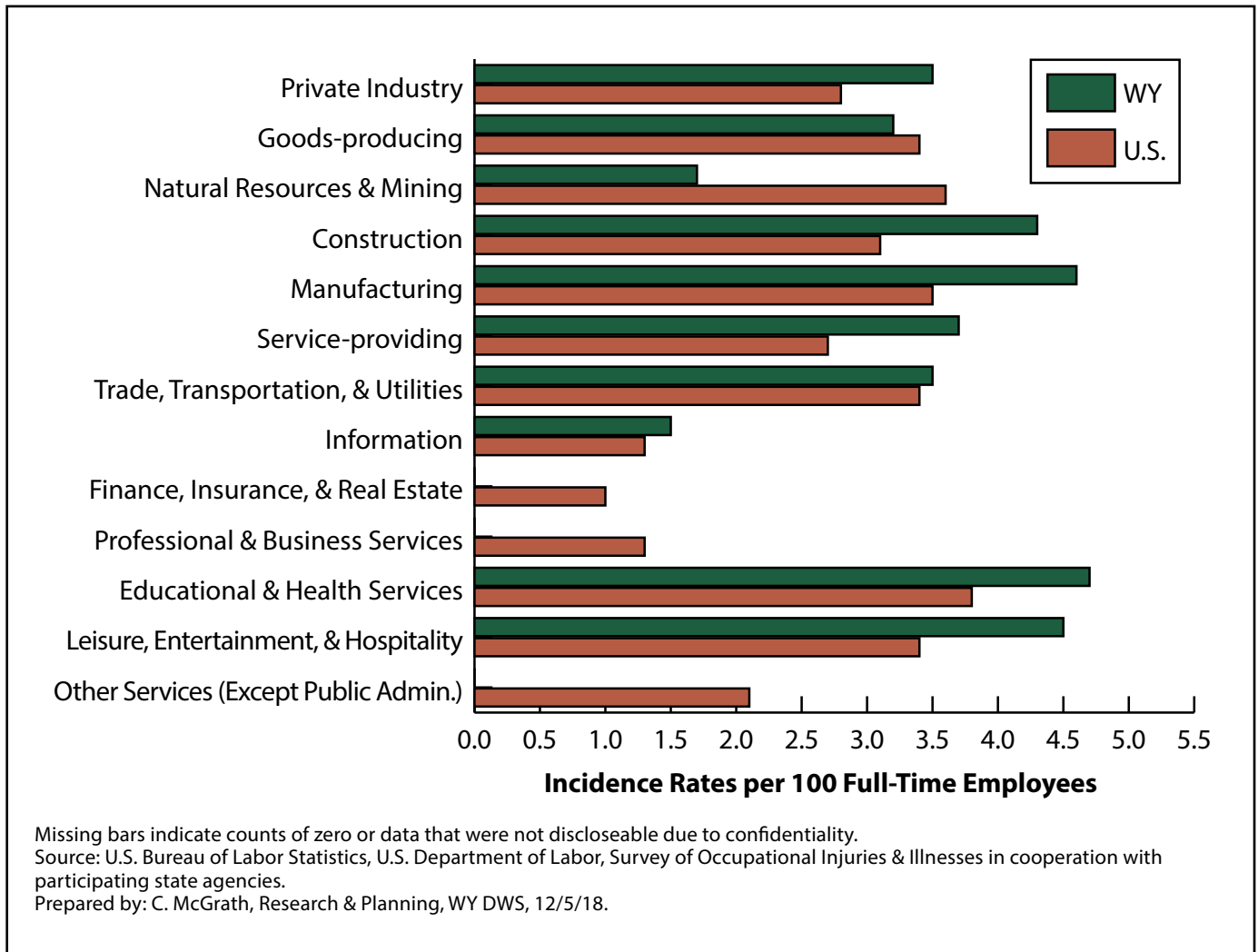
## SURVEY OF OCCUPATIONAL INJURIES AND ILLNESSES

Figure 13.2 shows incidence rates by major industry sector for Wyoming and the United States. Construction and manufacturing are two industries that typically have a high incidence rate in Wyoming. In 2017, Wyoming had incidence rates of 4.3 and 4.6 in construction and manufacturing, respectively, while the incidence rates for the United States were 3.1 for construction and 3.5 for manufacturing.

These estimates are all recordable nonfatal occupational injuries and illnesses which include: days away

from work cases, days of job transfer or restriction cases, and other recordable cases. Non-recordable cases include, but are not limited to, first aid cases, such as an adhesive strip on a cut, or a water flush of an eye to remove a foreign object. For further information on recordable and non-recordable cases, visit <https://www.bls.gov/iif/oshdef.htm>.

More data, figures, and tables from the Survey of Occupational Injuries and Illnesses for Wyoming are available online at <https://doe.state.wy.us/LMI/OSH/toc.htm>.



**Figure 13.2: Incidence Rates per 100 Full-Time Workers for Total Nonfatal Occupational Injuries and Illnesses by Major Industry Sector in Wyoming and the U.S., 2017**

## Chapter 14: Workers' Compensation Claims

### Workers' Comp Claims Continue Downward Trend

by: Patrick Manning, Principal Economist

From 2008Q1 to 2018Q3, the rate of workers' compensation claims continued to trend downward (see Figure 14.1). The average quarterly injury rate across this time period was 11.7 claims per 1,000 workers.

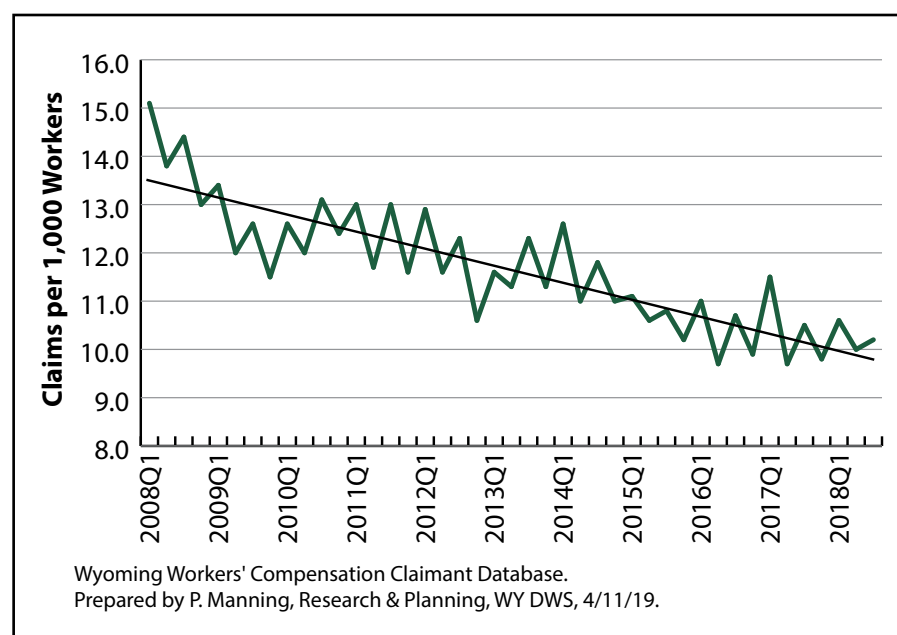
The rates of injury discussed in this chapter are based on the Wyoming Workers' Compensation Claimant Database. Therefore, minor injuries or injuries occurring within industries not covered by worker's compensation are not included.

