

TENNESSEE'S ECONOMY

2021-2022



Department of
**Labor & Workforce
Development**

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and Reporting Engine Division



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Executive Summary

Tennessee's economy recovered from the pandemic downturn in 2020 by bouncing back to total nonfarm employment in 2021 of 3,106,100 and an average annual unemployment rate of 4.3 percent. Annual average employment in 2021 was still 16,800 below 2019 annual average employment. The 2021 annual average unemployment rate compared was higher than the 3.4 percent annual average rate in 2019, but by June 2022 it had dropped to 3.3 percent. The Tennessee labor force increased by 0.9 percent from 2020 to 2021 to 3,327,966 as the economy continued to recover.

The Tennessee Economy in 2021 Nonfarm employment in Tennessee increased by 4.2 percent from 2020 to 2021, adding 129,433 jobs over the year (see summary, p. 3). Metropolitan growth was positive for all major metropolitan areas with Memphis, Nashville, Knoxville, and Chattanooga all gaining employment by three percent or more. Employment increased in 78 of the 95 counties. The number of establishments grew by 9.3 percent and nominal total payroll increased by 11.1 percent to 178.5 billion dollars. The average annual median wage (not adjusted for inflation) also increased by 0.7 percent to \$37,700. The average hourly wage for production workers was \$19.32.

The unemployment rate for 2020 was 4.3 percent. In June 2021 the TDLWD job bank, jobs4tn.gov, listed an average of 0.55 unemployed workers for each job opening, making it more difficult for employers to find workers in the economy. Although the unemployment rate for veterans was below the state average, rates for youth and those with disabilities, as well as the poverty rate, were still in the double digits. The projected growth rate for all occupations through 2030 (1.5 %) was twice the previous annual rate partly due to more manufacturing in-sourcing and IT and healthcare expansion.

Statewide Employment 2021 Tennessee's average annual nonfarm employment increased by 3.4 percent from 2020 to 2021, or 101,600 jobs. Goods-producing jobs increased at the rate of 4.5 percent compared to 4.0 percent for private service-providing jobs. Jobs in the government sector decreased by 0.6 percent. In the goods-producing sector, mining, logging, and construction added 6,900 jobs while manufacturing increased by 14,000 jobs. A recovering leisure and hospitality sector added 23,400 jobs, with trade, transportation, and utilities adding an additional 22,200 jobs in the private service-providing industries. The most rapidly growing industry sector was information, at 8.6 percent.

From 2016 to 2021, total employment increased by 4.6 percent. The industry sectors gaining more than 15,000 jobs included transportation, warehousing, and utilities; mining, logging, and construction; financial activities; and professional and business services.

Labor Force The annual average unemployment rate for the U.S. in 2012 was 8.0 percent and dropped to 5.3 percent in 2021. Tennessee's annual average unemployment rate in 2012 was 8.0 percent and declined to 4.3 percent in 2021, remaining below the U.S. rate. Tennessee's June 2022 seasonally adjusted unemployment rate declined to 3.3 percent. In 2021, the U.S. labor force participation rate was 61.7 percent, compared to Tennessee's rate of 60.4 percent.

Tennessee Wages and Income 2021 Among the 22 major occupational groups, median wages increased for 17 of the groups. The four groups experiencing declines in median hourly wages were construction; arts, design, entertainment, sports, and media; legal; and life, physical, and social science. The largest hourly increases were for management (up \$4.17 per hour) and architecture and engineering (up 3.34 per hour). In the LWDAs, Northern Middle and Greater Memphis had median hourly wages slightly higher than the state.

Tennessee Safety 2020 The total recordable incidence rate for nonfatal occupational illnesses and injuries for all industries in Tennessee per 100 full-time equivalent workers during 2020 was estimated to be 2.8. The total recordable rate for private industry was 2.7 and the total recordable rate for public sector industries was 3.6. The health care and social assistance industry had the highest incidence rate for nonfatal occupational injuries and illnesses in 2020.

Tennessee Long Term Outlook to 2030 From a base of 3.2 million jobs in 2020, total employment for Tennessee, including agricultural, self-employed, and private household workers, is expected to grow to 3.7 million by 2030, expecting to increase by 1.5 percent annually. The high growth rate includes recovery from the lower employment base in 2020 compared to 2019.

Detailed Regional Analysis Summaries of key labor force and economic trends for the West, Middle, and East Regions are included in this section. Detailed discussions include top industries, occupations, industry and occupational growth, top employers posting jobs, top tools and technologies, and the educational pipeline for the area. Each section includes a detailed description of labor force trends as well as updated data on barriers to employment presenting challenges and opportunities in each region. The appendix lists the latest information on occupations in demand in each region.

Labor Force Shortages: Comparing total jobs posted by occupation in 2021 with the number of active resumes in jobs4tn, top occupational shortages are identified for four groups: jobs requiring postsecondary education through associate degrees; jobs usually requiring a bachelor's degree; high wage jobs requiring only a high school education, and primary and secondary education teachers. There is no centralized system in Tennessee for tracking the number of unfilled teaching positions in the state, hampering the state's ability gauge the extent of the problem. Better data is needed to develop strategies to reduce shortages of critical personnel, including personnel needed for emerging industries like electric vehicle and battery production.

Tennessee's Economy | 2021

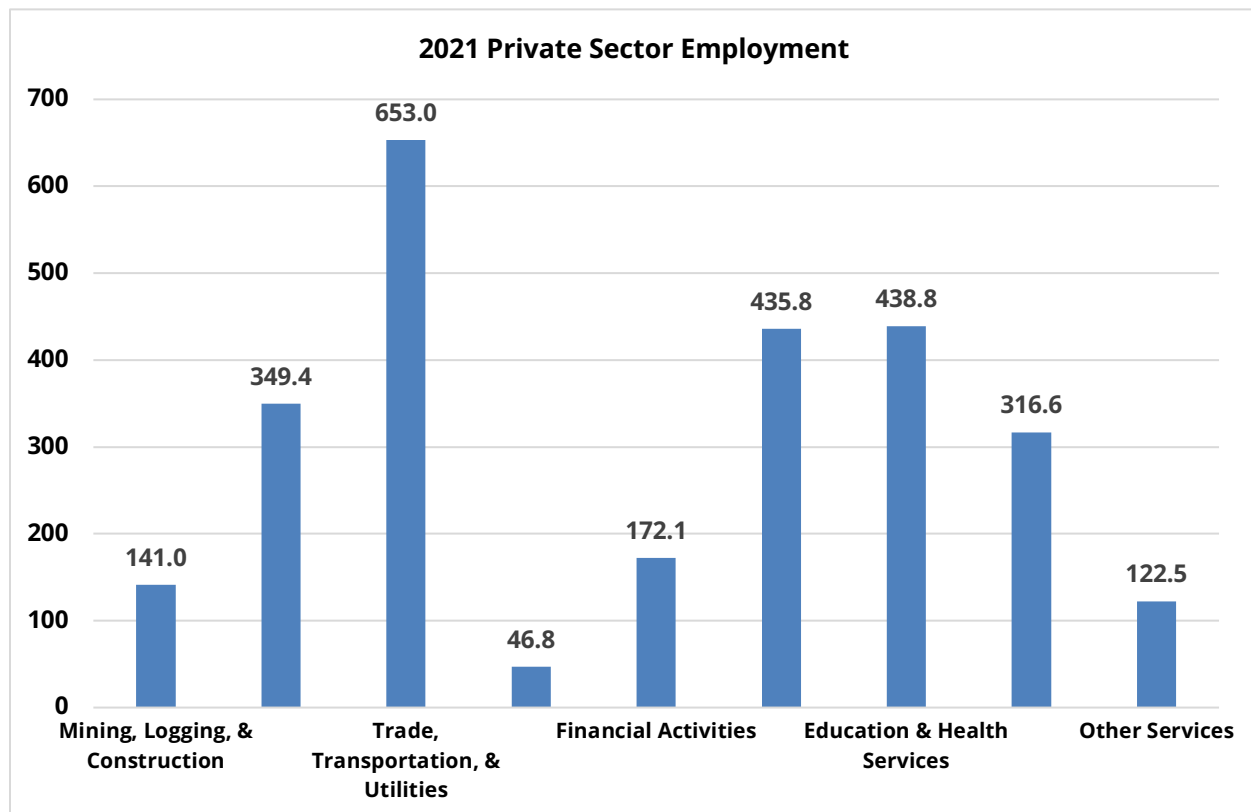
 Employment	Total Nonfarm Employment 2021: 3,185,263 4.2% 2020: 3,055,830 Stronger	New Jobs 2021: 129,433 2020: -170,215 Stronger	MSA Employment 2020-2021 Memphis: 3.0% Nashville: 5.7% Chattanooga: 3.9% Knoxville: 4.5% Stronger
 Employers	Total Number of Establishments 2021: 204,923 9.3% 2020: 187,505 Stronger	Total Wages 2021: \$178.5 Billion 11.1% 2020: \$160.7 Billion Stronger	Counties That Increased Employment 2021: 78 2020: 13 Stronger
 Wages & Income	Average Annual Wage 2021: \$49,330 3.8% 2020: \$47,530 Stronger	State Median Wage 2021: \$37,700 0.7% 2020: \$37,442 Stronger	Average Hourly Wages - Production Workers 2021: \$19.32 2020: \$18.69 Stronger
 Labor Force & Demographics	Unemployment Rate 2021: 4.3% -41.9% 2020: 7.4% Stronger	Labor Force 2021: 3,327,966 0.9% 2020: 3,299,424 Stronger	Unemployment Rates Veterans, 2021: 3.0% Youth, 2020: 11.4% With Disability, 2020: 11.4% % In Poverty, 2020: 14.6% Stronger
 Job Outlook	Ratio of Unemployed to Job Openings June 2021: 0.55 -76.5% June 2020: 2.34 Stronger	Projected Annual Growth Rate, All Occupations 2020-2030: 1.51% 2018-2028: 0.71% Stronger	Projected Job Openings 2020-2030: 4,354,329 2018-2028: 4,154,529 Stronger
 Safety on the Job	Total Nonfatal Occupational Illnesses and Injuries, All 2020: 2.8 per 100 FTE 2019: 2.9 per 100 FTE Stronger	Total Nonfatal Occupational Illnesses and Injuries, Public Sector 2020: 3.6 per 100 FTE 2019: 4.0 per 100 FTE Stronger	Fatal Occupational Injuries 2020: 142 2019: 124 Challenge

Tennessee Overview



Tennessee Employment 2021

Tennessee's average annual nonfarm employment increased 3.4 percent from 2020 to 2021, adding 101,600 jobs. Goods producing jobs increased at a rate of 4.5 percent compared to 4.0 percent for private service-providing jobs. Jobs in the government sector declined by 0.6 percent. In the goods producing sector, mining, logging, and construction added 6,900 jobs while manufacturing added 14,000 jobs.



Source: TN Department of Labor and Workforce Development, WIR²ED Division, Current Employment Statistics (CES).

Figure 1

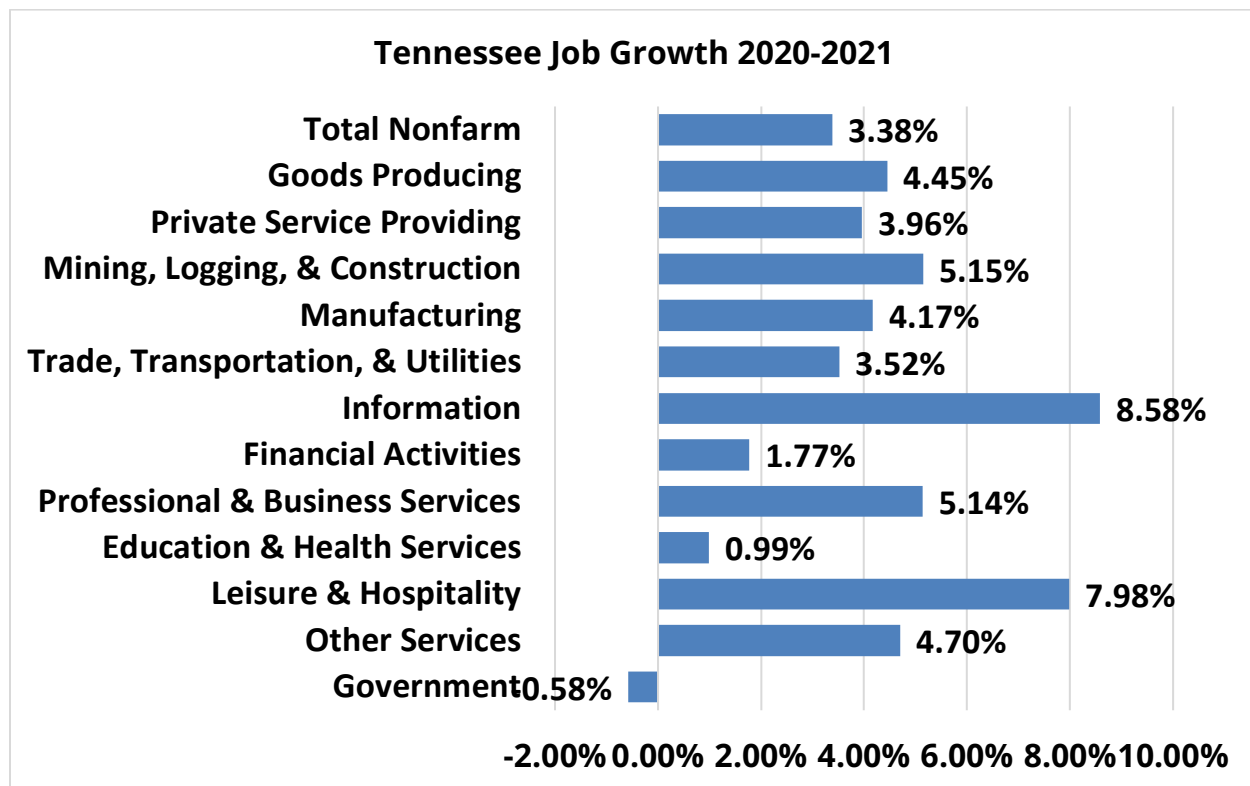
Table 1. Tennessee Industry Employment, 2016-2021

Industry Employment (in thousands)	2016	2020	2021	2020-2021		2016-2021	
Total Nonfarm	2969.1	3004.5	3106.1	101.6	3.4%	137.0	4.6%
Goods Producing	461.0	469.5	490.4	20.9	4.5%	29.4	6.4%
Mining, Logging, & Construction	119.1	134.1	141.0	6.9	5.1%	21.9	18.4%
Manufacturing	341.8	335.4	349.4	14.0	4.2%	7.6	2.2%
Durable Goods Manuf.	219.5	211.1	221.7	10.6	5.0%	2.2	1.0%
Non Durable Goods Manufacturing	122.3	124.4	127.7	3.3	2.7%	5.4	4.4%
Private Service-Providing	2080.1	2102.1	2185.4	83.3	4.0%	105.3	5.1%
Trade, Transportation, & Utilities	615.3	630.8	653.0	22.2	3.5%	37.7	6.1%
Wholesale Trade	116.8	117.8	121.0	3.2	2.7%	4.2	3.6%
Retail Trade	334.0	325.5	333.5	8.0	2.5%	-0.5	-0.1%
Transportation, Warehousing, & Utilities	164.5	187.5	198.5	11.0	5.9%	34.0	20.7%
Information	45.6	43.1	46.8	3.7	8.6%	1.2	2.6%
Financial Activities	156.1	169.1	172.1	3.0	1.8%	16.0	10.2%
Finance & Insurance	118	129.4	131.1	1.7	1.3%	13.1	11.1%
Real Estate, Rental & Leasing	38.1	39.7	41.1	1.4	3.5%	3.0	7.9%
Professional & Business Services	405.1	414.5	435.8	21.3	5.1%	30.7	7.6%
Professional, Scientific & Technical Services	133.2	147.2	158.2	11.0	7.5%	25.0	18.8%
Management of Companies & Enterprises	44.5	50.0	52.1	2.1	4.2%	7.6	17.1%
Admin, Support, Waste Mgt & Remediation Services	227.4	217.3	225.5	8.2	3.8%	-1.9	-0.8%
Education & Health Services	427.8	434.5	438.8	4.3	1.0%	11.0	2.6%
Educational Services	59.3	59.6	61.0	1.4	2.3%	1.7	2.9%
Health Care & Social Assistance	368.5	374.9	377.8	2.9	0.8%	9.3	2.5%
Leisure & Hospitality	319.6	293.2	316.6	23.4	8.0%	-3.0	-0.9%
Arts, Entertainment & Recreation	35.6	33.5	38.2	4.7	14.0%	2.6	7.3%
Accommodation & Food Services	284.0	259.7	278.4	18.7	7.2%	-5.6	-2.0%
Other Services	110.8	117.0	122.5	5.5	4.7%	11.7	10.6%
Government	428.0	432.8	430.3	-2.5	-0.6%	2.3	0.5%
Federal Government	49.2	51.9	51.6	-0.3	-0.6%	2.4	4.9%
State Government	96.5	95.6	93.9	-1.7	-1.8%	-2.6	-2.7%
Local Government	282.3	285.3	284.8	-0.5	-0.2%	2.5	0.9%

Source: TN Department of Labor and Workforce, CES

Among the private service-providing industries, those with the largest job increases were leisure and hospitality which added 23,400 jobs, and trade, transportation, and utilities which added 22,200 jobs. Within the leisure and hospitality sector, accommodation and food services accounted for 18,700 of the added jobs while wholesale trade and retail trade combined to account for 11,200 of the 22,200 jobs added in the trade, transportation, and utilities sector. Professional and business services also experienced a substantial increase of 21,300 jobs from 2020 to 2021, of which 11,000 were in professional, scientific, and technical services.

Since 2016, Tennessee has added 137,000 jobs, a 4.6 percent increase. Trade, transportation, and utilities led the way adding 37,700 jobs. Of those jobs, 34,000 were added in transportation, warehousing, and utilities, and 4,200 were added in wholesale trade. Other sectors gaining over 15,000 jobs included mining, logging, and construction; financial activities; and professional and business services. Leisure and hospitality experienced a decline of 26,400 jobs from 2016 to 2020.

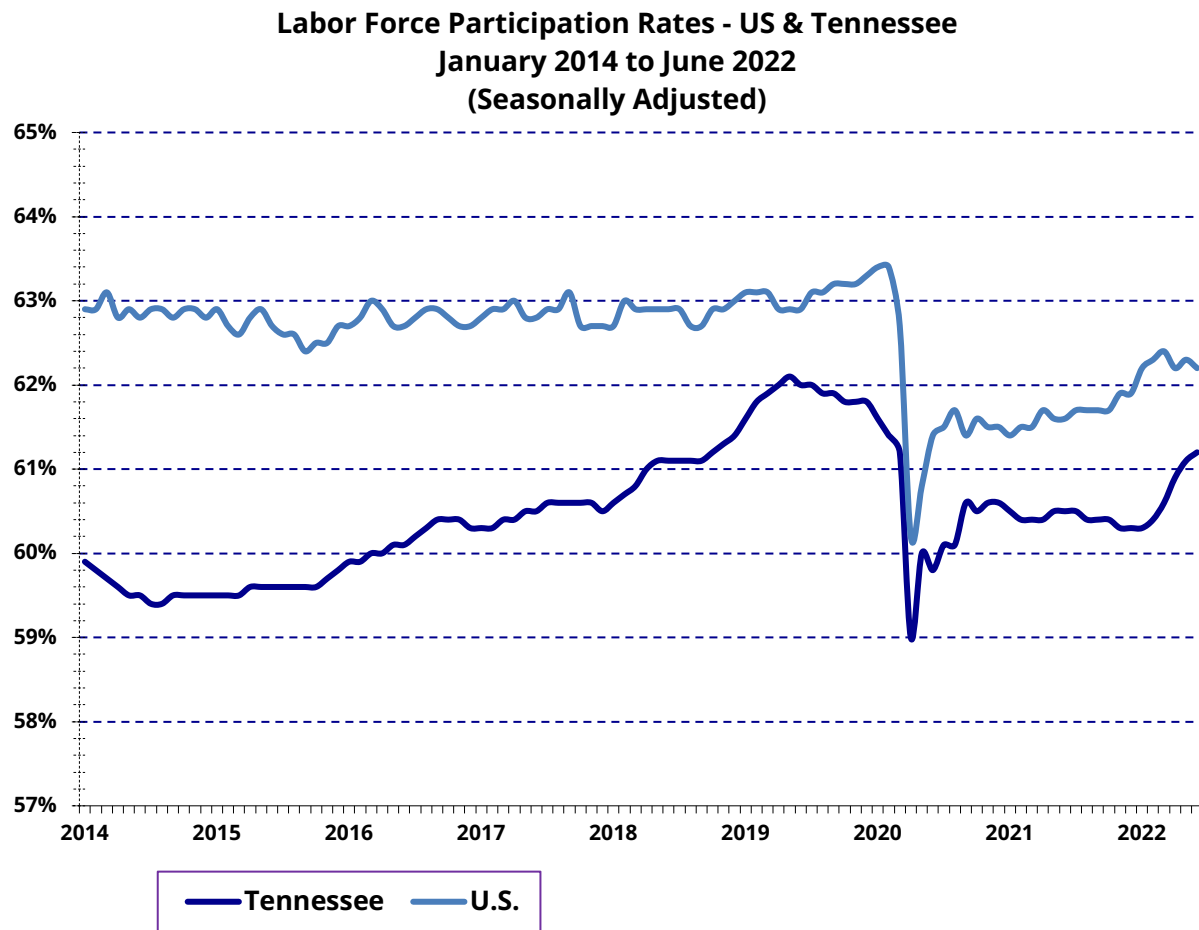


Source: TN Department of Labor and Workforce Development, CES.

Figure 2



Tennessee Labor Force



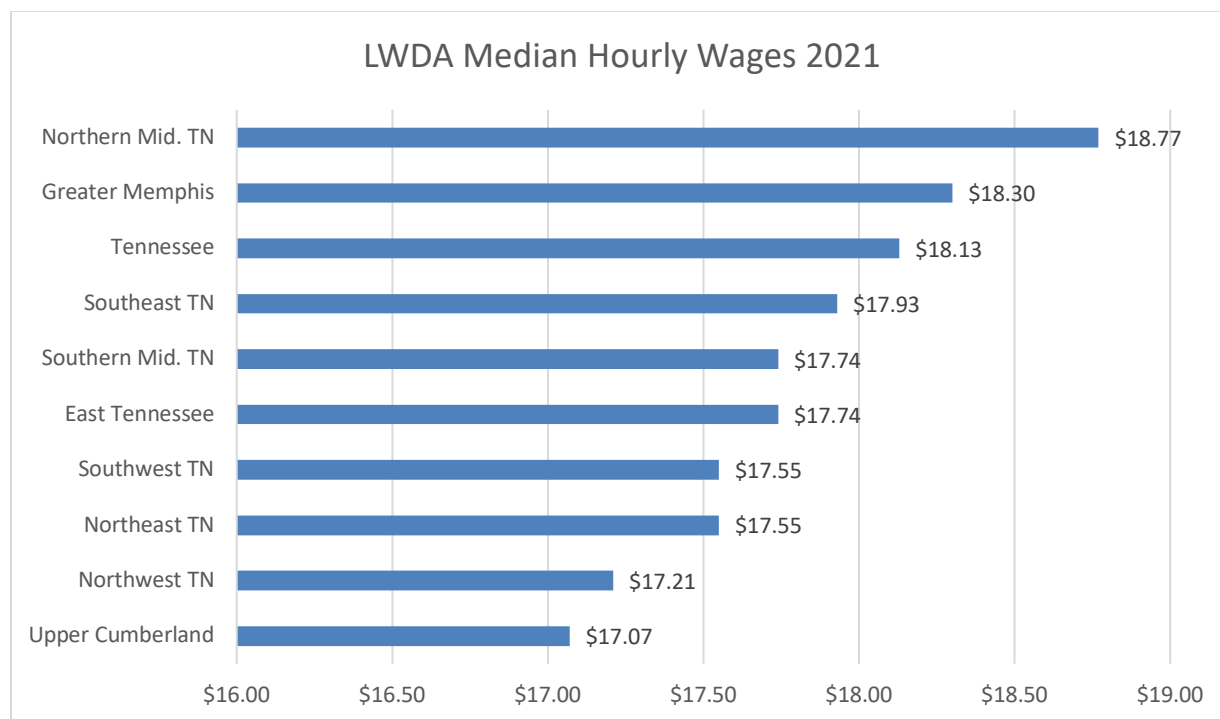
Source: TN Department of Labor and Workforce Development and US Bureau of Labor Statistics

Figure 3

Tennessee's June 2022 seasonally adjusted unemployment rate was 3.3. This was unchanged from the May revised rate, also at 3.3 percent. Tennessee's June 2022 unemployment rate of 3.3 percent is down from 4.4 percent in June 2021. The U.S. unemployment rate declined from 5.9 percent in June 2021 to 3.6 percent in June 2021. The U.S. annual average rate for 2021 was 5.3 percent, down from 8.1 percent in 2012. Tennessee's annual average unemployment rate dropped from 8.0 percent in 2012 to 4.3 percent in 2021. Labor force participation has also declined in Tennessee from 61.7 percent in 2012 to 60.4 percent in 2021. U.S. labor force participation declined from 63.7 percent in 2012 to 61.7 percent in 2021.



