

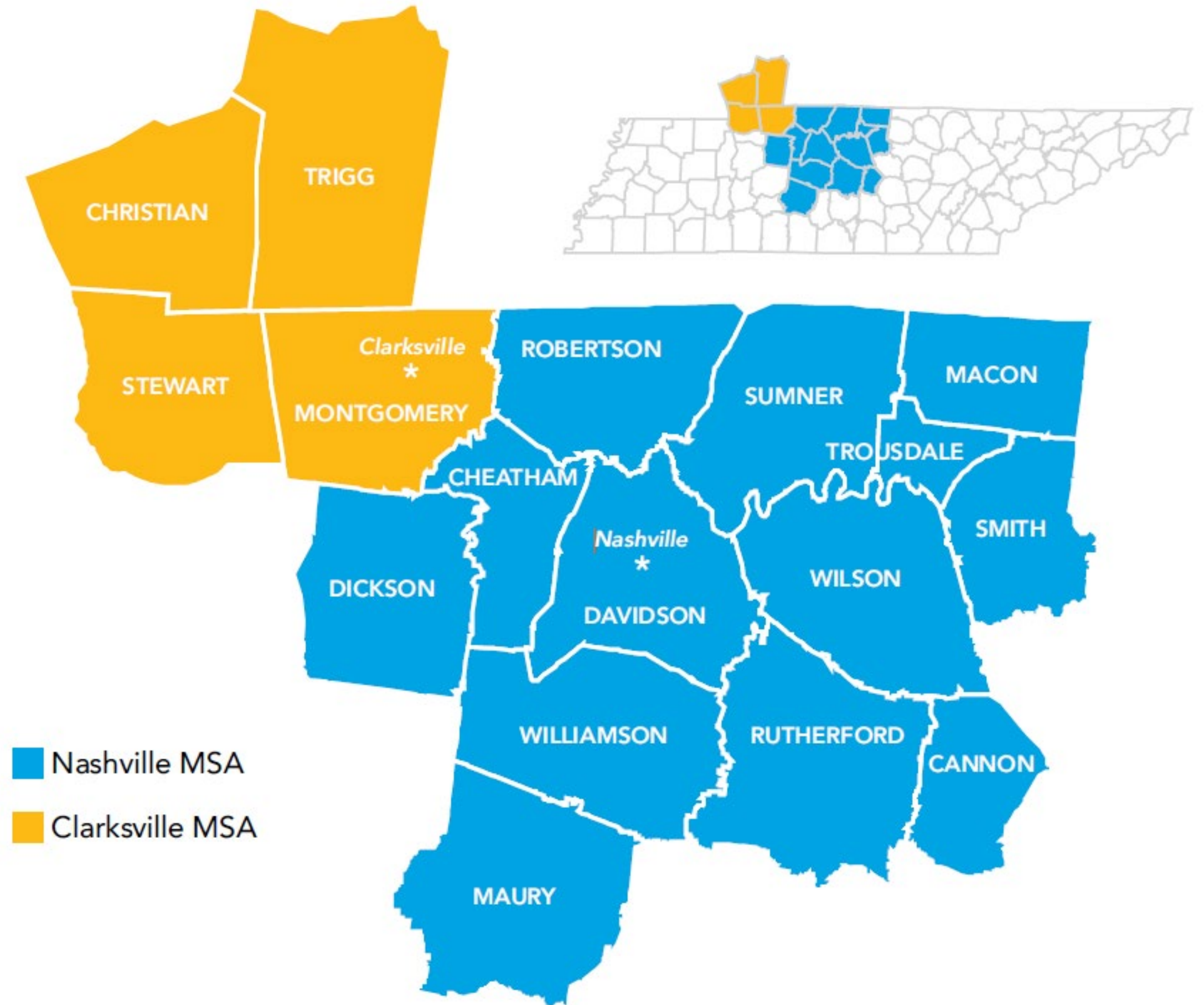


2020 Middle Tennessee Workforce Study



**Northern Middle Tennessee Local
Workforce Development Board**

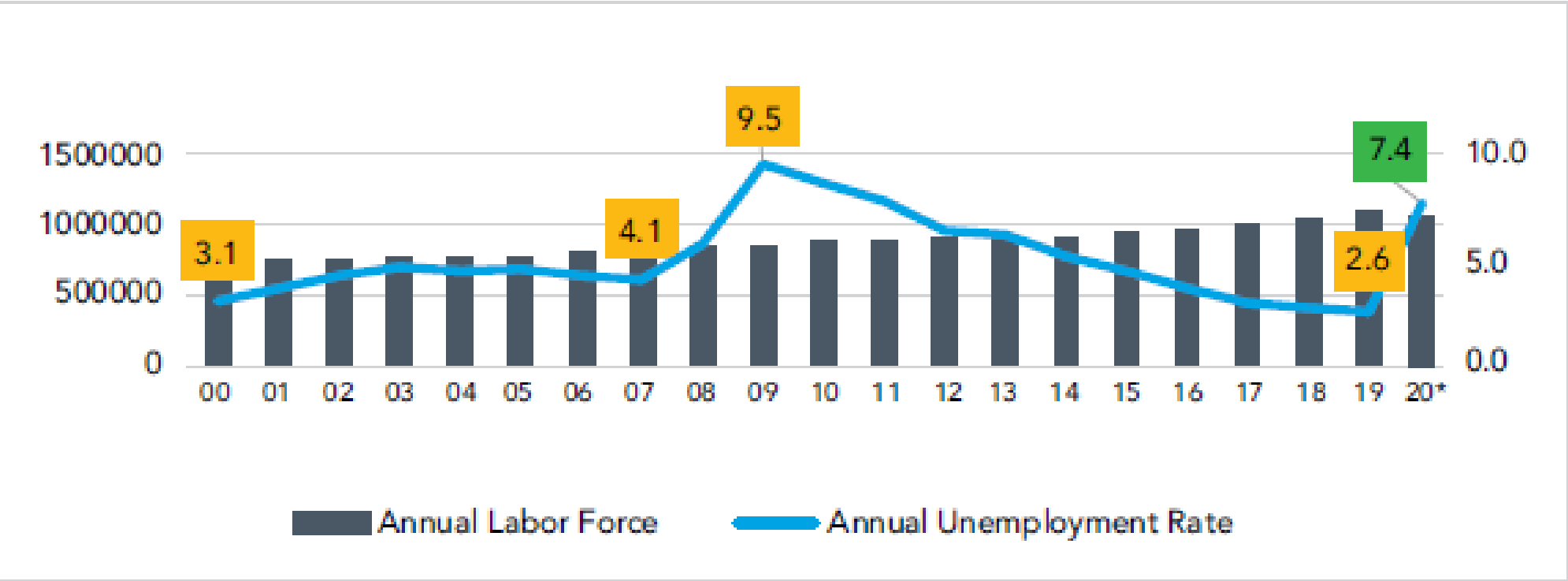
Economic Region



Labor Force & Unemployment Rate - Annual

- 2019 & 2020-Q1 Represented a tight labor market and extremely low unemployment.
- Covid-19 caused the unemployment rate to peak at 15.2% in the Nashville MSA and 16.1% in the Clarksville MSA.
- Expect re-employment to speed up for the next 3 quarters.

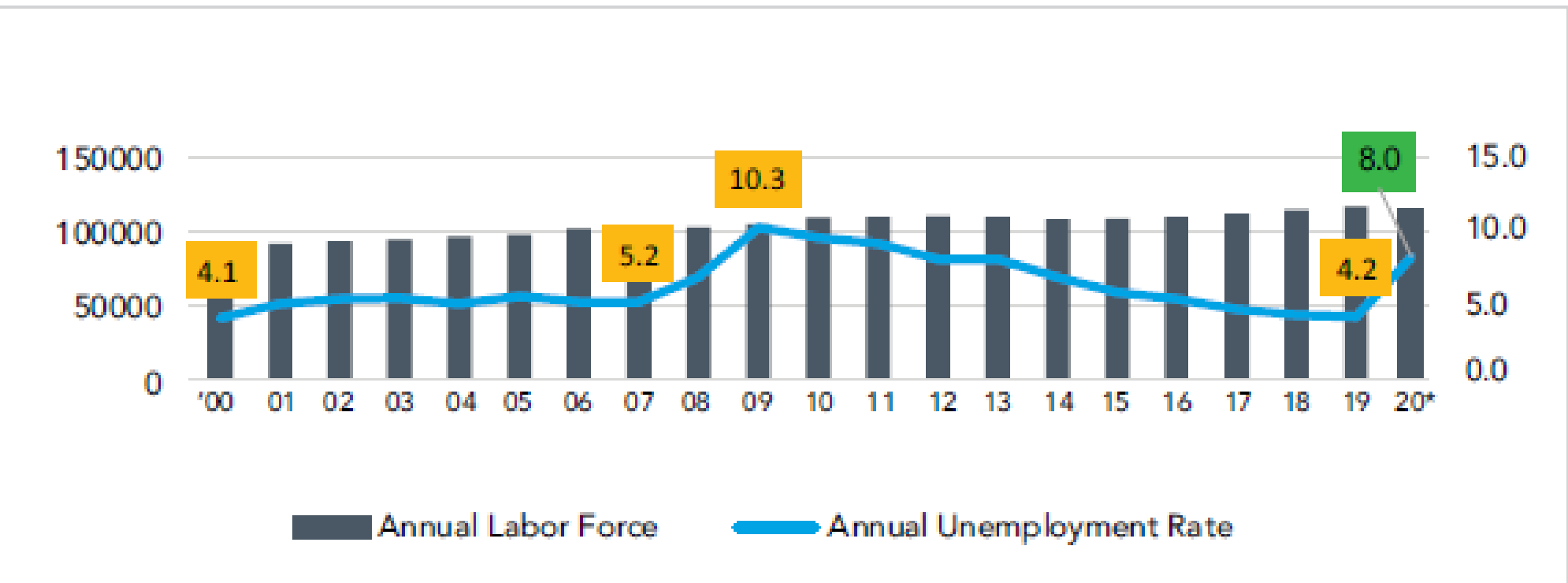
Figure 1. Labor Force & Unemployment by Year - Nashville MSA



