



NASHVILLE IT LABOR STUDY

Nashville IT Labor Study

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January 2019

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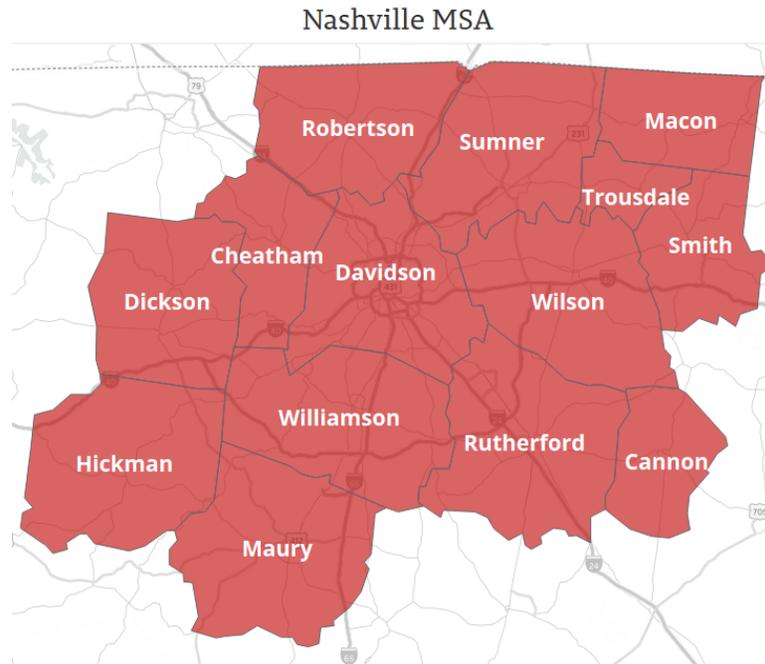
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NASHVILLE REGIONAL WORKFORCE OVERVIEW

The regional workforce overview provides information on several different sources of workforce talent—including population growth, in-migration and commuting patterns.



The Nashville metropolitan statistical area (MSA) is home to 1.9 million people, which is the 36th largest metropolitan area in the nation and 6th largest in the Southeast.¹ Nashville’s population has increased by 10.2 percent (or 190,000 people) in the last five years, while nationally the population has grown by 3.7 percent. The Nashville area’s population grew by 34,190 during 2017, which is approximately 94 people per day over the year.

According to the U.S. Bureau of Labor Statistics, Nashville had the largest percentage change in employment (3.5 percent) of any large metro from 2016 to 2017.

Five counties within the Nashville metropolitan area were named among the top 100 fastest-growing counties during 2017 by the U.S. Census Bureau. These included Williamson County (3.4 percent growth), Rutherford County (3.1 percent growth), Wilson County (3.0 percent growth), Maury County (2.9 percent growth) and Macon Count (2.7 percent growth).

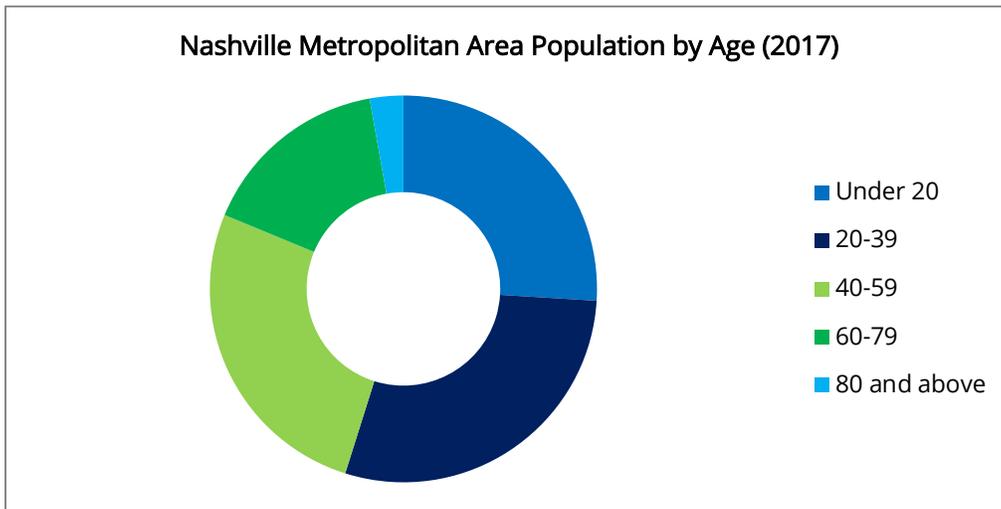
Young, Educated Workforce. Nashville attracts a young, educated population. Approximately 415,200 millennials between the ages of 20 and 34 are living within the Nashville metropolitan area, representing 22 percent of the region’s population. Nashville’s millennial population has grown 14 percent in the last five years, while growing only 3 percent nationally.