Tennessee Wages 2020-2021

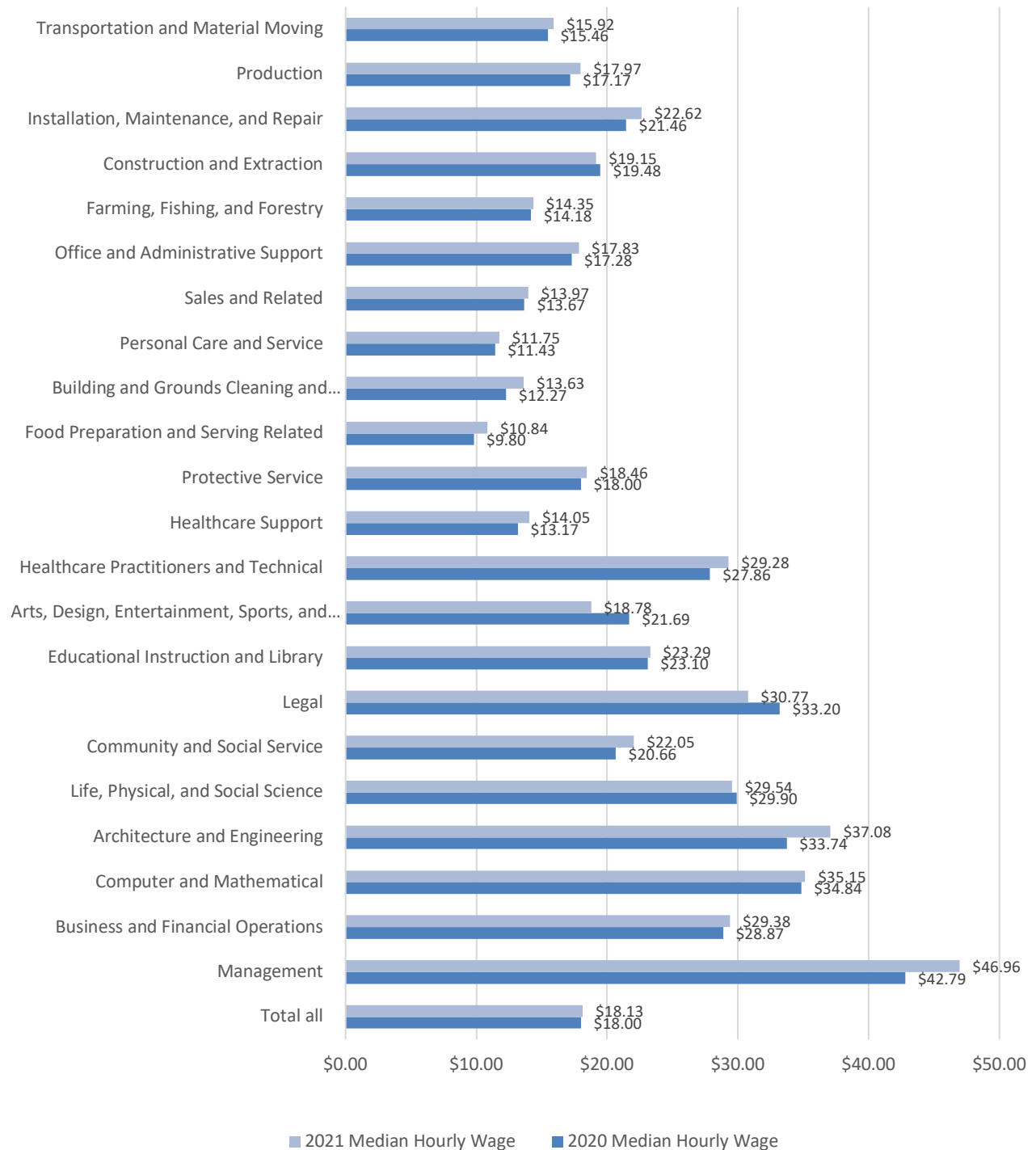


Source: TN Department of Labor and Workforce Development, Occupational Employment and Wages Survey (OEWS) May 2021.

Figure 4

Median hourly wage growth for Tennessee from 2020 to 2021 averaged 0.7 percent. Among the 22 major occupational groups, median wages increased for 17 of the groups. The largest decreases were for arts, design, entertainment, sports, and media occupations subject to decreased performances and events in 2020 and legal occupations. Construction and extraction and life, physical, and social science occupations experienced slight decreases in average pay. The largest hourly increase was in management pay (up \$4.17 per hour to \$46.96), followed by architecture and engineering (up \$3.34 per hour). Healthcare practitioners and technical occupations were up \$1.42 with increased demand during the continuing pandemic. The two LWDAs experiencing median hourly wages greater than the state rate of \$18.13 included Northern Middle (\$18.77) and Greater Memphis (\$18.30).

Tennessee 2020 to 2021 Major Occupation Group Median Wages



Source: TN Department of Labor and Workforce Development, OEWS, May 2020 and May 2021.

Figure 5

Tennessee Safety 2020



Tennessee Occupational Injuries, Illnesses, and Fatalities 2020

The WIR²ED Division of the Tennessee Department of Labor and Workforce Development, Labor Research and Statistics Unit, conducts 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), 2020 Highlights

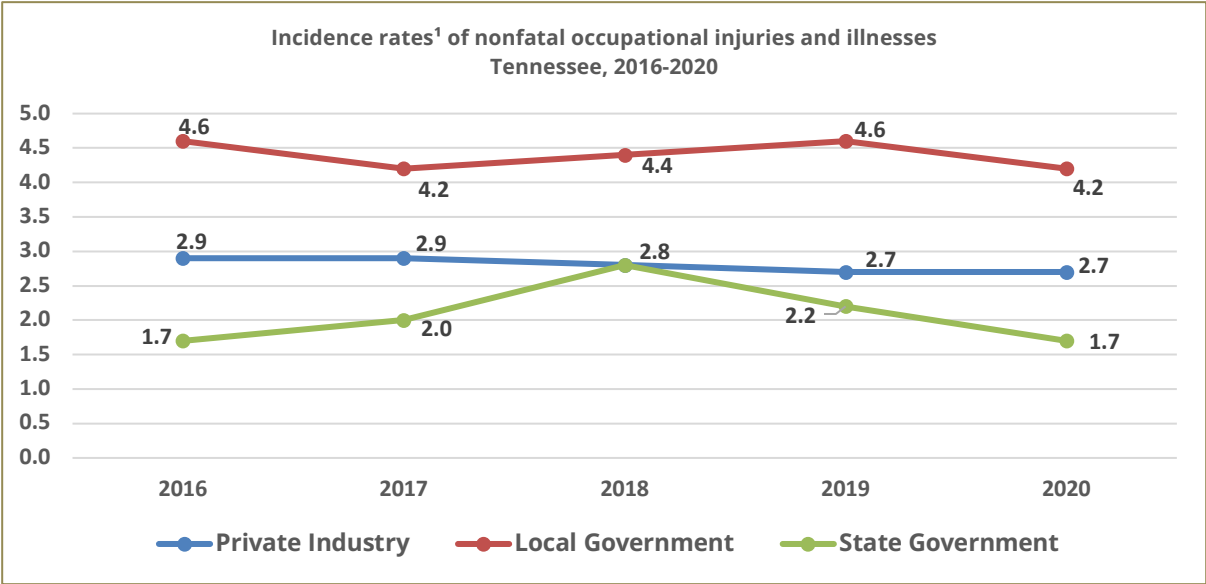
The total recordable incidence rate for all industries in Tennessee per 100 full-time equivalent workers during 2020 was estimated to be 2.8. The total recordable incidence rate for private sector industries was 2.7 and the total recordable rate for the public sector was 3.6.

Private industry employers reported 57,500 nonfatal workplace injuries and illnesses in Tennessee in 2020, resulting in an incidence rate of 2.7 cases per 100 full-time equivalent workers.

In 2019, recordable illnesses made up 4.8 percent of all private sector recordable injuries and illness cases in Tennessee. In 2020, recordable illnesses made up 19 percent of all recordable cases. This was mainly due to an increase in the number of respiratory illnesses which increased from an estimated 400 in 2019 to 9000 in 2020. Two sectors, with 42 percent of the private industry employment, accounted for 55 percent of the occupational injuries and illnesses: education and health services and trade, transportation and utilities.

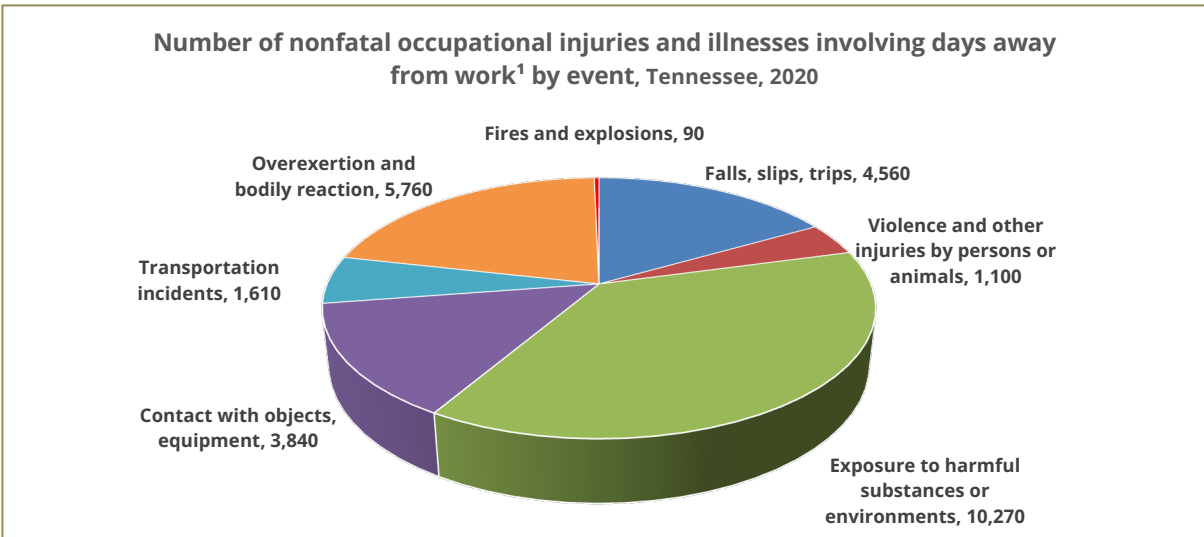
- There were an estimated 27,300 occupational injuries and illnesses in Tennessee including all ownerships in 2020 that resulted in lost days away from work.
- 50.7 percent of the occupational injuries and illnesses in Tennessee involving days away from work were sustained by men, while 49.3% were sustained by women.
- 23 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.

Workplace Injuries and Illnesses - Tennessee, 2020



¹ Incidence rates represent the number of recordable occupational injuries and illnesses per 100 full-time equivalent workers. SOURCE: US Department of Labor, Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses, Tennessee Department of Labor & Workforce Development, Wired, November 2021.

Figure 6



¹ Days-away-from-work cases include those that result in days away from work with or without job transfer or restriction. SOURCE: US Department of Labor, Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses Tennessee Department of Labor & Workforce Development, Wired, November 2021.

Figure 7

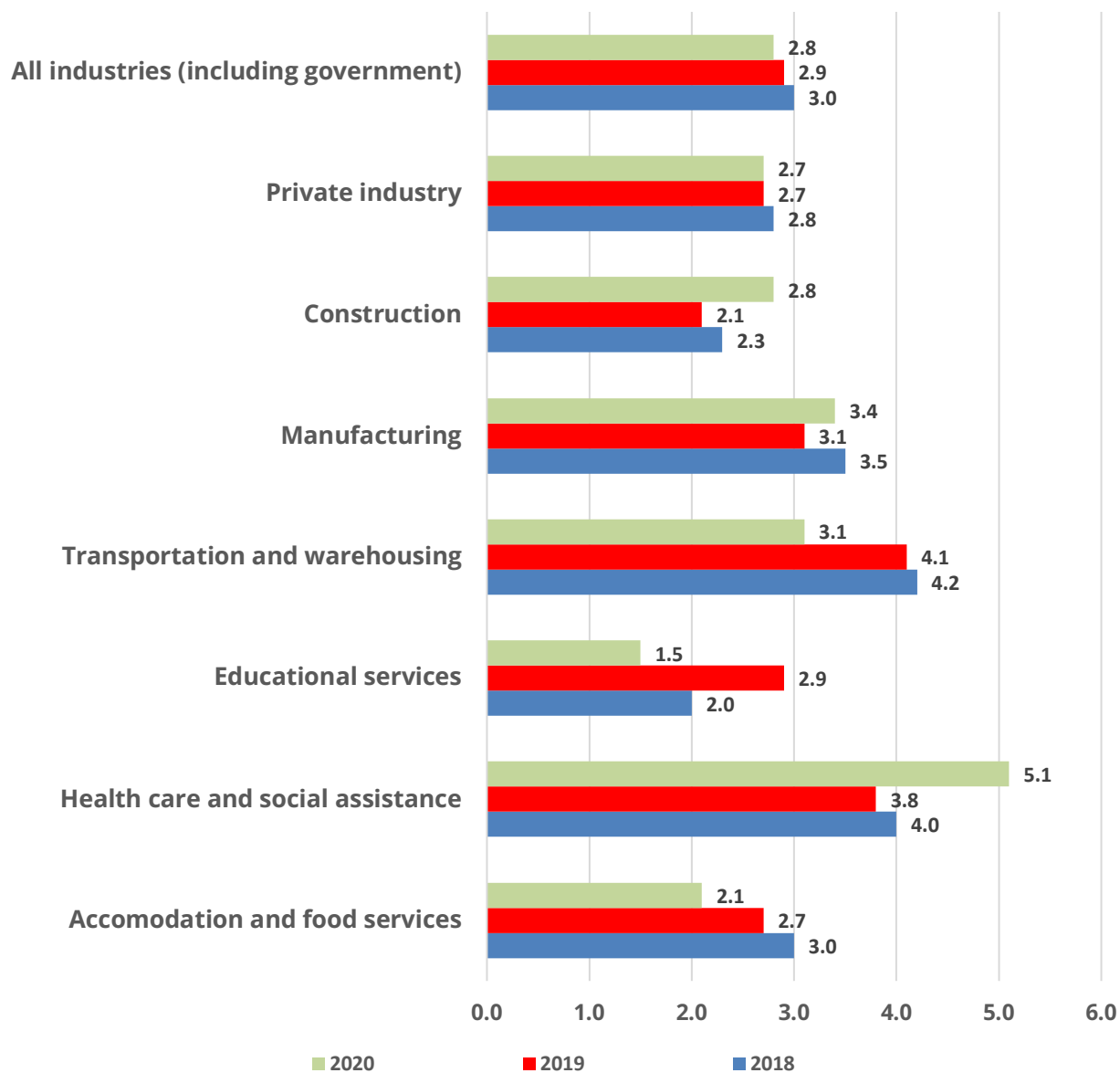
**Table 2. Number of nonfatal occupational injuries and illnesses involving days away from work¹ by occupational groups
all ownerships, Tennessee, 2019-2020**

Occupation	2019	2020
All Occupations	18,360	27,300
Management occupations	360	970
Education, instruction, and library occupations	470	360
Elementary school teachers, except special education	230	110
Healthcare practitioners and technical occupations	1,080	4,450
Registered nurses	270	1,530
Emergency medical technicians and paramedics	180	420
Licensed practical nurses	190	1,130
Healthcare support occupations	1,220	2,910
Nursing assistants	500	2,250
Personal care aides	250	230
Protective service occupations	1,010	1,910
Police and sheriff's patrol officers	390	560
Firefighters	210	460
Correctional officers and jailers	100	320
Security guards	110	140
Food preparation and serving related occupations	1,060	1,410
Fast food and counter workers	260	400
Food preparation workers	180	250
Cooks, institution and cafeteria	80	80
Cooks, restaurant	140	170
Building and grounds cleaning and maintenance occupations	890	1,150
Maids and housekeeping cleaners	160	280
Landscaping and groundskeeping workers	260	510
Sales and related occupations	1,190	1,100
Retail salespersons	430	530
First-line supervisors of retail salespersons	450	240
Office and administrative support occupations	740	910
Construction and extraction occupations	1,230	1,300
Construction laborers	290	270
Installation, maintenance, and repair occupations	1,460	1,610
Maintenance and repair workers, general	400	540
Production occupations	1,900	3,140
Team assemblers	270	220
Meat, poultry, and fish cutters and trimmers	20	460
Transportation and material moving occupations	4,930	5,120
Heavy and tractor-trailer truck drivers	1,570	1,320
Light truck or delivery services drivers	410	420
Laborers and freight, stock and material moving workers, hand	1,710	1,570
Stockers and order fillers	440	670

¹ Days-away-from-work cases include those that result in days away from work with or without job transfer or restriction.
SOURCE: US Dept of Labor, Bureau of Labor Statistics, TN Dept of Labor & Workforce Development, November 2021.
Tennessee Department of Labor & Workforce Development, Wired, November 2021.

Incidence rates of nonfatal occupational injuries and illnesses involving days away from work¹

By all ownerships, Tennessee 2018-2020



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

SOURCE: US Department of Labor, Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses,

Tennessee Department of Labor & Workforce Development, Wir²ed, November 2021.

Figure 8

Tennessee Census of Fatal Occupational Injuries and Illnesses (CFOI), 2020

There were 142 fatal work-related injuries in Tennessee during 2020, an increase of 14 percent over the 124 recorded in 2019. Highlights:

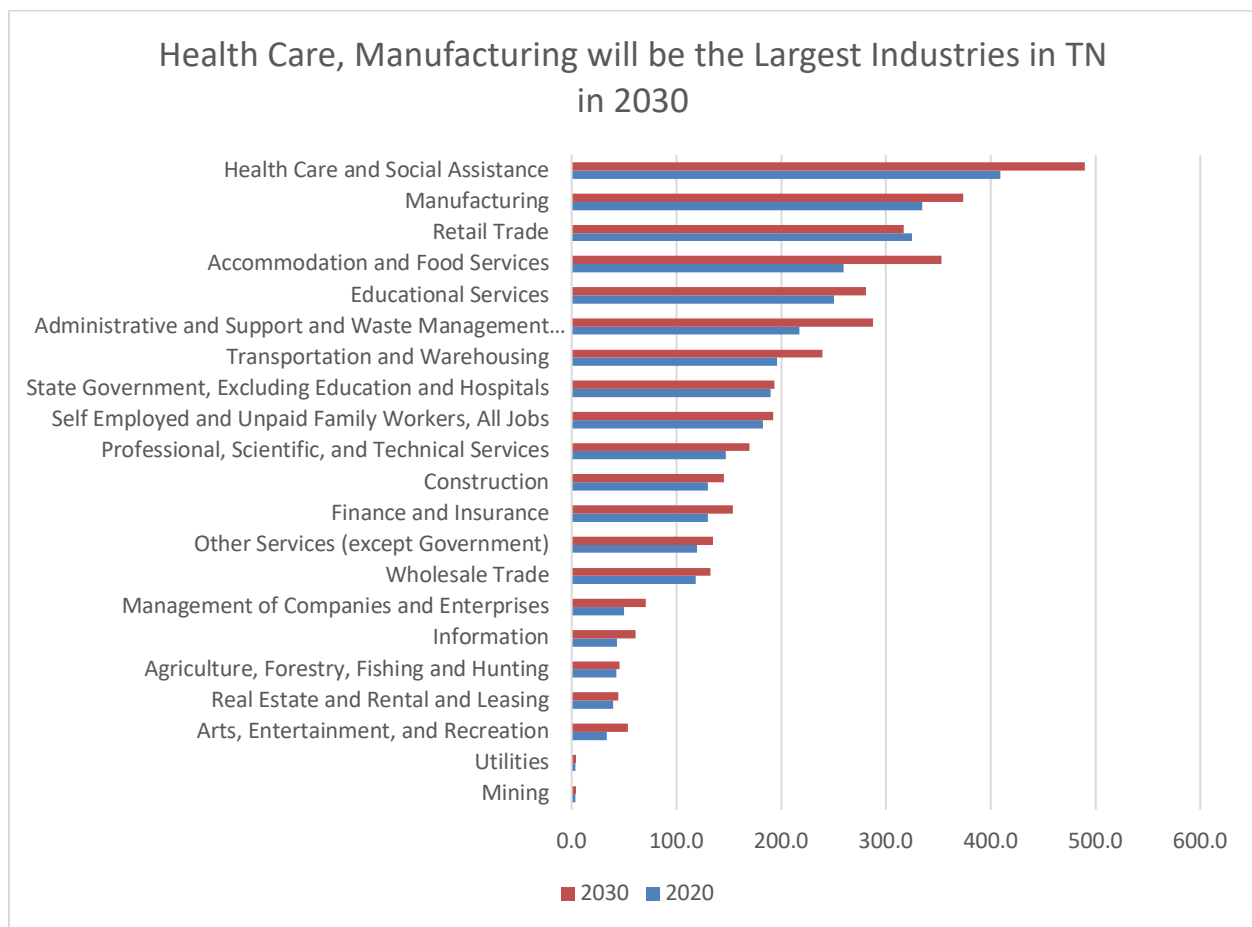
- There were 123 fatal work-related injuries to wage and salary workers and 19 to self-employed persons.
- There were 123 fatal work injuries to men and 19 fatal work injuries to women.
- There were 96 fatal work injuries to White (non-Hispanic) workers, 23 to Hispanic or Latino workers, and 19 to Black or African-American (non-Hispanic) workers.
- The greatest number of fatal occupational injuries occurred to workers in the major occupational group of transportation and material moving workers with 47 fatalities.
- 42 Percent of the fatal occupational injuries in Tennessee in 2020 occurred on a street, highway or interstate.

Table 3: Event or Exposure	2020	2019	2018	2017
Transportation Incidents	57	58	42	47
Violence and other injuries by persons or animals	29	17	23	20
Contact with objects and equipment	16	18	24	18
Falls, slips, trips	20	16	19	21
Exposure to harmful substances or environments	20	--	10	12
Fires and explosions	--	--	4	--
Yearly Totals	142	124	122	128

Note: Totals for minor categories may not sum to totals. Dashes indicate no data or data that do not meet publication criteria. SOURCE: US Department of Labor, Bureau of Labor Statistics, Census of Occupational Injuries, Tennessee Department of Labor & Workforce Development, *Wir²ed*, November 2021.



Tennessee Long Term Job Outlook to 2030



Source: TN Department of Labor and Workforce Development, WIR²ED Division, Tennessee Long-Term Industry Projections 2020-2030.

Figure 9

From a base of 3.2 million jobs in 2020, total employment for Tennessee, including agricultural, self-employed, and private household workers, is expected to grow to 3.7 million by 2030. Expected to

increase by 1.5 percent annually, as it recovers from lower employment in the base year of 2020 due to the pandemic, Tennessee's economy in the long run is expected to continue expansion in eleven of twelve major industry sectors, with only retail trade expected to decline in employment. The goods-producing industries are expected to expand by 1.1 percent annually and create an estimated 57,573 jobs over the 10- year period.

Starting from 2020 base year employment, arts, entertainment, and recreation is expected to be the fastest-growing industry, as it recovers from pandemic employment losses. Due to recovery from 2020, accommodation and food services is projected to be the fourth most rapidly growing industry. Industries which lost more than 10,000 employees from the first quarter of 2019 to 2020 included:

- Accommodation and food services- 48,660
- Manufacturing- 20,800
- Arts, entertainment, and recreation- 11, 340
- Administration and support and waste management- 10,040

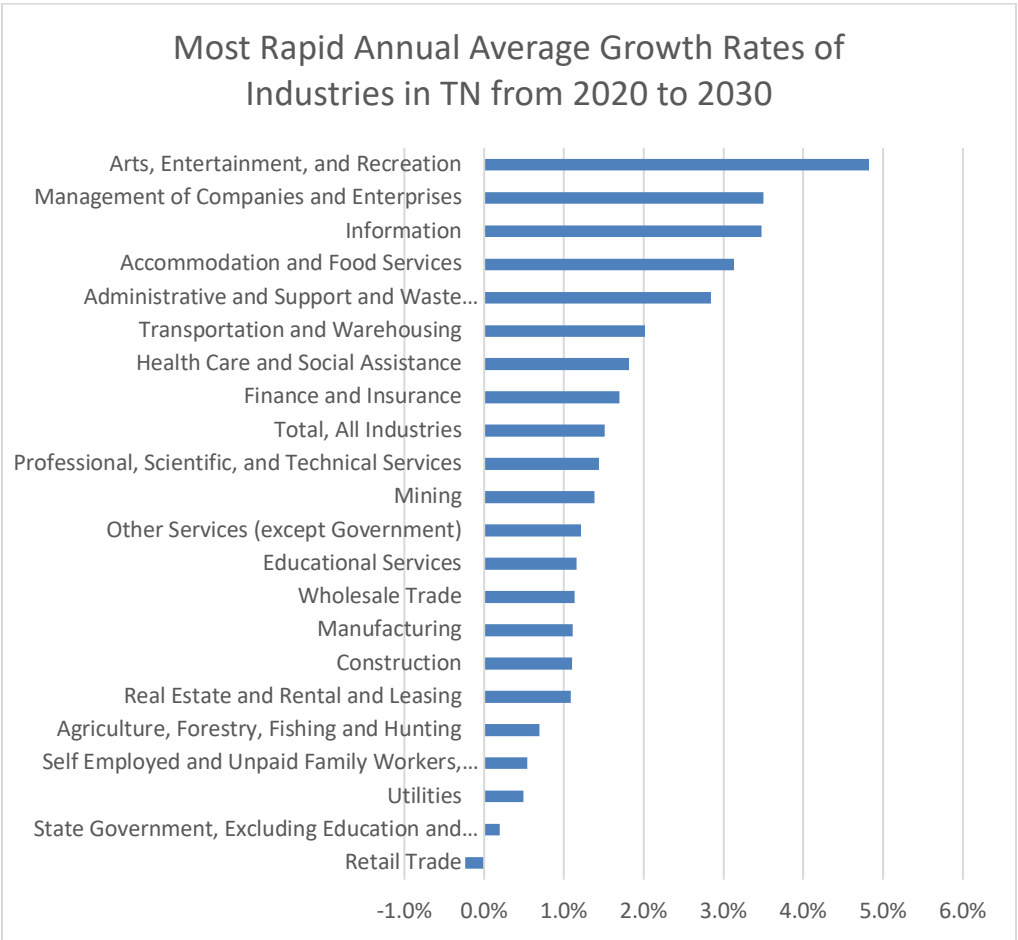
Other rapidly growing sectors will include management of companies and enterprises and information, with tech companies planning to locate more employees in Tennessee.

