



Area 20 strategic workforce analysis and economy recovery plan

Prepared for: South Central Ohio
Workforce Partnership

July 27, 2023



Building a better
working world

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Executive summary

The South Central Ohio Workforce Partnership (Partnership) of Fairfield, Hocking, Pickaway, Ross and Vinton counties works in collaboration with the chief local elected officials (CLEOs) of those counties to set the workforce policies for the region under the auspices of the Workforce Innovation and Opportunity Act (WIOA). (The Partnership serves as the Area 20 Workforce Development Board (WDB), and the two terminologies are used interchangeably throughout this report). WIOA was signed into law on July 22, 2014, and is designed to help job seekers access employment, education, training and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy.

Per the Intergovernmental Agreement of the Area 20 WDB, the Fairfield County Economic Development Department serves as the administrative and fiscal agent for the WDB and herein this report referred to as the “Area 20 representatives.”

In 2021, a strategic workforce analysis was completed which considered the direct impacts of COVID-19 as the region was facing the effects in real time. This report provides an updated analysis as well as suggested actions to advance workforce development in Area 20. The region’s economic recovery and future growth are directly connected to the availability of a strong talent pipeline with skill sets that align with the needs of industry.

Executive summary (continued)

The Partnership has developed this strategic workforce analysis and economy recovery plan to achieve the following:

- Understand the region's current economy and workforce
- Identify industries and occupations with strong growth potential and assess workforce needs and availabilities
- Generate insights that can be used by the Partnership and others to inform programming, seek funding, and encourage businesses and talent to locate in Area 20
- Draft goals and potential actions aimed at building Area 20's talent pipeline and spark economic growth

About this report

In March 2023, the Partnership engaged the Ernst & Young LLP (EY US) Economic Development Advisory Services (EDAS) team to conduct a comprehensive labor analysis of each county within Area 20, its labor shed, and the training requirements of its in-demand jobs. This workforce analysis and economy recovery plan intends to build upon workforce development priorities that are shared across the five counties in the region. As set forth by the Partnership and other project collaborators, the ultimate objective of the planning process is to identify a handful of potential high-impact initiatives that regional leaders, especially community and business leaders, can drive forward together.

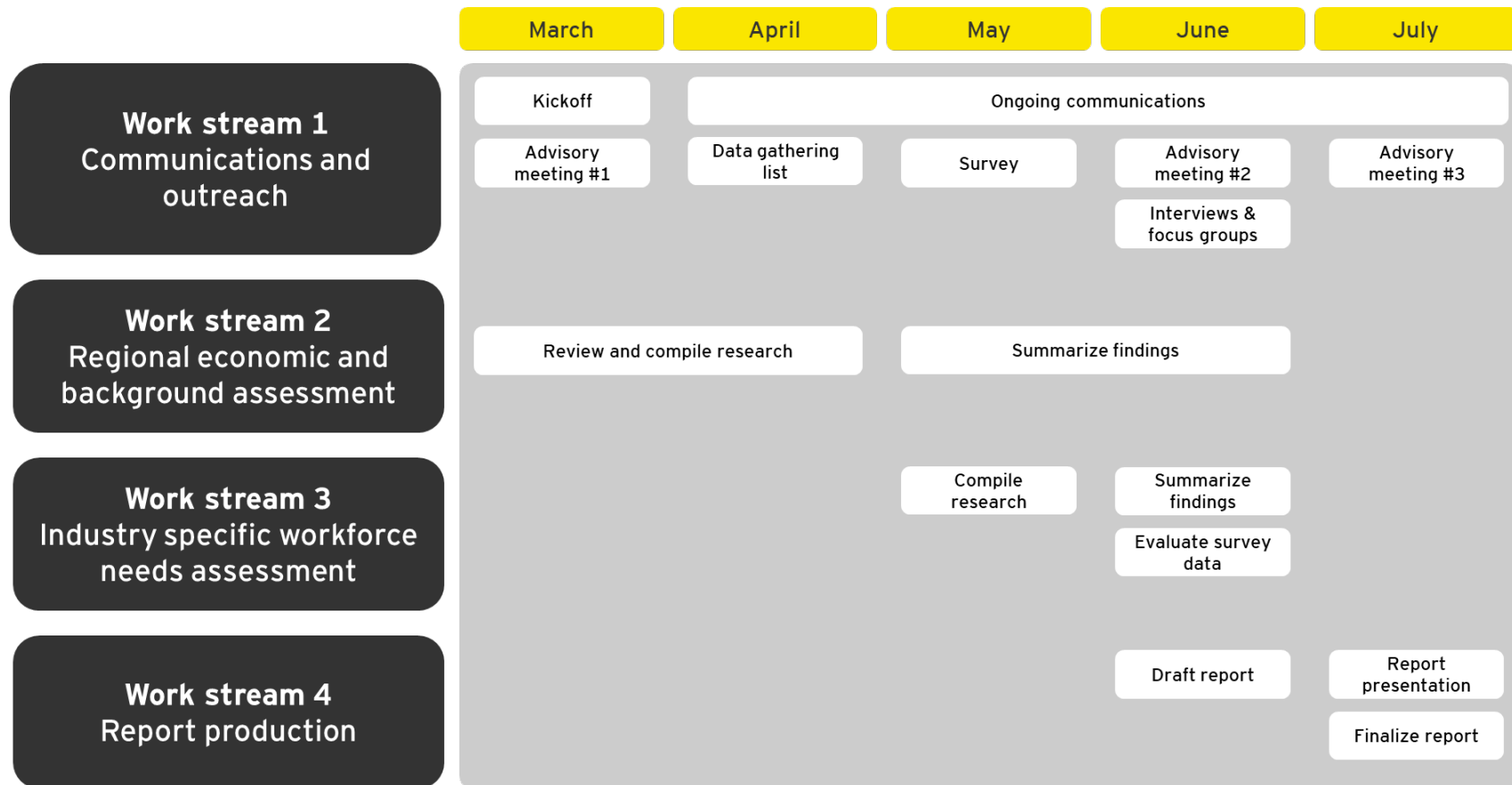
This report includes our research and findings from performing the following requested tasks:

- Profile workforce conditions for the region and each individual county
- Conduct industry cluster analysis for the region and each individual county
- Profile worker commuting patterns for each county
- Provide forecasts of industry employment and high-growth occupations for the region and each individual county
- Profile occupational demand for each target industry for the region
- Identify skills needed by growing industries today and long term
- Summarize labor availability data in the region
- Identify strategies to attract job seekers to the region and to help upskill existing workers
- Evaluate survey data collected by Fairfield County on qualitative feedback from regional employers

Executive summary (continued)

Project process

The process for developing the Area 20 strategic workforce analysis and economy recovery plan included four work streams, completed over five months. Those workstreams are illustrated below.



Over the course of the engagement, the consulting team maintained ongoing communications with Area 20 representatives and the Partnership to provide status updates, plan meetings and track progress.

Executive summary (continued)

Background review

To begin the project, the consulting team conducted a background review of documents provided by the Area 20 representatives to better understand the workforce and target sectors of the region and individual counties, as well as recent economic development priorities and achievements for the region.