*Preliminary Estimate

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

Figure 2. Labor Force & Unemployment by Year - Clarksville MSA

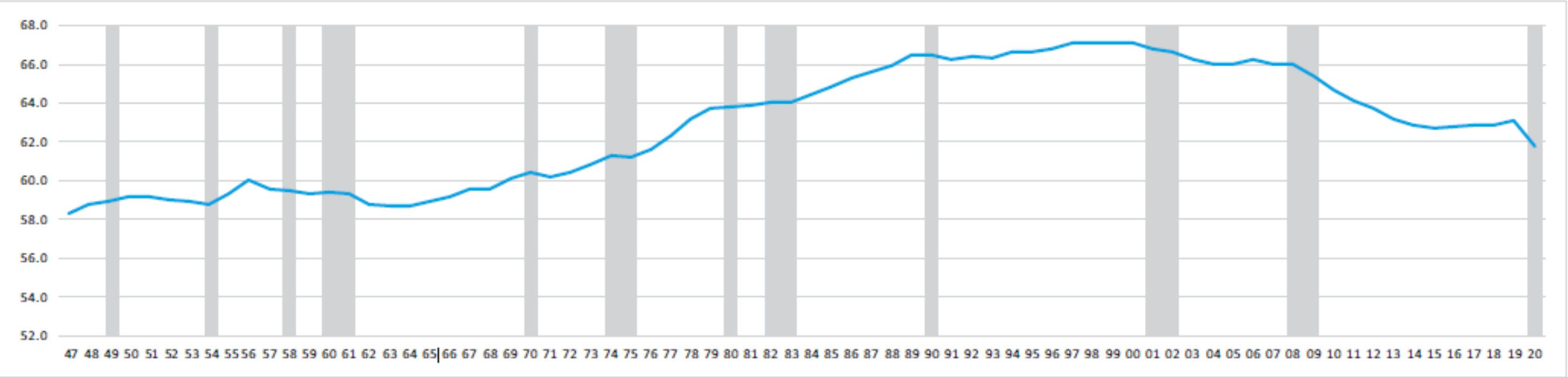


*Preliminary Estimate

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

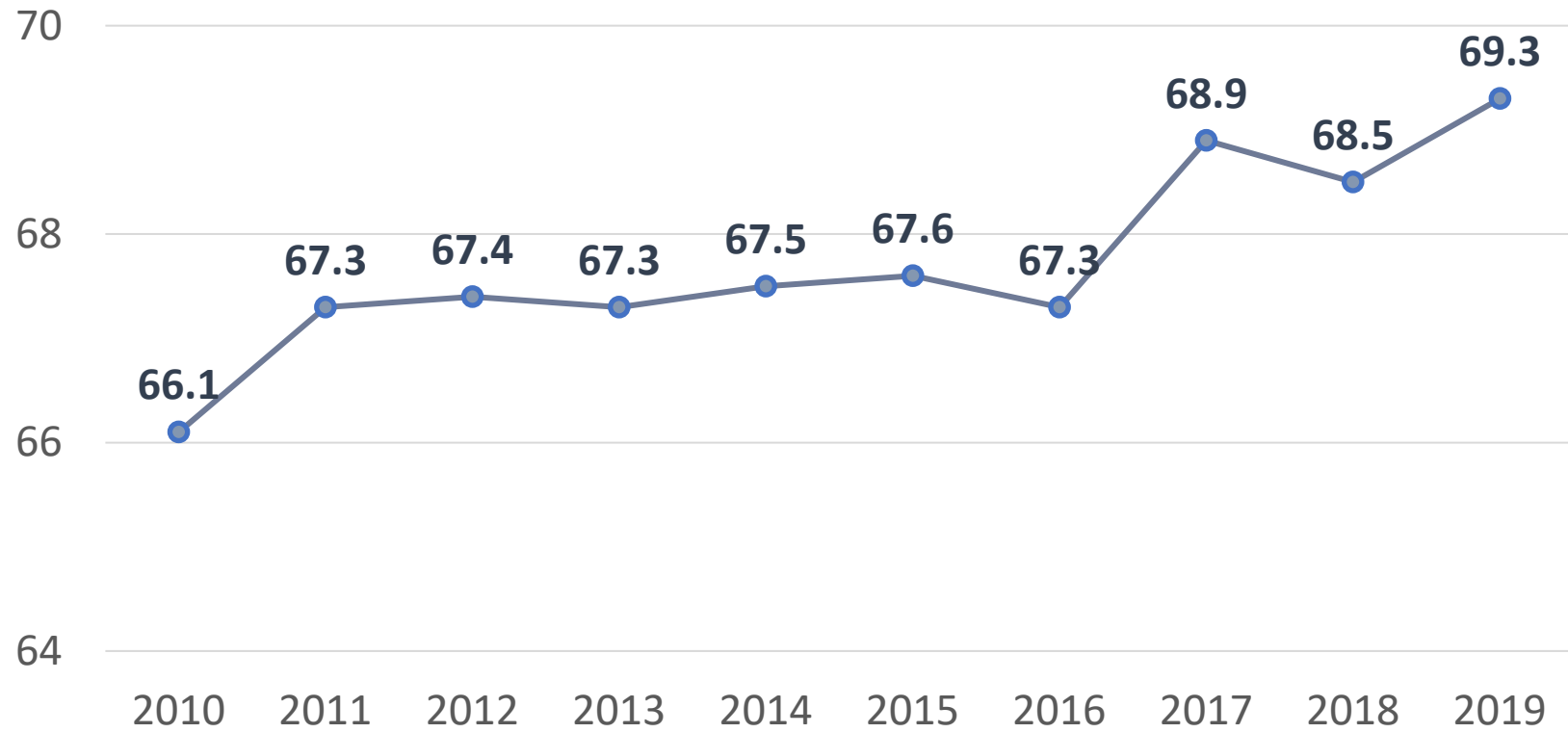


Figure 3. U.S. Labor Force Participation Rate, 1947-2020

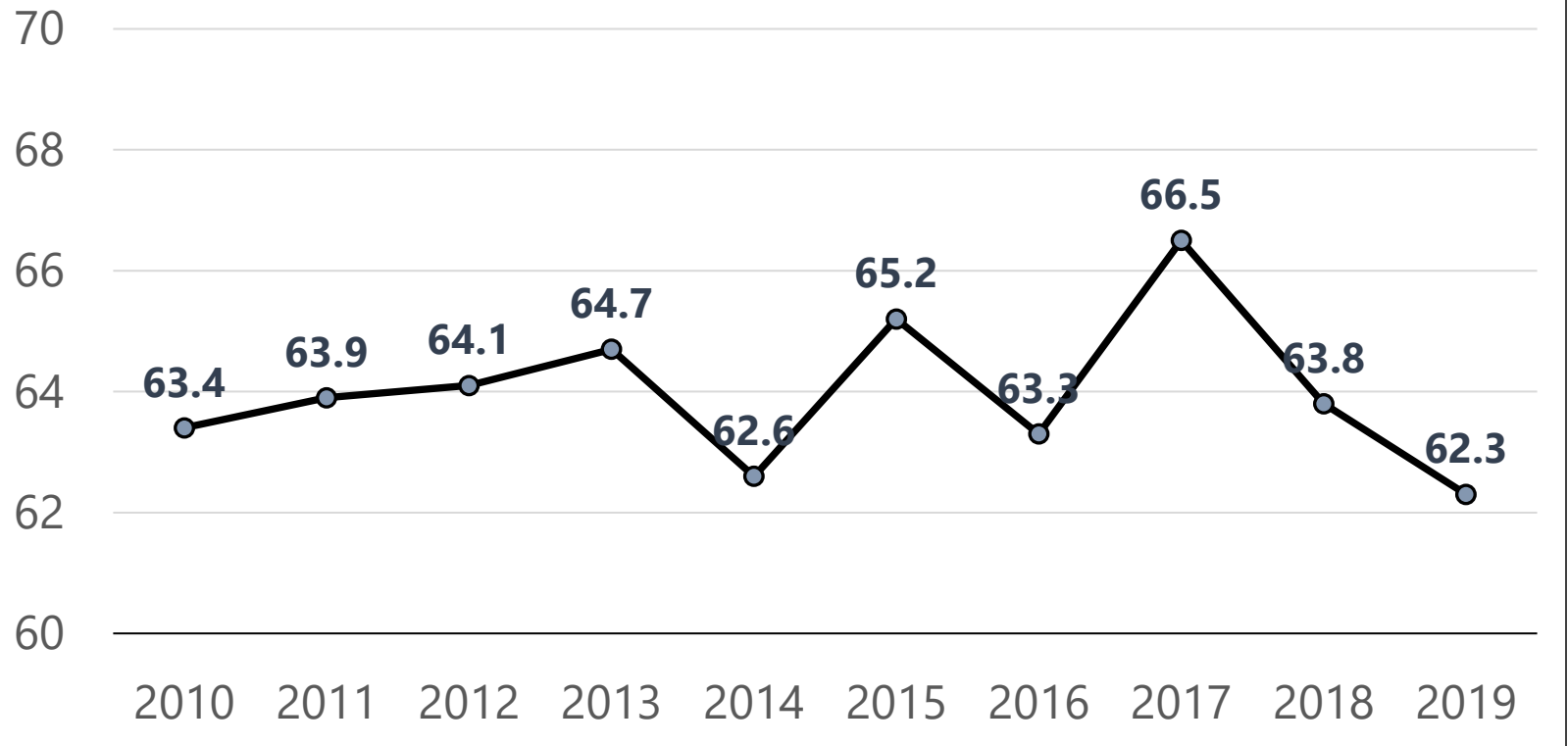


Note: Shaded areas represent recessions as determined by the National Bureau of Economic Research.
Source: U.S. Bureau of Labor Statistics, Current Population Survey; Bureau of Economic Analysis

Labor force Participation Rate - Nashville MSA



Labor force Participation Rate - Clarksville MSA





Industry - Occupational Assessment

Target Market Clusters

Figure 7. Regional Target Clusters

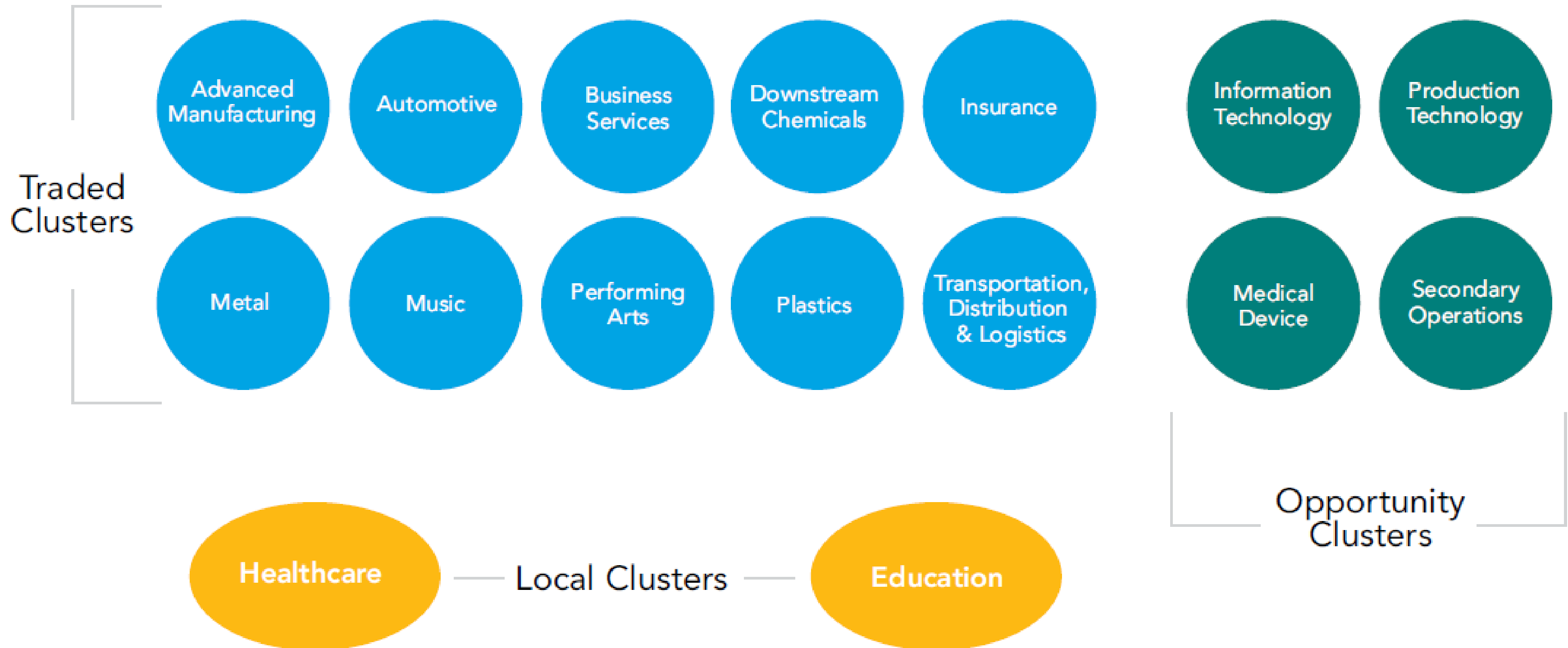
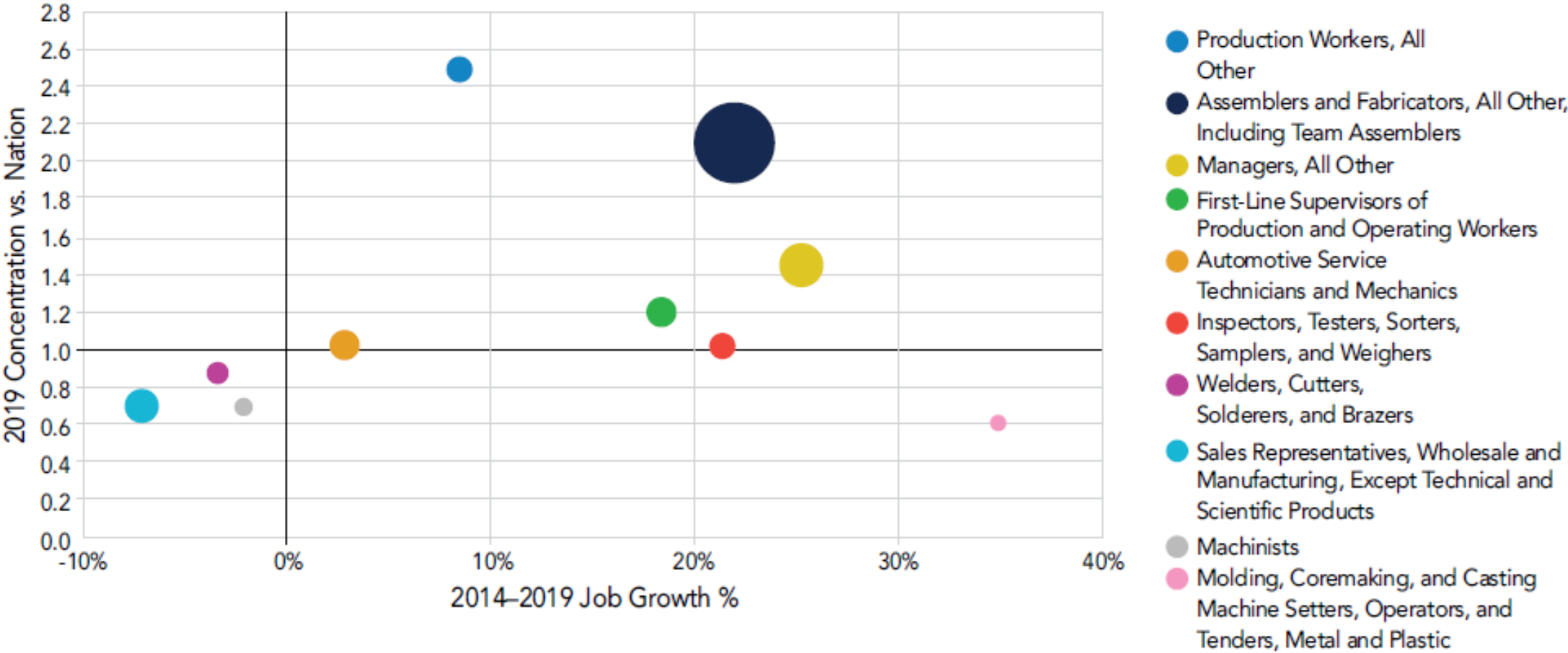


