Demographics of the Unemployed in Texas:

A Snapshot Before the Pandemic

Texas Workforce Investment Council

September 2020

The Mission of the Texas Workforce Investment Council

Assisting the Governor and the Legislature with strategic planning for and evaluation of the Texas workforce system to promote the development of a well-educated, highly skilled workforce for Texas.

Demographics of the Unemployed in Texas: A Snapshot Before the Pandemic

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COVID-19

This study was prepared prior to the COVID-19 outbreak and, as such, represents a snapshot in time before the pandemic. The authors are aware that the significant impacts of COVID-19 on the economy, workforce, etc., will not be reflected in this report. The data used to develop this report is regularly available two years behind the current year. Longitudinal analysis is planned for the coming years, and subsequent updates to this report will demonstrate the impacts of COVID-19 on the workforce.

Introduction

Texas Government Code, Section 2308.104, states that the Texas Workforce Investment Council (Council) is charged with strategic planning for and evaluation of the Texas workforce system. One of the areas of focus in the workforce system strategic plan is a commitment to the continuous improvement and innovation of the workforce system. The collection and analysis of accurate and timely economic data is critical to evaluating the workforce system and making informed decisions.

The level of unemployment in an area (unemployment rate) is continually quoted in all forms of media. It is a recognizable barometer of the economic health of regions spanning from nations to states, down to the metro, county, and local census areas. The Local Area Unemployment Statistics program, a division of The U.S. Bureau of Labor Statistics program, is a federal-state cooperative effort in which monthly estimates of total employment and unemployment are prepared for approximately 7,000 areas. These estimates are key indicators of local economic conditions, and a wide variety of customers use these estimates. Federal programs use the data for allocations to states and areas, as well as eligibility determinations for assistance. State and local governments use the estimates for planning and budgetary purposes and to determine the need for local employment and training services. Private industry, researchers, the media, and other individuals use the data to assess localized labor market developments and make comparisons across areas.

This report is unique in that it highlights the demographic and labor market characteristics of unemployed individuals in each local workforce development area in Texas (see Appendix A). The report will inform Council members and stakeholders on four content areas related to the unemployed population in the state: 1) the complete list of alternative measures of unemployment as defined by the Bureau of Labor Statistics with state comparisons; 2) unemployment and crosstabs of educational attainment, age, race/ethnicity, and sex demographics; 3) an examination of the prolonged unemployment climate in the state; and 4) the Texas outlook related to unemployment.

The Council established a definition of middle-skill occupations and STEM occupations in 2015. This was the basis for the Council's first system initiative, which resulted in a 2018 report that identified third-party, industry-based certifications that are of value to Texas employers and that can positively affect employment outcomes in middle-skill STEM occupations. The unemployment research presented in this document expands on previous Council reports. Additionally, the Council's 2020 publication, *Middle-Skill STEM Occupation Index*, is a companion to this report and outlines important demographic information for middle-skill STEM occupations in Texas. The two reports, when viewed together, provide demographic and educational data for the Texas workforce.

Data Sources and Methodology

The sources of data for this report include unemployment figures from the Bureau of Labor Statistics (BLS), demographic information from the U.S. Census 2018 American Community Survey (ACS), and labor market data produced by the Texas Workforce Commission's Labor Market and Career Information department (LMCI). 2018 data is the most recent available for all data sets.

Underutilized labor force data from BLS (2018) were used to compile the different measures of unemployment for both the statewide and national levels. To further uncover the relationship between work and education in Texas at a regional level, a combination of two sets of data were used in this report to analyze unemployment. Local area unemployment statistics (LAUS) estimates are key indicators of local economic conditions, published by BLS. The underlying inputs for LAUS estimates are: the Current Population Survey, a household survey that is the source of the official national unemployment rate; inputs from the Current Employment Statistics survey; and state unemployment insurance systems. The second set of data was ACS unemployment by level of educational attainment. This differs from the LAUS data in that ACS data can be segmented out by demographic variables. These data sets were also used to compare three other demographic variables: age group, sex, and race/ethnicity.

Since BLS does not produce unemployment data segmented by demographic variables, ACS 2018 unemployment demographic data was used as a proxy. The methodological steps used to produce the statewide and workforce area unemployment demographic data can be found in Appendix B of this document.

In addition, LAUS data was also used to report official unemployment rates for Texas and each of the 28 local workforce development areas. LMCI quarterly employment and wage data was used to generate statewide total wages by major industry to show the percentage change and examine which industries led the state in 2018.

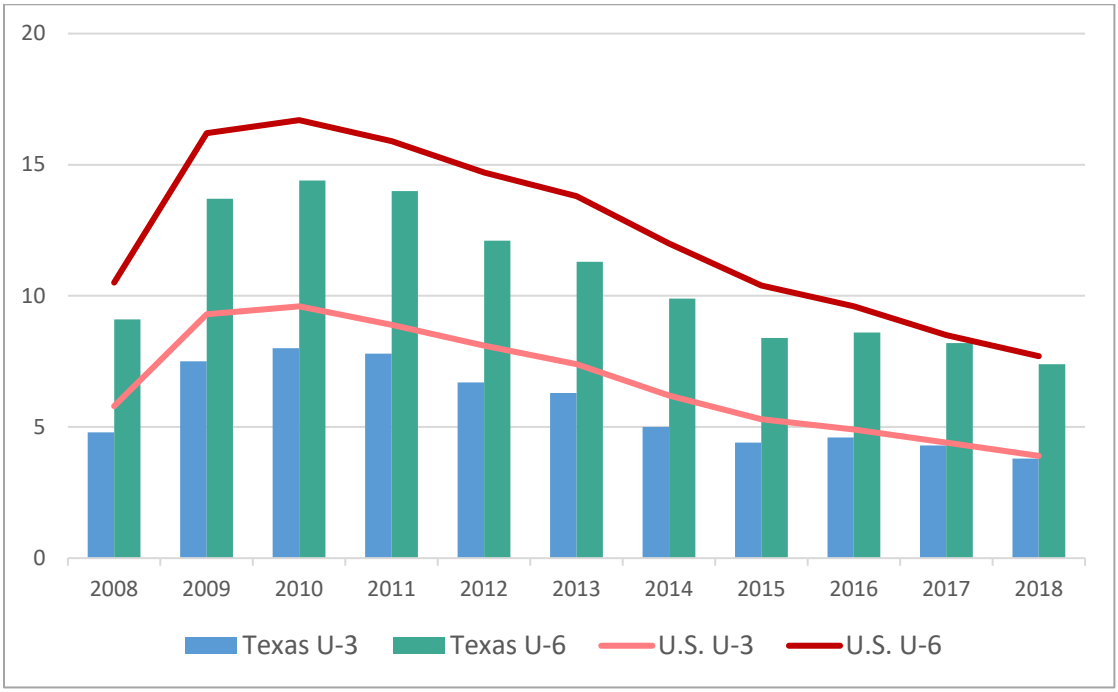
Measures of Unemployment

Several alternative measures of unemployment, described as available and unused labor, are based on combining the unemployed with some portion of the pool of nonparticipants who want work. There are six state measures that are based on the same definitions as those published for the United States (see Table 1):

