



Department of
**Labor & Workforce
Development**

Workforce Insights, Research,
and Reporting Engine Division



Tennessee's Economy

2018 Reference Guide





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and Reporting Engine Division

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A Guidebook to the Tennessee Economy, 2018

Executive Summary

The Tennessee economy continued its growth in 2018, with nonagricultural employment increasing from 3,011,300 to 3,060,300. The average number of employing establishments grew, the state labor force expanded, and state unemployment rates continued their decline. Per capita income advanced at a greater rate from 2016-2017 than from 2015-2016 as average wages rose and poverty rates declined somewhat. The short-term job outlook is for annual average employment growth of at least 1.24 percent through the third quarter of 2020, with expected total openings of 813,110 over the two year period. From 2016 to 2017, non-fatal injuries and illnesses on the job, for the public sector, were also reduced.

Employment

Nonagricultural employment increased by nearly 1.6 percent from 2017 to 2018, at a pace somewhat faster than from 2016 to 2017. The result was 49,000 new jobs created in the state from 2017 to 2018. All metropolitan statistical areas increased in employment except Cleveland.

Employers

The average number of establishments increased by 3.1 percent over the year. Total payroll increased to \$150.2 billion in 2018, nearly 5 percent higher than in 2017. Sixty-three counties had a net increase in employing establishments in 2018 (Page 3).

Labor Force and Demographics

Total population increased 0.91 percent over the year. Even as the labor force increased to 3,244,921 in 2018, the number of unemployed decreased by 6,600 to an annual average of 113,300 (Table 18). The average unemployment rate dropped from 3.8 percent in 2017 to 3.5 percent in 2018.

Wages and Income (and Poverty)

The Tennessee average annual wage increased nearly 3.3 percent in 2017-2018. The median wage, with half of employees earning more and half less, improved over the year by 3.0 percent, bringing the state median wage to \$34,890. Production wages increased from \$19.40/hour in 2017 to \$21.47/hour in 2018. Per capita personal income was \$45,517 (Table A1), while the rate of poverty was 16.7 percent (Table 13).

Job Outlook

One measure of the job outlook is the number of unemployed individuals compared to the number of jobs posted monthly on the job seeker website jobs4tn.gov. From June 2017 to June 2018, the number of unemployed remained less than the number of job postings, as the state remained a jobseekers' market. Job growth through 2020 is expected to be at least 1.24 percent annually (Table 7).

Safety on the Job

Safety on the job remained the same from 2016 to 2017 with a nonfatal injuries and illnesses rate of 3.0 per 100 full time equivalent worker.

Detailed Industry Analysis

Twenty industries comprise more than two of every three jobs in Tennessee (Table 5). The top five detailed industries are all found in the service-providing industries of food services, educational services, administrative and support services, ambulatory health services (outpatient), and hospitals. More people are now employed in outpatient healthcare settings (154,069) than in hospitals (144,551). These industries are also the top five in terms of employment in each LWDA except for the Northern Middle and Greater Memphis (Tables 19, 24, and 29). Transportation equipment manufacturing is among the top 10 industries in five of the nine LWDA's (East, Southeast, Upper Cumberland, Southern Middle, and Northern Middle). Chemical Manufacturing is in the top 10 industries in the Northeast LWDA, fabricated metal product manufacturing and machinery manufacturing are in the top 10 industries in the Southwest LWDA, electrical equipment, appliance, and components manufacturing is in the top 10 industries in the Northwest LWDA, and no manufacturing industries are in the top 10 industries for the Greater Memphis LWDA.

Detailed Occupational Analysis

The industries expected to grow most rapidly through 2020 are identified in the Job Outlook section (Table 8). Although the service-providing sector is expected to grow faster than the goods producing sector, manufacturing and construction are still expected to experience positive growth, with construction expected to create more than 5,500 jobs during the 2018-2020 projection period. More rapid growth in the education and health services, professional and business services, and leisure and hospitality industries will boost employment in the computer and mathematical and healthcare support occupations (Table 9), as well as for healthcare practitioners and technical occupations. Construction and extraction is expected to be the third fastest-growing group. The top three critical skills in terms of growth are speaking, active listening, and social perceptiveness (Table 10).

Tables 20, 23, and 26 contains information on Middle Skill occupations (those requiring less than a four year degree) that are in demand, their 2018 annual average wages, and their current supply/demand outlook are on jobs4tn.gov. If listed occupations have certifications aligned with Tennessee high school career and technical education programs, an indicator is displayed in the last column in the table.

Workforce Issues in the East, Middle, and West Regions

Population in 2018 for the state was estimated at 6,770,010, increasing by 0.91 percent over 2017 (Table 13). All three regions increased in population, with the Middle Region adding an additional 43,717 people. Average unemployment rates declined in all areas. The West continues to have the highest unemployment rates, including among youth. College educational attainment in the East was slightly below the state average. The state poverty rate (2017) has declined somewhat to 16.7 percent, with the West Region higher at 20.2 percent. The East Region has the highest rate of those unemployed with a disability (15.4 percent).

Sustainable Barriers to Employment

Tables 33 and 34 contain numbers of individuals in each of the nine local workforce development areas with substantial barriers to employment. Collection of these data is ongoing, and will be provided to workforce services partners as it becomes available. In the fiscal year ending June 2018, almost 2,000 individuals were involved in recovery courts in Tennessee.







Apprenticeship Completers

Key to reducing unemployment among individuals with multiple barriers to entering and being retained in the workforce is integrating work-based learning (especially if compensated) and employment. One of these strategies is increasing apprenticeships. In 2018, the number of registered apprenticeship completers in Tennessee decreased by 59 to 705, in a total of 43 unique occupations. The East Region had the largest number of apprenticeship sponsors and completers (Tables 36-39).

Conclusion

Tennessee continues on the path of positive employment growth and increasing population with historically low unemployment rates and some increases in educational attainment and wages. Information on the significant numbers of individuals who face substantial barriers to employment as identified by the Workforce Innovation and Opportunity Act will provide the newly created Local Workforce Development Areas information for strategic planning for those they have the potential to serve.

Tennessee's Economy | 2018

 Employment	Total Employment 2018: 3,060,300 1.6% 2017: 3,011,300 Stronger	New Jobs 2018: 49,000 2017: 46,000 Stronger	MSA Employment 2017-2018 Nashville - 3.07% Jackson - 1.17% Chattanooga - 1.79% Knoxville - 1.06% Stronger
 Employers	Average Number of Establishments 2018: 161,696 3.1% 2017: 156,863 Stronger	Total Payroll 2018: 150.2 Billion 4.96% 2017: 143.1 Billion Stronger	Counties That Increased Employment 2018: 63 2017: 70 Challenge
 Wages & Income	Average Annual Wage 2018: \$50,434 3.3% 2017: \$48,824 Stronger	State Median Wage 2018: \$34,890 3.0% 2017: \$33,870 Stronger	Average Hourly Wages - Production Workers 2018: \$21.47 2017: \$19.40 Stronger
 Labor Force & Demographics	Unemployment Rate 2018: 3.5% -0.3% 2017: 3.8% Stronger	Labor Force 2018: 3,244,921 1.7% 2017: 3,190,166 Stronger	Unemployment Rates Veterans, 2018: 2.4% Youth 2017: 14.1% With Disability, 2017: 13.6% % In Poverty, 2017: 16.7% Stronger
 Job Outlook	Ratio of Unemployed to Job Openings June 2018: 0.78 -0.10% June 2017: 0.88 Stronger	Projected Annual Growth Rate, All Occupations 2018-2020: 1.24% 2017-2019: 1.80% Challenge	Projected Job Openings 2018-2020: 813,110 Stronger
 Safety on the Job	Total Nonfatal Occupational Illnesses and Injuries, All 2017: 3.0 per 100 FTE 2016: 3.0 per 100 FTE Strong	Total Nonfatal Occupational Illnesses and Injuries, Public Sector 2017: 3.7 per 100 FTE 2016: 3.9 per 100 FTE Stronger	Fatal Occupational Injuries 2017: 128 2016: 122 Challenge

Tennessee Economic Conditions 2018

During 2018, job growth at the national level continued to remain healthy, increasing monthly just over 220,000 from January to December 2018.¹ The national unemployment rate continued to decline, from a seasonally adjusted rate of 4.1 percent in January 2018 to 3.9 percent in December 2018. In 2018, Tennessee's seasonally adjusted unemployment rate declined from 3.6 percent in January to 3.3 percent in December, and it continues to remain lower than the national rate.

Personal consumption expenditures (spending) increased by \$727 billion from second quarter 2017 to second quarter 2018.² For the year 2018 consumer confidence has remained on a solid footing reaching 137 in October and ended 2018 at 121.5. In Tennessee, average weekly wages of production employees in manufacturing increased by 4.4 percent over the year.³

At the national level, despite the steady improvement in job creation, the labor force participation rate continued to give mixed signals during 2018. Based on various changes in the dynamics of the workforce with what appeared to be more people returning to the workforce along with the new jobs being created, the rate showed a slight increase for the year. This rate ranged from 62.7 percent in January to the highest reported for the year in December at 63.1 percent. Tennessee's rate continued to fluctuate during 2018 reaching a high of 61.0 percent in April before dropping back to the January rate of 60.8 percent.¹ From 2017 to 2018, Tennessee's estimated population increased by 61,216, an increase of slightly more than 0.91 percent.⁴

Tennessee's exports fell by more than 5 percent for the fourth quarter of 2018, a loss of just less than 8 billion dollars.⁵ The period proved to be one of the worst years in recent memory with the losses being surprisingly widespread with decreases in six of the state's 10 largest markets. The major reasons for the losses included the slow-down in the global auto industry, the continuation of some supply chain shifts that have troubled the state all year, but most noticeably the impact of retaliatory tariffs. The increased tariffs on Tennessee products hurt the state to a greater proportion than the nation as a whole which recorded during the same period an increase of 3.8 percent in exports overall.⁵

During 2018, export losses were widely distributed across different industries. Automobile shipments were down over \$100 million with growth in electric cars and SUVs growing, but not enough to absorb the drop in hybrid car shipments of almost \$50 million and the drop in spark-plug engines of \$70 million in the fourth quarter of 2018. Geographically, the losses were largest in Canada and Latin America. Japan and China switched positions with the former replacing China as the state's third-largest market due to the Chinese market suffering a bigger decline than the Japanese. Hybrid cars, laptops, aircraft and oak wood were among Tennessee exports that experienced a rough ride in China as 2018 continued.

Bright spots were Australia, where state exports climbed from \$148 million to \$175 million and the U.K. where the aircraft, electric battery and medical instrument sector provided a lucrative gain from \$208 million to \$273 million in exports. Exports over all the E.U. were little changed with Tennessee goods facing retaliatory tariffs seeing major declines.⁵

Going forward caution is needed. The discussion of trade wars and tariffs at the national level has had significant effects on a wide range of our state's exports. Many of the tariffs that have been introduced and others being considered involve significant trading partners and users of Tennessee exports. Most view global automotive sales as struggling and the International Monetary Fund (IMF) and other agencies have reduced their estimation of overall global economic growth for 2019. The dollar has remained strong and will also be a factor for Tennessee exporters.⁵

Sales tax revenues were up 5.21 percent while franchise and excise taxes decreased 8.51 percent comparing June 2018 to June 2017. Total collected revenue for this period showed an increase of 3.08 percent with collections from miscellaneous taxes, income and gas replacing the decreases noted above.⁶

¹ BLS Current Employment Summary, July 2019

² United States Consumer Confidence Index, June 2019

³ TDLWFD, Jobs4TN, July 2019 Quarterly Census of Employment and Wages

⁴ US Census Bureau Annual Estimates of Resident Population, July 2018

⁵ Tennessee Trade Report 4th Quarter 2018, Middle TN State University, Jones College of Business

⁶ Tennessee Department of Revenue Collected Revenues, June 2018



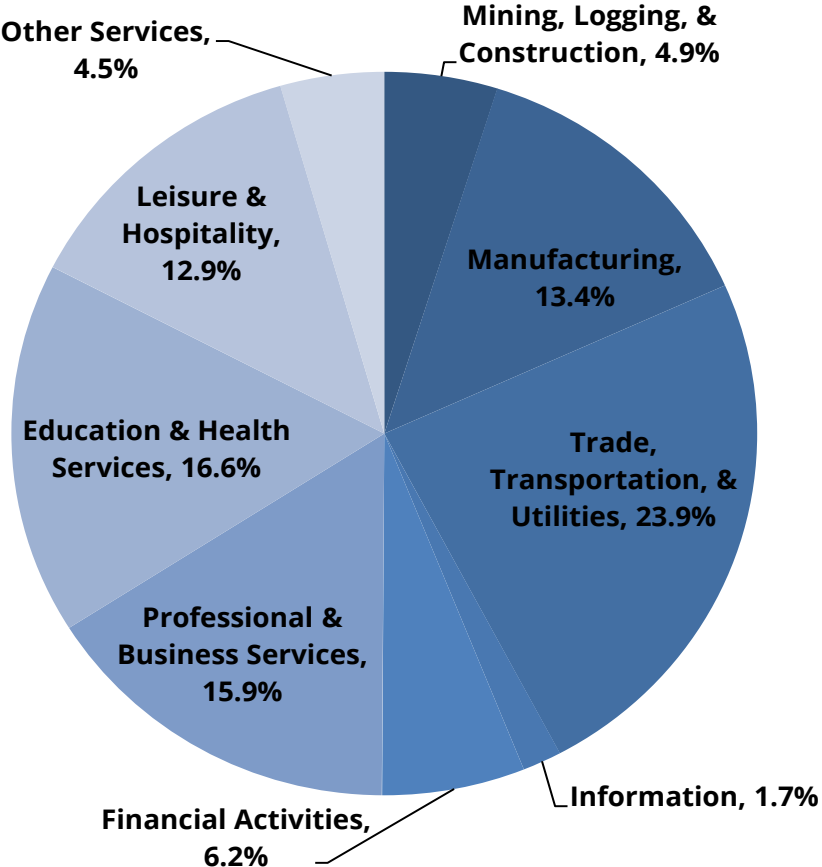
Statewide Employment

Tennessee’s average annual nonfarm employment increased 1.6 percent from 2017 to 2018, adding 49,000 jobs. Goods producing jobs grew at a rate of 2.0 percent compared to 1.7 percent for private service-providing jobs. Jobs in the government sector grew by 1.2 percent. In the goods producing sector, mining, logging, and construction grew by 4,800 jobs while manufacturing increased by 4,400 jobs .

Among the private service-providing industries, those with the largest job increases were leisure and hospitality which added 10,000 jobs, and trade, transportation, and utilities services which added 7,500 jobs. Within the leisure and hospitality sector, accommodation and food services accounted for 7,900 of the added jobs while transportation, warehousing, and utilities accounted for 4,300 of the 7,500 jobs added in trade, transportation, and utilities services. Only information services experienced a decline from 2017 to 2018 with a loss of 600 jobs.

Since 2013, Tennessee has added 300,400 jobs, a 10.9 percent increase. Professional and business services led the way adding 58,600 jobs. Of those jobs, 24,100 were added in professional, scientific, and technical services, and 22,900 were added in administrative and support and waste management. Other sectors gaining over 25,000 jobs included durable goods manufacturing; trade, transportation and utilities; healthcare and social assistance; and accommodation and food services. Only federal government has experienced a decline since 2013.

2018 Private Sector Employment



Source: TN Department of Labor & Workforce Development, Current Employment Statistics

Figure 1

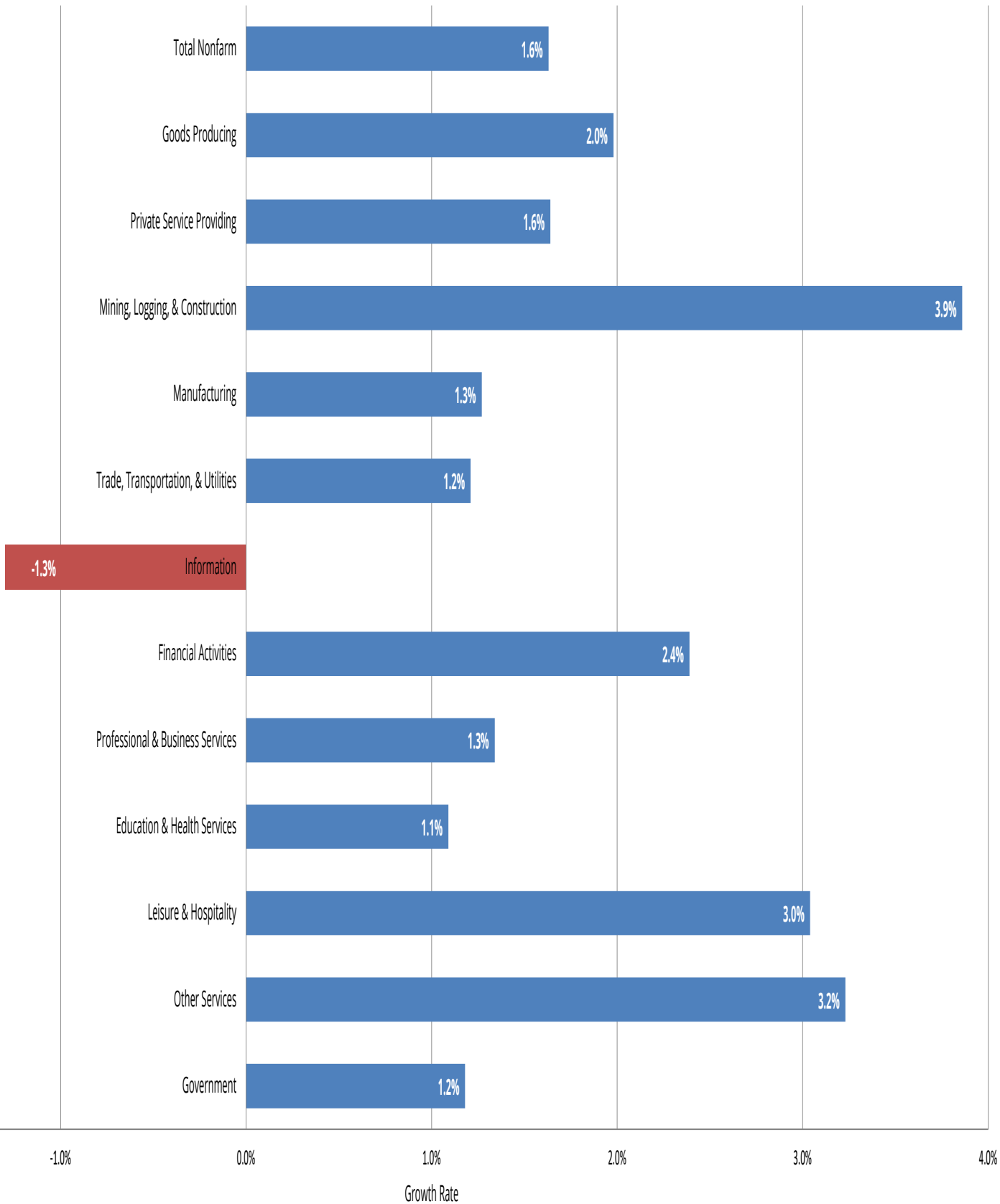
Table 1: Tennessee Industry Employment, 2013-2018

Industry Employment (in thousands)	2013	2017	2018	17-18	17-18 %	13-18	13-18 %
Total Nonfarm	2759.9	3011.3	3060.3	49.0	1.6%	300.4	10.9%
Goods Producing	424.1	470.6	479.9	9.3	2.0%	55.8	13.2%
Mining, Logging, & Construction	107.9	124.4	129.2	4.8	3.9%	21.3	19.7%
Manufacturing	316.2	346.3	350.7	4.4	1.3%	34.5	10.9%
Durable Goods Manuf.	199.2	220.0	224.3	2.3	1.0%	25.1	12.6%
Non Durable Goods Manufacturing	117.0	124.2	126.5	2.3	1.9%	9.5	8.1%
Private Service-Providing	1913.1	2110.3	2144.9	34.6	1.6%	231.8	12.1%
Trade, Transportation, & Utilities	579.1	619.7	627.2	7.5	1.2%	48.1	8.3%
Wholesale Trade	118.5	118.1	119.7	1.6	1.4%	1.2	1.0%
Retail Trade	315.1	336.0	337.6	1.6	0.5%	22.5	7.1%
Transportation & Utilities	145.5	165.6	169.9	4.3	2.6%	24.4	16.8%
Information	44.3	46.1	45.5	-0.6	-1.3%	1.2	2.7%
Financial Activities	138.9	158.7	162.5	3.8	2.4%	23.6	17.0%
Finance & Insurance	106.0	119.0	121.8	2.8	2.4%	15.8	14.9%
Real Estate, Rental & Leasing	32.9	39.7	40.7	1.0	2.5%	7.8	23.7%
Professional & Business Services	358.3	411.4	416.9	5.5	1.3%	58.6	16.4%
Professional, Scientific & Technical Services	116.5	137.2	140.6	3.4	2.5%	24.1	20.7%
Management of Companies & Enterprises	39.2	48.9	50.8	1.9	3.9%	11.6	29.6%
Admin, Support, Waste Mgt & Remediation Services	202.6	225.4	225.5	0.1	0.0%	22.9	11.3%
Education & Health Services	401.1	430.9	435.6	4.7	1.1%	34.5	8.6%
Educational Services	53.5	60.0	60.4	0.4	0.7%	6.9	12.9%
Health Care & Social Assistance	347.5	370.8	375.2	4.4	1.2%	27.7	8.0%
Leisure & Hospitality	285.9	328.9	338.9	10.0	3.0%	53.0	18.5%
Arts, Entertainment & Recreation	31.1	37.6	39.7	2.1	5.6%	8.6	27.7%
Accommodation & Food Services	254.8	291.3	299.2	7.9	2.7%	44.4	17.4%
Other Services	105.6	114.6	118.3	3.7	3.2%	12.7	12.0%
Government	422.6	430.4	435.5	5.1	1.2%	12.9	3.1%
Federal Government	49.5	49.1	49.1	0.0	0.0%	-0.4	-0.8%
State Government	94.5	98.0	99.0	1.0	1.0%	4.5	4.8%
Local Government	278.7	283.3	287.4	4.1	1.4%	8.7	3.1%

Source: TN Department of Labor & Workforce Development, Current Employment Statistics

Table 1 shows that total Tennessee nonfarm employment was 3 million, 60 thousand, 3 hundred in 2018. The most rapidly growing industries during 2013-2018 were management of companies and enterprises, arts and entertainment, and recreation, and professional, scientific, and technical services.