Figure 8. Automotive Industry Cluster Location Quotient and Growth Chart



Note: Bubble size indicates 2019 employment size.
Source: EMSI

- 150% more automotive industry production workers
- 110% more automotive related assemblers
- 13% fewer welders, cutters, solderers, and brazers
- 31% fewer machinists
- 39% fewer machine setters



Figure 9. Automotive Industry Cluster Occupational Table

SOC	Key Occupation	LQ	2014 Jobs	2019 Jobs	2024 Jobs	Median Hourly Earnings	Average Hourly Earnings
51-9199	Production Workers, All Other	2.50	4,481	4,861	5,193	\$12.73	\$13.37
51-2098	Assemblers and Fabricators, All Other, Including Team Assemblers	2.10	17,532	21,381	22,361	\$17.30	\$18.28
11-9199	Managers, All Other	1.46	7,931	9,931	10,741	\$31.88	\$37.18
51-1011	First-Line Supervisors of Production and Operating Workers	1.20	4,858	5,752	6,169	\$27.52	\$28.86
49-3023	Automotive Service Technicians and Mechanics	1.02	5,762	5,927	6,273	\$18.10	\$19.81
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	1.01	3,590	4,359	4,356	\$17.11	\$18.93
51-4121	Welders, Cutters, Solderers, and Brazers	0.87	2,877	2,779	2,952	\$18.79	\$19.28
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	0.70	8,140	7,556	8,108	\$23.94	\$30.92
51-4041	Machinists	0.69	2,096	2,051	2,188	\$19.54	\$20.61
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	0.61	556	750	796	\$16.95	\$18.51
	Total	1.47	57,822	65,347	69,137		\$23.48

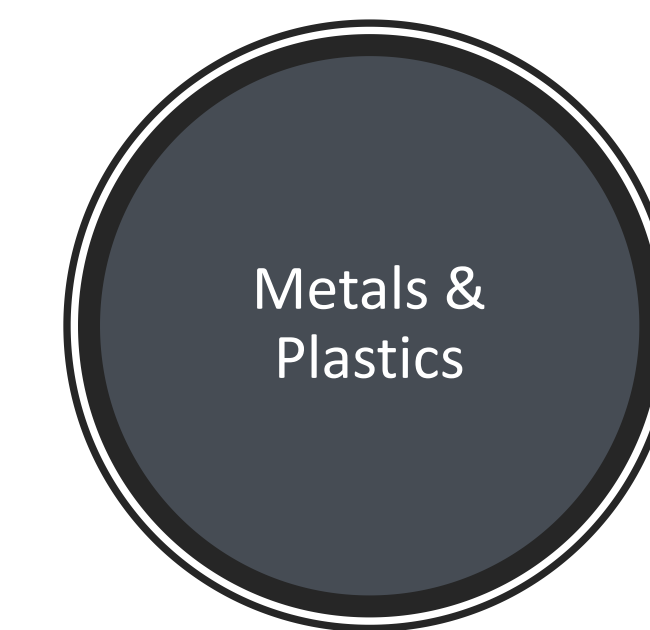
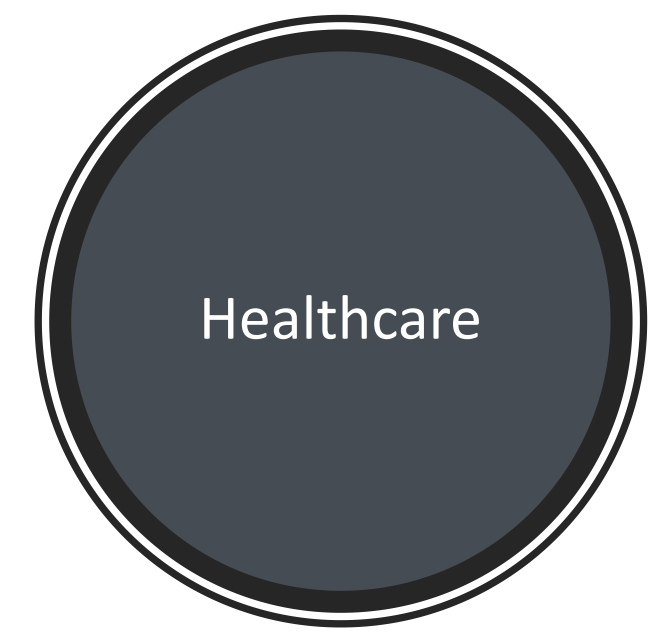


Figure 28. Occupations With Below Average Concentrations, Above Median Wages

SOC	Key Occupation	Concentration	2014 Jobs	2019 Jobs	2024 Jobs	Median Hourly Earnings	Average Hourly Earnings
11-1021	General and Operations Managers	0.97	14,122	17,373	19,489	\$44.87	\$56.05
13-1111	Management Analysts	0.87	4,440	5,854	6,902	\$36.30	\$45.55
13-2052	Personal Financial Advisors	0.88	1,344	1,683	1,969	\$34.35	\$50.83
13-2072	Loan Officers	0.77	1,660	1,770	1,968	\$28.16	\$33.37
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	0.58	4,393	6,344	7,951	\$45.74	\$46.13
17-1011	Architects, Except Landscape and Naval	0.85	720	855	918	\$34.33	\$39.20
17-2141	Mechanical Engineers	0.52	1,059	1,211	1,382	\$40.27	\$44.15
17-2112	Industrial Engineers	0.74	1,258	1,630	1,907	\$39.09	\$41.27
19-3039	Psychologists, All Other	0.65	211	276	306	\$45.89	\$54.10
23-1011	Lawyers	0.76	4,372	4,731	5,111	\$46.63	\$61.73
25-1099	Postsecondary Teachers	0.69	8,139	7,748	8,017	\$31.46	\$37.78
25-2021	Elementary School Teachers, Except Special Education	0.93	9,052	9,844	10,576	\$25.56	\$26.32
25-3021	Self-Enrichment Education Teachers	0.97	2,463	2,946	3,314	\$18.56	\$24.95
29-1069	Physicians and Surgeons, All Other	0.87	2,178	2,830	3,184	\$107.05	\$114.86
29-1141	Registered Nurses	0.98	19,208	22,307	25,261	\$30.62	\$31.22
41-3031	Securities, Commodities, and Financial Services Sales Agents	0.54	1,213	1,817	2,101	\$27.37	\$39.70
41-3099	Sales Representatives, Services, All Other	0.93	5,739	8,107	9,258	\$24.10	\$30.65
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	0.76	8,829	8,138	8,777	\$23.53	\$29.81
43-5052	Postal Service Mail Carriers	0.84	1,741	2,074	2,011	\$24.39	\$24.80
43-9061	Office Clerks, General	0.88	21,082	22,492	23,749	\$16.59	\$17.94
51-4121	Welders, Cutters, Solderers, and Brazers	0.93	2,902	3,030	3,230	\$20.25	\$20.63
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	0.61	556	750	796	\$16.95	\$18.51
51-4041	Machinists	0.80	2,384	2,341	2,488	\$18.91	\$20.05
51-9011	Chemical Equipment Operators and Tenders	0.22	105	143	183	\$19.92	\$20.39
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	0.53	481	504	570	\$16.35	\$17.87
51-9081	Dental Laboratory Technicians	0.30	83	86	109	\$18.65	\$21.76
51-9082	Medical Appliance Technicians	0.69	51	80	96	\$16.23	\$16.80
51-9083	Ophthalmic Laboratory Technicians	0.25	68	58	80	\$16.54	\$17.76
53-2011	Airline Pilots, Copilots, and Flight Engineers	0.95	800	903	952	\$57.53	\$55.41
53-2012	Commercial Pilots	0.81	328	343	355	\$41.76	\$44.02