- U-1, persons unemployed 15 weeks or longer, as a percent of the civilian labor force;
- U-2, job losers and persons who completed temporary jobs, as a percent of the civilian labor force;
- U-3, total unemployed, as a percent of the civilian labor force (this is the definition used for the official unemployment rate);
- U-4, total unemployed plus discouraged workers, as a percent of the civilian labor force plus discouraged workers;
- U-5, total unemployed, plus discouraged workers, plus all other marginally attached workers, as a percent of the civilian labor force plus all marginally attached workers; and
- U-6, total unemployed, plus all marginally attached workers, plus total employed part time for economic reasons, as a percent of the civilian labor force plus all marginally attached workers.

The U-6 definition is the broadest measure of unemployment. It contains the underutilized labor force. The six alternative national measures of labor underutilization (U-1 to U-6) are available on a monthly basis from BLS, who uses data from the Current Population Survey (CPS) to produce its estimates. Among these measures, the third measure, U-3, is the official unemployment rate. It includes all jobless persons who are available to work and have actively looked for work in the past four weeks. This is a long-standing method that has been thoroughly reviewed and validated since the inception of the CPS in 1940, and later updated with a redesigned CPS in 1994. The other measures are provided to data users and analysts who want more narrowly (U-1 and U-2) or broadly (U-4 through U-6) defined measures. Figure 1 displays a comparison between Texas and the U.S. for U-3 and U-6 rates. Texas outpaced the nation over the span of a decade with a lower unemployment rate and underutilized labor force.

Figure 1: Comparison of Texas Unemployment Rate and the Underutilized Labor Force, 2008-2018



Source: Bureau of Labor Statistics, Alternative Measures of Labor Underutilization

Table 1: Alternative Measures of Underemployment State Comparisons, 2018

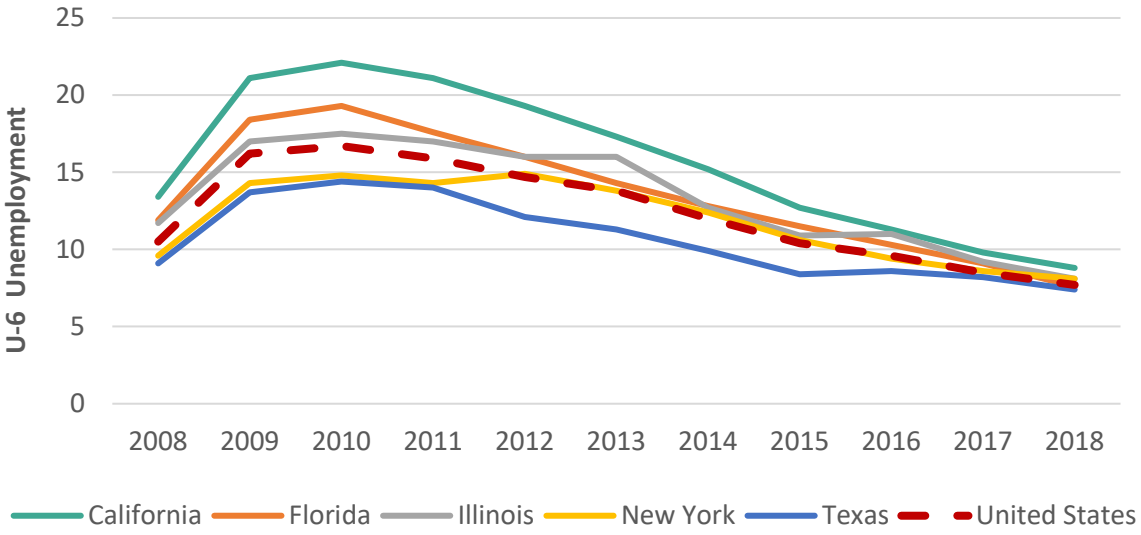
Area	Unemployment Measure					
	U-1	U-2	U-3	U-4	U-5	U-6
United States	1.4	1.8	3.9	4.1	4.8	7.7
Alabama	1.5	1.8	3.9	4.3	5	7.3
Alaska	2.4	3.7	6.6	7.1	8.3	12
Arizona	1.6	1.8	4.7	4.8	6	9.1
Arkansas	1.2	1.7	3.8	4.1	4.7	7.7
California	1.6	2.1	4.2	4.4	5.1	8.8
Colorado	1.1	1.4	3.3	3.5	3.8	6.3
Connecticut	2.1	2.2	4.1	4.4	5	8.9
Delaware	1.3	1.8	3.8	4.1	4.4	7.4
Florida	1.4	1.6	3.6	3.9	4.5	7.6
Georgia	1.4	1.5	3.9	4.3	5	8
Hawaii	0.9	1.3	2.6	2.8	3.5	6.1
Idaho	0.6	1.4	3	3.1	3.6	6.3
Illinois	1.6	2.1	4.2	4.4	5.1	8.1
Indiana	1	1.7	3.5	3.7	4.2	6.6
Iowa	0.7	1.4	2.5	2.7	3	5.2
Kansas	0.9	1.6	3.4	3.6	4	6
Kentucky	1.3	1.8	4.4	4.6	5.3	8.1
Louisiana	1.9	2.4	4.9	5.4	6.3	9.4
Maine	1	1.4	3.5	3.6	4.7	7.8
Maryland	1.7	2.2	4.2	4.4	5.3	8
Massachusetts	1.5	1.9	3.4	3.6	4.2	7
Michigan	1.3	1.8	4.1	4.4	4.9	7.9
Minnesota	0.8	1.4	2.8	2.9	3.2	5.4
Mississippi	2	1.8	4.8	5.3	5.9	8.7
Missouri	1.1	1.7	3.2	3.5	4	6.8
Montana	1.1	1.9	3.7	3.9	4.5	7.5
Nebraska	0.7	1.2	2.8	3	3.7	5.8
Nevada	1.3	1.9	4.5	4.9	5.8	9.5
New Hampshire	0.9	1.2	2.6	2.7	3	5.6