¹ The Southeast is defined as a 12 state region including Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia.

Nashville is the No. 6 city for young professionals,² No. 7 Top City for Recent College Graduates,³ and ranks 27th out of 288 metro areas for growth in its college-educated population.⁴

More than half (55 percent) of Tennessee’s population is between the ages of 20 and 60—the population of typical working age (compared to 52.8 percent nationally).

In-Migration. Nashville has experienced a net gain of 126,142 people as a result of domestic migration over the last seven years, meaning that the number of people moving to Nashville exceed the population leaving.⁵ This was the 11th largest gain of all MSAs in the nation. This trend has sustained, with Nashville’s net influx of U.S. population during 2017 (18,708 people) ranking 13th largest of all MSAs in the nation.



Employment Growth. A sustained growth in high-skilled workforce has accompanied Nashville’s population growth. Nashville was named the No. 7 Best-Performing City in 2016 for creating and sustaining jobs and economic growth.⁶ Nashville’s employment has increased 3.1 percent on average each year for the past five years, while the nation’s employment has grown at an average annual rate of 1.5 percent.⁷

Unemployment. As of November 2018, 2.6 percent of Nashville’s resident population engaged in the workforce was unemployed—or 27,544 people. An estimated 2,500 unemployed people in Nashville have previous work experience in Professional, Scientific and Technical Services.⁸ The number of Nashville residents engaged in the labor force has increased significantly in recent years (due in part to population growth and in-migration), and the state’s low unemployment indicates residents are successful in finding positions to fill. Furthermore, the region’s employment growth demonstrates

² Source: SmartAsset

³ Source: Trulia

⁴ Source: U.S. Census Bureau, 2009-2015

⁵ Source: U.S. Census Bureau

⁶ Source: The Milken Institute, January 2017

⁷ Source: U.S. Bureau of Labor Statistics

⁸ Source: Economic Modeling Specialists Intl.

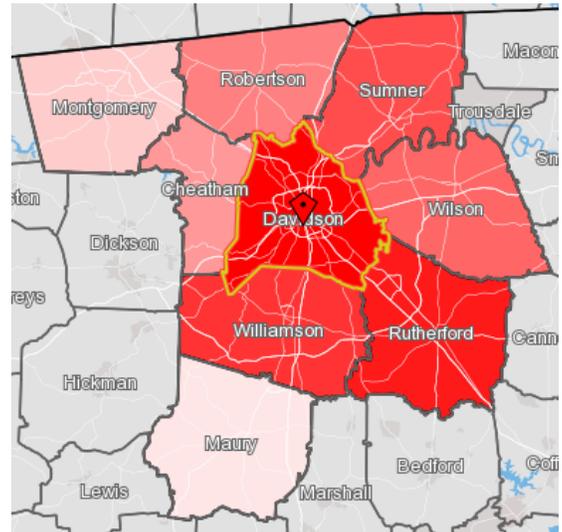
employers are successful in filling open positions from both the resident population as well as commuters.

Characteristic	Nashville MSA
Population, 2018	1,935,735
Under 20	499,701
20 to 39	562,903
40 to 59	504,060
60 to 79	314,969
80 and over	54,102
Millennial population (ages 20 to 34)	424,899
Ages 20 to 59	1,066,963
Median Age, 2017	36.3
Estimated Population by Sex, 2017	
Males	48.9%
Females	51.1%
5-Year Employment Growth, 2013-2018	14.8%
Average Annual Wage	\$54,391
Labor Force, November 2018	1,041,108
Employed	1,013,564
Unemployed	27,544
Unemployment Rate	2.6%

Sources: Economic Modeling Specialists Intl. and the U.S. Bureau of Labor Statistics

Commuting Patterns. Residents from across the state commute to the greater Nashville area for work. Approximately 54 percent of Davidson County’s workforce commutes to the county for work. Places where Davidson County workers live include Rutherford County, which is home to 8.6 percent of Davidson County’s workforce, followed by Williamson County (7.9 percent), Sumner County (6.7 percent) and Wilson County (5.4 percent).