The following is a non-exhaustive list of materials provided to and reviewed by the consulting team:

- Strategic Workforce Analysis, Local Workforce Area 20 (2021)
- Strategic Workforce Analysis, Fairfield County, OH (2021)
- Strategic Workforce Analysis, Pickaway County (2021)
- Strategic Workforce Analysis, Hocking County (2021)
- Strategic Workforce Analysis, Ross County (2021)
- Strategic Workforce Analysis, Vinton County (2021)

Stakeholder outreach and engagement process

To supplement the analysis and findings covered in Work stream 2 and Work stream 3, the consulting team collaborated with the Area 20 representatives in Work stream 1 to identify employers, industry associations, training providers, community-based organizations, educational institutions, economic development organizations, and other relevant stakeholders across *manufacturing, health care, skilled trades, and economic development sectors*. These groups were invited to participate in focus groups and interviews in June and actively participate as part of a steering committee throughout the duration of the project. The interviews included representatives from *South Central Ohio Jobs and Family Services, local companies, and Hocking County Community Improvement Corporations*.

Executive summary (continued)

Survey

The multi-pronged stakeholder engagement effort included a survey that was developed together by the consulting team and Area 20 representatives. A survey link was displayed and distributed through the Partnership website. The intent of the survey was to gather insights into the current workforce challenges and access and barriers to essential services and needs. The survey was designed to be targeted to both residents and business managers/owners, with questions branching into business-related questions for the business managers/owners.

The analyzed results from the survey can be found in the survey appendix. The survey drew 212 individual participants, and their input was essential to the analysis and suggested actions included in this report.



Executive summary (continued)

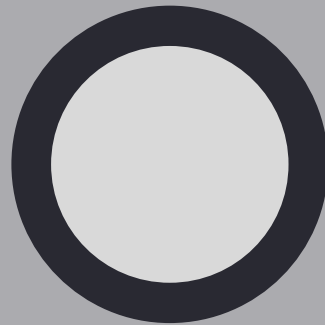
Potential target industries and target occupations

Five target industries and occupations are suggested to be a focal point of workforce initiatives. Proposed targets were selected based on the following information:

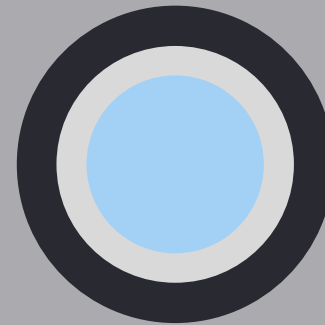
- Past reports and strategies from Area 20 and its counties, which included current target industries
- Industry clusters by employment size, concentration and growth
- Current economic development investments in Area 20 and beyond, including related emerging technologies
- Ideas and values expressed by stakeholders, including emphasis on higher-wage jobs, potential for economic mobility within the industry, and retaining more of the workforce currently commuting out of Area 20
- Support for Area 20's goals and values, including raising income levels and quality of life for Area 20 residents
- Community initiatives and programs related to economic and workforce development



Is the industry cluster **growing regionally** and **projected to grow nationally**?



What industry clusters have an **existing presence**?



Which industry clusters leverage **current and potential future assets and tools**?



Which industry clusters **align with goals and values**?

Executive summary (continued)

The Partnership and advisory committee members agreed to focus their regional strategies in support of the following five target industries and occupations, as illustrated below. Several niche sectors are suggested as well.



MANUFACTURING

Food and beverage
Packaging
Materials
Machinery and equipment
Automotive



TECHNOLOGY

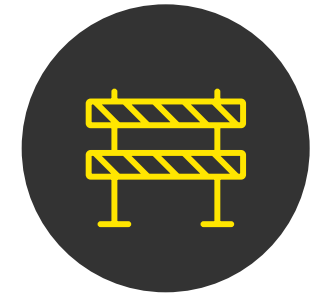
Data centers
Computing hardware
Software



LOGISTICS



HEALTH CARE OCCUPATIONS



CONSTRUCTION/ SKILLED TRADES OCCUPATIONS

The five target industries and occupations for Area 20 consider both economic development and workforce development, with a focus on creating opportunities for workers to participate in higher-wage careers while retaining and attracting workers who currently work outside of the region. Several opportunities are related to new forthcoming investments in the surrounding region and the supplier that will follow, such as semiconductor and electric vehicle manufacturing.

Many jobs within the target industries and occupations have wages above the overall Area 20 average. With further economic development, these industries also present an opportunity to keep more of the resident workforce closer to home rather than commuting out of Area 20. Automotive manufacturing, for example, is already well-established with nearly 4,000 employees in the region (a concentration >10X US levels). Other industries such as technology and its niche sectors have employment concentrations below 1X but can link to emerging regional activity in data centers, semiconductors and electric vehicles. Targeting training for occupations like health care and construction and skilled trades will support essential parts of the local economy. The associated North American Industrial Classification System (NAICS) codes are provided in the data appendix.

Executive summary (continued)

Stakeholder views on the region's strengths, challenges and opportunities

Conversations with the advisory committee members, the Partnership, business leaders, educational institutions, and economic and workforce development leaders, and the analysis of the resident and business owner survey revealed insightful lessons. The following themes and takeaways emerged through the project's stakeholder outreach and were largely reinforced through the review of existing strategic plans, studies and reports. This SWOT evaluation helped inspire the actions suggested at the end of this report. Common regional strengths and assets, challenges and vulnerabilities, and potential opportunities cited by stakeholders included, but are not limited to:

Strengths

- The Fairfield County Workforce Center is a highly regarded and recognized model for workforce development. It provides a variety of training programs supported by Hocking College and Ohio University.
- The Area 20 region is an attractive location for business for many reasons, including its location and access to the Eastern and Midwestern United States and the competitive cost of doing business.
- There are many industry-leading training programs and industry collaborations aimed at addressing the labor shortage in the region, particularly in health care and construction/skilled trades. Partnerships and programs such as The GRIT Project, Pickaway Works and Central Ohio Manufacturing Partnership (COMP) are prime examples of what is working well to secure the future talent pipeline in high-demand industries.

Challenges and vulnerabilities

- There is a shortage of housing options, coupled with affordability concerns and limited access to childcare. These factors may make it challenging for people to live and work in the Area 20 region. These are among the main barriers the current workforce faces, adding to the shortage of labor and hiring fatigue being experienced by employers.
- Regional accredited training programs could be better coordinated with business requirements. This may lead to workforce shortages and skills misalignment.
- Poor mobility infrastructure impacts access to jobs and training. Some stakeholders cited transportation access as a hindrance to their ability to attract new residents and businesses.

Executive summary (continued)

- Some employers expressed concern that there is a lack of motivation and work ethic among workers to pursue jobs in industries like manufacturing, trades, health care and others. They stated that intrinsic motivation is critical to holding down a job. Several suggested that local schools could offer more focused teaching on soft skills and provide students with a more realistic view of the working world.
- Stakeholders noted that there is insufficient awareness of the current workforce development-related incentives programs.
- Stakeholders view career pathway programs at high schools as being more focused on encouraging students to pursue four-year degrees rather than promoting trades as a viable career path. Employers would like to see schools and curricula being more open to and embracing alternative career pathways, with proper education starting at a much younger age than high school.
- Employers are frustrated by the recruitment efforts being in vain and positions left unfilled for years. They said there is need for new and innovative hiring processes to reduce hiring and onboarding fatigue and enable successful attraction and retention of new talent to the region.
- The community wants to see more higher-paying, better-quality jobs within the region.

Opportunities

- Unemployment is at an all-time low and there are currently more jobs available in the Area 20 region than there are available skilled workers to fill the roles. While challenging, it also poses an opportunity for the region to actively seek out new talent and grow the future talent pipeline accordingly.
- There is an opportunity to better connect educational institutions, accredited training providers and businesses. The analysis, targets and potential action steps provided in this report set a good foundation for coordination of efforts to better align programming across the region. It also could help establish a compelling campaign to inform residents of career pathways and attract new talent into the region.
- When asked about the future of the region's economy, many stakeholders discussed opportunities to ensure that whatever growth occurs is clean and green, protecting the region's natural environment and quality of life.