During the period discussed in this article, the highest rate of injury was 15.1 per 1,000 workers in 2008Q1. In 2016Q2, the injury rate dropped below 10 injuries per 1,000 workers (9.7) for the first time in over nine years. The last year and a half has experienced a relatively flat trend, with an average injury rate of 10.1.

Table 14.1 shows the rate of injury by industry from 2008Q1 to 2108Q3. The manufacturing industry experienced the most injuries per 1,000 workers at 18.2, while the financial activities

sector had the lowest injury rate of 4.8 per 1,000 workers.

Figure 14.2 (see page 60) shows the injury rate



**Figure 14.1: Rate of Injury per 1,000 Workers Across All Industries in Wyoming, 2008Q1-2018Q3**

**Table 14.1: Average Rate of Injury per 1,000 Workers for Selected Industries in Wyoming, 2008Q1-2018Q3**

NAICS Group	Average Rate of Injury per 1,000 Workers <sup>a</sup>	Average Employment <sup>b</sup>
Manufacturing	18.2	9,412
Construction	14.7	22,477
Natural Resources & Mining	11.5	27,459
Education & Health Services	11.3	23,843
Trade, Transportation, & Utilities	10.8	52,726
Other Services	10.5	8,306
Leisure & Hospitality	10.3	36,462
Public Administration	7.6	23,993
Professional & Business Services	7.2	18,373
Information	6.7	4,446
Financial Activities	4.8	11,145
<b>Total</b>	<b>11.7</b>	<b>276,973</b>

<sup>a</sup>Source: Wyoming Workers' Compensation Claimant Database

<sup>b</sup>Source: Quarterly Census of Employment and Wages.

Prepared by P. Manning, Research & Planning, WY DWS, 4/11/19.

## WORKERS' COMPENSATION CLAIMS

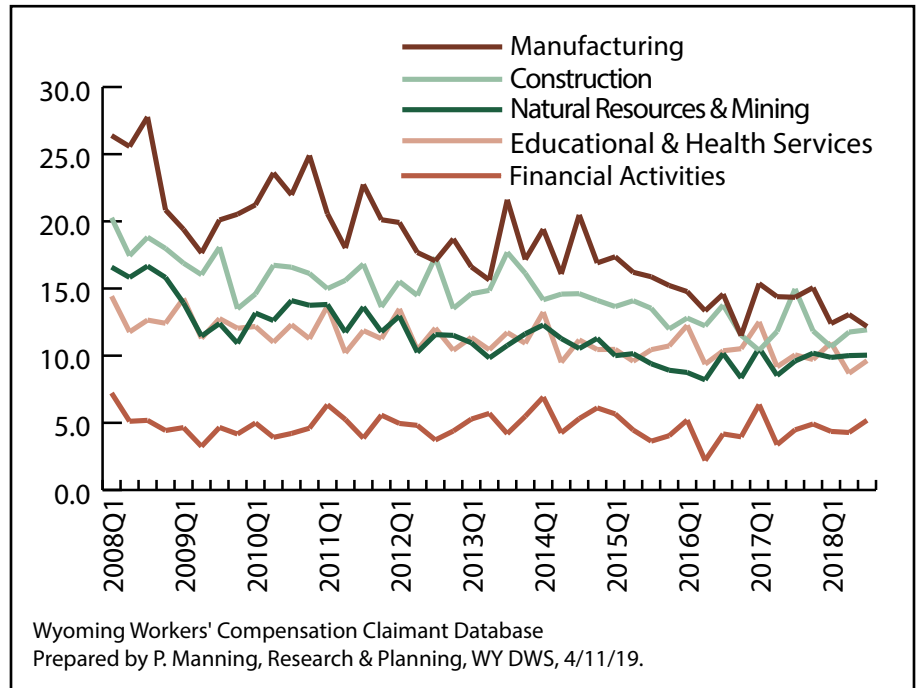
of selected industries by quarter from 2008Q1 to 2018Q3. In addition to having the highest injury rate, the manufacturing sector also experienced the most variation (other than other services) over the last decade. The education & health services sector demonstrated little variation in injury rates over the past decade relative to other industries. Unexpectedly, financial services, the industry with the lowest rate of injury, experienced more variation in injury rate than natural resource & mining, an industry that experienced a relatively high average rate of injury.

Figure 14.3 shows the top five injuries from 2008Q1 through 2018Q3, which accounted for slightly more than two-thirds of all injuries during that time. Sprains (18.8%) and strains (18.8%) accounted for more than one-third of all injuries. The most common types of injury were not strongly associated with the age of the worker or by the industry in which the injury occurred. Additionally, there does not seem to be a strong pattern of seasonality to the injury rate overall or within the industry sectors.

