Springboards to Opportunity

The Middle-Skills Occupational Landscape in 55 US Metro Areas

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Introduction



For decades, earning a bachelor's degree has proved to be the surest path to economic opportunity. On average, workers with a bachelor's degree earn more and have better employment prospects than workers with lower levels of educational attainment.[1] Yet a majority of American workers do not hold a four-year degree.[2] For this reason, understanding where opportunity exists for workers with middle-skills credentials—an associate's degree or postsecondary certificate—is critical.

A subset of middle-skills occupations, referred to throughout this report as **middle-skills springboard occupations**, offer workers above-median earnings at the start of their careers and strong wage growth over time—ensuring that inflation won't erode their economic security.

> UNDERSTANDING WHERE OPPORTUNITY EXISTS FOR WORKERS WITH MIDDLE-SKILLS CREDENTIALS IS CRITICAL.



In fact, some middle-skills springboard occupations offer middle-skills workers earnings comparable to those of bachelor's degree holders across all occupations.[3]

In addition to benefiting individual workers, middle-skills springboard occupations help power the US economy. In all 55 of the country's major metro areas,[4] workers in springboard occupations help staff hospitals, maintain vital infrastructure, and keep communities safe. Yet despite being of high value, middle-skills springboard occupations can be difficult to identify and access. Even when students and workers know which occupations they want to enter, the credentials that provide a pathway to those occupations aren't always obvious.

At the same time, US institutions are not producing a sufficient supply of middle-skills credentials that align with springboard occupations. This misalignment is causing workers to miss out on higher earnings potential and faster earnings growth, while leaving employers struggling to find enough qualified workers to meet their workforce needs.

1 Carnevale et al., *The College Payoff*, 2021; and Gulish et al., *Graduate Degrees*, 2024.

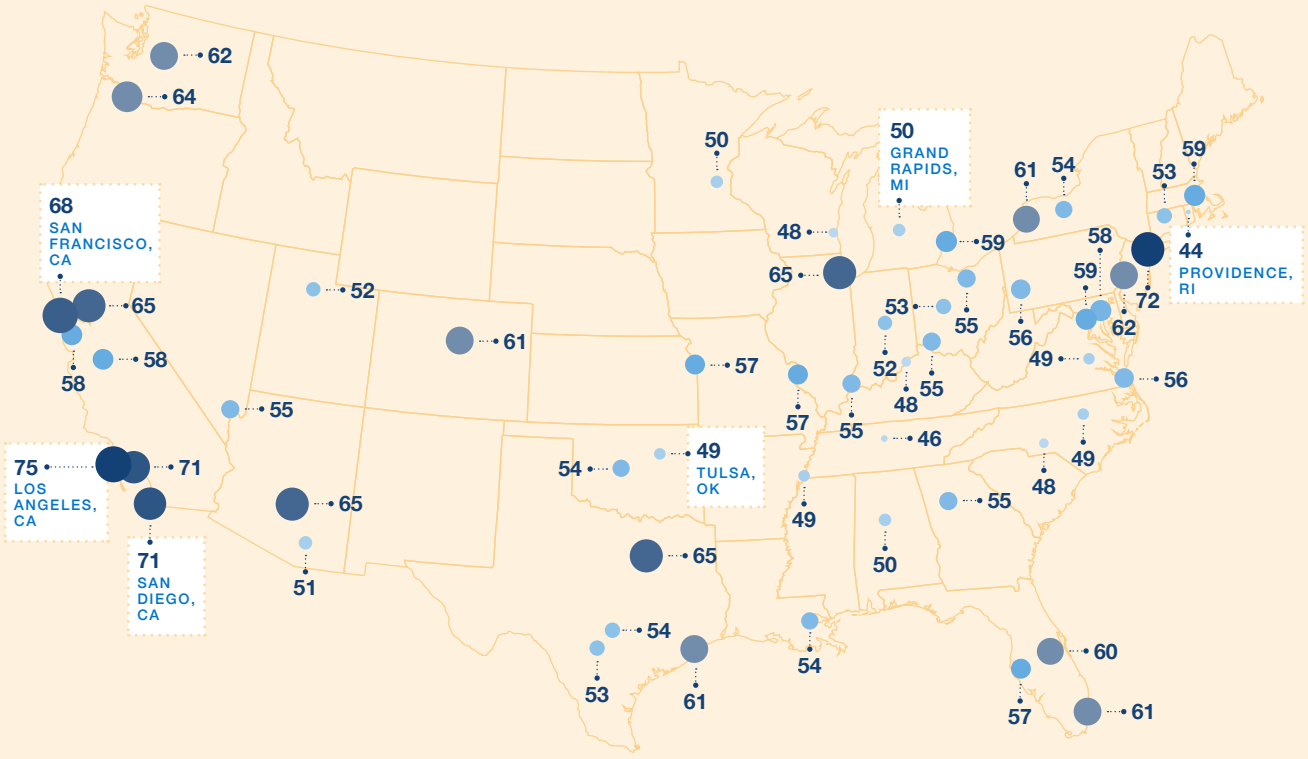
2 Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

3 Overall, early-to-mid-career middle-skills workers (ages 20–44) in the most economically promising middle-skills springboard occupations earn $60,000 annually, compared with $68,000 annual earnings for all early-to-mid-career workers (ages 20–44) with a bachelor's degree. Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

4 Analysis in this report is limited to the 55 US metro areas with populations of 1 million or more and does not include smaller metro areas or rural communities.

FIGURE 1

The number of springboard occupations in each of the 55 major metro areas ranges from 44 in Providence, Rhode Island, to 75 in Los Angeles, California.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Geographic variations in demand and production of credentials across the US further complicate this landscape. Each major metro area has a distinct labor market shaped by regional and national economic trends, influencing the availability of middle-skills springboard occupations and employer demand for aligned credentials. Of the 159 springboard occupations identified in this report, only 16 are common across at least 50 of the 55 metro areas—underscoring just how much variation exists in the middle-skills landscape when we drill down to the local level.

The number of springboard occupations varies widely by metro area, ranging from 44 in Providence, Rhode Island, to 75 in Los Angeles, California **(Figure 1)**. In general, this number correlates positively with the share of middle-skills workers employed in springboard occupations within the metro area. For example, San Diego, California, has both a relatively high number of middle-skills springboard occupations (71) and a high share of middle-skills workers employed in these occupations (18.2 percent), while Grand Rapids, Michigan, has a relatively low number of middle-skills springboard occupations (50) and a low share of middle-skills workers employed in them (11.5 percent). That said, the number of middle-skills springboard occupations and the share of middle-skills workers in these occupations sometimes diverge. San Francisco, California, for instance, has a relatively large number of middle-skills springboard occupations (68), but these occupations account for just 13.6 percent of middle-skills employment in the metro area. Conversely, Tulsa, Oklahoma, has a relatively small number of middle-skills springboard occupations (49) but a relatively high share of middle-skills workers employed in them (17.2 percent).

All 55 major metro areas share a common challenge: a critical shortage of credentialed workers prepared to enter springboard occupations. Our projections indicate that on average, institutions across these metro areas are producing only about 30 percent of the credentials needed to meet demand in springboard occupations through 2034. In fact, close to half of all major metro areas are expected to experience credential shortages in all occupational groups with springboard occupations. Addressing these shortages would help employers find skilled, qualified workers to fill projected job openings in critical occupations while advancing economic opportunity for the middle-skills workforce.

Building on prior Georgetown University Center on Education and the Workforce reporting on the highest-paying middle-skills occupations across the 55 major metro areas,[5] this report and the accompanying data tool provide an even closer look at high-value middle-skills opportunities at the local level. Together, the report and data tool provide a detailed roadmap for policymakers, institutions, and aspiring workers seeking to navigate the middle-skills landscape—helping them better understand where the demand is highest for workers in springboard occupations, where credential production falls short, and where the most promising opportunities lie for workers and employers.

ALL 55 MAJOR METRO AREAS ARE FACING A CRITICAL SHORTAGE OF CREDENTIALED WORKERS PREPARED TO ENTER SPRINGBOARD OCCUPATIONS.

WHAT IS A MIDDLE-SKILLS SPRINGBOARD OCCUPATION?

In this report, we define middle-skills springboard occupations as those meeting three conditions:

1. The proportion of workers holding middle-skills credentials (certificates or associate's degrees) in the occupation meets or exceeds the proportion of workers holding middle-skills credentials in all occupations in that labor market.[6]
2. Starting wages (earnings for workers ages 20–24) are above the median starting wage for all middle-skills occupations in that labor market.
3. Wage growth from the start of the career (ages 20–24) to mid-career (ages 35–44) is above the median for all middle-skills occupations in that labor market.

We identify a list of middle-skills springboard occupations separately for each of the 55 major metro areas, resulting in 159 springboard occupations overall.[7] About 15 percent of early-to-mid-career middle-skills workers in the major metro areas are employed in a springboard occupation.[8] These workers include electricians, firefighters, general and operations managers, and police officers.

To make sense of the types of occupations that qualify as springboard occupations, and because credentials aligned with similar occupations often overlap, we sort these occupations into 22 occupational groups. Springboard occupations are most prevalent within the installation, maintenance, and repair; office and administrative support; healthcare professional and technical; and production occupational groups **(Figure 2)**.

5 Mabel et al., *Missed Opportunities*, 2024.

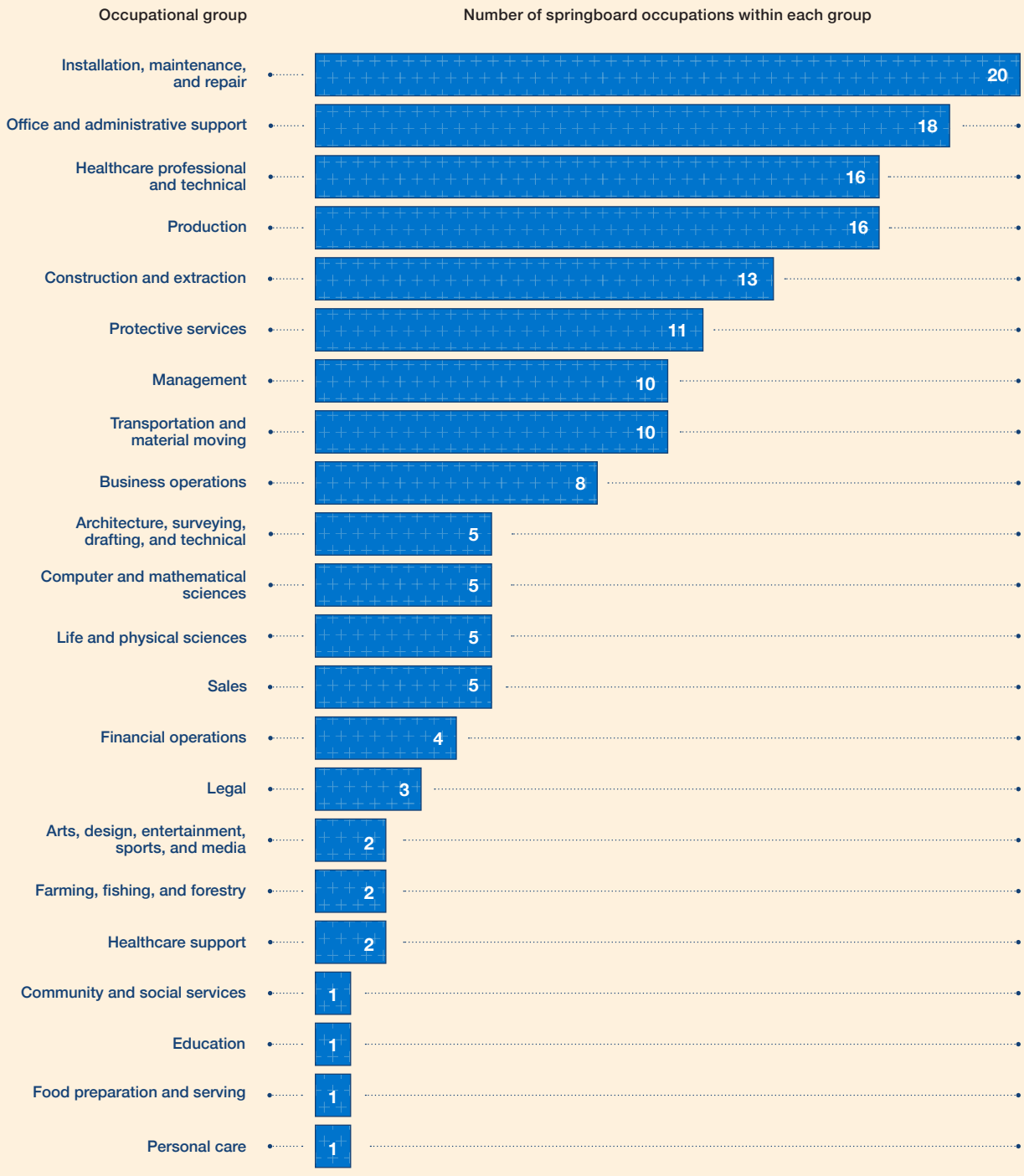
6 These proportions are calculated at the regional level. We refer to these occupations as "middle-skills occupations." See Appendix A for more detail.

7 We use a combination of national and metro-area-level data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023 and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23 to estimate wages for workers ages 20–24 and workers ages 35–44 in each occupation in each major metro area. For more information on how we identified these occupations, see Appendix A.

8 Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

FIGURE 2

This report evaluates 159 individual springboard occupations within 22 broader occupational groups.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Note: The number of springboard occupations reflects the number of occupations in each occupational group that are identified as springboard occupations in at least 1 of the 55 major metro areas. While these occupations may exist in other metro areas, they do not necessarily meet the starting earnings or earnings growth threshold to be a springboard occupation in every metro area. The three occupational groups that do not include any middle-skills springboard occupations in any of the 55 metro areas evaluated in this report are engineers; social sciences; and building and grounds cleaning and maintenance.