Executive summary (continued)

- The Fairfield County Workforce Center was recently awarded the 2023 Achievement Award from the National Association of Counties (NACo) in the category of Children and Youth for its Summer Career Exploration Camps. While this is only one example of how the workforce center provides value to the community, there is an opportunity to replicate and/or expand the initiatives and programs offered at the center.
- Stakeholders see an opportunity to provide better support services to the region's underserved and vulnerable residents. Helping them overcome barriers could help them access education, training, jobs, and ultimately a higher standard of living.

Suggested actions

The conclusion of this report suggests several actions for addressing these challenges and opportunities. Actions are organized within four goals, each focused on a different aspect of a holistic workforce development system: retaining, upskilling, re-engaging and attracting workers. A summary of the goals and actions is provided on the next page.

Executive summary (continued)

Goal 1: Retain	Goal 2: Upskill	Goal 3: Re-engage	Goal 4: Attract
Retain Area 20's workforce.	Expand targeted workforce training and education programs that prepare workers for the needs of our current and future industries.	Coordinate with partner organizations on programs that assist people with returning to work and overcoming barriers.	Proactively attract talent into Area 20.
<ul style="list-style-type: none"> • Create pathways for skills development in target industries and occupations. • Adopt innovative and inclusive hiring processes that are sustainable. • Continue to increase accessibility to education and training for Area 20 residents. • Consider return to work incentives. 	<ul style="list-style-type: none"> • Clarify career lattices/pathways in targeted industries and occupations. • Strengthen ties among businesses within Area 20's target industries and occupations in support of workforce development. • Coordinate initiatives and immersive collaborations between schools, industry, and local training centers focusing on K-12 industry engagement. 	<ul style="list-style-type: none"> • Map existing programs and services, identify gaps, and create a plan. • Arm employers with tools and know-how to help their workers overcome barriers. 	<ul style="list-style-type: none"> • Develop a talent attraction campaign promoting Area 20's assets and opportunities. • Establish and promote compelling relocation incentives.



Regional economic and background assessment

The Regional economic and background assessment section comprises data and analysis on Area 20's population and labor force characteristics, educational attainment levels and higher education pipeline, and industry and occupational clusters, including commuting patterns. This analysis, combined with stakeholder input, provides the basis for the identification of target industries and occupations, as well as suggested actions, provided in the next sections of the report.

Overview

Data highlights

Labor force participation is a challenge.

Labor force has grown alongside population in the past decade. However, the COVID-19 pandemic halted growth in 2020 with levels recently reaching 2019 levels again. Among the population age 16 or older, the rate of participation was 59.4% in 2021, down from 61.3% 10 years ago. Across age groups, the rate in Area 20 is lower than in Ohio or the US. Among adults ages 25 to 44, for example, Area 20 has a rate of 78% compared with 84% in Ohio and 83% in the US. Partially due to a high share of individuals not participating in the labor force, there is a smaller pool of workers available for work, demonstrated by Area 20's unemployment rate falling nearly a full percentage point lower than Ohio and the US. Positively, Area 20's working age (25 to 64) labor force grew more than twice as quickly than Ohio's from 2016 to 2021, indicating that although labor force participation is currently lower than the state average, it may be catching up over time.

Degree and certificate production has decreased.

In 2021, Area 20 higher education institutions produced 979 degree and certificate completions, down 37% from the 1,364 awarded in 2016. A significant share of this decline (nearly 70%) was in awards for health professions. Production and repair awards only saw a slight decline, and construction trade awards increased. The low total volume of awards in Area 20 indicates that for jobs that require more than on-the-job training, employers are more reliant on graduates from outside the region, including larger institutions in Franklin or Athens counties. Overall, only 23% of Area 20 adults aged 25 or older have a bachelor's degree or higher, compared with 34% in the US. Associate degree attainment is the same between Area 20 and the US. at 8.7%. The 38% of Area 20 adults who have a high school degree (compared with 27% in the US) is a potential opportunity for workforce development.

Area 20 has a net outflow of commuting workers.

Area 20 sees a net outflow of more than 46,000 workers, of whom 63% earn \$40,000 or more. This places a spotlight on an opportunity to target higher wage jobs in economic development and workforce development. Industries with the highest net outflows are transportation and warehousing (-5,500), health care and social assistance (-5,121), and educational services (-4,408).

Overview (continued)

Industry and occupational analyses converge on a similar set of potential targets.

Based on considerations of industry size, growth and concentration of employment, clusters that are significant in Area 20 include distribution & logistics, health care, construction services, hospitality and various clusters under manufacturing. These include industrial machinery and metalworking. Automotive employment concentration is high at 5.7 times national levels but has seen jobs decrease by 5% since 2017. Hospitality employment has also decreased (-3%). Industries such as electronics and software technology are small (<300 jobs) but have seen growth of 403% and 41%, respectively.

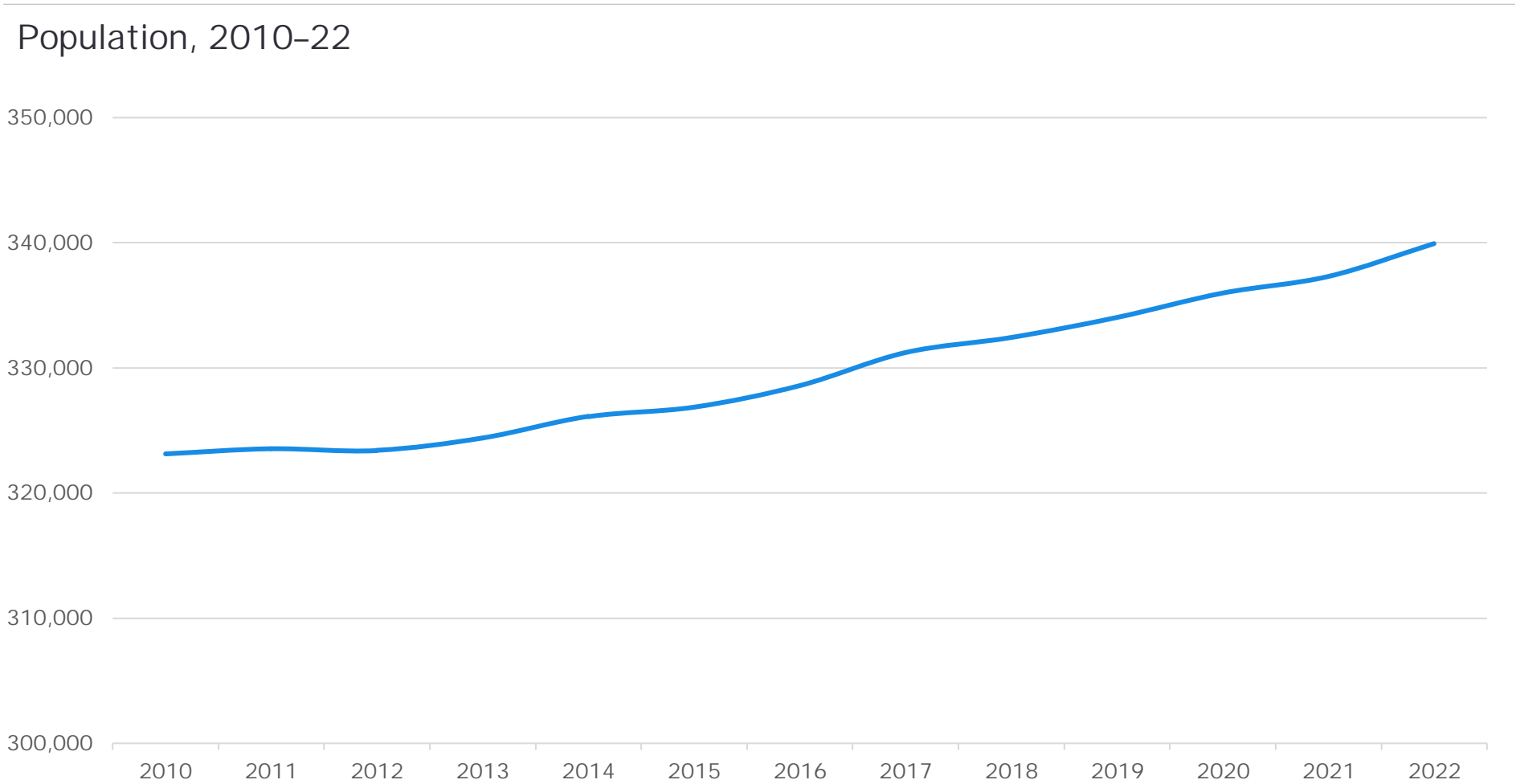
Larger occupational clusters with higher levels of employment concentration and growth align with industries around corresponding activities in production, logistics, skilled trades (construction and mechanics), and medical. These clusters tend to be even stronger from a resident worker perspective. Continued growth of these occupations from an economic development standpoint could draw from more of the resident workforce.