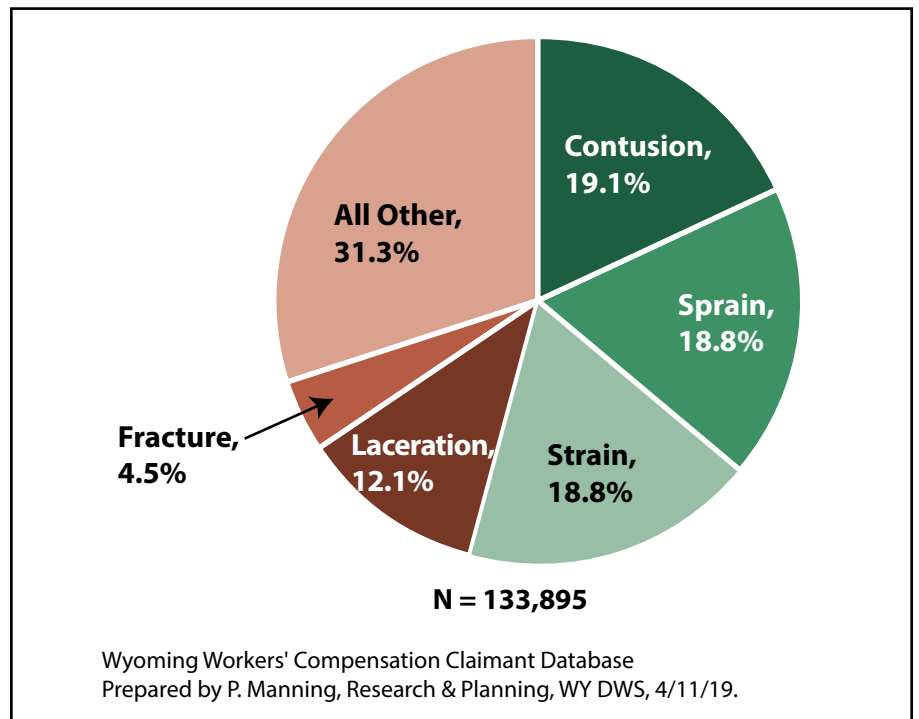
While not all factors that cause workplace accidents can be completely controlled, safety efforts by

businesses and the Wyoming Occupational Safety and Health Administration

(OSHA) appear to be reducing workplace injury rates.



**Figure 14.2: Rate of Injury per 1,000 Workers for Selected Industries in Wyoming, 2008Q1-2018Q3**



**Figure 14.3: Most Frequently Occurring Injuries in Wyoming, 2008Q1-2018Q3**

## Chapter 15: Wyoming's Gender Wage Gap

### R&P Publishes New Study on Wyoming's Gender Wage Gap

by: Research & Planning Staff

In 2017, the Wyoming Joint Labor, Health, and Social Services Interim and The Joint Minerals, Business, and Economic Development Interim committees tasked the Wyoming Department of Workforce Services (DWS) with completing a study on the state's gender wage gap. House Bill 0209 (2017) provided specific language that directed the efforts of the Research & Planning (R&P) section of DWS, including data and analysis by county and occupation, a comparison of Wyoming data to other state and federal information, identifying the causes of wage disparities, the impacts of wage disparities on Wyoming's economy, possible solutions to the wage gap, and the benefits and costs of eliminating the wage gap.

In October 2018, R&P published Gender Wage Disparity in Wyoming: Update 2018, an update to a similar report published in 2003 by the University of Wyoming. In order to address the specific directions of House Bill 0209, R&P selected a multifaceted method based on the availability of data and the analysts on staff. Analysts looked at issues related to wage disparity from multiple angles and then combined the results into a single publication.

This chapter is intended to provide selected findings from Update 2018. The full publication, appendix tables, an addendum, a slideshow presentation, and more are available at <https://doe.state.wy.us/LMI/WYWageGap2018.htm>

#### Selected Findings

Wyoming's gender wage gap varies depending on the cross-section of the workforce observed, the data source used, and the limitations placed upon the data. For example, data from the U.S. Census Bureau show that among full-time, year-round workers in Wyoming, women earned \$0.68 for every dollar paid to men in 2016. In contrast, using wage records data and including only individuals with at least two consecutive quarters of employment, women earned \$0.74 on the dollar compared to men.

The wage gap narrows or widens when considering different factors, such as industry of employment, hours worked, education, tenure, having children, or growing older (see Figure 15.1, page 62). For example, among individuals with a bachelor's degree, women earned \$0.95 for every \$1 earned by men. Women working in health care & social assistance earned \$0.66 for every \$1 paid to men in that same industry on average.

Wyoming's gender wage gap varies by county of employment. In Wyoming's two most populated counties, Laramie and Natrona, women were paid \$0.80

#### Find it Online

##### **A Study of the Disparity in Wages Between Men and Women in Wyoming: Update 2018**

<https://doe.state.wy.us/LMI/WYWageGap2018.htm>

## WYOMING'S GENDER WAGE GAP

and \$0.82 on the dollar, respectively, in 2016. Counties in which mining made up a substantial proportion of all jobs had some of the largest wage gaps, including Sweetwater (\$0.59 on the dollar), Sublette (\$0.62), and Campbell (\$0.66) counties. Niobrara (\$0.99 on the dollar) and Goshen (\$0.90), two of Wyoming's least populated counties, had two of the narrowest gaps.

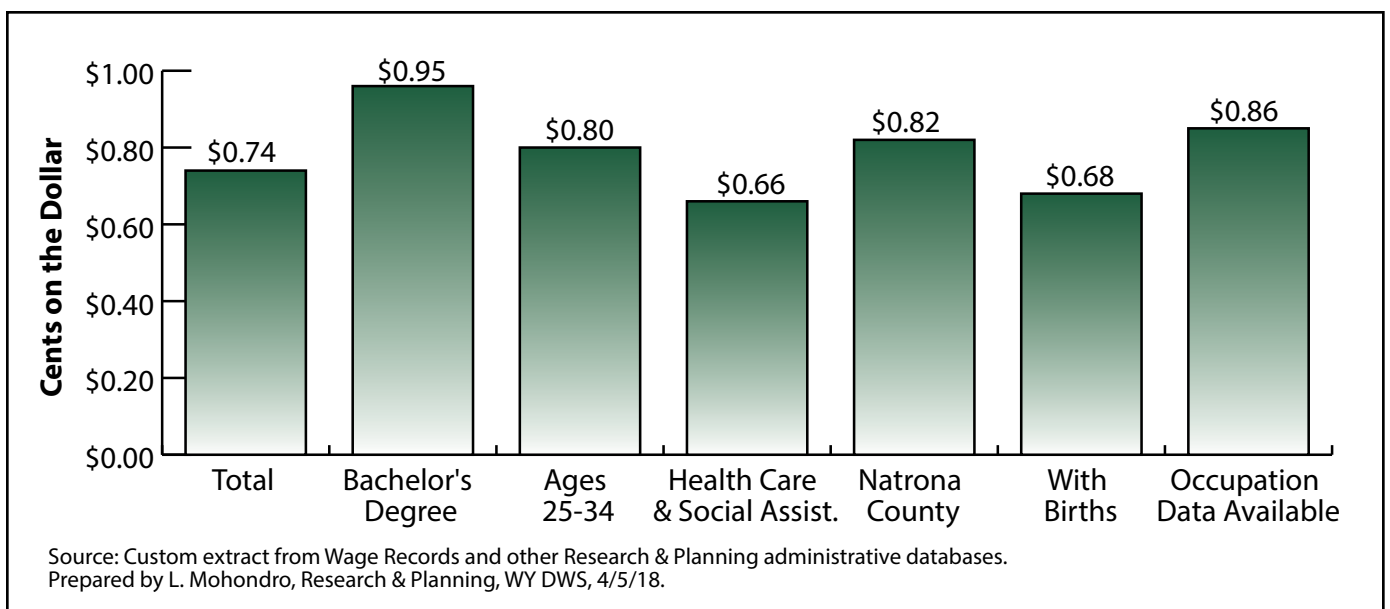
Data on occupations are limited. Because occupation data are not collected with wage records, R&P relied on data from the Department of Education, Wyoming state licensing boards, state auditor's file, and the New Hires Job Skills Survey. Occupation data were only available for 23.2% of all persons working in Wyoming in 2016. As noted in Chapter 6, jobs in the educational services and health care & social assistance industries are predominately worked by women. Because of the nature of the occupation data available to R&P (i.e. data from education and health licensing boards), occupation data were available for far more women than men.