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Across 55 Major Metro Areas, 159 Occupations Serve as Springboards to Economic Opportunity for Middle-Skills Workers.



Springboard occupations offer meaningful opportunities for economic mobility, but they are relatively limited in number and do not account for a large share of middle-skills employment. Across the 55 major metro areas, just 15 percent of early-to-mid-career middle-skills workers are employed in a springboard occupation.[9] Although there are 159 discrete middle-skills springboard occupations in aggregate, the actual number of springboard occupations in a given metro area ranges from 44 to 75.



Despite their relative scarcity, springboard occupations offer clear benefits. Early-career workers in middle-skills springboard occupations have median annualized earnings of $42,500, an amount that increases by 59 percent to $67,500 by mid-career.[10] By contrast, median annualized earnings for workers in other middle-skills occupations are $35,600 in early career and $47,000 in mid-career—representing an increase of only 32 percent **(Table 1)**.

SPRINGBOARD OCCUPATIONS OFFER ABOVE-MEDIAN STARTING SALARIES AND MEANINGFUL WAGE GROWTH THROUGH MID-CAREER.

9 Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23. This statistic is based on all early-to-mid-career (ages 20–44) middle-skills workers employed in a springboard occupation across the 55 metro areas evaluated in this report.

10 Annual earnings assume full-time, full-year work, and are the product of unrounded hourly wages multiplied by 2,080 hours of work in a year (52 weeks times 40 hours per week).

TABLE 1

Median annual earnings for early-career workers in middle-skills springboard occupations are $42,500, compared with $35,600 for early-career workers in other middle-skills occupations.

Earnings outcomes among workers employed in middle-skills occupations					
Age group	**Earnings type**	**Occupation type**	**25th percentile**	**Median**	**75th percentile**
Early-career workers (ages 20–24)	Hourly	Springboard	$19	$20	$23
		Other	$15	$17	$19
	Annual (full-time, full-year equivalent)	Springboard	$39,300	$42,500	$48,100
		Other	$31,300	$35,600	$39,700
Mid-career workers (ages 35–44)	Hourly	Springboard	$28	$32	$41
		Other	$18	$23	$29
	Annual (full-time, full-year equivalent)	Springboard	$58,800	$67,500	$84,800
		Other	$37,300	$47,000	$60,500
Wage growth	Springboard occupations		49%	59%	76%
	Other occupations		19%	32%	52%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Note: Annual earnings assume full-time, full-year work and are the product of hourly wages multiplied by 2,080 hours of work in a year (52 weeks times 40 hours per week). Hourly earnings are rounded to the nearest dollar, and annual earnings are rounded to the nearest hundred. Earnings are inflation adjusted to 2024 dollars. Wage growth values and annual earnings are calculated using unrounded hourly earnings. "Other occupations" are limited to occupations with a middle-skills share of employment at or above the overall share of middle-skills employment (calculated at the regional level). Most springboard occupations are identified as such in some metro areas but not others. In these cases, wages are included with "springboard occupations" in metro areas where they are identified as springboard occupations. In metro areas where the same occupation does not meet the springboard occupation criteria, wages are included with "other occupations."

While each metro area has a unique set of springboard occupations, certain occupations account for a large share of overall middle-skills springboard employment. In fact, the 10 springboard occupations with the most middle-skills workers account for more than 40 percent of middle-skills workers in springboard occupations **(Table 2)**. These occupations include general and operations managers, police officers, and electricians, among others. Of these occupations, the highest demand is projected for general and operations managers, with an estimated 49,100 job openings annually through 2034.

TABLE 2

The top 10 middle-skills springboard occupations account for more than 40 percent of middle-skills employment in springboard occupations when aggregated across all 55 metro areas.

Springboard occupation	Number of middle-skills workers employed in occupation	Share of middle-skills springboard employment	Annual job openings
General and operations managers	111,000	6.6%	49,100
Police officers	110,000	6.6%	12,900
Electricians	101,000	6.0%	17,800
Computer support specialists	85,000	5.1%	9,000
First-line supervisors of office and administrative support workers	79,000	4.7%	28,700
First-line supervisors of production and operating workers	46,000	2.8%	11,200
Firefighters	41,000	2.4%	6,100
Heating, air conditioning, and refrigeration mechanics and installers	39,000	2.3%	9,900
Plumbers, pipefitters, and steamfitters	38,000	2.3%	8,100
Other engineering technologists and technicians, except drafters	37,000	2.2%	4,500
Total	**687,000**	**40.9%**	**157,300**

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; and the US Bureau of Labor Statistics, Employment Projections, 2025.

Note: Occupations listed represent the 10 most common occupations among the middle-skills springboard occupations located in more than half of the 55 major metro areas. Examples of "other engineering technologists and technicians, except drafters" include aerospace engineering and operations technologists and technicians, civil engineering technologists and technicians, and electrical and electronic engineering technologists and technicians. Employment numbers are limited to early-to-mid-career middle-skills workers (ages 20–44). See our data tool for a full list of springboard occupations in each metro area. Values may not sum to totals due to rounding.

Springboard occupations can be found in 22 of 25 occupational groups.

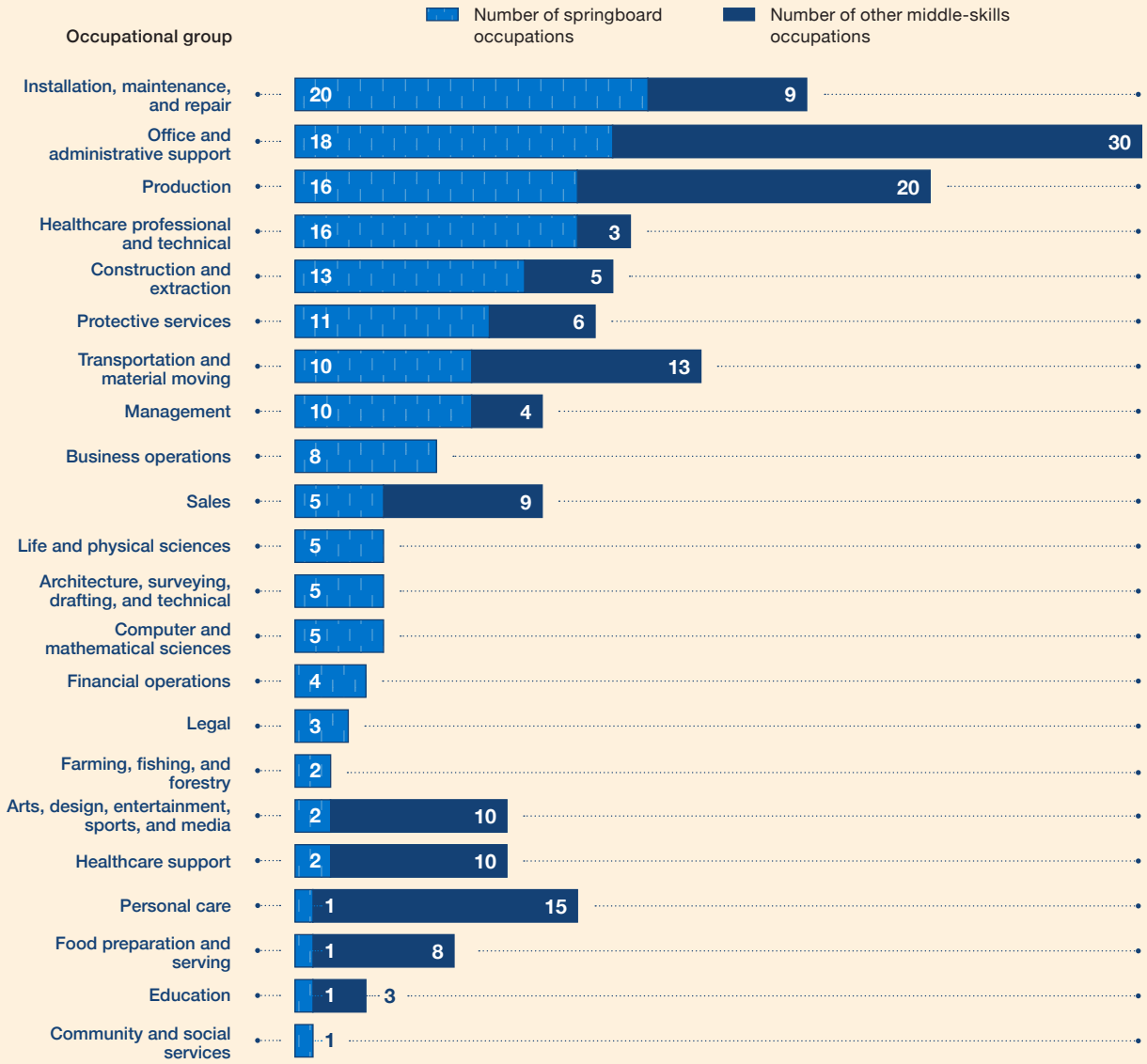
To make sense of the types of occupations that qualify as springboard occupations, and because credentials aligned with similar occupations often overlap, we sort the 159 springboard occupations into occupational groups. Springboard occupations fall into 22 of 25 total occupational groups.[11] The installation, maintenance, and repair occupational group includes the largest number of springboard occupations, with 20 discrete springboard occupations among the 29 total occupations in the group. By contrast, service-

11 The three occupational groups that do not include any middle-skills springboard occupations in any of the 55 US metro areas evaluated in this report are engineers; social sciences; and building and grounds cleaning and maintenance. The 25 broader occupational group categories are based on US Bureau of Labor Statistics classifications.

oriented occupational groups typically include a smaller number of springboard occupations. For example, the occupational groups of community and social services; education; food preparation and serving; and personal care each include just one springboard occupation **(Figure 3)**.

FIGURE 3

Overall, the installation, maintenance, and repair occupational group includes the largest number of middle-skills springboard occupations.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Note: The number of springboard occupations reflects the number of occupations in each occupational group that are identified as springboard occupations in at least 1 of the 55 major metro areas. While these occupations may exist in other metro areas, they do not necessarily meet the starting earnings or earnings growth threshold to be a springboard occupation in every metro area. "Other occupations" are limited to occupations with a middle-skills share of employment at or above the overall share of middle-skills employment (calculated at the regional level). The three occupational groups that do not include any middle-skills springboard occupations in any of the 55 metro areas evaluated in this report are engineers; social sciences; and building and grounds cleaning and maintenance.

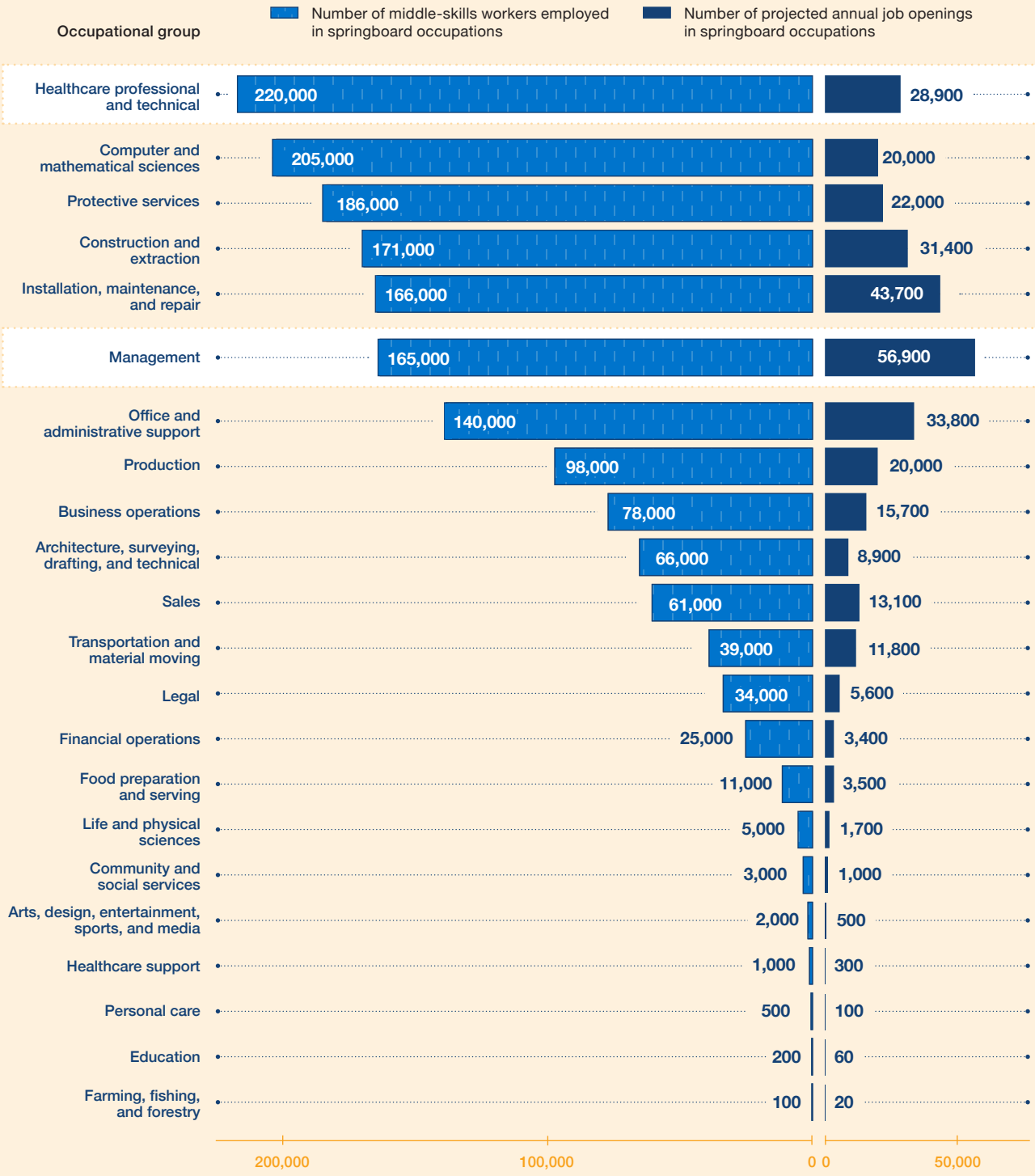
While the total number of springboard occupations within an occupational group gives a sense of the variety of occupations in each group, it does not give a complete picture of the extent to which each occupational group provides opportunity to workers. Understanding the number of workers employed in springboard occupations and the number of projected annual job openings in each occupational group also helps to identify the scope of opportunity.