New Jersey	2.1	2.2	4.2	4.5	5.1	7.7
New Mexico	1.9	1.7	4.7	5	5.6	9.1
New York	1.7	2	4.1	4.5	5.3	8.1
North Carolina	1.4	1.5	3.8	4.2	4.9	7.5
North Dakota	0.8	1.5	2.8	2.9	3.2	4.7
Ohio	1.4	2.1	4.5	4.7	5.4	8.3
Oklahoma	1.1	1.6	3.4	3.7	4.5	7.5
Oregon	1.2	2	4.1	4.3	5.1	8.3
Pennsylvania	1.6	2.3	4.3	4.5	5.2	8.4
Rhode Island	1.7	2.2	4.1	4.2	4.8	7.4
South Carolina	1.4	1.4	3.5	3.9	4.7	6.9
South Dakota	0.9	1.1	2.9	3.1	3.6	5.8
Tennessee	0.9	1.5	3.5	3.8	4.5	6.8
Texas	**1.3**	**1.8**	**3.8**	**4.1**	**4.6**	**7.4**
Utah	0.6	1.6	3.3	3.4	3.8	6.1
Vermont	0.8	1.4	2.7	2.9	3.5	5.7
Virginia	0.9	1.1	2.9	3	3.6	6.4
Washington	1.6	2.2	4.4	4.7	5.6	8.4
West Virginia	1.9	2.6	5.3	5.6	6.3	9.8
Wisconsin	0.9	1.6	3	3.1	3.5	6
Wyoming	1	2	4.2	4.3	4.8	7.9

Source: Bureau of Labor Statistics, Alternative Measures of Labor Underutilization

According to the data in Table 1, Texas ranked neither at the bottom nor at the top of the list of states regarding the underutilized workforce. Texas ranked twenty-third in the U-6 category of unemployment in 2018 averages. However, Texas led when compared to other large states with similar economies. Texas has been the most efficient large state in total labor force utilization from 2008 to 2018 (see Figure 2).

Figure 2: Large States Comparison of Underutilized Labor Force 2008-2018

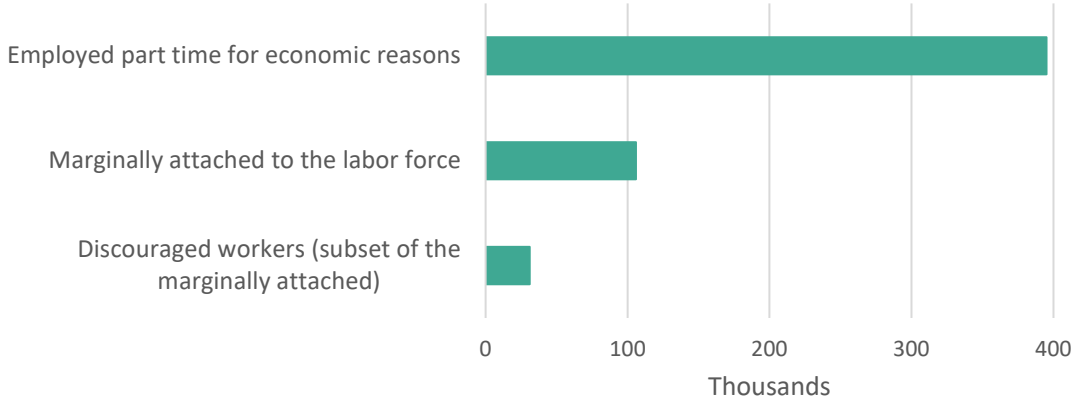


Source: Bureau of Labor Statistics, Alternative Measures of Labor Underutilization

According to BLS, in 2018 the number of marginally attached workers to the Texas labor force was 106,100 (see Figure 3). Workers marginally attached are not working but indicate that they are available to work, would like to work, and searched for work in the past 12 months. In contrast, that number totaled 1.5 million for the U.S. in 2018.

Discouraged workers are a subset of the marginally attached. These people are not currently looking for work because they believe no jobs are available. In 2018, there were 31,100 discouraged workers in Texas. BLS stated that this accounted for 29 percent of all marginally attached workers in the state. The U-4 measure, which adds discouraged workers to the number of the unemployed (expressed as a percentage of the labor force plus the number of discouraged workers), was 4.1 percent in Texas in 2018, the same as the national rate.

Figure 3: Numbers of Selected Underutilized Workers in Texas, 2018



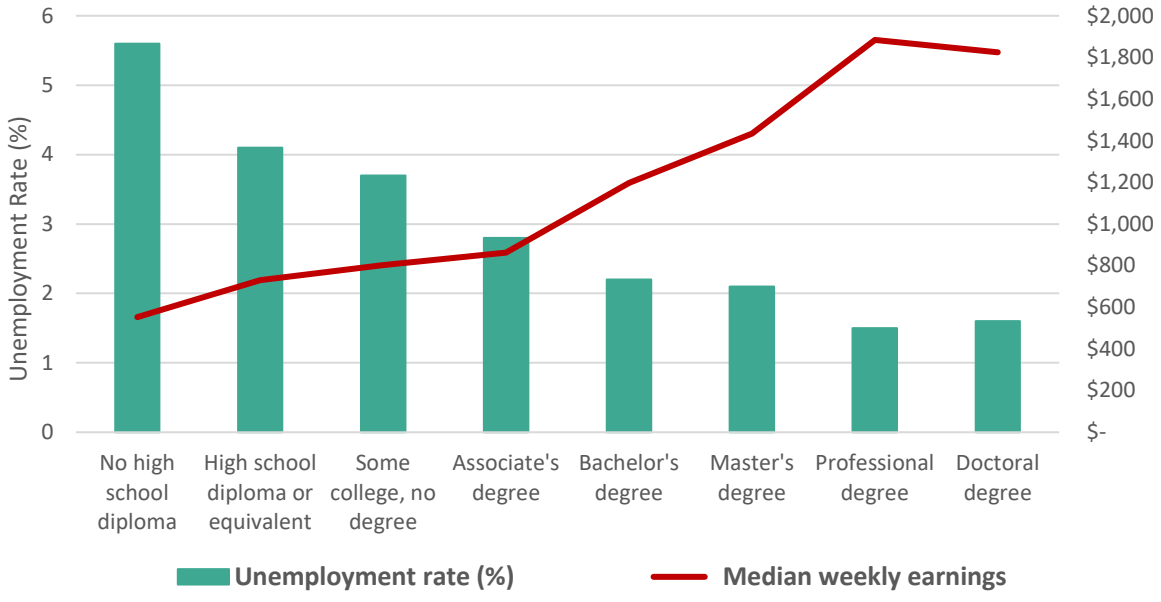
Source: Bureau of Labor Statistics, Alternative Measures of Labor Underutilization