In the previous projections to 2028, manufacturing employment was forecast to have zero growth and create fewer than 500 jobs over the decade. However, with Tennessee's new efforts to manufacture electric vehicles and batteries, expand charging stations across the state, and other initiatives, manufacturing is projected to create nearly 39,000 jobs over the decade, and construction to create nearly 15,000. With the location of additional tech firms, the information industry could create nearly 18,000 jobs.

The services-providing sector is expected to expand at an annual growth rate of 1.7 percent. Other fast-growing services industries will include administrative and support and waste management and remediation and transportation and warehousing. Health care and social assistance will be one of the fastest-growing industries but is also expected to provide the second largest number of new jobs (80,570), over the ten-year period. Educational services will continue to grow at about one percent annually.

With the expansion of e-commerce and changes in work organization, the number of self-employed

and unpaid family workers is expected to grow at a slightly lower rate than the average for all employment (0.5 percent annually).



Source: TN Department of Labor and Workforce Development, WIR²ED Division, Tennessee Long-Term Industry Projections 2020-2030.

Figure 10

The occupational groups expected to add the most new jobs from 2020 to 2030 are listed in the following table, sorted by 2020-2030 occupational change. More than 520,000 “new” jobs are expected to be created in Tennessee in the next ten years, although some are jobs returning after the pandemic. The largest number of new jobs by occupational group is for food preparation and serving related jobs, as many of

these jobs are being restored after 2020; similarly, some of the office and administrative support and production jobs are returning after 2020 losses.

Other top job-creating groups which did not suffer in the pandemic but will continue their growth include management and transportation and material moving. Healthcare practitioners and technical occupations are the fourth largest group, with healthcare support expected to create almost 27,000 jobs. Business and financial occupations also are forecast to expand. The top five occupational groups with the highest median salaries in 2020 included management, architecture and engineering, computer and mathematical, legal, and life, physical, and social science

Table 4: Occupational Projections by Major Occupational Group in Tennessee for 2020-2030

Major Occupation Group Title	2020 Estimated Employment	2030 Projected Employment	2020-2030 Employment Change	2021 Median Annual Wage
Total, All Occupations	3,224,955	3,745,851	520,896	37,700
Food Preparation and Serving Related	251,366	329,892	78,526	22,541
Transportation and Material Moving	352,512	419,226	66,714	33,115
Management	224,440	268,889	44,449	97,684
Healthcare Practitioners and Technical	205,862	243,156	37,294	60,893
Office and Administrative Support	439,244	472,219	32,975	37,077
Production	262,097	293,972	31,875	37,373
Business and Financial Operations	154,353	185,077	30,724	61,113
Healthcare Support	105,782	132,775	26,993	29,216
Building and Grounds Cleaning and Maintenance	101,162	127,230	26,068	28,347
Computer and Mathematical	67,851	89,693	21,842	73,122
Installation, Maintenance, and Repair	129,506	148,530	19,024	47,041
Education, Training, and Library	163,999	182,506	18,507	48,453
Personal Care and Service	71,276	87,598	16,322	24,444
Construction and Extraction	117,148	132,510	15,362	39,830
Arts, Design, Entertainment, Sports, and Media	45,994	56,202	10,208	39,063
Sales and Related	294,636	304,804	10,168	29,053

Protective Service	67,953	76,721	8,768	38,407
Community and Social Service	55,789	63,752	7,963	45,866
Architecture and Engineering	43,767	51,715	7,948	77,132
Legal	17,867	21,980	4,113	64,000
Life, Physical, and Social Science	22,902	26,136	3,234	61,441
Farming, Fishing, and Forestry	29,449	31,268	1,819	29,842
Source: TN Dept of Labor and Workforce, WIRED Division, OEWS				
2021 and 2020-2030 Long Term Projections				

occupations, followed closely by business and financial and healthcare practitioners. Three of the top five highest-earning categories are STEM (Science, Technology, Engineering, and Math)- related occupations, pointing out the importance of technical education in the current economy.



Source: TN Department of Labor and Workforce Development, WIR²ED Division, Tennessee Long-Term Occupational Projections 2020-2030.

Figure 11

Job openings consist of new jobs as well as jobs created by workers transferring out of job classes or exiting the labor force altogether. For most occupational groups, the number of jobs created by transfers and exits far outweighs the number of new jobs and could be 75 percent or more of the job openings. Top occupational groups expected to have the most job openings in 2020-2030 include food preparation and serving occupations (as pandemic-related jobs return), transportation and material-moving jobs, office and administrative support (as pandemic jobs return and also as some job classes expand, sales jobs (with many part-time and high turnover occupations), and production occupations (due to pandemic recovery and development of new technologies and insourcing). The total number of job openings during 2020-2030 is projected to be 4,354,329.

Significant Occupational Shortages (SOS)

A key feature of the current economy is concerns by employers in Tennessee about the shortage of workers to fill available jobs. Having enough workers allows employers to maintain productivity and make plans to expand as the economy grows. Tennessee Department of Labor and Workforce Development's web site, jobs4tn.gov, in July 2022 listed 2.4 job openings for every unemployed person in the state. This is a fifty percent increase in the rate from July 2021 of 1.6 jobs for every unemployed worker.

Labor force shortages range across skill levels, from occupations requiring no formal education to those requiring bachelor's degrees or more. Some occupations for which few jobs are posted on jobs4tn.gov also need more employees applying for and accepting jobs, but methods to track those shortages are not even available. The tables below use data from [jobs4tn](https://jobs4tn.gov) to highlight some of the more critical candidate shortages at different educational levels.

The three tables below compare the number of job openings listed in jobs4tn.gov for 2021 by occupation with the number of active resumes on the system for that year. Not all employers post open jobs, nor do all individuals looking for jobs post resumes, but the data do provide a snapshot of areas which appear to have sizable labor force imbalances, and which need a greater supply of workers. Table 5 shows the top 15 occupations in Tennessee by supply gap which require more than a high school diploma but less than a bachelor's degree. Eleven of these are skilled occupations in healthcare, ranging from registered and licensed practical nurses to respiratory therapists and MRI technologists. Most of these occupations require associate degrees. The healthcare system is recovering from severe stresses experienced by its workforce during the pandemic, lack of rural hospital expansion, and increasing demands from an aging population

and low- income families without health insurance. Other shortage occupations include computer support specialists which are in greater demand due to more at-home use of computers by employees and students, truck drivers needed as e-commerce and warehousing has expanded during and after the pandemic, HVAC mechanics, and electrical and electronic technicians. Low entry-level wages for several occupations may be making recruitment more difficult. Reasons for the shortages of truck drivers include high turnover (as much as 90 percent for some employers), low job quality, and low pay, especially for independent operators who are responsible for their own expenses such as truck leasing, gas, insurance, and maintenance costs. ¹

Table 5: Top Supply Gaps- Postsecondary Education through Associate Degrees

Occupation Title	Education Level	Sum of Job Openings 2021	Sum of Resumes 2021	Openings Minus Resumes- Supply Gap	Entry Level Annual Wage 2021
Registered Nurses	AA	73,013	402	72,611	51,067
Licensed Practical and Licensed Vocational Nurses	PS	14,032	335	13,697	35,135
Heavy and Tractor-Trailer Truck Drivers	PS	11,775	788	10,987	34,338
Surgical Technologists	PS	3,714	43	3,671	35,241
Radiologic Technologists	AA	2,908	55	2,853	40,528
Respiratory Therapists	AA	2,671	26	2,645	44,724
Computer User Support Specialists	SC	2,904	459	2,445	33,492
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	PS	2,681	255	2,426	32,593
Diagnostic Medical Sonographers	AA	1,424	21	1,403	53,358
Physical Therapist Assistants	AA	1,008	70	938	44,705
Dental Hygienists	AA	859	27	832	49,582
Nuclear Medicine Technologists	AA	559	1	558	59,624
Magnetic Resonance Imaging Technologists	AA	513	3	510	52,628
Electrical and Electronics Engineering Technicians	AA	607	127	480	41,105
Occupational Therapy Assistants	AA	503	25	478	45,400

¹ [FACT SHEET: The Biden Administration's Unprecedented Actions to Expand and Improve Trucking Jobs - The White House](#)

Key: AA Associate's degree; SC
Some College,
no degree; PS Postsecondary
non-degree award
Sources: Jobs4tn.gov job
openings posted and active
resumes 2021; OEWS 2021
entry level wages

Table 6 displays the top 15 occupations with labor supply shortages which usually require only a high school diploma or the equivalent and for which entry level wages are twenty percent above the 2021 median entry level wage in the state. Executive secretaries and executive administrative assistants were in especially short supply. Other occupations with notable shortages included production and construction supervisors as well as transportation and energy industry workers, as these industries expand in the state.

Table 6: Top Supply Gaps- High School, High Wage

Occupation Title	Education Level	Sum of Job Openings 2021	Sum of Resumes 2021	Openings Minus Resumes	Entry Level Annual Wage 2021
Executive Secretaries and Executive Administrative Assistants	HS	6,527	966	5,561	40,026
First-Line Supervisors of Production and Operating Workers	HS	4,936	835	4,101	40,666
Transportation, Storage, and Distribution Managers	HS	2,235	438	1,797	56,602
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	1,429	172	1,257	43,117
Postal Service Clerks	HS	953	45	908	43,414
Claims Adjusters, Examiners, and Investigators	HS	576	141	435	43,553
Power Distributors and Dispatchers	HS	389	7	382	54,070
Chemical Plant and System Operators	HS	286	40	246	41,443
Commercial Pilots	HS	243	7	236	58,353
Postal Service Mail Carriers	HS	264	49	215	39,568
Electrical Power-Line Installers and Repairers	HS	231	35	196	43,563
First-Line Supervisors of Construction Trades and Extraction Workers	HS	355	206	149	43,263
Precision Instrument and Equipment Repairers, All Other	HS	105	4	101	39,620

Power Plant Operators	HS	111	18	93	64,867
First-Line Supervisors of Correctional Officers	HS	103	22	81	46,052
Key: HS High school or equivalent.					
Sources: Jobs4tn.gov job openings posted and active resumes 2021; OEWS 2021 entry level wages =>\$39,074.					

Table 7 lists the top 15 occupations with critical shortages of candidates which require a bachelor's degree. Two occupations are vital in information technology- computer programmers and systems analysts- both of which have high growth rates and together had a gap of more than 7,500 job openings compared to the number of available candidates. With the need to fulfill companies' internal technology requirements plus the expected location of Oracle in Tennessee within the next decade, more information technology professionals must be developed here. Seven occupations are in management and financial and business services, including medical and health services managers. Two engineering occupations are central to the expansion of production industries in the state, including electrical vehicle and battery manufacturing, and civil engineering vital to the construction industry.

Table 7: Top Supply Gaps: Bachelor's Degree Occupations

Occupation Title	Education Level	Sum of Job Openings 2021	Sum of Resumes 2021	Openings Minus Resumes	Entry Level Annual Wage 2021
General and Operations Managers	BA	8,450	1,236	7,214	53,892
Computer Programmers	BA	4,747	77	4,670	53,336
Accountants and Auditors	BA	5,239	834	4,405	46,920
Human Resources Specialists	BA	3,682	506	3,176	35,942
Computer Systems Analysts	BA	3,107	220	2,887	54,294
Medical and Health Services Managers	BA	3,152	327	2,825	63,480
Sales Managers	BA	4,394	1,805	2,589	69,008
Management Analysts	BA	2,323	150	2,173	54,045
Financial Managers	BA	2,415	270	2,145	73,483
Producers and Directors	BA	2,260	431	1,829	39,264
Mechanical Engineers	BA	1,944	179	1,765	63,144
Industrial Engineers	BA	1,662	111	1,551	61,295

Marketing Managers	BA	1,797	379	1,418	67,541
Electrical Engineers	BA	1,364	41	1,323	69,449
Civil Engineers	BA	1,180	50	1,130	60,963
Sources: Jobs4tn.gov job openings posted and active resumes 2021; OEWS 2021.					

Unknown Numbers of Teacher Vacancies

Although posted job openings and resumes on jobs4tn.gov provide some information on the magnitude of the gap in labor supply for some occupations, they are not helpful in identifying the number of openings for elementary and secondary teachers in the state. According to the TDLWD long term job projections to 2030, there are an expected 5,523 job openings annually for the teaching occupations listed in Table 8. However, only 917 job openings were posted in jobs4tn.gov in 2021, representing only 16.6 percent of the expected openings. Most openings are posted on local school district sites and are not aggregated in a timely manner on any state web sites, therefore not making it possible to know the number of teacher vacancies that need to be filled. This adds to the difficulty of trying to recruit students into these occupations, at a time when teacher shortages are increasing² and education is one of our most essential public services. A centralized inventory of the number of teacher vacancies by area and subject matter at the state level is especially necessary so the healthy operation of our public schools can be supported.

Opportunities to Reduce Labor Shortages and Increase Equity in Employment

Some potential solutions to alleviate labor shortages in key occupations include:

- Increasing labor force participation rates by lowering barriers to employment

Significant barriers to employment and the numbers of individuals affected are listed in each of the regional sections of this report. Extensive efforts to reduce these barriers are underway in all workforce areas of the state. Efforts to increase the employment status, income, and credential attainment of targeted populations can be aided by aligning this work to areas of labor market shortages. Some local initiatives to promote alignment include promoting Black degree attainment in high demand fields include peer education and

² Katie Nixon and Nicole Young (January 26, 2022). Staffing shortage closes schools. *Ashland City Times*, p. 1A.

network development in information technology³ and mentoring programs for nursing occupations in local high schools with health care professionals.⁴

- Integrated employment and training programs such as apprenticeships

Tennessee has a strong focus on increasing apprenticeships, with 1135 completing them in 2021. To begin to meet Tennessee's teacher shortages, Tennessee was the first to develop registered teacher apprenticeship programs across the state, in partnership with the U.S. Department of Education and the U.S. Department of Labor. The first was begun with the Clarksville- Montgomery County School system and Austin Peay University.⁵ The U.S Department of Labor is increasing registered apprenticeships for heavy and tractor- trailer truck drivers, including other efforts to reduce shortages such as recruiting more veterans into the field, improving job quality, and reducing licensing times.

- Incentives targeted to specific shortage areas

Vanderbilt University instituted a new program to help registered nurses pay off their student loans.⁶ The federal government provides loan forgiveness programs for targeted public service jobs.

- Aligning education with labor shortage occupations

The Tennessee Higher Education Commission may adjust its funding formula to provide additional funds to colleges for students majoring in high demand academic areas.⁷

- An extensive list of strategies for reducing critical labor shortages could also include better recruitment practices, appealing to younger workers, strong career services, improved job quality and salaries, additional certifications, clearer career pathways, connecting curriculum more directly to jobs, access to supportive services such as childcare so individuals can get and retain jobs, and a supportive labor climate. But until better data is available on the extent of critical labor shortages it will be challenging to design strategies to reduce them. The data provided in this report is a start in that direction.

³ Seyna Clark (June 19, 2022). Software experts push to diversify pipeline into technology jobs. *Tennessean*, p. 1D.

⁴ Matt Batcheldor (August 26, 2022). Collaboration brings nursing education to Metro Schools. *VUMC Reporter*, p. 1.

⁵ Meghan Mangrum (January 17, 2022). TN leads efforts to add more teachers. *Tennessean*, p. 1A.

⁶ Matt Batcheldor (April 29, 2022). VUMC debuts new loan repayment benefit for nurses. *VUMC Reporter*, p. 1A.

⁷ Rebecca Wright (January 16, 2022). College funds may target high-need fields. *Tennessean*, p. 3A.

Table 8: Elementary and Secondary Teachers Have Few Jobs and Resumes Posted

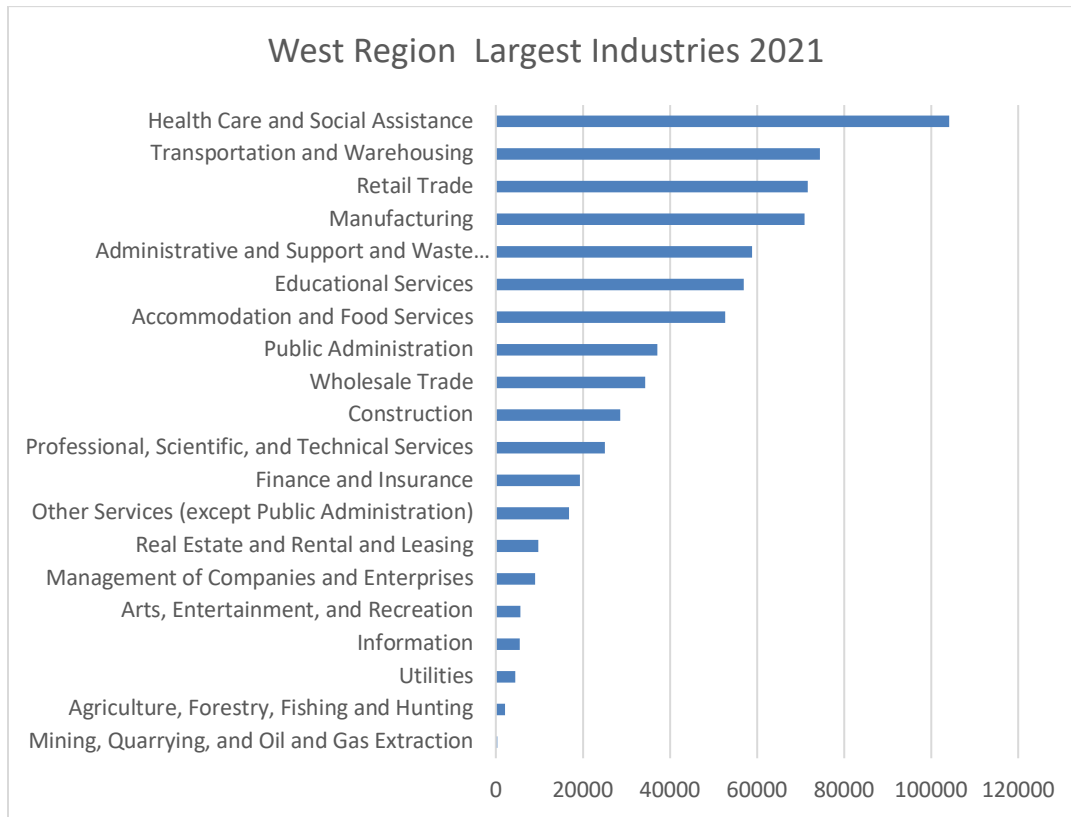
Occupation Title	2020 Employ- ment	2030 Projected Employment	Annual Total Openings	Sum of Job Openings	Sum of Resumes	Openings Minus Resumes	Entry Annual Wage
Elementary School Teachers, Except Special Education	29,372	30,763	2,267	469	149	320	43,360
Secondary School Teachers, Except Special and Career/Technica l Education	19,316	20,325	1,431	279	85	194	44,268
Middle School Teachers, Except Special and Career/Technica l Education	12,426	13,026	961	144	39	105	43,083
Career/Technica l Education Teachers, Middle Sch.	124	129	9			0	51,404
Special Education Teachers, Kindergarten and Elementary School	3,874	4,062	306			0	45,137
Special Education Teachers, All Other	484	582	48			0	36,012
Special Education Teachers, Secondary Sch.	3,033	3,211	244	10	16	-6	45,837
Special Education Teachers, Middle Sch.	1,212	1,269	95	6	23	-17	45,037
Career/Technica l Education Teachers, Secondary Sch.	2,217	2,320	162	9	41	-32	45,030
Total			5,523		917		

Sources: TN Department of Labor and Workforce Development, WIR²ED Division, Tennessee Occupational Projections 2020-2030; OEWS 2021; jobs4tn.gov posted job openings and active resumes 2021.

Tennessee West Region's Economy | 2021

 Employment	Total Employment 2021: 676,654 2.8% 2020: 657,970 Stronger	New Jobs 2021: 18,684 2020: -38,818 Stronger	MSA Employment 2020-2021 Jackson: 3.00% Memphis: 3.00% Stronger
 Employers	Total Number of Establishments 2021: 38,091 4.9% 2020: 36,309 Stronger	Total Wages 2021: \$41.3 Billion 8.7% 2020: \$38.0 Billion Stronger	Counties Increased Employment 2021: 14 2020: 2 Stronger
 Wages & Income	Average Annual Wage 2021: \$44,322 5.6% 2020: \$41,986 Stronger	West Median Wage 2021: \$36,969 -0.4% 2020: \$37,128 Challenge	Counties Increased Annual Wages 2021: 21 2020: 18 Stronger
 Labor Force & Demographics	Unemployment Rate 2021: 4.8% -2.6% 2020: 7.4% Stronger	Labor Force 2021: 719,420 -0.04% 2020: 719,729 Challenge	Unemployment Rates Youth 2020: 15.8% % In Poverty, 2020: 18.3% Stronger
 Job Outlook	Ratio of Unemployed to Job Openings June 2021: 1.42 -49.82% June 2020: 2.83 Stronger	Projected Annual Growth Rate, All Occupations 2018-2028: 0.55% Stronger	Projected Annual Avg. Job Openings 2018-2028: 94,946 Stronger

West Region Overview



Source: TN Department of Labor and Workforce Development, WIR²ED Division, Quarterly Census of Employment and Wages (QCEW).

Figure 12

West Region's Economy, 2020-2021

Total employment in the West Region, excluding agriculture and the self-employed, increased from 657,970 to 676,654, an increase of 2.8 percent or 18,680 jobs (see West Region Summary page). This rate of job growth was slower than the state. It was led by the faster job growth in the metro areas of Jackson and Memphis, which both grew by three percent over the year in a complete reversal of last year's declines.

The West Region consists of three Local Workforce Development Areas: Greater Memphis, Southwest, and Northwest, encompassing a total of 21 counties (see list p.). Of these, 14 counties increased in employment from 2020 to 2021, compared to only two the previous year. The average number of establishments increased to 36049 over the year. Payroll increased by 8.7 percent to \$41.3 billion. The increase in payroll was at a slower rate than the state but still accounts for nearly 1 in every four payroll dollars in the state.

The average annual industry wage in the region, calculated by dividing the total payroll by the average number of workers. The median occupational wage decreased by 0.4 percent to \$36,969, just below the state median.

Regarding the labor force, the average unemployment rate decreased from 2020 to 2021 to 4.8 percent, just 0.5 percentage points below the state average. The labor force decreased over the year by a nominal 309 persons, basically remaining stable. Youth unemployment in 2020 (the latest available) increased to 15.8 percent, compared to the state rate of 11.4 percent for 2020. The percent of those in poverty who were unemployed decreased to 15.8 percent, while above the state rate of 11.4 percent. In 2021 the number of unemployed compared to the number of job listings on the state job bank, jobs4tn.gov, was 1.42 percent, decreasing from the higher rate in 2020 but still indicating more unemployed individuals than jobs in the region.

To summarize: In 2021 compared to 2020, the West Region saw positive growth in employment, with metropolitan areas leading the growth. Payroll increased, somewhat slower than the rest of the state. The median wage was stable but not increasing. In 2020, unemployment rates overall and for youth and those in poverty remained higher than state rates. The Blue Oval project, Ford's and SK's electric vehicle and battery manufacturing plant, should assist in raising employment and skill levels in the area.