Top Counties by # of Commuters to Davidson Co.		
Place of Residence	Residents Commuting to Davidson Co.	% of Davidson Co.’s Workforce
Rutherford County	80,877	8.6%
Williamson County	74,294	7.9%
Sumner County	63,009	6.7%
Wilson County	50,784	5.4%
Robertson County	24,451	2.6%
Cheatham County	18,809	2.0%
Shelby County	18,809	2.0%
Montgomery County	15,047	1.6%
Maury County	14,107	1.5%



TECH SERVICES INDUSTRY IN NASHVILLE

The tech services industry⁹ cluster employs 27,262 people in the Nashville metropolitan area across 2,902 business locations. More broadly, the cluster employs 72,268 people across the state of Tennessee.

Nashville’s top tech industries by employment are Computer Systems Design Services (5,329 jobs), Engineering Services (4,553 jobs), Data Processing, Hosting and Related Services (3,944 jobs), Wired Telecommunications Carriers (3,739 jobs), Custom Computer Programming Services (3,426 jobs) and Software Publishers (1,658 jobs).

Over the last 10 years, Nashville has seen 35 percent job growth in the tech services industry cluster. This percent growth ranks 10th largest among the 100 largest metros in the United States. Nashville’s rate of job growth in the last five years (20 percent) ranks 14th highest, indicating the growth trajectory has sustained momentum.

Nashville’s top tech industries by percent job growth over the last five years are Computer Training (319 percent), Internet Publishing and Broadcasting and Web Search Portals (153 percent), Computer Facilities Management Services (112 percent), Consumer Electronic Repair Maintenance (92 percent), Other Electronic and Precision Equipment Repair and Maintenance (77 percent), Software Publishers (54 percent), and Computer System Design Services (45 percent).

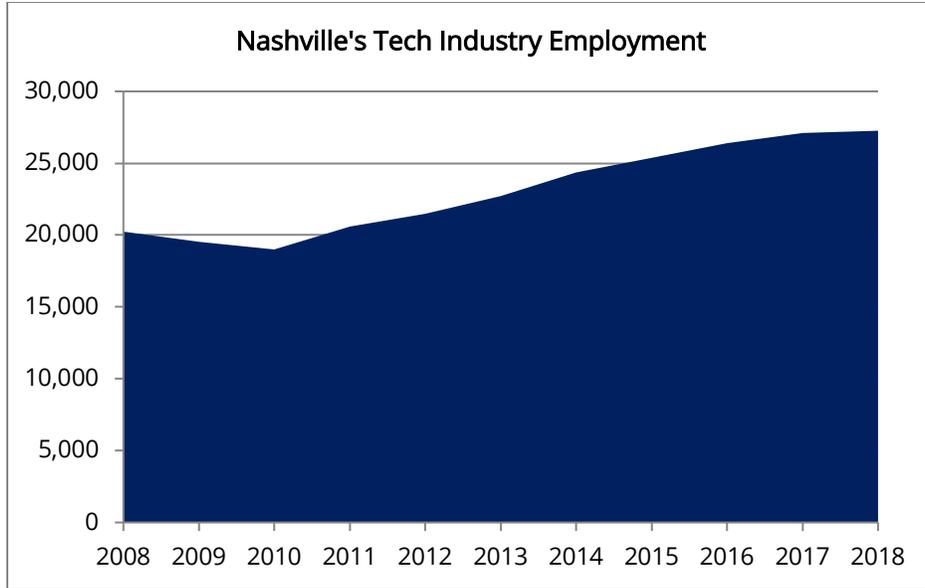
Nashville’s average annual wages for the industry (\$90,706) are 22 percent below the national average (\$116,538), while also 67 percent above the metro area’s average wage for all industries (\$54,391).