For example, the healthcare professional and technical occupational group employs the largest number of middle-skills workers in springboard occupations (220,000, or 13 percent of middle-skills employment in springboard occupations), followed by the computer and mathematical sciences occupational group (205,000, or 12 percent). The management occupational group is expected to see the most annual job openings in springboard occupations (56,900) through 2034, followed by 43,700 expected annual job openings in the installation, maintenance, and repair occupational group **(Figure 4)**. Thus, while there are fewer springboard occupations in these broader occupational groups compared to installation, maintenance, and repair, they nevertheless provide pathways to opportunity for more workers.

THE HEALTHCARE PROFESSIONAL AND TECHNICAL OCCUPATIONAL GROUP EMPLOYS THE LARGEST NUMBER OF MIDDLE-SKILLS WORKERS IN SPRINGBOARD OCCUPATIONS.

FIGURE 4

Healthcare professional and technical springboard occupations employ the largest number of middle-skills workers (220,000), while management springboard occupations account for the largest number of projected annual job openings (56,900).



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; and the US Bureau of Labor Statistics, Employment Projections, 2025.

Note: Employment numbers are limited to early-to-mid-career middle-skills workers (ages 20–44). See our data tool for a full list of springboard occupations in each metro area. The three occupational groups that do not include any middle-skills springboard occupations in any of the 55 metro areas evaluated in this report are engineers; social sciences; and building and grounds cleaning and maintenance.

MIDDLE-SKILLS SPRINGBOARD OCCUPATIONS AND ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) is already reshaping the labor market, although the full extent of its impact remains to be seen.[12] AI's effects on middle-skills springboard occupations are likely to vary significantly depending on the occupation.

The future effects of AI are especially difficult to predict because official government data sources are only just beginning to attempt to account for this emerging technology. The US Bureau of Labor Statistics (BLS) 2024–34 Employment Projections, which are one of the primary data sources used in this report to determine future job openings, do incorporate the expected impact of AI on occupational demand over the next decade.[13] These projections suggest that AI, in combination with other factors affecting the labor market, will lead to growth in some occupations and decline in others. For example, demand for software developers, personal financial advisors, and database architects is expected to grow, while demand for insurance appraisers and claims adjusters is expected to contract.[14]

Within the middle-skills landscape, workers in the computer and mathematical sciences occupational group may prove less vulnerable to AI-driven job displacement than occupational groups focused on routine clerical tasks, such as office and administrative support or financial operations.[15] However, while the BLS projects growth in computer science–aligned occupations, leaders of tech companies—such as Amazon, Anthropic, Block, and Microsoft, among others—have suggested that AI could eliminate, or already has eliminated, swaths of white collar and tech job opportunities.[16]

Research conducted by the Organisation for Economic Co-operation and Development (OECD) offers another lens on the future of work as AI tools become more widely used, examining which skills are the most valued in occupations with the greatest exposure to AI. This analysis determined that management, business processes, and emotional skills are among the most in-demand for occupations highly exposed to AI.[17] More recent OECD research finds that occupations most at risk of AI replacement involve "routine information processing, administrative work and codifiable tasks"; those least at risk of AI replacement require "contextual judgement, interpersonal understanding, complex decision making and responsibility."[18] Brookings Institution research has also found that in the face of job displacement, workers in certain high-exposure occupations, such as marketing managers and computer network architects, will likely be able to adapt more easily than others, such as receptionists and office clerks.[19] Overall, the available evidence suggests that AI will have an effect on the labor market, but its impact on future labor demand is not yet clear.

Within each occupational group, the percentage of middle-skills workers employed in springboard occupations provides another way to understand the scope of opportunity available to middle-skills workers in that group. Middle-skills workers employed in the architecture, surveying, drafting, and technical occupational group are among the most likely (77 percent) to be employed in a springboard occupation. Middle-skills workers in the legal occupational group are the next most likely to be employed in a springboard occupation (72 percent), though middle-skills workers only account for 8 percent of employment in the legal occupational group overall. By contrast, just 1 percent of middle-skills workers in the arts, design, entertainment, sports, and media occupational group are employed in a springboard occupation, and just 2 percent of middle-skills workers in the education occupational group are employed in a springboard occupation **(Figure 5)**.

12 Ozkan and Sullivan, "Is AI Contributing to Rising Unemployment?," 2025; and Kolko, "Research on AI and the Labor Market Is Still in the First Inning," 2026.

13 Machovec et al., "Incorporating AI Impacts in BLS Employment Projections," 2025.

14 US Bureau of Labor Statistics, "AI Impacts in BLS Employment Projections," 2025.

15 US Bureau of Labor Statistics, "AI Impacts in BLS Employment Projections," 2025; and Georgieva, "New Skills and AI Are Reshaping the Future of Work," 2026.

16 Shetti et al., "Dorsey's Blunt AI Warning Sharpens Debate over Jobs and Profits," 2026; Munis, "'It's Going to Be Painful for a Lot of People,'" 2026; Palmer, "AI Will Shrink Amazon's Workforce in the Coming Years," 2025; and Rollet,"Programmers Bore the Brunt of Microsoft's Layoffs in Its Home State as AI Writes Up to 30% of Its Code," 2025.

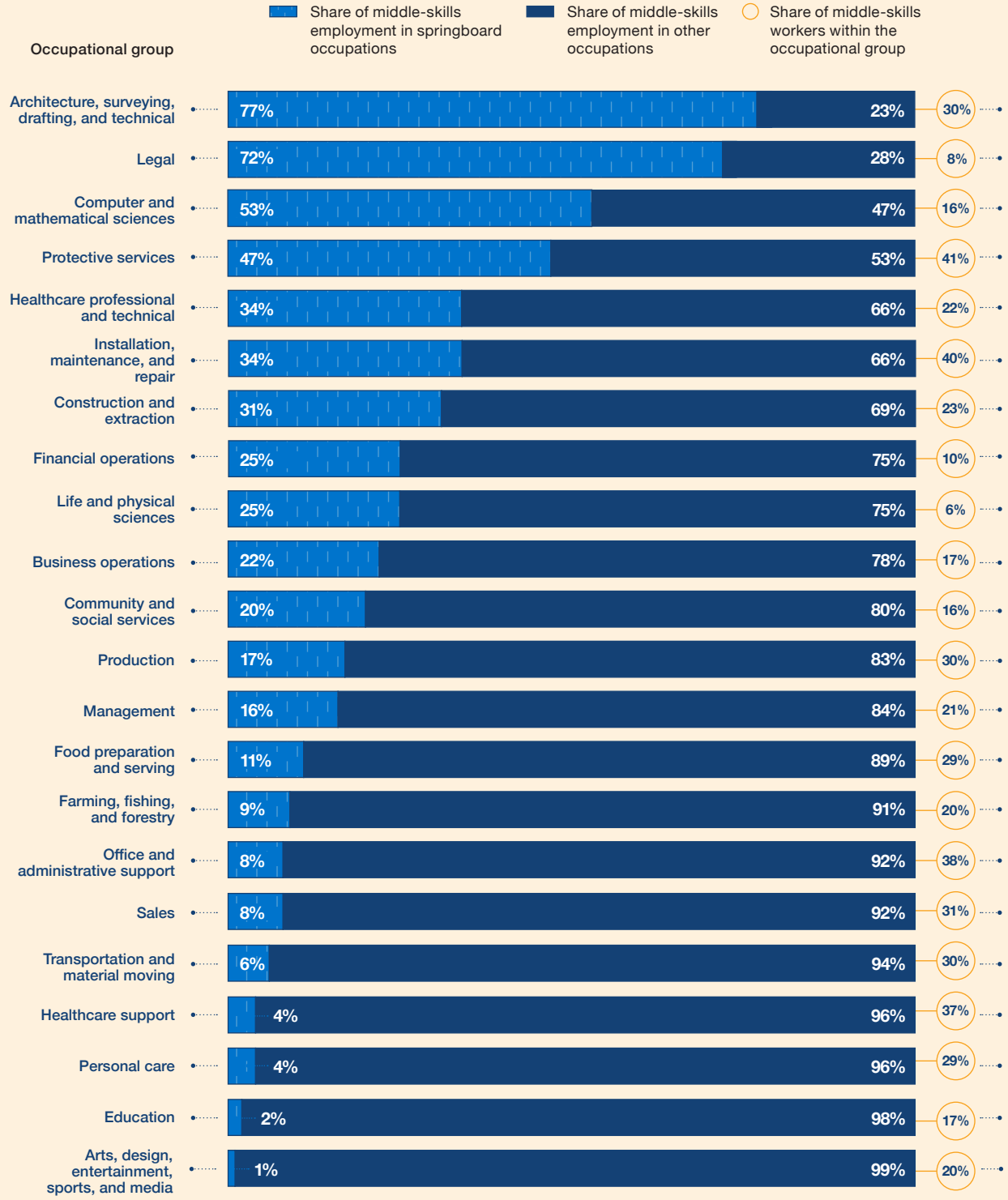
17 The report refers to these skills as "resource management," "business processes," "attitudes," and "social skills." These skill categories also include more specialized skills such as project management, budgeting and accounting, administration, clerical tasks, and administrative support. OECD, "Artificial Intelligence and the Changing Demand for Skills in the Labour Market," 2024.

18 OECD, "The OECD AI Exposure Measure," 2026.

19 According to analysis from Brookings, several factors influence workers' vulnerability to the harms of job displacement, including relative savings level, age, geographic density, and skills transferability. The 6.1 million workers who face high AI exposure and lower "adaptive capacity" are primarily concentrated in administrative and clerical jobs that tend to result in (1) lower savings, making it harder to weather job loss; (2) lower levels of skills transferability; and (3) narrower reemployment prospects. Manning et al., "Measuring US Workers' Capacity to Adapt to AI-Driven Job Displacement," 2026.

FIGURE 5

Middle-skills workers in the architecture, surveying, drafting, and technical occupational group are the most likely to be employed in a springboard occupation.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Note: Analysis is limited to early-to-mid-career middle-skills workers (ages 20–44). The three occupational groups that do not include any middle-skills springboard occupations in any of the 55 metro areas evaluated in this report are engineers; social sciences; and building and grounds cleaning and maintenance.

Each labor market has a unique set of springboard occupations.

Economic opportunity for middle-skills workers looks different in each of the 55 metro areas, and each metro area offers a distinct set of springboard occupations. The number of springboard occupations also differs by metro area, ranging from 44 in Providence, Rhode Island, to 75 in Los Angeles, California. However, the number of springboard occupations is not by itself indicative of opportunity for workers. The share of all middle-skills workers actually employed in these occupations shapes economic opportunity as well, and this metric also varies by metro area, ranging from 10.6 percent in Providence to 18.6 percent in St. Louis, Missouri **(Figure 6)**.

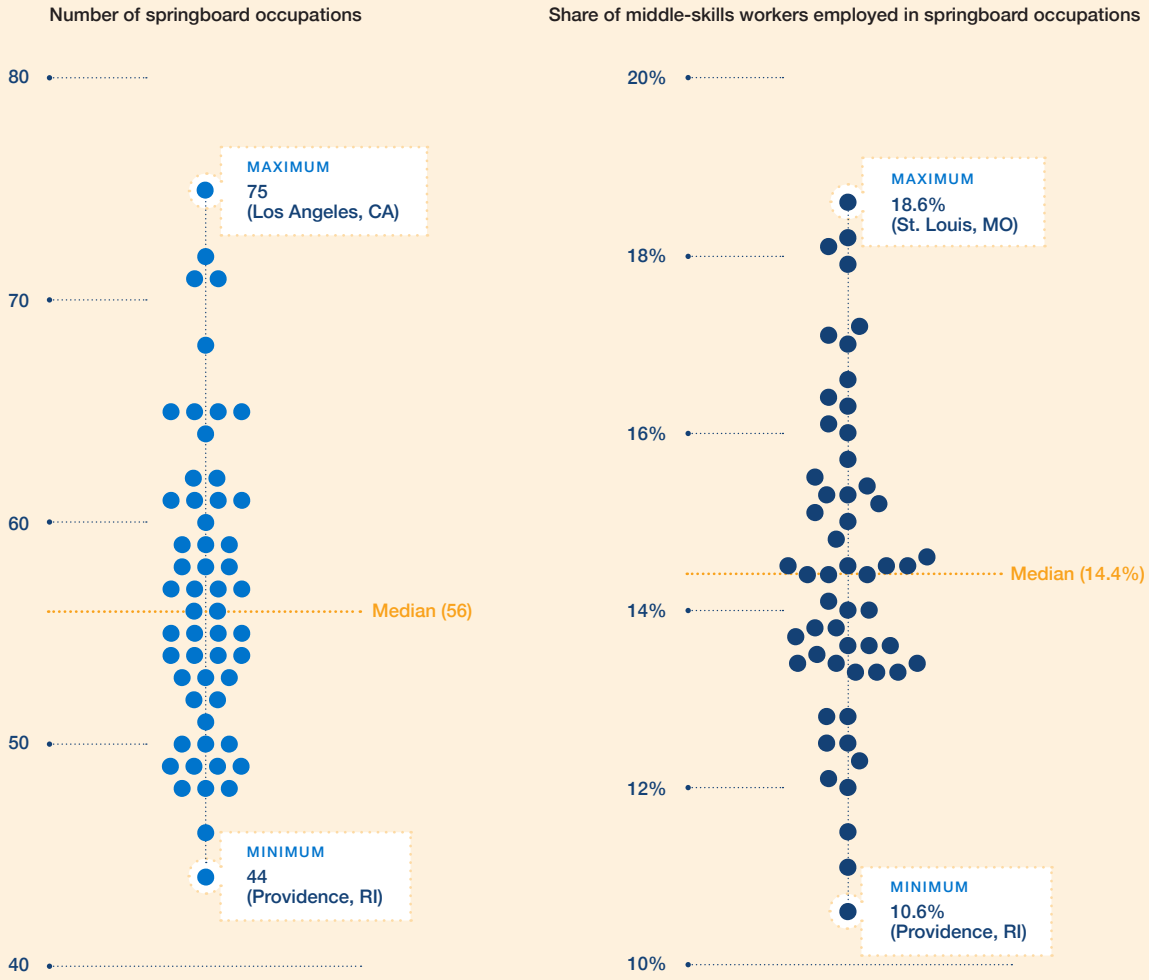
> THE NUMBER OF SPRINGBOARD OCCUPATIONS DIFFERS BY METRO AREA, RANGING FROM 44 IN PROVIDENCE, RHODE ISLAND, TO 75 IN LOS ANGELES, CALIFORNIA.