Tennessee Job Growth 2017-2018



Source: TN Department of Labor & Workforce Development, Current Employment Statistics

Figure 2



Employers

The total number of establishments in Tennessee grew to 161,696 in 2018, a 3.1 percent increase from the 2017 total of 156,863. Middle Tennessee grew at the fastest rate in terms of the number of employers at 4.5 percent. East Tennessee grew at a 2.9 percent rate and West Tennessee at 2.0 percent.

Overall, 89 counties had positive growth in the number of new establishments, with 4 losing some establishments and 2 that remained unchanged at zero percent growth. A contributing factor to this trend in the growth of the number of establishments may be the increase in the prevalence of “tele-working” establishments. This occurs when out of state employers sometimes open Unemployment Insurance (UI) accounts in other states to cover the employee(s) it has working from home in a different state. As wages and competition to attract employees increase, employers may offer this flexibility to lure staff with perks such as these.

Wages

The average annual wage in Tennessee increased 3.33 percent to \$50,449 in 2018, up from the 2017 total of \$48,824. Middle Tennessee grew at the fastest rate in terms of total wages at 6.5 percent. East Tennessee grew at a 4.18 percent rate and West Tennessee at 4.12 percent.

Overall, 87 counties had positive growth in average annual wage, with 8 counties experiencing an average wage decrease.

Employment

Average annual employment in Tennessee grew to 2,976,901 in 2018, a 1.6 percent increase from the 2017 total of 2,930,926. Middle Tennessee grew at the fastest rate in terms of employment at 2.7 percent. West Tennessee grew at a 1.4 percent rate and East Tennessee at 1.2 percent.

Overall, 63 counties had positive growth in average annual employment, with 31 counties experiencing an average annual employment decrease, and 1 remaining the same.

Here is a look at these through the lens of private and government sectors:

Table 2: Employers, Wages, & Employment by Private & Government Sectors , 2017-2018

Own	2018 # of Employers	2017 # of Employers	% Change	2018 Avg Wages	2017 Avg Wages	% Change	2018 Em- ployment	2017 Em- ployment	% Change
Private	157,381	152,542	3.2%	\$50,682	\$49,016	3.4%	2,560,990	2,519,926	1.6%
Federal	1,270	1,275	-0.4%	\$81,746	\$78,869	3.7%	49,117	49,077	0.1%
State	1,322	1,324	-0.2%	\$52,168	\$50,521	3.3%	84,489	83,626	1.1%
Local	1,723	1,722	0.1%	\$42,382	\$41,277	2.7%	282,305	278,298	1.4%

Source: TN Department of Labor & Workforce Development, Quarterly Census of Employment & Wages

Over the year, the rapidly growing industries in terms of number of establishments added include these six:

- Merchant wholesalers, nondurable goods (30.7 percent growth)
- Merchant wholesalers, durable goods (24.2 percent growth)
- Hospitals (16.1 percent growth)
- Motor vehicle and parts dealers (8.7 percent growth)
- Management of companies and enterprises (7.6 percent growth)
- General merchandise stores (7.0 percent growth).

The highest annual weekly wages were found in the management of companies and enterprises (\$2,092), insurance carriers and related activities (\$1,665), professional and technical services (\$1,540), merchant wholesalers, durable goods (\$1,391), and credit intermediation and related activities (\$1,370) industries.

Table 3: Tennessee Counties with Largest Wage Increases

County	Region	Avg. # of Establishments 2018	Avg. # of Establishments 2017	%	Avg. Ann. Wage 2018	Avg. Ann. Wage 2017	%
Trousdale	Middle	133	134	-0.8%	\$37,316	\$33,569	11.2%
Polk	East	257	250	2.8%	\$31,308	\$28,865	8.5%
Smith	Middle	332	325	2.2%	\$42,775	\$39,999	6.9%
Van Buren	Middle	59	55	7.3%	\$32,435	\$30,463	6.5%
Lauderdale	West	362	349	3.7%	\$38,409	\$36,076	6.5%
Henderson	West	524	502	4.4%	\$39,208	\$36,922	6.2%
Morgan	East	203	192	5.7%	\$35,190	\$33,188	6.0%
Williamson	Middle	9,077	8,642	5.0%	\$66,031	\$62,465	5.7%
Franklin	Middle	809	788	2.7%	\$37,584	\$35,635	5.5%
Sullivan	East	3,457	3,407	1.5%	\$49,140	\$46,596	5.5%

Source: TN Department of Labor & Workforce Development, Quarterly Census of Employment & Wages

The Table above lists the ten counties with the largest annual average wage increases from 2017-2018. Five out of the ten counties represented are from the Middle Region, three from the East, and two from the West.

Table 4: Regional Employment, Number of Firms, and Payroll, 2017-2018

Area	Total Employment 2018	# of Firms 2018	# of Firms 2017	2017-2018 Increase	Total Wages 2018 (\$ Bill)	Total Wages 2017 (\$ Bill)	2017-2018 Increase (\$ Bill)
East Region	993,768	51,204	49,782	1,422	\$45.9	\$44.1	\$1.8
Middle Region	1,227,395	67,167	64,288	2,879	\$64.1	\$60.2	\$3.9
West Region	703,968	32,719	32,066	653	\$36.2	\$34.7	\$1.4

Source: TN Department of Labor & Workforce Development, Quarterly Census of Employment & Wages

The Table above summarizes the growth in employment, number of firms, and total payroll in the East, Middle, and West Regions from 2017-2018. All regions increased the number of firms and payroll, with the largest increases in the Middle Region.

Table 5: Tennessee's Largest Detailed Industries, 2018

NAICS	Industry Title	Avg. # of Establishments 2018	Avg. # of Establishments 2017	% Change	Avg. Ann. Emp. 2018	Avg. Ann. Emp. 2017	% Change	2018 AWW (\$)
238	Specialty trade contractors	7,728	7,512	2.9%	81,531	78,144	4.3%	\$1,023
336	Transportation equipment manufacturing	417	399	4.5%	74,211	74,505	-0.4%	\$1,188
423	Merchant wholesalers, durable goods	7,151	5,757	24.2%	69,561	63,422	9.7%	\$1,391
424	Merchant wholesalers, nondurable goods	3,316	2,537	30.7%	42,533	41,429	2.7%	\$1,344
441	Motor vehicle and parts dealers	2,810	2,585	8.7%	47,536	46,900	1.4%	\$1,071
445	Food and beverage stores	2,241	2,178	2.9%	54,930	54,439	0.9%	\$422
452	General merchandise stores	1,858	1,737	7.0%	72,308	72,256	0.1%	\$470
484	Truck transportation	2,440	2,337	4.4%	58,218	56,665	2.7%	\$1,024
522	Credit intermediation and related activities	4,847	4,790	1.2%	54,051	53,973	0.1%	\$1,370
524	Insurance carriers and related activities	3,513	3,632	-3.3%	45,689	44,703	2.2%	\$1,665
541	Professional and technical services	18,552	17,734	4.6%	142,184	137,468	3.4%	\$1,540
551	Management of companies and enterprises	1,424	1,323	7.6%	50,777	45,482	11.6%	\$2,092
561	Administrative and support services	8,998	8,732	3.0%	217,340	217,336	0.0%	\$676
611	Educational services	2,099	1,988	5.6%	231,528	229,243	1.0%	\$838
621	Ambulatory health care services	10,600	10,434	1.6%	154,069	152,050	1.3%	\$1,255
622	Hospitals	259	223	16.1%	146,409	144,551	1.3%	\$1,157
623	Nursing and residential care facilities	1,175	1,111	5.8%	66,147	64,950	1.8%	\$608
624	Social assistance	2,559	2,550	0.4%	49,339	49,322	0.0%	\$460
722	Food services and drinking places	11,749	11,411	3.0%	261,785	256,333	2.1%	\$349
921	Executive, legislative and general government	582	581	0.2%	91,751	89,836	2.1%	\$889

Source: TN Department of Labor & Workforce Development, Quarterly Census of Employment & Wages

Tennessee's five largest detailed industries are all found in the service-providing industries of food services, educational services, administrative and support services, ambulatory healthcare and hospitals.



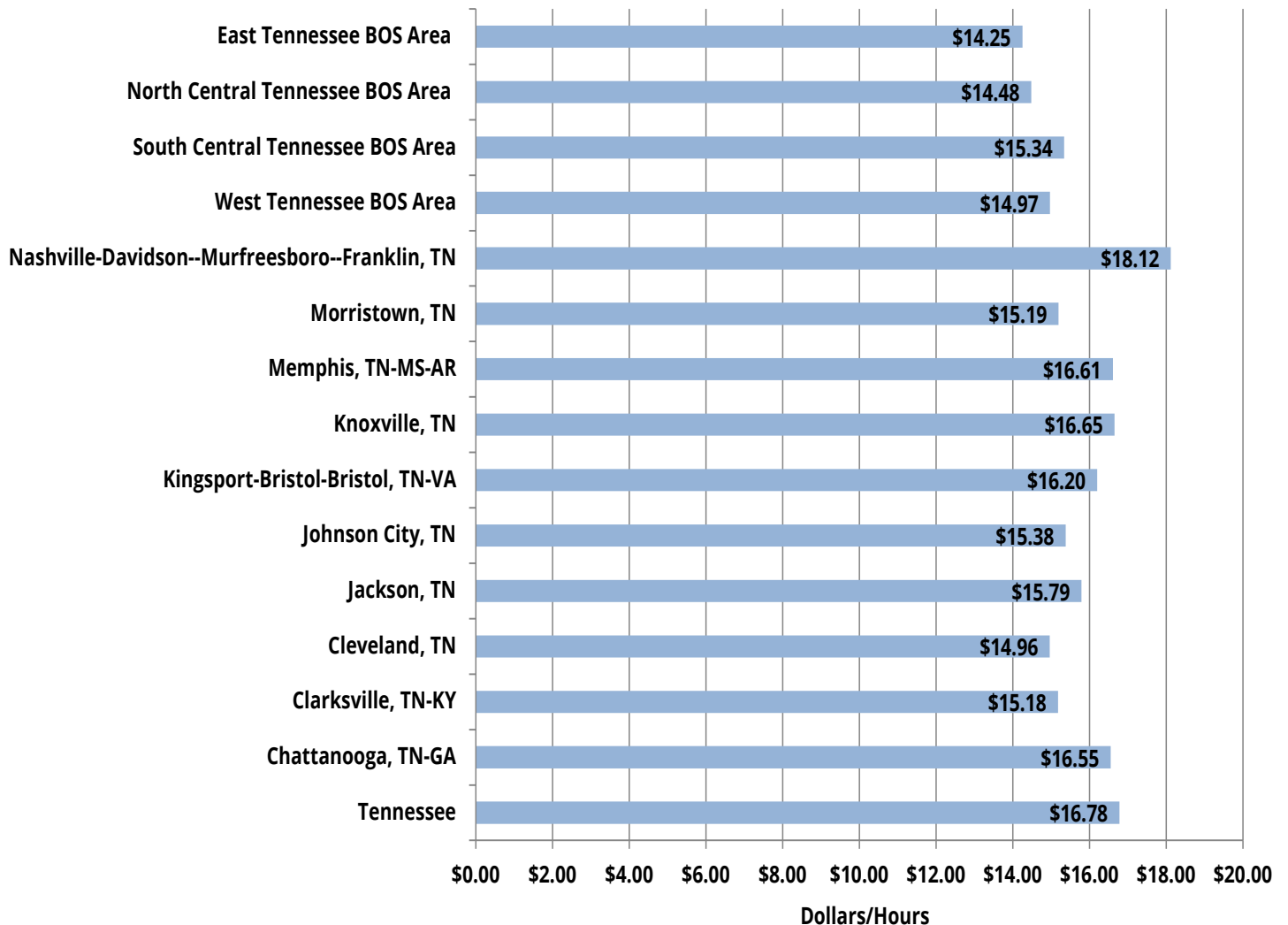
Analysis of Median Wages in Tennessee 2017 – 2018

Among the 22 major occupational groups, median wages increased for 20 of the groups. The highest percentage changes were for farming, fishing, and forestry occupations (8.95 percent), healthcare support occupations (5.59 percent), and for protective service occupations (5.07 percent). The two major groups experiencing a decrease were legal occupations (-2.99 percent) and business and financial operations occupations (-0.72 percent).

Median hourly wage growth for Tennessee from 2017 to 2018 averaged 3.07 percent. All areas reported increases. The top three areas displaying percentage changes greater than the state included the Cleveland MSA (4.62 percent), South Central Tennessee BOS (4.07 percent), and Johnson City MSA (3.99 percent). Just below the state’s growth rate was the East Tennessee BOS (3.04 percent).

There were no areas reporting a loss in median wages over the same period. The area with the lowest increase was the Clarksville MSA at 1.54 percent.

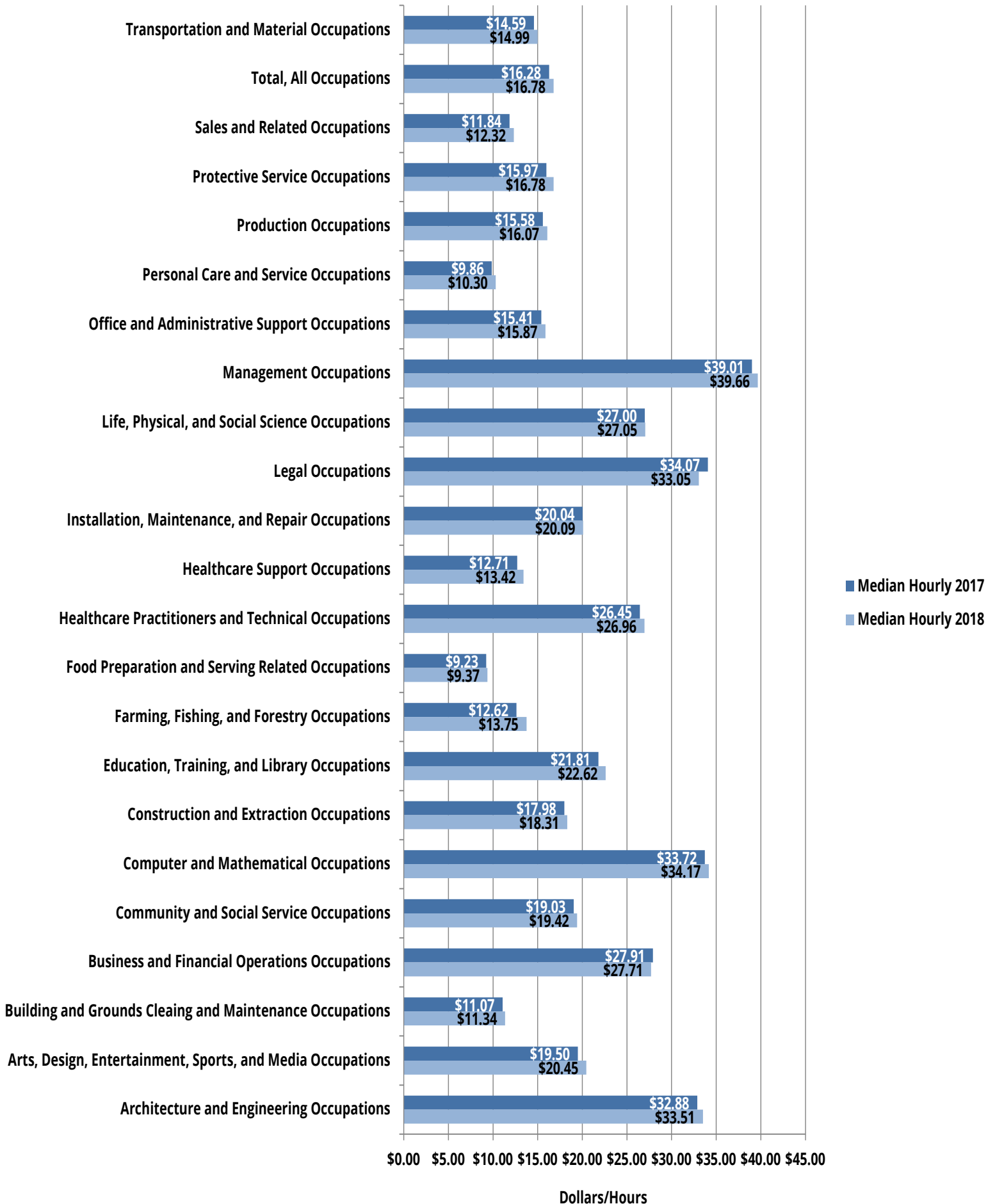
2018 Median Hourly Wages, State and Sub-State Areas



Source: TN Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018

Figure 3

Median Hourly Wages, Major Occupational Groups



Source: TN Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018

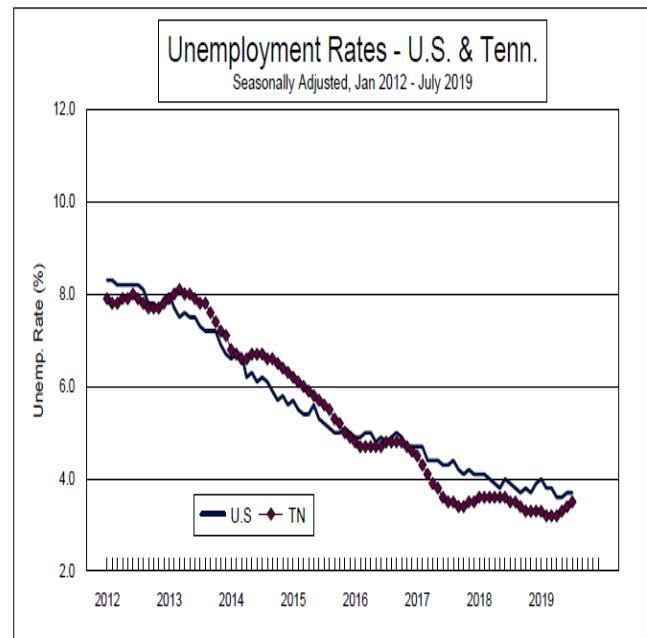
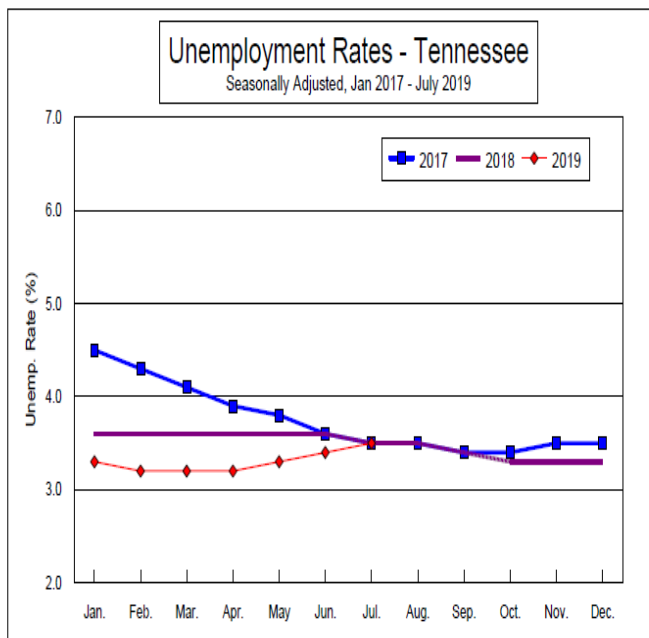
Figure 4



Labor Force & Demographics

Labor Force and Demographics

Tennessee's July 2019 seasonally adjusted unemployment rate was 3.5 percent, a slight increase from the revised June 2019 rate of 3.4 percent. Over the past year, Tennessee's seasonally adjusted unemployment rate for July 2018 and July 2019 remained the same at 3.5 percent while the national rate declined from 3.9 percent to 3.7 percent. The annual average unemployment rate for the U.S. in 2009 was 9.3 percent and dropped to 3.9 percent in 2018, a decrease of 5.4 percent. Tennessee's annual average in 2009 was 10.5 percent and declined to 3.5 percent in 2018, a decrease of 7.0 percent, which is more significant than the United States.