Target
Occupation
Supply
Deficits



Occupational Supply Gap

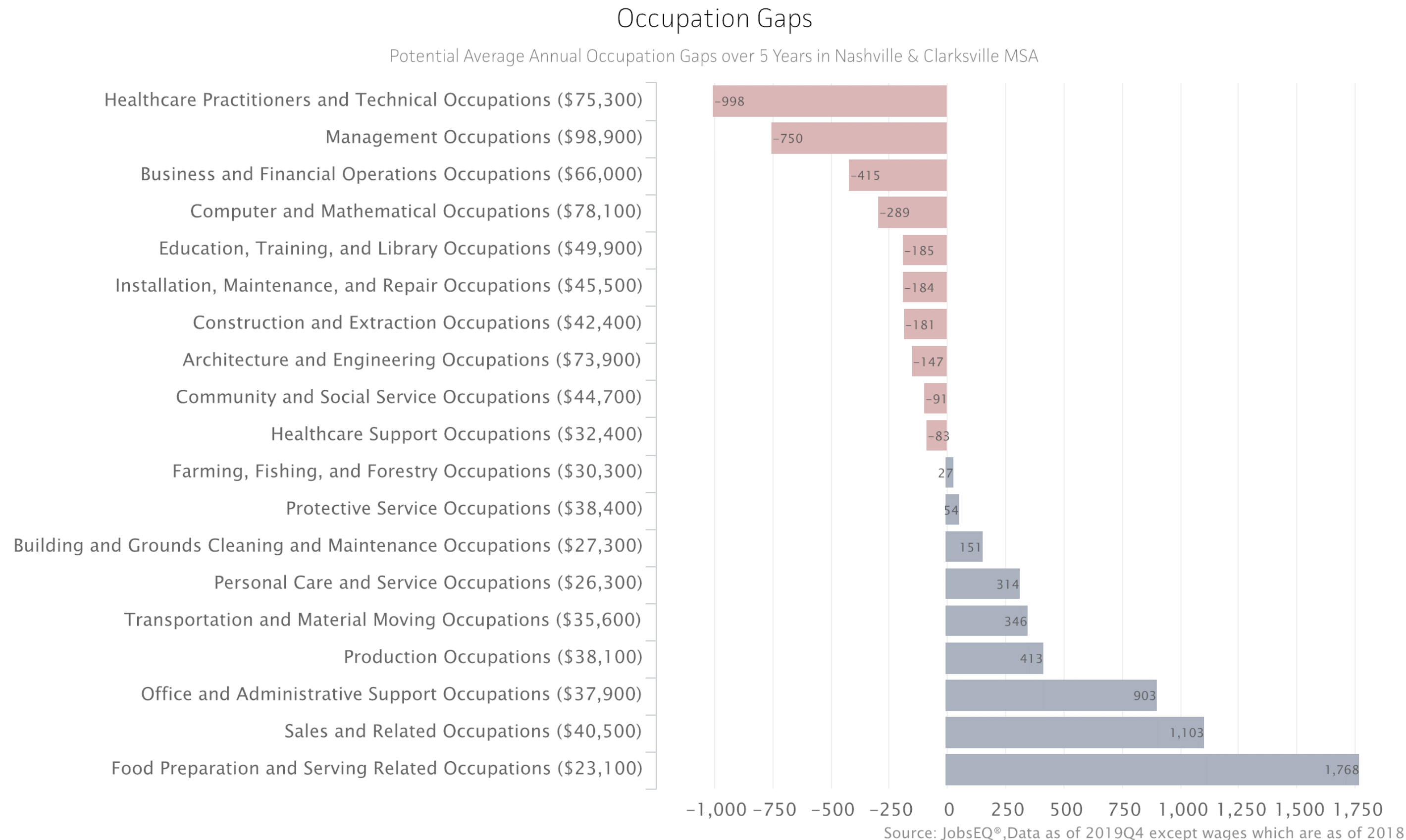
Occupation Gaps Projections

Figure 29. Potential Average Annual Occupation Gaps over 5 Years in Nashville & Clarksville MSAs

SOC	Occupation	Annual Supply Gap	Pre-COVID-19 Employment 2020Q1	Annual Growth Demand	Annual Sep Demand	Total Annual Demand	Projected Employment 2030	Accumulated Supply 2025	Accumulated Demand 2025	Average Wages
29-0000	Healthcare Practitioners and Technical	(1,005)	72,538	1,592	6,627	8,218	88,456	15,682	20,709	\$75,400
11-0000	Management	(763)	81,427	1,617	9,747	11,364	97,596	24,580	28,396	\$102,500
13-0000	Business and Financial Operations	(428)	65,650	1,334	8,755	10,089	78,991	22,783	24,921	\$66,400
15-0000	Computer and Mathematical	(314)	28,175	746	2,854	3,600	35,632	7,909	9,479	\$77,600
47-0000	Construction and Extraction	(179)	47,579	1,039	7,449	8,488	57,967	18,938	19,834	\$44,100
49-0000	Installation, Maintenance, and Repair	(175)	45,086	739	6,298	7,036	52,475	16,479	17,352	\$46,200
25-0000	Educational Instruction and Library	(153)	55,765	908	7,712	8,619	64,840	19,105	19,870	\$50,700
17-0000	Architecture and Engineering	(136)	14,870	281	1,682	1,963	17,681	4,262	4,943	\$74,400
21-0000	Community and Social Service	(79)	18,317	406	2,867	3,274	22,379	7,490	7,884	\$45,900
31-0000	Healthcare Support	(75)	40,044	1,238	8,026	9,264	52,424	18,721	19,097	\$30,300
19-0000	Life, Physical, and Social Science	(53)	7,078	141	876	1,017	8,490	2,330	2,595	\$63,500
23-0000	Legal	(50)	8,042	154	804	958	9,585	2,113	2,362	\$98,500
27-0000	Arts, Design, Entertainment, Sports, and Media	(32)	25,590	361	4,135	4,496	29,203	9,541	9,703	\$55,400

Source: JobsEQ

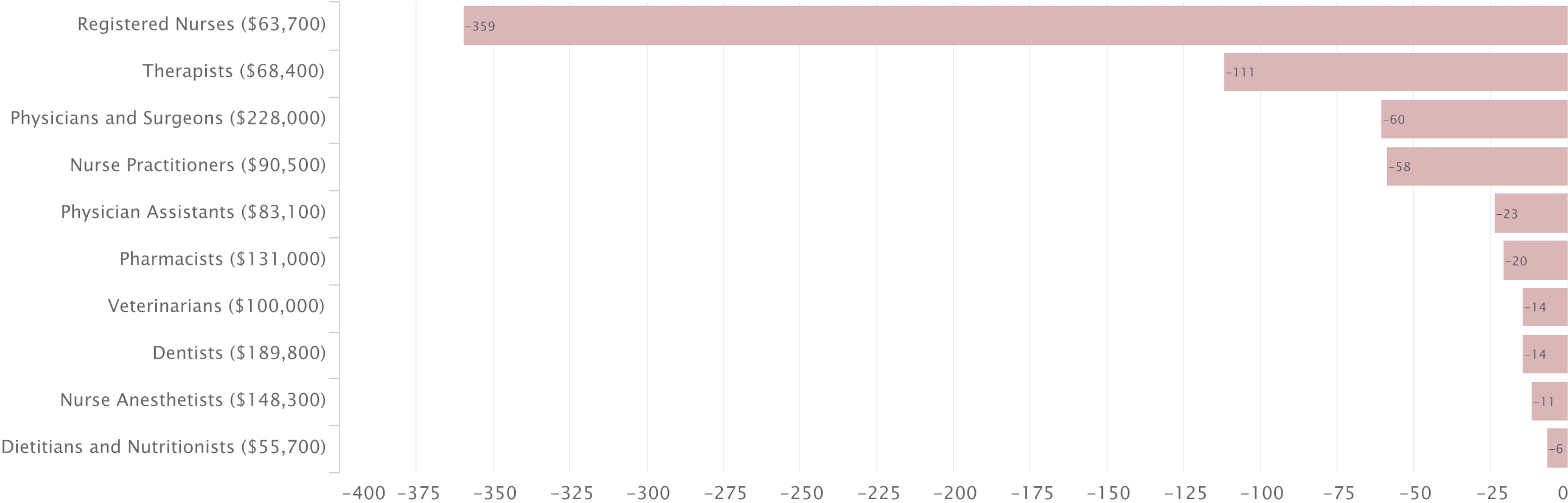
Assessment – Opportunity Gaps



Assessment – Opportunity Gaps

Occupation Gaps

Potential Average Annual Occupation Gaps over 5 Years in Nashville & Clarksville MSA



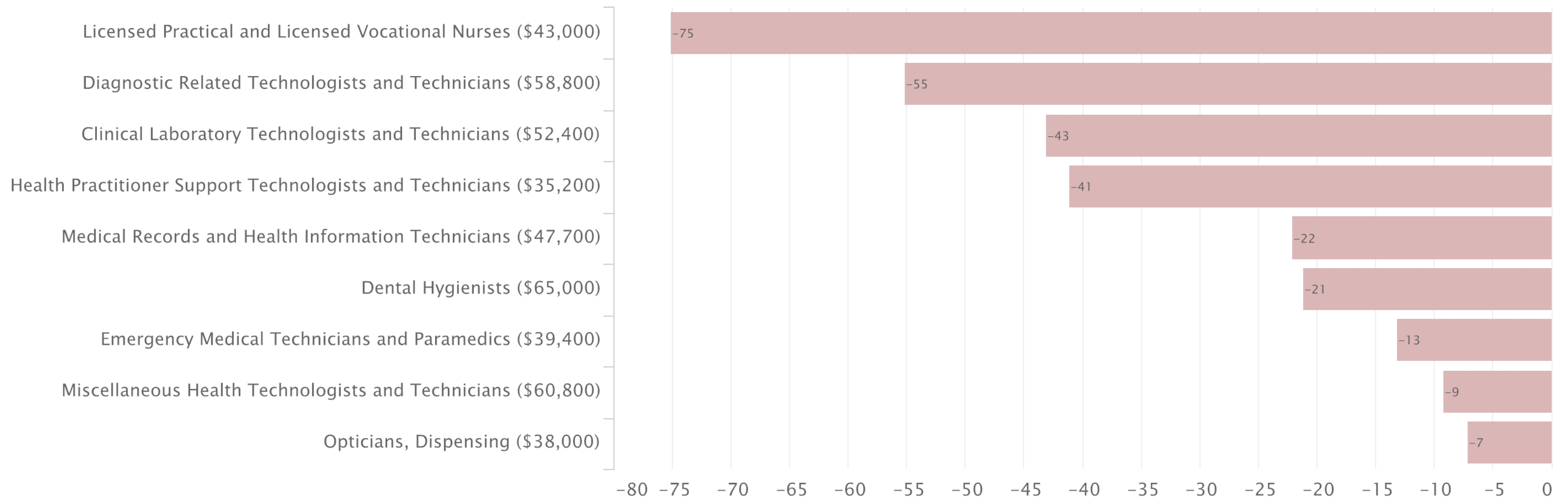
Source: JobsEQ®, Data as of 2019Q4 except wages which are as of 2018



Assessment— Opportunity Gaps

Occupation Gaps

Potential Average Annual Occupation Gaps over 5 Years in Nashville & Clarksville MSA



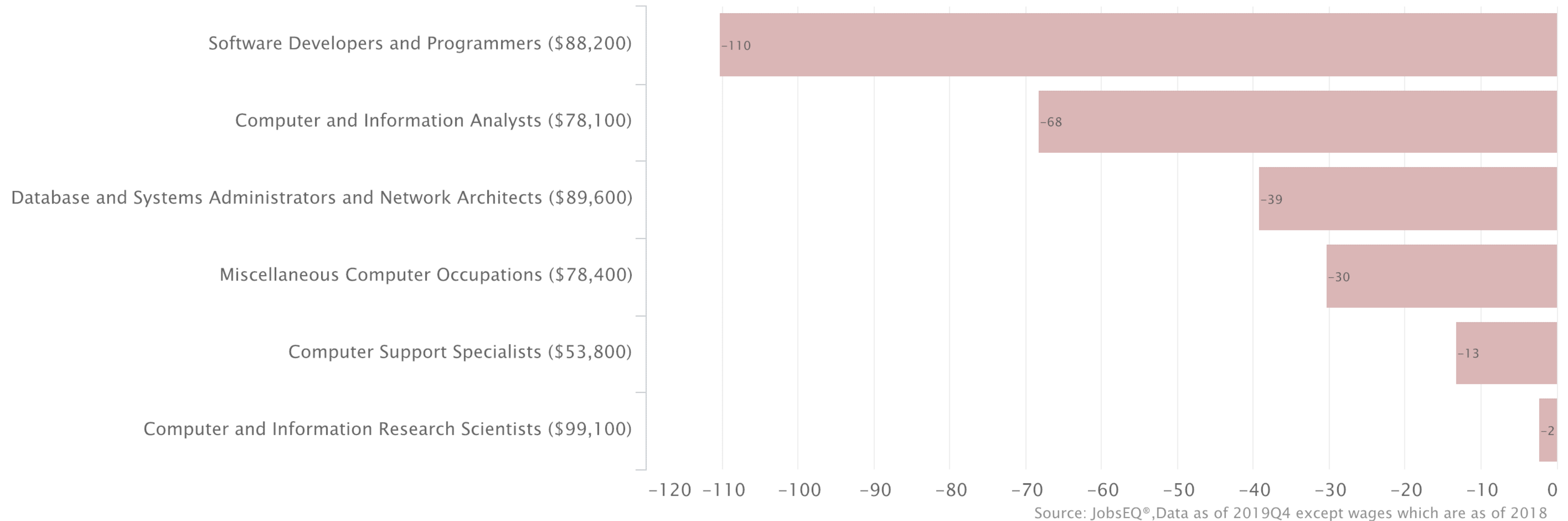
Source: JobsEQ®, Data as of 2019Q4 except wages which are as of 2018