Texas Unemployment and Demographics

In addition to the different measures of unemployment in Texas that have been presented so far, demographic characteristics such as educational attainment, age, race/ethnicity, and sex provide another level of description for those seeking work. For instance, the state of Texas depends upon a stable supply of well-educated workers to promote economic development. One of the main assets Texas has to offer prospective individuals who want to relocate or build a business in Texas is its educated and skilled labor force. Labor market data carries important information for stakeholders about the potential supply of skills available to the labor market, as well as employers' demand for these skills.

BLS described in a recent study how unemployment rates have a wide range based on levels of education. According to data from the current population survey, the unemployment rate for those with a high school diploma or equivalent is 4.1 percent, while the rate for degree holders is 2.8 percent for associate's degrees, 2.2 percent for bachelor's degrees, 2.1 percent for master's degrees, and 1.6 percent for doctorate degrees. In addition, average weekly earnings based on education range from $730 for high school diploma holders to $1,198-$1,825 for those with degrees. Figure 4 indicates that unemployment decreases while weekly earnings increase significantly when at least an associate's level credential is achieved.

Figure 4: Texas Unemployment Rates and Earnings by Educational Attainment, 2018



Source: Current Population Survey, U.S. Department of Labor, U.S. Bureau of Labor Statistics. Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

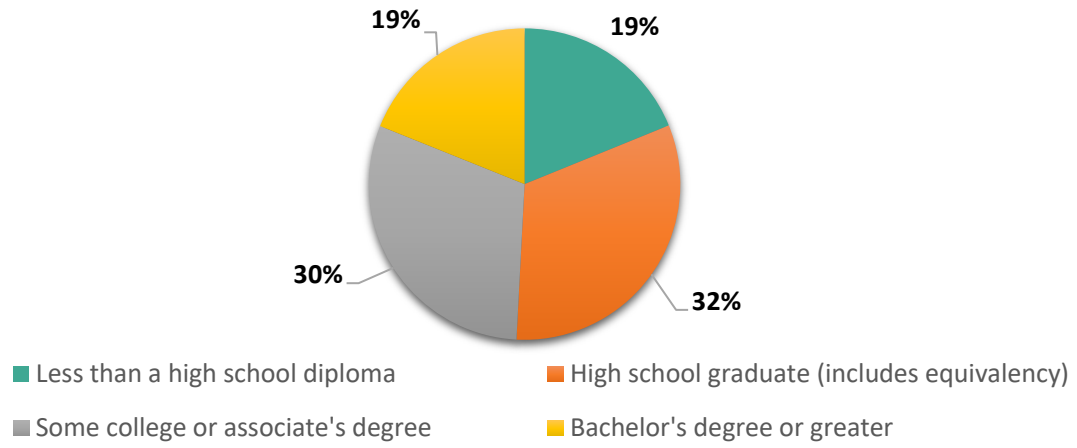
Table 2 was constructed in order to view the official LAUS unemployment rate adjacent to ACS demographic breakouts as a proxy. In addition, Appendix A contains the same demographic breakouts for each of the state's 28 local workforce development areas.

Table 2: Texas Unemployment by Educational Attainment

2018 Local Area Unemployment Statistics		2018 Unemployment by Level of Educational Attainment					
Area	**Unemployment Rate**	**High School - No Diploma**	**High School Diploma or Equivalent**	**Some College**	**Associate's Degree**	**Bachelor's Degree**	**Graduate Degree or Greater**
Texas	3.9	130,676	221,695	168,120	41,564	94,757	36,397

Sources: Bureau of Labor Statistics and U.S. Census Bureau American Community Survey

Figure 5: Texas Unemployment by Percentage of Educational Attainment



Sources: U.S. Census Bureau American Community Survey, 2018

Figure 5 groups unemployed Texans by educational attainment percentages. Thirty-two percent of Texans unemployed in 2018 attained at least high school diploma or equivalent. Moreover, 30 percent of the unemployed attended some college or obtained at least an associate's degree. This means that the majority of the unemployed in 2018 had achieved less than a four-year degree, further highlighting the opportunity to bolster middle-skill education and training.

Table 3: Texas Unemployment by Age, Race/Ethnicity, and Sex

2018 Unemployment Demographics											
	Age Groups				***Race and Ethnicity***					***Sex***	
Area	**16-44**	**45-64**	**65-84**	**85+**	**White**	**Black**	**Asian**	**Other**	**Hispanic**	**Male**	**Female**
Texas	499,669	170,591	22,891	58	248,703	125,654	27,528	16,644	274,680	372,681	320,528

Sources: Bureau of Labor Statistics and U.S. Census Bureau American Community Survey

Table 3 indicates that the Texas unemployed population in 2018 was made up of a majority of Texans age 16-44, was predominantly White, and accounted for slightly more males than females.

Additionally, the following national trends were documented in a news release from BLS[1]: unemployed men were more likely than unemployed women to have applied for unemployment benefits (27 percent, compared with 23 percent). Also, the likelihood of applying for unemployment insurance (UI) benefits increased with age. About seven percent of unemployed people age 16 to 24 had applied since their last job, compared with 32 percent of those age 25 to 54 and 37 percent of those 55 years and over. By industry, unemployed people who last worked in leisure and hospitality (12 percent) and in other services (10 percent) were least likely to have applied for unemployment benefits. Whereas in other industries, the likelihood of applying ranged from 46 percent in financial activities to 23 percent in wholesale and retail trade.