Source: TN Department of Labor & Workforce Development, Local Area Unemployment Statistics, August 2019

Figure 5

Figure 6

Table 6: U.S. & TN Annual Not Seasonally Adjusted Unemployment Rates, 2009-2018

	2009 Unemp. Rate	2010 Unemp. Rate	2011 Unemp. Rate	2012 Unemp. Rate	2013 Unemp. Rate	2014 Unemp. Rate	2015 Unemp. Rate	2016 Unemp. Rate	2017 Unemp. Rate	2018 Unemp. Rate
United States	9.3%	9.6%	8.9%	8.1%	7.4%	6.2%	5.3%	4.9%	4.4%	3.9%
Tennessee	10.5%	9.7%	9.0%	7.8%	7.8%	6.6%	5.6%	4.7%	3.8%	3.5%

Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, August 2019



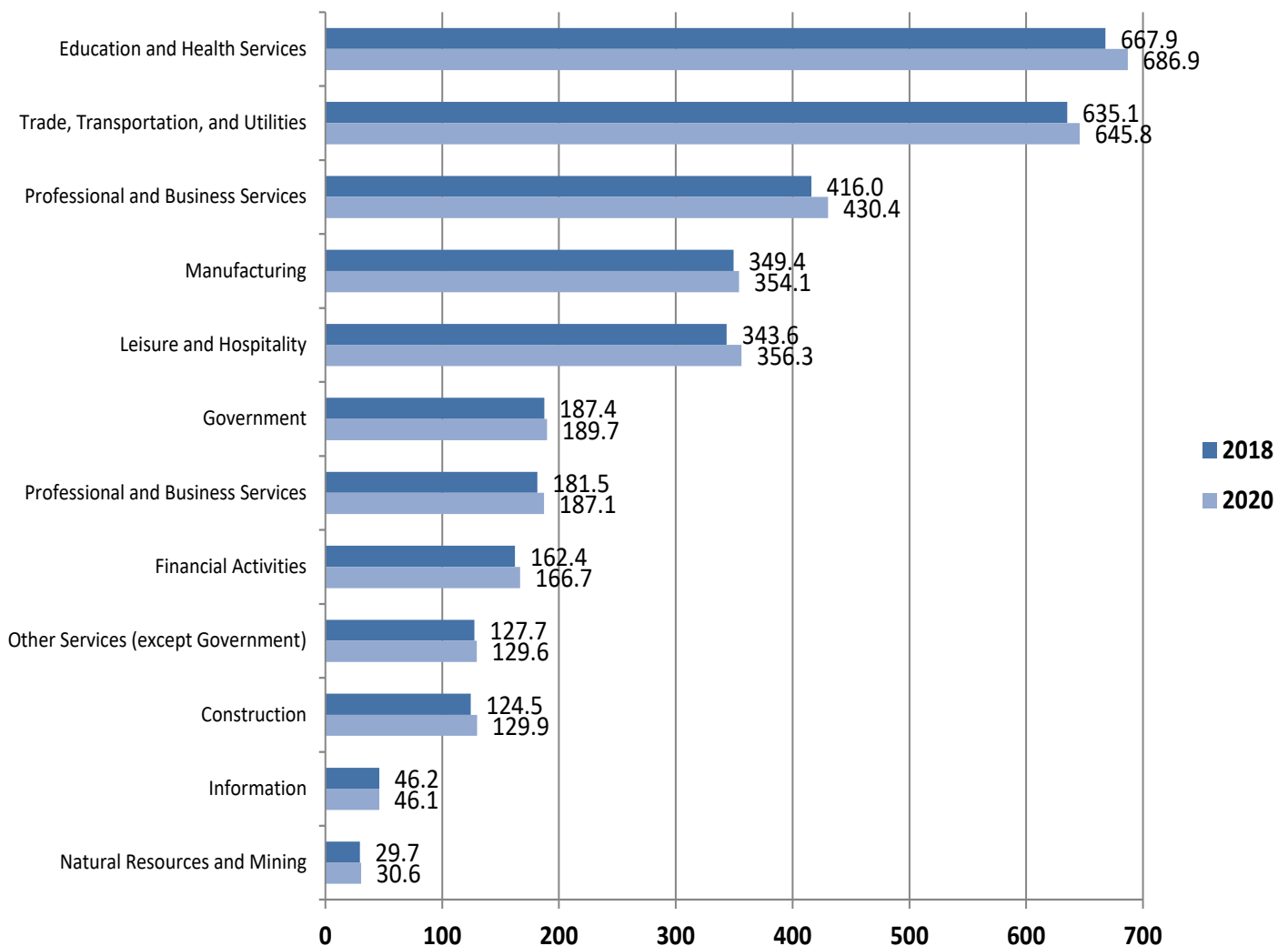
Tennessee Industry and Occupational Employment Projections

2018-2020

From a base of 3.3 million jobs in 2018, total employment for Tennessee, including agricultural, self-employed, and private household workers, is expected to grow to 3.4 million by 2020. Expected to increase by 1.2 percent annually, Tennessee's expanding economy is continuing steady growth across all industry sectors. Most of the employment growth will be in the service-providing

industries with an annual growth rate of 1.3 percent and the addition of 65,200 jobs. The service-providing sector is expected to grow more rapidly than the goods producing sector over this period, with all sectors showing positive growth with the exception of the information sector (losing 100 jobs). Specifically, the leisure and hospitality and the professional and business services sectors are expected to grow the most rapidly, with 1.8 and 1.7 percent annual growth rates, respectively. Professional and business services and education and health services together are expected to create the most new jobs (33,400), nearly 41 percent of the total. In the goods producing sector healthy growth within construction (2.1 percent) and the creation of 5,480 new jobs through 2020 can only be considered positive indicators.

Major Industry Sector Employment, 2018-2020



Note: Numbers reported are in the thousands
 Source: Tennessee Short Term Projections, 2018-2020

Figure 7

Table 7: Major Industry Sector Employment

Industry Sector Code	Title	New Jobs Created (Thousands)	Annual Average Growth Rate (%)
000000	Total All Industries	81.9	1.2%
101000	Goods Producing	11.1	1.1%
101100	Natural Resources and Mining	0.9	1.5%
101200	Construction	5.5	2.1%
101300	Manufacturing	4.7	0.7%
102000	Service-Providing	65.2	1.3%
102100	Trade, Transportation, and Utilities	10.7	0.8%
102200	Information	-0.1	-0.1%
102300	Financial Activities	4.3	1.3%
102400	Professional and Business Services	14.4	1.7%
102500	Education and Health Services	19.0	1.4%
102600	Leisure and Hospitality	12.7	1.8%
102700	Other Services (except Government)	1.9	0.8%
102800	Government	2.3	0.6%
102900	Self Employed and Unpaid Family	5.6	1.5%

Source: Tennessee Short Term Projections, 2018-2020

Fastest Growing Industries

The average annual growth rate for all industries for 2018-2020 is expected to be 1.2 percent, with service-providing industries growing 0.2 percent faster than goods producing industries.

The fewest number of new jobs expected over this two year period will be in information (-100) and natural resources and mining (910). With just one in six new jobs being created in the goods producing versus the service-providing sector, the long term shift from the goods producing to the service sectors is clear.

The fastest growing detailed industries over this period not surprisingly align with the major service providing industry sectors experiencing growth in Tennessee.

Professional and Business Services: Expected to be the second fastest-growing major industry sector through 2020 at 1.7 percent, its growth will be propelled by several expanding business services industries:

- Computer systems design and related services (5.4 percent)
- Management, scientific, and technical consulting services (3.6 percent)
- Accounting, tax preparation, and payroll services (3.1 percent).

With the number of headquarters moving to Tennessee, management of companies and enterprises is growing by 3.5 percent annually. In addition, as commercial and industrial development grows in the low interest rate environment and outsourcing increases, these industries are booming:

- Facilities support services (11.8 percent)
- Waste treatment and disposal (7.1 percent).

Financial Activities: This industry is expected to expand by 1.3 percent annually. With low interest rates fueling growth in construction, several of the fastest growing industries relate to services for this industry:

- Commercial and industrial machinery and equipment rental and leasing (6.4 percent)
- Activities related to real estate (4.1 percent)
- Offices of real estate agents and brokers (3.9 percent).

Technological change is expanding new types of disruptive digital services in finance and insurance which will affect future job opportunities.

Leisure and Hospitality: This is the most rapidly-growing services industry sector in Tennessee, with a projected annual growth rate of 1.8 percent. The most rapidly growing sectors are projected to be (table 7):

- Sports and performing arts promoters (14.2 percent)
- Agents and managers for artists, athletes, and entertainers (5.1 percent)
- Drinking places (3.5 percent).

Education and Health Services: As the third most rapidly growing major industry sector in services (1.4 percent), it is also the sector expected to create the most new jobs (19,000). The largest educational industry is elementary and secondary schools, with an expected 164,870 employees in 2020. A small but fast-growing industry, which provides educational testing and consulting is:

- Educational support services (2.7 percent).

In Healthcare and Social Services, rapidly growing industries include:

- Continuing care retirement communities and assisted living facilities (6.0 percent), expected to create 1,920 new jobs, and
- Individual and family services (2.9 percent).

Retirement communities will expand as the Tennessee population ages. Additional funding for youth services, mental health, and drug abuse and counseling, as well as social assistance for the developmentally disabled, will support the continual growth of family services.

The fastest growing industries included promoters of performing arts, sports, and similar events, motor vehicle body and trailer manufacturing, and other information services.

Other High Growth Services Industries:

Information: Since the information industry includes both print and digital content, whose growth rates are moving in opposite directions, the industry does not appear on high-growth lists. However, the industries below are expected to grow rapidly:

- Other information services (12.3 percent), including internet publishing and broadcasting and web search portals
- Data processing, hosting, and related services (4.9 percent)
- Sound recording industries (4.3 percent).

Table 8: Fastest Growing Industries with More Than 1,000 Employment in 2018

Industry Title	2018 Employment	2020 Employment	New Jobs Created	Annual Average Growth Rate (%)
Promoters of Performing Arts, Sports, and Similar Events	2,390	3,120	730	14.2%
Motor Vehicle Body and Trailer Manufacturing	2,340	3,010	670	13.4%
Other Information Services	1,060	1,350	290	12.3%
Facilities Support Services	5,830	7,280	1,460	11.8%
Local Messengers and Local Delivery	1,070	1,300	230	10.2%
Semiconductor and Other Electronic Component Manufacturing	1,300	1,510	200	7.5%
Ship and Boat Building	3,500	4,030	530	7.3%
Waste Treatment and Disposal	2,120	2,430	310	7.1%
Commercial and Industrial Machinery and Equipment Rental and Leasing	2,790	3,160	370	6.4%
Furniture and Home Furnishing Merchant Wholesalers	2,120	2,400	270	6.2%
Grantmaking and Giving Services	2,880	3,250	370	6.2%
Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	15,430	17,350	1,920	6.0%
Computer Systems Design and Related Services	20,600	22,900	2,300	5.4%
Agents and Managers for Artists, Entertainers, and Other Public Figures	1,070	1,190	110	5.1%
Data Processing, Hosting, and Related Services	5,810	6,390	580	4.9%
Other Personal Services	5,900	6,440	540	4.5%
Architectural and Structural Metals Manufacturing	9,130	9,960	830	4.5%
Sound Recording Industries	2,420	2,630	210	4.3%
Activities Related to Real Estate	10,000	10,840	840	4.1%
Office of Real Estate Agents and Brokers	5,940	6,420	480	3.9%

Source: Tennessee Short Term Projections, 2018-2020

Fastest Growing Goods Producing Sectors:

Within the goods producing sectors, construction is expected to be the most rapidly growing at 2.1 percent. With residential construction growing at 2.3 percent, the fastest growing detailed industries include:

- Foundation, structure, and building exterior contractors (3.7 percent)
- Other specialty trade contractors (3.2 percent), including such specialized activities as site preparation, crane rental, scaffold erecting, and cleaning of building interiors after construction.

Manufacturing is projected to be the fourth largest employment sector in the state, comprising 354,100 jobs in 2020. Manufacturing will continue growth through 2020, especially in the durable goods industries. Tennessee continues to be predominant in auto manufacturing. The detailed industries expected to grow most rapidly include:

- Motor vehicle body and trailer manufacturing (13.4 percent)
- Semiconductor and other electronic component manufacturing (7.5 percent)
- Ship and boat building (7.3 percent)

The demand for autos and trucks, type of vehicles demanded, and interest rates will all be critical in determining how manufacturing performs after 2020.

Projected Occupational Growth

The fastest-growing occupational groups from 2018-2020 primarily reflect those industries experiencing growth; however, computer, business and financial, and management occupations are found in most industries. The most rapidly growing occupational groups are expected to be the computer and mathematical, healthcare support, and construction and extraction occupations.

Table 9: Major Occupational Groups Summary, 2018-2020

Occupation Title	OCC Code	2018 Employment	2020 Employment	Annual Average Growth Rate (%)	Annual Total Openings	Median Wage
Computer and Mathematical	15-0000	56,330	59,050	2.4%	5,130	\$71,082
Healthcare Support	31-0000	80,990	84,460	2.1%	11,005	\$27,919
Construction and Extraction	47-0000	115,040	119,740	2.0%	14,345	\$38,076
Management	11-0000	221,450	229,590	1.8%	21,610	\$82,502
Protective Service	33-0000	69,350	71,880	1.8%	8,650	\$34,896
Food Preparation and Serving Related	35-0000	283,300	293,280	1.8%	53,905	\$19,496
Business and Financial Operations	13-0000	125,000	129,050	1.6	13,265	\$57,637
Installation, Maintenance, and Repair	49-0000	141,110	145,610	1.6%	15,775	\$41,795
Healthcare Practitioners and Technical	29-0000	201,280	207,580	1.6%	14,235	\$56,071
Architecture and Engineering	17-0000	47,160	48,580	1.5%	4,185	\$69,705
Building and Grounds Cleaning and Maintenance	37-0000	107,870	111,100	1.5%	15,265	\$23,589
Personal Care and Service	39-0000	105,290	108,450	1.5%	17,610	\$21,426
Legal	23-0000	16,230	16,710	1.5%	1,220	\$68,736
Community and Social Services	21-0000	50,070	51,470	1.4%	6,075	\$40,401
Arts, Design, Entertainment, Sports, and Media	27-0000	47,770	49,030	1.3%	5,255	\$42,536
Total All	00-0000	3,271,420	3,353,320	1.2%	406,555	\$34,895
Farming, Fishing, and Forestry	45-0000	17,790	18,220	1.2%	2,845	\$28,593
Education, Training, and Library	25-0000	170,870	174,820	1.2%	16,335	\$47,047
Sales and Related	41-0000	323,860	329,700	0.9%	47,125	\$25,625
Transportation and Material Moving	53-0000	293,660	298,600	0.8%	38,295	\$31,169
Office and Administrative Support	43-0000	502,300	510,020	0.8%	60,250	\$33,010
Life, Physical, and Social Science	19-0000	16,860	17,110	0.7%	1,640	\$56,265
Production	51-0000	277,830	279,270	0.3%	32,530	\$33,426

Source: Tennessee Short Term Projections, 2018-2020

Computer and Mathematical Occupations, with an annual growth rate of 2.4 percent, is the fastest growing occupational group. Employment is expected to top 59,050 in the state by 2020, creating annual total openings of more than 5,130 and paying the second highest median wages (\$70,140) of the 22 occupational groups.

The largest occupation was computer user support specialists (10, 590) in 2018, followed by computer systems analysts. The fastest growing mathematical occupations, with more than 30 employment in 2018, are operations research analysts (4.3 percent), statisticians (3.8 percent) and actuaries (2.2 percent). Among the computer occupations, the fastest growing are software developers, applications (4.3 percent) and software developers, systems (3.0 percent).

Healthcare Support Occupations, the second most rapidly growing group (2.1 percent annually), has projected annual openings of 11,005. The median wage of \$27,919 is the fifth lowest among the occupational groups. The largest occupations in this group are nursing assistants, with projected employment of 33,190 in 2020 and 4175 openings, and medical assistants, with projected employment of 15,110 and expected 2,015 openings.

The most rapidly growing occupations are home health aides (4.2 percent) and physical therapist aides (2.9 percent).

Construction and Extraction Occupations is projected to be the third most rapidly growing occupational group in 2018-2020, with annual growth of 2 percent, 14,345 annual total openings, and median wage (\$38,076) close to the state median (\$34,895). The largest occupations are expected to be construction laborers, with 25,500 employment in 2018 and 3,055 openings, and electricians, with 12, 490 employment and 1,625 annual openings.

The most rapidly growing occupations in this industry are expected to be helpers of brickmasons, blockmasons, stonemasons, tile, and marble setters (growing 3.8 percent annually) and roofer helpers, also expected to grow by 3.8 percent.

Related to construction are the **architecture and engineering occupations**, including many STEM (Science, Technology, Engineering, and Math) occupations. A complete list of STEM occupations, wages, and projected openings can be found in TDLWD's publication STEM Occupations (STEMReport2019updated.pdf), recently completed. Architecture and engineering occupations have the third highest median wages of the occupational groups and are expected to have more than 4,200 annual openings in the state.

Management Occupations is the fourth fastest growing occupational category, with expected growth of 1.8 percent annually, creating 21,610 annual openings and paying the highest median wages (\$82,502). Some of the largest occupations and their expected employment in 2020 are: general and operations managers (49,430); food service managers (16,260); financial managers (15,080), and medical and health services managers (10,340).

The most rapidly growing management occupation is property, real estate, and community association managers, as the construction industry booms and multi-family residential construction expands. These managerial jobs are expected to grow by 3 percent annually. Other rapidly growing jobs include financial managers (2.7 percent), marketing managers (2.3 percent), and computer and information system managers (4.6 percent), increasing in numbers as the technology sector expands.

Protective Service Occupations is the sixth fastest growing major group, also increasing by 1.8 percent annually, and expected to create 8,650 jobs. Median wages are at the state median wage level. The number of jobs expected to be created annually by the largest occupations are: security guards (3,830), also the second fastest growing occupation in this category; police and sheriff's patrol officers (950); correctional officers and jailers (970), also the third most rapidly growing occupation; and firefighters (400). Increased focus on public safety due to mass shooting events may be increasing employment; adverse weather conditions are creating the need for more fire fighters to fight blazes locally and in other parts of the country.

The occupational groups creating the most new jobs are expected to be:

<u>Major Occupational Group</u>	<u>Annual Total Openings</u>
Office and Administrative Support	60,250
Food Preparation and Serving Related	53,905
Sales and Related	47,125
Transportation and Material Moving	38,295
Production	32,530

Production Occupations with the greatest number of openings include team assemblers, production worker helpers, production supervisors, inspectors and testers, packaging and filling machine operators and tenders, and machinists. Some of the fastest growing production occupations, on the other hand, include fiberglass laminators, tire builders, dental laboratory and medical appliance technicians, and computer numerically controlled machine tool programmers.

The **Healthcare Practitioners and Technical Occupations** expected to create the most annual job openings include registered nurses (3,970), licensed practical nurses (2,075), and pharmacy technicians (1,055). However, the highest annual growth rates are expected for dietetic technicians (6.2 percent), physician assistants (3.5 percent), and nurse practitioners (3.5 percent).

Emerging Growth Sectors

The Solar Jobs Census of 2018 name Tennessee 14th in the U.S. for solar jobs, with an estimated 4,690 jobs in 2018¹. They reported an estimated 2,835 jobs in installation; 1,348 in manufacturing; 316 in sales and distribution; 106 in operations and maintenance. The industries in which solar workers are employed are not easily identified in the current North American Industry Classification System (NAICS), but the data are slowly improving.²

The Tennessee Department of Economic and Community Development has identified emerging industries as those with low concentrations, or location quotients, in Tennessee but with rapid growth. In their Tennessee Business Services Cluster report (2018) they classify the business services industries of other scientific and consulting services; data processing; hosting, and related services; computer programming and systems design services; and testing laboratories as emerging industries in the state of Tennessee.³

Other emerging industries included among those with the highest expected growth rates in Tennessee through 2026 include electronic shopping and mail-order houses (NAICS 4541), continuing care retirement facilities (6233), and other information services (5191). The scheduled air transportation industry (4811) had been declining in Tennessee with reductions in air hubs, but has been re-emerging in Northern Middle LWDA as the Nashville economy has grown since 2012. Lists of the most rapidly growing industries in the LWDA's can be found in jobs4tn.gov, the FAQ section, industry information. Occupations in these industries can be located in jobs4tn.gov under occupational staffing patterns.

Tennessee STEM employment is expected to increase from 138,100 in 2016 to 167,950 in 2026. TDLWD's recently released publication on STEM Occupations identifies 28 STEM occupations expected to have rapid employment growth during this period, including software developers, applications; information security analysts, computer user support specialists, and electrical and electronics engineering technicians. STEM occupations are growing faster than all occupations on average, and have higher average wages.

New funding opportunities are promoting emerging sectors in Tennessee in agriculture and transportation technology. Agricultural technology efforts are strengthening in Tennessee as funding is becoming available through such programs as Aglaunch 365. Deployment of new types of transportation is encouraged by new funding available from the Tennessee Department of Environment and Conservation, Office of Energy Programs, for transportation fleets using alternative fuel or all-electric transit of shuttle buses.

¹ Solar Foundation, The.(2018). National Solar Jobs Census 2018. <https://www.thesolarfoundation.org/solar-jobs-census/factsheets-2018-tn/>

² The current NAICS system classifies solar electric power generating facilities in 221114, and the NAICS code for solar installation is within 238220, electrical contractors and other wiring installation.

³ John Patten and Jeremy Stiles. (May 2018). *Tennessee's Business Services Cluster*. Tennessee Department of Economic and Community Development, Center for Economic Research in Tennessee (CERT)

⁴ [<https://www.jobs4tn.gov/admin/gsipub/htmlarea/uploads/LMI/Publications/STEMReport2019Updated.pdf>]

Critical Skills

The assignment of skills and importance ranking to occupations are based on scientifically-designed employer surveys by occupational analysts in the Employment and Training Administration at the U.S. Department of Labor. When occupations are growing, the skills in those occupations will be ranked more highly.

The five most critical skills required across occupations based on the estimated employment increases through 2020 include speaking, active listening, social perceptiveness, reading comprehension, and critical thinking. With the growth in the service industry, especially in leisure and hospitality, food service, and customer service occupations, service orientation has grown in importance.

Increased decentralization of production and service processes require workers to take on more decision making roles. As processes become more complex and specialized, the need for teamwork and coordination is increasing.

More detailed occupational projections can be found on the Labor Market Information Section of jobs4tn.gov and on the national website www.projectionscentral.com.

Table 10: Critical Skills for Projected Employment to 2020

Skills	2018 Employment	2020 Employment	Employment Increase 2018-2020
Speaking	1,781,674	1,836,707	55,033
Active Listening	1,769,177	1,818,905	49,728
Social Perceptiveness	876,229	903,998	27,769
Reading Comprehension	911,570	936,158	24,588
Critical Thinking	636,400	657,088	20,688
Service Orientation	478,143	492,329	14,186
Monitoring	408,585	419,890	11,305
Judgment and Decision Making	275,149	285,142	9,993
Coordination	330,570	340,310	9,740
Writing	440,387	448,077	7,690

Source: Tennessee Short Term Projections, Report Manager July 2018





Occupational Injuries, Illnesses and Fatalities in Tennessee during 2017

Labor Research and Statistics is part of WIR²ED, Labor Market Information Section of the Tennessee Department of Labor and Workforce Development. They conduct the annual Survey of Occupational Injuries and Illnesses (SOII) from a random sample of public and private sector companies in Tennessee as well as the Census of Fatal Occupational Injuries (CFOI).

The data collected from the SOII survey is used to produce the occupational injury and illness rates for industries within the State of Tennessee, it also provides demographic and case characteristic data for work-related injuries and illnesses that result in days away from work or days of job transfer or restriction. The calculated rates represent the number of recordable occupational injuries and illnesses per 100 full-time equivalent employees. The survey is conducted in conjunction with the Bureau of Labor Statistics, U.S. Department of Labor.