With the data available, R&P was able

to perform an analysis by occupation on 30,536 men and 56,185 women working in Wyoming between 2005 and 2017. Of the 228 occupations analyzed, 81 occupations had statistically significant wage differences, 76 in which men were paid more than women and five in which women were paid more than men. The remaining 147 occupations showed no statistically significant difference in wages between men and women.

Table 15.1 (see page 63) presents a sample of occupations that showed a significantly different wage gap between men and women. For example, women working as roustabouts, oil & gas, were paid \$0.61 per \$1 paid to men, while women working as executive secretaries & administrative assistants were paid \$1.31 for every \$1 paid to men.

Among full-time, year-round workers, women in the United States were paid approximately \$0.80 on the dollar paid to men in 2016. However, during that same year, women in Wyoming were paid \$0.68 for every \$1 paid to men, ranking the state



**Figure 15.1: Cents Women Earn on a Man's Dollar For Selected Characteristics in Wyoming, 2016**

## WYOMING'S GENDER WAGE GAP

51st in terms of gender wage gap.

A decomposition analysis identified industry of employment and the number of hours worked as the two greatest contributors to Wyoming's gender wage gap. According to the analysis, industry

made up \$0.12 of the \$0.28 gender wage gap, while hours worked accounted for \$0.09. Overall, R&P economists were able to identify the causes for \$0.15 of the gender wage gap. The remaining \$0.13 could not be explained with the data available to R&P.

**Table 15.1: Number of Persons Working in Wyoming and Mean Hourly Wage by Gender and Selected Detailed Occupation (6-Digit SOC<sup>a</sup>), 2005-2017**

SOC Code	Occupation Title	Women		Men		Hourly Wage Difference		
		N	Mean Hourly Wage	N	Mean Hourly Wage	Difference (W-M)	Cents on Dollar (W/M)	P-Value <sup>b</sup>
✓ 0	<b>Total, All Occupations</b>	<b>66,485</b>	<b>\$20.73</b>	<b>33,066</b>	<b>\$24.15</b>	<b>-\$3.42</b>	<b>\$0.86</b>	<b>&lt;.0001</b>
✓ 11-1021	General & Operations Managers	163	\$35.58	265	\$43.10	-\$7.52	\$0.83	0.0001
● 13-1151	Training & Development Specialist	457	\$31.97	185	\$30.34	\$1.62	\$1.05	0.0105
✓ 13-2011	Accountants & Auditors	833	\$24.74	263	\$27.54	-\$2.80	\$0.90	<.0001
✓ 29-1051	Pharmacists	482	\$43.75	413	\$47.77	-\$4.02	\$0.92	0.0014
✓ 29-1071	Physician Assistants	154	\$49.94	139	\$53.16	-\$3.22	\$0.94	0.0372
✓ 31-1014	Nursing Assistants	11,540	\$13.24	1,259	\$13.96	-\$0.72	\$0.95	<.0001
✓ 33-3021	Detectives & Criminal Investigators	57	\$27.63	134	\$34.82	-\$7.18	\$0.79	<.0001
● 33-9092	Lifeguards, Ski Patrol, & Other Recreational Protective Service Workers	71	\$12.47	60	\$10.89	\$1.58	\$1.15	0.0015
● 35-3021	Combined Food Preparation & Serving Workers, Including Fast Food	218	\$10.64	113	\$10.19	\$0.45	\$1.04	0.0221
✓ 41-2031	Retail Salespersons	263	\$13.10	178	\$14.31	-\$1.22	\$0.92	0.0009
✓ 43-4061	Eligibility Interviewers, Government Programs	558	\$20.65	80	\$21.32	-\$0.67	\$0.97	0.0495
● 43-6011	Executive Secretaries & Administrative Assistants	843	\$19.43	65	\$18.88	\$0.54	\$1.03	0.0464
● 43-9199	Office & Administrative Support Workers, All Other	18	\$16.29	8	\$12.40	\$3.89	\$1.31	0.028
✓ 47-5071	Roustabouts, Oil & Gas	7	\$11.86	233	\$19.57	-\$7.71	\$0.61	0.0006
✓ 49-3042	Mobile Heavy Equipment Mechanics, Except Engines	6	\$16.00	286	\$25.22	-\$9.22	\$0.63	0.0011
✓ 51-9111	Packaging & Filling Machine Operators & Tenders	10	\$12.78	26	\$20.02	-\$7.24	\$0.64	0.0101

✓ = Occupation in which men's wages were statistically significantly higher than women's wages.

● = Occupation in which women's wages were statistically significantly higher than men's wages.

<sup>a</sup>Standard Occupational Classification System.

<sup>b</sup>Wilcoxon ranked sum test results. A p-value that is less than or equal to 0.05 indicates a statistically significant gender wage gap between men and women.

Source: Custom extract of Research & Planning databases.

Prepared by L. Knapp, Research & Planning, WY DWS, 7/17/18.