Unemployment Climate in Texas

Texas Labor markets became constrained in recent years, on the heels of steady post-recession job growth since 2008. Businesses report that they cannot find enough numbers of qualified applicants to expand, particularly for middle-skill positions, according to Council research. The Council companion report, *Middle-Skill STEM Occupation Index,* examines these occupations in more detail.

Prolonged Low Unemployment

Prior to the COVID-19 outbreak, Texas had continued to realize sustained low unemployment rates across the state. Texas had been in this extended period of what is considered by economists to be "full employment." Full employment traditionally means the official unemployment rate is below five percent. In other words, full employment is a labor market where unemployment has fallen to the lowest possible level that won't cause inflation, and everyone who is able and willing to work is employed. U.S. Federal Reserve economists currently refer to a natural rate of unemployment at between 4.1 percent and 4.7 percent. Texas has been well below five percent since 2014.

In fact, unemployment had been below four percent since May of 2018, and recently in some areas in Texas (at 2.6 percent and 2.7 percent), this was uncharted territory for the state. Prior to COVID-19, the

[1] Bureau of Labor Statistics, *Characteristics of Unemployment Insurance Applicants and Benefit Recipients Summary,* USDL-19-1692, September 2019.

Texas labor market had become exceptionally tight. A tight labor market limits companies' ability to grow due to increased difficulty in finding and retaining workers while labor costs increase. Tight labor markets impact the economy in that when labor shortages become prevalent across multiple industries, it can limit economic growth and, over time and in some cases, incentivize businesses to invest in labor-saving technology.[2]

Texas Outlook

Migration

Since the 2008 recession, the Texas labor market economy experienced a strong recovery fueled by migration. Texas became a fast-growing state due in part to the influx of migrating workers. According to the Dallas Fed, both domestic and international migration have accounted for nearly half of the overall Texas population growth. Many of these migrants moved to Texas for employment opportunities.

Wage Growth

While oil and gas continued to be the leading industry in only one workforce development area in the state, it continued to drive economic growth. The developments in the Barnett and Eagle Ford shale areas as well as the high oil prices from 2007 to 2009 insulated Texas from most of the effects of the Great Recession. When oil prices lowered in 2015 and 2016, so did Texas' total nonagricultural employment growth rate, below the national rate. However, with the recovery of the oil and gas industry, the total nonagricultural employment state growth rate has remained above the U.S. annual growth rate since March of 2017. Mining, quarrying, and oil and gas extraction lead all industries in total wages percentage increase from 2017 to 2018, a 12 percent growth rate (see Table 4).

The major driver of the oil and gas industry in recent years was increased exports. According to the Houston Chronicle, the Texas gulf coast region exported nearly 500,000 more barrels of crude each day than it imported, bringing into the region billions of dollars that drove new investment, created jobs, and helped make Texas one of the nation's fastest growing economies.[3]

The state's population continued to increase, with the oil and gas sector adding jobs to the economy. In addition, the aging population helped to drive up demand in the healthcare industry, which dominates industry in 21 of the state's 28 workforce development areas. Healthcare led the state in total wages, with over $21 billion in total wages in 2018 (see Table 4).

[2] Federal Reserve Bank of Dallas *Southwest Economy*, "New Technology Boosts Texas Firms' Output, Alters Worker Mix," 2018.

[3] Houston Chronicle, *For first time, crude exports exceed imports along Texas' Gulf Coast*, August 20, 2018, https://www.houstonchronicle.com/business/energy/article/For-first-time-crude-exports-exceed-imports-13169978.php.

Table 4: Total Wages in Texas by Major Industry, 2017 to 2018

Texas Industry	2017 Total Wages ($)	2018 Total Wages ($)	% Chg.
Agriculture, Forestry, Fishing, and Hunting	$619,419,168	$621,608,784	0.4%
Mining, Quarrying, and Oil and Gas Extraction	$6,896,084,080	$7,725,888,616	12.0%
Construction	$12,748,834,117	$13,708,900,889	7.5%
Manufacturing	$16,509,192,829	$17,324,728,148	4.9%
Utilities	$1,787,446,849	$1,843,183,139	3.1%
Wholesale Trade	$12,379,527,911	$13,099,619,227	5.8%
Retail Trade	$11,160,452,883	$11,386,862,409	2.0%
Transportation and Warehousing	$8,152,425,279	$8,795,992,814	7.9%
Information	$4,212,405,145	$4,460,784,412	5.9%
Finance and Insurance	$11,815,033,907	$12,367,143,358	4.7%
Real Estate and Rental and Leasing	$3,481,254,936	$3,780,830,855	8.6%
Professional, Scientific, and Technical Services	$19,171,591,006	$21,256,849,975	10.9%
Management of Companies and Enterprises	$4,119,690,138	$4,497,437,489	9.2%
Administrative and Support and Waste Management Services	$9,240,709,120	$9,582,069,601	3.7%
Educational Services	$14,049,372,861	$14,513,717,746	3.3%
Healthcare and Social Assistance	$21,281,151,130	$22,414,613,147	5.3%
Arts, Entertainment, and Recreation	$1,488,585,310	$1,566,572,426	5.2%
Accommodation and Food Services	$5,949,170,915	$6,354,295,370	6.8%
Other Services	$3,298,270,969	$3,492,350,214	5.9%
Public Administration	$7,138,351,474	$7,575,109,428	6.1%

Source: Texas Workforce Commission, Labor Market and Career Information, CES Employment Estimates.

Texas Growth Potential

The state has had regional pockets of concentrated workers or labor centers. For instance, West Texas had the lowest unemployment rate in the state. It housed the oil and gas industry and had an overabundance of lucrative jobs to fill in this sector. The big four metropolitan areas in Texas along the I-35 corridor also rank high in the nation for the lowest rates of joblessness. The Gulf Coast region, mainly Harris County, was hurt by Hurricane Harvey and the subsequent energy crisis in 2017. This region rebounded in 2018 with an energy sector surge, which led to an extreme tightening of the region's labor force. The Texas-Mexico border area's jobless rate was significantly higher than the state average, and this region's population is growing at a rate faster than both Texas and the U.S. However, recently, high-earning jobs in the shale industry and this population's proximity to the oilfields, combined with a net

outmigration since 2013, were positive indications that unemployment would have continued to decline.[4]

Leading the state in growth potential was the Austin-Round Rock metro area. It was the fastest growing large metropolitan area in the United States over the past decade. The U.S. Bureau of Labor Statistics recently looked at the percent change in employment for metropolitan areas with a 2010 population of at least one million, and Austin-Round Rock topped the list with a 43.1 percent expansion.[5]

Industry-Based Certifications and Middle-Skill STEM Occupations

On a microeconomic scale, today's labor market reveals an increasing role for third-party, industry-based certifications. Research conducted by the Council defined industry-based certifications as being industry-recognized, third-party assessed, and nationally portable credentials. Council research also found that many middle-skill science, technology, engineering, and math (STEM) occupations, which require education and training beyond high school but less than a four-year degree, are not only in-demand, but often provide higher wages compared to non-STEM jobs with similar educational requirements.