Additional information can be found at <https://www.tn.gov/workforce/general-resources/major-publications0/major-publications-redirect/public-reports-redirect/occupational-injuries--illnesses--and-fatalities-statistics.html> or <https://www.bls.gov/iif/oshstate.htm#TN>.

Tennessee Survey of Occupational Injuries and Illnesses (SOII), 2017

The total recordable incidence rate for all industries in Tennessee per 100 full-time equivalent workers during 2017 was estimated to be 3.0. The total recordable rate for private industry was 2.9 and the total recordable rate for public sector industries was 3.7.

Tennessee Survey of Occupational Injuries and Illnesses, 2017 Highlights

- The highest total recordable case rate in private industry was in the major industry sectors of transportation and warehousing and health care and social assistance at 4.1.
- The lowest total recordable case rate in private industry was in the major industry sector of management of companies and enterprises at 0.6.
- There was an estimated 20,010 occupational injuries and illnesses in Tennessee including all ownerships during 2017 that resulted in lost days away from work.
- 61 percent of the occupational injuries and illnesses in Tennessee involving days away from work were sustained by men, while 38 percent were sustained by women.
- 37 percent of the occupational injuries and illnesses in Tennessee involving days away from work were the result of a sprain, strain or tear to a ligament or tendon.
- 29 percent of the occupational injuries and illnesses in Tennessee involving days away from work were due to overexertion or bodily reactions. An additional 29 percent were due to slips, trips and falls.
- In 32 percent of the occupational injuries and illnesses resulting in days away from work the injured employee suffered an injury to the upper extremities. In 28 percent of the cases the injury was to the lower extremities and in 20 percent of the cases the injury was to the trunk.

Source: TN Department of Labor, Labor Research & Statistics, WIR²ED, November 8, 2018.

Table 11: Number of Nonfatal Occupational Injuries and Illnesses Involving Days Away from Work¹ by Major Occupational Group and Selected Worker Occupations, All Ownerships, Tennessee, 2017

Occupation	All Ownerships
Total	20,010
Management occupations	230
Business and financial operations occupations	80
Architecture and engineering occupations	40
Community and social service occupations	130
Education, training, and library occupations	540
Arts, design, entertainment, sports and media occupations	80
Healthcare practitioners and technical occupations	1,250
Registered nurses	360
Emergency medical technicians and paramedics	340
Licensed practical nurses	150
Healthcare support occupations	740
Nursing assistants	540
Medical assistants	70
Protective service occupations	1,080
Police and sheriff's patrol officers	520
Firefighters	130
Correctional officers and jailers	110
Security guards	160
Food preparation and serving related occupations	1,120
Combined food preparation and serving workers, incl. fast food	70
Waiters and waitresses	100
Food preparation workers	190
Cooks, institution and cafeteria	140
Building and grounds cleaning and maintenance occupations	970
Janitors and cleaners, except maids and housekeeping cleaners	340
Landscaping and groundskeeping workers	140
Maids and housekeeping cleaners	220
Personal care and service occupations	470
Personal care aides	290
Sales and related occupations	900
Retail salespersons	410
First-line supervisors of retail sales persons	250
Office and administrative support occupations	1,470
Stock clerks and order fillers	550
Customer service representatives	110
Driver, sales workers and truck drivers	2,300
Driver and sales workers	190
Heavy and tractor-trailer truck drivers	1,760
Light truck or delivery services drivers	350

¹ Days-away-from-work cases include those that result in days away from work with or without job transfer or restriction.

Source: TN Department of Labor, Labor Research & Statistics, WIR²ED, November 8, 2018.

Incidence rates of nonfatal occupational injuries and illnesses by selected industry sectors Tennessee, private industry, 2015-2017

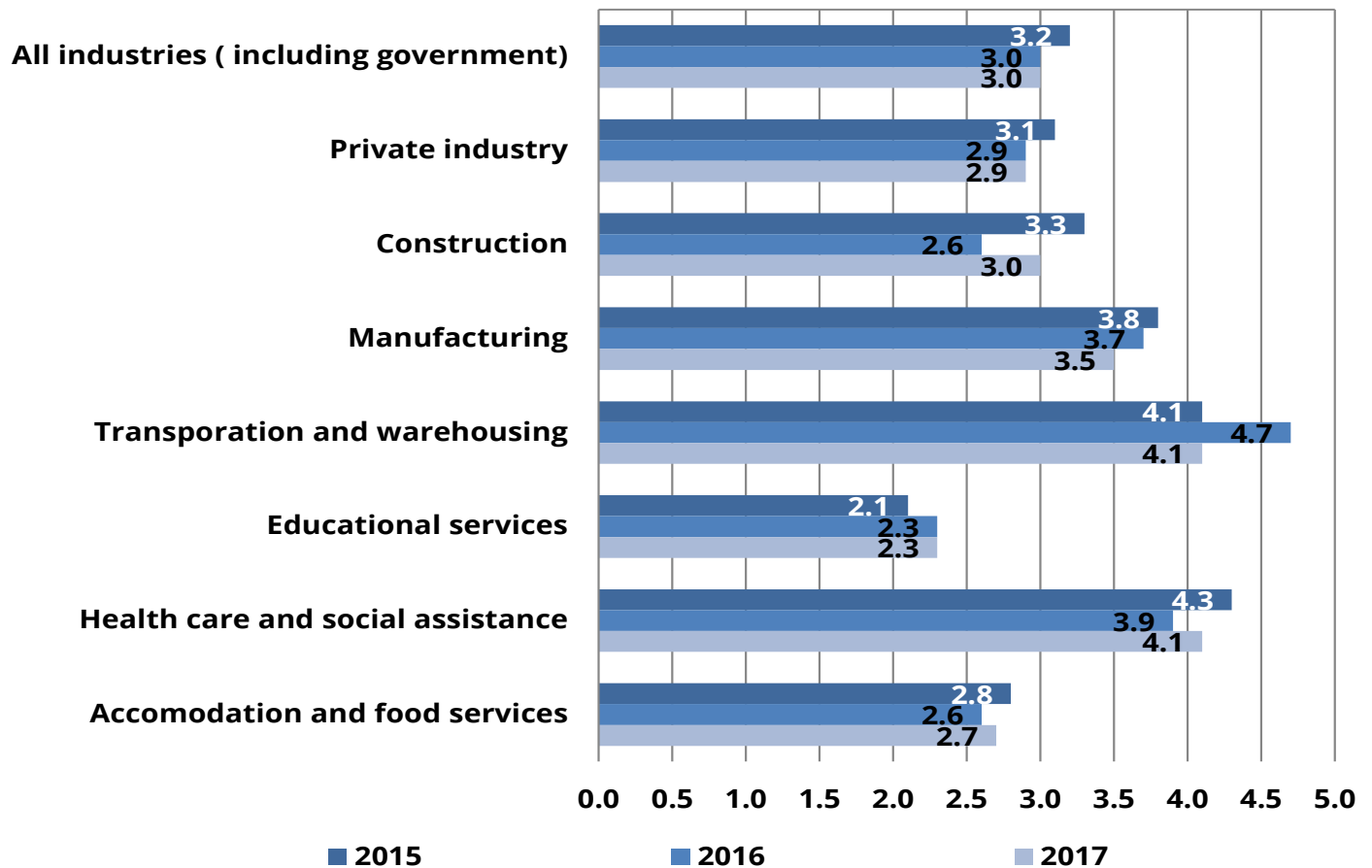


Figure 8

The major industry sectors consisting of transportation and warehousing and healthcare and social assistance had the highest incidence rate for any private industry sector in Tennessee during 2017 with a recordable incidence rate of 4.1 per 100 full-time equivalent workers. The major industry sector of educational services had the lowest incidence rate with a recordable rate of 2.3 per 100 full-time equivalent workers.

Note: Because of rounding and data exclusion on non-classifiable responses, data may not sum to the totals
 Source: TN Department of Labor, Labor Research & Statistics, WIR²ED, November 8, 2018.

Tennessee Census of Fatal Occupational Injuries (CFOI), 2017

There were 128 fatal work-related injuries in Tennessee during 2017, an increase of 5 percent over the 122 recorded during 2017.

2017 Census of Fatal Occupational Injuries Highlights:

- There were 101 fatal work injuries to wage and salary workers and 27 to self-employed persons
- There were 122 fatal work injuries to men and 6 fatal work injuries to women.
- There were 122 fatal work injuries in the private sector and 6 to government workers.
- Fatal work-related injuries due to transportation incidents increased 36 percent from 2016 to 2017 while fatal work-related incidents of violence decreased by 23 percent.
- Fatal occupational injuries due to contact with objects and equipment decreased 31 percent from 2016 to 2017.
- There were 95 fatal work-related injuries to White (non-Hispanic) workers, 22 to Black or African-American (non-Hispanic) workers and 8 to Hispanic or Latino workers.
- The highest number of fatal occupational injuries occurred to workers in the major occupational group of transportation and material moving workers with 39 work fatalities.
- The range of workers between the ages of 55 to 64 suffered the most fatal work injuries in Tennessee during 2017 with 31 or 24 percent of the yearly total number of work fatalities.

**Table 12: Fatal Work-Related injuries by Event or Exposure
Tennessee, 2014-2017**

Event or exposure	2017	2016	2015	2014
Transportation incidents	57	42	47	59
Violence and other injuries by persons or animals	20	26	15	15
Contact with objects and equipment	18	26	21	16
Falls, slips, trips	21	20	17	23
Exposure to harmful substances or environments	12	6	12	9
Fires and explosions	--	2	--	5
Yearly Totals	128	122	112	127

Note: Totals for major categories may not sum to yearly totals. Dashes indicate no data or data that do not meet publication criteria

Source: TN Department of Labor, Labor Research & Statistics, WIR²ED, December 18, 2018.

Workforce and Labor Force Issues in Tennessee's Regions

Population in Tennessee in 2018 was estimated at 6,770,010, an increase of 0.91 percent over 2017. This is a slightly slower rate of growth than in the previous year. Only two regions increased in population: the Middle Region added an estimated 43,717 people, and the East Region adding 17,631. The West Region lost an estimated 132 people. This was in contrast to the population increase the West Region experienced the previous year.

Average unemployment rates declined in all areas, for a state average of 3.5 percent, the lowest since 1976. The West Region continues to have the highest unemployment rate, 0.7 percentage points above the state rate. The lowest rate of higher educational attainment (attainment of some college or more for those 25 years of age or higher) continues to be in the East, with a rate of 51.4 percent compared to the state rate of 53.9 percent. However, all areas gained slightly, with the Middle Region gaining the most at 0.8 percent and achieving a rate of more than 56 percent.

Detailed information on educational attainment by category is shown in the next table. At the state level, the percentages of the population 25 years old and over who have only been educated through the 9th grade level, those attending high school but not receiving a diploma, those only completing a high school program, those achieving some college education, or a graduate degree or professional degree have decreased slightly, while the percentages of those achieving an associate's degree or a bachelor's degree have increased. Compared to the state average educational attainment, the West Region had a higher percentage of individuals with some college; the East had a higher percent of individuals who had attained associate's degrees; and the Middle Region had greater percentages of individuals who achieved bachelor's and graduate or professional degrees.

Poverty rates decreased slightly; the state rate decreased 0.5 percent to 16.7 percent. Likewise, the percentage of the unemployed with a disability decreased slightly across the East and West regions and at the state level; the percent of those not in the labor force with a disability decreased slightly to 34.1 percent. The East Region had the greatest number and percent of individuals who were unemployed with a disability, exceeding the state rate by 1.8 percentage points.

Youth unemployment for those ages 16 to 24 topped 12 percent in all three regions; the West continued to have the highest youth unemployment rate at 18.45 percent. On a positive note, the number of youth in the labor force increased in the East and Middle Regions, while the number of those unemployed decreased.

Table 13: Regional Labor Force Data

	East Region	Middle Region	West Region	State Total
Population 2017	2,386,506	2,761,534	1,560,754	6,708,794
Population 2018	2,404,137	2,805,251	1,560,622	6,770,010
Amount of Change	17,631	43,717	-132	61,216
Percent Change	0.74%	1.58%	-0.01%	0.91%
Annual Average Unemployment Rate 2017 Percent	3.9%	3.2%	4.5%	3.8%
Annual Average Unemployment Rate 2018 Percent	3.6%	3.0%	4.2%	3.5%
Educational Attainment 25 Years and Over (2017) Some College Or Higher - Percent	51.4%	56.5%	53.3%	53.9%
Poverty Estimate, All Ages, Percent (2017)	17.0%	14.3%	20.2%	16.7%
Percentage of Unemployed with a Disability (2017)	15.4%	13.4%	11.9%	13.6%
Percent of Those Not in the Labor Force with a Disability (2017)	37.0%	31.7%	33.3%	34.1%

Table 14: Educational Attainment by Area, 2017

Educational Attainment	East	%	Middle	%	West	%	State	%
Population 25 years and over	1,647,817	X	1,794,087	X	1,036,546	X	4,478,450	X
Less than 9th grade	93,204	5.7%	84,336	4.7%	50,639	4.9%	228,179	5.1%
9th to 12th grade, no diploma	143,715	8.7%	136,557	7.6%	95,073	9.2%	375,345	8.4%
High school graduate (includes equivalency)	564,202	34.2%	558,811	31.1%	338,351	32.6%	1,461,364	32.6%
Some college, no degree	335,850	20.4%	369,069	20.6%	229,428	22.1%	934,347	20.9%
Associate's degree	122,764	7.5%	125,449	7.0%	64,229	6.2%	312,442	7.0%
Bachelor's degree	240,297	14.6%	338,443	18.9%	159,873	15.4%	738,613	16.5%
Graduate or professional degree	147,785	9.0%	181,422	10.1%	98,953	9.5%	428,160	9.6%

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Table 15: Disability Status of Those in the Labor Force, 2017

Area	Civilian Non-institutional Population	Total Labor Force	Total Employed	Em- ployed W Disability	Employed W/O Disability	Total Unem- ployed	Unemployed W Disability	Unem- ployed W/O Dis- ability
East	1,425,612	1,033,176	965,444	63,561	901,883	67,732	10,399	57,333
Middle	1,648,239	1,263,412	1,194,684	71,327	1,123,357	68,728	9,201	59,527
West	941,059	698,612	639,889	36,176	603,713	58,723	6,984	51,739
Tennessee	4,014,910	2,995,200	2,800,017	171,064	2,628,953	195,183	26,584	168,599

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Table 16: Disability Status of Those Not in the Labor Force, 2017

Area	Civilian Non-institutional Population	Total Not In Labor Force	Not in Labor Force W Disability	Not In Labor Force W/O Disability	% W Disability	% W/O Disability
East	1,425,612	392,436	145,284	247,152	37.0%	63.0%
Middle	1,648,239	384,827	122,002	262,825	31.7%	68.3%
West	941,059	242,447	80,753	161,694	33.3%	66.7%
Tennessee	4,014,910	1,019,710	348,039	671,671	34.1%	65.9%

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Table 17: Youth Employment, Ages 16-24

Area	Labor Force	Unemployment	Rate
East Region	166,903	21,849	13.09%
Middle Region	199,958	24,398	12.20%
West Region	108,776	20,064	18.45%

Source: U.S. Census Bureau, 2013-2017 American Community Survey, 2017, 5-year estimates

County Population and Per Capita Income within Regions

According to the U.S. Bureau of Economic Analysis the 2017 Tennessee the per capita personal income was \$45,517, up 3.6 percent from the previous year. The United States per capita personal income was \$51,731 up 3.7 percent from 2016.

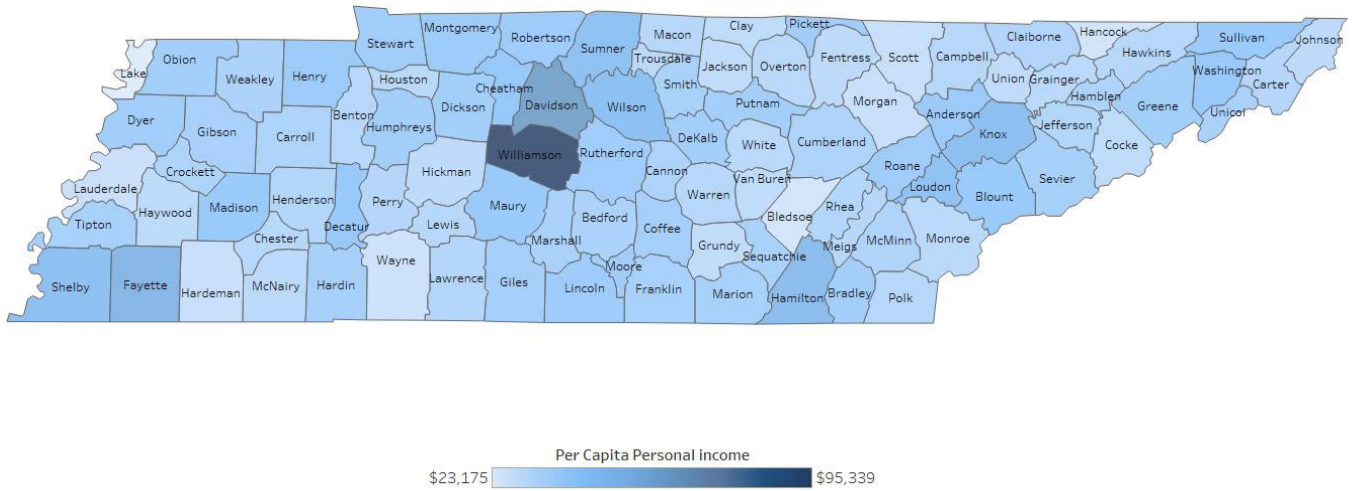
Per capita personal income is defined as the annual total personal income of residents divided by the residential population as of July 1. Personal income is derived by summing the net earnings, rental income, personal dividend/interest income, and transfer payments by place of residence. Personal income excludes federal income tax deductions and other personal taxes and is reported in current dollars. In simpler terms, it is the total income on the front page of your 1040 tax form. This data can be influenced by large growth (or decline) in population, natural disasters (i.e., flooding or hurricanes), commuting populations (those that primarily work in other counties), and state and local taxes.

In 2017, all the counties with the highest per capita incomes across the state were in metropolitan statistical areas (MSAs). In the East Region, the counties with the highest per capita personal incomes were Hamilton (\$50,196) in the Chattanooga, TN-GA MSA and Knox (\$48,160) and Loudon (\$46,183) in the Knoxville MSA. In the Middle Region, four counties in the Nashville-Murfreesboro MSA were among the highest income counties in the state: Williamson (\$95,339), Davidson (\$63,063), Sumner (\$46,998), and Wilson (\$47,335). In the West Region, Fayette (\$53,942) and Shelby (\$47,655) counties in the Memphis, TN-MS-AR MSA were among the state's highest.

Except for three counties (Morgan, \$28,699 and Union, \$30,686) in the Knoxville MSA and Hickman (\$31,460) in the Nashville-Murfreesboro MSA), the rest of the lowest per capita income counties are rural. They include, in the East, Bledsoe (\$25,705), Hancock (\$26,422) and Scott (\$28,721). In the Middle Region were Jackson (\$30,370) and Wayne (\$27,306). Counties in the West included Lauderdale (\$28,141) and Lake (\$23,175).

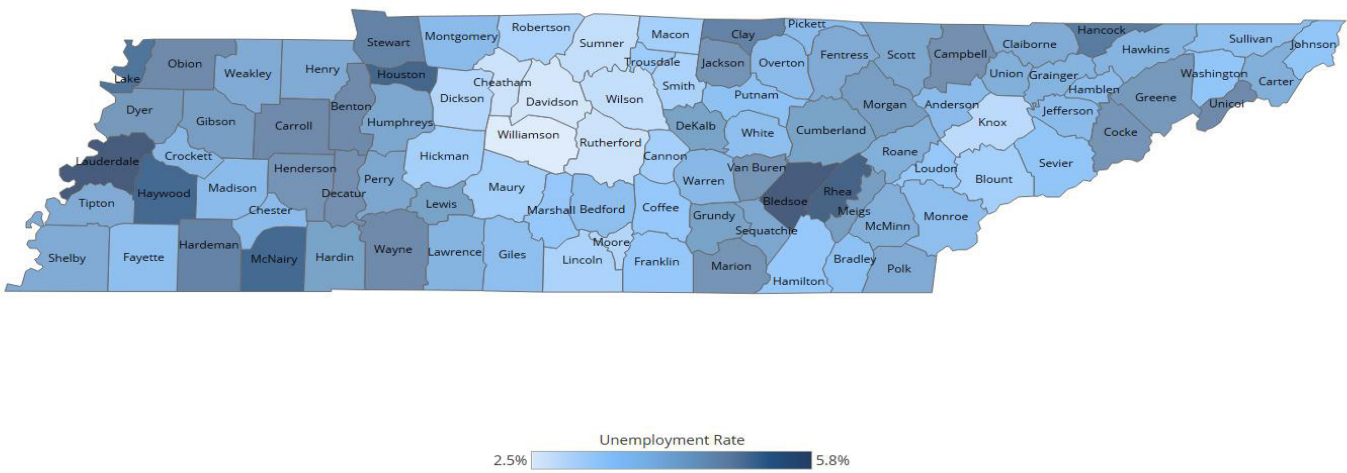
From 2017 to 2018, eight counties in Tennessee decreased population by more than 100. All except Carter County in the East Region were in the West Region, they included Crockett, Dyer, Hademan, Haywood, McNairy, Obion, and Shelby. In contrast, the counties gaining more than an estimated 5,000 people include, Montgomery in the Clarksville, TN-KY MSA, and Rutherford and Williamson counties in the Nashville- Murfreesboro MSA.