West TN Industries and Occupations (2018-2021)

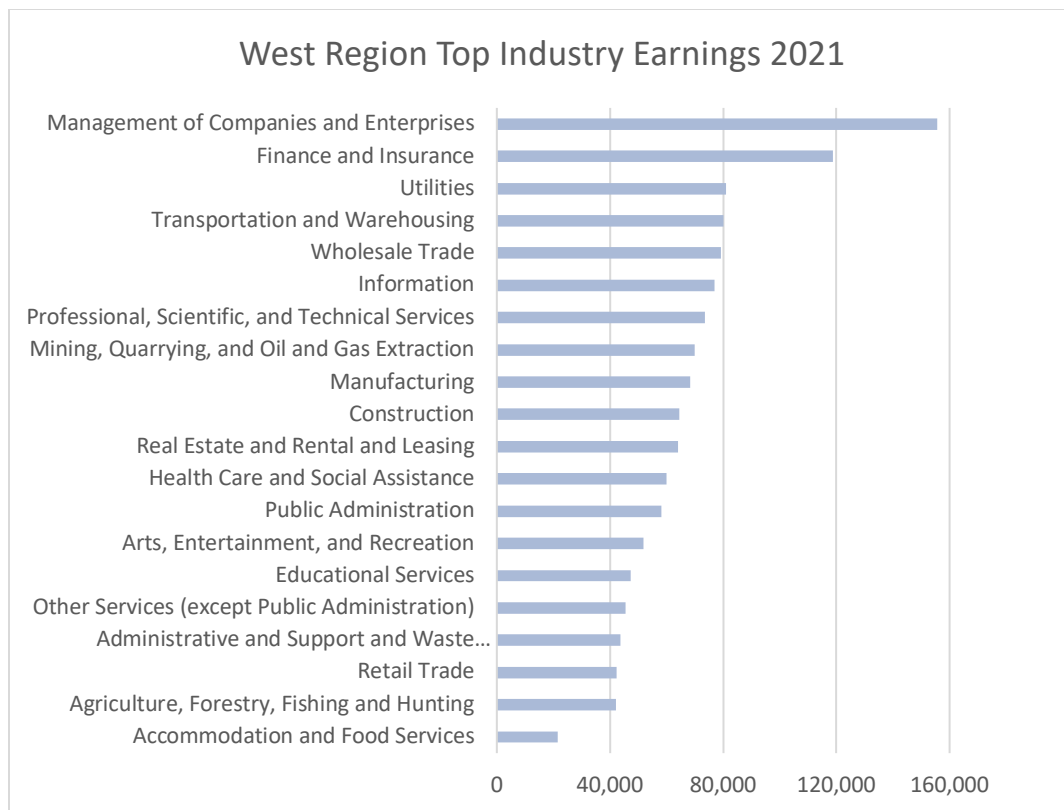
Total employment in the West Region in 2021, excluding self employed and agricultural workers, was 687,433. The five largest industry sectors in 2021 were

- Health care and social assistance (104,168 jobs)
- Transportation and warehousing (74,496)
- Retail trade (71,703)
- Manufacturing (70,864)
- Administrative and support and waste management and remediation (58,800)

Compared to 2018, the industries adding the most new workers include transportation and warehousing (almost 7,000 new jobs), health care and social assistance (6,600 new jobs), and construction (nearly 1,400 new jobs). However, some of the largest industries lost jobs from 2018 to 2021, including retail trade (4,951), administrative and support (2,976), and manufacturing (687). Employment in accommodation and food services was still 13 percent below its employment level in 2018. However, other than arts, entertainment, and recreation, all industry sectors increased in earnings per worker (total LWDA payroll divided by the average number of workers). The largest

increases were in the information and retail trade sectors, followed by real estate and administrative and support. The industries with the highest earnings per worker were the management of companies and enterprises, finance and insurance, utilities, and transportation and warehousing, with accommodation and warehousing having the lowest earnings per employee.

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



Source: TN Department of Labor and Workforce Development, WIR²ED Division, QCEW.

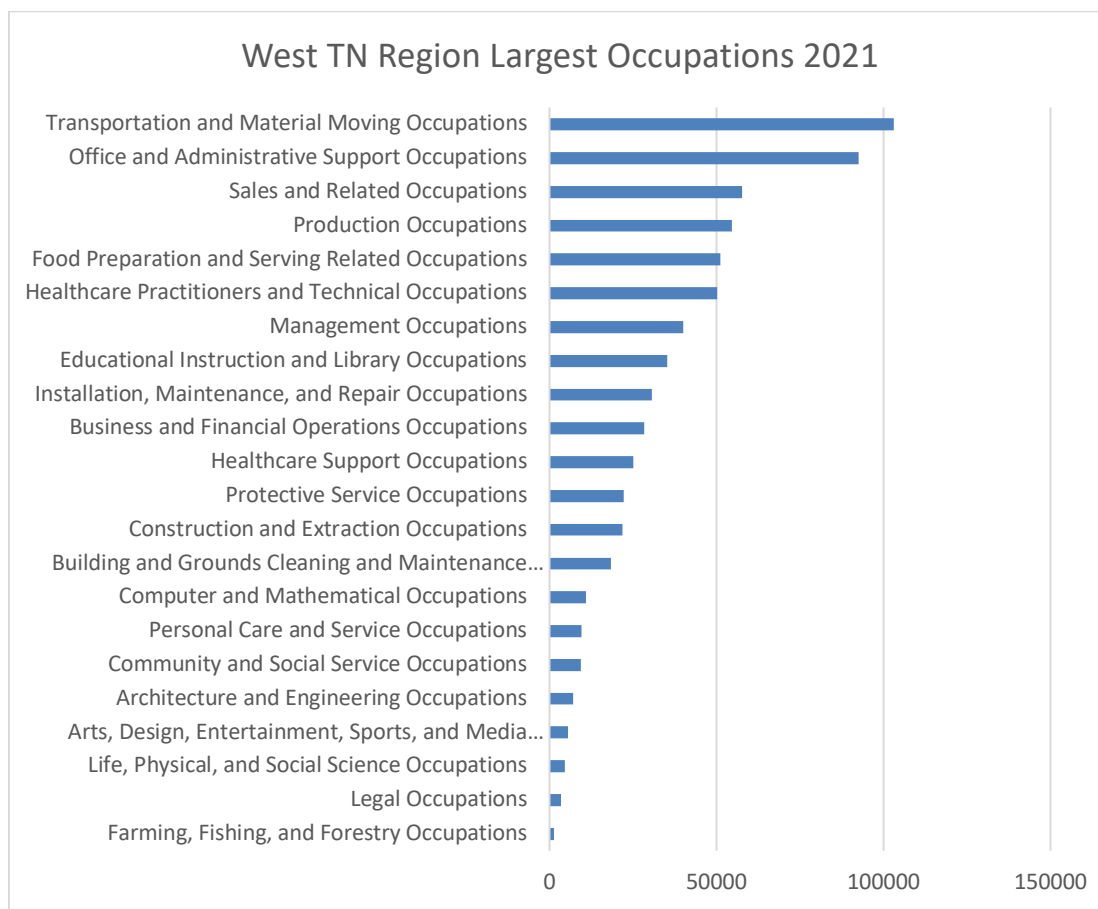
Figure 13

Table 9: Transportation and Warehousing and Health Care and Social Assistance Added the Most Jobs in 2018-2021

West Region Industries	2018 Jobs	2021 Jobs	Change in Jobs	% Change in Jobs	2018 Earnings Per Worker	2021 Earnings Per Worker	% Change in earnings per worker
Transportation and Warehousing	67,509	74,496	6,987	10%	67,286.96	80,146.22	19%
Health Care and Social Assistance	97,558	104,168	6,610	7%	53,583.39	60,070.28	12%
Construction	27,277	28,632	1,355	5%	57,548.23	64,572.29	12%
Professional, Scientific, and Technical Services	24,774	24,986	212	1%	60,871.18	73,464.44	21%
Educational Services	56,798	56,949	151	0%	43,298.95	47,360.31	9%
Utilities	4,420	4,417	-3	0%	71,422.22	80,891.11	13%
Public Administration	37,224	37,038	-186	0%	52,340.39	58,126.26	11%
Manufacturing	71,511	70,864	-647	-1%	62,249.46	68,223.39	10%
Mining, Quarrying, and Oil and Gas Extraction	321	316	-5	-2%	61,102.81	69,926.05	14%
Wholesale Trade	34,949	34,289	-660	-2%	68,665.25	79,299.74	15%
Management of Companies and Enterprises	9,430	8,999	-431	-5%	139,606.44	155,688.19	12%
Administrative and Support and Waste Management and Remediation Services	61,776	58,800	-2,976	-5%	35,811.29	43,763.44	22%
Real Estate and Rental and Leasing	10,291	9,772	-519	-5%	52,444.70	64,106.23	22%
Retail Trade	76,654	71,703	-4,951	-6%	33,282.05	42,418.92	27%
Finance and Insurance	20,828	19,269	-1,559	-7%	105,896.78	118,876.19	12%
Other Services (except Public Administration)	18,203	16,755	-1,448	-8%	37,201.99	45,383.70	22%
Information	5,983	5,468	-515	-9%	60,551.80	76,825.15	27%
Agriculture, Forestry, Fishing and Hunting	2,311	2,067	-244	-11%	35,664.97	42,094.11	18%
Accommodation and Food Services	60,291	52,710	-7,581	-13%	18,648.32	21,558.48	16%
Arts, Entertainment, and Recreation	6,554	5,647	-907	-14%	52,348.68	51,711.56	-1%
Source: TN Dept of Labor and Workforce, QCEW Annual Averages, 2018 and 2021							

West Region Occupational Employment

The transportation and material moving occupational group remains the largest in the West Region, according to the Occupational Employment and Wages Survey for 2021, which provides data on all industries except agriculture and the self-employed. Employment in this group in May 2021 was 103,160, adding more than 11,000 jobs since May 2015. Office and administrative support, sales, and production were next in total numbers of jobs.



Source: TN Department of Labor and Workforce Development, WIR²ED Division, OEWS.

Figure 14

Other occupational groups which added the most new jobs from 2015 to 2021 included healthcare support, business and finance, healthcare practitioners and technical, management, and community and social service. Office and administrative support and personal care and service lost the most jobs over the six year period. Other than management, the occupational groups with the highest median earnings included computer and mathematical; business and finance; life, physical and social science; healthcare practitioners

and legal; and architecture and engineering. These earnings results show the importance of STEM education and training in achieving higher earnings.



Source: TN Department of Labor and Workforce Development, WIR²ED Division, OEWS.

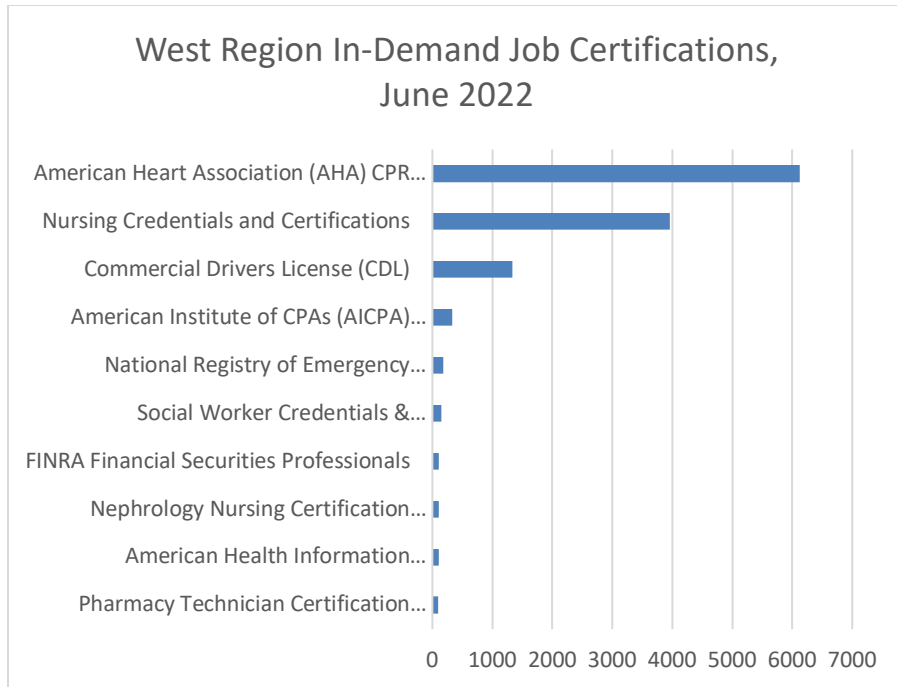
Figure 15

The TDLWD jobs4tn.gov web site tracks the top in-demand job certifications and tools and technologies from its advertised jobs database, updated every day. The table below shows the most requested certifications, including CPR, nursing credentials, and commercial driver license certifications. For June 2022, most requested technologies include facility with Microsoft Office and Power Point, Word, and SQL query language, operation of cash registers and forklifts, and use of personal protective equipment. Of the top 10 employers posting jobs in the West Region on September 1, 2022, 6 included hospitals and other healthcare institutions, along with Fed Ex and fast food companies. Reflecting the top occupational groups and those adding the most new jobs, top job postings in the region included healthcare practitioners and

technical occupations, management, transportation and material moving, sales, office, and food preparation, and computer and mathematical jobs.

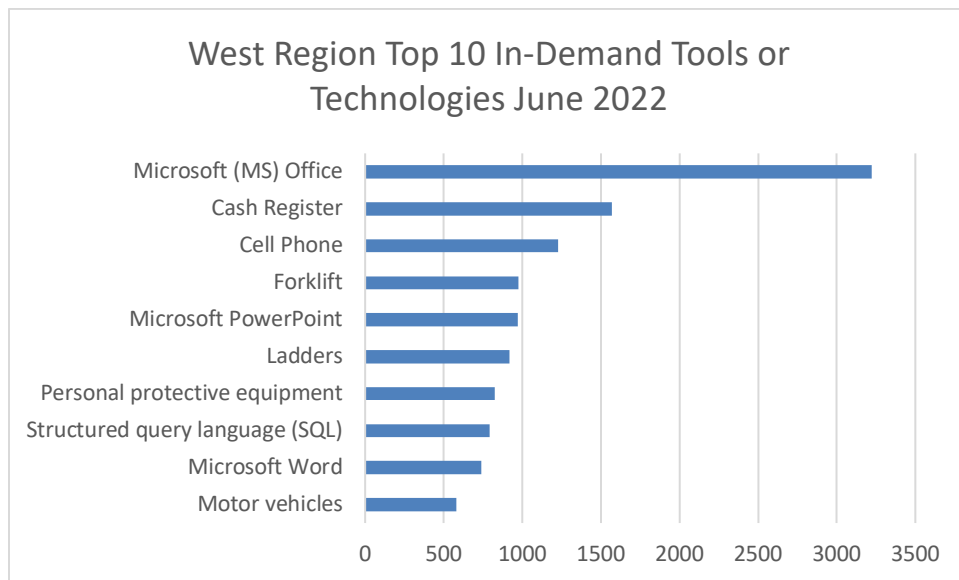
Table 10: Healthcare Support, Business and Finance, Community and Social Service Add the Largest Percent of New Jobs 2015-2021

West TN Region Occupational Group	May 2015 Jobs	May 2021 Jobs	Change in Jobs	% Change in Jobs	2021 Median Hourly Earnings
Total, All Occupations	691,600	682,800	-8,800	-1%	18.09
Healthcare Support	18,330	25,000	6,670	36%	13.89
Business and Financial Operations	22,270	28,350	6,080	27%	29.28
Community and Social Service	7,600	9,460	1,860	24%	22.09
Life, Physical, and Social Science	3,890	4,560	670	17%	29.46
Farming, Fishing, and Forestry	1,160	1,350	190	16%	14.33
Arts, Design, Entertainment, Sports, and Media	4,720	5,490	770	16%	18.38
Computer and Mathematical	9,540	10,870	1,330	14%	30.78
Transportation and Material Moving	91,600	103,160	11,560	13%	17.47
Healthcare Practitioners and Technical	46,000	50,110	4,110	9%	29.22
Management	37,900	39,970	2,070	5%	46.75
Legal	3,280	3,440	160	5%	29.98
Protective Service	21,690	22,210	520	2%	18.10
Installation, Maintenance, and Repair	30,510	30,680	170	1%	22.73
Building and Grounds Cleaning and Maintenance	18,400	18,460	60	0%	13.68
Construction and Extraction	22,040	21,840	-200	-1%	19.18
Production	56,790	54,510	-2,280	-4%	17.85
Food Preparation and Serving Related	54,120	51,230	-2,890	-5%	10.64
Educational Instruction and Library	38,540	35,240	-3,300	-9%	23.50
Sales and Related	66,650	57,570	-9,080	-14%	13.98
Office and Administrative Support	110,070	92,490	-17,580	-16%	17.84
Architecture and Engineering	8,890	7,150	-1,740	-20%	36.70
Personal Care and Service	17,610	9,650	-7,960	-45%	11.80
Source: TN Dept of Labor and Workforce, OEWS, May 2015 and May 2021					



Source: Jobs4tn.gov Online Advertised jobs, June 2022

Figure 16



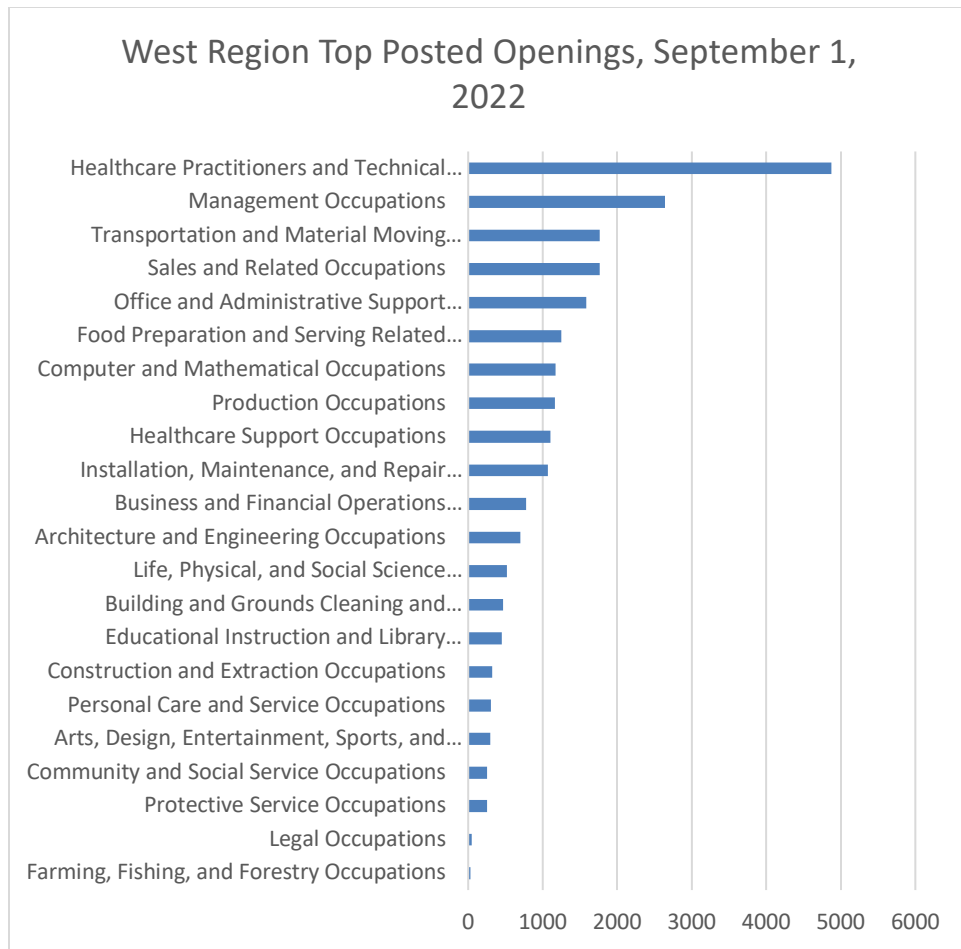
Source: Jobs4tn.gov Online Advertised Jobs, June 2022

Figure 17

Table 11: Top Employers Posting Jobs- West Region

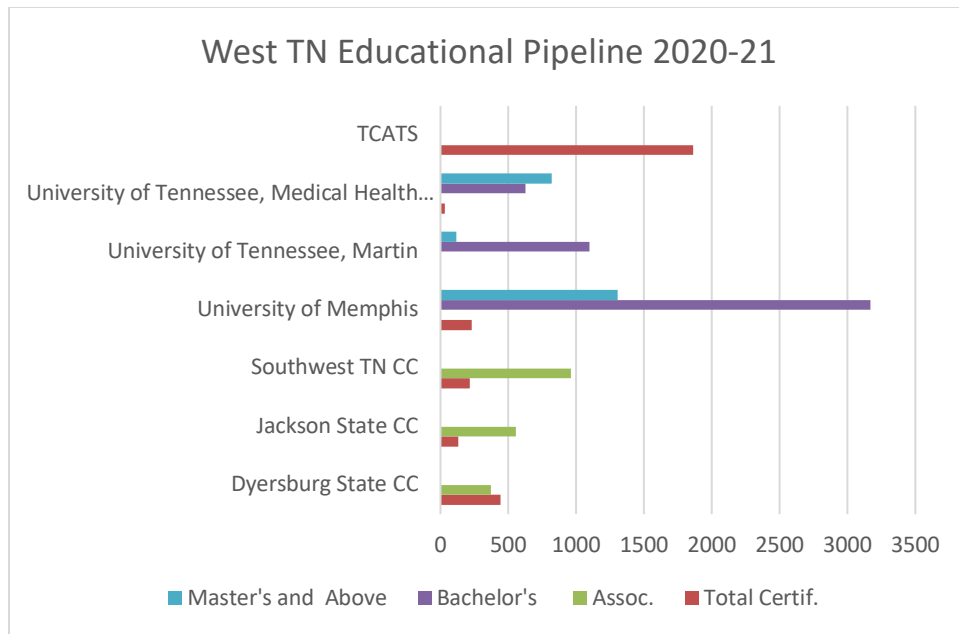
West Region- Top Employers Posting Jobs September 1, 2022	Job Openings
Methodist Le Bonheur Healthcare	1,276
St. Jude Children's Research Hospital Inc.	1,018
Baptist Memorial Health Care Corporation	988
Carrols Corporation (Burger King, Popeye's)	448
West Tennessee Healthcare	352
Regional One Health	295
Tenet Healthcare Corporation	275
LHC Group, Inc.	270
FedEx	255
McDonald's Corporation	234

Source: Jobs4tn.gov Online Advertised Jobs, September 1, 2022



Source: Jobs4tn.gov Online Advertised Jobs, September 1, 2022

Figure 18



Source: THEC Fact Book, Tables 2.3 and 2.4.

Figure 19

The graph above lists the primary educational institutions in the West Region training students and current workers to fill available jobs. There are nine Tennessee Colleges of Applied Technology in the West Region, producing the most diploma and certificate completers. Community colleges provide associate degree completers, led by Southwest TN Community College. The University of Memphis granted more than three thousand bachelor's degrees in 2020-21, with another 1,000 granted by UT Martin. The University of Tennessee Medical Health Center grants a wide variety of health care degrees at the master's level and above. Information on the specific programs at each institution which provide training for occupations in demand in the West Region can be found on the TDLWD dashboard *Tennessee Program Providers for Demand Occupations*.

West Region Labor Force Summary

The population in the West Region in 2021 was estimated at 1,553,201, a decrease of 0.05 percent over 2020. However, both the Southwest and Northwest LWDAs increased in population. Females were 51.7 percent of the population in the West Region during 2021; they made up 52.2 percent of the population in Greater Memphis.

Table 12: West Region Labor Force

	Southwest LWDA	Northwest LWDA	Greater Memphis LWDA	West Region	State Total
Total Population 2020	248,834	247,922	1,064,474	1,561,230	6,772,268
Total Population 2021	251,495	248,308	1,053,398	1,553,201	6,975,218
Male Population 2021	123,180	122,257	503,846	749,283	3,420,001
Female Population 2021	128,315	126,051	549,552	803,918	3,555,217
Labor Force Participation Rate 2020 (5-Year Estimate)	53.85%	53.70%	63.28%	56.9%	58.34%
Labor Force Participation Rate 2021 (5-Year Estimate)	54.64%	53.26%	58.20%	55.4%	57.30%
Annual Average Unemployment Rate 2020 Percent	7.7%	7.0%	7.8%	7.5%	7.4%
Annual Average Unemployment Rate 2021 Percent	5.0%	4.5%	5.3%	4.9%	4.4%
Educational Attainment 25 Years and Over (2020) Some College Or Higher - Percent	44.81%	43.28%	60.11%	49.4%	51.48%
Poverty Estimate, All Ages, Percent (2020)	18.48%	18.18%	18.29%	18.3%	15.82%
Percentage of Unemployed with a Disability (2020)	13.00%	19.95%	11.82%	14.9%	16.03%
Percent of Those Not in the Labor Force with a Disability (2020)	35.86%	40.25%	30.16%	35.4%	35.03%

Sources: U.S Census Bureau, ACS five year estimates; TN Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics (LAUS).