Tech Services Industry Cluster					
Location	Employment (2018)	5-Year Job Growth (2013-2018)	Average Annual Wages (2018)	Average Annual Supplements (2018)	Average Annual Total Earnings (2018) ¹⁰
Nashville MSA	27,262	20%	\$90,706	\$16,229	\$106,935
Tennessee	72,268	6%	\$86,971	\$15,130	\$102,101
United States	5,823,603	11%	\$116,538	\$17,568	\$134,106

Source: Economic Modeling Specialists Intl.

⁹ CompTIA’s definition of Tech Services included industries across four sub-components. ECD has updated this group to correspond with recent industry NAICS Codes changes: The Tech Services industry cluster includes a wide variety of business activities: Telecommunications and Internet Services; Software; IT Services; and Engineering Services, R&D, and Testing Services. The list of industries can be found in Appendix A.2 of CompTIA’s *Cyberstates 2018* report: https://www.cyberstates.org/pdf/CompTIA_Cyberstates_2018.pdf

¹⁰ Total earnings include (a) wages, salaries, proprietor earnings, and (b) supplements. Supplements include benefits and other compensation such as employer contributions to 401(k) plans, pensions, insurance funds, and government social insurance (FIA/FUTA).



IT services represent one segment of the tech cluster. There are approximately 1,590 business locations operating in IT Services in Nashville, which employ 11,198 people. Over the last five years, Nashville’s IT services employment increased by 24 percent or by 2,177 jobs. Average annual earnings for IT services in Nashville (\$92,693) are 18 percent below the national average IT Services wage (\$113,093), yet highly competitive relative to Nashville’s average wage for all industries (\$54,391).

IT Services					
Location	Employment (2018)	5-Year Job Growth (2013-2018)	Average Annual Wages (2018)	Average Annual Supplements (2018)	Average Annual Total Earnings (2018)
Nashville MSA	11,198	24%	\$92,693	\$14,273	\$106,966
Tennessee	25,162	19%	\$86,606	\$13,342	\$99,948
United States	2,399,341	17%	\$113,093	\$16,648	\$129,741

Source: Economic Modeling Specialists Intl.

IT OCCUPATIONS IN NASHVILLE

#1

Fastest-Growing Economy of Large Metros in 2017
(U.S. Bureau of Labor Statistics)

#2

Market for Growth of Highly Skilled Tech Workers
(CBRE Group, Inc.)

#3

Best Big City for Jobs in U.S. in 2017
(Forbes.com)

#4

Hottest Cities for Tech Jobs
(Forbes, August 2016)

#7

Tech Job Creation
(Praxis Strategy Group, 2017)

#8

Fastest-Growing Tech Market
(Time, Money Magazine, 2017)

There are more than 26,324 IT jobs in the Nashville metropolitan area, and 61,254 in Tennessee.

Over the last five years, Nashville’s employment in IT occupations has grown by 24 percent—an increase of 5,142 jobs. Nashville’s rate of growth ranked 10th highest among the nation’s top 100 MSAs. Nashville’s IT employment is projected to continue to outpace national growth through 2028.

For each IT occupation (listed on the next page) except Computer and Information Research Scientists, Nashville’s employment growth exceeded the national and Southeast average.