2017 Per Capita Personal Income by County



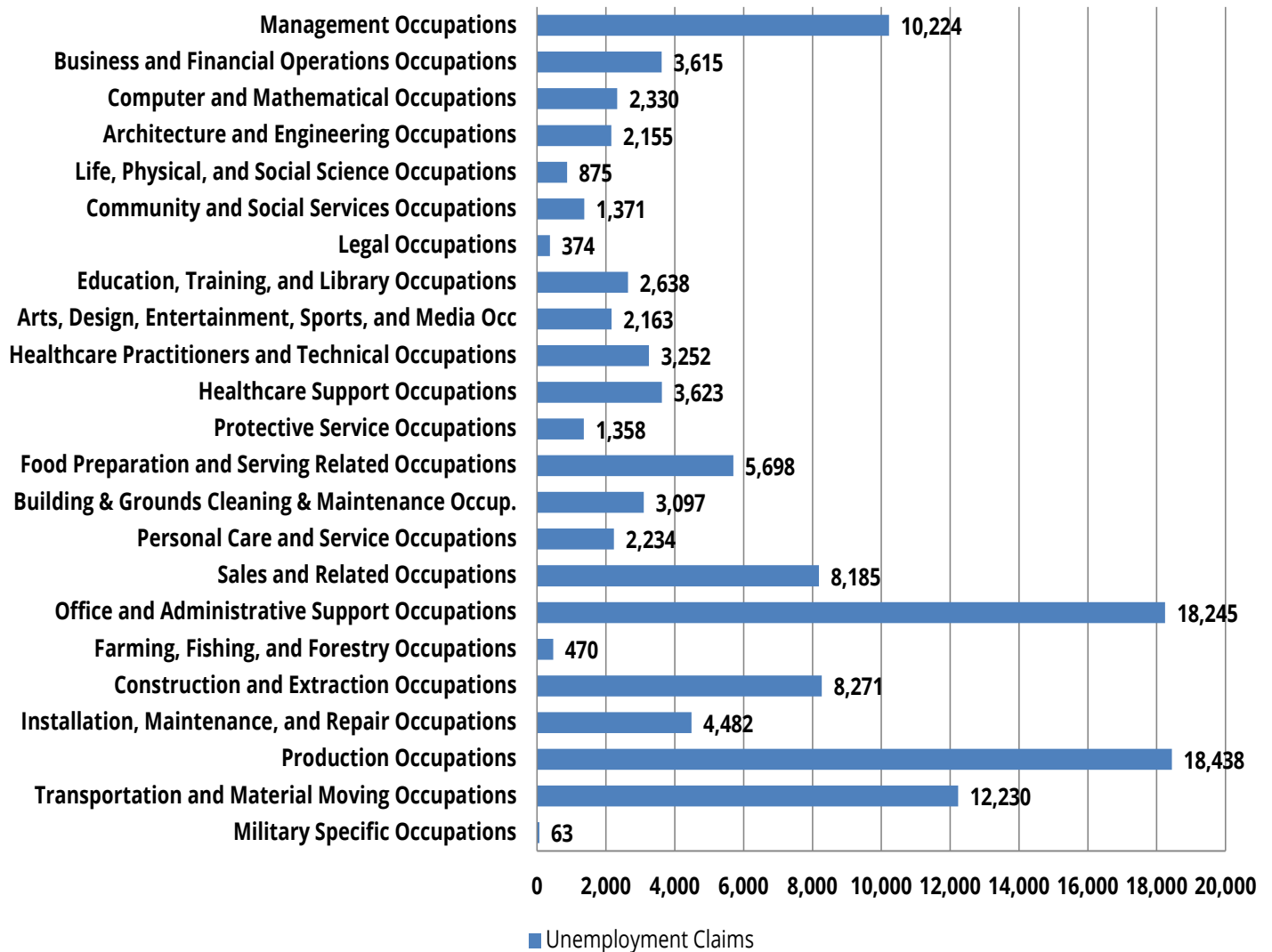
Source: U.S. Bureau of Economic Analysis
Figure 9

2018 Unemployment Rates



Source: TN Department of Labor & Workforce Development, Local Area Unemployment Statistics, August 2019
Figure 10

All 2018 Unemployment Claims by Major Occupational Group

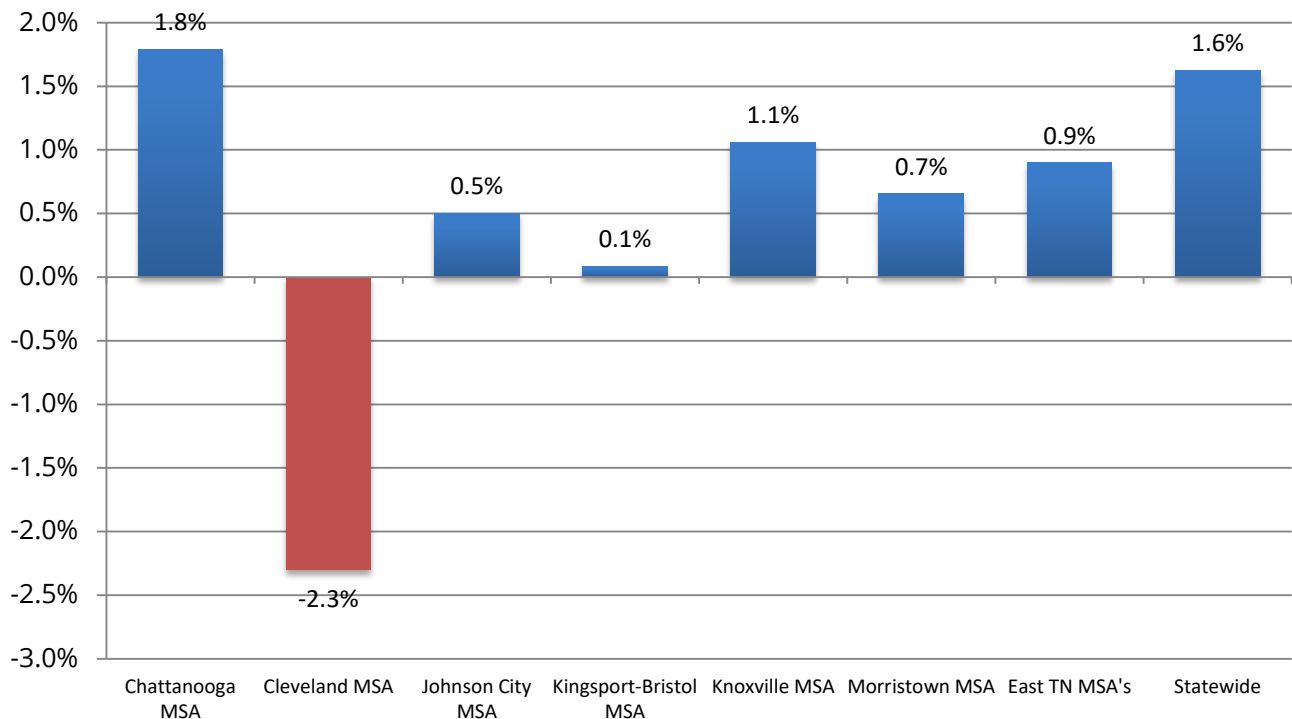


Source: TN Department of Labor & Workforce Development, Unemployment Claimants, January-December 2018, unpublished

Figure 11

Detailed Regional Analysis East Region

East TN MSA Job Growth 2017-2018



Source: TN Department of Labor & Workforce Development, Current Employment Statistics

Figure 12

The 95 counties of Tennessee have been divided into East, Middle, and West Regions. The counties included in these regions can be found in the appendix.

East Region

The East Tennessee Region has the most Metropolitan Statistical Areas (six) of the three regions (see Figure 12), possibly due to its mountainous geography. The counties included in the MSAs are listed in Table 18. The area also had the greatest variation in growth rates from 2017 to 2018 among the MSAs, from -2.3 percent in the Cleveland MSA to 1.8 percent growth in the Chattanooga MSA. Except for Chattanooga, all MSAs had average employment growth rates below the state average of 1.6 percent.

In 2018, the average unemployment rate in the East Region was 3.6 percent, slightly above the state average. In 2017, the percentage of adults over 25 with some college education was the lowest of the three regions. It had the highest percent of unemployed with a disability, as well as the highest percent of individuals with a disability who were not in the labor force. The poverty estimate was the second highest in the state and above the state average rate.

Of the 26 counties in the metropolitan and micropolitan areas in the East Region, in 2018, six were at or below the state average unemployment rate: Hamilton (Chattanooga MSA), Washington (Johnson City MSA), and Blount, Knox, and Loudon (Knoxville MSA), and Sevier in the Sevierville Micropolitan Statistical Area. All counties, except Greene, had lower unemployment rates in 2018 than 2017. The greatest decrease in an unemployment rate from 2017 to 2018 was in Rhea County in the Dayton Micropolitan Statistical Area. Greene County was the only county to remain the same. No counties had an increase in the unemployment rate from 2017 to 2018.

Table 18: East Region Annual Average Unemployment Rates, 2017 to 2018

Area	2018 Annual Averages				2017 Annual Averages			
	Labor Force	Employment	Unem- ployment Number	Unem- ployment Percent	Labor Force	Employment	Unem- ployment Number	Unem- ployment Percent
UNITED STATES	162,075,000	155,761,000	6,314,000	3.9%	160,320,000	153,337,000	6,982,000	4.4%
TENNESSEE	3,244,900	3,131,700	113,300	3.5%	3,190,200	3,070,300	119,900	3.8%
Metropolitan Statistical Areas (MSAs)								
Chattanooga, TN-GA MSA	270,590	261,000	9,580	3.9%	266,280	255,820	10,450	4.9%
Hamilton County	179,680	173,580	6,110	3.4%	176,360	169,880	6,480	3.7%
Marion County	12,270	11,690	580	4.7%	12,030	11,440	590	4.9%
Sequatchie County	6,040	5,780	260	4.3%	5,960	5,650	300	5.1%
Georgia Portion	72,600	69,960	2,640	3.6%	70,240	68,850	3,080	4.3%
Cleveland, TN MSA	57,540	55,430	2,110	3.7%	58,190	55,990	2,200	3.8%
Bradley County	50,260	48,460	1,800	3.6%	50,810	48,950	1,860	3.7%
Polk County	7,280	6,980	310	4.2%	7,380	7,040	340	4.6%
Johnson City, TN MSA	90,930	87,480	3,450	3.8%	90,340	86,610	3,730	4.1%
Carter County	24,000	23,010	990	4.1%	23,850	22,760	1,090	4.6%
Unicoi County	7,070	6,720	350	4.9%	7,040	6,660	380	5.4%
Washington County	59,860	57,750	2,110	3.5%	58,440	57,190	2,260	3.8%
Kingsport-Bristol, TN-VA MSA	137,060	132,050	5,010	3.7%	137,000	131,340	5,660	4.1%
Hawkins County	23,710	22,760	950	4.0%	23,640	22,620	1,010	4.3%
Sullivan County	70,100	67,510	2,590	3.7%	69,910	67,070	2,840	4.1%
Virginia Portion	43,250	41,780	1,470	3.4%	43,450	41,650	1,810	4.2%
Knoxville, TN MSA	422,090	408,290	13,800	3.3%	417,130	402,310	14,820	3.6%
Anderson County	34,280	33,000	1,290	3.8%	33,840	32,500	1,340	4.0%
Blount County	62,280	60,270	2,010	3.2%	61,560	59,380	2,180	3.5%
Campbell County	14,750	14,050	700	4.8%	14,600	13,840	760	5.2%
Grainger County	9,420	9,050	370	4.0%	9,310	8,910	400	4.3%
Knox County	240,030	232,990	7,050	2.9%	233,140	229,560	7,580	3.2%
Loudon County	22,860	22,080	780	3.4%	22,610	21,780	840	3.7%
Morgan County	7,860	7,510	350	4.5%	7,790	7,410	380	4.9%
Roane County	23,150	22,200	950	4.1%	22,900	21,890	1,020	4.4%
Union County	7,460	7,160	300	4.1%	7,370	7,040	330	4.4%
Morristown, TN MSA	51,430	49,460	1,970	3.8%	51,140	49,050	2,080	4.1%
Hamblen County	27,420	26,370	1,050	3.8%	27,260	26,150	1,110	4.1%
Jefferson County	24,010	23,090	920	3.8%	23,870	22,900	970	4.1%
Micropolitan Statistical Areas (MCSAs)								
Athens (McMinn Co.)	22,720	21,790	930	4.1%	22,640	21,640	1,000	4.4%
Dayton (Rhea Co.)	13,030	12,300	730	5.6%	13,220	12,360	860	6.5%
Greeneville (Greene Co.)	29,830	28,450	1,380	4.6%	30,310	28,920	1,390	4.6%
Newport (Cocke Co.)	14,850	14,150	700	4.7%	14,590	13,820	770	5.3%
Sevierville (Sevier Co.)	53,100	51,240	1,860	3.5%	52,090	49,990	2,100	4.0%

Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics

Table 19: East Tennessee LWDA's Top 10 Industries Based on Employment

Industry Title	Industry Code	Establishments	Average Employment	Average Weekly Wage
Northeast Tennessee LWDA (1)				
Food Services and Drinking Places	722	892	17,704	\$293
Educational Services	611	93	16,368	\$757
Hospitals	622	28	12,238	\$965
Ambulatory Health Care Services	621	850	12,045	\$1,318
Administrative and Support Services	561	432	10,692	\$549
Chemical Manufacturing	325	35	9,501	\$1,885
Executive, Legislative, and Other General Government Support	921	41	6,148	\$685
Nursing and Residential Care Facilities	623	99	6,116	\$570
General Merchandise Stores	452	154	5,198	\$449
Credit Intermediation and Related Activities	522	402	5,127	\$953
East Tennessee LWDA (2)				
Food Services and Drinking Places	722	2,335	51,401	\$347
Educational Services	611	349	41,686	\$856
Administrative and Support Services	561	1,543	33,442	\$674
Ambulatory Health Care Services	621	1,954	26,799	\$1,239
Professional, Scientific, and Technical Services	541	3,149	25,949	\$1,574
Hospitals	622	61	19,234	\$964
Transportation Equipment Manufacturing	336	107	18,065	\$1,069
Specialty Trade Contractors	238	1,423	13,852	\$926
Executive, Legislative, and Other General Government Support	921	98	13,422	\$837
General Merchandise Stores	452	363	13,300	\$462
Southeast Tennessee LWDA (4)				
Food Services and Drinking Places	722	1,287	26,949	\$328
Educational Services	611	183	19,814	\$783
Administrative and Support Services	561	765	19,572	\$569
Ambulatory Health Care Services	621	1,233	15,621	\$1,232
Hospitals	622	21	13,702	\$1,101
Truck Transportation	484	262	10,504	\$962
Professional, Scientific, and Technical Services	541	1,666	9,613	\$1,308
Specialty Trade Contractors	238	698	7,794	\$1,051
Transportation Equipment Manufacturing	336	40	7,567	\$1,229
General Merchandise Stores	452	215	7,463	\$452

Source: TN Department of Labor & Workforce Development QCEW Data, Annual Averages 2018

Table 20: Northeast Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
13-1161	Market Research Analysts and Marketing Specialists	40	Bachelor's degree	28,304	47,920
13-1199	Business Operations Specialists, All Other	70	Bachelor's degree	36,442	61,933
15-1132	Software Developers, Applications	40	Bachelor's degree	45,130	78,402
21-2011	Clergy	90	Bachelor's degree	32,933	45,606
29-1126	Respiratory Therapists	30	Associate's degree	34,282	45,543
29-2034	Radiologic Technologists	30	Associate's degree	38,194	48,041
29-2061	Licensed Practical and Licensed Vocational Nurses	180	Postsecondary non-degree award	30,208	36,701
31-2021	Physical Therapist Assistants	25	Associate's degree	30,537	53,042
47-2211	Sheet Metal Workers	30	High school diploma or equivalent	29,383	39,984
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	60	Postsecondary non-degree award	32,974	54,790
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	25	High school diploma or equivalent	34,613	44,913

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

Table 19 lists the top 10 industries by employment for the three East Region Local Workforce Development Areas (LWDAs) - Northeast Tennessee, East Tennessee, and Southeast Tennessee (see box for counties included). The top five industries in each area include food services and drinking places (which also has the lowest average weekly wage in each area), educational services, ambulatory health care services, administrative and support services, and hospitals (except in East Tennessee, where it ranks sixth).

Unique to Northeast Tennessee is the prominence of chemical manufacturing, which employs more than 9,500 people and has the highest weekly average wage. The East and Southeast Tennessee LWDAs both have strong professional, scientific, and technical employment (25,949 and 9,613 employment, respectively) and transportation equipment manufacturing industries. The professional, scientific, and technical industries also have the highest weekly wages in East and Southeast Tennessee.

In addition, East and Southeast Tennessee both have significant specialty trade contracting employment, evidence of construction employment in the low interest rate economy. Southeast Tennessee is also notable for its truck transportation industry, employing more than 10,500 workers and with wages in the middle of the pay range for the area.

Table 21: East Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
17-3023	Electrical and Electronics Engineering Technicians	50	Associate's degree	38,885	53,809
17-3024	Electro-Mechanical Technicians	10	Associate's degree	35,535	51,921
19-4031	Chemical Technicians	30	Associate's degree	33,036	47,267
15-1134	Web Developers	30	Associate's degree	30,889	47,625
29-1126	Respiratory Therapists	45	Associate's degree	41,135	48,375
29-2032	Diagnostic Medical Sonographers	25	Associate's degree	45,989	57,694
29-2035	Magnetic Resonance Imaging Technologists	15	Associate's degree	39,067	54,484
29-2055	Surgical Technologists	50	Postsecondary non-degree award	32,960	40,266
29-2061	Licensed Practical and Licensed Vocational Nurses	350	Postsecondary non-degree award	32,371	37,175
31-2021	Physical Therapist Assistants	95	Associate's degree	44,897	58,500
33-1021	First-Line Supervisors of Fire Fighting and Prevention Workers	20	Postsecondary non-degree award	36,390	56,757
33-3051	Police and Sheriff's Patrol Officers	180	High school diploma or equivalent	30,578	39,428
47-2121	Glaziers	30	High school diploma or equivalent	31,757	35,540
49-2098	Security and Fire Alarm Systems Installers	60	High school diploma or equivalent	30,693	44,610
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	140	High school diploma or equivalent	30,977	39,953
49-3092	Recreational Vehicle Service Technicians	15	High school diploma or equivalent		
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	15	High school diploma or equivalent		
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	215	Postsecondary non-degree award	31,363	41,990
49-9031	Home Appliance Repairers	15	High school diploma or equivalent		
49-9043	Maintenance Workers, Machinery	140	High school diploma or equivalent	31,017	43,495
51-1011	First-Line Supervisors of Production and Operating Workers	330	High school diploma or equivalent	37,162	57,876
51-2091	Fiberglass Laminators and Fabricators	30	High school diploma or equivalent	29,927	36,230
51-4051	Metal-Refining Furnace Operators and Tenders	20	High school diploma or equivalent	32,220	43,590
51-8021	Stationary Engineers and Boiler Operators	15	High school diploma or equivalent	43,375	58,539
51-9011	Chemical Equipment Operators and Tenders	40	High school diploma or equivalent	42,037	70,225
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,235	Postsecondary non-degree award	29,172	42,519

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

Table 22: Southeast Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
15-1134	Web Developers	25	Associate's degree	38,836	64,833
15-1151	Computer User Support Specialists	70	Some college, no degree	36,773	54,689
19-4099	Life, Physical, and Social Science Technicians, All Other	45	Associate's degree		
29-1126	Respiratory Therapists	30	Associate's degree	43,804	53,343
29-2032	Diagnostic Medical Sonographers	15	Associate's degree	54,431	63,046
29-2034	Radiologic Technologists	40	Associate's degree	42,291	50,060
29-2055	Surgical Technologists	35	Postsecondary non-degree award	32,041	37,996
29-2061	Licensed Practical and Licensed Vocational Nurses	200	Postsecondary non-degree award	33,883	38,568
31-2011	Occupational Therapy Assistants	20	Associate's degree	51,253	60,721
31-2021	Physical Therapist Assistants	60	Associate's degree	34,961	53,827
41-3099	Sales Representatives, Services, All Other	210	High school diploma or equivalent	31,222	51,532
43-1011	First-Line Supervisors of Office and Administrative Support Workers	420	High school diploma or equivalent	33,563	48,970
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	100	High school diploma or equivalent	32,155	45,954
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	40	High school diploma or equivalent	34,986	46,294
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	80	Postsecondary non-degree award	30,853	48,416
51-1011	First-Line Supervisors of Production and Operating Workers	245	High school diploma or equivalent	37,610	52,341
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	15	High school diploma or equivalent	30,655	40,582
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	60	High school diploma or equivalent	33,059	43,300
51-6091	Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	15	High school diploma or equivalent		
51-8099	Plant and System Operators, All Other	15	High school diploma or equivalent		
53-7032	Excavating and Loading Machine and Dragline Operators	30	High school diploma or equivalent		

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

East Tennessee's Top Middle Skill Occupations¹

Northeast Tennessee: Middle skill occupations in demand reflect the needs of several of the LWDA's largest industries listed in table 19. Four are healthcare occupations found in hospitals, ambulatory care settings, and nursing and residential care facilities. Business operations specialists, market research analysts, and software developers can be found in large educational institutions, hospitals, and manufacturing settings.

Telecommunications equipment installers and repairers service or repair telephone, cable television, Internet, and other communications equipment, and will also be needed in large businesses mentioned above, as well as in government. Sheet metal workers and heavy equipment mechanics work in both construction and manufacturing settings.

East Tennessee: The largest industries in this LWDA are listed in table 19. Five of the middle skill occupations, including surgical technologists and diagnostic medical sonographers, are in the healthcare industries, with more than 46,000 employees in the East Tennessee LWDA. Shortages of police and fire fighting supervisors exist in government. In- demand occupations in specialty trade contracting account for three occupations, including security and fire alarm system installers. With more than 18,000 employment in transportation equipment manufacturing, production occupations in maintenance, production supervision, and electrical and electronics engineering technology are needed. Tractor-trailer truck drivers are also needed to maintain the supply chain for manufacturing plants.