Table 13: Educational Attainment, 2020

Educational Attainment	West Region White Only	West Region Black Only	West Region Hispanic or Latino Only	Statewide White Only	Statewide Black Only	Statewide Hispanic or Latino Only
Population 25 years and over	597,700	395,984	37,905	3,692,829	718,104	186,240
High school graduate only	188,666	143,892	10,577	1,181,472	243,466	53,619
Percent high school graduate only	31.57%	36.34%	27.90%	31.99%	33.90%	28.79%
High school graduate or higher	536,689	340,762	22,099	3,285,872	624,634	120,456
Percent high school graduate or higher	89.79%	86.05%	58.30%	88.98%	86.98%	64.68%
Bachelor degree or higher	184,529	72,718	5,517	1,075,103	151,390	30,753
Percent bachelor degree or higher	30.87%	18.36%	14.55%	29.11%	21.08%	16.51%

Sources: U.S Census Bureau, ACS five year estimates.

The labor force participation rate (LFPR) in the West Region in 2021 was 55.4 percent, 1.5 percentage points lower than the rate in 2020 and contributing to the state's decline to 57.3 percent. The largest decrease was in the Greater Memphis LWDA, possibly associated with job decreases in leisure and hospitality and retail trade. However, the LFPR did increase in the Southwest LWDA. Unemployment rates in all three LWDA's dropped in 2021, as the economy recovered from the pandemic, ending the year with an average rate of 4.9 percent. This was just 0.5 percentage points above the state average of 4.4 percent.

The lowest rate of educational attainment in 2020 was in the Northwest LWDA, with just under 43.3 percent of the population aged 25 years or more having some college or additional education. However, the rate in the Greater Memphis LWDA was 60.1 percent, 8.6 percentage points above the state rate and the highest in the West Region. Viewing this from an equity perspective, 30.87% of the white residents in the West Region age 25 years or more had earned bachelor's degrees or

higher, slightly more than the state rate, whereas Black and Hispanic or Latino residents had slightly lower rates of degree awards at that education level compared to the state rates. There were significant differences between the rates by race and ethnicity of earning bachelor's degrees or above; the white rate was 30.87 compared to the Black rate of 18.36 and the Hispanic/Latino rate of 14.55 percent.

Table 14: West Region Disability Status of Those in the Labor Force

Area	Civilian Non-institutional Population	Total Labor Force	Total Employed	Employed W Disability	Employed W/O Disability	Total Unemployed	Unemployed W Disability	Unemployd W/O Disability
Southwest LWDA	143,079	99,499	92,217	4,907	87,310	7,282	947	6,335
Northwest LWDA	141,348	98,372	93,018	7,553	85,465	5,354	1,068	4,286
Greater Memphis LWDA	640,213	487,251	452,399	24,215	428,184	34,852	4,118	30,734
West Region	924,640	685,122	637,634	36,675	600,959	47,488	6,133	41,355
Tennessee	4,079,574	3,083,188	2,920,333	185,847	2,734,486	162,855	24,000	138,855

Source: U.S Census Bureau, ACS five year estimates.

Table 15: West Region Disability Status of Those Not in the Labor Force

rea	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
Southwest LWDA	143,079	43,580	15,629	27,951	35.86%	64.14%
Northwest LWDA	141,348	42,976	17,299	25,677	40.25%	59.75%
Greater Memphis LWDA	640,213	152,962	46,126	106,836	30.16%	69.84%
West Region	924,640	239,518	79,054	160,464	33.01%	66.99%

Tennessee	4,079,574	996,386	328,485	667,901	32.97%	67.03%
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Source: U.S Census Bureau, ACS five year estimates.

Poverty rates declined 18.8 percent in 2019 to 18.3 percent in 2020, as federal aid was targeted to individuals with the greatest needs. The highest poverty rate in the region was in the Southwest LWDA at 18.48 percent. However, all LWDAs had poverty rates of more than 18 percent while the state rate was 15.8, notably lower. The 2021 rates should be lower, given the improving economy, but reducing poverty and increasing educational attainment should be key targets of workforce policy in this region.

Similar to the state, about a third of those not in the labor force have a disability, with Northwest LWDA having the highest rate. As could be expected due to economic conditions in 2020, youth unemployment increased over the 2019 rate of 14.8 percent in the West Region, with the highest rates in the Southwest and Greater Memphis LWDAs.

Table 16: Youth Unemployment 2020

Area	Labor Force	Unemployment	Rate
Southwest LWDA	15,405	2,557	16.60%
Northwest LWDA	15,768	2,072	13.14%
Greater Memphis LWDA	70,668	11,435	16.18%
West Region	101,840	16,065	15.77%

Source: U.S. Census Bureau, 2016-2020 ACS, 2020, 5-year estimates.

Significant Barriers to Employment

The table above identifies numbers of individuals with significant barriers to employment in the West Region, using the latest data available. The West Region has the following populations compared to the state:

- 38 percent of individuals exiting from the TANF program within 24 months;
- 29 percent of those below poverty;
- 26 percent of the prison and jail population;
- 23 percent of the youth population; and
- 26 percent of single parent families.

Table 17: West TN Region - Significant Barriers to Employment

	Greater Memphis LWDA	Northwest LWDA	Southwest LWDA	West Region	State Total
Number of American Indians or Alaskan	406	266	129	801	4,519
Population Ages 15-19	69,648	16,165	16,618	102,431	426,381
Population Ages 20-24	70,675	15,910	15,917	102,502	445,895
Population Ages 55+	283,307	82,239	80,949	446,495	1,993,985
Number of Veterans	60,351	16,388	15,028	91,767	442,405
Number Below Poverty	190,698	43,310	43,999	278,007	965,213
Number With Disability	140,175	50,175	41,088	231,438	1,031,667
Number of Single Parent Families	2,23,254	46,824	46,729	316,807	1,218,991
Probationers and Parolees	10,955	2,685	4,247	17,887	74,962
Community Correction	421	306	1,501	2,228	7,370
Mental Health Court Statistics	35	0	0	35	80
Limited English Speaking	6,453	305	679	7,437	39,191
*Foster Care Services - Youth	137	30	23	190	801
Clients In Recovery Courts	220	93	73	386	1,587
In School Youth Exper. Homelessness in 2019	**	197	311	508	11,759

TANF 24 Months From Ending Total 2020	445	74	118	637	1,659
Prison and Jail Population	3,666	1,121	1,167	5,954	23,200

* Counties of commitment, not residence.

Sources: Population: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates.

Probationers and Parolees, Community Corrections: Dr. Mary Karpos, TN Department of Correction, Community Supervision.

Mental Health Court and Recovery Court Statistics: Rebekah Provost-Emmons, Recovery Court Administrator, Office of Criminal Justice Services, Division of Substance Abuse Services.

Limited English Speaking: U.S. Census Bureau, American Community Survey, 2020.

Foster Care Services: Dave Aguzzi, Office of Independent Living, TN Department of Children's Services.

In School Youth Experiencing Homelessness: Josh Carlson, Data Management Division, TN Department of Education.

TANF 24 Months for Ending Eligibility: Lakecia Peterson, Division of Family Assistance and Child Support, TN Department of Human Services.

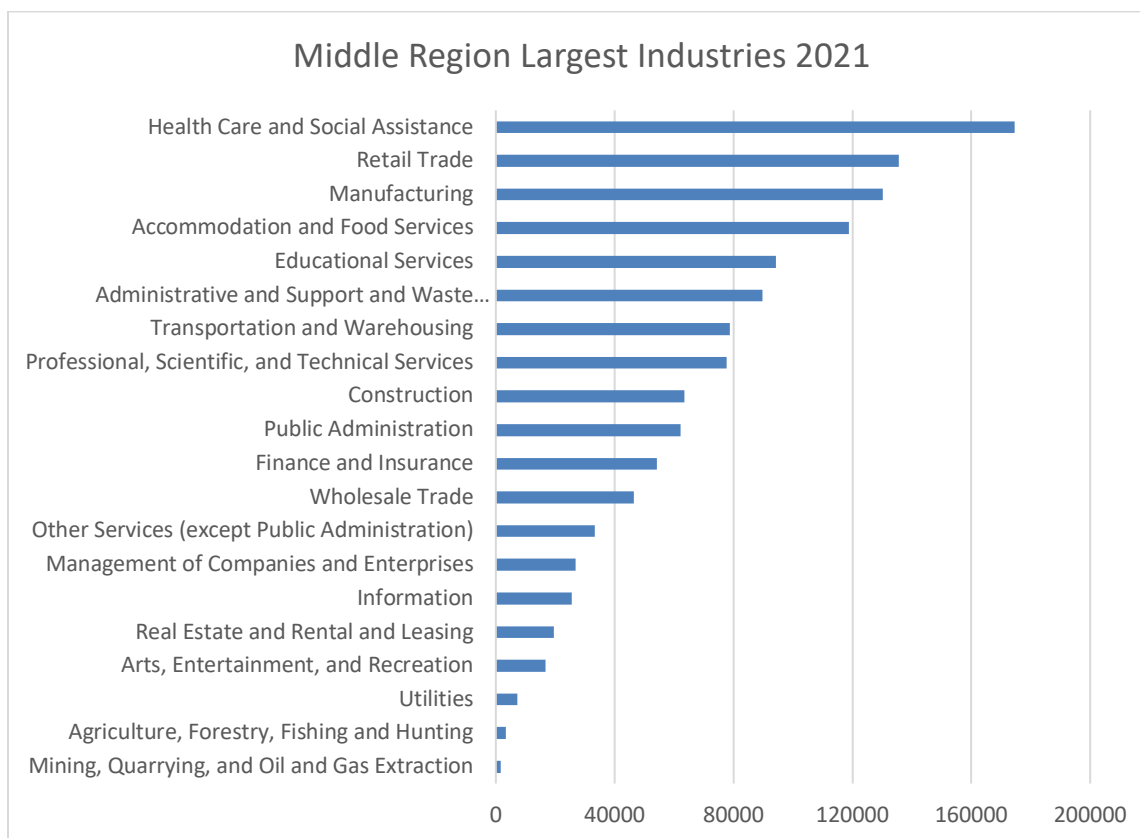
** Not available for this report

There is an unknown number of in-school youth experiencing homelessness; this information was not available from schools in Greater Memphis at the time of the report. This is important data that needs to be provided to workforce development. Mental health courts are being established, with Greater Memphis participating; the growing importance of these intervention services is being recognized nationally and need expansion in Tennessee.

Tennessee Middle Region's Economy | 2021

 Employment	Total Employment 2021: 1,420,558 5.2% 2020: 1,350,978 Stronger	New Jobs 2021: 69,580 2020: -79,782 Stronger	MSA Employment 2020-2021 Clarksville: 4.0% Nashville: 5.7% Stronger
 Employers	Total Number of Establishments 2021: 88,359 10.3% 2020: 80,123 Stronger	Total Wages 2021: \$77.1 Billion 11.7% 2020: \$69 Billion Stronger	Counties Increased Employment 2021: 32 2020: 7 Stronger
 Wages & Income	Average Annual Wage 2021: \$45,231 5.7% 2020: \$42,812 Stronger	Middle Median Wage 2021: \$38,264 -1.8% 2020: \$38,964 Challenge	Counties Increased Annual Wages 2021: 40 2020: 36 Stronger
 Labor Force & Demographics	Unemployment Rate 2021: 4.0% -43.7% 2020: 7.1% Stronger	Labor Force 2021: 1,476,473 1.5% 2020: 1,454,573 Stronger	Unemployment Rates Youth 2020: 9.6% % In Poverty, 2020: 13.9% Stronger
 Job Outlook	Ratio of Unemployed to Job Openings June 2021: 1.65 -25.34% June 2020: 2.21 Stronger	Projected Annual Growth Rate, All Occupations 2018-2028: 1.07% Stronger	Projected Annual Avg. Job Openings 2018-2028: 178,632 Stronger

Middle Region Overview



Source: TN Department of Labor and Workforce Development, WIR²ED Division, QCEW.

Figure 20

Middle Region's Economy, 2020-2021

Total employment in the Middle Region, excluding agriculture and the self-employed, increased from 1,350,978 in 2020 to 1,420,588 in 2021, an increase of 5.2 percent or 69,580 jobs (see Middle Region Summary page). This rate of job growth was faster than the state. It was led by the rapid job growth in the metro areas of Nashville and Clarksville, which grew by 5.7 and 4.0 percent, respectively.

The Middle Region consists of three Local Workforce Development Areas: Northern Middle, Southern Middle, and Upper Cumberland, encompassing a total of 40 counties. Of these, all counties increased in employment from 2020 to 2021, compared to 32 the previous year. The average number of establishments increased to 88,359 over the year and payroll increased by 11.7

percent to \$77.1 billion. The increase in payroll was at a faster rate than the state and accounted for 43 percent of the state's total wages.

The average annual industry wage in the region, calculated by dividing the total payroll by the average number of workers, increased by 5.7 percent to \$45,231. The median occupational wage decreased by 1.8 percent to \$38,264, still above the state's median.

Regarding the labor force, the average unemployment rate decreased from 2020 to 2021 to 4.0 percent, lower than the state's average of 4.3 percent. The labor force increased over the year by nearly 22,000 persons. Youth unemployment in 2020 (the latest data available) increased to slightly to 9.6 percent, compared to the state rate of 11.4 percent. The percent of those in poverty was stable at 13.1 percent, below the state rate. In 2021 the number of unemployed compared to the number of job listings on the state job bank, jobs4tn.gov, was 1.65 percent, decreasing from the higher rate in 2020 but still indicating more than one unemployed individual compared to the number of jobs in the region.

To summarize: In 2021 compared to 2020, the Middle Region saw positive growth in employment, with metropolitan areas leading the growth. Payroll increased faster than the rest of the state. The level of the annual average industry wage increased by more than five percent, but the median occupational wage declined slightly. The unemployment rate decreased, and the labor force increased by 1.5 percent, a higher rate of growth than that of the state. Expansion of health care and information technology services as well as electric vehicle and battery manufacturing will continue to add to skill requirements and employment in the region.

Middle TN Industries and Occupations (2018-2021)

Total employment in the Middle Region in 2021, excluding self-employed and agricultural workers, was 1,420,558. The five largest industry sectors in 2021 were

- Health care and social assistance (174,557 jobs)
- Retail trade (135,615)
- Manufacturing (130,205)
- Accommodation and food services (118,753)
- Educational services (94,255)

Compared to 2018, the industries adding the most new workers included the transportation and warehousing (16,663 new jobs), professional, scientific, and technical (8,359) and construction (8,326) industries. However, some of the largest industries lost jobs from 2018 to 2021, including manufacturing (5,725), retail trade (595), and accommodation and food services (8,830), which was

still 7 percent below its employment level of 2018. However, other than arts, entertainment, and recreation, all industry sectors increased in earnings per worker (total LWDA payroll divided by the average number of workers). The largest increases were in the information and finance and insurance sectors, followed by other services and the administrative and support and waste management and remediation sectors. The industries with the highest earnings per worker were the management of companies and enterprises, finance and insurance, professional, scientific and technical, and mining, quarrying, and oil and gas extraction industries. The lowest earnings per employee were in the accommodation and food services industries.

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



Source: TN Dept of Labor and Workforce Development, WIR²ED, QCEW 2021 Annual Data

Figure 21

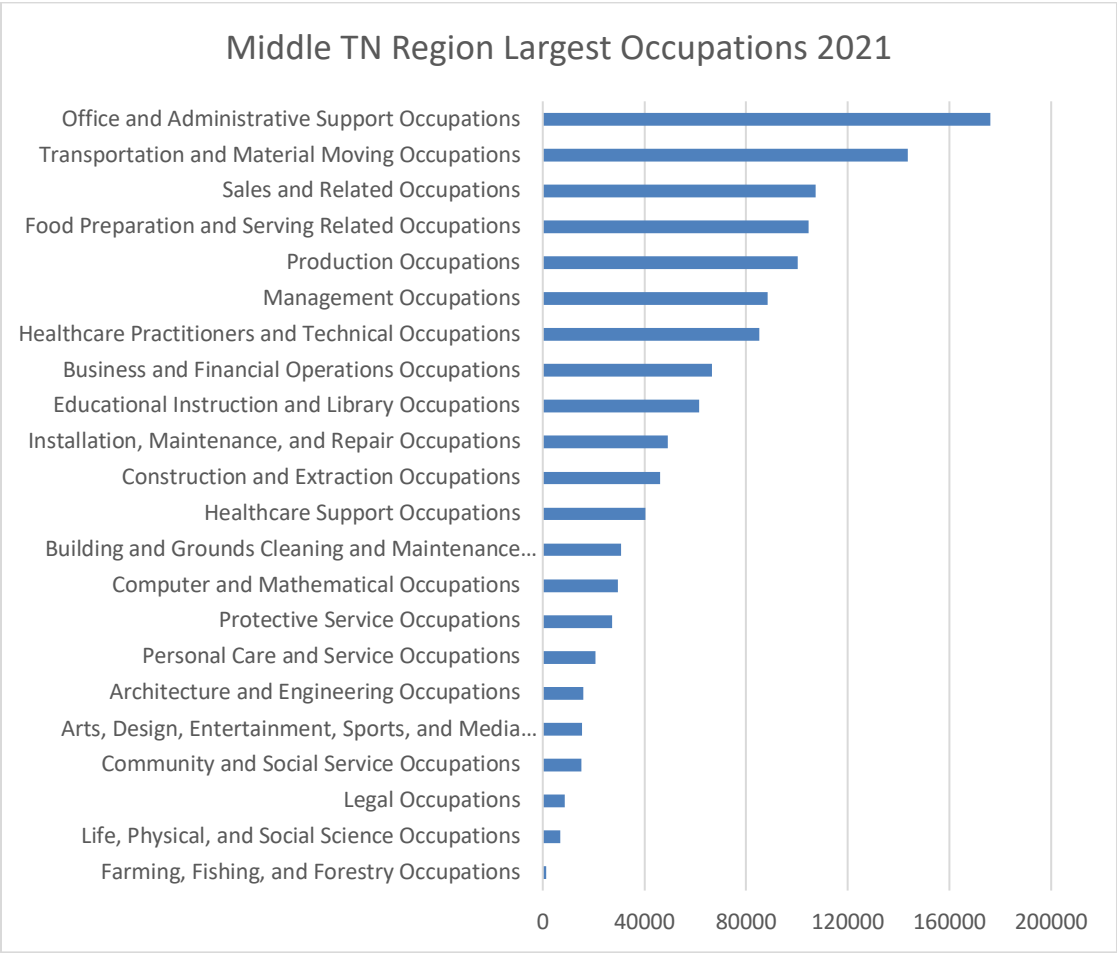
Table 18: Fastest Growing Industries in the Middle Region are Transportation and Warehousing, Management of Companies, and Construction

Middle Region Industries	2018 Jobs	2021 Jobs	Change in Jobs	% Change in Jobs	2018 Earnings Per Worker	2021 Earnings Per Worker	% Change in Earnings Per Worker
Transportation and Warehousing	62,057	78,720	16,663	27%	48,821.14	54,144.19	11%
Management of Companies and Enterprises	23,081	26,787	3,706	16%	114,324.21	132,241.60	16%
Construction	55,189	63,515	8,326	15%	58,636.95	67,613.92	15%
Professional, Scientific, and Technical Services	69,281	77,640	8,359	12%	88,958.21	100,607.53	13%
Agriculture, Forestry, Fishing and Hunting	3,151	3,363	212	7%	33,960.20	40,142.19	18%
Finance and Insurance	50,898	54,199	3,301	6%	90,548.57	114,956.97	27%
Information	24,247	25,577	1,330	5%	72,040.91	92,697.75	29%
Health Care and Social Assistance	168,988	174,557	5,569	3%	56,048.13	63,521.59	13%
Utilities	6,940	7,158	218	3%	75,741.87	83,803.81	11%
Mining, Quarrying, and Oil and Gas Extraction	1,682	1,721	39	2%	83,481.72	92,865.34	11%
Wholesale Trade	45,591	46,399	808	2%	73,210.30	83,654.70	14%
Real Estate and Rental and Leasing	19,490	19,607	117	1%	53,455.13	65,297.08	22%
Administrative and Support and Waste Management and Remediation Services	89,231	89,673	442	0%	37,439.42	45,987.98	23%
Educational Services	93,940	94,255	315	0%	44,467.36	50,513.75	14%
Public Administration	61,889	62,084	195	0%	50,057.19	56,143.52	12%
Retail Trade	136,210	135,615	-595	0%	32,758.24	38,449.26	17%
Arts, Entertainment, and Recreation	17,339	16,698	-641	-4%	76,407.32	72,607.52	-5%
Other Services (except Public Administration)	34,579	33,287	-1,292	-4%	35,261.28	44,432.78	26%
Manufacturing	135,930	130,205	-5,725	-4%	57,468.46	62,715.45	9%
Accommodation and Food Services	127,583	118,753	-8,830	-7%	20,837.80	24,806.44	19%

Source: TN Dept of Labor and Workforce, QCEW Annual Averages, 2018 and 2021

Middle Region Occupational Employment

The office and administrative support occupational group remained the largest in the Middle Region, according to the Occupational Employment and Wages Survey for 2021, which provides data on all industries except agriculture and the self-employed. Employment in this group in May 2021 was 175,980; however, it decreased employment by 13,470 since 2015. The next three largest industries were transportation and material moving, sales and related, and food preparation and serving. Sales and related jobs also declined since 2015, by 4,140 jobs.



Source: TN Dept of Labor and Workforce Development, WIR²ED, OEWS, May 2021

Figure 22

Occupational groups which added the most new jobs from 2015 to 2021 included transportation and material moving, business and finance, management, healthcare practitioners and technical, and construction. Office and administrative support and personal care and service lost the most jobs over the six year period. Other than management, the occupational groups with the highest median earnings included computer and mathematical, architecture and engineering, legal, healthcare practitioners and technical, and business and finance. These earnings results show the importance of STEM education and training in achieving higher earnings.



Source: TN Dept of Labor and Workforce Development, WIR²ED, OEWS, May 2021

Figure 23

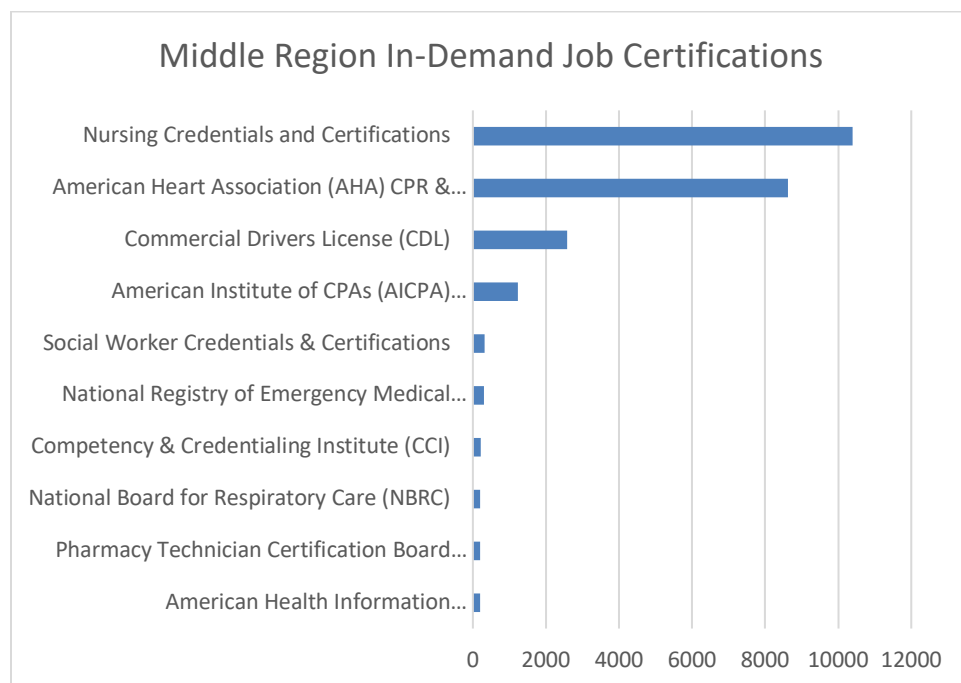
The TDLWD jobs4tn.gov web site tracks the top in-demand job certifications and tools and technologies from its advertised jobs database, updated every day. The table below shows the most requested certifications, with the top five listed as nursing credentials, CPR, commercial driver license, CPA, and social worker certifications. For June 2022, the most requested tools and technologies include facility with Microsoft Office and Power Point, SQL query language and Python, operation of cash registers and forklifts, and use of personal protective equipment.

Of the top 10 employers posting jobs in the Middle Region on September 1, 2022, 6 included hospitals and other healthcare employers, as well as Kroger, Amazon, Metro Nashville public schools, and fast food companies. Reflecting the top occupational groups and those adding the most new jobs, top job postings in the region included healthcare practitioners and technical occupations, management, sales, transportation and material moving. More than 2000 job postings were for and computer and mathematical jobs.