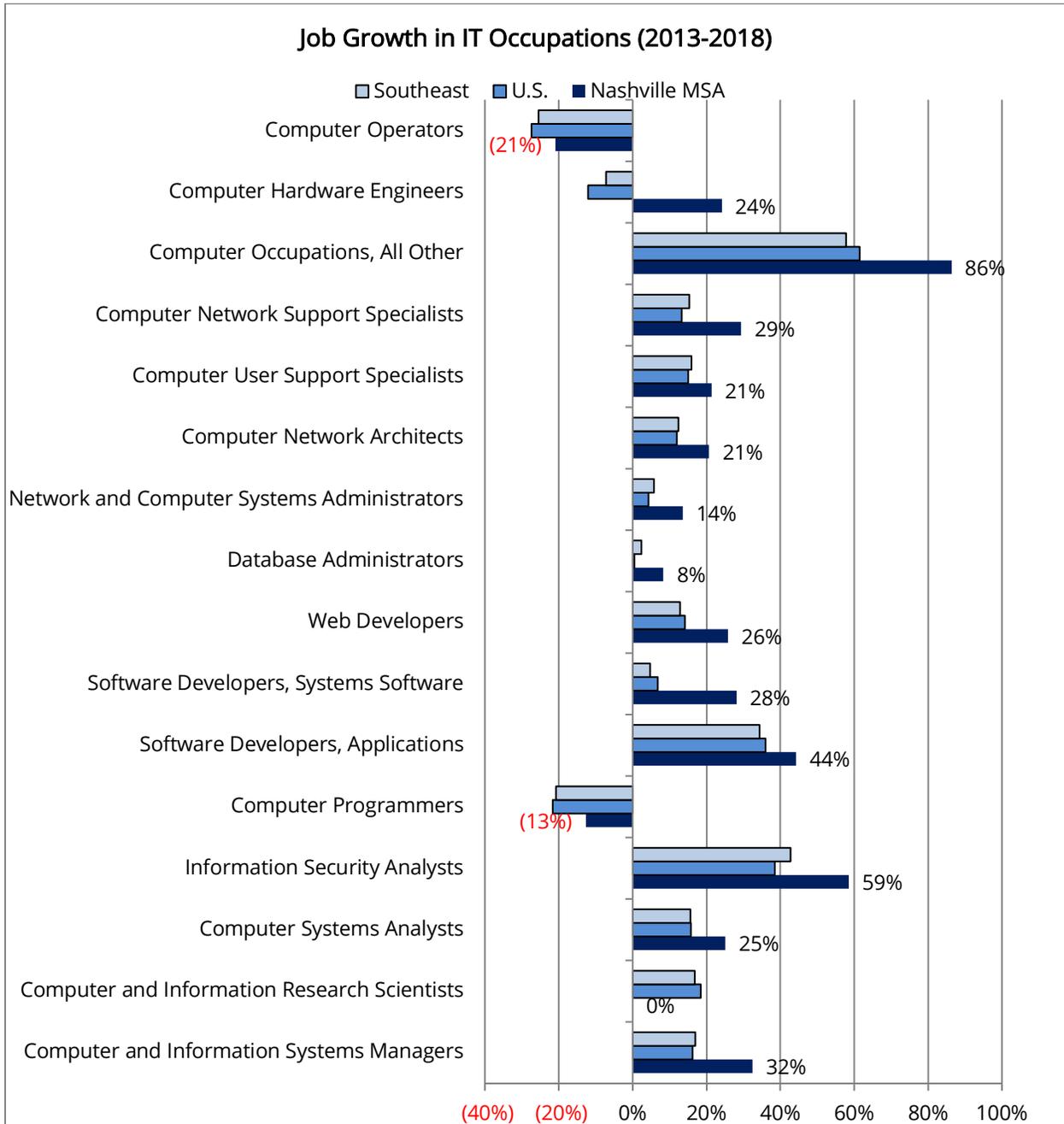
Median earnings for IT occupations in Nashville are \$36.92 per hour (or \$76,797 per year). This wage is \$5.32 below the national median of \$42.24 per hour (or \$87,862 per year).

SOC Code	Occupation	Nashville MSA		
		Employment (2018)	5-Year Job Growth (2013-2018)	Median Hourly Earnings
11-3021	Computer and Information Systems Managers	2,433	32.4%	\$56.18
15-1111	Computer and Information Research Scientists	41	0.0%	\$42.87
15-1121	Computer Systems Analysts	3,866	25.1%	\$35.81
15-1122	Information Security Analysts	615	58.5%	\$37.92
15-1131	Computer Programmers	1,526	-12.7%	\$35.76
15-1132	Software Developers, Applications	3,060	44.3%	\$44.64
15-1133	Software Developers, Systems Software	2,407	28.1%	\$41.75
15-1134	Web Developers	731	25.8%	\$30.86
15-1141	Database Administrators	715	8.3%	\$42.13
15-1142	Network and Computer Systems Administrators	2,117	13.6%	\$39.57
15-1143	Computer Network Architects	991	20.7%	\$47.99
15-1151	Computer User Support Specialists	3,608	21.3%	\$23.35
15-1152	Computer Network Support Specialists	1,713	29.4%	\$28.00

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SOC Code	Occupation	Nashville MSA		
		Employment (2018)	5-Year Job Growth (2013-2018)	Median Hourly Earnings
15-1199	Computer Occupations, All Other	1,796	86.3%	\$37.60
17-2061	Computer Hardware Engineers	530	24.1%	\$41.86
43-9011	Computer Operators	703	-20.9%	\$21.36
All IT Occupations		26,853	24.3%	\$36.92