## Chapter 16: Certified Nursing Assistant Study

### CNAs Have Higher Earnings, Employment in Wyoming

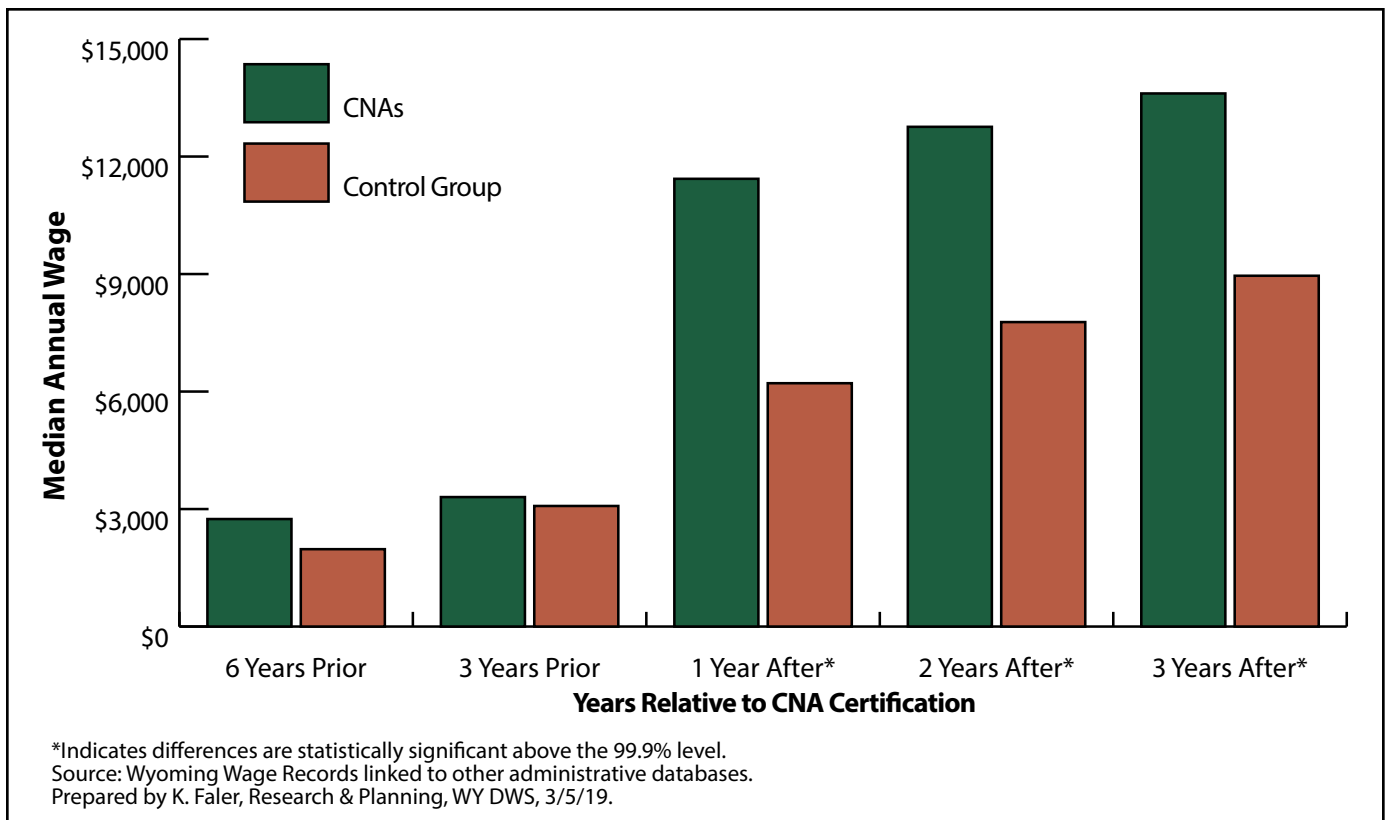
by: Katelynd Faler, Senior Economist

Employment, earnings, and retention of certified nursing assistants (CNAs) in Wyoming are of interest to many groups, including educators, workforce specialists, and health care administrators. This study compared over 1,000 individuals (CNAs) who obtained a nursing assistant certificate in Wyoming but no other postsecondary awards to similar individuals who attended a postsecondary institution but did not receive any kind of postsecondary award. After accounting for age and gender, the study concluded that female nursing assistants were more likely to be employed in Wyoming and earned several thousand dollars more in wages in the years

following certification (see Figure 16.1).

The nursing assistant occupation is largely female dominated, and since fewer males were available to be included in this study, statistical differences were not consistent for males. Further information on outcomes for male CNAs and on methodology can be found at <https://doe.state.wy.us/LMI/nursing/CNA2019.htm>.

Prior to certification, female CNAs were not statistically different from female non-CNAs in terms of employment and earnings, with one exception: three years prior to certification, 61.8% of future CNAs were employed in Wyoming compared



**Figure 16.1: Median Annual Wages of Females Before and After Nursing Assistant Certification in Wyoming**

## CERTIFIED NURSING ASSISTANT STUDY

to 54.6% of the control group (see Table 16.1). This difference prior to certification may indicate that the presence and availability of certified nursing assistant training programs had an effect on individuals who were considering investing in a future occupational certification. It also demonstrates that there were variables this study did not, and could not, control for including the number of children an individual had, whether they were married, what their household income was, whether they had access to a vehicle, if they depended on means-tested benefits, and even more

nebulous factors such as motivation and health.

Following certification, differences between female CNAs and the control group were very pronounced. In the first year after certification, 95.0% of CNAs were employed in Wyoming, compared to 75.0% of the control group. Median annual wages for female CNAs were \$11,431, over \$5,000 greater than the median annual wages for the control group (\$6,213).

Employment two years after certification remained high for CNAs at 90.3% -- much higher than employment in the control group (72.0%). Median

annual wages for CNAs rose to \$12,759, almost \$5,000 greater than the control group median annual wage of \$7,774.

In the third year after certification, median annual wages for female CNAs were \$13,611, statistically significantly greater than the control group (\$8,957). Differences in employment were also statistically significant: 77.0% of female CNAs were employed in Wyoming compared to 62.9% of non-CNAs. A similar study in the future, with more work history to consider, would be likely to find that CNAs were still more likely to be employed in Wyoming than a control group three years after certification, but without the same, steep drop off in employment between the second and third years.

In all, females who were certified as nursing assistants in Wyoming earned more than similar individuals and were more likely to be employed in Wyoming. These results were statistically significant, and may help students to choose the right career, educators to recruit successful students, legislators to fund successful workforce projects, and nonprofits to design high impact social programs.