In 2016, the Council launched a workforce system initiative to identify and track third-party, industry-based certifications for middle-skill STEM occupations. The overarching goal is to increase the workforce system's capacity to produce workers with an industry-valued credential for occupations that are growing in the state. Generally, STEM jobs have been identified as occupations that require a four-year degree or higher. These high-skill jobs usually include industries ranging from advanced technology to research-oriented professions. However, as industries continue to evolve, many occupations once considered non-STEM now require STEM-oriented skills and knowledge. The Council's research indicates that these middle-skill STEM occupations are a critical segment of the workforce. Students who enter education and workforce training programs that result in a marketable credential, such as an industry-based certification or licensure, benefit from stronger employment outcomes.

Conclusion

This point-in-time report showcases Texas unemployment data by utilizing the various measures of the underemployed and a demographic breakout of the unemployed at the state and sub-state level. The effects on the Texas economy as a result of the prolonged period of low unemployment have showed that a tight labor market is one that can strain business expansion and increase difficulty in finding and retaining workers. However, a glance at the state's potential for growth revealed several opportunities, from migration and wage growth to regional pockets of industries that can propel the state to continued workforce opportunities. In relation to these opportunities, the Council's previous work on middle-skill STEM occupations and associated industry-based certifications laid the groundwork for the Council report released in November 2018, *Industry-Based Certifications for Middle-Skill STEM Occupations in Texas*. This report identified 201 industry-based certifications that are of value to Texas employers. Data in the Council's companion report, *Middle-Skill STEM Occupation Index* (2020), showcase important demographic information for these middle-skill STEM occupations.

[4] Federal Reserve Bank of Dallas *Southwest Economy, "*Texas Facing Historically Tight Labor Market," 2019.
[5] Dr. M. Ray. Perryman, *Big City Job Growth,* January 20, 2020.

Appendix A: Unemployment Demographics by Texas Local Workforce Development Area, 2018

The tables in this appendix list key demographic information for unemployed Texans broken out by local workforce development area. The tables were constructed in order to view the official Local Area Unemployment Statistics (LAUS 2018) unemployment numbers adjacent to U.S. Census American Community Survey (ACS 2018) demographic breakouts as a proxy.

The first set of data, displayed in the first four tables, is ACS unemployment information on the demographic and educational characteristics of individuals by age group, sex, and race/ethnicity, and by level of educational attainment. This data differs from LAUS data in that ACS data can be segmented out by demographic variables. For the detailed methodology for producing these tables, please see Appendix B.

The second set of data is labor market information from LAUS that shows the local workforce development area and unemployment rate, produced by the Bureau of Labor Statistics. These estimates are key indicators of local economic conditions. The underlying sources for the LAUS estimates are the Current Population Survey, the household survey that is the source of the official national unemployment rate; inputs from the Current Employment Statistic survey; and state unemployment insurance systems.

Panhandle Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
5,774	2,434	361	0

Sex

Male	Female
4,892	3,676

Race and Ethnicity

White	Black	Asian	Hispanic	Other
5,583	923	0	1,940	123

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,579	2,934	3,296	759

Labor Market Information

Unemployment rate
2.9%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

South Plains Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
6,593	1,526	275	0

Sex

Male	Female
5,238	3,156

Race and Ethnicity

White	Black	Asian	Hispanic	Other
3,950	371	0	3,600	472

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,439	3,608	2,791	556

Labor Market Information

Unemployment rate
3.3%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

North Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
3,463	981	246	0

Sex

Male	Female
1,965	2,726

Race and Ethnicity

White	Black	Asian	Hispanic	Other
3,656	335	0	538	161

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
758	1,816	1,556	560

Labor Market Information

Unemployment rate
3.3%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

North Central Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
42,679	17,283	2,457	58

Sex

Male	Female
30,907	29,899

Race and Ethnicity

White	Black	Asian	Hispanic	Other
35,531	10,051	4,779	10,155	1,961

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
7,978	19,328	18,947	16,225

Labor Market Information

Unemployment rate
3.3%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Tarrant County Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
39,367	12,430	1,462	0

Sex

Male	Female
28,235	25,024

Race and Ethnicity

White	Black	Asian	Hispanic	Other
19,554	12,283	3,723	16,123	1,576

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
10,782	15,842	15,917	10,718

Labor Market Information

Unemployment rate
3.5%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Dallas County Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
41,980	13,271	2,660	0

Sex

Male	Female
25,706	32,205

Race and Ethnicity

White	Black	Asian	Hispanic	Other
13,802	18,751	2,132	22,056	1,170

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
14,955	16,687	14,630	11,639

Labor Market Information

Unemployment rate
3.8%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

North East Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
5,291	950	312	0

Sex

Male	Female
3,895	2,657

Race and Ethnicity

White	Black	Asian	Hispanic	Other
4,295	1,769	0	433	55

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
633	3,272	1,827	820

Labor Market Information

Unemployment rate
4.5%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

East Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
13,413	6,418	862	0

Sex

Male	Female
11,558	9,135

Race and Ethnicity

White	Black	Asian	Hispanic	Other
11,496	5,833	15	2,830	519

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
6,754	5,430	6,451	2,058

Labor Market Information

Unemployment rate
3.9%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

West Central Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
4,454	1,452	318	0

Sex

Male	Female
3,355	2,869

Race and Ethnicity

White	Black	Asian	Hispanic	Other
3,825	627	84	1,656	31

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,003	2,094	2,249	877

Labor Market Information

Unemployment rate
3.4%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Borderplex Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
19,643	5,458	294	0

Sex

Male	Female
13,796	11,599

Race and Ethnicity

White	Black	Asian	Hispanic	Other
2,739	1,084	318	21,040	214

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
5,048	7,559	10,280	2,509

Labor Market Information

Unemployment rate
4.2%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Permian Basin Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
6,193	1,689	134	0