Top industry clusters forecasted for growth from present to 2032 include hospitality (+1,200), health care (+900) and construction services (+800). Certain manufacturing clusters also are forecast to perform well: agribusiness & food (+460), industrial machinery (+400), automotive (+370) and metalworking (+350).

Top occupational clusters forecasted for growth include hospitality (+1,200), medical (+900), production (+700), and skilled trades of construction and mechanics (+1,100 combined).

The following pages share more detailed data analysis on sociodemographic and economic factors.

Population

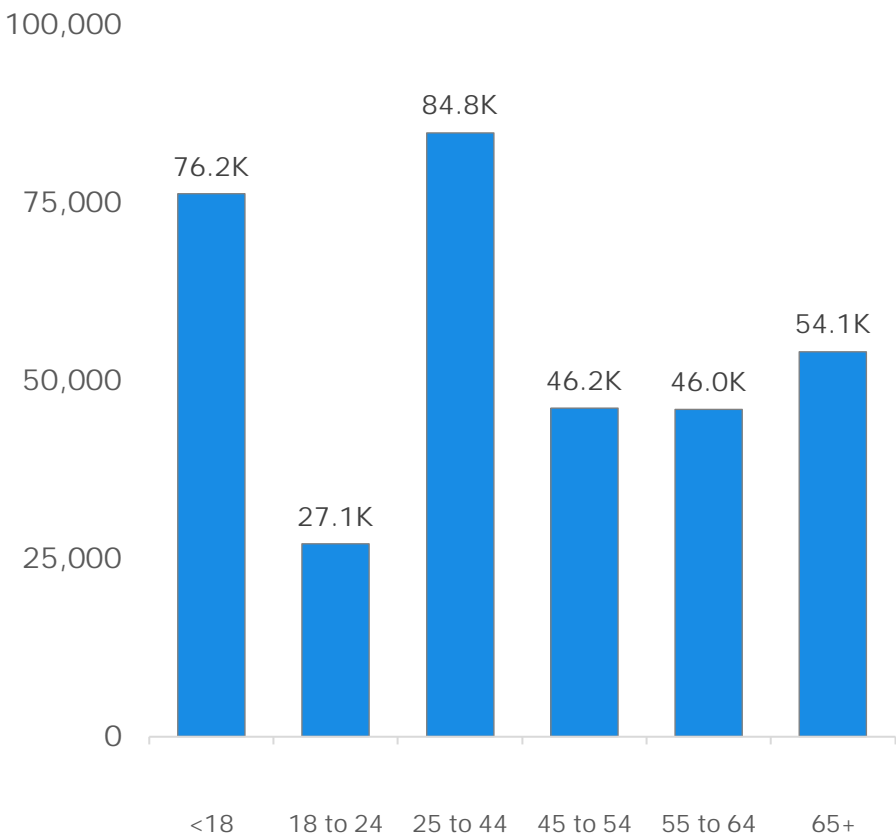


Source: US Census Bureau

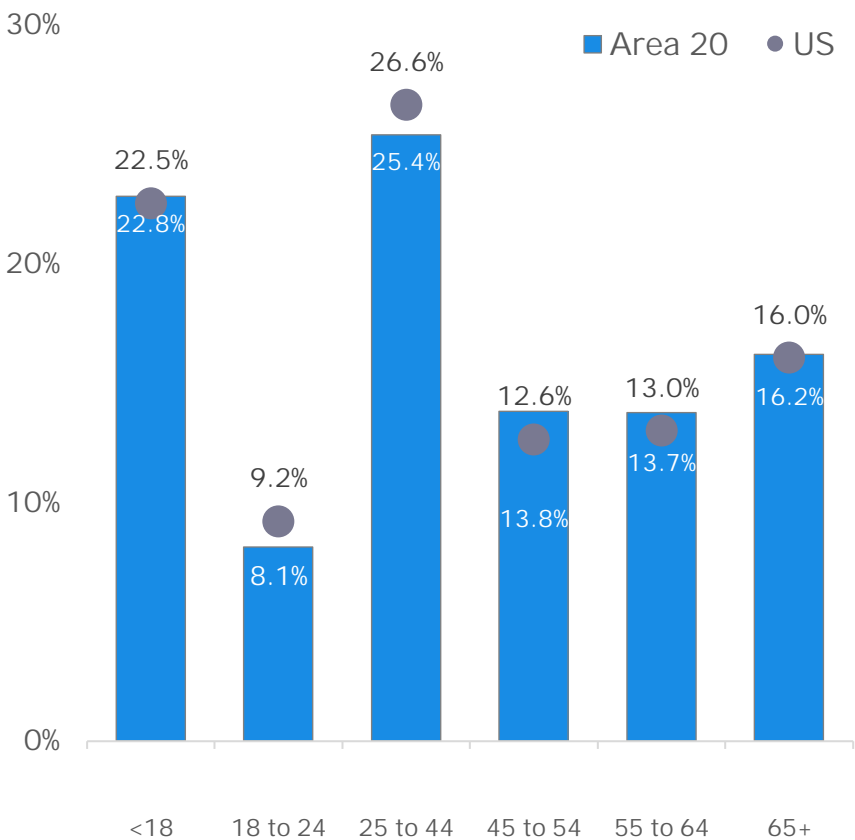


Population by age

Population by age cohort, 2021



Share of population by age cohort, 2021

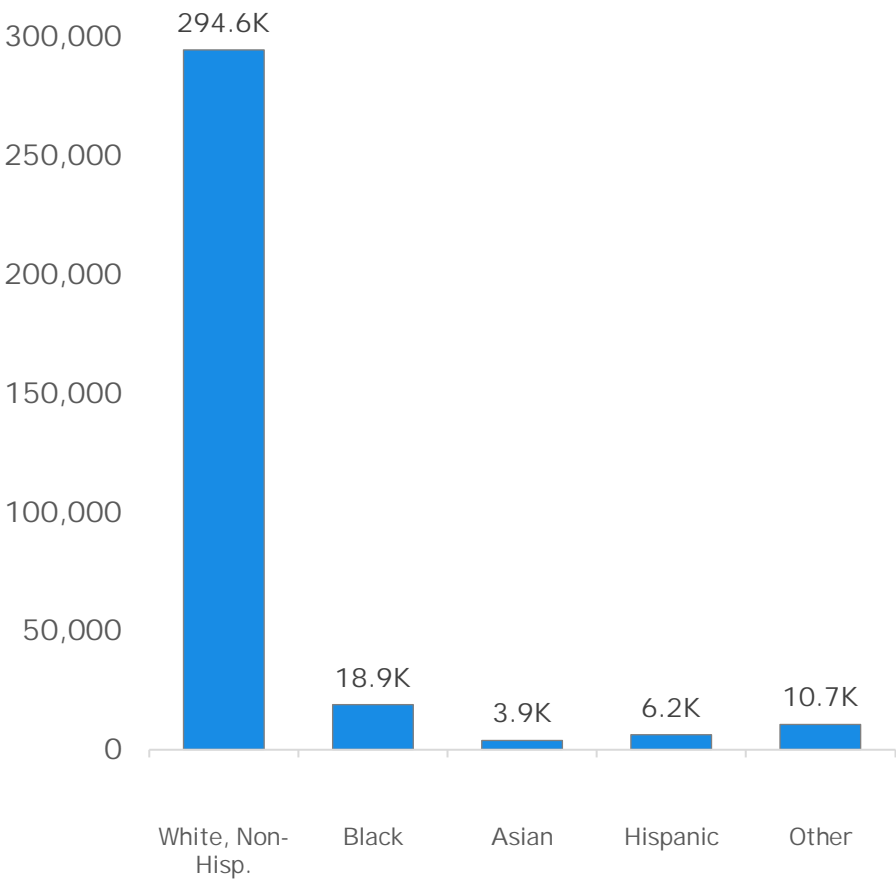


Source: US Census Bureau