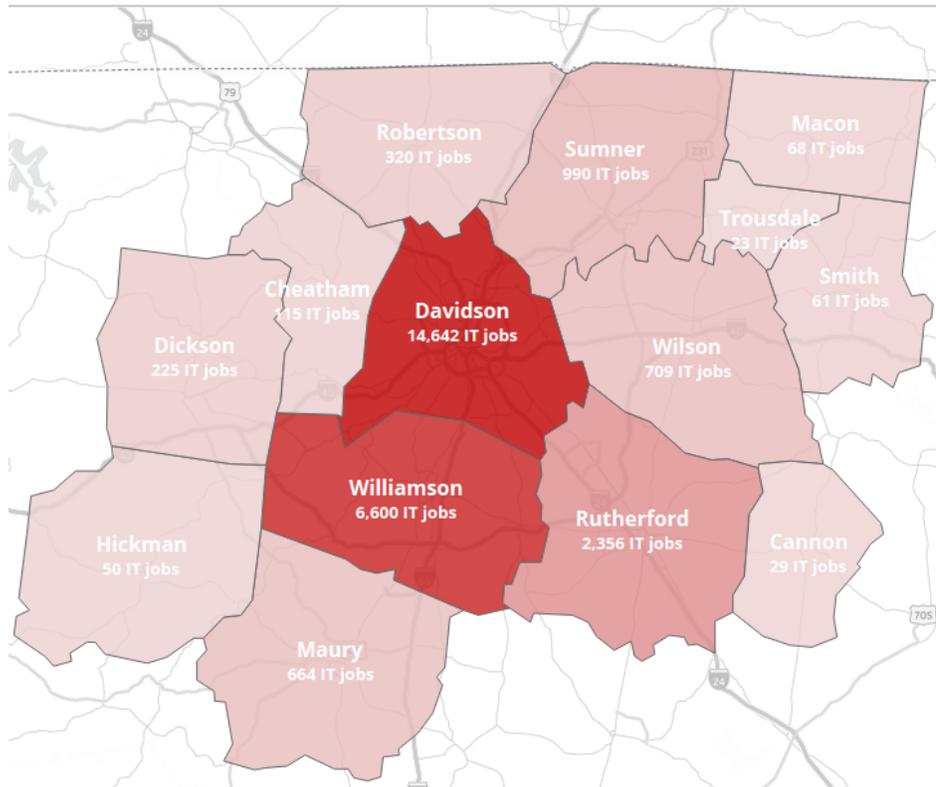
Source: Economic Modeling Specialists Intl.



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IT employment is highest in Davidson County, where employment has risen by 20 percent over the last five years to 14,642. In Williamson County, IT employment has increased 39 percent over the last five years to a current employment level of 6,600. Rutherford County has the third highest number of IT workers, with 2,356 jobs and 23 percent IT job growth over the last five years.

IT Jobs in the Nashville MSA



HIGHER EDUCATION: NASHVILLE'S IT-RELATED PROGRAM OFFERINGS

Nashville-area colleges and universities have had 3,428 students graduate from IT-related programs in the last five years. This includes 779 completions in 2017.

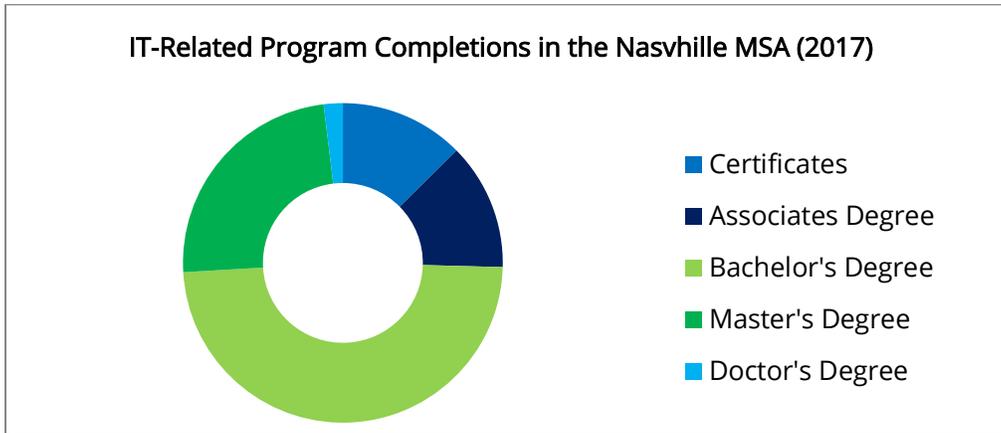
There are 23 programs offered at Nashville-area colleges and universities which may provide training for careers in the IT occupations analyzed in the previous section. These include programs in Computer Science, Management Information Systems, Information Technology, Computer Systems Networking and Telecommunications, Computer Engineering and many others.