Assessment – Opportunity Gaps

Occupation Gaps

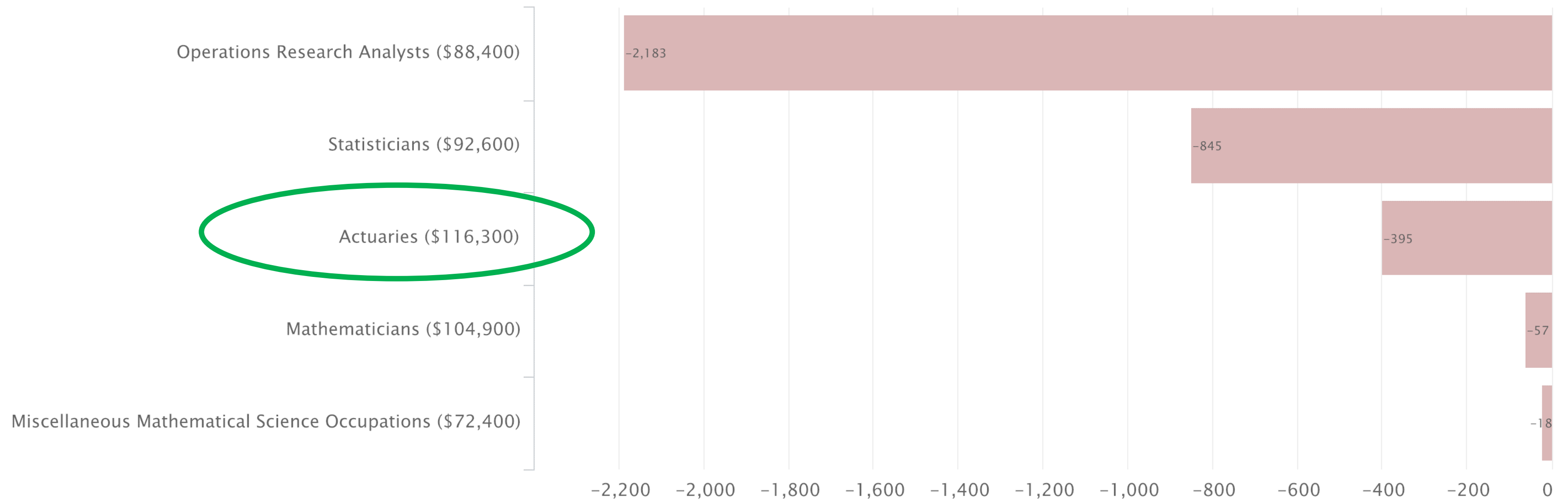
Potential Average Annual Occupation Gaps over 5 Years in Nashville & Clarksville MSA



Assessment – Opportunity Gaps

Occupation Gaps

Potential Average Annual Occupation Gaps over 5 Years in USA



Source: JobsEQ®, Data as of 2019Q4 except wages which are as of 2018





Figure 30. Skill Gaps: Nashville & Clarksville MSA (CERTIFICATIONS)

Sector	Skill	Candidates #	Openings #	Gap #
Healthcare	Registered Nurse (RN)	998	1,185	-187
	Certified Nursing Assistant (CNA)	760	927	-167
	Licensed Practical Nurse (LPN)	503	607	-104
	Medical Assistant Certification (MA)	237	253	-16
	Nationally Certified Medical Assistant (NCMA)	17	89	-72
	National Phlebotomy Association Certified Phlebotomist	58	115	-57
	Registered Health Information Technician (RHIT)	26	51	-25
	Certified Rehabilitation Counselor (CRC)	26	79	-53
	Certified Coding Specialist (CCS)	23	52	-29
	Certified Patient Care Technician/Associate/Nurse Technician (CPCT or CPCA or CNT)	10	53	-43
	Technologist in Cytogenetics (CG)	8	28	-20
	Chemotherapy Certification	3	29	-26
Transportation, Distribution, Logistics	Class A Commercial Driver's License (CDL-A)	690	946	-256
	Commercial Driver's License (CDL)	543	676	-133
Finance	Series 63	38	85	-48
Information Technology	Certified Information Systems Security Professional (CISSP)	48	66	-18
	Certified Professional Coder (CPC)	41	58	-16
	Cisco Certified Internetwork Expert (CCIE)	10	24	-15
Miscellaneous	OSHA 10	92	113	-21
	Automobile Technician: Engine Repair (Test A1)	3	22	-19

Source: JobsEQ



Automation & Disruption

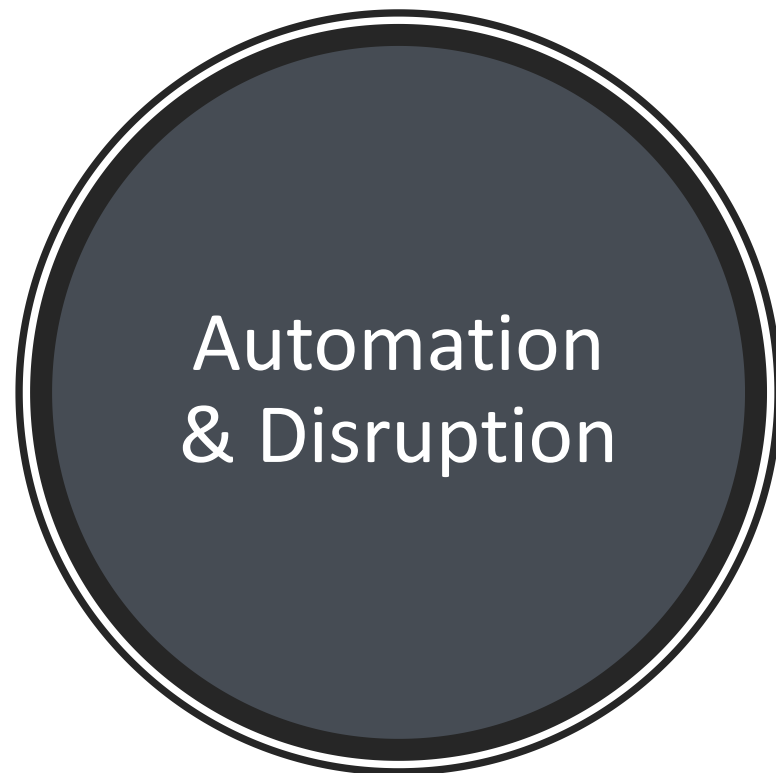
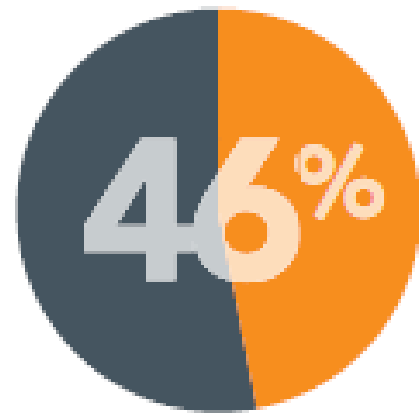


Figure 36. Occupational Groups Automation Risk-Share

2-Digit SOC	Description	% of Occupation Group that is at or above the average automation risk
11	Management Occupations	3.0
13	Business and Financial Operations Occupations	3.3
15	Computer and Mathematical Occupations	0
17	Architecture and Engineering Occupations	8.6
19	Life, Physical, and Social Science Occupations	7.0
21	Community and Social Service Occupations	0
23	Legal Occupations	0
25	Education, Training, and Library Occupations	3.7
27	Arts, Design, Entertainment, Sports, and Media Occupations	14.6
29	Healthcare Practitioners and Technical Occupations	3.3
31	Healthcare Support Occupations	29.4
33	Protective Service Occupations	22.7
35	Food Preparation and Serving Related Occupations	94.4
37	Building and Grounds Cleaning and Maintenance Occupations	100
39	Personal Care and Service Occupations	54.8
41	Sales and Related Occupations	31.8
43	Office and Administrative Support Occupations	37.5
45	Farming, Fishing, and Forestry Occupations	86.7
47	Construction and Extraction Occupations	98.3
49	Installation, Maintenance, and Repair Occupations	94.2
51	Production Occupations	97.2
53	Transportation and Material Moving Occupations	62.7

Source: EMSI

Automation & Disruption



356 OUT OF **772** ASSESSED OCCUPATIONS WERE FOUND TO HAVE AN **AUTOMATION RISK ABOVE AVERAGE**. THIS IS ABOUT **46%**.



OF THE **356 OCCUPATIONS ABOVE AVERAGE RISK**,
26.7% REQUIRE **NO FORMAL EDUCATIONAL CREDENTIAL**;
62.4% REQUIRE ONLY A **HIGH SCHOOL DIPLOMA OR EQUIVALENT**;
1% REQUIRE SOME **COLLEGE BUT NO DEGREE**;
21% REQUIRE SOME **POSTSECONDARY NONDEGREE AWARD**;
2.2% REQUIRE AN **ASSOCIATE DEGREE**;
NONE REQUIRE A **BACHELOR'S DEGREE**;
1% REQUIRE A **MASTER'S DEGREE**;
AND **NONE** REQUIRE A **DOCTORAL OR PROFESSIONAL DEGREE**.

These are largely entry level positions.