Table 19: Middle Region Job Growth 2015-2021

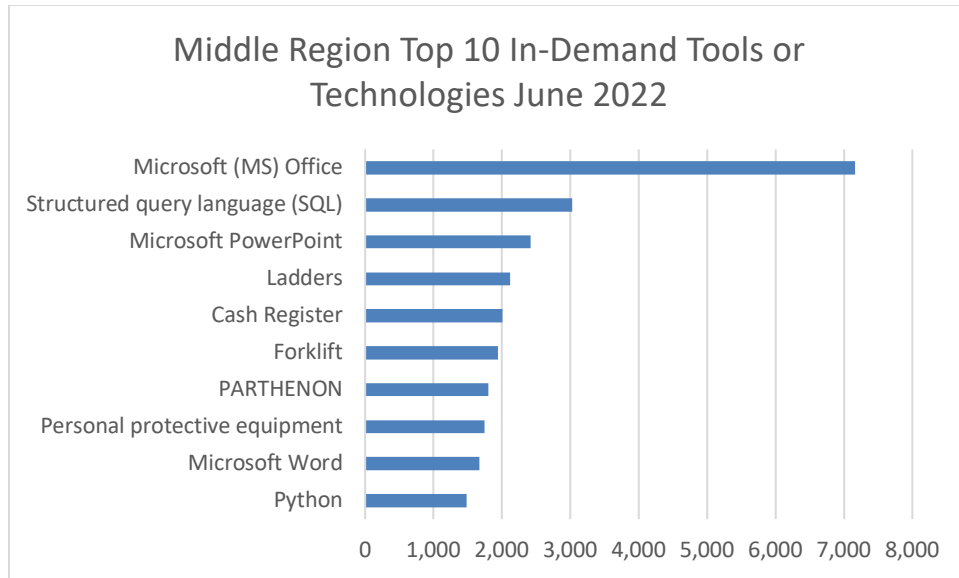
Middle TN Occupational Group	May 2015 Jobs	May 2021 Jobs	Change in Jobs	% Change in Jobs	2021 Median Hourly Earnings
Total, All Occupations	1,123,490	1,241,630	118,140	11%	18.04
Transportation and Material Moving	92,170	143,570	51,400	56%	15.08
Business and Financial Operations	48,390	66,540	18,150	38%	29.89
Construction and Extraction	34,270	46,280	12,010	35%	19.8
Healthcare Support	31,460	40,390	8,930	28%	14.29
Computer and Mathematical	23,120	29,640	6,520	28%	36.05
Community and Social Service	12,130	15,250	3,120	26%	22.52
Legal	6,830	8,570	1,740	25%	33.54
Life, Physical, and Social Science	5,640	6,940	1,300	23%	29.84
Management	72,020	88,500	16,480	23%	47.59
Healthcare Practitioners and Technical	70,080	85,160	15,080	22%	30
Protective Service	23,890	27,370	3,480	15%	18.75
Farming, Fishing, and Forestry	1,330	1,410	80	6%	14.33
Building and Grounds Cleaning and Maintenance	29,020	30,760	1,740	6%	14.02
Educational Instruction and Library	59,690	61,550	1,860	3%	23.45
Arts, Design, Entertainment, Sports, and Media	15,140	15,560	420	3%	21.73
Installation, Maintenance, and Repair	48,500	49,270	770	2%	22.79
Food Preparation and Serving Related	103,380	104,470	1,090	1%	11.04

Production	104,070	100,380	-3,690	-4%	18.08
Sales and Related	111,400	107,260	-4,140	-4%	14.2
Architecture and Engineering	16,690	15,960	-730	-4%	37.07
Office and Administrative Support	189,450	175,980	-13,470	-7%	18.11
Personal Care and Service	25,270	20,830	-4,440	-18%	12.89
Source: TN Dept of Labor and Workforce, OEWS, May 2015 and May 2021					



Source: Jobs4tn.org Online Advertised Jobs, June 2022

Figure 24



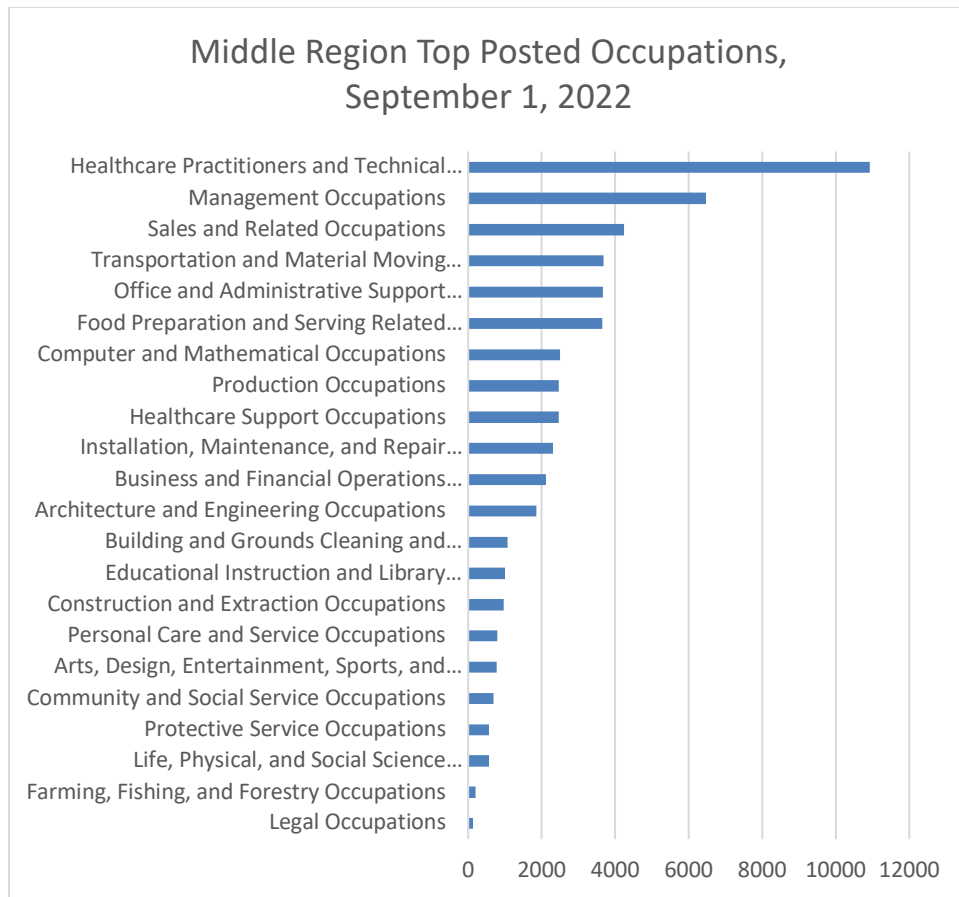
Source: Jobs4tn.org Online Advertised Jobs, June 2022

Figure 25

Table 20: Top Employers Posting Jobs- Middle Region

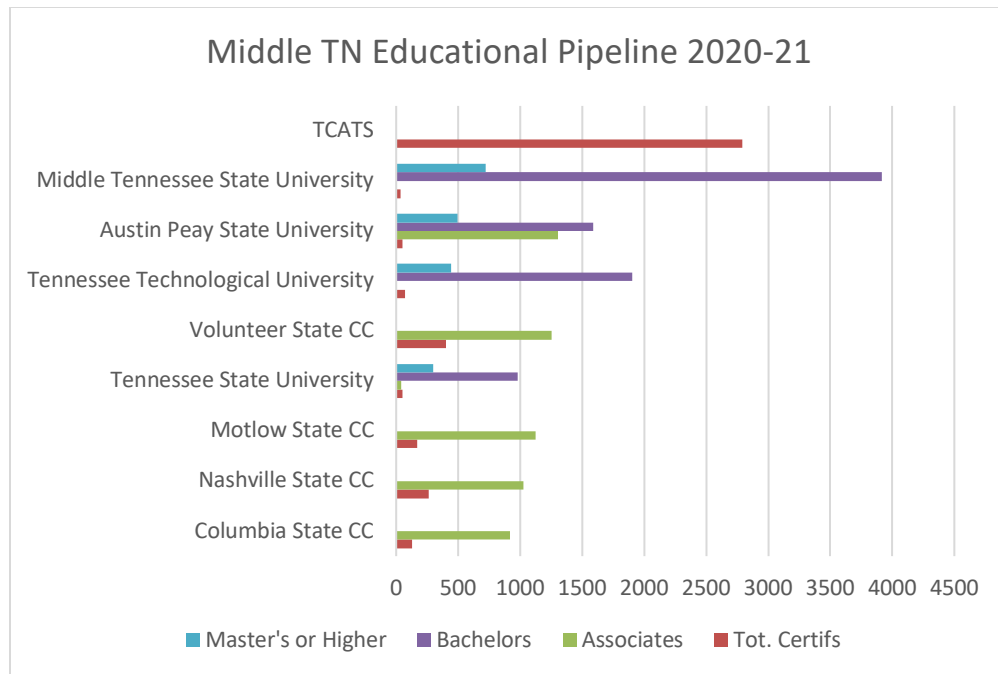
Employer Name	Job Openings
HCA Healthcare, Inc.	2,534
Vanderbilt University Medical Center	1,727
The Kroger Co.	646
LHC Group, Inc.	594
Carrols Corporation (Burger King, Popeye's)	536
Metropolitan Nashville Public Schools	446
Ascension	445
BrightSpring Health Services	439
Amazon Fulfillment	423
Community Health Systems, Inc.	423

Source: Jobs4tn.gov Online Advertised Jobs, September 1, 2022



Source: Jobs4tn.gov Online Advertised Jobs, September 1, 2022

Figure 26



Source: THEC Fact Book, Tables 2.3 and 2.4

Figure 27

The graph above lists the primary educational institutions in the Middle Region training students and current workers to fill available jobs. There are 10 Tennessee Colleges of Applied Technology in the Middle Region, producing the most diploma and certificate completers. Four community colleges and Austin Peay State University award associate degrees. Middle Tennessee State University granted nearly 4,000 bachelor's degrees in 2020-21, followed by Tennessee Technological University, Austin Peay, and Tennessee State. Information on the specific programs at each institution which provide training for occupations in demand in the Middle Region and the number of recent program completers can be found on the TDLWD dashboard *Tennessee Program Providers for Demand Occupations*. [\[add link\]](#)

Middle Region Labor Force Summary

The population in the Middle Region in 2021 was estimated at 2,956,288, an increase of 5.4% over 2020, with all LWDAs experiencing population gains. Three of every four new residents of Tennessee resided in Middle Tennessee. Females were 50.7 percent of the population in the Middle Region during 2021.

Table 21: Middle Region Labor Force

	Upper Cumberland LWDA	Southern Middle LWDA	Northern Middle LWDA	Middle Region	State Total
Total Population 2020	356,092	450,826	1,996,337	2,803,255	6,772,268
Total Population 2021	366,111	473,602	2,116,575	2,956,288	6,975,218
Male Population 2021	181,970	234,828	1,039,482	1,456,280	3,420,001
Female Population 2021	184,141	238,774	1,077,093	1,500,008	3,555,217
Labor Force Participation Rate 2020 (5-Year Estimate)	54.15%	58.40%	68.68%	60.4%	58.34%
Labor Force Participation Rate 2021 (5-Year Estimate)	52.03%	58.35%	68.40%	59.6%	57.30%
Annual Average Unemployment Rate 2020 Percent	7.2%	7.7%	6.5%	7.1%	7.4%
Annual Average Unemployment Rate 2021 Percent	4.1%	4.3%	3.6%	4.0%	4.4%
Educational Attainment 25 Years and Over (2020) Some College Or Higher - Percent	42.14%	45.56%	65.42%	51.0%	51.48%
Poverty Estimate, All Ages, Percent (2020)	16.99%	13.68%	11.18%	13.9%	15.82%
Percentage of Unemployed with a Disability (2020)	14.74%	19.21%	12.51%	15.5%	16.03%
Percent of Those Not in the Labor Force with a Disability (2020)	36.42%	35.76%	26.75%	33.0%	35.03%

Source: TN Department of Labor and Workforce Development, WIR²ED Division, LAUS, and U.S. Census Bureau, ACS five year estimates.

Table 22: Educational Attainment, 2020

Educational Attainment	Middle Region White Only	Middle Region Black Only	Middle Region Hispanic or Latino Only	Statewide White Only	Statewide Black Only	Statewide Hispanic or Latino Only
Population 25 years and over	1,558,496	225,884	97,824	3,692,829	718,104	186,240
High school graduate only	481,128	64,187	28,279	1,181,472	243,466	53,619
Percent high school graduate only	30.87%	28.42%	28.91%	31.99%	33.90%	28.79%
High school graduate or higher	1,398,947	201,122	64,951	3,285,872	624,634	120,456
Percent high school graduate or higher	89.76%	89.04%	66.40%	88.98%	86.98%	64.68%
Bachelor degree or higher	497,391	61,807	16,732	1,075,103	151,390	30,753
Percent bachelor degree or higher	31.91%	27.36%	17.10%	29.11%	21.08%	16.51%

Source: U.S. Census Bureau, ACS five year estimates.

The labor force participation rate (LFPR) in the Middle Region in 2021 was 59.6 percent, .8 percentage points lower than the rate in 2020 and contributing to the state's decline to 57.3 percent. The largest decrease was in the Upper Cumberland LWDA, possibly associated with job decreases in leisure and hospitality and retail trade. The LFPR in the Northern and Southern Middle LWDAs were greater than the state rate. Unemployment rates in all three LWDAs dropped in 2021, as the economy recovered from the pandemic, ending the year with an average rate of 4.0 percent, lower than the state rate.

The lowest rate of educational attainment in 2020 was in the Upper Cumberland LWDA, with 42.1 percent of the population aged 25 years or more having some college or additional education. However, the rate in the Northern Middle LWDA was 65.4 percent, 14.4 percentage points above the state rate and the highest in the Middle Region. The state and Middle Region rate were lower in 2020 than 2019. Viewing this from an equity perspective, 31.9% of the white residents in the Middle Region age 25 years or more had earned bachelor's degrees or higher, whereas Black (27.4) and Hispanic or Latino residents (17.1) had lower rates of degree awards; however, in the Middle

Region all groups had higher rates of degree completion than the state rates for these population groups.

Table 23: Disability Status of Those in the Labor Force, 2020

Di	Civilian Non-institutional Population	Total Labor Force	Total Employed	Employed W Disability	Employed W/O Disability	Total Unemployed	Unemployed W Disability	Unemployed W/O Disability
Upper Cumberland LWDA	205,390	145,145	137,854	10,393	127,461	7,291	1075	6,216
Southern Middle LWDA	263,103	194,338	185,131	12,819	172,312	9,207	1,769	7,438
Northern Middle LWDA	1,248,515	1,000,651	958,538	57,580	900,958	42,113	5,268	36,845
Middle Region	1,717,008	1,340,134	1,281,523	80,792	1,200,731	58,611	8,112	50,499
Tennessee	4,079,574	3,083,188	2,920,333	185,847	2,734,486	162,855	24,000	138,855

Source: U.S. Census Bureau, ACS five year estimates.

Table 24: Disability Status of Those Not in the Labor Force, 2020

Area	Civilian Non-institutional Population	Total Labor Force	Total Employed	Employed W Disability	Employed W/O Disability	Total Unemployed	Unemployed w/ Disability	Unemployed W/O Disability
Upper Cumberland LWDA	205,390	145,145	137,854	10,393	127,461	7,291	1075	6,216
Southern Middle LWDA	263,103	194,338	185,131	12,819	172,312	9,207	1,769	7,438
Northern Middle LWDA	1,248,515	1,000,651	958,538	57,580	900,958	42,113	5,268	36,845
Middle Region	1,717,008	1,340,134	1,281,523	80,792	1,200,731	58,611	8,112	50,499
Tennessee	4,079,574	3,083,188	2,920,333	185,847	2,734,486	162,855	24,000	138,855

Source: U.S. Census Bureau, ACS five year estimates.

Poverty rates increased slightly in 2020 to 15.82 percent for the state; the Middle Region rate was 13.9 percent, largely due to the low rate in the Northern Middle LWDA, as federal aid was targeted to individuals with the greatest needs. The highest poverty rate in the region was in the Upper Cumberland LWDA at 16.99 percent, above the state rate.

Similar to the state as a whole, about a third of those not in the labor force have a disability, with the Upper Cumberland and Southern Middle LWDAs both higher than the state rate. Youth unemployment in the Upper Cumberland LWDA was nearly two percentage points higher than the state rate and higher than the other LWDAs in the region, an area of concern.

Table 25: Youth Unemployment 2020

Area	Labor Force	Unemployment	Rate
Upper Cumberland LWDA	23,471	3,044	12.97%
Southern Middle LWDA	28,658	2,624	9.16%
Northern Middle LWDA	158,158	14,591	9.23%
Middle Region	210,287	20,259	9.63%

Source: U.S. Census Bureau, ACS five year estimates.

Significant Barriers to Employment

The table above identifies numbers of individuals with significant barriers to employment in the Middle Region, using the latest data available. The Middle Region has the following populations greater than its share of the population in the state:

- 43 percent of individuals on probation and parole;
- 57 percent of those with limited English- speaking ability
- 45 percent of those in recovery courts;

- 58 percent of the number of in-school youth experiencing homelessness.

Table 26: Middle TN Region - Significant Barriers to Employment

	Northern Middle TN LWDA	Southern Middle TN LWDA	Upper Cumberland LWDA	Middle Region	State Total
Number of American Indians or Alaskan Natives alone	1,133	418	288	1,839	4,519
Population Ages 15-19	127,351	28,346	63,114	176,854	426,381
Population Ages 20-24	138,593	25,830	22,631	187,054	445,895
Population Ages 55+	491,717	141,753	122,934	756,404	1,993,985
Number of Veterans 2020	130,400	28,680	24,422	183,510	442,405
Number Below Poverty	218,574	59,974	59,131	337,679	965,213
Number With Disability	239,777	74,827	66,114	380,718	1,031,667
Number of Single Parent Families	337,533	71,471	62,155	471,159	1,218,991
Probationers and Parolees	24,797	4,127	3,639	32,563	74,962
Community Correction	2,059	493	345	2,897	7,370
Mental Health Court Statistics (FY 2020)	41	0	0	41	80
Limited English Speaking	20,084	1,081	1,078	22,243	39,191
*Foster Care Services - Youth Aged Out	190	68	53	311	801
Clients In Recovery Courts (2022)	552	0	113	716	1,587
In School Youth Exper. Homelessness in 2020	5,427	188	1,198	6,813	11,759
TANF 24 Months From Ending Total 2020	305	108	52	465	1,659
Prison and Jail Population Total 2020	4,615	1,774	1,926	8,315	23,200

* Counties of commitment, not residence.

Source: Population: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates.

Probationers and Parolees, Community Corrections: Dr. Mary Karpos, TN Department of Correction, Community Supervision.

Mental Health Court and Recovery Court Statistics: Rebekah Provost-Emmons, Recovery Court Administrator, Office of Criminal Justice Services,

Division of Substance Abuse Services.

Limited English Speaking: U.S. Census Bureau, American Community Survey, 2018.

Foster Care Services: Dave Aguzzi, Office of Independent Living, TN Department of Children's Services.

In School Youth Experiencing Homelessness: Josh Carlson, Data Management Division, TN Department of Education.

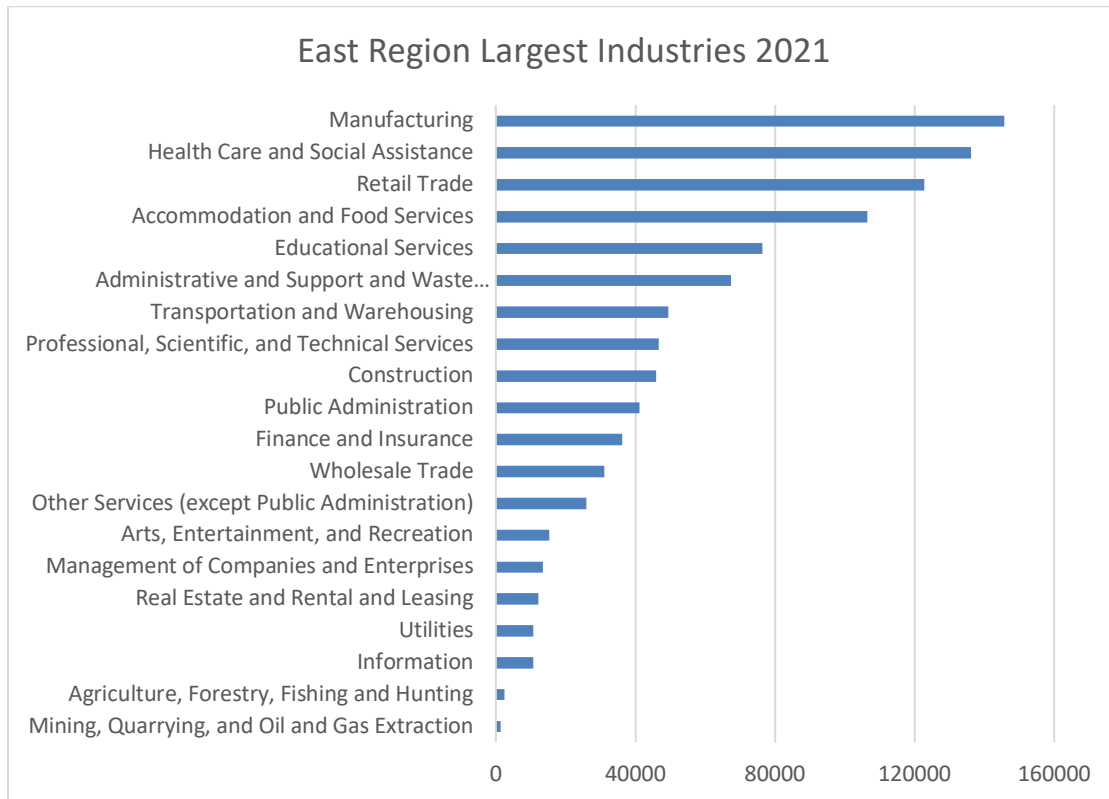
TANF 24 Months for Ending Eligibility: Lakecia Peterson, Division of Family Assistance and Child Support, TN Department of Human Services.

The high percentage of in-school youth experiencing homelessness is primarily because no data was reported for the Shelby County schools; however, the number of homeless youth should still be a concern, as should the number of the other special populations listed above.

Tennessee East Region's Economy | 2021

 Employment	Total Employment 2021: 1,088,055 3.9% 2020: 1,046,880 Stronger	New Jobs 2021: 41,175 2020: -54,423 Stronger	MSA Employment 2020-2021 Cleveland: -0.8% Johnson City: 4.4% Chattanooga: 4.0% Knoxville: 4.4% Stronger
 Employers	Average Number of Establishments 2021: 62,777 7.7% 2020: 58,264 Stronger	Total Wages 2021: \$53.2 Billion 9.5% 2020: \$48.6 Billion Stronger	Counties Increased Employment 2021: 32 2020: 4 Stronger
 Wages & Income	Average Annual Wage 2021: \$46,124 6.1% 2020: \$43,476 Stronger	East Median Wage 2021: \$37,629 5.9% 2020: \$35,525 Stronger	Counties Increased Annual Wages 2021: 34 2020: 32 Stronger
 Labor Force & Demographics	Unemployment Rate 2021: 4.3% -3.2% 2020: 7.5% Stronger	Labor Force 2021: 1,132,083 0.6% 2020: 1,125,127 Stronger	Unemployment Rates Youth 2020: 11.0% % In Poverty, 2020: 15.2% Stronger
 Job Outlook	Ratio of Unemployed to Job Openings June 2021: 1.55 1.37% June 2020: 2.22 Stronger	Projected Annual Growth Rate, All Occupations 2018-2028: 0.76% Stronger	Projected Annual Avg. Job Openings 2018-2028: 140,975 Stronger

East Region Overview



Source: TN Department of Labor and Workforce Development, WIR²ED Division, QCEW.

Figure 28

East Region's Economy, 2020-2021

Total employment in the East Region, excluding agriculture and the self-employed, increased from 1,046,880 to 1,088,055, an increase of 3.9 percent or 41,175 jobs. This rate of job growth was slightly slower than the state. It was led by the faster job growth in the metro areas of Johnson City, Knoxville, and Chattanooga, all growing by 4 percent or more; only Cleveland had negative growth.

The East Region consists of three Local Workforce Development Areas: Northeast, East Tennessee, and Southeast, encompassing a total of 34 counties. Of these, 32 counties increased in employment from 2020 to 2021, compared to only four the previous year. The average number of establishments increased to 62,777 over the year and payroll increased by 9.5 percent to \$53.2 billion. The increase in payroll was at a slower rate than the state but

still accounts for nearly 3 in every 10 payroll dollars in the state.

The average annual industry wage in the region, calculated by dividing the total payroll by the average number of workers, increased by 6.1 percent to \$46,124. The median occupational wage increased to \$37,629, just 71 dollars less than the state median.

Regarding the labor force, the average unemployment rate decreased from 2020 to 2021 to 4.3 percent, the same as the state rate. The labor force increased over the year by a .6 percent. Youth unemployment in 2020 (the latest available) increased to 11.0 percent, lower than the state rate. The percent of those in poverty decreased to 15.2 percent, while remaining above the state rate of 14.6 percent. In June 2021 the number of unemployed compared to the number of job listings on the state job bank, jobs4tn.gov, was 1.55 percent, decreasing from the higher rate in 2020 but still indicating more unemployed individuals than jobs in the region.