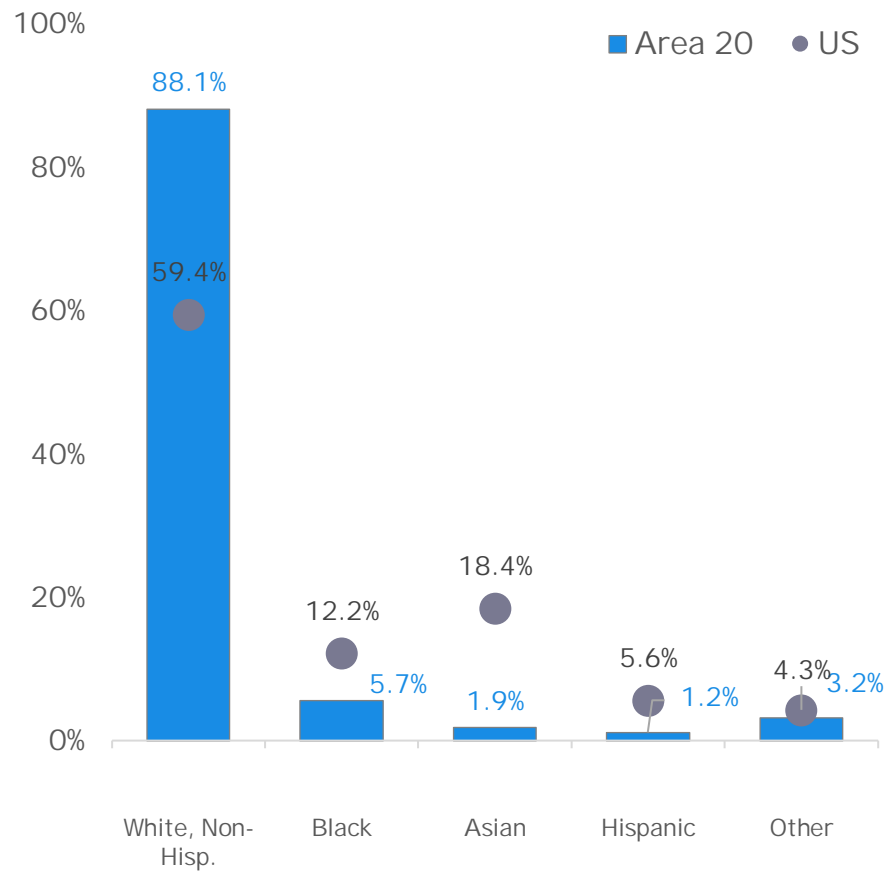


Population by race

Population by race, 2021



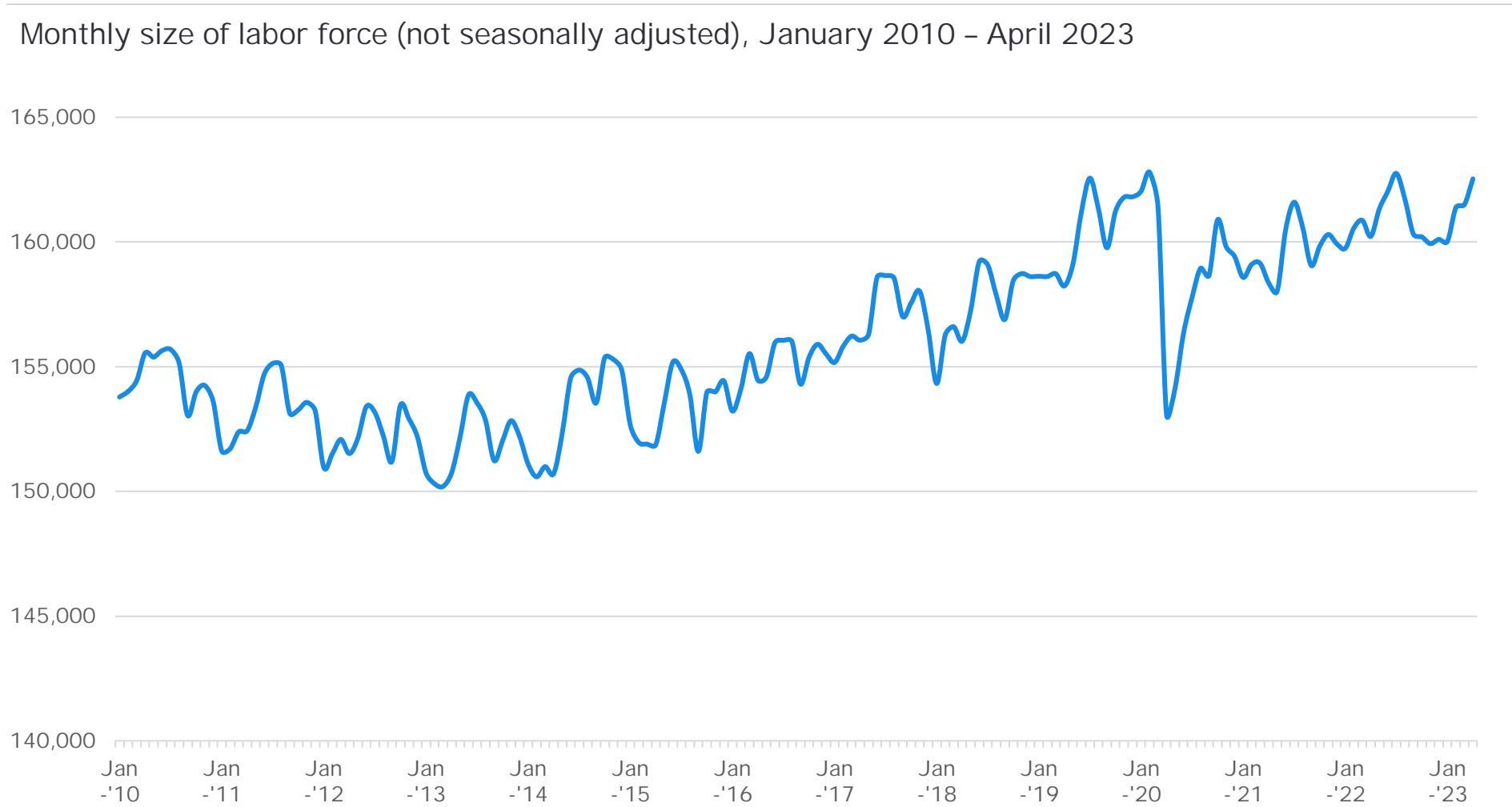
Share of population by race, 2021



Source: US Census Bureau



Labor force

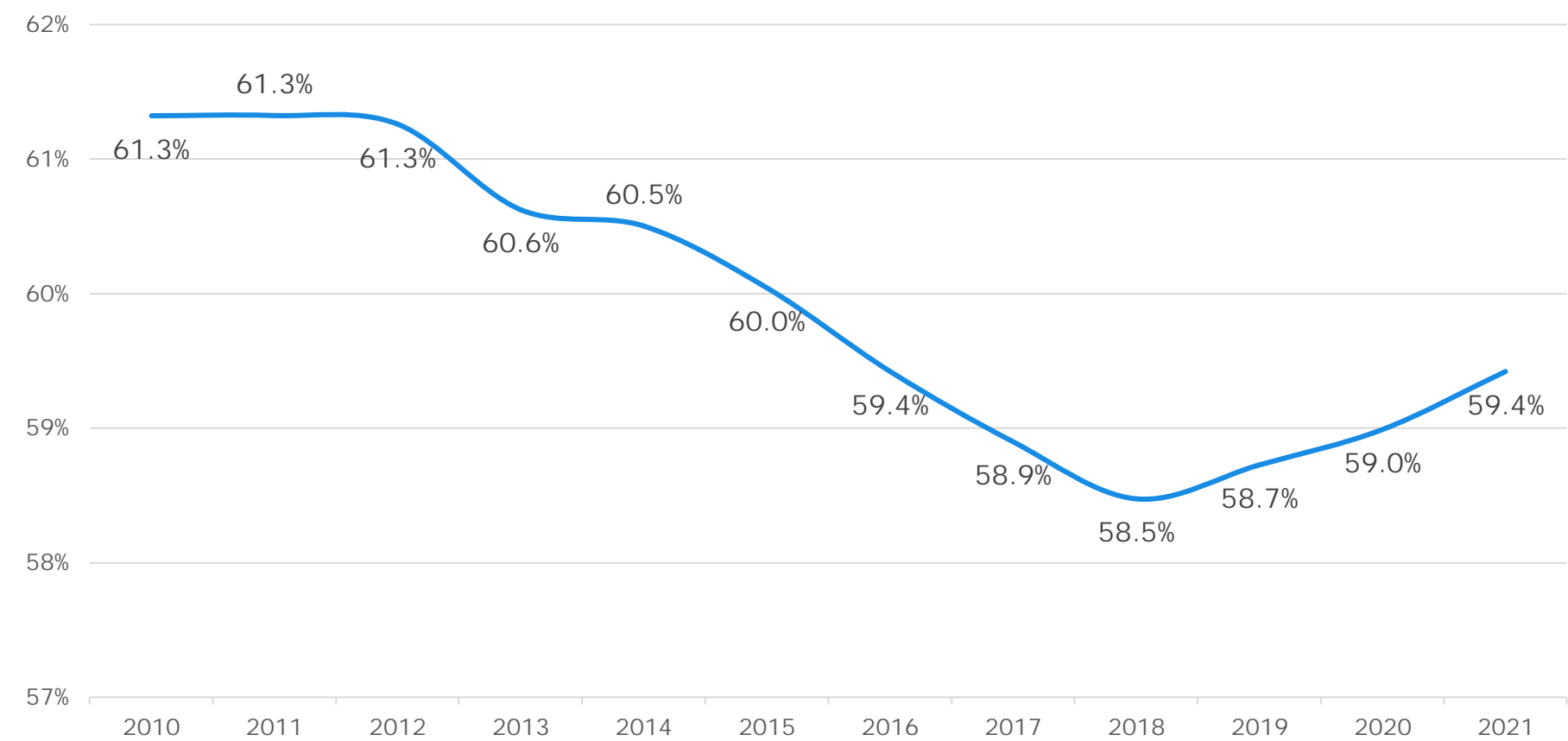


Source: US Bureau of Labor Statistics



Labor force

Labor force participation rate, 2010-21

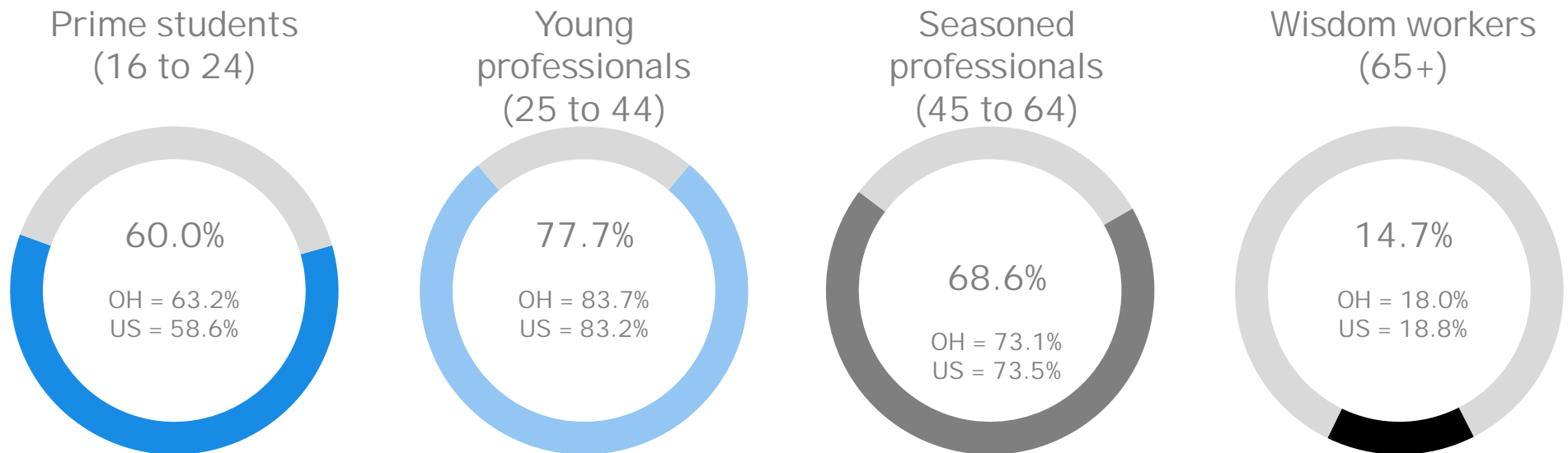


Source: US Census Bureau