Disparties



Figure 37. Educational Attainment by Race and Ethnicity — Nashville MSA

	White Alone	Black or African American	Asian Alone	Two or More Races	Hispanic or Latino	White, Not Hispanic or Latino
Less than High School	9.2%	11.9%	15.0%	6.9%	36.0%	7.8%
High School Diploma or Equivalent	27.3%	28.2%	17.7%	21.6%	30.2%	26.8%
Some college, no degree	20.0%	24.9%	8.1%	26.4%	12.6%	20.4%
Associate's degree	8.0%	5.4%	6.0%	4.3%	7.2%	7.3%
Bachelor's degree	24.1%	16.6%	29.0%	26.7%	12.0%	24.7%
Graduate or professional degree	12.5%	10.4%	24.8%	12.4%	4.9%	12.9%

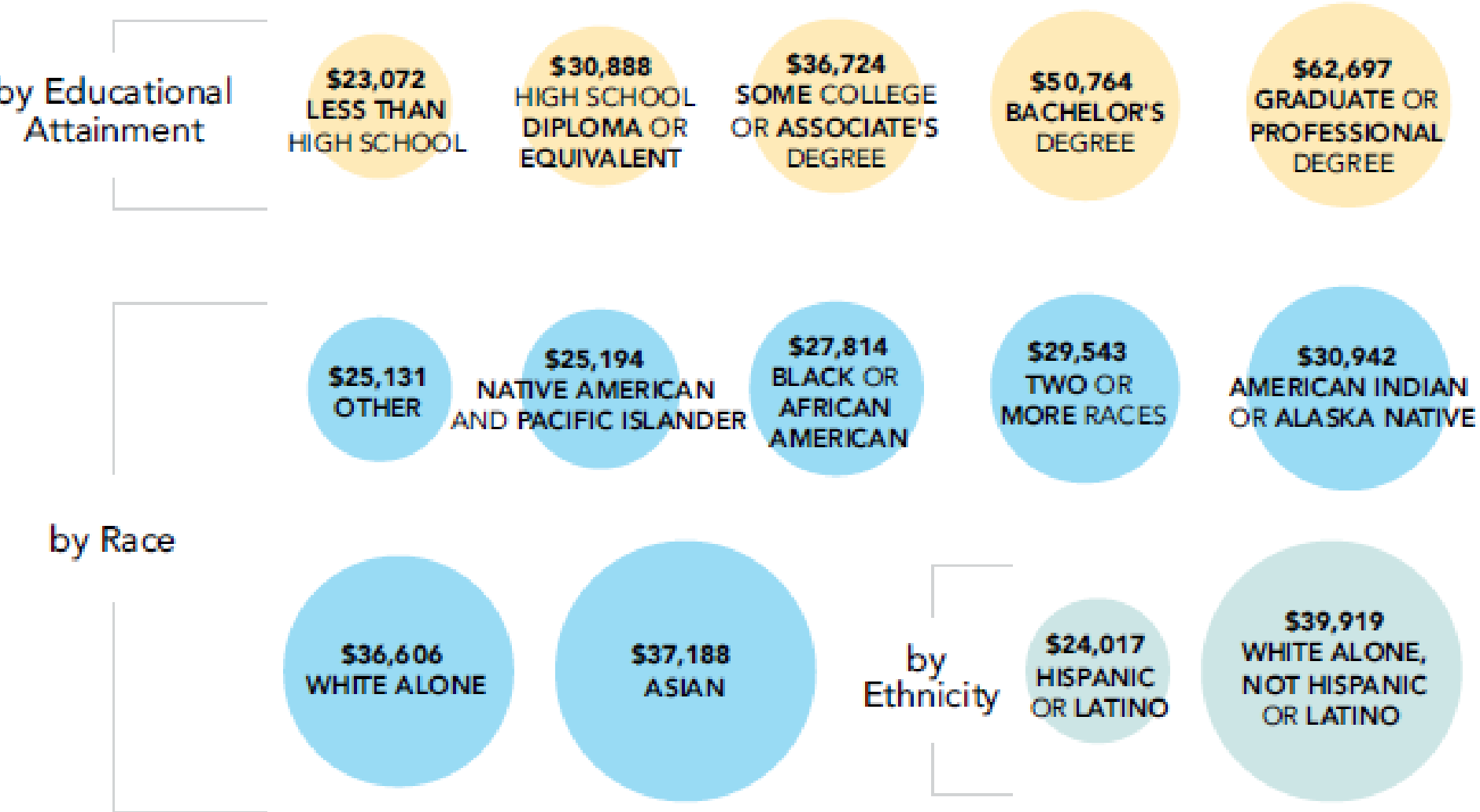
Source: American Community Survey 2016-2018 1-Year Estimates, 3-Year Weighted Average

Figure 38. Educational Attainment by Race and Ethnicity — Clarksville MSA

	White Alone	Black or African American	Hispanic or Latino	White, Not Hispanic or Latino
Less than High School	8.3%	11.7%	13.9%	7.8%
High School Diploma or Equivalent	29.3%	27.8%	20.2%	30.2%
Some college, no degree	27.0%	28.3%	31.1%	26.5%
Associate's degree	9.7%	11.2%	12.2%	9.4%
Bachelor's degree	16.8%	13.8%	15.5%	17.0%
Graduate or professional degree	8.9%	9.0%	7.2%	7.0%

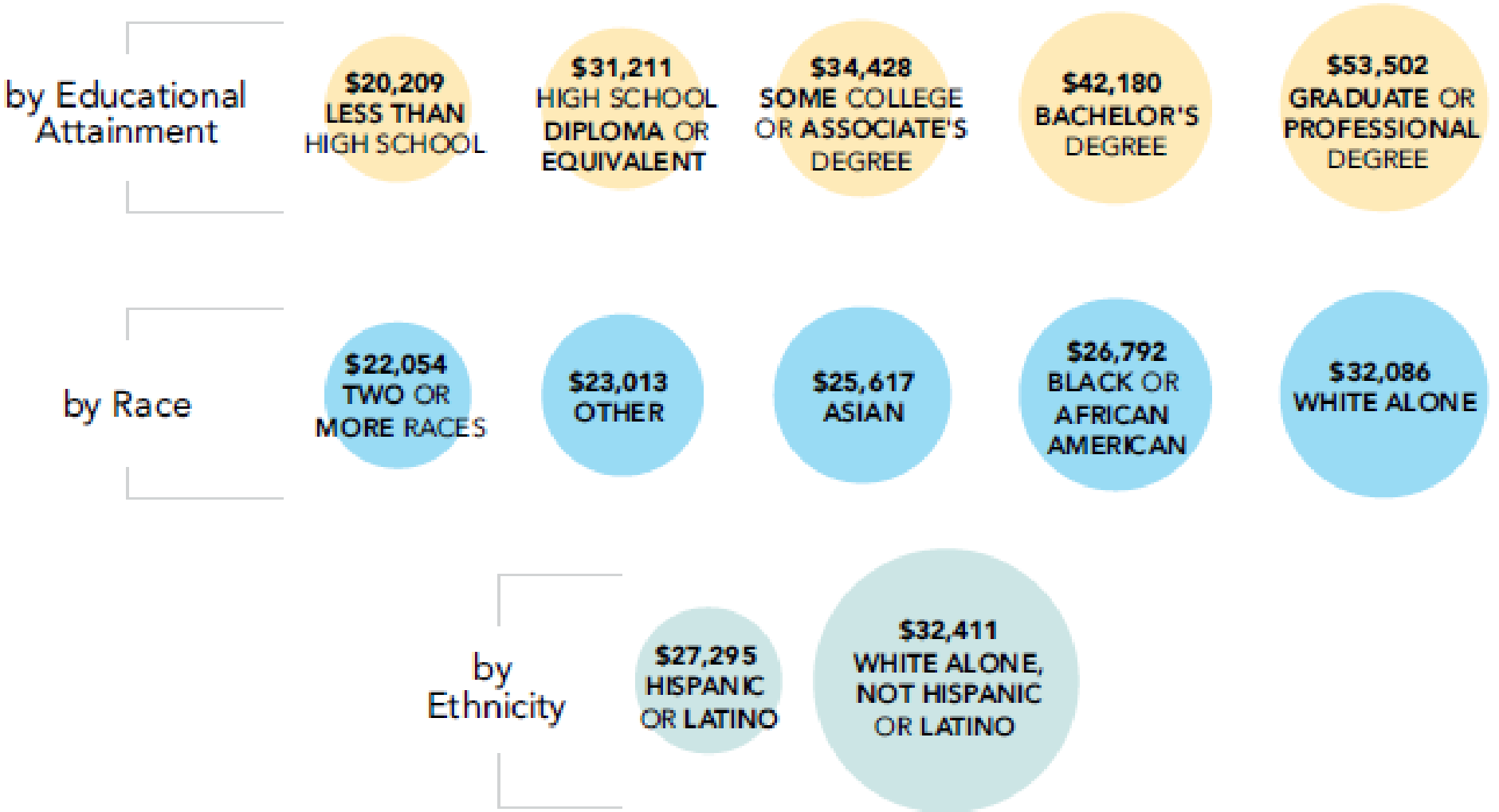
Source: American Community Survey 2016-2018 1-Year Estimates, 3-Year Weighted Average

Figure 39. Median Earnings by Educational Attainment, Race and Ethnicity — Nashville MSA



Source: American Community Survey 2014–2018 5-Year Estimates

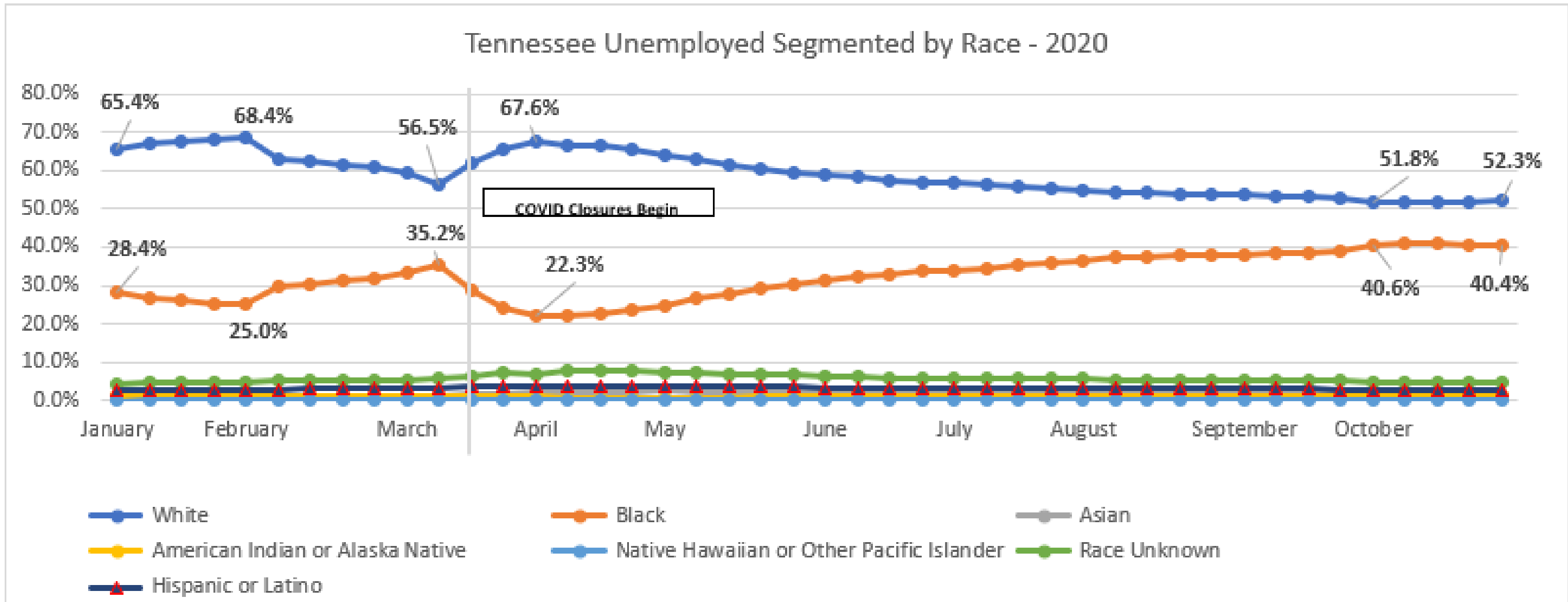
Figure 40. Median Earnings by Educational Attainment, Race and Ethnicity — Clarksville MSA