The 23 programs are listed in the table below, followed by a listing of 15 Nashville-area institutions where these programs are offered.

Related Completions by Program			
CIP Code	Program	2017	Last 5 Years (2013 to 2017)
11.0101	Computer and Information Sciences, General	62	234
11.0103	Information Technology	69	353
11.0104	Informatics	16	28
11.0201	Computer Programming/Programmer, General	3	53
11.0301	Data Processing and Data Processing Technology/Technician	0	4
11.0501	Computer Systems Analysis/Analyst	10	38
11.0701	Computer Science	235	795
11.0801	Web Page, Digital/Multimedia and Information Resources Design	59	193
11.0802	Data Modeling/Warehousing and Database Administration	5	10
11.0803	Computer Graphics	0	42
11.0901	Computer Systems Networking and Telecommunications	17	253
11.1001	Network and System Administration/Administrator	5	52
11.1002	System, Networking, and LAN/WAN Management/Manager	0	110
11.1003	Computer and Information Systems Security/Information Assurance	22	196
11.1004	Web/Multimedia Management and Webmaster	0	7
11.1006	Computer Support Specialist	0	4
14.0901	Computer Engineering, General	34	122
14.0903	Computer Software Engineering	4	19
26.1103	Bioinformatics	9	37
51.2706	Medical Informatics	24	93
52.0205	Operations Management and Supervision	37	175
52.1201	Management Information Systems, General	168	577
52.1206	Information Resources Management	0	33
Total		779	3,428

Source: Economic Modeling Specialists Intl.

In 2017, nearly half of Nashville’s IT-related completions were bachelor’s degrees (48.7 percent), and nearly a quarter were Master’s degrees (24.0 percent). The remaining completions were comprised of associate’s degrees (12.8 percent), certificates (12.6 percent) and doctor’s degrees (1.9 percent).



Middle Tennessee State University, located in Murfreesboro, had the highest number of completions from IT-related programs in 2017—awarding 155 bachelor’s degrees and 66 master’s degrees in IT-related programs of study. Other leading institutions in the Nashville area, by number of 2017 graduates from IT-related programs, were Vanderbilt University (171 degrees awarded), Tennessee State University (70 degrees awarded), Volunteer State Community College (58 degrees awarded), Tennessee College of Applied Technology (57 degrees awarded), Nashville State Community College (44 degrees awarded), and Lipscomb University (41 degrees awarded).

Related Completions by Institution (2017)						
Institution	Certificates	Associates degree	Bachelor's degree	Master's degree	Doctors degree	All Completions
Middle Tennessee State University	0	0	155	66	0	221
Vanderbilt University	0	0	102	60	9	171
Tennessee State University	0	0	32	32	6	70
Volunteer State Community College	21	37	0	0	0	58
Tennessee College of Applied Technology Nashville	57	0	0	0	0	57
Nashville State Community College	17	27	0	0	0	44
Lipscomb University	2	0	13	26	0	41
Art Institute of Tennessee-Nashville	0	7	22	0	0	29
Columbia State Community College	1	20	0	0	0	21
Trevecca Nazarene University	0	0	18	2	0	20
University of Phoenix-Tennessee*	0	0	17	0	0	17
Belmont University	0	0	14	0	0	14
National College-Nashville	0	8	0	0	0	8
Fisk University	0	0	4	0	0	4
DeVry University-Tennessee	0	1	2	1	0	4
Nashville MSA Total	98	100	379	187	15	779

*School has recently announced closure of its campus, however still offers online courses.

Source: Economic Modeling Specialists Intl.