**Table 16.1: Outcomes of Females Before and After Nursing Assistant Certification**

	Employment		Median Wages	
	CNAs	Control Group Average	CNAs	All Control Groups
6 Years Prior	18.9%	18.3%	\$2,745	\$1,975
3 Years Prior	61.8%*	54.6%	\$3,306	\$3,079
Year 1	95.0%*	75.0%	\$11,431*	\$6,213
Year 2	90.3%*	72.0%	\$12,759*	\$7,774
Year 3	77.0%*	62.9%	\$13,611*	\$8,957

\*Statistically significant above the 97.5% level.

Source: Wyoming Wage Records linked to other administrative databases.  
Prepared by K. Faler, Research & Planning, WY DWS, 3/5/19.

## Find it Online

### Labor Market Outcomes of Certified Nursing Assistants: A Quasi-Experimental Design

<https://doe.state.wy.us/LMI/nursing/CNA2019.htm>

## Chapter 17: IMPLAN Analysis

### Economic Impacts of Adding Jobs to Selected Industries

by: Matthew Halama, Senior Economist

Analysts from the Research & Planning (R&P) section of the Wyoming Department of Workforce Services use IMPLAN (Impact analysis for PLANning) economic impact modeling system to assess potential industry changes. This article illustrates how the addition of 100 jobs to one industry would impact other industries.

This analysis was conducted for industries at the three-digit subsector level as defined by the North American Industry

Classification System (NAICS; see Box 2.1, page 15). For this research, it is presumed that 100 workers will be added to a specific industry. This does not imply that this many additional workers are needed in each industry, but it allows direct comparison of the industries.

It should be noted that since IMPLAN is a private company and its models are proprietary, R&P is unable to replicate or reverse engineer their models to produce the results provided by IMPLAN. In addition, IMPLAN sometimes uses

#### Find It Online

##### Interactive IMPLAN Data Using Tableau Public

<http://tinyurl.com/implan-tableau>

industries that differ from the standardized NAICS structure, which can be seen in Table 17.1. Detailed information regarding the IMPLAN software package, how it operates, and what it produces can be found at [www.implan.com](http://www.implan.com).

IMPLAN provides analysts with three types of estimates: direct, indirect, and induced. Other measures for each of these impacts relate to the following three metrics: labor income, value added, and output (see Box 17.1, page 67).

For example, Table 17.1 presents a scenario in which 100 jobs are added to the utilities subsector (NAICS 221). The IMPLAN software estimates that this scenario would result in 22 jobs in government, 20 jobs in food products, and 10 jobs in ambulatory health care services, among other industries.

**Table 17.1: Top 10 Industries Affected by Adding 100 Jobs to Utilities (NAICS 221) in Wyoming**

Industry*	Employment	Labor Income	Value Added	Output
Utilities	100	\$14,388,848	\$36,135,576	\$64,481,453
Government & Non-NAICS	22	\$600,429	\$2,197,349	\$4,468,768
Food Products	20	\$1,241,122	\$2,103,306	\$4,841,692
Ambulatory Health Care Services	10	\$799,604	\$1,403,591	\$2,072,408
Construction	9	\$752,360	\$1,061,990	\$1,711,258
Architectural, Engineering, & Related Services	7	\$492,814	\$494,982	\$1,075,235
Full-Service Restaurants	5	\$113,797	\$120,965	\$251,159
Performing Arts & Spectator Sports	5	\$158,601	\$262,394	\$397,171
Limited-Service Restaurants	5	\$85,045	\$212,752	\$384,928
Social Assistance	4	\$151,462	\$256,284	\$389,072

\*The IMPLAN software sometimes uses industry classifications outside of the standardized NAICS structure.

Prepared by M. Moore, Research & Planning, WY DWS, 4/8/19.

The addition of 100 jobs would produce an estimated \$14.4 million in labor income for utilities alone, along with \$1.2 million in labor income for the food products subsector.

### Tableau Data Visualization

R&P analysts have created interactive graphics for the IMPLAN results using Tableau. By going to <http://tinyurl.com/implan-tableau> users can select any one of 59 industries and see specific results to those presented in Table 17.1. Clicking on the tab titled “Top 10 Industries Affected by an Employment Increase of 100 persons” and choosing a dominant industry from a dropdown menu provides employment, labor income, value added, and output for each industry and the corresponding industries impacted by the addition of 100 jobs.

By importing IMPLAN data into Tableau and creating an interactive bar chart for three-digit NAICS codes, the user is able to compare and contrast employment, labor income, value added income, and output possibilities.

## Box 17.1: IMPLAN Definitions

*Direct impacts:* economic impacts as a result of actual project spending, a business hiring a commercial roofing company to perform a roofing project that subsequently increases employment to complete the project.

*Indirect impacts:* economic impacts as a result of business-to-business spending when projects or events occur, such as the commercial roofing company purchasing lumber from a supplier in the region because of a new project, in turn creating new employment opportunities for existing businesses.

*Induced impacts:* economic impacts as a result of household spending changes because of project or event occurrence, such as the roofer who installs new shingles to a building and then takes his family out to dinner because of the increased wages.

*Labor income:* all employee income (wages and benefits) and proprietor income.

*Value added:* The difference between an industry’s or an establishment’s total output and the cost of its intermediate inputs. Value added is calculated by subtracting intermediate inputs (consumption of goods and services purchased from other industries or imported) from gross output (sales or receipts and other operating income, plus inventory change). Value added consists of compensation of employees, taxes on production and imports less subsidies (formerly indirect business taxes and nontax payments), and gross operating surplus (formerly other value added). Gross value added is the value of output minus the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry, or sector.

*Output:* Output represents the value of industry production. In IMPLAN, these are annual production estimates for the year of the data set and are in producer prices. For manufacturers, this would be sales plus or minus change in inventory. For service sectors, production equals sales. For retail and wholesale trade, output equals gross margin and not gross sales.