Source: American Community Survey 2014–2018 5-Year Estimates

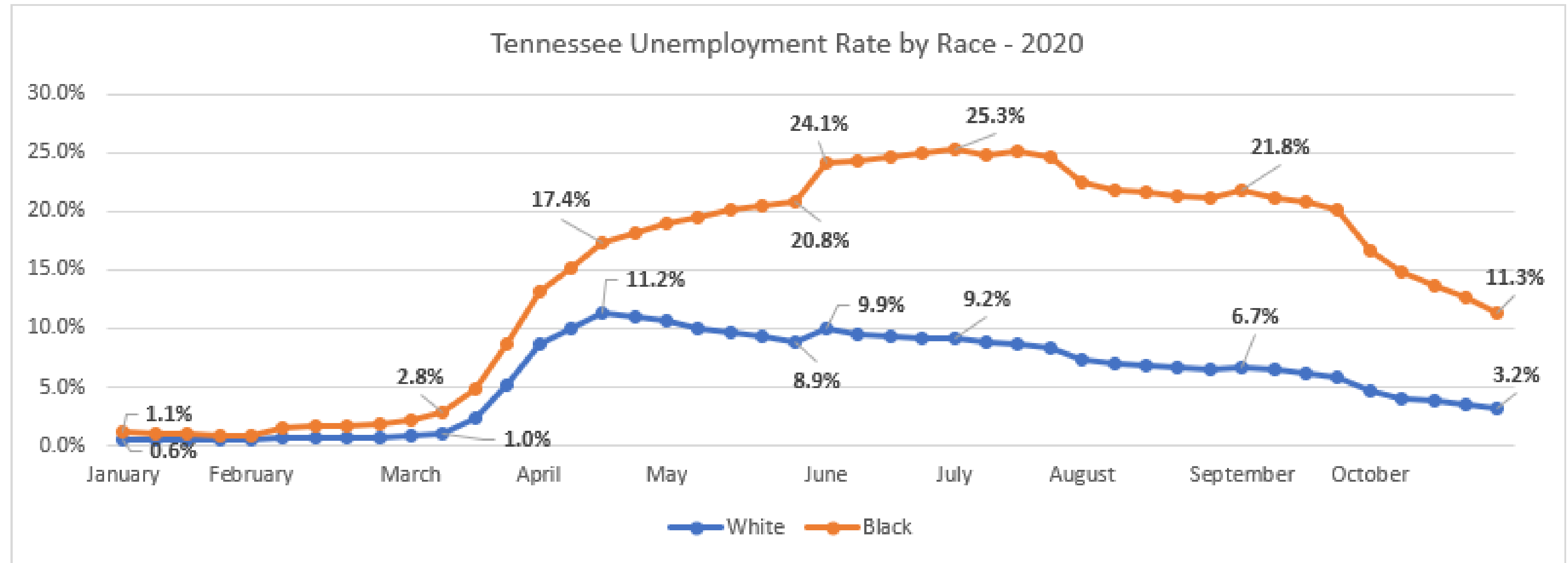
Disparities in Employment

Figure T1 – Breakdown of the Unemployed by Race as a Percent of the Total Number of Unemployed Tennesseans



Disparities in Employment

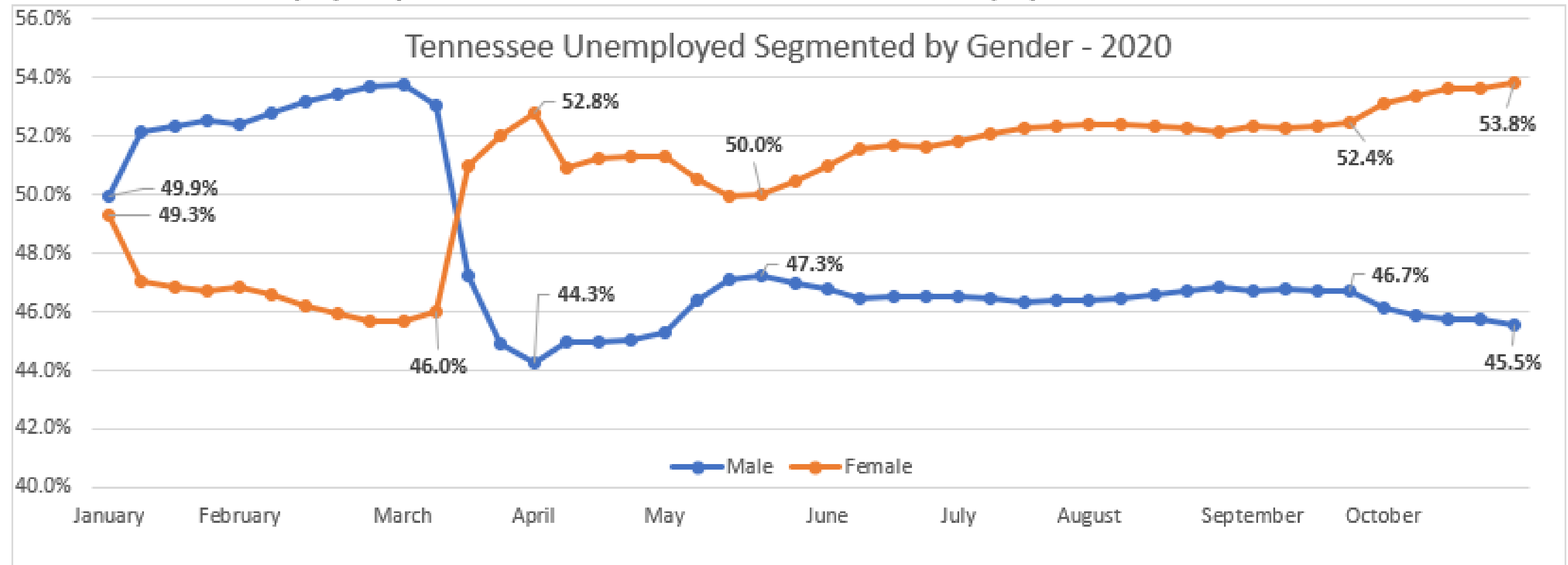
Figure T2 – Tennessee Unemployment Rate by Race*



*Data is a preliminary estimate based on NACC Research Center calculations of Census, ACS – 1yr. Estimates, 2019 data and data from the TNDLWFD

Disparities in Employment

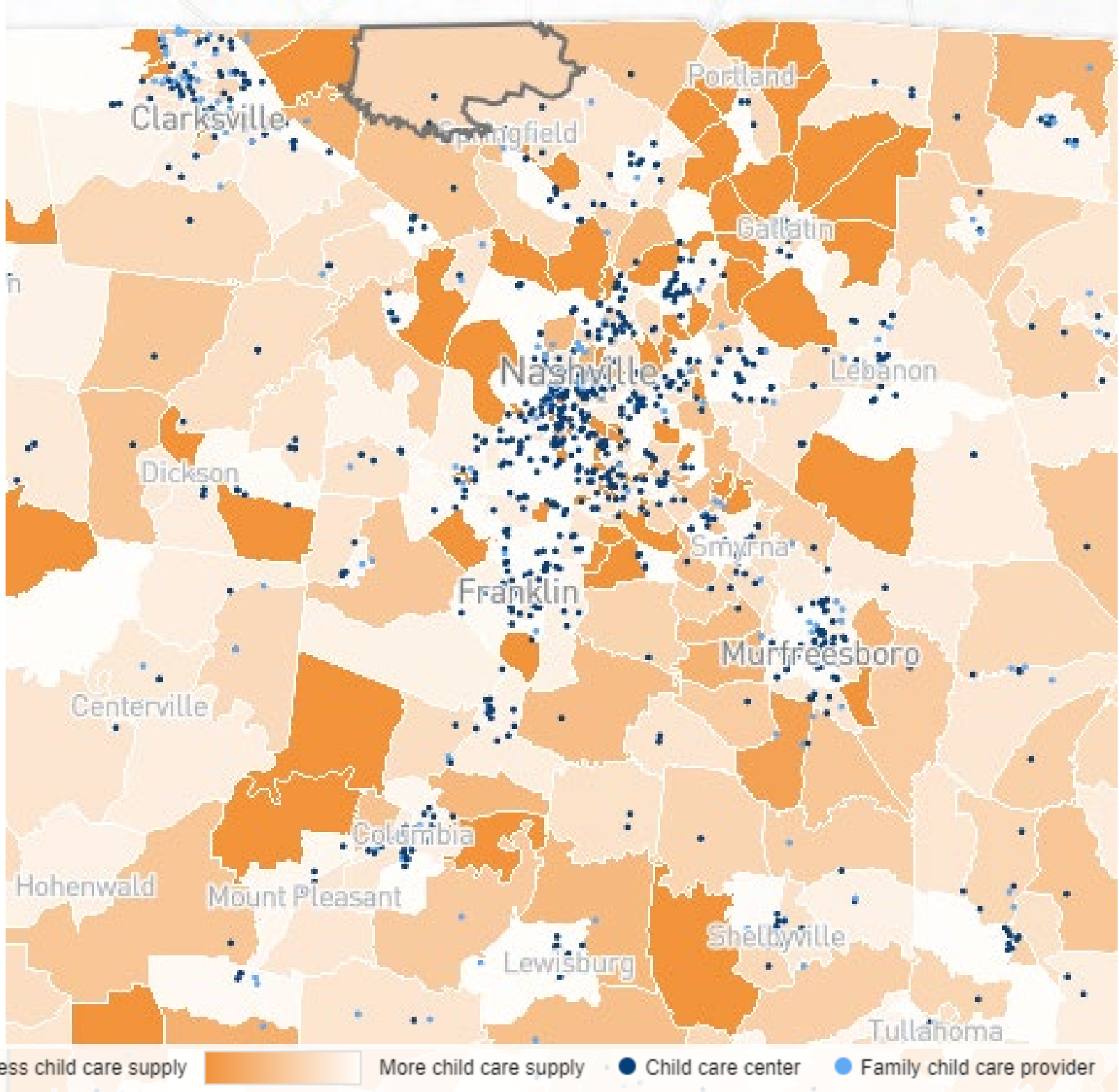
Breakdown of the Unemployed by Gender as a Percent of the Total Number of Unemployed