Overall, we see a modest positive correlation between the number of springboard occupations present and the share of middle-skills workers employed in springboard occupations in each metro area.[20] Cities with a particularly high number of springboard occupations and a high share of middle-skills workers employed in these occupations include San Diego, California, and Riverside, California (each city has 71 springboard occupations with about 18 percent of middle-skills workers employed in springboard occupations). New York, New York, has 72 springboard occupations employing 17 percent of its middle-skills workers. As mentioned above, Providence, Rhode Island, falls at the other end of the spectrum, as does Charlotte, North Carolina, with just 48 springboard occupations and 11.1 percent of its middle-skills workers in these occupations. However, exceptions to these trends exist: Denver, Colorado, offers an above-median number of springboard occupations (61) but just 13.4 percent of middle-skills workers are employed in a springboard occupation.

20 There is a moderately positive correlation between a metro area's number of springboard occupations and the share of its early-to-mid-career middle-skills workers in springboard employment. Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

FIGURE 6

The Los Angeles, California, metro area has the largest number of discrete springboard occupations, while the St. Louis, Missouri, metro area has the largest share of middle-skills workers employed in springboard occupations.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Note: Analysis is limited to early-to-mid-career middle-skills workers (ages 20–44). For data on each metro area, see Table B1 in Appendix B.

The distribution of springboard occupations across occupational groups also varies by metro area. Differences in middle-skills springboard employment across the country serve as a reminder that economic opportunity is driven in part by the local economy.

In Oklahoma City, Oklahoma, for example, springboard occupations in the business operations; management; and office and administrative support occupational groups account for more than one-third (36 percent) of middle-skills employment in springboard occupations. In Providence, Rhode Island, these occupations account for just 2 percent of middle-skills employment in springboard occupations **(Table 3)**. Instead, construction and extraction occupations and healthcare professional and technical occupations are the largest drivers of springboard employment in Providence, accounting for 21 percent and 18 percent of middle-skills employment in springboard occupations, respectively.

TABLE 3

Occupations in the business operations; management; and office and administrative support occupational groups account for 36 percent of middle-skills employment in springboard occupations in Oklahoma City, Oklahoma, but just 2 percent in Providence, Rhode Island.

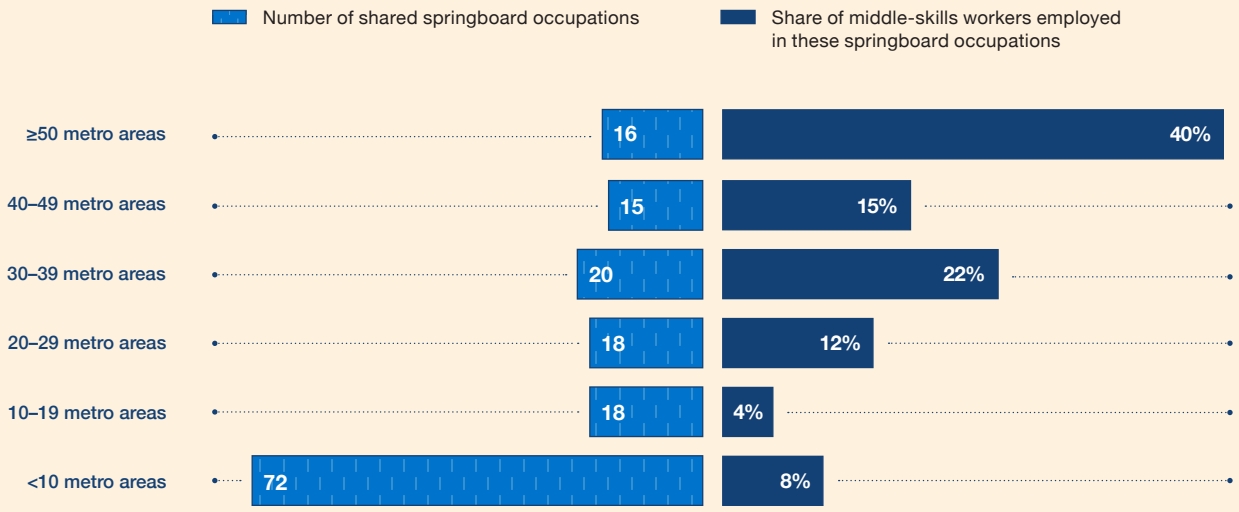
	Oklahoma City, OK			Providence, RI		
	Number of springboard occupations	Share of springboard occupations	Share of middle-skills employment in springboard occupations	Number of springboard occupations	Share of springboard occupations	Share of middle-skills employment in springboard occupations
Architecture, surveying, drafting, and technical	4	7%	4%	2	5%	5%
Arts, design, entertainment, sports, and media	0	0%	0%	1	2%	1%
Business operations	5	9%	7%	1	2%	1%
Computer and mathematical sciences	4	7%	16%	4	9%	13%
Construction and extraction	2	4%	6%	7	16%	21%
Financial operations	2	4%	2%	0	0%	0%
Healthcare professional and technical	7	13%	9%	7	16%	18%
Installation, maintenance, and repair	7	13%	8%	9	20%	8%
Legal	1	2%	2%	0	0%	0%
Life and physical sciences	3	6%	1%	0	0%	0%
Management	6	11%	15%	0	0%	0%
Office and administrative support	5	9%	14%	4	9%	1%
Production	3	6%	4%	5	11%	10%
Protective services	5	9%	12%	3	7%	14%
Sales	0	0%	0%	1	2%	7%
Total	54	100%	100%	44	100%	100%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Note: Analysis is limited to early-to-mid-career middle-skills workers (ages 20–44). For full data on each metro area, see our data tool. Values may not sum to totals due to rounding. Just 15 occupational groups are shown in this table because these are the 15 occupational groups for which springboard occupations were identified in at least one of the two metro areas.

FIGURE 7

Only 16 occupations are identified as springboard occupations in at least 50 of the 55 major metro areas, but these occupations collectively account for 40 percent of all middle-skills springboard employment.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

Note: Analysis is limited to early-to-mid-career middle-skills workers (ages 20–44). Percentage values may not sum to 100 percent due to rounding.

While the list of springboard occupations varies by metro area, a few key occupations serve as springboards to economic opportunity in most metro areas. Sixteen of the 159 total middle-skills springboard occupations are identified as springboard occupations in at least 50 of 55 metro areas **(Figure 7)**. These 16 springboard occupations account for 40 percent of all middle-skills springboard employment where they are present across each of the 55 metro areas. By contrast, 72 springboard occupations are only identified as such in fewer than 10 metro areas. These 72 springboard occupations also account for a much smaller share (just 8 percent) of middle-skills springboard employment across the 55 metro areas.

02

Production of Credentials Aligned with Springboard Occupations Will Fall Short of Demand in All Metro Areas, Although the Severity of the Shortages Will Vary.



All 55 major metro areas will face credential shortages, meaning that not enough credentials aligned with springboard occupations will be produced to meet employer demand in at least one occupational group containing springboard occupations through 2034. Unmet labor-market demand in these occupations is a source of opportunity for workers with middle-skills credentials.

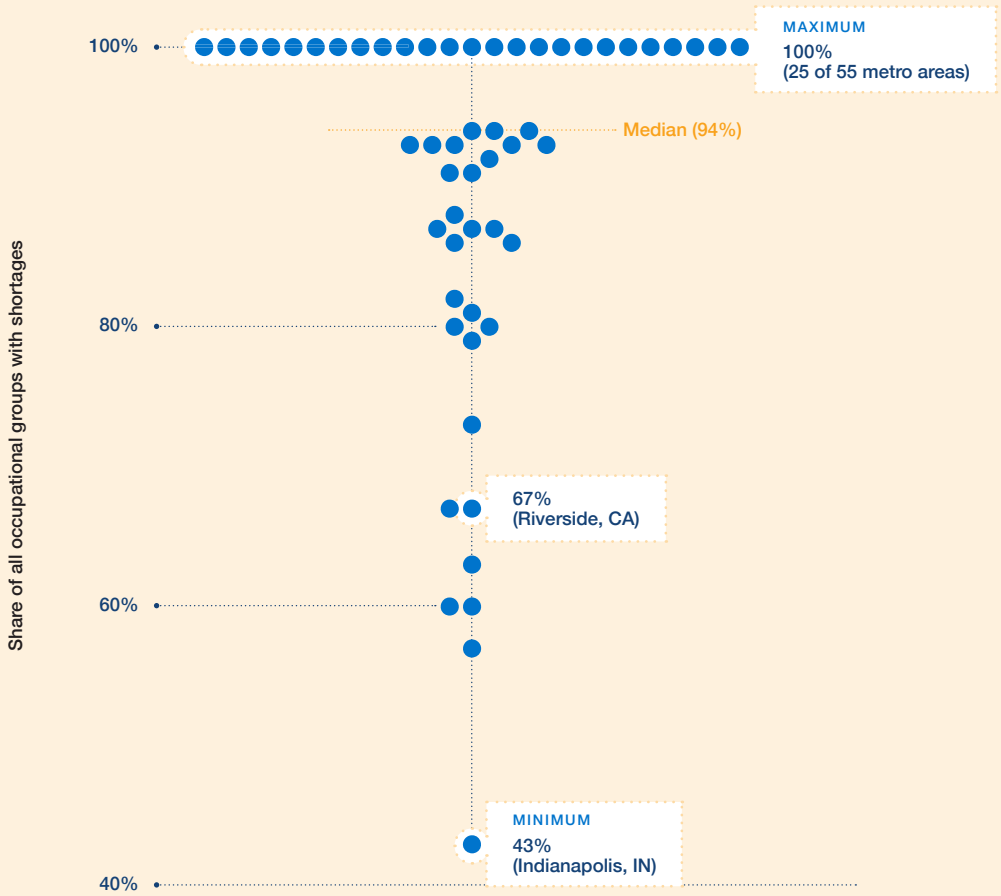


Concerningly, in 25 metro areas—including Atlanta, Georgia; Detroit, Michigan; and Seattle, Washington—production of credentials aligned with springboard occupations will fall short of meeting employer demand in all occupational groups containing springboard occupations (which we also refer to as "springboard occupational groups" for simplicity). In some of the other 30 metro areas, however, credential shortages are expected to be far less severe. For example, in Indianapolis, Indiana, credential production will fall short of meeting demand in 6 of 14 occupational groups (43 percent) containing springboard occupations, and the Riverside, California, area will experience a credential shortage in 12 of 18 springboard occupational groups (67 percent) **(Figure 8)**.

UNMET LABOR-MARKET DEMAND IN SPRINGBOARD OCCUPATIONS IS A SOURCE OF OPPORTUNITY FOR WORKERS WITH MIDDLE-SKILLS CREDENTIALS.

FIGURE 8

In almost half of all 55 major metro areas, springboard credential production is expected to fall short of employer demand across every occupational group that includes springboard occupations.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; the US Bureau of Labor Statistics, Employment Projections, 2025; and the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

Note: For data on each metro area, see Table B2 in Appendix B.

RATIO VALUES BELOW ONE INDICATE A SHORTAGE IN CREDENTIAL PRODUCTION, WHILE VALUES ABOVE ONE INDICATE A SURPLUS IN CREDENTIAL PRODUCTION.

The severity of the projected credential shortages in each metro area is best understood by examining the average **credentials-to-jobs ratio**, which represents each metro area's annual number of credentials produced that align with springboard occupations within each occupational group divided by the projected annual number of job openings available in all occupations (both springboard occupations and other occupations) that align with those credentials. Ratio values below one indicate a shortage in credential production, while values above one indicate a surplus in credential production.[21]

Certain metro areas have a higher risk than others of experiencing credential shortages. For instance, Nashville, Tennessee, has the lowest average projected credentials-to-jobs ratio across all 55 major metro areas at 0.09, meaning that, on average across the occupational groups in which local springboard occupations are available, the current production of credentials aligned with springboard occupations is expected to meet only 9 percent of the projected annual demand for workers with these credentials.