# Just the Facts

**Table 1: Wyoming State Facts**

State Capital	Cheyenne
Governor	Governor Mark Gordon, 33rd Governor, Assumed Office Jan. 7, 2019 – Cheyenne
Most Liveable State – National Ranking <sup>1</sup>	7th in 2016 – 11th in 2015
Nicknames	Equality State – Big Wyoming – Cowboy State
State Dinosaur & State Fossil	Triceratops & Knightia
State Flower & State Tree	Indian Paintbrush & Plains Cottonwood
State Bird & State Fish	Western Meadowlark & Cutthroat Trout
State Butterfly & Reptile	Sheridan's Green Hairstreak & Horned Toad
State Mammal & State Gemstone	Bison & Jade
1st National Park	Yellowstone - Established March 1, 1872
1st National Monument	Devil's Tower - Established September 24, 1906
Admitted to Statehood - Date & Rank	July 10, 1890 – 44th State

Excerpted from *Wyoming 2017 – Just the Facts*, published May 12, 2018, by the Wyoming Department of Administration & Information, Economic Analysis Division. Prepared by Amy Bittner, Senior Economist. See page 71 for footnotes.

**Table 2: Selected Vital Statistics for Wyoming, 2012-2017**

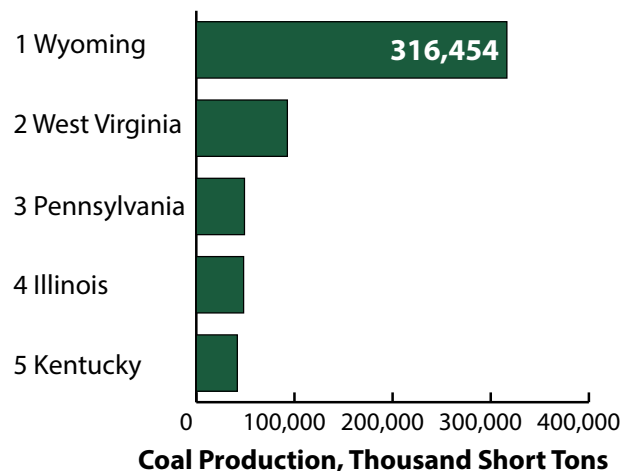
Year	Vital Events				Teenage Birth Rate (per 1,000)		Death Rate (per 100,000)	
	Births	Deaths	Marriages	Divorces	WY	U.S.	WY	U.S.
2012	7,576	4,468	4,507	2,564	34.6	29.4	775	810.2
2013	7,617	4,469	4,400	2,482	30.2	26.5	767	821.5
2014	7,693	4,633	4,476	2,443	30.6	24.2	793	823.7
2015	7,716	4,744	4,306	2,434	27.8	22.3	809	828.0
2016	7,384	4,706	4,145	2,462	26.2	20.3	804	844.0
2017	6,904	4,767	4,133	2,300	24.6	18.8	823	Not Available

Excerpted from Vital Statistics Services - 2017 Annual Report, published November 14, 2018, by the Wyoming Department of Health, Vital Statistics Services. Prepared by Beaudoin, G., and Storey, M.

**Table 3: Wyoming Rank in U.S. in Energy Consumption, Expenditures, Production, Prices, & Environment**

	Wyoming Rank
<b>Consumption</b>	
Total Energy per Capita	2
<b>Expenditures</b>	
Total Energy per Capita	1
<b>Production</b>	
Total Energy	3
Crude Oil	8
Natural Gas	8
Coal	1
Electricity	30
<b>Prices</b>	
Natural Gas	44
Electricity	36
<b>Environment</b>	
Carbon Dioxide Emissions	32

Source: Energy Information Administration. Retrieved from <http://www.eia.gov/state/?sid=WY>. Updated March 26, 2019.



Source: U.S Energy Information Administration. Retrieved March 28, 2019, from <http://www.eia.gov/state/rankings/#/series/48>

**Figure 1: Ranking of Top 5 Coal-Producing States in the U.S., 2018**

# Just the Facts

	Most Recent Period	
	Year	Value
<b>Demography</b>		
Total Population <sup>1</sup>	2018	577,737
Total Male Population <sup>1</sup>	2017	298,301
Total Female Population <sup>1</sup>	2017	284,899
% of Population - Under 18 Years Old <sup>1</sup>	2017	23.7%
% of Population - 65 Years & Older <sup>1</sup>	2017	14.4%
Median Age <sup>1</sup>	2017	37.0
<i>Note: Population data are July 1 estimates.</i>		
<b>Weather &amp; Geography</b>		
Total Area (sq. miles) <sup>2</sup>	2010	97,093
Water Area (sq. miles) <sup>2</sup>	2010	720
Mean Elevation (ft) <sup>3*</sup>	2017	6,700
% of Land in Rural Areas <sup>4*</sup>	2010	99.8
% of Land Owned by the Federal Government <sup>5*</sup>	2015	48.4
% of Land Owned by State Government <sup>6*</sup>	2014	6.2
<b>Recreation &amp; Tourism</b>		
Land Ownership in Wyoming (million square miles):		
National Park Service <sup>7</sup>	2018	2.39
U.S. Forest Service <sup>8</sup>	2017	9.73
Bureau of Land Management <sup>9</sup>	2017	17.5
Visitors to State Parks & Recreational Areas <sup>10*</sup>	2016	4,153,782
WY Lodging Sales (millions of dollars) <sup>11*</sup>	FY17	\$573.8
<b>Crime &amp; Law Enforcement</b>		
Crimes <sup>12</sup>	2017	11,980
Crimes per 100,000 Persons <sup>12</sup>	2017	1,830.4
Violent Crimes per 100,000 Persons <sup>12</sup>	2017	237.5
<b>Education</b>		
% of Population, 25 yrs. & older, completed high-school <sup>13</sup>	2017	92.8
% of Population, 25 yrs. & older, with a Bachelor's Degree <sup>13</sup>	2017	26.7
ACT Average Composite Score (range 1-36) <sup>14</sup>	2018	20.0
Estimated Average Salary of Teachers (\$) <sup>15</sup>	2017	\$58,187
Average Teacher's Salary as % of Average Annual Wages <sup>16</sup>	2017	125.8
<b>Health &amp; Social Welfare</b>		
% of Persons not Covered by Health Insurance <sup>17</sup>	2017	11.9
% of Private Sector Establishments that Offer Health Insurance <sup>18</sup>	2017	39.4
% of Population Enrolled in Medicare <sup>17</sup>	2017	15.8
<b>Housing</b>		
Residential Building Permits <sup>19</sup>	2017	1,926
Median Housing Value of Owner-Occupied Housing Units (\$) <sup>17</sup>	2017	\$204,900
Homeownership Rate <sup>20</sup>	2018Q4	72.8

Prepared by Lisa Knapp, Senior Research Analyst

\*Excerpted from Wyoming 2017 –Just the Facts, published November 2017 by the Wyoming Department of Administration & Information, Economic Analysis Division. Prepared by Amy Bittner, Senior Economist.