Source: TNLWFD



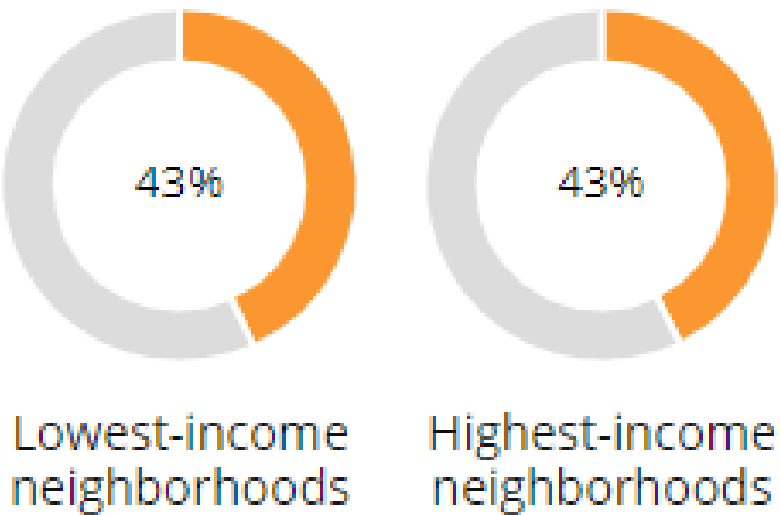
Barriers to Work



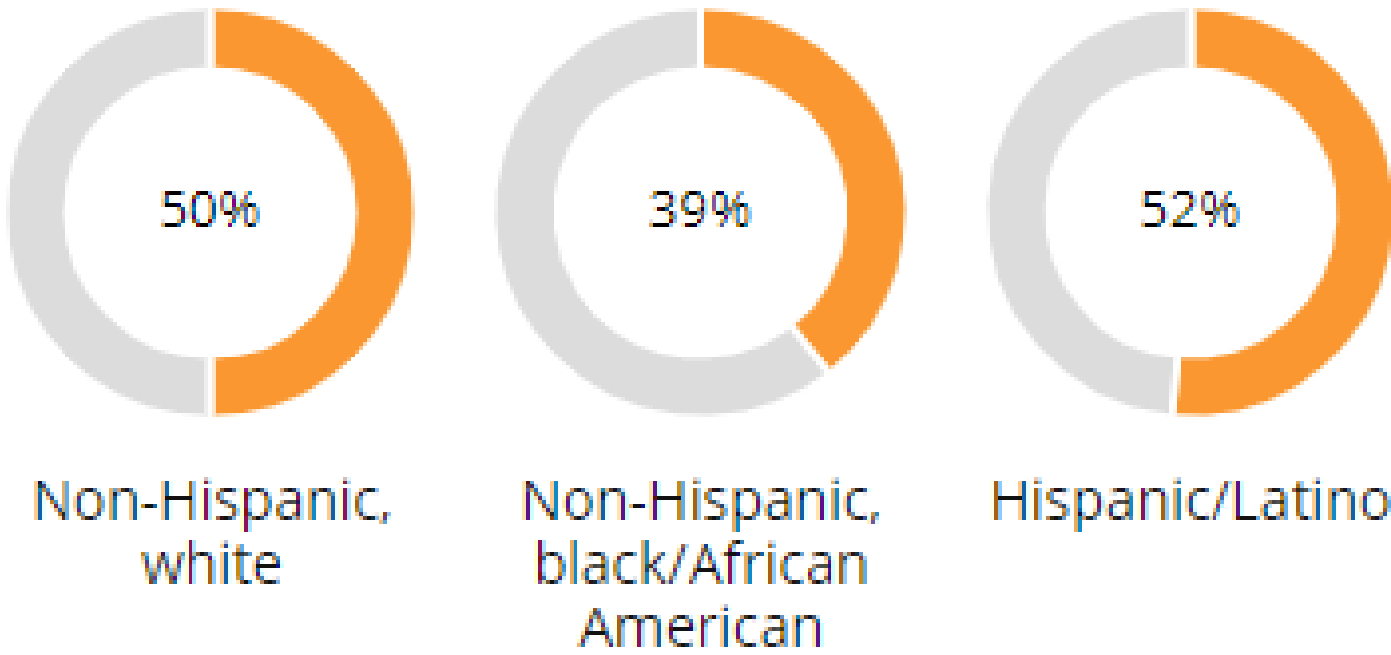
48 percent of people in Tennessee live in a childcare desert

A childcare desert is any census tract with more than 50 children under age 5 that contains either no childcare providers or so few options that there are more than three times as many children as licensed childcare slots.

Share of people in child care deserts, by income



Share of people in child care deserts, by race



Housing & Transportation



IN THE NASHVILLE MSA,
**APPROXIMATELY 40%
OF ALL HOUSEHOLDS
ARE COST BURDENED.**

THIS IS SEEN
DISPROPORTIONATELY
IN **RENTERS.**

ACROSS THE JOINT METRO REGION

48%



26%



**48% OF
RENTER-OCCUPIED
HOUSEHOLDS ARE
COST BURDENED.**



**26% OF
OWNER-OCCUPIED
HOUSEHOLDS WITH A
MORTGAGE ARE
COST BURDENED.**



IN THE **CLARKSVILLE MSA,**
**APPROXIMATELY 37% OF
ALL HOUSEHOLDS ARE COST
BURDENED.**



**20% of daily commuters in the Nashville
MSA experience 45+ minute commute**

Role of Remote Work



Conclusions



Healthcare

- **Nursing** (with pathways from CAN/Tech to LPN, RN, BSN & NP)
- **Therapists** (respiratory, physical, occupational)
- **Lab Technicians**

Information Technology

- **Hardware/Network Administration**
- **Network Security Systems**
- **Software Development**
- **Informatics & Data Science**

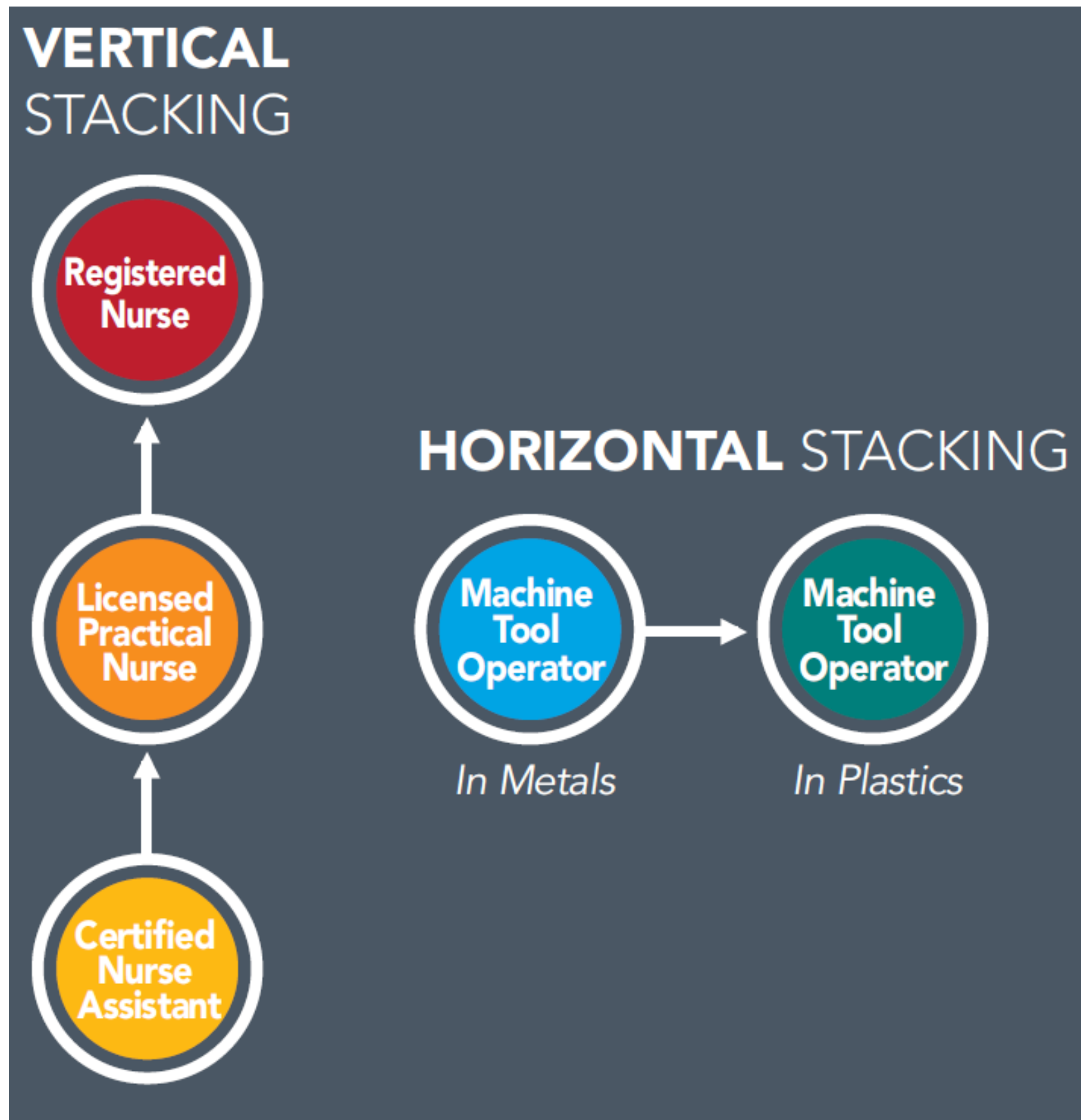
Business & Corporate HQ

- **Management Analysts**
- **Informatics**
- **Accounting/Auditing**
- **Paralegal/Legal Assistant**

Opportunity Areas

- **Software Development**
 - **Statistics/Analytics**
 - **Mathematics and Actuarial Science**
- Incremental Micro-Credentials
(pathways from high school to terminal degree to professional certification)

Develop stackable, micro-credentials aligned to target industries and occupations.

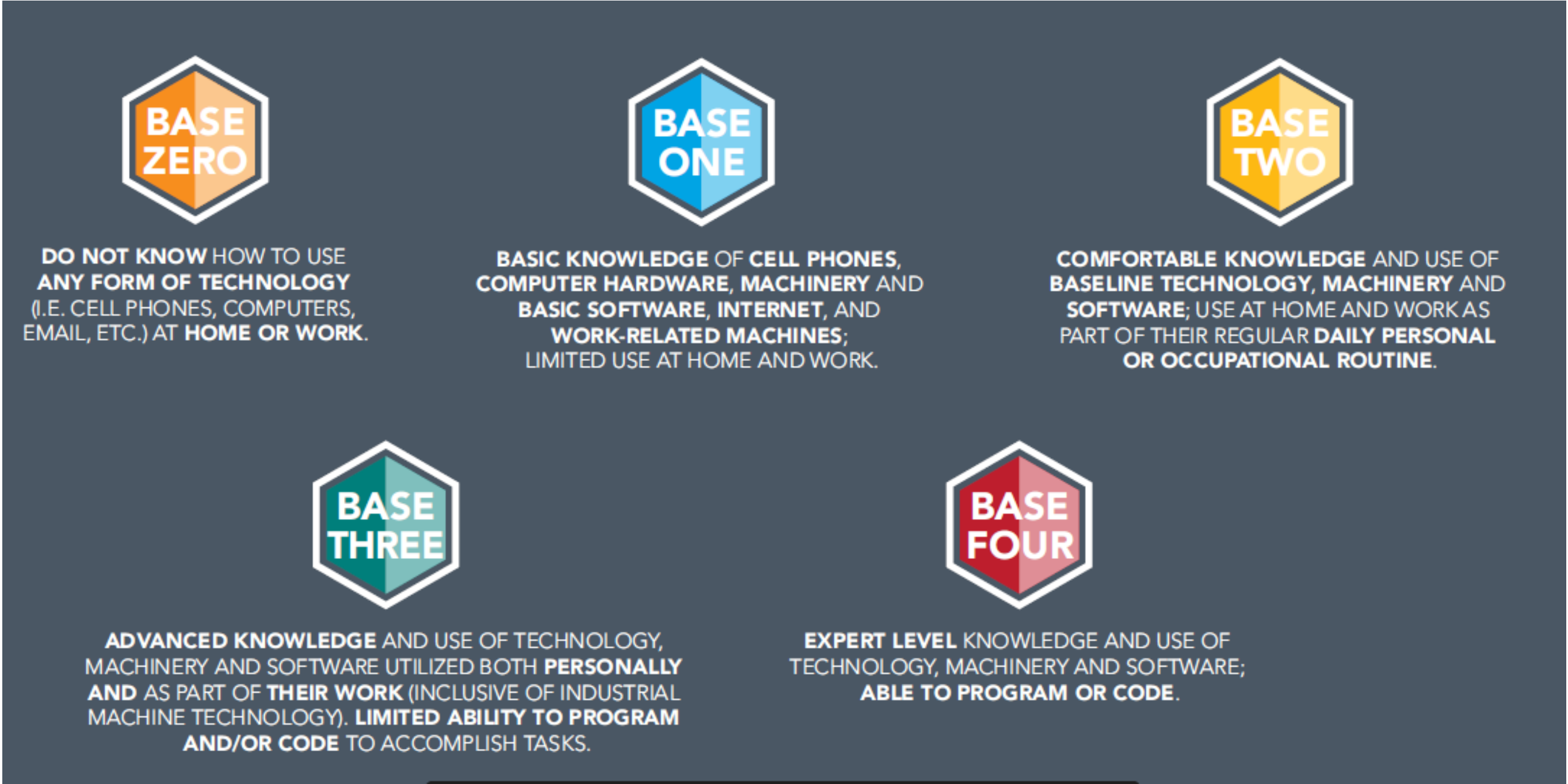


- Develop secondary skills pathway inclusive of both complementary skills and upskilling.
- Target entry-level workforce to bring them to middle skill in both their industry and complementary industries; prepare them to upskill for automation.



Provide support to existing industries through partnerships with economic development organizations to assess the digital readiness of workers.

Determine the skill tiers of workers in target industries:



Questions

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