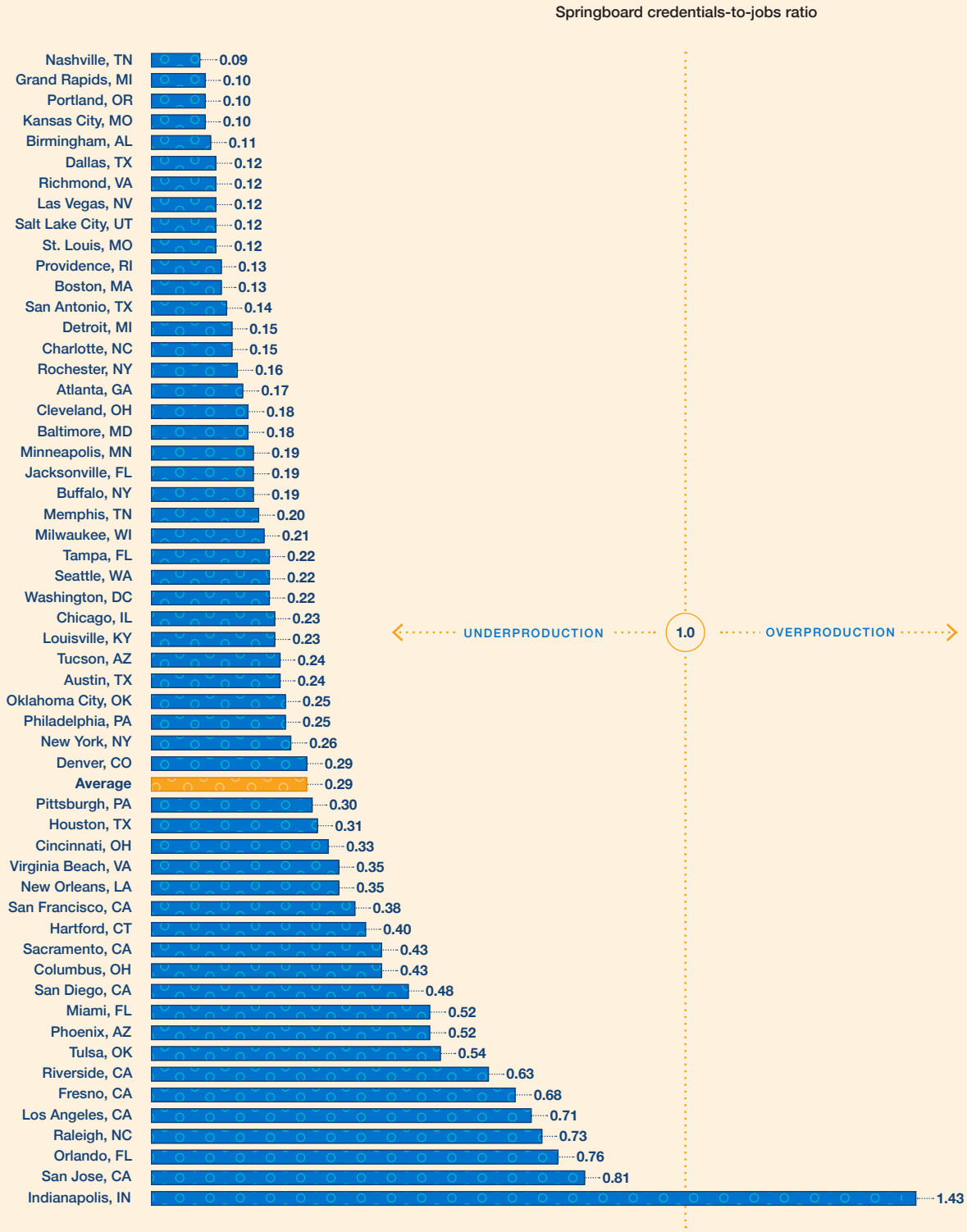
At the other end of the spectrum, Indianapolis, Indiana, has an average credentials-to-jobs ratio of 1.43, indicating that production of credentials aligned with springboard occupations will meet or exceed demand for workers in those occupations **(Figure 9)**. However, Indianapolis still has projected credential shortages in six occupational groups—despite average overproduction across all groups.[22]

21 The number of additional credentials required annually assumes that each aligned credential granted represents one worker available to fill a job opening. Our analysis of labor-market alignment takes into account total labor-market demand for credentials that align with springboard occupations in each occupational group, which includes a portion of demand in other occupations that also align with these credentials. For more methodological detail on how the credentials-to-jobs ratio and credential shortages were calculated, see Appendix A.

22 For details on credential shortages by occupational group in each of these metro areas, see our data tool.

FIGURE 9

Nashville, Tennessee, has the lowest credentials-to-jobs ratio, followed by Grand Rapids, Michigan; Portland, Oregon; and Kansas City, Missouri.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; the US Bureau of Labor Statistics, Employment Projections, 2025; and the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

Note: The credentials-to-jobs ratios are calculated by dividing the annual number of credentials produced in programs aligned with springboard occupations by (1) the number of projected annual job openings in aligned springboard occupations and (2) the adjusted number of projected annual job openings in other aligned occupations. See Appendix A for a more detailed description of this calculation. Average credentials-to-jobs ratios are weighted using the projected annual job openings in each occupational group.

Table 4 provides examples of how differing levels of credential production can affect alignment in areas with similar levels of demand. The economies of the Raleigh, North Carolina, and Virginia Beach, Virginia, metro areas are expected to generate similar demand for credentials aligned with springboard occupations in the business operations occupational group. However, credential providers in Raleigh need to produce only an additional 400 aligned credentials per year to meet demand, compared with the 1,100 additional credentials needed in Virginia Beach. While Virginia Beach has a larger number of middle-skills-credential-granting institutions than Raleigh, credential providers in both metro areas produce similar numbers of middle-skills credentials overall. Yet institutions in Raleigh grant a larger share of their credentials in programs aligned with springboard business operations occupations.[23]

Likewise, in Ohio, Cleveland and Columbus have similar levels of annual demand for workers in springboard occupations in computer and mathematical sciences. However, credential providers in Columbus produce seven times more credentials in programs aligned with these occupations than providers in Cleveland do. As a result, Columbus is expected to see an oversupply of credentials aligned with springboard occupations in computer and mathematical sciences, while Cleveland is expected to see a shortage of these credentials. This disparity can be partially explained by the fact that credential providers in Columbus produce more credentials overall (approximately 2,200 more annually) compared with credential providers in Cleveland.[24] However, the main contributor is a large disparity in the share of credentials granted that align with computer and mathematical sciences occupations: About 7 percent of middle-skills credentials granted in Cleveland align with computer and mathematical sciences occupations, compared with about 25 percent of middle-skills credentials granted in Columbus.[25]

23 Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23. Virginia Beach has 37 middle-skills-credential-granting institutions, awarding an average of 10,300 middle-skills credentials annually, while Raleigh has 13 middle-skills-credential-granting institutions, awarding an average of 10,100 middle-skills credentials annually. About 4 percent of middle-skills credentials granted in Virginia Beach align with business operations occupations, compared with about 9 percent of middle-skills credentials granted in Raleigh.

24 Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23. Columbus awards an average of 12,600 middle-skills credentials annually, compared with an average of 10,400 in Cleveland.

25 Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

TABLE 4

Despite similar demand in springboard occupations within occupational groups, metro areas can have very different levels of credentials-to-jobs alignment due to differing levels of credential production.

	Credentials produced annually	Annual job openings	Credentials-to-jobs ratio	Annual credential shortage
Business operations				
Raleigh, NC	800	1,200	0.67	400
Virginia Beach, VA	400	1,400	0.25	1,100
Computer and mathematical sciences				
Cleveland, OH	400	1,100	0.39	700
Columbus, OH	2,800	1,000	2.84	N/A

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; the US Bureau of Labor Statistics, Employment Projections, 2025; and the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

Note: The annual credential shortage may not equal the difference between the number of job openings and the number of credentials due to rounding. The credentials-to-jobs ratio is calculated using unrounded numbers.

SPRINGBOARD OCCUPATIONS AND GEOGRAPHIC MOBILITY

Will workers who attain a credential in one metro area simply leave for greener pastures if given the opportunity?

Historically, economic mobility in the US was linked to geographic mobility: Until relatively recently, Americans were constantly on the move, seeking out the next frontier of economic opportunity. However, Americans in the 21st century are much more rooted in place. While 1 in 5 Americans moved every year in the 1960s, just 1 in 13 Americans moved in 2023. At the same time, with this growing inertia has come widening wealth inequality.[26] Increasingly, the socioeconomic class people are born into dictates their chances at advancing up the economic ladder, even more so than their race/ethnicity.[27]

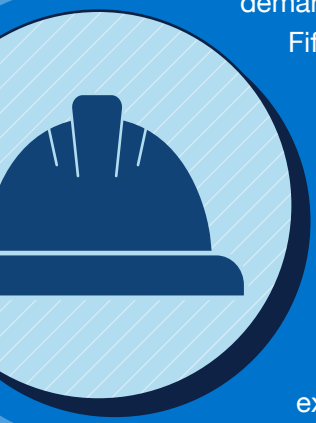
Similarly, the likelihood that someone will move is influenced by their socioeconomic standing—including their educational background.[28] Approximately half of all recent college graduates live in the metro area closest to the institution they attended, and graduates of two-year colleges are the most likely to stay close to their alma mater.[29] According to a recent analysis from Emsi Burning Glass, a majority (61 percent) of students who attend a community college live within 50 miles of that college.[30]

These patterns have implications for the analysis in this report, which assumes that people earning credentials aligned with springboard occupations will seek job opportunities in the metro area where the credential was granted. One limitation of this assumption is that workers with credentials that are oversupplied in a particular labor market might move to an area with more job openings, particularly if an area with credential shortages is relatively nearby. This nuance underscores the importance of communication and data sharing across employers and institutions not just within a metro area but regionally as well.

26 Appelbaum, "How Progressives Froze the American Dream," 2025.
27 Chetty et al., "Changing Opportunity," 2024.
28 Education is one component of socioeconomic status; thus, higher levels of education tend to correlate with higher socioeconomic status.
29 Conzelmann et al., "Grads on the Go," 2025.
30 Emsi Burning Glass, "Emsi Launches New Research on Alumni Migration," 2025.

03

All 22 Occupational Groups with Springboard Occupations Will Experience Annual Shortages of Aligned Credentials Through 2034.



In some occupational groups, unmet demand for workers with credentials aligned to springboard occupations is high within only a few major metro areas; in other occupational groups, unmet demand exists across many metro areas. Fifteen of the 22 occupational groups that include springboard occupations are projected to have credential shortages in most major metro areas through 2034. These groups include production; installation, maintenance, and repair; and construction and extraction, with shortages for each expected in 53 of 55 metro areas.

In certain occupational groups that contain springboard occupations—including office and administrative support; sales; and transportation and material moving—we project credential shortages in all metro areas that have springboard occupations in these occupational groups **(Figure 10)**.

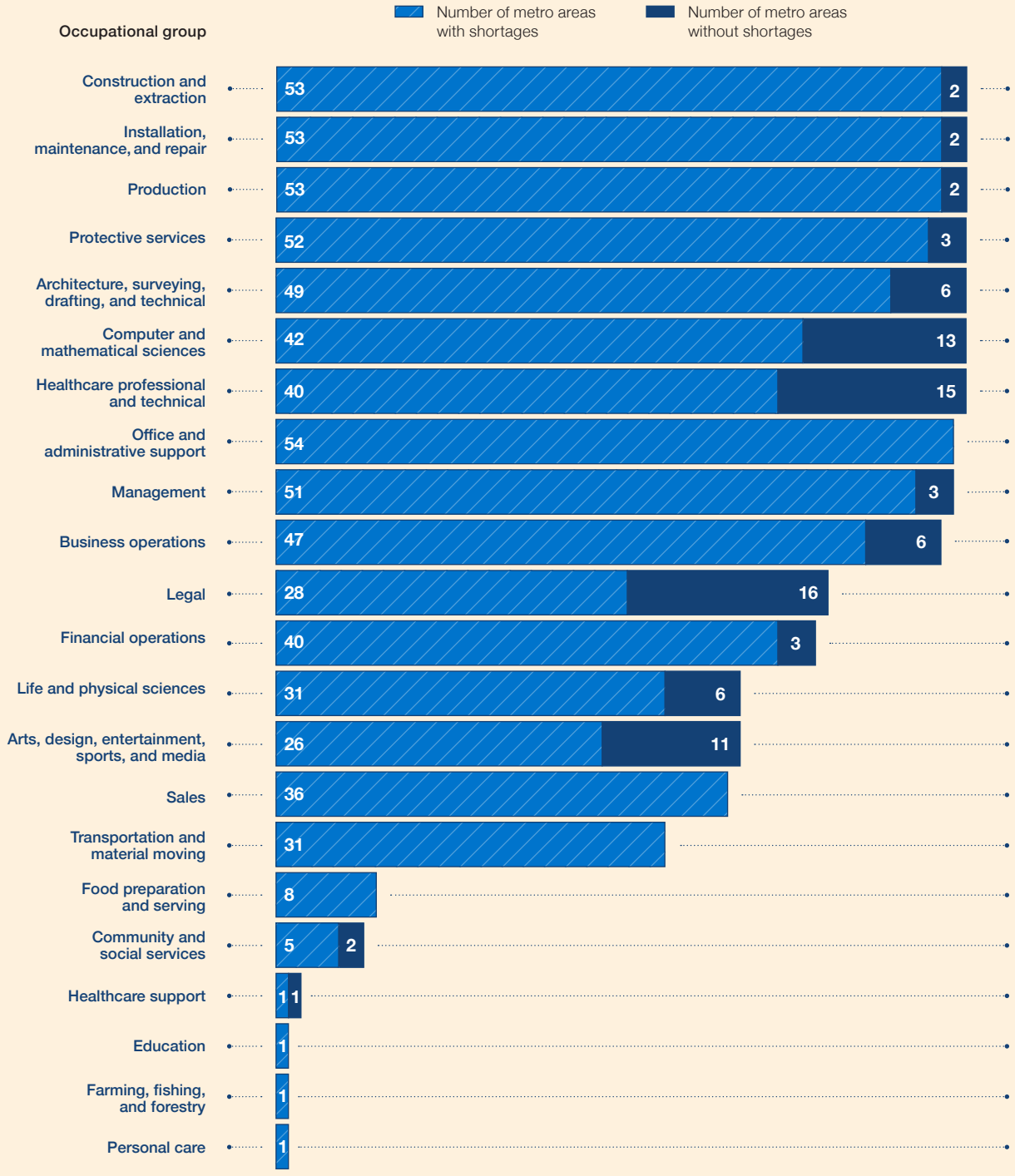


Other occupational groups with springboard occupations show greater variation across cities. For example, while the healthcare professional and technical occupational group includes springboard occupations in all 55 major metro areas, only 40 metro areas are expected to experience credential shortages in programs aligned with the healthcare professional and technical occupational group. The patterns of shortages in critical occupational groups across metro areas may suggest a need for targeted policy solutions, as discussed in the conclusion of this report.