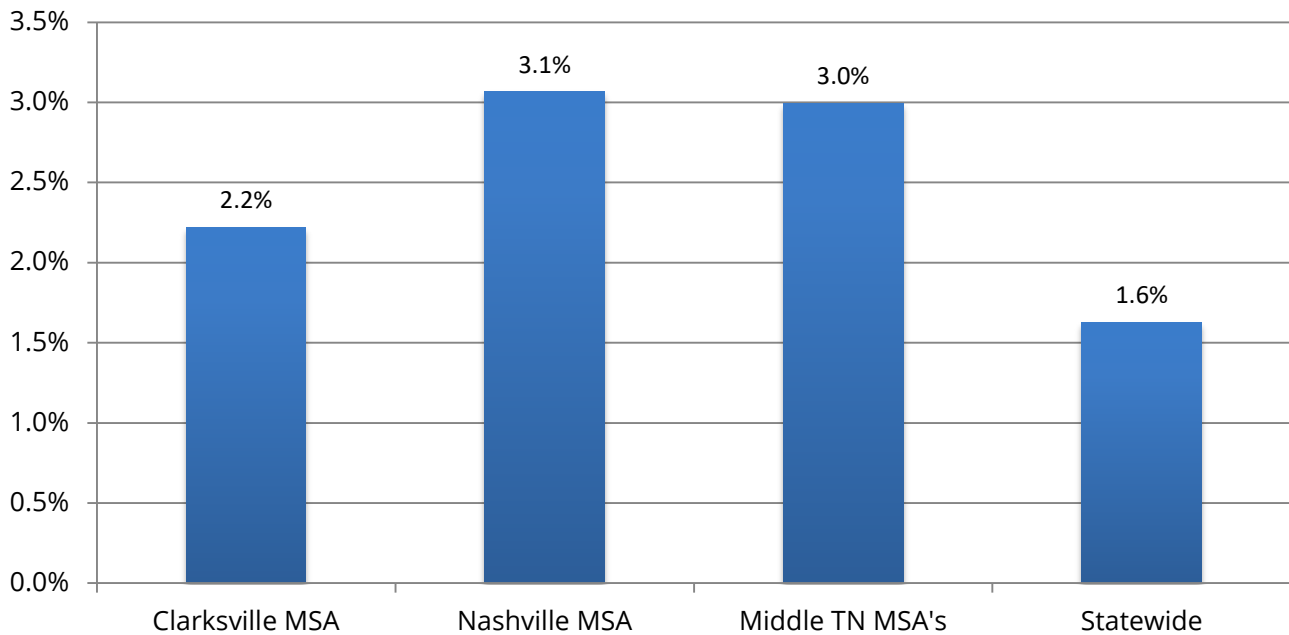
East Tennessee Local Workforce Development Areas and Counties	
Northeast Tennessee (LWDA 1)	
Carter	Johnson
Greene	Sullivan
Hancock	Unicoi
Hawkings	Washington
East Tennessee (LWDA 2)	
Anderson	Knox
Blount	Loudon
Campbell	Monroe
Claiborne	Morgan
Cocke	Roane
Grainger	Scott
Hamblen	Sevier
Jefferson	Union
Southeast Tennessee (LWDA 4)	
Bledsoe	McMinn
Bradley	Meigs
Grundy	Polk
Hamilton	Rhea
Marion	Sequatchie

Southeast Tennessee: With nearly 30,000 employment in the health care industries, seven middle skill occupations in health care appear as demand occupations in Table 22. Professional, scientific, and technical services are prominent with more than 9,600 employment in Table 19; this industry includes the detailed industry computer systems design and related services, which employs web developers, computer user support specialists, and services sales representatives. The presence of a significant transportation equipment manufacturing sector is creating a need for production supervisors and welders, among other occupations. A large truck transportation industry requires significant numbers of bus and truck mechanics and diesel engine specialists.

¹ Detailed information on the development of the demand occupations can be found in the report's appendix.

Middle Region

Middle TN MSA Job Growth 2017-2018



Source: TN Department of Labor & Workforce Development, Current Employment Statistics

Figure 13

Middle Region

There are only two MSAs in the Middle Region as more and more counties are being absorbed into the Nashville MSA. This MSA grew almost twice as rapidly (3.1 percent) as the state as a whole (1.6 percent) in 2017-2018. The Clarksville MSA also grew more rapidly than the rate for the state (see Figure 13).

The Middle Region had the largest population growth over the last year (1.58 percent), an estimated 43,717 individuals, the lowest unemployment rate (3.0 percent), and the highest adult educational attainment (56.5 percent). It also had the lowest poverty rate and percent of those not in the labor force with disabilities. It also has the largest number of individuals unemployed without a disability (58,881). This could be an indication of the need for skills training. It also has the lowest youth unemployment rate, still showing a potential of 24,398 youth in need of employment services, the most in the three regions.

Of the 26 counties in the Middle Tennessee Region in metropolitan or micropolitan areas in 2018, 18 had unemployment rates at or below the state unemployment rate of 3.5 percent. All counties had lower annual average unemployment rates in 2018 than in 2017. The six counties that had the greatest reductions in unemployment include Jackson, Smith, Lawrence, Overton, Cannon, and Cheatham, which all had lowered unemployment rates by at least 0.4 percent.

Table 23: Middle Region Annual Average Unemployment Rates, 2017 to 2018

Area	2018 Annual Averages				2017 Annual Averages			
	Labor Force	Employment	Unem- ployment Number	Unem- ployment Percent	Labor Force	Employment	Unem- ployment Number	Unem- ployment Percent
UNITED STATES	162,075,000	155,761,000	6,314,000	3.9%	160,320,000	153,337,000	6,982,000	4.4%
TENNESSEE	3,244,900	3,131,700	113,300	3.5%	3,190,200	3,070,300	119,900	3.8%
Metropolitan Statistical Areas (MSAs)								
Clarksville, TN-KY MSA	114,720	109,950	4,770	4.2%	112,320	107,090	5,230	4.7%
Montgomery County	83,870	80,680	3,190	3.8%	81,890	78,510	3,380	4.1%
Kentucky Portion	30,850	29,270	1,590	5.1%	30,430	28,580	1,850	6.1%
Nashville-Mur- freesboro, TN MSA	1,042,990	1,014,550	28,450	2.7%	1,011,210	981,440	29,770	2.9%
Cannon County	6,370	6,170	200	3.2%	6,190	5,970	220	3.6%
Cheatham County	21,460	20,870	590	2.7%	20,820	20,180	640	3.1%
Davidson County	396,570	386,140	10,440	2.6%	384,240	373,440	10,810	2.8%
Dickson County	26,260	25,460	790	3.0%	25,500	24,640	860	3.4%
Hickman County	11,160	10,800	360	3.2%	10,830	10,450	370	3.5%
Macon County	10,990	10,640	350	3.2%	10,700	10,330	370	3.5%
Mauzy County	47,490	45,950	1,540	3.2%	45,960	44,460	1,500	3.3%
Robertson County	36,980	35,820	1,160	3.1%	35,930	34,690	1,240	3.4%
Rutherford County	176,690	171,940	4,750	2.7%	171,380	166,350	5,030	2.9%
Smith County	9,150	8,870	280	3.1%	8,910	8,580	320	3.6%
Sumner County	98,710	95,960	2,750	2.8%	95,690	92,810	2,880	3.0%
Trousdale County	4,890	4,730	160	3.3%	4,740	4,580	170	3.5%
Williamson County	123,210	120,150	3,060	2.5%	119,440	116,190	3,250	2.7%
Wilson County	73,090	71,060	2,030	2.8%	70,890	68,770	2,120	3.0%
Micropolitan Statistical Areas (MCSAs)								
Cookeville	48,750	46,950	1,810	3.7%	48,060	46,110	1,950	4.0%
Jackson Co.	4,600	4,390	220	4.7%	4,590	4,340	250	5.4%
Overton Co.	9,820	9,450	370	3.8%	9,510	9,120	400	4.2%
Putnam Co.	34,330	33,110	1,220	3.6%	33,950	32,650	1,300	3.8%
Crossville (Cumber- land Co.)	23,340	22,320	1,020	4.4%	23,360	22,270	1,090	4.7%
Lawrenceburg (Law- rence Co.)	18,310	17,570	740	4.0%	17,770	16,980	790	4.4%
Lewisburg (Marshall Co.)	15,330	14,800	530	3.4%	15,070	14,540	530	3.5%
Shelbyville (Bedford Co.)	20,590	19,820	770	3.7%	20,510	19,700	810	4.0%
Tullahoma-Manches- ter	48,970	47,320	1,650	3.4%	48,210	46,430	1,780	3.7%
Coffee Co.	25,480	24,610	870	3.4%	24,920	24,000	920	3.7%
Franklin Co.	19,950	19,280	670	3.4%	19,820	19,060	760	3.8%

Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics

Table 24: Middle Tennessee LWDA's Top 10 Industries Based on Employment

Industry Title	Industry Code	Establishments	Average Employment	Average Weekly Wage
Upper Cumberland LWDA (3)				
Educational Services	611	66	9,686	\$714
Food Services and Drinking Places	722	497	9,223	\$280
Transportation Equipment Manufacturing	336	43	6,061	\$967
Ambulatory Health Care Services	621	483	5,808	\$838
Administrative and Support Services	561	242	5,012	\$499
Executive, Legislative, and Other General Government Support	921	49	4,749	\$588
Hospitals	622	13	4,467	\$1,002
General Merchandise Stores	452	131	3,764	\$462
Nursing and Residential Care Facilities	623	60	3,486	\$515
Social Assistance	624	144	2,612	\$419
Southern Middle Tennessee LWDA (5)				
Educational Services	611	88	12,883	\$722
Transportation Equipment Manufacturing	336	53	12,771	\$1,150
Food Services and Drinking Places	722	693	11,779	\$286
Administrative and Support Services	561	392	7,072	\$557
Ambulatory Health Care Services	621	611	6,127	\$1,054
Executive, Legislative, and Other General Government Support	921	64	5,539	\$625
Hospitals	622	14	4,990	\$927
Professional, Scientific and Technical Services	541	686	4,778	\$1,285
Nursing and Residential Care Facilities	623	131	4,458	\$577
General Merchandise Stores	452	155	4,349	\$457
Northern Middle Tennessee LWDA (6)				
Food Services and Drinking Places	722	4,278	90,481	\$392
Administrative and Support Services	561	3,457	74,180	\$740
Educational Services	611	804	71,371	\$898
Professional, Scientific, and Technical Services	541	7,550	62,580	\$1,767
Hospitals	622	66	51,303	\$1,319
Ambulatory Health Care Services	621	3,463	50,473	\$1,352
Specialty Trade Contractors	238	2,807	30,588	\$1,095
Executive, Legislative, and Other General Government Support	921	105	30,203	\$979
Merchant Wholesalers, Durable Goods	423	2,473	23,418	\$1,464
Transportation Equipment Manufacturing	336	103	23,199	\$1,407

Source: TN Department of Labor & Workforce Development QCEW Data, Annual Averages 2018

Table 25: Upper Cumberland Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
11-1021	General and Operations Managers	140	Bachelor's degree	39,261	73,411
11-2022	Sales Managers	15	Bachelor's degree	52,891	94,713
15-1132	Software Developers, Applications	10	Bachelor's degree		
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	45	Bachelor's degree	35,585	46,171
29-1123	Physical Therapists	15	Doctoral or professional degree	76,490	94,669
29-1141	Registered Nurses	155	Bachelor's degree	48,076	61,010
29-2061	Licensed Practical and Licensed Vocational Nurses	130	Postsecondary non-degree award	30,795	36,619
41-1012	First-Line Supervisors of Non-Retail Sales Workers	15	High school diploma or equivalent	51,757	72,420
43-5061	Production, Planning, and Expediting Clerks	20	High school diploma or equivalent	29,043	40,082

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

Table 24 lists the top 10 industries by employment for the three Middle Tennessee LWDAs - Upper Cumberland, Southern Middle, and Northern Middle Tennessee. Employment in the top 10 industries in Northern Middle Tennessee topped 500,000 employment, or nearly 50 percent of total employment for this LWDA.

Educational services was the largest employer in both Upper Cumberland and Southern Middle Tennessee, with food services and drinking places among the top three industries across the region. In both Upper Cumberland and Southern Middle Regions, ambulatory health care employment was greater than hospital employment, followed by nursing and residential care employment among the top ten. However, in the Northern Middle LWDA, partly due to its regional trauma and children's hospitals, the hospital employment (51,303) exceeded employment in ambulatory care (50,473); nursing and residential care facilities was not among the top 10 industries.

Transportation equipment manufacturing was among the top 10 industries in all three LWDA, ranking among the top 3 except in Northern Middle Tennessee. The highest paying industries were hospitals in Upper Cumberland; and professional, scientific, and technical industries in Southern and Northern Middle areas. In Southern and Middle Tennessee, average pay in ambulatory care centers exceeded that of hospitals.

Unique to Northern Middle Tennessee in the top 10 list was merchant wholesalers of durable goods and specialty trade contractors, the latter supporting the construction boom in the Nashville area fueled by low interest rates and population growth.

Table 26: Southern Middle Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
11-3071	Transportation, Storage, and Distribution Managers	25	High school diploma or equivalent	48,199	64,920
17-3023	Electrical and Electronics Engineering Technicians	25	Associate's degree	40,603	56,835
17-3027	Mechanical Engineering Technicians	20	Associate's degree	42,884	50,695
29-2034	Radiologic Technologists	15	Associate's degree	39,845	47,645
29-2061	Licensed Practical and Licensed Vocational Nurses	145	Postsecondary non-degree award	33,889	39,499
31-2021	Physical Therapist Assistants	20	Associate's degree	49,040	66,176
33-3051	Police and Sheriff's Patrol Officers	65	High school diploma or equivalent	30,297	38,077
41-3021	Insurance Sales Agents	30	High school diploma or equivalent	29,452	46,078
43-1011	First-Line Supervisors of Office and Administrative Support Workers	160	High school diploma or equivalent	32,479	45,829
43-3051	Payroll and Timekeeping Clerks	15	High school diploma or equivalent	35,271	44,690
43-5061	Production, Planning, and Expediting Clerks	90	High school diploma or equivalent	31,549	42,009
47-2031	Carpenters	20	High school diploma or equivalent	31,702	
47-2111	Electricians	95	High school diploma or equivalent	45,538	67,998
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	70	High school diploma or equivalent	39,634	54,658
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	30	High school diploma or equivalent	31,045	42,212
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	15	High school diploma or equivalent	28,514	37,637
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	35	Postsecondary non-degree award	28,724	36,486
49-9043	Maintenance Workers, Machinery	15	High school diploma or equivalent	37,895	49,776
51-4011	Computer Controlled Machine Tool Operators, Metal and Plastic	20	High school diploma or equivalent	33,248	45,986
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	190	High school diploma or equivalent	46,438	59,274

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

Table 27: Northern Middle Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Median Annual Wage
11-9081	Lodging Managers	60	High school diploma or equivalent	57,028
11-9141	Property, Real Estate, and Community Association Managers	355	High school diploma or equivalent	51,824
15-1134	Web Developers	95	Associate's degree	62,671
15-1151	Computer User Support Specialists	500	Some college, no degree	46,735
17-3022	Civil Engineering Technicians	35	Associate's degree	37,157
17-3023	Electrical and Electronics Engineering Technicians	50	Associate's degree	58,628
29-1126	Respiratory Therapists	70	Associate's degree	55,165
29-2032	Diagnostic Medical Sonographers	45	Associate's degree	68,742
29-2034	Radiologic Technologists	100	Associate's degree	50,495
29-2035	Magnetic Resonance Imaging Technologists	35	Associate's degree	68,179
29-2061	Licensed Practical and Licensed Vocational Nurses	650	Postsecondary non-degree award	43,136
31-2021	Physical Therapist Assistants	130	Associate's degree	60,938
33-3051	Police and Sheriff's Patrol Officers	275	High school diploma or equivalent	48,237
35-1011	Chefs and Head Cooks	120	High school diploma or equivalent	55,425
43-1011	First-Line Supervisors of Office and Administrative Support Workers	1,585	High school diploma or equivalent	54,945
43-3051	Payroll and Timekeeping Clerks	135	High school diploma or equivalent	47,870
43-4011	Brokerage Clerks	90	High school diploma or equivalent	
43-6011	Executive Secretaries and Executive Administrative Assistants	435	High school diploma or equivalent	51,062
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	430	High school diploma or equivalent	58,694
47-2111	Electricians	560	High school diploma or equivalent	47,347
47-2152	Plumbers, Pipefitters, and Steamfitters	350	High school diploma or equivalent	47,369
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	380	High school diploma or equivalent	62,625
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	35	Associate's degree	
49-2098	Security and Fire Alarm Systems Installers	100	High school diploma or equivalent	56,241
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	210	High school diploma or equivalent	46,712
49-9041	Industrial Machinery Mechanics	180	High school diploma or equivalent	47,335
49-9043	Maintenance Workers, Machinery	245	High school diploma or equivalent	61,116
49-9051	Electrical Power-Line Installers and Repairers	140	High school diploma or equivalent	73,028
49-9062	Medical Equipment Repairers	65	Associate's degree	43,304
51-1011	First-Line Supervisors of Production and Operating Workers	570	High school diploma or equivalent	56,934
51-4111	Tool and Die Makers	75	Postsecondary non-degree award	51,004
53-5021	Captains, Mates, and Pilots of Water Vessels	65	Postsecondary non-degree award	46,989

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

Middle Tennessee Top Middle Skill Occupations¹

Upper Cumberland: Table 24 lists the top 10 industries by employment for the three Middle Tennessee LWDAs. Occupations requiring bachelor's degrees have been included in the middle skill occupations for Upper

Cumberland. In line with its industry profile including healthcare industries, Upper Cumberland needs registered nurses, physical therapists and L.P.N.s. With more than 6,000 employment in transportation equipment manufacturing, occupations in demand include general operations managers, sales managers, and production and planning clerks. A large secondary education sector will require additional secondary school teachers.

Southern Middle Tennessee: The largest industries in this LWDA included educational services, transportation equipment manufacturing, healthcare (more than 15,500 employment), general government, and professional, scientific, and technical employment (Table 24). Electrical/electronic and mechanical engineering technicians, forging machine setters and operators, CNC machine tool operators, and production, planning, and expediting clerks can be found in transportation equipment manufacturing. Three healthcare-related occupations are in demand due to the large industry size. Educational institutions employ middle skill clerical supervisors and HVAC installers and repairers.

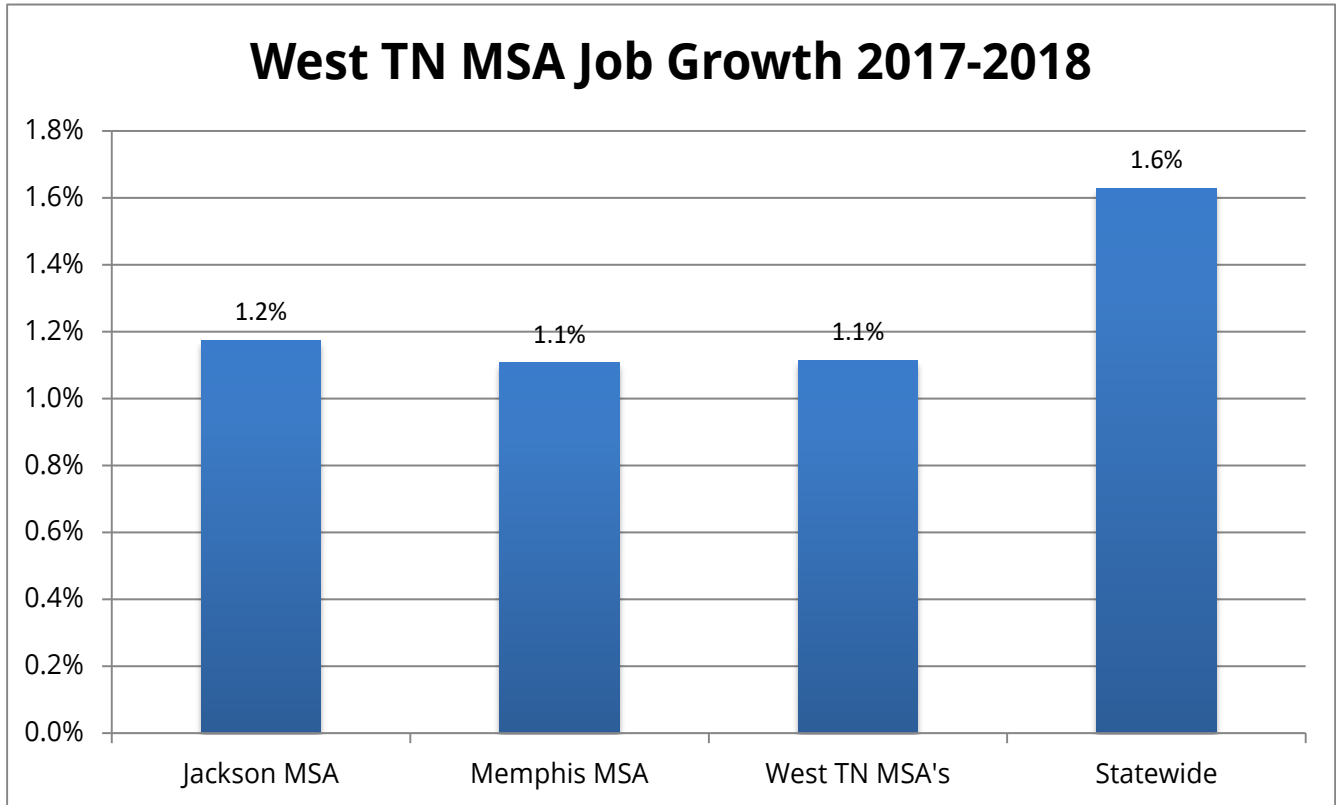
Northern Middle Tennessee: One of the top 10 industries in the Northern Middle LWDA is food services and drinking places, employing nearly 90, 500 workers. This

will create a demand for chefs and head cooks, with median annual wages of \$55,425 in 2018. Another large industry, administrative support services, includes services to buildings and dwellings. As this industry grows, it is expected to have annual openings for 355 property, real estate, and community association managers, requiring only a high school diploma. With more than 52,000 in healthcare industry employment, healthcare workers from diagnostic sonographers to MRI technologists to L.P.N.s will be needed as well as medical equipment repairers. The professional, scientific, and technical industry includes computer program design, which employs web developers and computer support specialists. Other top jobs in Table 27 can be found in transportation equipment manufacturing and with specialty trade contractors.

Middle Tennessee Local Workforce Development Areas and Counties	
Upper Cumberland Tennessee (LWDA 3)	
Cannon	Overton
Clay	Pickett
Cumberland	Putnam
Dekalb	Smith
Fentress	Van Buren
Jackson	Warren
Macon	White
Southern Middle Tennessee (LWDA 5)	
Bedford	Lincoln
Coffee	Marshall
Franklin	Mauzy
Giles	Moore
Hickman	Perry
Lawrence	Wayne
Lewis	
Northern Middle Tennessee (LWDA 6)	
Cheatham	Rutherford
Davidson	Stewart
Dickson	Sumner
Houston	Toursdale
Humphreys	Williamson
Montgomery	Wilson
Robertson	

¹ Detailed information on the development of the demand occupations can be found in the report's appendix.