Sex

Male	Female
4,656	4,468

Race and Ethnicity

White	Black	Asian	Hispanic	Other
2,328	0	62	5,483	142

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
2,459	2,702	2,174	680

Labor Market Information

Unemployment rate
2.5%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Concho Valley Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
3,632	963	39	0

Sex

Male	Female
3,053	2,742

Race and Ethnicity

White	Black	Asian	Hispanic	Other
2,311	4	27	2,292	0

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
839	1,995	1,612	188

Labor Market Information

Unemployment rate
3.1%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Heart of Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
5,000	2,068	357	0

Sex

Male	Female
4,061	2,670

Race and Ethnicity

White	Black	Asian	Hispanic	Other
4,532	1,085	22	1,441	346

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
916	2,202	2,666	1,641

Labor Market Information

Unemployment rate
3.7%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Capital Area Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
22,027	7,614	638	0

Sex

Male	Female
16,484	13,795

Race and Ethnicity

White	Black	Asian	Hispanic	Other
12,956	2,929	1,517	12,401	476

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
7,158	5,649	7,523	9,949

Labor Market Information

Unemployment rate
2.8%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Rural Capital Area Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
19,559	6,970	733	0

Sex

Male	Female
14,966	12,296

Race and Ethnicity

White	Black	Asian	Hispanic	Other
15,699	1,289	1,113	8,967	196

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
5,227	9,257	7,030	5,749

Labor Market Information

Unemployment rate
3.1%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Brazos Valley Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
6,028	1,199	224	0

Sex

Male	Female
4,422	3,029

Race and Ethnicity

White	Black	Asian	Hispanic	Other
3,566	1,704	653	1,357	171

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
620	3,709	2,035	1,087

Labor Market Information

Unemployment rate
3.2%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Deep East Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
8,168	2,215	37	0

Sex

Male	Female
4,780	5,640

Race and Ethnicity

White	Black	Asian	Hispanic	Other
5,788	3,456	0	863	313

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,490	5,036	3,340	553

Labor Market Information

Unemployment rate
4.8%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

South East Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
4,150	1,540	593	0

Sex

Male	Female
3,375	2,734

Race and Ethnicity

White	Black	Asian	Hispanic	Other
3,049	1,461	302	1,423	48

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,449	2,758	1,307	769

Labor Market Information

Unemployment rate
6.0%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Golden Crescent Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
3,574	1,206	63	0

Sex

Male	Female
1,913	1,807

Race and Ethnicity

White	Black	Asian	Hispanic	Other
2,103	156	0	2,583	0

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
778	1,617	1,593	855

Labor Market Information

Unemployment rate
3.6%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Alamo Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
46,939	14,912	1,038	0

Sex

Male	Female
31,904	29,975

Race and Ethnicity

White	Black	Asian	Hispanic	Other
17,710	4,365	1,245	38,309	1,261

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
12,515	24,006	15,860	10,508

Labor Market Information

Unemployment rate
3.3%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

South Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
5,259	1,483	79	0

Sex

Male	Female
4,060	2,526

Race and Ethnicity

White	Black	Asian	Hispanic	Other
133	163	0	6,525	0

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,413	2,135	2,273	901

Labor Market Information

Unemployment rate
3.9%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Coastal Bend Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
11,882	3,773	602	0

Sex

Male	Female
9,029	7,228

Race and Ethnicity

White	Black	Asian	Hispanic	Other
4,315	372	93	11,403	74

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
2,580	5,765	6,053	1,860

Labor Market Information

Unemployment rate
5.0%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Lower Rio Grande Valley Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
21,024	5,873	538	0

Sex

Male	Female
15,534	11,901

Race and Ethnicity

White	Black	Asian	Hispanic	Other
1,163	85	0	26,132	55

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
7,791	10,471	6,408	2,766

Labor Market Information

Unemployment rate
6.8%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Cameron County Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
7,158	1,831	318	0

Sex

Male	Female
5,817	3,490

Race and Ethnicity

White	Black	Asian	Hispanic	Other
709	108	0	8,370	120

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,833	2,440	3,821	1,213

Labor Market Information

Unemployment rate
6.1%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Texoma Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
3,700	1,328	10	0

Sex

Male	Female
2,231	2,807

Race and Ethnicity

White	Black	Asian	Hispanic	Other
3,263	944	0	497	333

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
317	2,162	2,072	486

Labor Market Information

Unemployment rate
3.2%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Central Texas Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
9,104	3,780	359	0

Sex

Male	Female
6,669	6,575

Race and Ethnicity

White	Black	Asian	Hispanic	Other
5,770	4,251	209	1,975	1,040

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
1,263	5,254	4,982	1,745

Labor Market Information

Unemployment rate
4.1%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Middle Rio Grande Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
1,904	633	26	0

Sex

Male	Female
1,328	1,234

Race and Ethnicity

White	Black	Asian	Hispanic	Other
327	0	0	2,155	80

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
758	1,071	633	101

Labor Market Information

Unemployment rate
5.3%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Gulf Coast Local Workforce Development Area

Unemployment Data

Demographic Characteristics

Age group

16-44	45-64	65-84	85+
131,704	49,306	7,855	0

Sex

Male	Female
107,408	80,146

Race and Ethnicity

White	Black	Asian	Hispanic	Other
58,353	51,250	11,234	62,138	5,707

Educational Characteristics

Less than a high school diploma	High school graduate (includes equivalency)	Some college or associate's degree	Bachelor's degree or higher
33,992	53,125	58,805	42,944

Labor Market Information

Unemployment rate
4.3%

Sources: Bureau of Labor Statistics - Local Area Unemployment Statistics (annualized 2018 data) and U.S. Census Bureau American Community Survey, 2018

Appendix B: Methodology for Local Workforce Development Area Unemployment Demographic Data

This appendix describes the process used to produce demographic unemployment data for local workforce development areas. This involves data from the 2018 American Community Survey (ACS) as specified in Appendix A. The process, which can be replicated using the instructions detailed in this section, involves four major steps:

1. Download the U.S. Census 2018 ACS Public Use Microdata Sample (PUMS) file.
2. Use Excel pivot tables to query the four different demographic variables.
3. Obtain Public Use Microdata Areas (PUMA) to county allocation factors from the Missouri Census Data Center and apply them to the ACS PUMS data.
4. Produce county-level demographic data for each variable and aggregate them into the 28 Texas local workforce development areas.