Labor force

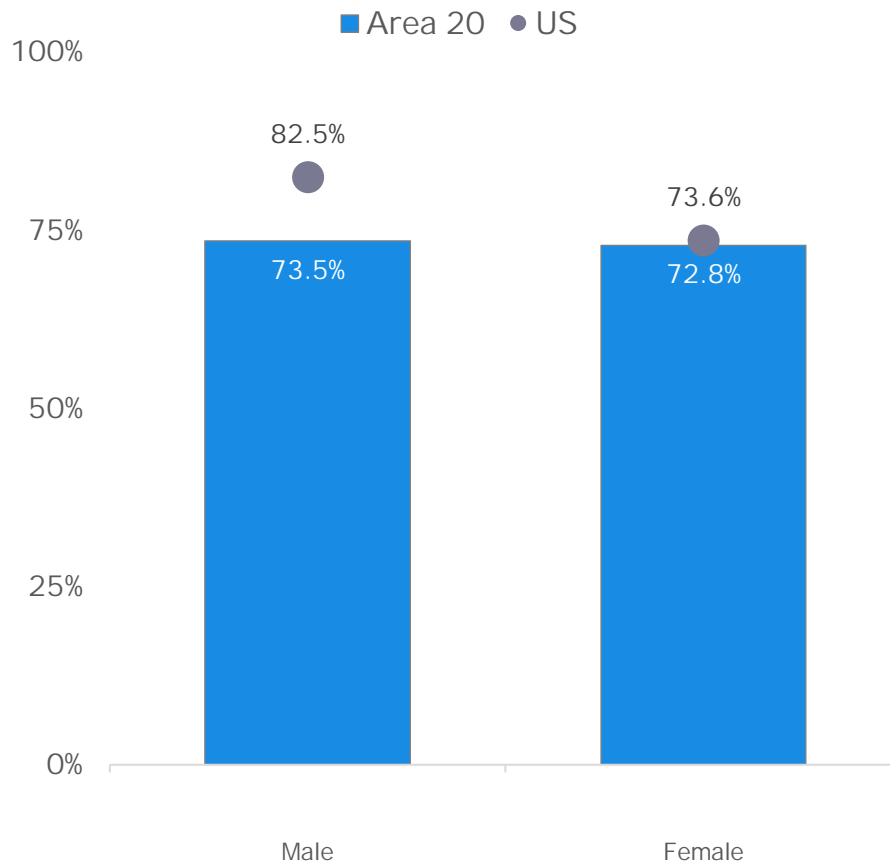
Labor force participation rate by age cohort (among residents 16 years and older) in the region, 2021



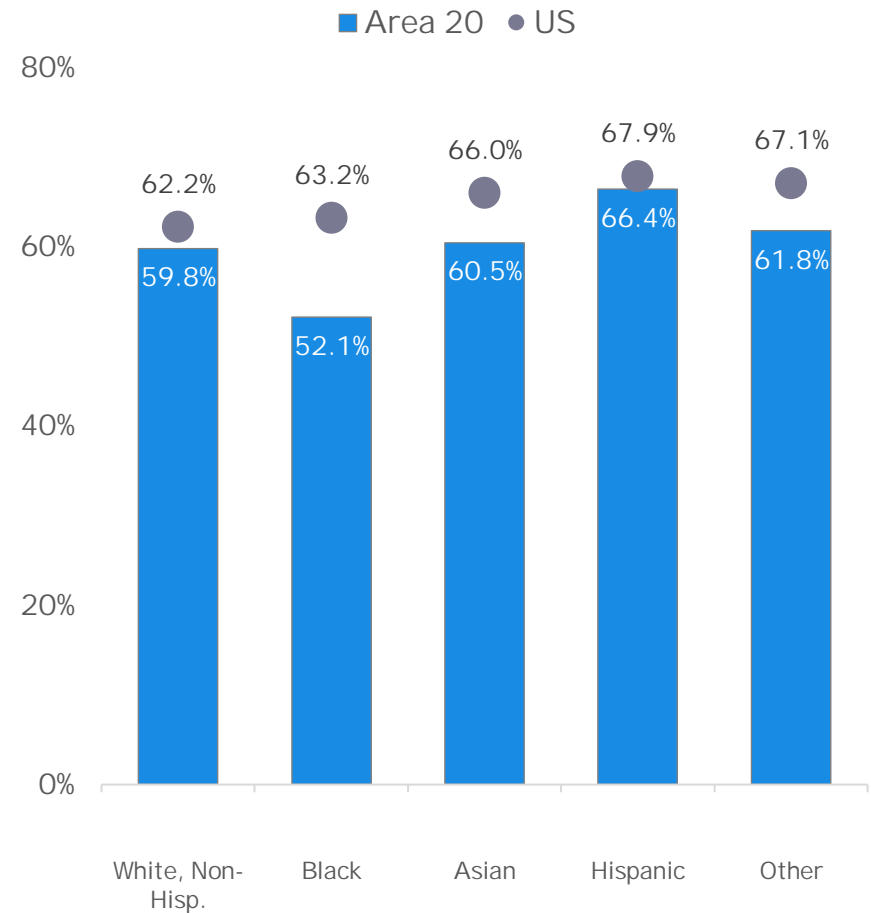
Source: US Census Bureau

Labor force participation

Labor force participation rates by gender (ages 20 to 64), 2021



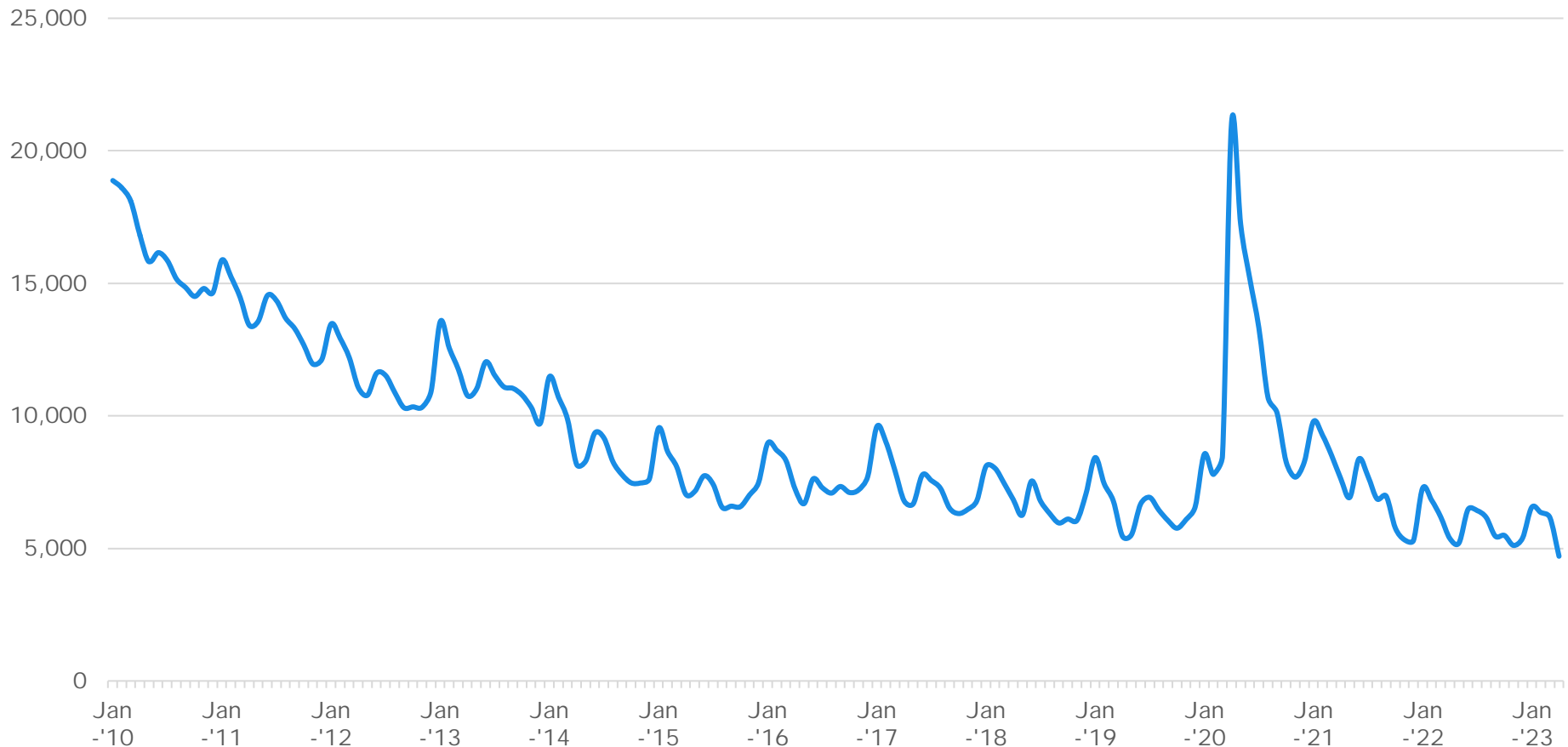
Labor force participation rates by race/ethnicity, (16 years and older), 2021