West Region



Source: TN Department of Labor & Workforce Development, Current Employment Statistics

Figure 14

West Region

The two MSAs in the West Region, Jackson and Memphis, grew at about two thirds the average rate of growth in employment state wide (see Figure 14). The Jackson MSA alone grew by 1.2 percent in 2017-2018, a substantial increase from the 0.1 job growth from 2016-2017. The West Region had the highest average unemployment rate in the state (Table 13), 4.2 percent. Of the eleven counties in the West Region in MSAs or micropolitan areas, none had unemployment rates lower than the state rate in 2018, although, all but Haywood County (0.1 percent increase) had reduced rates from 2017. The three counties which had the greatest reductions in unemployment rates were Weakley, Union City, and Obion, all lowering their rates by more 0.6 percent or more.

This region had the highest rate of youth unemployment in 2017, and 0.01 percent rate of population decline; however, the average educational attainment was higher than for the East Region. The West Region had the highest percentage of adults 25 years of age and older, 9.2 percent, who had completed 9th to 12th grade but who had not received a high school diploma. The percentage of the unemployed with a disability was lower than the average for the state.

Table 29 lists the top 10 industries by employment for the West Region LWDAs - Southwest, Northwest, and Greater Memphis. Two of the three LWDAs, Southwest and Northwest, count educational services among their top industries. Among the other top-employing industries were food services and drinking places (second and third largest) and hospitals (ranking third or fourth, except for Northwest Tennessee). Another top-ranking industry is ambulatory health care, ranking fourth, fifth, and sixth in

the LWDAs. In Southwest Tennessee this is the highest paid industry among the top ten.

Unique in the top 10 in Southwest Tennessee were fabricated metal product manufacturing (3,256 employees) and machinery manufacturing (3,011), with average weekly wages of \$1,009 and \$965, respectively. Ranked tenth in Northwest Tennessee was another manufacturing industry, electrical equipment, appliance, and components manufacturing, paying the highest weekly wage (\$1,176) among their top industries. And couriers and messengers, employing 28,193 workers, was unique in the list to Greater Memphis. It was their highest paid industry, followed by ambulatory services.

Table 28: West Region Annual Average Unemployment Rates, 2017 to 2018

Area	2018 Annual Averages				2017 Annual Averages			
	Labor Force	Employment	Unemployment Number	Unemployment Percent	Labor Force	Employment	Unemployment Number	Unemployment Percent
UNITED STATES	162,075,000	155,761,000	6,314,000	3.9%	160,320,000	153,337,000	6,982,000	4.4%
TENNESSEE	3,244,900	3,131,700	113,300	3.5%	3,190,200	3,070,300	119,900	3.8%
Metropolitan Statistical Areas (MSAs)								
Jackson, TN MSA	64,110	61,690	2,420	3.8%	63,300	60,780	2,520	4.0%
Chester County	8,420	8,100	320	3.8%	8,330	7,990	330	4.0%
Crocket County	7,020	6,750	270	3.9%	6,950	6,660	290	4.2%
Madison County	48,660	46,830	1,830	3.8%	48,030	46,130	1,900	4.0%
Memphis, TN-MS-AR MSA	634,900	608,600	26,300	4.1%	627,850	600,610	27,250	4.3%
Fayette County	18,770	18,070	700	3.7%	18,570	17,820	750	4.0%
Shelby County	442,380	424,010	18,370	4.2%	436,810	417,700	19,110	4.4%
Tipton County	27,900	26,720	1,180	4.2%	27,570	26,340	1,230	4.5%
Arkansas Portion	21,470	20,540	930	4.3%	21,390	20,460	930	4.4%
Mississippi Portion	124,390	119,260	5,120	4.1%	123,510	118,290	5,220	4.2%
Micropolitan Statistical Areas (MCSAs)								
Dyersburg (Dyer Co.)	16,240	15,500	740	4.6%	16,070	15,290	780	4.9%
Martin (Weakley Co.)	16,010	15,330	680	4.2%	15,750	14,980	770	4.9%
Paris (Henry Co.)	14,230	13,640	600	4.2%	13,960	13,320	640	4.6%
Union City, TN-KY	14,340	13,610	730	5.1%	14,270	13,450	830	5.8%
Obion Co.	12,290	11,680	610	4.9%	12,200	11,530	680	5.5%
Kentucky Portion (Fulton Co.)	2,050	1,930	120	5.8%	2,070	1,920	150	7.3%

Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics

Table 29: West Tennessee LWDA's Top 10 Industries Based on Employment

Industry Title	Industry Code	Establishments	Average Employment	Average Weekly Wage
Southwest Tennessee LWDA (7)				
Educational Services	611	48	8,385	\$696
Food Services and Drinking Places	722	416	7,788	\$293
Hospitals	622	16	7,123	\$922
Administrative and Support Services	561	240	6,461	\$553
Ambulatory Health Care Services	621	426	6,211	\$1,222
Executive, Legislative, and Other General Government Support	921	51	3,786	\$633
Fabricated Metal Product Manufacturing	332	63	3,256	\$1,009
Nursing and Residential Care Facilities	623	57	3,195	\$580
General Merchandise Stores	452	108	3,181	\$452
Machinery Manufacturing	333	33	3,011	\$965
Northwest Tennessee LWDA (8)				
Educational Services	611	44	8,074	\$687
Food Services and Drinking Places	722	395	5,957	\$257
Food Manufacturing	311	21	3,704	\$827
Ambulatory Health Care Services	621	361	3,646	\$823
Nursing and Residential Care Facilities	623	72	3,303	\$545
Executive, Legislative, and Other General Government Support	921	63	3,282	\$583
Administrative and Support Services	561	208	3,098	\$519
General Merchandise Stores	452	107	2,881	\$467
Hospitals	622	19	2,258	\$926
Electrical Equipment, Appliance, and Components Manufacturing	335	9	2,173	\$1,176
Greater Memphis LWDA (9)				
Administrative and Support Services	561	1,449	50,218	\$701
Educational Services	611	344	40,339	\$890
Food Services and Drinking Places	722	1,953	38,985	\$342
Hospitals	622	36	31,081	\$1,234
Couriers and Messengers	492	130	28,193	\$1,711
Ambulatory Health Care Services	621	1,636	25,474	\$1,280
Professional, Scientific, and Technical Services	541	2,458	22,091	\$1,194
Executive, Legislative, and Other General Government Support	921	46	17,639	\$1,070
Merchant Wholesalers, Durable Goods	423	1,145	15,487	\$1,363
Specialty Trade Contractors	238	1,034	13,909	\$1,119

Source: TN Department of Labor & Workforce Development QCEW Data, Annual Averages 2018

Table 30: Southwest Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
15-1151	Computer User Support Specialists	15	Some college, no degree	30,129	40,130
29-2061	Licensed Practical and Licensed Vocational Nurses	115	Postsecondary non-degree award	31,282	36,236
31-2011	Occupational Therapy Assistants	15	Associate's degree	58,618	67,822
31-9091	Dental Assistants	25	Postsecondary non-degree award	30,632	40,808
41-1012	First-Line Supervisors of Non-Retail Sales Workers	20	High school diploma or equivalent	48,472	68,574
43-1011	First-Line Supervisors of Office and Administrative Support Workers	115	High school diploma or equivalent	32,576	46,277
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	35	High school diploma or equivalent	31,903	39,649
53-7032	Excavating and Loading Machine and Dragline Operators	20	High school diploma or equivalent		

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

Table 31: Northwest Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
17-3022	Civil Engineering Technicians	11	Associate's degree		
17-3026	Industrial Engineering Technicians	11	Associate's degree		
29-2061	Licensed Practical and Licensed Vocational Nurses	145	Postsecondary non-degree award	31,779	35,860
31-2021	Physical Therapist Assistants	25	Associate's degree	44,659	62,459
41-1012	First-Line Supervisors of Non-Retail Sales Workers	15	High school diploma or equivalent	47,765	64,445
41-3099	Sales Representatives, Services, All Other	20	High school diploma or equivalent	28,665	38,167
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	55	High school diploma or equivalent	30,527	48,091
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	35	High school diploma or equivalent	37,224	50,560
47-2071	Paving, Surfacing, and Tamping Equipment Operators	11	High school diploma or equivalent	28,599	35,042
47-2111	Electricians	40	High school diploma or equivalent	36,845	48,335
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	25	High school diploma or equivalent	42,427	64,527
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	45	Postsecondary non-degree award	34,855	39,806
49-9051	Electrical Power-Line Installers and Repairers	20	High school diploma or equivalent	49,116	58,475
53-7032	Excavating and Loading Machine and Dragline Operators	20	High school diploma or equivalent	29,681	38,866

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

Table 32: Greater Memphis Tennessee Top Middle Skill Occupations

SOC Code	SOC Title	Annual Total Openings	Education Level	2018 Entry-Level Annual Wage	2018 Median Annual Wage
11-3071	Transportation, Storage, and Distribution Managers	85	High school diploma or equivalent	54,833	85,143
13-1031	Claims Adjusters, Examiners, and Investigators	175	High school diploma or equivalent	51,158	71,704
15-1134	Web Developers	40	Associate's degree	42,485	56,510
15-1151	Computer User Support Specialists	215	Some college, no degree	29,948	47,120
17-3023	Electrical and Electronics Engineering Technicians	40	Associate's degree	40,607	52,667
17-3026	Industrial Engineering Technicians	45	Associate's degree	42,851	51,385
29-2032	Diagnostic Medical Sonographers	30	Associate's degree	56,375	70,557
29-2034	Radiologic Technologists	55	Associate's degree	42,239	55,678
29-2041	Emergency Medical Technicians and Paramedics	110	Postsecondary non-degree award	28,943	39,106
29-2055	Surgical Technologists	55	Postsecondary non-degree award	35,647	44,535
29-2061	Licensed Practical and Licensed Vocational Nurses	285	Postsecondary non-degree award	34,596	43,664
31-2021	Physical Therapist Assistants	45	Associate's degree	38,769	57,114
33-3051	Police and Sheriff's Patrol Officers	185	High school diploma or equivalent	39,171	53,280
41-3021	Insurance Sales Agents	155	High school diploma or equivalent	33,748	51,793
43-1011	First-Line Supervisors of Office and Administrative Support Workers	620	High school diploma or equivalent	37,090	53,670
43-5011	Cargo and Freight Agents	55	High school diploma or equivalent	30,664	43,272
43-5061	Production, Planning, and Expediting Clerks	190	High school diploma or equivalent	32,751	44,796
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	160	High school diploma or equivalent	47,504	71,307
49-2098	Security and Fire Alarm Systems Installers	35	High school diploma or equivalent	38,252	56,196
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	170	High school diploma or equivalent	33,499	44,037
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	70	High school diploma or equivalent	29,323	44,516
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	155	Postsecondary non-degree award	30,878	42,517
49-9043	Maintenance Workers, Machinery	45	High school diploma or equivalent	30,711	43,157
49-9051	Electrical Power-Line Installers and Repairers	25	High school diploma or equivalent	43,506	66,032
51-2041	Structural Metal Fabricators and Fitters	15	High school diploma or equivalent	28,396	35,875
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	15	High school diploma or equivalent	29,105	40,541
51-4041	Machinists	160	High school diploma or equivalent	35,147	45,936
51-8021	Stationary Engineers and Boiler Operators	10	High school diploma or equivalent	38,060	55,313
53-3032	Heavy and Tractor-Trailer Truck Drivers	1415	Postsecondary non-degree award	31,354	45,614

Source: TN Department of Labor & Workforce Development, LMI Section, 2016-26 Employment Projections and 2018 OES Wages; Jobs4tn.gov Candidate/Supply Ratios; TN Dept. of Education, Career and Technical Education Div.

West Tennessee's Top Middle Skill Occupations

Southwest Tennessee: Three healthcare occupations are among the top middle skill occupations in demand in this LWDA, which had more than 16,500 employment in healthcare industries (Table 29). Office supervisors and computer user support specialists can work in educational services, administrative and support services, and government. Although this LWDA has more than 6,000 employees in durable goods manufacturing, shortages of middle skill occupations were not identified.

Northwest Tennessee: The largest industries in Northwest included educational services (8,074 average employment), food and electrical equipment and appliance manufacturing (5,877), healthcare industries (9,207), and general government. Wholesale and manufacturing sales representatives, except technical, work in the food manufacturing industry. Industrial engineering technicians can be found in electrical equipment and component manufacturing. LPNs and physical therapist assistants are employees in healthcare settings. Educational institutions hire a variety of middle skill occupations, including electricians and first-line supervisors of mechanics, installers, and repairers.

Greater Memphis: One of the larger industry sectors in this LWDA is administrative and support services, with more than 50,000 employment. Business services firms can hire the in-demand web developers and computer user support specialists. More than 60,000 people work

in healthcare industries in the Greater Memphis area, creating demand for numerous middle skill occupations including the six listed in Table 32. Specialty trade contractors employed nearly 14,000 workers in 2018, creating a demand for security and fire alarm system installers, heating and air conditioning mechanics and installers and structural metal fabricators. Couriers and messenger services employ various methods of transportation, creating demand for transportation managers, cargo and freight agents, tractor-trailer truck drivers, production and planning clerks, and bus and truck mechanics and diesel engine specialists.

West Tennessee Local Workforce Development Areas and Counties	
Southwest Tennessee (LWDA 7)	
Chester	Haywood
Decatur	Henderson
Hardeman	Madison
Hardin	McNairy
Northwest Tennessee (LWDA 8)	
Benton	Henry
Carroll	Lake
Crockett	Obion
Dyer	Weakley
Gibson	
Greater Memphis Tennessee (LWDA 9)	
Fayette	Shelby
Lauderdale	Tipton

Workforce Challenges and Strategies 2019

The Workforce Innovation and Opportunity Act (WIOA) was in full implementation stage after July 1, 2017. The integration of workforce services with collaborative partners and shared goals continues to evolve. An additional challenge in August 2018 was the restructuring of the local workforce development areas from 13 to 9, with full implementation in the fall and winter of 2018. To facilitate this implementation, data on the potential population to serve was needed for each of the nine areas.

Challenges: Substantial Barriers to Employment

WIOA included a renewed focus on those with substantial barriers to employment (SBEs), with categories specifically defined in the WIOA guidelines.

WIOA Individuals with Barriers to Employment, 2018 Categories

- a. Displaced homemakers
- b. Low-income individuals
- c. Native Americans
- d. Individuals with disabilities, including recipients of Social Security
- e. Older individuals
- f. Justice- involved individuals
- g. People experiencing homelessness
- h. Youth who are in or have aged out of the foster care system
- i. Individuals who:
 1. Are English language learners
 2. Have low levels of literacy
 3. Face substantial cultural barriers
- j. Eligible migrant and seasonable farmworkers
- k. Individuals within two years of exhausting lifetime Temporary Assistance for Needy Families (TANF) eligibility
- l. Single parents, including pregnant women
- m. Those unemployed for 27 or more consecutive weeks
- n. Such other groups as determined by Governor Haslam

Collection of data on current populations in these categories is ongoing for Workforce Services and WIR²ED. Estimates of the number of these individuals by the revised Local Workforce Development Areas (LWDAs) in Tennessee were produced from a number of sources, including the following:

- U.S. Census Bureau
- U.S. Department of Labor, Bureau of Labor Statistics (BLS)
- Tennessee Department of Correction
- Tennessee Department of Children's Services
- Tennessee Department of Education
- Tennessee Department of Human Services
- Tennessee Department of Mental Health and Substance Abuse Services

Several of these departments have different service areas than the LWDA's, so population-based estimates were created by the Department of Labor and Workforce Development, WIR²ED Division. Available in this report are data by LWDA for the following categories:

- Low income individuals
- Native Americans
- Individuals with disabilities
- Older individuals
- Justice-involved individuals, including those on probation or parole and in mental health and recovery courts
- Youth aged out of foster care
- Individuals with limited English-speaking ability
- Single parents
- In-School youth experiencing homelessness

These estimates are displayed in Tables 33-35, and include the Steering Clear program implemented in 2017 by the Davidson County District Attorney and Sheriff's Department which is credited to have diverted over 5,000 charges related to driver's license violations out of Nashville's court rooms in the past year.¹ The largest groups with substantial barriers to employment include older individuals, those below the poverty threshold, and those with disabilities. As integrated databases are developed, determining individuals who have two or more barriers would assist in prioritizing services.

Table 33: Substantial Barriers to Employment

New LWDA Area	Number Of American Indians or Alaskan Natives alone	Population Ages 15-19	Population Ages 20-24	Population Ages 55+	Number Below Poverty	Number With Disability	Number of Single Parent Families
East							
East Tennessee (2)	3,719	76,106	85,088	377,446	180,730	107,067	36,591
Northeast Tennessee (1)	1,301	30,444	32,810	171,547	83,919	55,710	17,271
Southeast Tennessee (4)	1,274	39,655	41,575	196,728	95,354	56,331	19,862
Middle							
Northern Middle Tennessee (6)	5,863	121,482	137,344	446,987	215,424	127,623	64,553
Southern Middle Tennessee (5)	1,191	26,669	26,375	132,847	61,964	40,834	14,910
Upper Cumberland (3)	1,035	21,366	22,884	115,897	61,223	34,073	11,249
West							
Greater Memphis (9)	2,145	72,706	76,106	267,975	192,753	75,840	50,990
Northwest Tennessee (8)	821	16,825	16,461	80,194	45,943	25,844	9,792
Southwest Tennessee (7)	219	17,011	16,609	77,379	43,084	22,229	9,877
Total	17,568	422,264	455,252	1,867,000	980,394	545,687	235,095

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

¹Tamburin, A. (2019, September 6). Nashville police records on withdrawal driving charges will be cleared after expungement order. *Tennessean* (<https://www.tennessean.com/story/news/2019/09/06/nashville-steering-clear-program-police-records-cleared-weekly/2226158001/>)

Table 34: Substantial Barriers to Employment (Cont.)

LWDA Title	Probationers and Parolees	Community Correction	Mental Health Court Statistics (FY 2018)	Limited English Speaking	*Foster Care Services - Youth Aged Out	Clients In Recovery Courts (2018)	In School Youth Experiencing Homelessness in 2018	TANF 18 Months From Ending Eligibility Total 2017
East								
Northeast Tennessee	5,878	551	13	727	64	62	1,527	162
East Tennessee	13,910	1,025		5,824	208	341	2,281	349
Southeast Tennessee	7,053	343		3,055	80	114	1,982	235
Middle								
Upper Cumberland	4,830	362		1,354	82	234	1,487	86
Southern Middle Tennessee	5,373	540	28	1,492	93	148	334	134
Northern Middle Tennessee	1,439	1,439	38	18,016	203	586	7,340	506
West								
Southwest Tennessee	2,869	800		479	33	54	588	151
Northwest Tennessee	2,889	584		374	38	98	188	117
Greater Memphis	13,880	717	34	6,949	160	323	2,631	1,011
Total	78,658	6,361	113	38,270	961	1,960	18,358	2,751

* Counties of commitment, not residence.

Sources: Probationers and parolees, Community Corrections: Adam Dawson, Community Supervision Division, TN Department of Correction. Mental Health Court and Recovery Court Statistics: Liz Ledbetter, Recovery Court Administrator, TN Department of Mental Health and Substance Abuse Services; Limited English Speaking: U.S. Census Bureau, American Community Survey, 2017. Foster Care Services: Dave Aguzzi, Office of Independent Living, TN Department of Children's Services, In School Youth Experiencing Homelessness: Hebeh Hindich (2017), Josh Carlson (2018), Data Management Division, TN Department of Education TANF 18 Months for Ending Eligibility: Lakecia Peerson (2017), Tiffany D. Pinson (2018), Division of Family Assistance and Child Support, TN Department of Human Services.

Table 35: 2018 Annual Average of Those Unemployed for 27 or More Consecutive Weeks

Group Identified	Number of Workers Reported
All Races	14,875
White	11,225
Black	3,000
Hispanic	700
Age 16-19	1,050
Age 20+	13,800
Male, 16+	6,150
Female, 16+	8,725

Source: TN Department of Labor and Workforce Development, Local Area Unemployment Statistics, Current Population Survey

Workforce Strategies - Apprenticeship and Employer - Approved Certifications

Key to reducing unemployment among individuals with multiple barriers to entering and being retained in the workforce is integrating work-based learning (especially if compensated) and employment. Two important strategies are creating and fostering apprenticeships and supporting employer-recognized credentials such as certification. Other important strategies include assessing and meeting the basic needs of individuals who qualify for training and creating career paths to jobs in targeted industries.

Data on apprenticeship completers for 2018 in Tennessee were obtained from the U.S. Department of Labor, Office of Apprenticeship. Tables 36-38 include the names of apprenticeship sponsors with completers in 2018 in the East, Middle, and West Regions of Tennessee, who are also identified by county. Table 39 lists the apprenticeship occupations which had completers in Fiscal Year 2018.

Compared to 2017, this year had 59 fewer apprenticeship completers, for a total of 705. Forty-three unique occupations had completers in 2018, although some occupations differ from previous years. Occupations in 2018 which did not have completers in 2017 were the following:

- Alteration tailor
- Cook (Hotel & Restaurant)
- Greenskeeper
- Mechatronics Technician
- Metal Repairer
- Transformer Repairer

As in the previous year, the largest number of sponsors (43 percent) were in the East Region, which also had 59 percent of the completers. The bulk of the apprenticeships were in construction, manufacturing, and mechanical fields. The occupations with the most apprenticeship completers were electrician and chemical operator III.

There should be ample opportunity to expand apprenticeships to new occupations and industries as the service sector continues its strong growth in Tennessee.

The Tennessee Department of Education, College, Career and Technical Education Division, has been identifying employer-approved certifications related to their programs of study. A complete list of those identified so far can be found in their recent publication, *Student Industry Certifications Overview* (cte_certs_guidance.pdf).