1. Download the U.S. Census 2018 ACS PUMS file.

The first step in developing local workforce development area unemployment demographic data is to access the U.S. Census Bureau's American Community Survey website at https://www.census.gov/programs-surveys/acs. In the data tab, scroll to the 2018 ACS PUMS link that is available in CSV format. Open the November 12, 2019, 1-Year folder and click on the file named "csv_ptx.zip." Open this file in Microsoft Excel.

2. Use Excel pivot tables to query the four different demographic variables.

The PUMS data is weighted, with each case representing multiple cases. The population weight variable to use is main population weight (PWGTP). Replication weights consist of 80 unique variables for each type of weight (PWGTP1 through PWGTP80 for population weights).

In the opened ACS PUMS data Excel file, highlight all the data, click on the insert tab, and then create the pivot table. Use the employment status recode (ESR) variable and select "3" for unemployed.

Use cross-tabulations in the Excel pivot tables to determine frequencies using the ESR variable (in the filters field) and two or more categorical variables. The results of these cross-tabulations help to populate the values included in each of the 28 local workforce development areas, using the variable PUMA in the rows field and PWGTP population weight in the values field. Variables used in the columns field for this analysis include:

- AGEP – corresponds to ages under one year to 99 years
- SEX – corresponds to values male and female
- RAC1P – Recoded detailed race code:
    1. White alone

2. Black or African American alone
3. American Indian alone
4. Alaska Native alone
5. American Indian and Alaska Native tribes specified; or American Indian or Alaska Native, not specified and no other races
6. Asian alone
7. Native Hawaiian and Other Pacific Islander alone
8. Some Other Race alone
9. Two or more races

- HISP – Recoded detailed Hispanic Origin (see Special steps for Hispanic totals)
- SCHL – Educational attainment

Obtain the totals for each variable for PUMA areas in Texas. The results will be used in the next step of this process.

Note: Special steps were taken to reach Hispanic totals. The ACS race and ethnicity variables RAC1P and HISP were used to categorize racial/ethnic groups in this report.

RAC1P are coded as follows:

1. White alone
2. Black or African American alone
3. American Indian alone
4. Alaska Native alone
5. American Indian and Alaska Native tribes specified; or American Indian or Alaska native, not specified and no other races
6. Asian alone
7. Native Hawaiian and Other Pacific Islander alone
8. Some other race alone
9. Two or more major race groups

HISP are coded as follows:

1. Not Spanish/Hispanic/Latino
2. Mexican
3. Puerto Rican
4. Cuban
5. Dominican
6. Costa Rican
7. Guatemalan
8. Honduran
9. Nicaraguan
10. Panamanian
11. Salvadoran
12. Other Central American
13. Argentinean
14. Bolivian

15. Chilean
16. Colombian
17. Ecuadorian
18. Paraguayan
19. Peruvian
20. Uruguayan
21. Venezuelan
22. Other South American
23. Spaniard
24. All Other Spanish/Hispanic/Latino

The racial/ethnic groups discussed in this report are defined as follows: Asian: RAC1P=6. Asian alone. Black/African American: RAC1P=2. Black or African alone. Hispanic: HISP≠1. Do not fall into category "Not Spanish/Hispanic/Latino." White: RAC1P=1 and HISP=1. White alone, not Hispanic. Other: All other left.

Race and ethnicity are treated as distinct concepts in the ACS. Hispanic ethnicity is treated as a binary condition. This means that either a person is coded to be Hispanic, or the person is not coded to be Hispanic. Therefore, when describing the racial and ethnic composition of workers, the convention is to distinguish race from Hispanic ethnicity.

Examples of this can be the number of unemployed Texans who are White and non-Hispanic, or Asian and non-Hispanic. In contrast, workers who identify as Hispanic are allowed to be from any race group. Since race and ethnicity are distinguished when describing the racial and ethnic composition of workers, new variables need to be created:

- White, not Hispanic
- Black, or African American, not Hispanic
- Asian, not Hispanic
- Other race, not Hispanic (this includes all Native American groups, Native Hawaiian/Pacific Islander, and two or more races)
- Hispanic, any race

Using the RAC1P and HISP variables, perform the following coding sequences:

*White alone, not Hispanic

White=1 if RAC1P=1 & HISP=1

* Black or African American alone, not Hispanic

Black=2 if RAC1P=2 & HISP=1
* Asian alone, not Hispanic

Asian=3 if RAC1P=6 & HISP=1

* Hispanic alone

Hispanic=4 if RAC1P=all & HISP=2-24
cumulative total will give user the Hispanic alone total

* Other alone, not Hispanic

Other=5 if RAC1P=3,4,5,7,8,9 & HISP=1

3. Obtain PUMA to county allocation factors from the Missouri Census Data Center and apply them to the ACS PUMS data.

Allocation factors allow users to extrapolate data between different sized populations. In this case, extrapolate from PUMA to county to local workforce development area.

From the Missouri Census Data Center, obtain SAS output "Listing of Geographic Correlations" using the following filters on the MABLE/GEOCORR tool (http://mcdc.missouri.edu/websas/geocorr.html):

1. Select the state (or states) to process: Texas
2. Select 1 or more "SOURCE" Geocode(s): PUMA ("2012")
3. Select 1 or more "TARGET" Geocode(s): County 2010
4. Scroll down to "Weighting Variable": Population (2010 Census)
5. Scroll down and click on "Run Request"
6. A new screen populates with the MABLE/geocorr14 Results
    a. Output files are available at the bottom of the page
        i. Listing (report format) ß is the preferred output
        ii. Comma delimited ("csv") file
7. When Listing (report format) is opened, a new screen shows a table with the following variables:
    a. State code "48"
    b. State abbreviation "TX"
    c. PUMA12
    d. PUMA12 name
    e. County code
    f. Total population
    g. PUMA12 to county allocation factor

These allocations factors for each PUMA will be used in the next step to aggregate from PUMA to county and then to local workforce development area.

4. Produce county-level demographic data for each variable and aggregate them into the 28 Texas local workforce development areas.

For each demographic variable (age group, sex, race, and educational attainment), apply the PUMA12 to county allocation factor to each PUMA.

Finally, arrange the counties by local workforce development area and total all the county data in each corresponding local workforce development area for each demographic variable.

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