To summarize: In 2021 compared to 2020, the East Region saw positive growth in employment, with metropolitan areas leading the growth. Payroll increased, somewhat slower than the rest of the state. The level of the annual average wage increased. The median wage increased to within \$71 of the state median wage. In 2021, the unemployment rate dropped to the state level. In 2020, the unemployment rate for youth was less than the state rate. The poverty rate remained higher than the state rate. Electric vehicle manufacturing will bolster employment and create new skill demands in the region.

East TN Industries and Occupations (2018-2021)

Total employment in the East Region in 2021, excluding self-employed and agricultural workers, was 1,088,055. The five largest industry sectors in 2021 were

- Manufacturing (145,709)
- Health care and social assistance (136,181 jobs)
- Retail trade (122,703)
- Accommodation and food services (106,504)
- Educational services (76,443)

Compared to 2018, the industries adding the most workers included the professional, scientific, and technical (6,150), manufacturing (3,342), and transportation and warehousing (3,306) industries.

Some of the largest industries lost jobs from 2018 to 2021, including healthcare and social

assistance (-2,692), accommodation and food service (-4,223), and educational services (-1,425). However, all industry sectors increased in earnings per worker (total LWDA payroll divided by the average number of workers). The largest increases were in the accommodation and food services, management of companies and enterprises, retail trade, and finance and insurance. The industries with the highest earnings per worker were the management of companies and enterprises, utilities, and professional, scientific, and technical industries. The lowest earnings per worker were in the accommodations and food services industry.

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



Source: TN Dept of Labor and Workforce Development, WIR²ED Division, QCEW 2021.

Figure 29

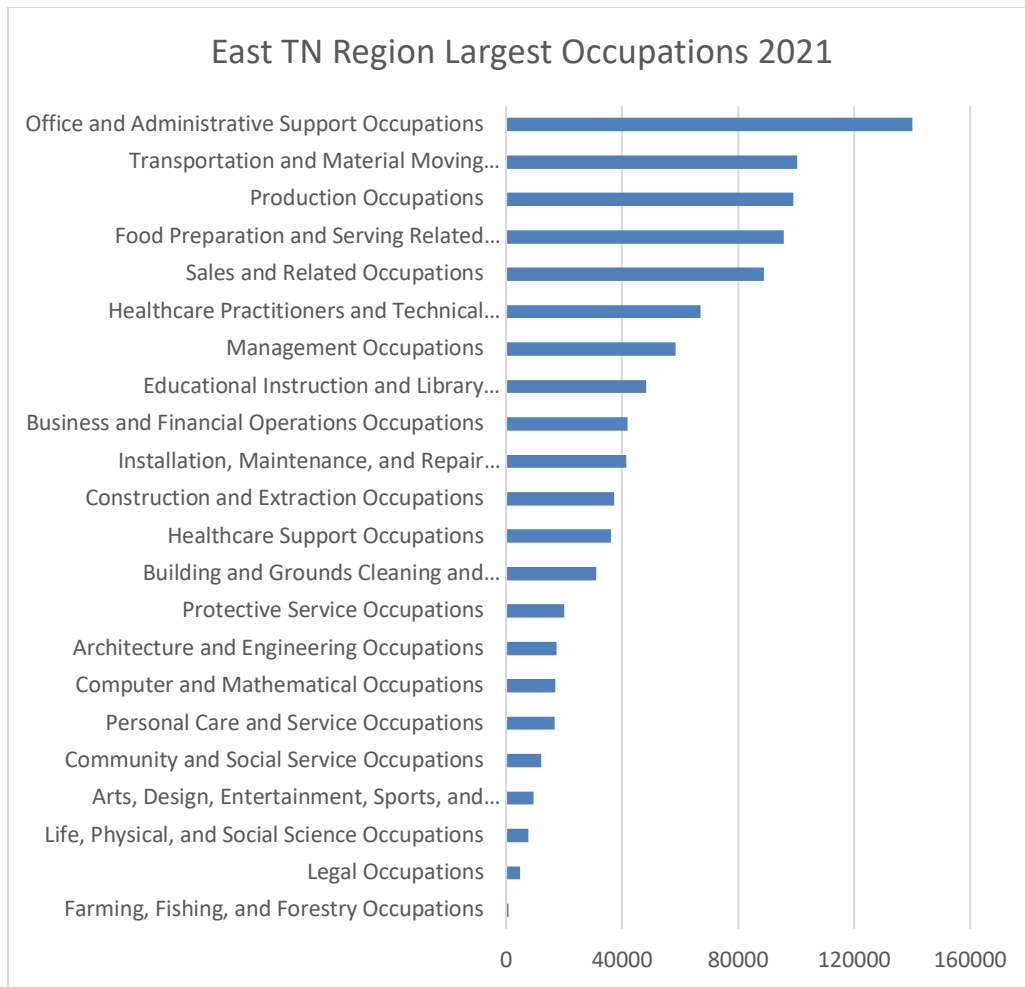
Table 27: East Region Among Largest Percent Change in Jobs Include Professional, Scientific, and Technical Services, Transportation and Warehousing

East Region Industries	2018 Jobs	2021 Jobs	Change in Jobs	% Change in Jobs	2018 Earnings Per Worker	2021 Earnings Per Worker	% Change in Earnings Per Worker
Agriculture, Forestry, Fishing and Hunting	2,026	2,454	428	21%	34,515.54	36,928.44	7%
Professional, Scientific, and Technical Services	40,503	46,653	6,150	15%	75,191.72	85,092.47	13%
Transportation and Warehousing	46,113	49,419	3,306	7%	50,320.44	58,299.47	16%
Finance and Insurance	34,168	36,200	2,032	6%	66,100.66	80,402.16	22%
Real Estate and Rental and Leasing	11,483	12,160	677	6%	43,906.13	52,127.34	19%
Construction	44,475	45,983	1,508	3%	52,471.84	58,839.72	12%
Manufacturing	142,367	145,709	3,342	2%	59,727.09	65,409.14	10%
Wholesale Trade	30,613	31,150	537	2%	65,245.57	76,926.09	18%
Utilities	10,585	10,697	112	1%	91,079.15	100,532.01	10%
Retail Trade	121,429	122,703	1,274	1%	29,007.30	35,402.10	22%
Administrative and Support and Waste Management and Remediation Services	67,764	67,326	-438	-1%	34,926.63	41,259.62	18%
Public Administration	41,807	41,230	-577	-1%	47,901.65	53,518.98	12%
Educational Services	77,868	76,443	-1,425	-2%	42,487.89	47,492.30	12%
Health Care and Social Assistance	138,873	136,181	-2,692	-2%	50,471.24	57,737.66	14%
Accommodation and Food Services	110,727	106,504	-4,223	-4%	18,320.81	22,647.84	24%
Mining, Quarrying, and Oil and Gas Extraction	1,464	1,403	-61	-4%	62,257.03	72,465.59	16%
Other Services (except Public Administration)	27,077	25,929	-1,148	-4%	31,951.61	38,280.77	20%
Arts, Entertainment, and Recreation	15,925	15,224	-701	-4%	23,025.39	26,224.09	14%
Information	12,274	10,640	-1,634	-13%	78,303.38	79,398.31	1%
Management of Companies and Enterprises	16,166	13,535	-2,631	-16%	85,520.25	104,870.28	23%
Source: TN Dept of Labor and Workforce, QCEW Annual Averages, 2018 and 2021							

East Region Occupational Employment

The office and administrative support occupational group remains the largest in the East Region, according to the Occupational Employment and Wages Survey for 2021, which provides data on all industries except agriculture and the self-employed. Employment in this group in May 2021 was 140,160; however, it decreased by 17,830 jobs between 2015 and 2021. Transportation and material moving, production, and food preparation and serving were next largest in total numbers of jobs.

Occupational groups which added the most jobs from 2015 to 2021 included transportation and material moving, business and finance, healthcare support, and production. Office and administrative support, sales and related, and personal care and service occupations lost the most jobs over the six- year period. Other than management, the occupational groups with the highest median earnings included architecture and engineering, computer and mathematical, life, physical and social science, and legal occupations. These earnings results show the importance of STEM education and training in achieving higher earnings.



Source: TN Dept of Labor and Workforce Development, WIR²ED Division, OEWS May 2021.

Figure 30



Source: TN Dept of Labor and Workforce Development, WIR²ED Division, OEWS May 2021.

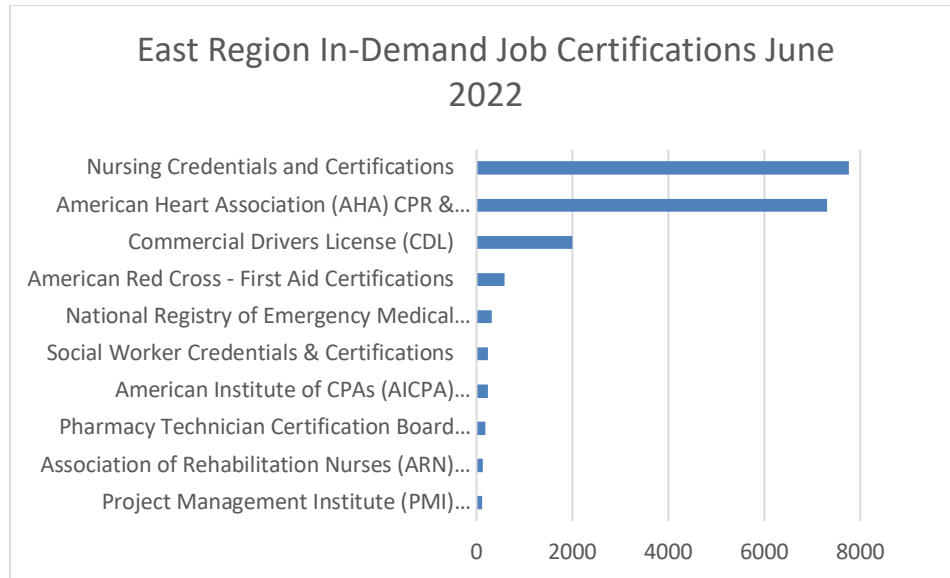
Figure 31

The TDLWD jobs4tn.gov web site tracks the top in-demand job certifications and tools and technologies from its advertised jobs database, updated every day. The table below shows the most requested certifications, including nursing credentials, CPR, and commercial driver license certifications, first aid, and emergency medical technician. For June 2022, the most requested technologies included facility with Microsoft Office, use of cell phone, ladders, operation of cash registers and forklifts, and use of personal protective equipment among others.

Of the top 10 employers posting jobs in the East Region on September 1, 2022, 4 included healthcare institutions; others included grocery stores/food marts, Oak Ridge National Laboratory, and the University of Tennessee. Reflecting the top occupational groups and those adding the most new jobs, top job postings in the region included healthcare practitioners and technical occupations, management, sales, and transportation and material moving occupations.

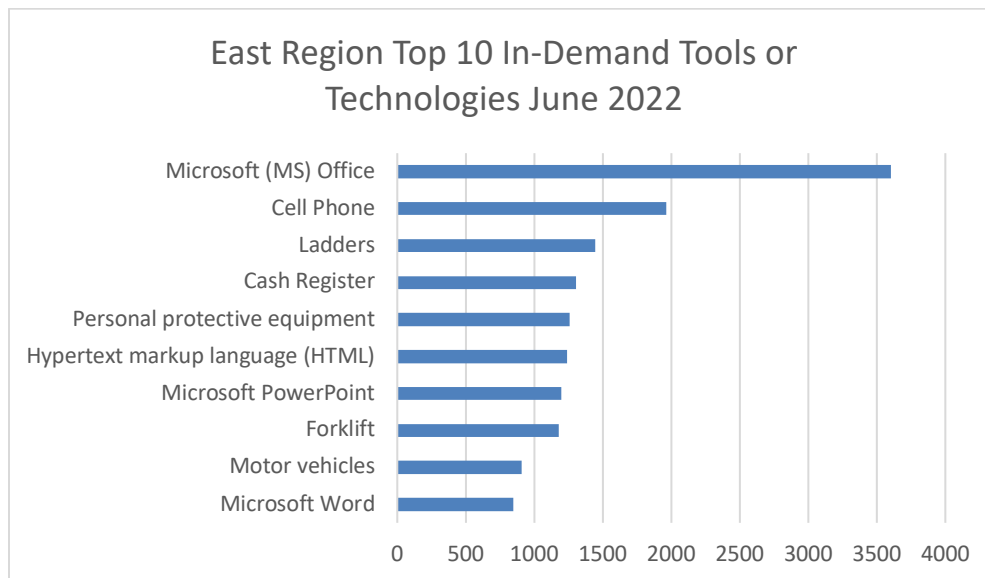
Table 28: East Region Job Growth, 2015-2021

East TN Region - Occupational Group	May 2015 Jobs	May 2021 Jobs	Change in Jobs	% Change in Jobs	2021 Median Hourly Earnings
Total, All Occupations	980,830	991,660	10,830	1%	17.77
Business and Financial Operations	29,970	41,960	11,990	40%	28.94
Healthcare Support	28,020	36,100	8,080	29%	13.83
Life, Physical, and Social Science	6,270	7,760	1,490	24%	29.52
Legal	4,020	4,820	800	20%	29.62
Transportation and Material Moving	84,650	100,280	15,630	18%	14.64
Computer and Mathematical	14,770	16,990	2,220	15%	32.68
Community and Social Service Occupations	10,620	12,020	1,400	13%	20.35
Construction and Extraction	33,010	37,190	4,180	13%	18.48
Arts, Design, Entertainment, Sports, and Media	8,650	9,490	840	10%	18.40
Management	54,140	58,350	4,210	8%	45.39
Production	92,970	98,940	5,970	6%	17.97
Food Preparation and Serving Related	96,160	95,650	-510	-1%	10.76
Healthcare Practitioners and Technical	67,360	66,950	-410	-1%	28.68
Architecture and Engineering	17,920	17,420	-500	-3%	37.40
Protective Service	20,850	20,140	-710	-3%	18.46
Building and Grounds Cleaning and Maintenance	32,580	31,170	-1,410	-4%	13.04
Installation, Maintenance, and Repair	43,290	41,370	-1,920	-4%	22.26
Educational Instruction and Library	52,210	48,270	-3,940	-8%	23.06
Sales and Related	98,510	88,930	-9,580	-10%	13.63
Farming, Fishing, and Forestry	1,020	910	-110	-11%	14.86
Office and Administrative Support	157,990	140,160	-17,830	-11%	17.45
Personal Care and Service	25,870	16,810	-9,060	-35%	11.38
Source: TN Dept of Labor and Workforce, OEWS May 2015 and May 2021					



Source: Jobs4tn.gov Online Advertised Jobs, June 2022

Figure 32



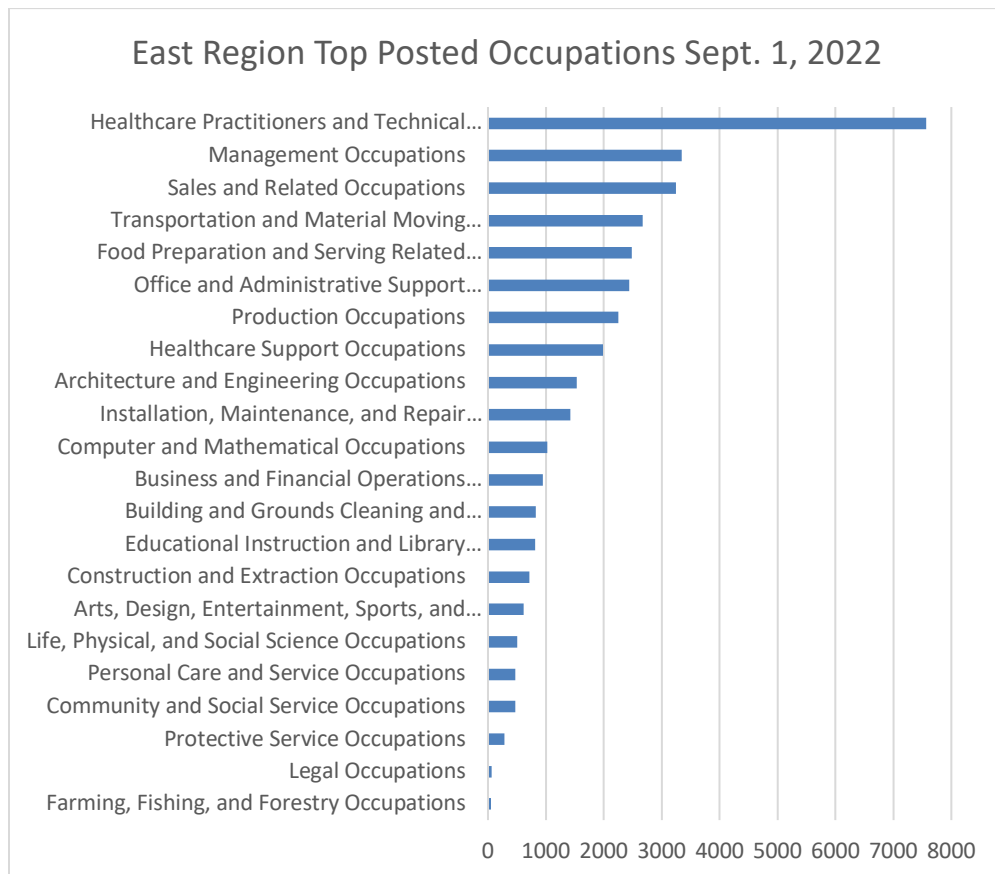
Source: Jobs4tn.gov Online Advertised Jobs, June 2022

Figure 33

Table 29: Top Employers Posting Jobs- East Tennessee Region

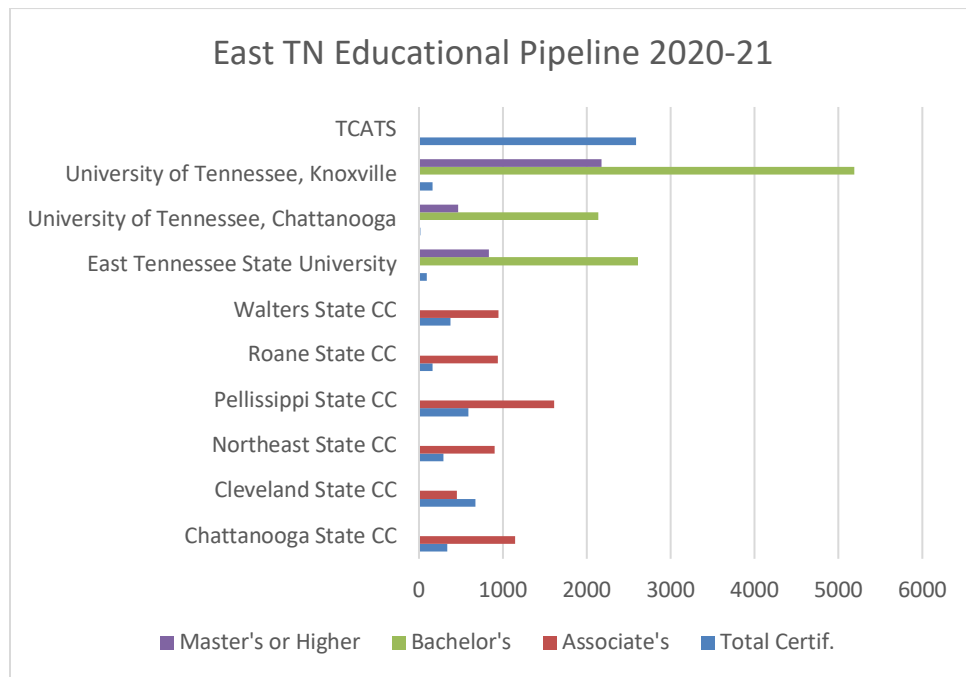
Employer Name	East Region Job Openings 9-1-2022
Covenant Health	1,129
Oak Ridge National Laboratory	1,006
Ballad Health	967
Food City	932
Ingles Markets Inc.	694
Community Health Systems, Inc.	628
The University of Tennessee System	513
HCA Healthcare, Inc.	476
The University of Tennessee Knoxville	452
Helen Ross McNabb Center	387

Source: Jobs4tn.gov Online Advertised Jobs, September 1, 2022.



Source: Jobs4tn.gov Online Advertised Jobs, September 1, 2022.

Figure 34



Source: THEC Fact Book, Tables 2.3 and 2.4.

Figure 35

The graph above lists the primary educational institutions in the East Region training students and current workers to fill available jobs. There are eight Tennessee Colleges of Applied Technology in the East Region, producing the most diploma and certificate completers. Six community colleges produce associate degree completers, led by Pellissippi State Community College. The University of Tennessee Knoxville granted more than five thousand bachelor's degrees in 2020-21, with another 2,000 granted by UT Chattanooga and more than 2500 by East Tennessee State University. Information on the specific programs at each institution which provide training for occupations in demand in the East Region can be found on the TDLWD dashboard *Tennessee Program Providers for Demand Occupations*.

East Region Labor Force Summary

The population in the East Region in 2021 was estimated at 2,465,729, an increase of 2.4 percent over 2020. All LWDAs increased in population. Females were 50.7 percent of the population in the East Region during 2021.

Table 30: East Region Labor Force

	Southeast LWDA	Northeast LWDA	East LWDA	East Region	State Total
Total Population 2020	658,949	510,989	1,237,845	2,407,783	6,772,268
Total Population 2021	671,446	520,199	1,274,084	2,465,729	6,975,218
Male Population 2021	329,531	257,089	627,818	1,214,438	3,420,001
Female Population 2021	341,915	263,110	646,266	1,251,291	3,555,217
Labor Force Participation Rate 2020 (5-Year Estimate)	59.85%	54.11%	59.07%	57.7%	58.34%
Labor Force Participation Rate 2021 (5-Year Estimate)	57.88%	53.80%	59.15%	56.9%	57.30%
Annual Average Unemployment Rate 2020 Percent	8.0%	7.3%	7.3%	7.5%	7.4%
Annual Average Unemployment Rate 2021 Percent	4.6%	4.3%	4.1%	4.3%	4.4%
Educational Attainment 25 Years and Over (2020) Some College Or Higher - Percent	56.41%	50.82%	54.73%	54.0%	51.48%
Poverty Estimate, All Ages, Percent (2020)	14.32%	16.78%	14.47%	15.2%	15.82%
Percentage of Unemployed with a Disability (2020)	16.18%	20.50%	16.31%	17.7%	16.03%
Percent of Those Not in the Labor Force with a Disability (2020)	36.13%	39.86%	34.04%	36.7%	35.03%

Sources: TN Department of Labor and Workforce Development, WIR²ED Division, LAUS and U.S. Census Bureau, ACS five year estim

Table 31: Educational Attainment

Educational Attainment	East Region White Only	East Region Black Only	West Region Hispanic or Latino Only	Statewide White Only	Statewide Black Only	Statewide Hispanic or Latino Only
Population 25 years and over	1,536,633	96,236	50,511	3,692,829	718,104	186,240
High school graduate only	511,678	35,387	14,763	1,181,472	243,466	53,619
Percent high school graduate only	33.30%	36.77%	29.23%	31.99%	33.90%	28.79%
High school graduate or higher	1,350,236	82,750	33,406	3,285,872	624,634	120,456
Percent high school graduate or higher	87.87%	85.99%	66.14%	88.98%	86.98%	64.68%
Bachelor degree or higher	393,183	16,865	8,504	1,075,103	151,390	30,753
Percent bachelor degree or higher	25.59%	17.52%	16.84%	29.11%	21.08%	16.51%

The labor force participation rate (LFPR) in the East Region in 2021 was 56.9 percent, a decrease from the rate in 2020 and contributing to the state's decline to 57.3 percent. The largest decrease was in the Southeast LWDA, where the rate dropped nearly two percentage points; however, this LWDA and East Tennessee both had LFPR higher than the state average. Unemployment rates in all three LWDA's dropped in 2021, as the economy recovered from the pandemic, ending the year with an average rate of 4.3 percent, with two LWDA's having lower rates than the state.

The lowest rate of educational attainment in 2020 of some college or higher for those 25 years of age or more was in the Northeast LWDA with 50.82 percent, although the rate was close to the state average. Both the Southeast and the East LWDA's had rates above that of the state. Viewing this from an equity perspective, 25.59% of the white residents in the East Region age 25 years or more had earned bachelor's degrees or higher, whereas Black residents had a rate of degree awards 8 percentage points less and Hispanic or Latino residents .7 percent below the Black rate. Both the white and Black rates of degree achievement were also below the state average rates for those population groups. Only the East Region Hispanic/Latino residents had higher rates of achieving a bachelor's degree or more than the average for their population group in the state.

These disparities in educational achievement need to be eliminated.

Table 32: East Region Disability Status of Those in the Labor Force, 2020

[fix titles and numbers]

Area	Civilian Non-institutional Population	Total Labor Force	Total Employed	Employed W Disability	Employed W/O Disability	Total Unemployed	Unemployed W Disability	Unemployed W/O Disability
Southeast LWDA	396,828	296,946	281,846	19,614	262,232	15,100	2443	12,657
Northeast LWDA	300,785	212,374	200,011	15,215	184,796	12,363	2,535	9,828
East LWDA	740,313	548,612	519,319	33,551	485,768	29,293	4,777	24,516
East Region	1,437,926	1,057,932	1,001,176	68,380	932,796	56,756	9,755	47,001
Tennessee	4,079,574	3,083,188	2,920,333	185,847	2,734,486	162,855	24,000	138,855

U.S. Census Bureau, ACS five year estimates.