PATTERNS OF SHORTAGES IN CRITICAL OCCUPATIONAL GROUPS ACROSS METRO AREAS MAY SUGGEST A NEED FOR TARGETED POLICY SOLUTIONS.

FIGURE 10

Of the 55 major metro areas, 53 will experience credential shortages in programs aligned with springboard occupations in the construction and extraction; installation, maintenance, and repair; and production occupational groups.

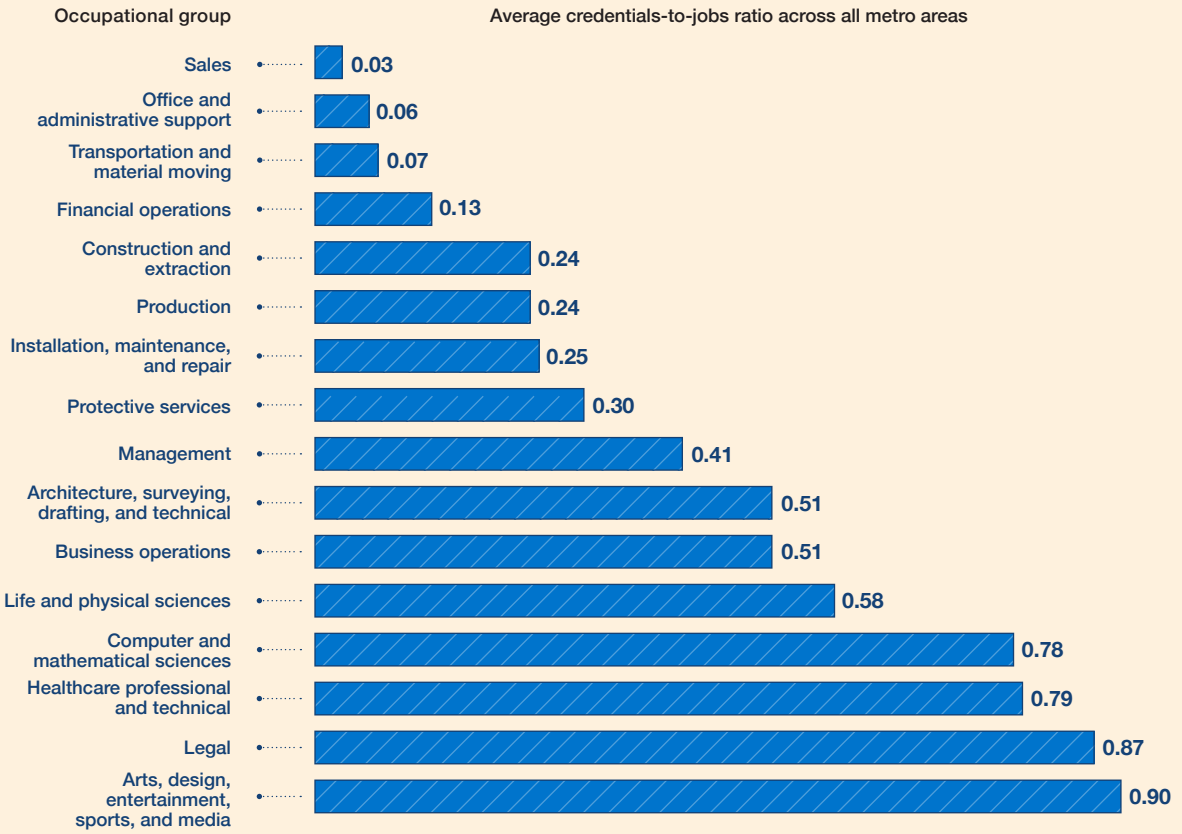


Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; the US Bureau of Labor Statistics, Employment Projections, 2025; and the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

Note: The three occupational groups that do not include any middle-skills springboard occupations in any of the 55 metro areas evaluated in this report are engineers; social sciences; and building and grounds cleaning and maintenance.

FIGURE 11

On average across all metro areas, alignment between credential production and demand is lowest in sales springboard occupations and highest in arts, design, entertainment, sports, and media springboard occupations.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; the US Bureau of Labor Statistics, Employment Projections, 2025; and the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

Note: The occupational groups shown in this figure are limited to those that have springboard occupations in at least half of the 55 major metro areas.

The severity of these credential shortages also differs by occupational group. For example, the average credentials-to-jobs ratio in sales springboard occupations is only 0.03, meaning that, on average, institutions are producing only 3 percent of the aligned middle-skills credentials needed to meet demand in sales springboard occupations across metro areas.[31] Credential production relative to demand is also very low in educational programs aligned with office and administrative support (6 percent), transportation and material moving (7 percent), and financial operations (13 percent) springboard occupations.[32] By contrast, institutions in metro areas with arts, design, entertainment, sports, and media springboard occupations are producing 90 percent of the aligned credentials needed to meet demand in these occupations **(Figure 11)**.[33]

31 Previous research on alignment between middle-skills credential production and demand for middle-skills workers in all occupations also found the most severe underproduction of credentials in programs that align with occupations in the sales and office and administrative support groups. Strohl et al., *The Great Misalignment*, 2024.

32 Together, springboard occupations in the sales; office and administrative support; transportation and material moving; and financial operations occupational groups account for 16 percent of springboard employment across all 55 metro areas. Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; and the US Bureau of Labor Statistics, Employment Projections, 2024.

33 Arts, design, entertainment, sports, and media occupations account for less than 1 percent of springboard employment across all 55 metro areas. Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; and the US Bureau of Labor Statistics, Employment Projections, 2024.

TABLE 5

Credential shortages are driven by both credential production and job openings.

	Credentials produced annually	Annual job openings	Credentials-to-jobs ratio	Annual credential shortage
Computer and mathematical sciences				
Nashville, TN	300	1,500	0.20	1,200
Washington, DC	2,500	3,800	0.66	1,300
Healthcare professional and technical				
Chicago, IL	2,200	3,300	0.66	1,100
Sacramento, CA	700	1,100	0.67	400

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; the US Bureau of Labor Statistics, Employment Projections, 2025; and the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

Note: The annual credential shortage may not equal the difference between the number of job openings and the number of credentials due to rounding. The credentials-to-jobs ratio is calculated using unrounded numbers.

Credentials-to-jobs ratios and credential shortages are each driven by both credential production and the number of job openings specific to each metro area. As such, similar credential shortage values across metro areas do not necessarily indicate similar levels of misalignment. For example, annual credential shortages for computer and mathematical sciences springboard occupations in the Nashville, Tennessee, and Washington, DC, metro areas are quite similar. However, the extent of misalignment between credential production and job openings, as measured by the credentials-to-jobs ratio, is quite different because the total demand for middle-skills workers in these occupations differs considerably across the two labor markets. While both are misaligned, the underproduction of credentials relative to the number of job openings is far more severe in Nashville than in Washington, DC **(Table 5)**.

Conversely, metro areas can have similar levels of relative misalignment but very different credential shortages. For example, credential providers in both the Chicago, Illinois, and Sacramento, California, metro areas currently produce around two-thirds of the aligned credentials needed to meet demand for springboard healthcare professional and technical occupations. However, Chicago needs to produce an additional 1,100 aligned credentials annually, while Sacramento only needs to produce an additional 400. These examples illustrate how the credentials-to-jobs ratio can be useful for understanding relative severity and making comparisons across metro areas or occupational groups, while the magnitude of the annual credential shortages provides practical context for workers, employers, and credential-granting institutions.

Significant shortages of credentials aligned with springboard occupations in the nation's 55 largest metro areas indicate missed opportunities for workers seeking middle-skills employment. Yet this misalignment also points to where the need for investment is most critical. To bridge this gap and connect workers with these opportunities, both policy and practice must evolve. In the next section, we outline potential changes that could improve labor-market alignment in springboard occupations and thereby increase access to opportunity for workers with middle-skills credentials.

Conclusion



Middle-skills springboard occupations hold great potential for expanding economic opportunity, given the sizeable credential shortages for these jobs that exist throughout the country. Unfortunately, identifying which credentials lead to work in occupations offering both strong starting wages and wage growth from early- to mid-career is not always an intuitive process for students and workers. Institutions, policymakers, and employers therefore have critical roles to play in pointing high school students interested in middle-skills work—and adult workers seeking to reskill—toward the educational or credentialing pathways that lead to the springboard occupations highlighted in this report. Smoothing the pathway to springboard occupations will help advance economic opportunity for workers and address looming credential gaps in many occupations, benefiting employers and the broader US economy.



Connect academic programs and career pathways early, and provide comprehensive support to students.

Education leaders and policymakers have long recognized the gaps in the education-to-career pipeline. In response, many states and metro areas have expanded their provision of career and technical education (CTE) programs, which introduce students to career pathways beyond four-year degrees. Some of these programs begin as early as middle school.[34] Dual enrollment partnerships between high schools and community colleges enable students to begin earning college credits while still in high school, often in combination with career exploration opportunities and advising supports.

> SMOOTHING THE PATHWAY TO SPRINGBOARD OCCUPATIONS WILL HELP ADVANCE ECONOMIC OPPORTUNITY FOR WORKERS AND ADDRESS LOOMING CREDENTIAL GAPS.

34 Debates persist about whether an early focus on vocational or technical education risks sidelining some students—particularly those from lower-income or underrepresented groups—from the bachelor's degree pathway. Field, "The Path to a Career Could Start in Middle School," 2022.

These programs have proved to be popular: Community college enrollments grew by 3 percent in fall 2025,[35] and a substantial share of that growth came from dual enrollment programs.[36] Dual enrollment partnerships can also play a role in improving completion rates. In many states, students who are dually enrolled in both high school and community college are more likely to earn a postsecondary credential than those who do not participate in such programs.[37] Postsecondary institutions and employers can work with high schools to ensure that courses aligned with in-demand occupations, like the springboard occupations identified in this report, are offered as a part of these programs.

Once in a postsecondary program, institutions can continue to help students make connections between their coursework and career aspirations, starting at the time of enrollment. Career exploration should be part of the onboarding process to familiarize students with their career options and identify the coursework and experience they will need to reach their goals.[38] This integrative approach should carry through to credential completion. While many two-year institutions offer career counseling, such counseling is often provided separately from academic advising. For example, according to a Center for Community College Student Engagement Survey, while 73 percent of students reported that they discussed career interests with an advisor, less than 40 percent reported discussing regional employment opportunities based on those career interests.[39]

Increasing credential attainment in the specific programs that align with in-demand springboard occupations in each metro area will also require improving credential completion overall. Only 34 percent of students at two-year institutions complete a credential within three years of enrolling.[40] Efforts to improve completion rates should include personal and financial supports along with academic and career supports,[41] because intensive, multifaceted support has proved to be extremely effective at improving completion rates.[42] Expanding access to this type of support would require significant public investment, starting with an effort to increase the number of qualified counselors and advisors. More than one in four advisors at two-year institutions have caseloads of more than 400 students, which doesn't allow for the personalized, intensive advising that has been shown to improve student outcomes.[43]

Create more opportunities for connecting students and employers.

Institutions should play a part in connecting students with employers. Postsecondary education presents opportunities for students to gain work experience, although workers with bachelor's degrees are more likely to enter the workforce with some form of work-based learning. Among young adults, just 34 percent of those with an associate's degree and 15 percent of those with some college education have completed a work-based learning experience. By contrast, more than half (54 percent) of those with a bachelor's degree have work-based learning experience.[44]

This disparity is at least in part because community college students are far more likely to work to support themselves while attending school. Many work full-time but rarely at jobs in the same field as

35 National Student Clearinghouse Research Center, *Final Fall Enrollment Trends*, 2026.

36 Spitalniak, "Fall 2025 Enrollment Increased 1%," 2026. The National Student Clearinghouse Research Center estimates that nearly 40 percent of the community college enrollment increase can be attributed to dual enrollment students.

37 National Student Clearinghouse Research Center, *Yearly Progress and Completion*, 2025; and Velasco et al., *The Postsecondary Outcomes of High School Dual Enrollment Students*, 2024.

38 Klempin et al., *Selecting a Program of Study*, 2025.

39 Center for Community College Student Engagement, *Show Me the Way*, 2018.

40 Georgetown University Center on Education and the Workforce analysis of data pertaining to the 2019 entering cohort of students. US Department of Education, Table 326.20 of the *Digest of Education Statistics*, 2023.