Table 36: Registered Apprenticeship Sponsors with Completers 2018 East

Apprenticeship Sponsors	County	LWDA	Region	Completers
AO Smith	Washington	1	East	3
Domtar Paper Company	Sullivan	1	East	3
Eastman Chemical Company-Coal Gas Division	Sullivan	1	East	7
Eastman Chemical Company-Tennessee Operations	Sullivan	1	East	122
FLSmidth Inc. Apprenticeship Program	Washington	1	East	1
Mountain Electric Cooperative	Johnson	1	East	7
Northeast State Community College/Rcam	Sullivan	1	East	1
Nuclear Fuel Services	Unicoi	1	East	1
Plumber and Pipefitters, Local Union 538 JATC	Carter	1	East	2
Primester	Sullivan	1	East	1
Total Northeast LWDA	LWDA	1	East	148
Arconic	Blount	2	East	5
Consolidated Nuclear Security, LLC	Anderson	2	East	1
Eagle Bend Manufacturing	Anderson	2	East	5
Electrician Training Academy Knoxville	Knox	2	East	12
Funderburk Electrical Services	Knox	2	East	4
Insulators Local 46 JATC	Knox	2	East	8
Knoxville Ironworkers JATC	Knox	2	East	10
Knoxville Laborers JATC	Knox	2	East	7
Knoxville Plumbers & Steamfitters JATC	Knox	2	East	1
Knoxville Plumbing Heating Air Conditioning Cont.	Knox	2	East	3
Massey Electric #1	Blount	2	East	13
Oak Ridge Elect JATC	Anderson	2	East	9
Resource Valley	Knox	2	East	63
Total East LWDA	LWDA	2	East	141
Chattanooga Electrical JATC	Hamilton	4	East	62
Chattanooga Ironworkers JATC	Hamilton	4	East	4
Chattanooga Laborers Local 846	Hamilton	4	East	1
E&E Manufacturing of Tennessee, LLC	McMinn	4	East	3
Gestamp Chattanooga, LLC	Hamilton	4	East	2
Tennessee Carpenters Regional Council J.A.T.C.	Hamilton	4	East	25
UA Local 43 Plumbers Regional Council JATC	Hamilton	4	East	28
Total Southeast LWDA	LWDA	4	East	125
Grand Total For East	Region	--	East	414

Source: Office of Apprenticeship, Employment and Training Administration, U.S. Department of Labor

Table 37: Registered Apprenticeship Sponsors with Completers 2018 Middle

Apprenticeship Sponsors	County	LWDA	Region	Completers
ABEC Electric Company, Inc.	Davidson	6	Middle	19
Cumberland Electric Membership Corporation	Cheatham	6	Middle	3
Elevator Constructors Local 93	Davidson	6	Middle	6
Fast Electrical Contractors, Inc.	Davidson	6	Middle	1
Harlan Electric	Davidson	6	Middle	13
Heat & Frost Insulators Local #86 J.A.T.C.	Davidson	6	Middle	1
John Bouchard & Sons Company	Davidson	6	Middle	1
Knoxville Elevator IUEC Local #93	Davidson	6	Middle	9
M&M Electrical Contractor, Inc.	Sumner	6	Middle	1
Middle Tennessee Electric Membership Corporation	Rutherford	6	Middle	7
Nashville Electric Service	Davidson	6	Middle	15
Nashville Electrical JATC	Davidson	6	Middle	15
Nashville Ironworkers	Davidson	6	Middle	12
Nashville Plumbers and Pipefitters	Davidson	6	Middle	24
Nashville Sheetmetal JATC	Davidson	6	Middle	14
North American Stamping Group	Sumner	6	Middle	1
Power Teck, LLC	Davidson	6	Middle	1
Shiloh Industries, Inc.	Dickson	6	Middle	1
Thomas & Betts Corporation	Sumner	6	Middle	2
Travis Electric Company	Davidson	6	Middle	2
Walker Electric Company	Davidson	6	Middle	1
Grand Total For Middle	Region	--	Middle	149

Source: Office of Apprenticeship, Employment and Training Administration, U.S. Department of Labor

Table 38: Registered Apprenticeship Sponsors with Completers 2018 West

Apprenticeship Sponsors	County	LWDA	Region	Completers
American Fire Protection Group	Madison	7	West	2
Jackson Energy Authority	Madison	7	West	2
Total Southwest LWDA	LWDA	7	West	4
Amteck	Dyer	8	West	1
Northwest Corrections	Obion	8	West	12
Total Northwest LWDA	LWDA	8	West	13
Alteration Specialty Shop/School	Shelby	9	West	1
Chickasaw Electric Cooperative	Fayette	9	West	3
Divine Electrical, Inc.	Shelby	9	West	1
FCI	Shelby	9	West	7
International Union of Elevator Constructors Local	Shelby	9	West	5
Memphis Asbestos JAC	Shelby	9	West	1
Memphis Electrical JATC	Shelby	9	West	22
Memphis Ironworkers JAC	Shelby	9	West	5
Memphis Light, Gas, and Water	Shelby	9	West	16
Memphis Plumbers JAC	Shelby	9	West	9
Memphis Sheet Metal Workers JAC	Shelby	9	West	7
MID South Independent Electrical Contractors	Shelby	9	West	25
Steamfitters Local Union 614 Joint Apprenticeship Training Program	Shelby	9	West	17
West Tennessee Associated Builders & Contractor	Shelby	9	West	6
Total Greater Memphis LWDA	LWDA	9	West	125
Grand Total For West	Region	--	West	142

Source: Office of Apprenticeship, Employment and Training Administration, U.S. Department of Labor

Table 39: Apprentice Completers 2018 by Job Title and Workforce Development Area

Occupational Job Titles of Training Completers	Totals	LWDA 1	LWDA 2	LWDA 3	LWDA 4	LWDA 5	LWDA 6	LWDA 7	LWDA 8	LWDA 9
Alteration Tailor	1									1
Automobile Mechanic	3								3	
Carpenter	15				15					
Cement Mason	1								1	
Chemical Laboratory Technician	4	4								
Chemical Operator III	82	82								
Composite Plastic Fabricator	10		8				1			1
Construction Craft Laborer	8		7		1					
Cook (Hotel & Restaurant)	1									1
Electric Meter Repairer	5						3			2
Electrician	280		106		62		54		4	54
Electrician, Substation	1						1			
Electromechanical Technician	22	21			1					
Elevator Constructor	20						15			5
Greenskeeper II	2									2
Heating & Air-Conditioner Installer/Service	3						2		1	
Heating, Ventilation, Air Conditioning	1						1			
Landscape Gardener	1									1
Line Erector	7						7			
Line Installer-Repairer	38	7					13	2		16
Machinist	4	3	1							
Maintenance Mechanic	4	4								
Maintenance Machinist	1	1								
Maintenance Repairer, Industrial	7	4	3							
Mechanic, Industrial Truck	1	1								
Mechatronics Technician	1	1								
Metal Fabricators	4	4								
Meter Repair (Any Industry)	1						1			
Millwright	10				10					
Painter (Construction)	1								1	
Pipe Fitter (Construction)	62		1		24		18		2	17
Pipe Fitter (Existing Title: Pipe Fitter)	2	2								
Plumber	22		3		4		3		1	11
Power-Plant Operator	6	6								
Refinery Operator	7	7								
Sheet Metal Worker	21						14			7
Small Engine Mechanic	1								1	
Structural Steel Worker	31		10		4		12			5
Teacher Aide I	1									1
Tool and Die Maker	10		2		4		4			
Transformer Repairer	1									1
Waste Treatment Operator	1	1								
Welder, Combination	1								1	
Totals for LWDA	705	148	141	0	125	0	149	2	15	125

Source: Office of Apprenticeship, Employment and Training Administration, U.S. Department of Labor

Conclusion

The Tennessee economy continued its growth in 2018. Total employment increased by 1.6 percent to 3,060,300, with 49,000 new jobs created over the year. Major metropolitan areas grew more than one percent, with the Nashville MSA increasing in employment by more than three percent. The state annual average unemployment rate declined still further to 3.5 percent as the state median annual wage rose by 3 percent. Total payroll increased by nearly five percent to 150.2 billion.

In other positive trends, the state labor force increased by 1.7 percent to more than 3.2 million, and the ratio of unemployed individuals to job openings in June was .78 percent. As was the case in 2017, this indicated less than one worker for every job listed on jobs4tn.gov, the state job exchange website. Indicators of safety on the job remained stable.

However, some signs of caution did emerge. The number of counties that increased employment in 2018 (63) was lower than the number in 2017 (70). Also, the projected annual short-term employment growth rate for 2018-2020 was 1.2 percent, in contrast to the rate projected for 2017-2019 (1.8 percent). Employment in the Cleveland MSA, which declined by 1.1 percent, slipped further by 2.3 percent in 2018.

Workforce and demographic indicators did show positive trends, with some exceptions. Although the state rate of population growth dipped slightly from one percent to 0.91 percent, overall population did increase to 6.77 million, an increase of more than 61,000 persons. More than seventy percent of the increase was in the Middle Region, with the West Region losing about 100 residents. Average annual unemployment rates decreased in each of the three regions, with the West Region rate an average 0.7 percentage points higher than the state rate. For those 25 years of age and older, educational attainment of some college education and higher increased from 53 to 53.9 percent, with the East Region several percentage points lower than the state. The number of these individuals with less than a high school degree decreased by 17,024 to 603,524. The poverty estimate declined to 16.7 percent, and the percentage of unemployed with a disability also declined. Estimates of youth unemployment declined in all areas, with the West Region continuing to have the highest rate. While improvements have been made in most indicators, regional disparities still exist.

Steps to make the workforce system more strategic and effective include increased integration of workforce planning and operations under the Workforce Innovation and Opportunity Act, with American Jobs Centers in the state including educational, vocational rehabilitation, labor and workforce, and human services resources, improving service delivery to Tennesseans. A combined state plan with common performance measures across departments, as well as improved data for research on best workforce practices, can continue to improve workforce indicators. Other state priorities, including expanding apprenticeships, decreasing Tennesseans' criminal justice involvement, improved re-entry programs, a focus on rural development, and expanding career and technical education and employer partnerships have the potential to increase the labor force and reduce regional disparities.

Appendix

Table A1: Population and Per Capita Income by County

	Population Estimate , as of July 1 ⁱ			Per Capita Personal Income ⁱⁱ			PCI Rank in State	Per Capita Income % Change	PCI Change Rank in State	Region
County	2016	2017	2018	2015	2016	2017	2017	2016-17	2017	
United States	323,071,342	325,147,121	327,167,434	48,985	49,883	51,731	--	3.7	--	--
Tennessee	6,645,011	6,708,794	6,770,010	42,810	43,932	45,517	--	3.6	--	--
Anderson	75,583	76,187	76,482	38,686	39,883	40,847	17	2.4	80	East
Bledsoe	14,615	14,730	14,755	24,718	24,364	25,705	94	5.5	4	East
Blount	128,259	129,900	131,349	38,887	40,086	41,224	16	2.8	66	East
Bradley	104,233	105,317	106,727	37,403	37,643	38,766	30	3.0	61	East
Campbell	39,652	39,626	39,583	31,746	32,133	33,042	69	2.8	67	East
Carter	56,473	56,476	56,351	31,809	32,407	33,506	61	3.4	33	East
Claiborne	31,597	31,635	31,756	32,777	33,517	34,635	55	3.3	36	East
Cocke	35,150	35,481	35,774	29,768	30,436	31,362	82	3.0	58	East
Grainger	23,089	23,124	23,145	30,467	30,840	32,317	72	4.8	7	East
Greene	68,511	68,759	69,087	37,283	37,746	38,967	29	3.2	43	East
Grundy	13,264	13,334	13,346	29,080	29,690	30,407	86	2.4	86	East
Hamblen	63,665	64,111	64,569	35,036	35,375	36,017	50	1.8	89	East
Hamilton	357,858	361,132	364,286	47,655	48,449	50,196	4	3.6	25	East
Hancock	6,588	6,584	6,549	25,363	25,891	26,422	93	2.1	87	East
Hawkins	56,389	56,470	56,530	32,036	32,423	33,439	63	3.1	51	East
Jefferson	53,122	53,732	54,012	32,663	33,397	34,362	57	2.9	63	East
Johnson	17,761	17,641	17,778	29,724	30,454	31,464	79	3.3	39	East
Knox	455,650	460,932	465,289	45,744	46,577	48,160	5	3.4	32	East
Loudon	51,348	52,175	53,054	43,736	45,159	46,183	9	2.3	83	East
Marion	28,351	28,418	28,575	34,877	36,323	37,473	41	3.2	46	East
McMinn	52,660	52,895	53,285	33,272	33,910	35,084	54	3.5	30	East
Meigs	11,955	12,056	12,306	31,707	32,114	33,347	64	3.8	15	East
Monroe	45,879	46,098	46,357	30,601	31,521	32,283	74	2.4	79	East
Morgan	21,718	21,514	21,579	27,747	27,894	28,699	90	2.9	64	East
Polk	16,791	16,765	16,898	31,696	32,138	33,290	66	3.6	26	East
Rhea	32,425	32,742	33,044	33,070	33,001	34,267	58	3.8	16	East
Roane	52,862	53,932	53,140	37,451	38,555	39,763	23	3.1	52	East
Scott	21,869	21,985	22,039	27,853	27,877	28,721	89	3.0	60	East
Sequatchie	14,747	14,752	14,876	34,536	35,503	36,691	46	3.3	35	East
Sevier	96,370	97,277	97,892	36,061	37,074	38,114	38	2.8	69	East
Sullivan	156,238	156,951	157,668	39,139	40,126	41,431	13	3.3	41	East
Unicoi	17,673	17,755	17,761	35,246	35,681	36,779	43	3.1	56	East
Union	19,225	19,407	19,688	28,896	29,994	30,686	85	2.3	82	East
Washington	127,186	127,613	128,607	39,955	40,595	42,002	11	3.5	29	East
Bedford	47,402	48,138	49,038	34,304	35,256	36,427	47	3.3	38	Middle
Cannon	13,897	14,168	14,462	33,743	34,395	35,489	53	3.2	45	Middle
Cheatham	39,735	40,285	40,439	38,896	40,736	42,250	10	3.7	21	Middle

Table A1: Population and Per Capita Income by County Continued

	Population Estimate, as of July 1 ⁱ			Per Capita Personal Income ⁱⁱ			PCI Rank in State	Per Capita Income % Change	PCI Change Rank in State	Region
County	2016	2017	2018	2015	2016	2017	2017	2016-17	2017	
Clay	7,684	7,691	7,717	29,558	29,737	31,134	83	4.7	8	Middle
Coffee	54,399	54,941	55,700	36,729	37,158	38,205	35	2.8	68	Middle
Cumberland	58,506	59,005	59,673	34,272	35,076	36,038	49	2.7	72	Middle
Davidson	687,430	689,006	692,587	56,336	59,304	63,063	2	6.3	3	Middle
DeKalb	19,460	19,846	20,138	36,945	37,877	38,720	32	2.2	84	Middle
Dickson	51,908	52,785	53,446	36,106	37,645	39,055	28	3.7	20	Middle
Fentress	17,938	18,120	18,217	30,106	30,709	31,462	80	2.5	77	Middle
Franklin	41,493	41,584	41,890	35,726	36,171	37,556	39	3.8	17	Middle
Giles	29,156	29,385	29,503	35,823	36,912	38,181	36	3.4	31	Middle
Hickman	24,660	24,848	25,063	29,487	30,364	31,460	81	3.6	24	Middle
Houston	8,100	8,173	82,63	30,796	31,060	32,297	73	4.0	13	Middle
Humphreys	18,367	18,449	18,486	37,131	37,181	38,686	34	4.0	12	Middle
Jackson	11,594	11,677	11,758	28,513	29,445	30,370	87	3.1	49	Middle
Lawrence	42,963	43,327	43,734	32,020	32,651	33,845	59	3.7	23	Middle
Lewis	11,893	12,022	12,086	30,999	32,289	33,294	65	3.1	53	Middle
Lincoln	33,555	33,833	34,117	38,145	39,035	40,431	21	3.6	27	Middle
Macon	23,311	23,892	24,265	31,183	31,625	33,041	70	4.5	9	Middle
Marshall	31,944	32,934	33,683	33,992	35,616	36,759	44	3.2	44	Middle
Maury	89,546	92,220	94,340	38,208	40,047	41,302	15	3.1	50	Middle
Montgomery	194,538	200,015	205,950	39,818	39,784	40,633	19	2.1	85	Middle
Moore	6,284	6,363	6,411	39,019	38,860	39,185	26	0.8	93	Middle
Overton	21,957	21,990	22,068	30,396	31,293	32,445	71	3.7	22	Middle
Perry	7,868	7,962	8,064	31,578	32,452	33,670	60	3.8	19	Middle
Pickett	5,089	5,063	5,082	36,692	36,808	39,171	27	6.4	2	Middle
Putnam	75,973	77,366	78,843	37,159	37,527	38,688	33	3.1	55	Middle
Robertson	69,184	70,154	71,012	38,087	39,265	40,463	20	3.1	57	Middle
Rutherford	307,422	316,677	324,890	37,913	38,704	39,968	22	3.3	40	Middle
Smith	19,444	19,650	19,942	35,200	35,384	36,759	45	3.9	14	Middle
Stewart	13,162	13,368	13,561	38,134	38,717	39,523	24	2.1	86	Middle
Sumner	179,143	183,584	187,149	43,847	45,292	46,998	8	3.8	18	Middle
Trousdale	9,955	10,855	11,012	35,673	29,888	31,893	77	6.7	1	Middle
Van Buren	5,699	5,708	5,765	30,315	30,474	30,793	84	1.0	92	Middle
Warren	40,443	40,690	40,878	32,241	33,093	33,483	62	1.2	91	Middle
Wayne	16,661	16,556	16,558	26,665	26,181	27,306	92	4.3	11	Middle
White	26,449	26,744	27,107	30,821	31,440	32,207	75	2.4	78	Middle
Williamson	218,810	225,920	231,729	92,305	93,028	95,339	1	2.5	76	Middle
Wilson	132,428	136,540	140,625	44,289	45,811	47,355	7	3.3	37	Middle
Benton	16,058	15,959	16,184	30,976	31,592	33,164	68	5.0	6	West
Carroll	27,899	27,833	28,020	34,190	34,707	35,572	51	2.5	75	West
Chester	17,122	17,135	17,276	31,022	32,178	33,194	67	3.2	47	West

Table A1: Population and Per Capita Income by County Continued

	Population Estimate, as of July 1 ⁱ			Per Capita Personal Income ⁱⁱ			PCI Rank in State	Per Capita Income % Change	PCI Change Rank in State	Region
County	2016	2017	2018	2015	2016	2017	2017	2016-17	2017	
Crockett	14,458	14,465	14,328	34,603	34,935	35,555	52	1.8	90	West
Decatur	11,707	11,725	11,706	40,899	41,554	41,882	12	0.8	94	West
Dyer	37,570	37,403	37,320	37,606	37,995	39,328	25	3.5	28	West
Fayette	39,615	40,065	40,507	49,907	52,292	53,942	3	3.2	48	West
Gibson	49,123	49,118	49,045	35,971	36,495	37,464	42	2.7	73	West
Hardeman	25,477	25,401	25,220	27,362	27,962	28,730	88	2.7	71	West
Hardin	25,740	25,783	25,776	35,854	37,026	38,149	37	3.0	59	West
Haywood	17,807	17,596	17,335	30,029	31,620	31,794	78	0.6	95	West
Henderson	27,765	27,726	27,847	32,687	33,416	34,453	56	3.1	54	West
Henry	32,245	32,420	32,358	38,807	39,558	40,839	18	3.2	42	West
Lake	7,516	7,459	7,411	22,749	22,555	23,175	95	2.7	70	West
Lauderdale	25,280	26,108	25,825	25,604	27,419	28,141	91	2.6	74	West
McNairy	25,803	25,989	25,832	30,157	31,271	31,901	76	2.0	88	West
Madison	97,535	97,586	97,605	38,905	40,088	41,430	14	3.3	34	West
Obion	30,536	30,403	30,267	37,148	37,090	38,750	31	4.5	10	West
Shelby	936,759	935,973	935,764	45,324	46,321	47,655	6	2.9	65	West
Tipton	61,210	61,311	61,581	35,104	36,436	37,515	40	3.0	62	West
Weakley	33,580	33,296	33,415	33,725	34,456	36,265	48	5.3	5	West

Source: ⁱ U.S. Census Bureau, Population Division
ⁱⁱ U.S. of Bureau of Economic Analysis

Appendix B

Criteria for Supply and Demand for Workforce Services: Finding Demand Occupations

There were five criteria used to develop a rating for each occupation included in the long-term occupational projections through 2026 for the Local Workforce Development Areas. Each criterion was weighted equally, with ratings ranging from 1 to 5. Five was the highest rating.

Criteria Used to Determine if an Occupation was in Demand:

1. The occupation is within a program of study with an expected positive growth rate from 2016 to 2026 in the LWDA. All occupations requiring more than short-term training (demand) have been assigned to programs of study which include one or more training programs (supply) from secondary career and technical education through graduate and professional studies which match the usual training requirements for that occupation. If all the occupations together in a program of study have a positive growth rate during the projection period, the occupation was assigned a one on this criterion.
2. The occupation is within a program of study with the number of awards [completers] no more than 1.5 times the number of annual total openings. If the program of study to which the occupation was assigned met this criterion, the occupation was assigned a one.
3. The occupation in the LWDA had an entry-level annual wage of more than \$28,000 based on the 2018 Occupational Employment Survey (OES) for Tennessee.
4. For January 1 to March 31, 2019, for the occupation in the LWDA, the number of job candidates with active resumes on jobs4tn.gov was less than or equal to the number of job postings (the ratio of job candidates to job postings was 1.0 or less).
5. As a measure of occupational size, the ratio of annual job openings for the occupation in the LWDA divided by the total employed in the LWDA was >0.00001 .

For most LWDAs, only occupations requiring a high school degree or equivalent, postsecondary non-degree award, some college but no degree, or an associate's degree were included as middle skill occupations. To reduce the size of the lists for certain fast-growing MSAs, a wage criterion of \$38,000 was used. For Northwest Tennessee, most occupations only met four of the five demand criteria, including at least a minimum entry level wage of \$28,000 or more, positive growth rates, and more than 10 annual average openings expected.



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