Table 33: East Region Disability Status of Those Not in the Labor Force, 2020

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
Southeast LWDA	396,828	99,882	36,088	63,794	36.13%	63.87%
Northeast LWDA	300,785	88,411	35,245	53,166	39.86%	60.14%
East LWDA	740,313	191,701	65,250	126,451	34.04%	65.96%
East Region	1,437,926	379,994	136,583	243,411	35.94%	64.06%
Tennessee	4,079,574	996,386	328,485	667,901	32.97%	67.03%

U.S. Census Bureau, ACS five year estimates.

In 2020, poverty estimates in the Southeast and East LWDAs were lower than the state average; only the Northeast had a rate higher than the state, while also having the highest percent of those not in the labor force with a disability. The 2021 rates should be lower, given the improving economy, but reducing poverty and increasing educational attainment should be key targets of workforce policy in this region.

As could be expected due to economic conditions in 2020, youth unemployment increased over the 2019 rate of 10.6 percent in the East Region to 10.97 percent, with the highest rates in the Northeast and Southeast LWDAs.

Table 34: Youth Unemployment, 2020

Area	Labor Force	Unemployment	Rate
Southeast LWDA	44,610	5,056	11.33%
Northeast LWDA	33,388	3,998	11.97%
East LWDA	91,763	9,566	10.42%
East Region	169,761	18,621	10.97%

Source: U.S. Census Bureau, 2016-2020 American Community Survey, 2020, 5-year estimates.

Significant Barriers to Employment

The table below identifies numbers of individuals with significant barriers to employment in the East Region, using the latest data available. The East Region in 2021 had 35 percent of the state's population, with the following higher percent of the populations below compared to its proportion of the state's population:

- 41 percent of the American Indian/ Alaska native population.
- 39 percent of the 55 and over population.
- 38 percent of the prison and jail population.
- 38 percent of the veteran population.
- 36 percent of those below poverty.
- 41 percent of those with disabilities.

- 37 percent of the population of those aging out of foster care.

In addition, the number of individuals with access to mental health courts is very low. The growing importance of these intervention services is being recognized nationally and needs expansion in Tennessee.

Table 35: East Region - Significant Barriers to Employment

	Northeast LWDA	East LWDA	Southeast LWDA	East Region	State Total
Number of American Indians or Alaskan	439	1,054	386	1,879	4,519
Population Ages 15-19	29,911	76,608	40,577	147,096	426,381
Population Ages 20-24	32,378	84,151	39,810	156,339	445,895
Population Ages 55+	79,889	402,327	208,870	791,086	1,993,985
Number of Veterans 2022	38,055	87,019	42,053	167,128	442,405
Number Below Poverty	83,215	174,758	91,554	349,527	965,213
Number With Disability	103,228	203,712	112,571	419,511	1,031,667
Number of Single Parent Families	98,230	211,765	121,030	431,025	1,218,991
Probationers and Parolees	6,467	12,743	5,302	24,512	74,962
Community Correction	400	1,312	533	2,245	7,370
Mental Health Court Statistics (FY 2022)	0	0	4	4	80
Limited English Speaking	914	5,529	3,068	9,511	39,191
*Foster Care Services – Youth Aged Out Aged Out	45	191	64	300	801
Clients In Recovery Courts	89	311	85	485	1,587
In School Youth Exper. Homelessness in 2020	956	1,659	1,823	4,438	11,759
TANF 24 Months From Ending Total 2020	154	227	176	557	1,659
Prison and Jail Population	2,377	3,931	2,623	8,931	23,200

* Counties of commitment, not residence.

Source: Population: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates.

Probationers and Parolees, Community Corrections: Dr. Mary Karpos, TN Department of Correction, Community Supervision.

Mental Health Court and Recovery Court Statistics: Rebekah Provost-Emmons, Recovery Court Administrator, Office of Criminal Justice Services,

Division of Substance Abuse Services.

Limited English Speaking: U.S. Census Bureau, American Community Survey, 2019.

Foster Care Services: Dave Aguzzi, Office of Independent Living, TN Department of Children's Services.

In School Youth Experiencing Homelessness: Josh Carlson, Data Management Division, TN Department of Education.

TANF 24 Months for Ending Eligibility: Lakecia Peterson, Division of Family Assistance and Child Support, TN Department of Human Services.

Apprenticeships

In 2019, an apprenticeship office was established in the TDLWD to increase the number of apprenticeships across the state and the types of occupations for which apprenticeship was available. Each year the number of apprenticeship completers has increased. In 2021 there were 1135 completers: 640 in the East, 304 in the Middle, and 191 in the West Region, compared to a total of 981 completers the year before. Tables 36 through 38 list the sponsors and number of completers in each region and LWDA; Table 39 lists the occupations in which they were trained.

Table 36: Registered Apprenticeship Sponsors with Completers in 2021 in the East Region

Program Sponsor Name	Region	Program Sponsor County	No. of Completers
Consolidated Nuclear Security, LLC	East	Anderson	1
Eagle Bend Manufacturing	East	Anderson	4
Oak Ridge Electric JATC	East	Anderson	9
Massey Electric #1	East	Blount	15
Tennessee Valley Youth Apprenticeships	East	Blount	1
Telos Global, LLC	East	Campbell	2
Walters State Community College	East	Hamblen	11
Electrician Training Academy Knoxville	East	Knox	23
Funderburk Electrical Services	East	Knox	7
Knoxville Area Sheet Metal JAC	East	Knox	10
Knoxville Ironworkers JAC	East	Knox	16
Knoxville Laborers JATC	East	Knox	21
Knoxville Plumbers & Steamfitters JATC	East	Knox	14
Knoxville Plumbing Heating Air Conditioning Cont	East	Knox	9
Resource Valley	East	Knox	33
Shoffnerkalthoff, MES	East	Knox	8
TVA	East	Knox	15
Dienamic Tooling System Inc	East	Roane	2
East Tennessee LWDA			201

Parker Hannifin - Motion Systems Group - Pump & Motor Division	Northeast	Greene	2
Baldor Electric Company	Northeast	Hawkins	2
Holston Electric Co	Northeast	Hawkins	2
Mountain Electric Cooperative	Northeast	Johnson	4
Eastman Chemical Co. - Coal Gas Division	Northeast	Sullivan	11
Eastman Chemical Co. - Tn Operations	Northeast	Sullivan	141
Massey Electric, Inc.# 2	Northeast	Sullivan	2
Northeast State Community College/Rcam	Northeast	Sullivan	3
Primester	Northeast	Sullivan	2
Tri-Cities Electrical Jatc	Northeast	Sullivan	1
Ao Smith	Northeast	Washington	3
Plumber And Pipefitters, Local Union 538 JATC	Northeast	Washington	7
Northeast LWDA			180
Hardwick Tactical Corporation	Southeast	Bradley	42
Puerto Rico Industries For The Blind Corp	Southeast	Bradley	19
Chattanooga Electrical JATC	Southeast	Hamilton	82
Chattanooga Ironworkers JAC	Southeast	Hamilton	7
Chattanooga Painters JAC	Southeast	Hamilton	2
Chattanooga State Community College	Southeast	Hamilton	7
Gestamp Chattanooga, LLC	Southeast	Hamilton	7
Tennessee Carpenters Regional Council J.A.T.C.	Southeast	Hamilton	62
Ua Local 43 Plumbers Steamfitters JATC	Southeast	Hamilton	19
Abb	Southeast	McMinn	4
E&E Manufacturing Of Tennessee, LLC	Southeast	McMinn	5
Operating Engineers Local No. 917 Apprenticeship	Southeast	McMinn	3
Southeast LWDA			259
Grand Total for East Region			640
Source: TDLWD Apprenticeship Data			

Table 37: Registered Apprenticeship Sponsors with Completers in 2021 in the Middle Region

Program Sponsor Name	Region	Program Sponsor County	No. of Completers
Industrial Electric Services, Inc.	Northern Middle	Cheatham	1
Abec Electric Company, LLC	Northern Middle	Davidson	14
Boilermakers S A J A C	Northern Middle	Davidson	92
Elevator Constructors Local 93	Northern Middle	Davidson	45
Fast Electrical Contractors, Inc.	Northern Middle	Davidson	2

Harlan Electric	Northern Middle	Davidson	2
Heat & Frost Insulators Local# 86 JATC	Northern Middle	Davidson	2
John Bouchard & Sons Co.	Northern Middle	Davidson	2
M.C. Dean	Northern Middle	Davidson	1
Nashville Electric Service	Northern Middle	Davidson	18
Nashville Electrical JATC	Northern Middle	Davidson	3
Nashville Ironworkers	Northern Middle	Davidson	16
Nashville Plumbers And Pipefitters	Northern Middle	Davidson	22
Nashville Sheetmetal JATC	Northern Middle	Davidson	15
Nashville State Community College	Northern Middle	Davidson	7
Power Tek, LLC	Northern Middle	Davidson	1
Stansell Electric Apprenticeship Training Program	Northern Middle	Davidson	4
Cumberland Electric Membership Corporation	Northern Middle	Montgomery	4
M&M Electrical Contractor, Inc	Northern Middle	Robertson	1
Middle Tennessee Electric Membership Cor	Northern Middle	Rutherford	3
North American Stamping Group	Northern Middle	Sumner	6
Robert C Byrd Institute	Northern Middle	Sumner	9
Hamilton-Ryker Talentgro	Northern Middle	Williamson	9
Lee Company	Northern Middle	Williamson	2
Northern Middle LWDA			281
Spring Hill Manufacturing-General Motors	Southern Middle	Maury	12
Southern Middle LWDA			12
TLD Logistics	Upper Cumberland	Cumberland	11
Upper Cumberland LWDA			11
Grand Total for Middle Region			304
Source: TDLWD Apprenticeship Data.			

Table 38: Registered Apprenticeship Sponsors with Completers in 2021 in the West Region

Program Sponsor Name	Region	Program Sponsor County	No. of Completers
Southwest Tennessee Emc	Southwest	Haywood	5
Delta Electrical, Inc	Southwest	Madison	11
Jackson Energy Authority	Southwest	Madison	2
Southwest LWDA			18
Northwest Corrections	Northwest	Lake	29

Northwest LWDA			29
Chickasaw Electric Cooperative	Greater Memphis	Fayette	5
Atlantic Track	Greater Memphis	Shelby	1
Federal Correctional Institute	Greater Memphis	Shelby	4
G.I. Apprentice Inc	Greater Memphis	Shelby	2
International Union Of Elevator Constructors Local	Greater Memphis	Shelby	2
Memphis Asbestos JAC	Greater Memphis	Shelby	3
Memphis Electrical JATC	Greater Memphis	Shelby	33
Memphis Ironworkers JAC	Greater Memphis	Shelby	5
Memphis Light, Gas, And Water	Greater Memphis	Shelby	16
Memphis Plumbers JAC	Greater Memphis	Shelby	8
Memphis Sheet Metal Workers JAC	Greater Memphis	Shelby	3
Mid South Independent Electrical Contrac	Greater Memphis	Shelby	33
Steamfitters Local Union 614 Joint Apprenticeship Training Program	Greater Memphis	Shelby	26
West TN Associated Builders & Contractor	Greater Memphis	Shelby	2
William R. Moore College Of Technology	Greater Memphis	Shelby	1
Greater Memphis LWDA			144
Grand Total for West Region			191
Source: TDLWD Apprenticeship Data.			

Table 39: Apprentice Completers by Job Title

Apprenticeship Occupation Title	Number of Completers, 2021
Boilermaker I	48
Carpenter	7
Construction Craft Laborer	8
Electrician (Alternate Title: Interior Electrician)	32

Industrial Maintenance Mechanic	2
Industrial Sewing Machine Operator	61
Insulation Worker	388
Journeyman Lineman	9
Line Erector (Power-Line Distribution Erector)	6
Line Installer-Repairer	2
Maintenance Repairer, Industrial	1
Millwright	4
Nurse Assistant Certified (Existing Title: Nurse Assistant)	9
Pipe Fitter (Construction)	2
Pipefitting	1
Plumber	2
Production Machinery Electrician (Existing Title: Electrician, Maintenance)	527
Sheet Metal Worker	10
Tool And Die Maker	5
Truck Driver, Heavy	11
Grand Total	1135
Source: TDLWD Apprenticeship Data.	

Emerging Industries and Conclusion

The Tennessee job landscape will be changing notably in the decade of 2020-2030 from the impact of advanced energy technologies in the state. All major auto manufacturers in Tennessee are developing electric vehicles. GM produces the Cadillac LYRIQ in Spring Hill, where it has invested \$2 billion to transform the site⁸ to manufacture electric vehicles. The LYRIC is powered by the Ultium electric vehicle battery, manufactured at Spring Hill; Ultium expects to employ 1,300 at that location.

At the Memphis Regional Megasite in Haywood County, Ford and SK Innovation are starting this year to construct⁹ one of the largest electric vehicle and battery manufacturing facilities in the U.S., encompassing \$5.6 billion in capital expenditures and expected to employ 5,800 workers. Volkswagen in Chattanooga has started assembling the all-electric ID.4. The company has invested \$800 million in its factory to produce electric vehicles as well as for vehicle and battery pack assembly. They plan to hire at least 1,000 more production employees through 2022 to meet vehicle demand. They have provided more than 75,000 hours of training on battery-

⁸ <https://www.gm.com/stories/lyriq-reveal>

⁹ Omer Yusuf (January 25, 2022). Date set for work on Blue Oval City. *Tennessean*, p. 10A.

powered vehicles.¹⁰ The manufacture of electric vehicle charging stations is also ramping up¹¹, as are systems for helping drivers locate charging stations and funds for their installation around the state.¹² At the same time, motor vehicle parts manufacturing (NAICS 3363) has declined by 4,454 jobs from 2019 to 2021, as manufacturing is changing from the manufacture of gasoline-powered engines to electric vehicles.

The information industry is projected to be the third fastest- growing industry in Tennessee from 2020 to 2030, with the location of Oracle expected to add 8,000 jobs adding to its expansion. Health care and social assistance is expected to be the largest industry in Tennessee by 2030, with expansion continuing in the state.¹³

The question for workforce development is: Is the workforce ready? In June 2021, there were 2 jobs for every unemployed worker in the state. Shortages of information technology workers and healthcare workers have been highlighted in this report. Efforts to address those shortages need to increase. Will there be a sufficiently friendly labor force climate to retain and attract a diverse workforce, including women, who make up half of employees? Will education, healthcare, and housing availability be sufficient to promote greater labor force participation? Will equitable growth in jobs and wages reduce poverty in the state? Can justice-involved individuals, having served their time, have opportunities to enter the workforce?

The important challenges of having a ready workforce for the Blue Oval project are the reason for the interdepartmental Ford Motor Company Workforce Development CORE project Team. Future reports will investigate other efforts being developed to meet the challenges of workforce shortages and describe needed improvements to bolster labor resiliency in Tennessee.

¹⁰ TN Department of Environment and Conservation, TDEC Office of Energy Programs, monthly newsletter, August 30, 2022 (TDEC.OEP@tn.gov).

¹¹ Andy Humbles (February 9, 2022). *EV charger plant coming to Lebanon*. Tennessean, p. 11A.

¹² TDEC.OEP@tn.gov, Chattanooga receives federal grant for EV Management. August 30, 2022.

¹³ Frank Gluck (July 25, 2022). VUMC to announce \$500 M expansion. Tennessean, pp. 1A and 8A.

Appendix

Occupations in Demand 2021 by Region

Occ. Code	Occupational Title	East Region	Middle Region	West Region
113010	Administrative Services and Facilities Managers	X	X	
413011	Advertising Sales Agents	X	X	X
493011	Aircraft Mechanics and Service Technicians	X		
173011	Architectural and Civil Drafters	X		
119041	Architectural and Engineering Managers		X	X
274011	Audio and Video Technicians		X	
493021	Automotive Body and Related Repairers	X	X	X
493023	Automotive Service Technicians and Mechanics	X	X	X
513011	Bakers	X		X
194021	Biological Technicians	X		
493031	Bus and Truck Mechanics and Diesel Engine Specialists	X	X	X
533052	Bus Drivers, Transit and Intercity	X		
513021	Butchers and Meat Cutters	X	X	X
173098	Calibration Technologists and Technicians and Engineering Technologists and Technicians, Except Drafters, All Other	X	X	X
435011	Cargo and Freight Agents		X	
472031	Carpenters	X	X	
351011	Chefs and Head Cooks		X	X
519011	Chemical Equipment Operators and Tenders		X	
194031	Chemical Technicians	X		
211021	Child, Family, and School Social Workers	X		
172051	Civil Engineers	X		X
131031	Claims Adjusters, Examiners, and Investigators	X		X
193031	Clinical, Counseling, and School Psychologists	X	X	X
211099	Community and Social Service Specialists, All Other	X	X	
131141	Compensation, Benefits, and Job Analysis Specialists	X	X	X
151241	Computer Network Architects	X		X
151231	Computer Network Support Specialists		X	X
519161	Computer Numerically Controlled Tool Operators	X	X	X
151299	Computer Occupations, All Other	X		X
151251	Computer Programmers	X	X	
151211	Computer Systems Analysts	X	X	X
151232	Computer User Support Specialists	X	X	X
492011	Computer, Automated Teller, and Office Machine Repairers	X	X	X

474011	Construction and Building Inspectors	X	X	
119021	Construction Managers	X	X	X
131051	Cost Estimators	X	X	X
211019	Counselors, All Other	X	X	
537021	Crane and Tower Operators	X		
434051	Customer Service Representatives	X	X	X
439021	Data Entry Keyers	X	X	X
151245	Database Administrators and Architects		X	
419011	Demonstrators and Product Promoters		X	
319091	Dental Assistants	X	X	X
291292	Dental Hygienists	X		
435032	Dispatchers, Except Police, Fire, and Ambulance	X	X	X
472081	Drywall and Ceiling Tile Installers		X	
273041	Editors	X	X	X
119033	Education Administrators, Postsecondary	X	X	X
211012	Educational, Guidance, and Career Counselors and Advisors	X	X	X
173023	Electrical and Electronic Engineering Technologists and Technicians	X	X	X
492094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	X	X	
172071	Electrical Engineers		X	
499051	Electrical Power-Line Installers and Repairers	X	X	
472111	Electricians	X	X	X
172072	Electronics Engineers, Except Computer	X		
292040	Emergency Medical Technicians and Paramedics	X		
172199	Engineers, All Other	X		X
192041	Environmental Scientists and Specialists, Including Health		X	
475022	Excavating and Loading Machine and Dragline Operators, Surface Mining		X	X
436011	Executive Secretaries and Executive Administrative Assistants	X	X	X
399031	Exercise Trainers and Group Fitness Instructors	X	X	
514021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic		X	
113031	Financial Managers	X	X	X
471011	First-Line Supervisors of Construction Trades and Extraction Workers	X	X	X
351012	First-Line Supervisors of Food Preparation and Serving Workers	X	X	X
371011	First-Line Supervisors of Housekeeping and Janitorial Workers	X	X	X
371012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	X		
491011	First-Line Supervisors of Mechanics, Installers, and Repairers	X	X	X

411012	First-Line Supervisors of Non-Retail Sales Workers	X	X	X
431011	First-Line Supervisors of Office and Administrative Support Workers	X	X	
511011	First-Line Supervisors of Production and Operating Workers	X	X	X
411011	First-Line Supervisors of Retail Sales Workers	X	X	X
531047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	X	X	X
513099	Food Processing Workers, All Other			X
119051	Food Service Managers	X	X	X
111021	General and Operations Managers		X	X
271024	Graphic Designers	X	X	X
514033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	X		X
395012	Hairdressers, Hairstylists, and Cosmetologists	X	X	X
319099	Healthcare Support Workers, All Other	X		X
499021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	X	X	X
533032	Heavy and Tractor-Trailer Truck Drivers	X	X	X
473013	Helpers--Electricians	X	X	X
474051	Highway Maintenance Workers		X	
113121	Human Resources Managers	X		X
131071	Human Resources Specialists	X	X	X
173026	Industrial Engineering Technologists and Technicians			X
499041	Industrial Machinery Mechanics		X	X
113051	Industrial Production Managers			X
434199	Information and Record Clerks, All Other	X	X	
151212	Information Security Analysts	X		X
519061	Inspectors, Testers, Sorters, Samplers, and Weighers	X	X	X
499099	Installation, Maintenance, and Repair Workers, All Other	X	X	X
259031	Instructional Coordinators	X		
413021	Insurance Sales Agents	X	X	X
131075	Labor Relations Specialists			X
436012	Legal Secretaries and Administrative Assistants		X	
292061	Licensed Practical and Licensed Vocational Nurses	X		X
132072	Loan Officers	X		X
119081	Lodging Managers	X		
131081	Logisticians	X	X	X
514041	Machinists	X	X	X
499071	Maintenance and Repair Workers, General	X	X	X
499043	Maintenance Workers, Machinery	X	X	X
131111	Management Analysts	X		
131161	Market Research Analysts and Marketing Specialists	X	X	X

112021	Marketing Managers		X	X
211013	Marriage and Family Therapists			X
319011	Massage Therapists	X	X	
172141	Mechanical Engineers	X		X
119111	Medical and Health Services Managers	X	X	X
319092	Medical Assistants	X	X	X
319093	Medical Equipment Preparers		X	X
499062	Medical Equipment Repairers	X		
319094	Medical Transcriptionists	X		
131121	Meeting, Convention, and Event Planners	X	X	
211023	Mental Health and Substance Abuse Social Workers		X	X
271026	Merchandise Displayers and Window Trimmers	X	X	
514199	Metal Workers and Plastic Workers, All Other		X	X
499044	Millwrights			X
474090	Miscellaneous Construction and Related Workers	X	X	
493042	Mobile Heavy Equipment Mechanics, Except Engines		X	
533099	Motor Vehicle Operators, All Other			X
514081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic		X	X
272042	Musicians and Singers		X	
151244	Network and Computer Systems Administrators	X	X	X
291151	Nurse Anesthetists	X		
311131	Nursing Assistants		X	X
312011	Occupational Therapy Assistants		X	X
472073	Operating Engineers and Other Construction Equipment Operators	X	X	X
152031	Operations Research Analysts		X	
472141	Painters, Construction and Maintenance	X	X	X
232011	Paralegals and Legal Assistants	X	X	
533058	Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity		X	
472071	Paving, Surfacing, and Tamping Equipment Operators	X	X	X
433051	Payroll and Timekeeping Clerks	X		X
119198	Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	X	X	X
292052	Pharmacy Technicians	X		
319097	Phlebotomists	X	X	X
312021	Physical Therapist Assistants	X	X	X
291071	Physician Assistants		X	X
192012	Physicists	X		
472152	Plumbers, Pipefitters, and Steamfitters	X	X	X

333051	Police and Sheriff's Patrol Officers	X		
518013	Power Plant Operators			X
252011	Preschool Teachers, Except Special Education	X	X	X
515113	Print Binding and Finishing Workers			X
515112	Printing Press Operators	X	X	X
272012	Producers and Directors		X	
119141	Property, Real Estate, and Community Association Managers	X	X	X
273031	Public Relations Specialists	X		X
113061	Purchasing Managers	X		X
419022	Real Estate Sales Agents	X	X	X
211015	Rehabilitation Counselors	X		
472181	Roofers	X	X	X
112022	Sales Managers	X		X
413091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	X	X	X
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	X	X	X
414011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	X	X	X
517041	Sawing Machine Setters, Operators, and Tenders, Wood			X
436014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	X	X	X
492098	Security and Fire Alarm Systems Installers			X
253021	Self-Enrichment Teachers		X	X
472211	Sheet Metal Workers	X	X	X
395094	Skincare Specialists	X		
119151	Social and Community Service Managers	X		
211093	Social and Human Service Assistants	X	X	X
151256	Software Developers and Software Quality Assurance Analysts and Testers	X	X	X
472221	Structural Iron and Steel Workers	X		
512041	Structural Metal Fabricators and Fitters	X		
211018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	X	X	X
292055	Surgical Technologists	X	X	X
537121	Tank Car, Truck, and Ship Loaders			X
492022	Telecommunications Equipment Installers and Repairers, Except Line Installers	X		X
499052	Telecommunications Line Installers and Repairers		X	X
516063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	X		
493093	Tire Repairers and Changers	X		

514111	Tool and Die Makers	X		
113131	Training and Development Managers		X	
131151	Training and Development Specialists	X	X	X
113071	Transportation, Storage, and Distribution Managers	X	X	X
292056	Veterinary Technologists and Technicians	X		
151257	Web Developers and Digital Interface Designers	X		
517042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	X	X	

Source: THEC, *Improving the Pipeline for Tennessee's Workforce: Academic Supply for Occupational Demand 2022*.

https://www.tn.gov/content/dam/tn/thec/bureau/research/other-research/supply-demand/Supply%20and%20Demand%20Report_2022.pdf