41 Community College Research Center, "Advising and Student Supports at Community Colleges," 2021.

42 One of the most well-known examples of this support in action is the Accelerated Study in Associate Programs (ASAP) at the City University of New York. In addition to personalized advising and career counseling, this program provides substantial financial supports, including assistance with the cost of tuition, textbooks, and transportation. Arnold Ventures, "Evidence Summary for Accelerated Study in Associate Programs (ASAP) and Accelerate, Complete, Engage (ACE)," 2025.

43 Center for Community College Student Engagement, *Show Me the Way*, 2018.

44 Carnevale et al., *How Limits to Educational Affordability, Work-Based Learning, and Career Counseling Impede Progress Toward Good Jobs*, 2022.

their program of study. These nonacademic work obligations can prevent students from participating in lower-paid or unpaid internships in their desired fields.[45] Expanding access to work-based learning opportunities for both high school and postsecondary students is critically important, particularly as prior internship experience is essential for early-career workers to get a foot in the door.[46]

Employers can also play a significant role in increasing the availability of work-based learning opportunities. Offering paid internships allows students to both meet their financial needs and gain valuable experience in their desired field, while creating a pipeline of qualified workers for the employer. In some states, unions partner with community colleges and high schools to deliver apprenticeship programs that fast-track students into well-paid, in-demand occupations.[47] While these work-based learning models are relatively limited in number, they are in demand when available. Just a tiny fraction—an estimated 5 percent—of high school students actually participate in either an internship or apprenticeship.[48] Employers anticipating shortages of workers with key skills should seek out partnerships with institutions and offer work-based learning experiences, helping to ensure that curricula are covering the knowledge and skills that workers need.

Improve the collection and use of data on labor-market opportunity and student outcomes.

Programming such as apprenticeships, dual enrollment, and CTE are all vital to improving existing education-to-career pathways. But in order to achieve their maximum potential, these programs must be driven by up-to-date information on labor-market demand and complemented by data on their outcomes and impact. While a growing body of labor-market data exists—from IRS and federal data to real-time job postings—these datasets remain fragmented, behind paywalls, or both.[49] As a result, valuable information is not always easily accessible to the groups who need it most: students, educators, career counselors, and workforce development professionals. Even when information is available, many institutions lack the resources or capacity to use it effectively; only about half of two-year institutions report actually sharing labor-market data directly with students.[50]



Having access to good data is especially important because economic opportunity can be highly localized, as this report shows. Springboard occupations themselves vary by city, as does demand for workers in springboard jobs. Educators and counselors need economic and employment data specific to their regions or metro areas in order to guide students toward credentials and programs aligned with high-value opportunities.[51] Local employers therefore have a vital role to play in sharing information on skill requirements and potential pathways for career advancement—further aligning educational programs with the economic needs of the immediate metro area or region.

Expanding the availability and use of labor-market data and student outcomes data, particularly at the local level, is easier said than done: It requires a coordinated effort from educational providers, governmental entities, and employers who may not have the tools or resources to work together.

45 Center for Community College Student Engagement, *The Intersection of Work and Learning*, 2020.
46 Gray, "Students Recognize the Importance of Gaining Internship Experience," 2024.
47 Carr, "'Golden Ticket to Job Security,'" 2025.
48 O'Donnell, "Coalition Hopes to 'Accelerate' Career Training, Apprenticeships," 2025; and O'Donnell, "National Internship Program Grows," 2026.
49 Commonly cited federal government sources for information on postgraduate outcomes include the US Department of Education's College Scorecard (which relies on IRS and Department of Education data) and the US Census Bureau's American Community Survey (ACS). Paywalled sources include Lightcast, among others.
50 Van Noy et al., *How Colleges and Universities Are Using Labor-Market Information (LMI)*, 2023.
51 Fuller et al., *Data and Technology in Action*, 2025.

Policymakers and think tanks can facilitate collaboration among these stakeholders by taking complex datasets from multiple sources and translating them into plain language that the broader public can use to more easily identify springboard occupations in their local labor markets.

Expand data collection on noncredit credential outcomes.

Data limitations are particularly pronounced for noncredit postsecondary credential programs,[52] creating gaps in our understanding of middle-skills credentials-to-jobs alignment. No federal database currently exists to systematically track noncredit credential program outcomes such as employment and earnings. However, adult learners, workers seeking to upskill or change careers, and older adults seeking to gain postsecondary experience for the first time have shown strong interest in noncredit credentials.[53] The American Association of Community Colleges estimates that 4.1 million students were enrolled in noncredit credential programs at community colleges in 2024–25.[54] Understanding the number and type of credentials being granted in these programs, and whether employers take them into account in the hiring process, will be crucial to understanding credentials-to-jobs alignment on the middle-skills pathway.

Improved data collection will become all the more important with the recent introduction of the Workforce Pell Grant program.[55] In July 2026 the Pell Grant program was extended to students enrolled in high-quality, short-term job training programs,[56] potentially significantly expanding access to these programs.[57] Although advocates view this expansion as a major victory for workforce education, its success will depend in part on collecting reliable data on student outcomes and labor-market returns. Without such data-collection systems in place, policymakers and students will continue to struggle to distinguish programs that deliver meaningful economic opportunity from those that do not.[58] Strengthening states' data infrastructure is not just a technical necessity; it is a crucial step toward fully understanding the middle-skills credentialing and occupational landscape.

Make good on the promise of springboard occupations.

Ultimately, springboard occupations illustrate both the promise and the challenge of the middle-skills pathway. They demonstrate that strong earnings and upward mobility are possible for workers without a bachelor's degree, albeit at limited scale. Yet identifying which middle-skills occupations will launch workers on an upward career and financial trajectory isn't always easy; nor is it easy to identify the "right" credentials to qualify workers for such roles. Variation in springboard occupations across major metro areas adds yet another layer of complexity to the task of identifying the most promising opportunities in any given labor market.

Continuing to introduce students to middle-skills opportunities at an early age, improving alignment between education and local labor-market demand, and increasing the availability of both localized labor-market information and programmatic outcome data are all essential to helping more workers gain access to springboard occupations. Strengthening the pathways to springboard occupations will not only benefit individual workers but also ensure that local employers have the skilled workforce they need, energizing local labor markets as well as the national economy.

52 Independent organizations, such as Credential Engine, gather and share information about noncredit credentials.
53 Hughes and Van Noy, "Four Things We Need to Know About Community College Noncredit Workforce Programs and the Students Who Enroll in Them," 2025.
54 This number includes students enrolled in English as a second language and adult basic education programs. American Association of Community Colleges, "Fast Facts 2026," 2026.
55 D'Amico and Van Noy, "Workforce Pell for Community College Noncredit Education," 2025.
56 US Department of Education, "U.S. Department of Education Issues Final Rule to Create New Workforce Pell Grant Program," 2026.
57 Oliff, "How Will Workforce Pell Change Student Decisions About Nondegree Credentials?," 2026.
58 The Pew Charitable Trusts launched a skills and education pathways project to help states examine costs, returns, and value associated with nondegree credential programs in January 2026. Oliff, "How Will Workforce Pell Change Student Decisions About Nondegree Credentials?," 2026.

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Appendix A. Data Sources and Methodology

Data Sources

The data sources used in this analysis include the following:

- Occupational Employment and Wage Statistics (OEWS) from the Bureau of Labor Statistics (BLS), 2012–24
- US Census Bureau's American Community Survey (ACS), 2012–19 and 2021–23
- 2024–34 Occupational Employment Projections from the Bureau of Labor Statistics
- US Department of Education's National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS) completions data, 2020–21 through 2022–23
- 2020 Classification of Instructional Programs to Standard Occupational Classification (CIP-SOC) Crosswalk from the Bureau of Labor Statistics and the US Department of Education's National Center for Education Statistics

Methodology

This appendix describes the data and the analytical approach used to estimate misalignment between (1) the current supply of middle-skills credentials (certificates and associate's degrees) in programs aligned with springboard occupations and (2) the projected demand for workers with these credentials in the 55 largest metro areas in the US through 2034.

1. Springboard Occupations

We define **springboard occupations** as those where both (1) starting wages for workers ages 20–24 are above the median starting wage for all occupations in that labor market, and (2) wage growth (percentage) from the start of the career (ages 20–24) to mid-career (ages 35–44) is above the median for all occupations in that labor market. We identify these springboard occupations separately for each of the 55 major metro areas included in this analysis.

Before comparing wages, we restrict the list of eligible occupations to those in which the proportion of workers holding middle-skills credentials in that occupation meets or exceeds the proportion of workers holding middle-skills credentials in that labor market (at the Census division level).[1] We refer to this limited list of occupations as **middle-skills occupations**.

After restricting to the subset of middle-skills occupations, we primarily rely on data from the 2023 Occupational Employment and Wage Statistics (OEWS) to estimate wages for early- and mid-career workers because this dataset allows for specificity at the occupation-by-metro-area level. However, this information is not disaggregated by age or educational attainment.

1 Where sample size allows, we calculate at the division level (i.e., New England Division, Middle Atlantic Division, and so on) using the regional and divisional classification system in IPUMS USA. Where sample size is not sufficient at the division level, we calculate at the region level (Northeast, Midwest, South, and West).

In order to identify which reported wage percentile is most representative of early- and mid-career wages for each occupation, we supplement with data from the American Community Survey (ACS)[2] as follows:

1. For each occupation, we calculate the percent deviation between national-level wage metrics (10th/25th/50th/75th/90th percentiles and mean) in OEWS and median wages for early- and mid-career workers in the ACS.
   - For early-career workers, we compare OEWS wage metrics to median wages in the ACS for workers ages 20–24.
   - For mid-career workers, we compare OEWS wage metrics to median wages in the ACS for workers ages 35–44.
2. For each occupation, we identify the reported wage percentile in the OEWS that best matches with the ACS for early- and mid-career workers.
3. We assign each occupation a unique wage percentile corresponding to early-career and mid-career workers, respectively, for use at the metro level.
   - For occupations whose best match between the wage percentiles in the OEWS and the ACS is within 10 percent of the ACS estimate, we use the equivalent metric from the OEWS metro-level data.
   - For occupations whose best match deviates by more than 10 percent, we instead use the national median wage estimate from the ACS and adjust for cost-of-living differences across each metro area using the Bureau of Economic Analysis Regional Price Parities.

2. Current Supply of Middle-Skills Credentials Aligned with Springboard Occupations

To determine the current supply of certificates and associate's degrees awarded in programs aligned with middle-skills springboard occupations, we rely on administrative data from the US Department of Education's National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS). Specifically, we use three years of pooled credentials data from the 2020–21[3] through 2022–23[4] academic years at the institution-by-field-of-study level. The credentials data in IPEDS are reported at the institution-by-field-of-study level using a six-digit Classification of Instructional Programs (CIP) code. To match the CIP codes from IPEDS with Standard Occupational Classification (SOC) codes for the set of middle-skills springboard occupations, we use the 2020 CIP-SOC Crosswalk developed by the US Bureau of Labor Statistics (BLS) and the US Department of Education's National Center for Education Statistics (NCES). Using the crosswalk to measure alignment is complicated by the fact that each program can align with multiple occupations, and each occupation can align with multiple programs. Thus, in many instances, multiple programs lead to a specific occupation, and each program also offers pathways to a variety of springboard and non-springboard occupations. **Figure A1** provides an example of the various pathways between springboard middle-skills credentials and occupations.

2 We use a five-year pool in the ACS: 2018–19 and 2021–23. We exclude the 2020 ACS sample due to the COVID-19 pandemic.

3 Despite the COVID-19 pandemic's negative impact on college enrollments during this period, the annual number of certificates and associate's degrees conferred remained nearly unchanged between the pre-pandemic year of 2019 and the pandemic years of 2020 and 2021. Therefore, our use of IPEDS data covering middle-skills credentials conferred during the pandemic is unlikely to affect the findings in this report.