See footnotes, page 71.

# Just the Facts

	Most Recent Period	
	Year	Value
<b>Wyoming's Economy</b>		
Median Household Income <sup>21</sup>	2017	\$60,938
<b>Employment &amp; Labor</b>		
Average Annual Wage (\$) <sup>22</sup>	2018	\$48,062
State Minimum Wage Rate (\$ per hour) <sup>23</sup>	2018	\$5.15
Civilian Labor Force <sup>24</sup>	2018	289,574
Employed <sup>24</sup>	2018	277,820
Unemployed <sup>24</sup>	2018	11,754
Unemployment Rate <sup>24</sup>	2018	4.1
Total Non-farm Employment (jobs) <sup>22</sup>	2018	272,118
% of Jobs in Mining <sup>22</sup>	2018	7.6
<b>Tax Environment</b>		
Individual Income Tax Rate <sup>25</sup>	2018	0.0
Corporate Income Tax Rate <sup>25</sup>	2018	0.0
State Sales Tax Rate <sup>25</sup>	2018	4.0
Gasoline Tax Rate (\$/gallon) <sup>25</sup>	2018	\$0.24
Cigarette Tax Rate (\$/pack) <sup>25</sup>	2018	\$0.60
State & Local General Sales Tax Collections Per Capita <sup>25</sup>	2018	\$1,396
Estimated Burden of Major Taxes for a 3-Person Family with Income of \$50,000 - Cheyenne <sup>26</sup>	2017	\$2,534
<b>Mining, Energy &amp; the Environment</b>		
Coal Production (millions of short tons) <sup>27</sup>	2018	304.2
Natural Gas Production (billions of cubic feet) <sup>28</sup>	2017	1.8
Crude Oil Production (millions of barrels) <sup>28</sup>	2017	75.6
Trona Production (millions of short tons) <sup>27</sup>	2018	17.4
Avg. Monthly Electric Bill for Residential Customers <sup>29</sup>	2017	\$97.10
On-site and Off-site Reported Disposed of or Otherwise Released (millions of pounds) <sup>30</sup>	2017	20.1
<b>Agriculture</b>		
Number of Farms and Ranches <sup>31</sup>	2017	11,400
Average Farm Size (acres) <sup>31</sup>	2017	2,649
U.S. Agriculture Exports (millions \$) <sup>32</sup>	2017	\$304.3

Prepared by Lisa Knapp, Senior Research Analyst

\*Excerpted from Wyoming 2017 –Just the Facts, published November 2017 by the Wyoming Department of Administration & Information, Economic Analysis Division. Prepared by Amy Bittner, Senior Economist.

See footnotes, page 71.

# Just the Facts

<sup>1</sup>U.S. Census Bureau, American Community Survey, Table S0101

<sup>2</sup>U.S. Census Bureau, 2010 Census Summary File 1, Table GCT-PH1

<sup>3</sup>U.S. Department of the Interior, U.S. Geological Survey

<sup>4</sup>U.S. Census Bureau

<sup>5</sup>Congressional Research Office

<sup>6</sup>University of Wyoming, Department of Geography & Recreation

<sup>7</sup>U.S. National Park Service, National Park Service Acreage Reports: Acreage by State, Calendar Year Subtotal, federal acres <https://www.nps.gov/subjects/lwcf/acreagereports.htm>

<sup>8</sup>U.S. Department of Agriculture, Forest Service: Land Areas of the National Forest System FS-383, November 2017

<sup>9</sup>U.S. Department of the Interior, Bureau of Land Management: Public Land Statistics, 2017, Volume 202

<sup>10</sup>National Association of State Park Directors

<sup>11</sup>Wyoming Economic Analysis Division using data from WY Dept. of Revenue

<sup>12</sup>U.S. Federal Bureau of Investigation, Uniform Crime Reporting Program: Table 5, Crime in the United States by State, 2017

<sup>13</sup>U.S. Census Bureau, American Community Survey: Table S1501, Educational Attainment

<sup>14</sup>American College Testing: Average ACT Scores by State Graduating Class 2018

<sup>15</sup>National Education Association, NEA Research: Rankings of States 2018 and Estimates of School Statistics 2019, Table B-6, Average Salaries of Public School Teachers

<sup>16</sup>NEA annual salary divided by Quarterly Census of Employment average annual wage of \$46,270.

<sup>17</sup>U.S. Census Bureau, American Community Survey

<sup>18</sup>Health and Human Services Agency for Healthcare and Quality, MEPS, Table VI.A.2.a

<sup>19</sup>U.S. Census Bureau, Building Permits Survey: Permits by State

<sup>20</sup>U.S. Census Bureau, Current Population Bureau Housing Vacancy Survey: Quarterly Vacancy and Homeownership Rates by State and MSA, Table 3

<sup>21</sup>U.S. Census Bureau, American Community Survey, Table S1903

<sup>22</sup>Research & Planning, Quarterly Census of Employment and Wages: 2018 Annual Average

<sup>23</sup>U.S. Department of Labor, Wage and Hour Division

<sup>24</sup>Research & Planning, Local Area Unemployment Statistics: Average Annual Number, 2018

<sup>25</sup>Tax Foundation.org

<sup>26</sup>Government of the District of Columbia: Tax Rates and Tax Burdens in the District of Columbia- A Nationwide Comparison, 2017

<sup>27</sup>Wyoming State Mine Inspector: Annual Report of the State Inspector of Mines of Wyoming, Year Ending December 31, 2018

<sup>28</sup>Wyoming State Geological Survey, Wyoming's Oil and Gas Facts

<sup>29</sup>U.S. Department of Energy, Energy Information Administration: Average Monthly Bill- Residential, 2017

<sup>30</sup>U.S. Environmental Protection Agency, Toxic Release Inventory TRI Program: TRI On-site and Off-site Reported Disposed of or Otherwise Released in pounds, for All industries, for All chemicals, Wyoming, 2017 accessed from TRI Data and Tools

<sup>31</sup>U.S. Department of Agriculture, National Agriculture Statistics Service: Wyoming Agricultural Statistics 2018

<sup>32</sup>U.S. Department of Agriculture, Economic Research Service: State Export Data, table U.S. Agricultural Exports, Commodity Detail by State new series Calendar Year 2000-2017

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