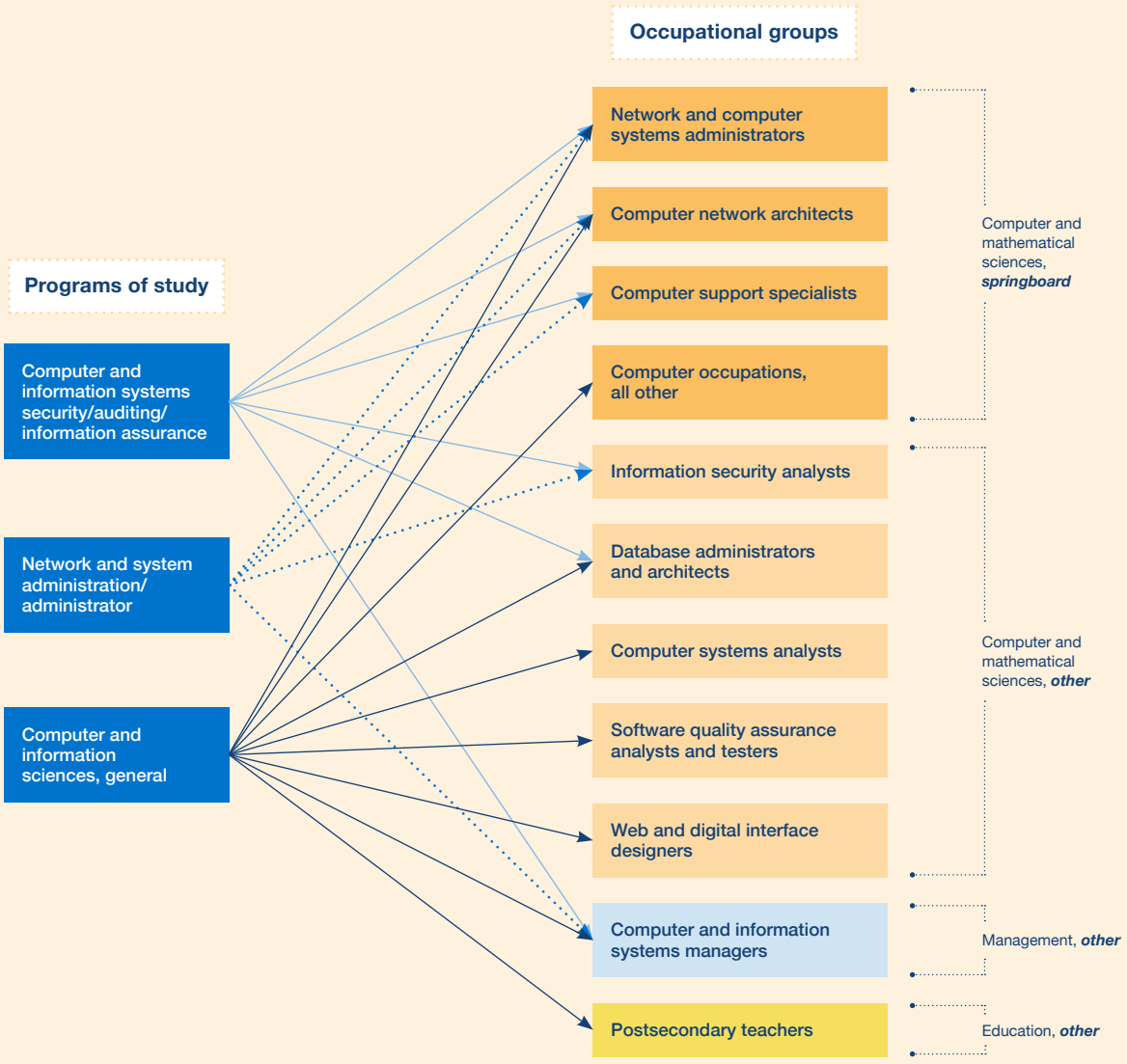
4 Completions data for the 2022–23 academic year were the most recent available at the time of our analysis.

FIGURE **A1**

Credentials can provide pathways to multiple occupational groups.

Consider the following example:

1. The set of middle-skills springboard occupations in the Atlanta, Georgia, metro area includes network and computer systems administrators.
2. Three programs of study provide a pathway to this occupation.
3. These programs also provide pathways to 10 additional occupations. Eight of these additional occupations are also in the computer and mathematical sciences occupational group, and three of the eight qualify as springboard occupations in Atlanta. These programs also lead to an occupation in the management occupational group and an occupation in the education occupational group.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics (BLS) and the US Department of Education's National Center for Education Statistics' Classification of Instructional Programs to Standard Occupational Classification (CIP-SOC) Crosswalk; and the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23.

3. Projected Demand for Middle-Skills Workers

To estimate the projected demand for middle-skills workers in springboard occupations, we rely on data from the BLS, ACS, and OEWS. We start with the BLS national forecast of average annual occupational openings for 2024–34. In each metro area, we then use OEWS employment data for 2012–24 to forecast each occupation's share of national employment through 2034.[5] We then use the ACS data for 2012–23 to forecast the change in the share of early-to-mid-career (24-to-44-year-old) workers with middle-skills credentials through 2034, estimating the change separately for springboard occupations and all other occupations in each occupational group.[6,7,8]

We use these forecasts to estimate the average annual number of projected middle-skills job openings in each occupation in each metro area for 2024–34. We obtain these estimates by multiplying the BLS overall national projections for each occupation by

1. each metro area's average forecasted share of national employment in that occupation for 2024–34; and
2. the average forecasted share of early-to-mid-career jobs held by middle-skills workers for 2024–34.

5 Due to the cross-sectional nature of OEWS, using the data in this way required harmonizing occupational classifications over time by combining some detailed occupations. For more information about the comparability of OEWS over time, see this link.

6 We restrict the data to workers ages 24–44 to forecast the change among early-to-mid-career workers. Although some middle-skills workers begin their careers before age 24, most workers with a bachelor's degree do not. Thus, we exclude workers younger than age 24 to better estimate the evolution of employment opportunities for middle-skills workers once young workers with a bachelor's degree are likely to have started their careers.

7 We exclude the 2020 ACS sample due to the COVID-19 pandemic.

8 We calculate shares at the metro-area level where possible. In cases where sample size is not sufficient at the metro-area level, we calculate shares at the region level.

4. Measuring Misalignment

Our analysis of labor-market alignment compares the number of certificates and associate's degrees currently produced in programs aligned with springboard occupations with the projected number of total annual job openings (in both springboard occupations and other occupations) available to workers with those credentials in each of the 55 major metro areas.[9] We compare credential production against total job openings rather than openings only in springboard occupations because many of the programs that align with these occupations also offer pathways to other occupations. Thus, it is necessary to account for the overall demand for workers with these credentials when determining if the credentials are being undersupplied or oversupplied. The task of measuring labor-market alignment is made more difficult by the fact that the other occupations in this analysis draw workers not only from programs aligned with springboard occupations but also from hundreds of other programs that are not aligned with springboard occupations. We account for credential production in these other programs to obtain better estimates of the projected overall demand for workers educated in programs that align with springboard occupations.

After making this adjustment to the projected labor demand, we construct two labor-market alignment metrics. First, we calculate the credentials-to-jobs ratio for each occupational group as follows:

Credentials-to-jobs ratio = Annual number of credentials produced in programs aligned with springboard occupations / (Number of projected annual job openings in aligned springboard occupations + Adjusted number of projected annual job openings in other aligned occupations)

This ratio estimates the extent to which the metro area will face a shortfall or surplus in the number of credentials aligned with springboard occupations. Ratio values below one indicate a shortage in credential production, values above one indicate a surplus in credential production, and values equal to one indicate perfect alignment between credential production and future occupational demand. Second, we calculate credential shortages by measuring the difference between the annual number of credentials produced that align with springboard occupations within the occupational group and the adjusted number of projected annual job openings available in all occupations for middle-skills workers with those credentials, assuming that each aligned credential granted represents one worker available to fill a job opening. When credential shortages exist, this metric provides an estimate of the annual number of additional middle-skills credentials in programs aligned with middle-skills springboard occupations that would need to be produced to meet projected demand for workers with those credentials through 2034. When credential surpluses exist, this metric provides an estimate of the annual number of credentials oversupplied relative to projected labor demand.

9 One important limitation of the data used in this analysis is that while projected job openings are based on workers whose highest level of educational attainment is a middle-skills credential, the credential completions data do not differentiate by highest level of education. Thus, middle-skills credentials in programs aligned with springboard occupations that are granted to those who already have a bachelor's degree or higher would still count toward the annual production of credentials in these programs.

Appendix B. Selected Tables

This appendix includes tables that correspond with **Figures 6 and 8**. For more detailed information by metro area, please visit our data tool.

TABLE B1

Number of discrete springboard occupations and share of middle-skills workers employed in springboard occupations, by metro area

Metro area	Number of discrete springboard occupations	Share of middle-skills workers employed in springboard occupations
Atlanta, GA	55	12.0%
Austin, TX	54	13.4%
Baltimore, MD	58	15.3%
Birmingham, AL	50	15.7%
Boston, MA	59	13.8%
Buffalo, NY	61	15.3%
Charlotte, NC	48	11.1%
Chicago, IL	65	14.5%
Cincinnati, OH	55	13.3%
Cleveland, OH	55	12.5%
Columbus, OH	53	12.3%
Dallas, TX	65	16.3%
Denver, CO	61	13.4%
Detroit, MI	59	13.5%
Fresno, CA	58	15.4%
Grand Rapids, MI	50	11.5%
Hartford, CT	53	15.5%
Houston, TX	61	16.1%
Indianapolis, IN	52	13.3%

(Continued on next page)

TABLE **B1**

(Continued from previous page)

Metro area	Number of discrete springboard occupations	Share of middle-skills workers employed in springboard occupations
Jacksonville, FL	57	14.0%
Kansas City, MO	57	17.1%
Las Vegas, NV	55	12.5%
Los Angeles, CA	75	15.0%
Louisville, KY	48	14.6%
Memphis, TN	49	14.5%
Miami, FL	61	13.6%
Milwaukee, WI	48	12.1%
Minneapolis, MN	50	14.5%
Nashville, TN	46	15.1%
New Orleans, LA	54	12.8%
New York, NY	72	17.0%
Oklahoma City, OK	54	14.1%
Orlando, FL	60	13.8%
Philadelphia, PA	62	14.4%
Phoenix, AZ	65	14.8%
Pittsburgh, PA	56	16.4%
Portland, OR	64	14.4%
Providence, RI	44	10.6%
Raleigh, NC	49	12.8%
Richmond, VA	49	13.4%
Riverside, CA	71	17.9%
Rochester, NY	54	14.4%
Sacramento, CA	65	16.6%
Salt Lake City, UT	52	13.7%

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TABLE B1

(Continued from previous page)

Metro area	Number of discrete springboard occupations	Share of middle-skills workers employed in springboard occupations
San Antonio, TX	53	14.0%
San Diego, CA	71	18.2%
San Francisco, CA	68	13.6%
San Jose, CA	58	13.6%
Seattle, WA	62	16.0%
St. Louis, MO	57	18.6%
Tampa, FL	57	13.3%
Tucson, AZ	51	15.2%
Tulsa, OK	49	17.2%
Virginia Beach, VA	56	18.1%
Washington, DC	59	14.5%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2023; and the US Census Bureau, American Community Survey (ACS), 2018–19 and 2021–23.

TABLE B2

Number and share of occupational groups with springboard occupations expected to experience credential shortages, by metro area

Metro area	Number of occupational groups with springboard occupations	Number of occupational groups with credential shortages	Share of occupational groups with credential shortages
Atlanta, GA	14	14	100%
Austin, TX	15	15	100%
Baltimore, MD	14	14	100%
Birmingham, AL	12	12	100%
Boston, MA	14	14	100%

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B2 TABLE

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Metro area	Number of occupational groups with springboard occupations	Number of occupational groups with credential shortages	Share of occupational groups with credential shortages
Buffalo, NY	17	16	94%
Charlotte, NC	14	14	100%
Chicago, IL	14	13	93%
Cincinnati, OH	15	13	87%
Cleveland, OH	14	14	100%
Columbus, OH	16	14	88%
Dallas, TX	15	15	100%
Denver, CO	16	13	81%
Detroit, MI	16	16	100%
Fresno, CA	15	9	60%
Grand Rapids, MI	13	13	100%
Hartford, CT	14	12	86%
Houston, TX	16	15	94%
Indianapolis, IN	14	6	43%
Jacksonville, FL	15	15	100%
Kansas City, MO	14	14	100%
Las Vegas, NV	13	13	100%
Los Angeles, CA	16	10	63%
Louisville, KY	11	10	91%
Memphis, TN	11	10	91%
Miami, FL	15	12	80%
Milwaukee, WI	15	15	100%
Minneapolis, MN	13	13	100%
Nashville, TN	14	13	93%
New Orleans, LA	14	11	79%

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B2 TABLE

(Continued from previous page)

Metro area	Number of occupational groups with springboard occupations	Number of occupational groups with credential shortages	Share of occupational groups with credential shortages
New York, NY	17	17	100%
Oklahoma City, OK	13	13	100%
Orlando, FL	14	8	57%
Philadelphia, PA	14	13	93%
Phoenix, AZ	15	11	73%
Pittsburgh, PA	15	15	100%
Portland, OR	16	16	100%
Providence, RI	11	11	100%
Raleigh, NC	15	14	93%
Richmond, VA	12	12	100%
Riverside, CA	18	12	67%
Rochester, NY	16	15	94%
Sacramento, CA	15	13	87%
Salt Lake City, UT	12	12	100%
San Antonio, TX	15	15	100%
San Diego, CA	15	12	80%
San Francisco, CA	17	14	82%
San Jose, CA	15	9	60%
Seattle, WA	16	16	100%
St. Louis, MO	13	13	100%
Tampa, FL	13	12	92%
Tucson, AZ	15	13	87%
Tulsa, OK	15	10	67%
Virginia Beach, VA	14	12	86%
Washington, DC	14	13	93%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS), 2012–24; the US Census Bureau, American Community Survey (ACS), 2012–19 and 2021–23; the US Bureau of Labor Statistics, Employment Projections, 2024; and the US Department of Education, Integrated Postsecondary Education Data System (IPEDS), 2021–23.

Appendix C. Errata

An earlier version of this report contained the following errors, which have been corrected:

Page 4: The Figure 4 title has been updated: "Healthcare professional and technical springboard occupations employ the largest number of middle-skills workers (220,000 [was 'nearly 1.1 million']), while management springboard occupations account for the largest number of projected annual job openings (56,900)."

Page 12, Table 2: All values in the "Number of middle-skills workers employed in occupation" column have been corrected.

Page 14: The following sentence has been corrected:

"For example, the healthcare professional and technical occupational group employs the largest number of middle-skills workers in springboard occupations (220,000 [was 'nearly 1.1 million'], or 13 percent of middle-skills employment in springboard occupations), followed by the computer and mathematical sciences occupational group (205,000 [was 'just over 1 million'], or 12 percent)."

Page 15, Figure 4: All values representing the "Number of middle-skills workers employed in springboard occupations" have been corrected.

The Figure 4 title has been updated to reflect the new values: "Healthcare professional and technical springboard occupations employ the largest number of middle-skills workers (220,000 [was 'nearly 1.1 million']), while management springboard occupations account for the largest number of projected annual job openings (56,900)."

Springboards to Opportunity

The Middle-Skills Occupational Landscape in 55 US Metro Areas

can be accessed online at cew.georgetown.edu/springboards-to-opportunity

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