Source: US Census Bureau

Unemployment

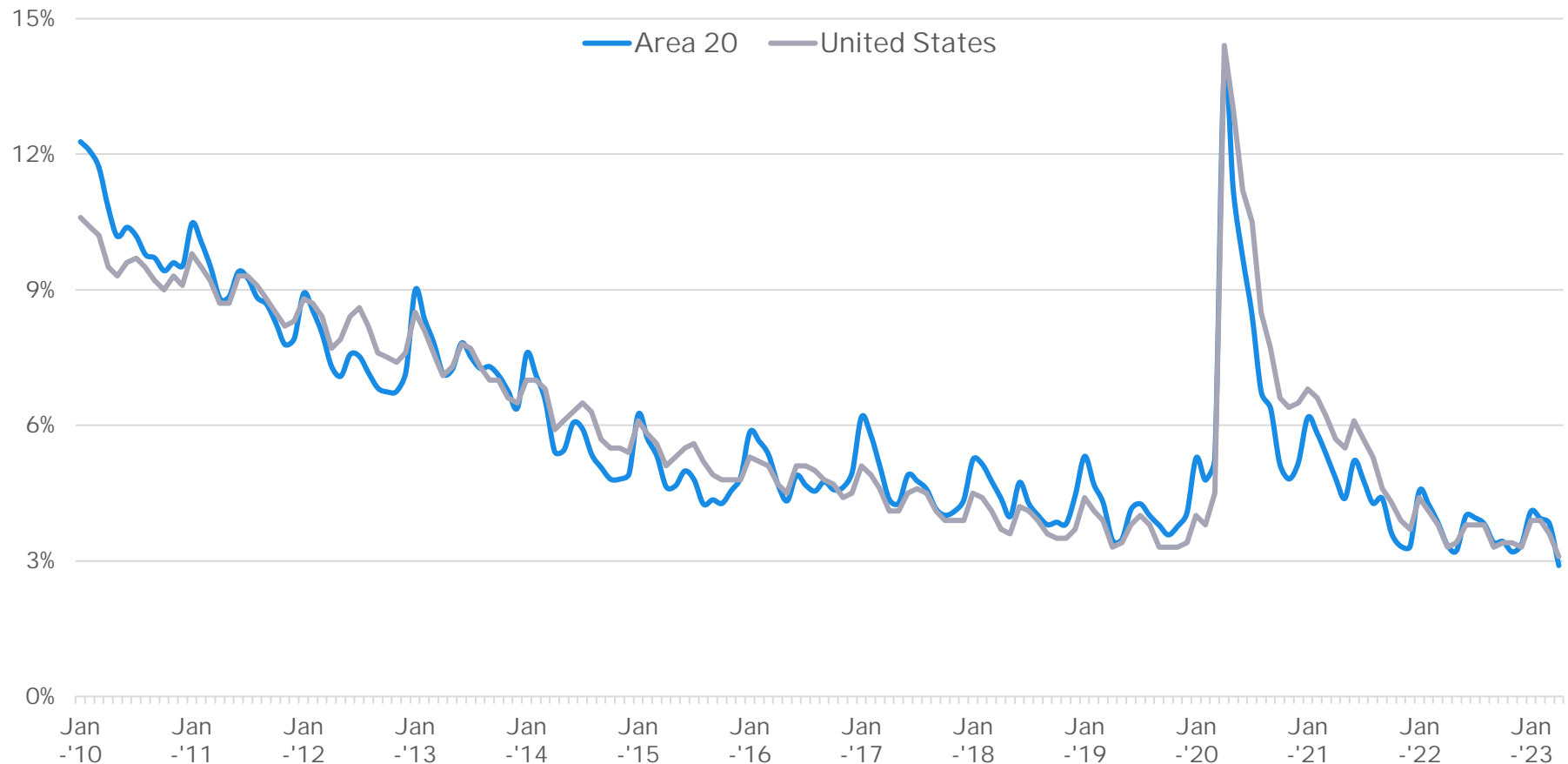
Monthly size of unemployed population (non-seasonally adjusted), January 2010 – April 2023



Source: US Bureau of Labor Statistics

Unemployment rate

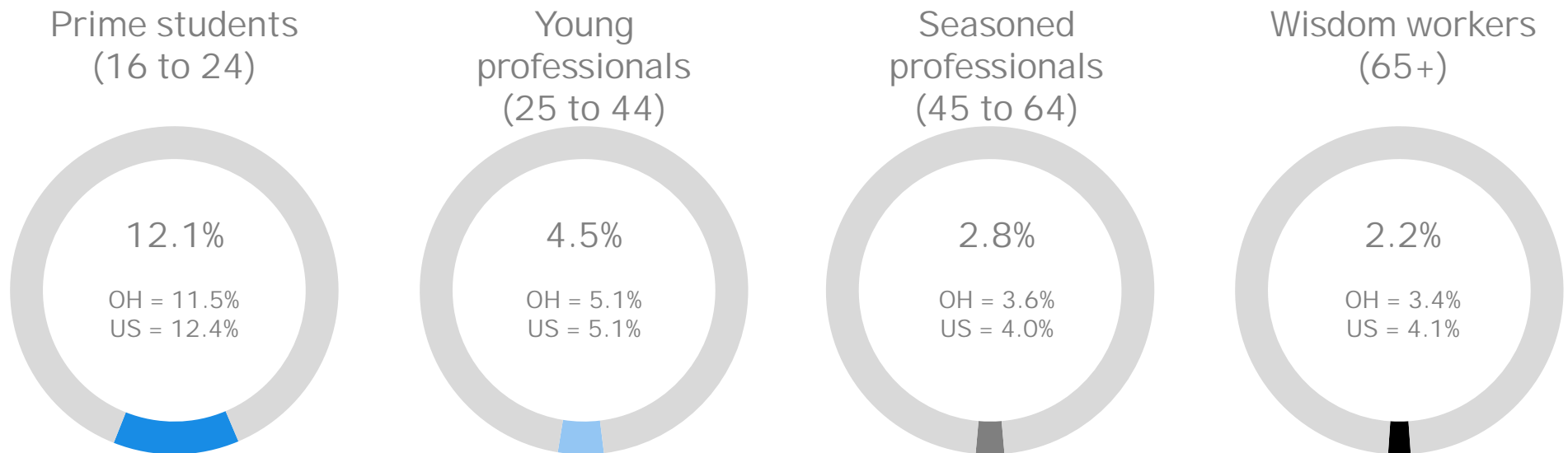
Monthly unemployment rate (non-seasonally adjusted), January 2010 – April 2023



Source: US Bureau of Labor Statistics

Unemployment

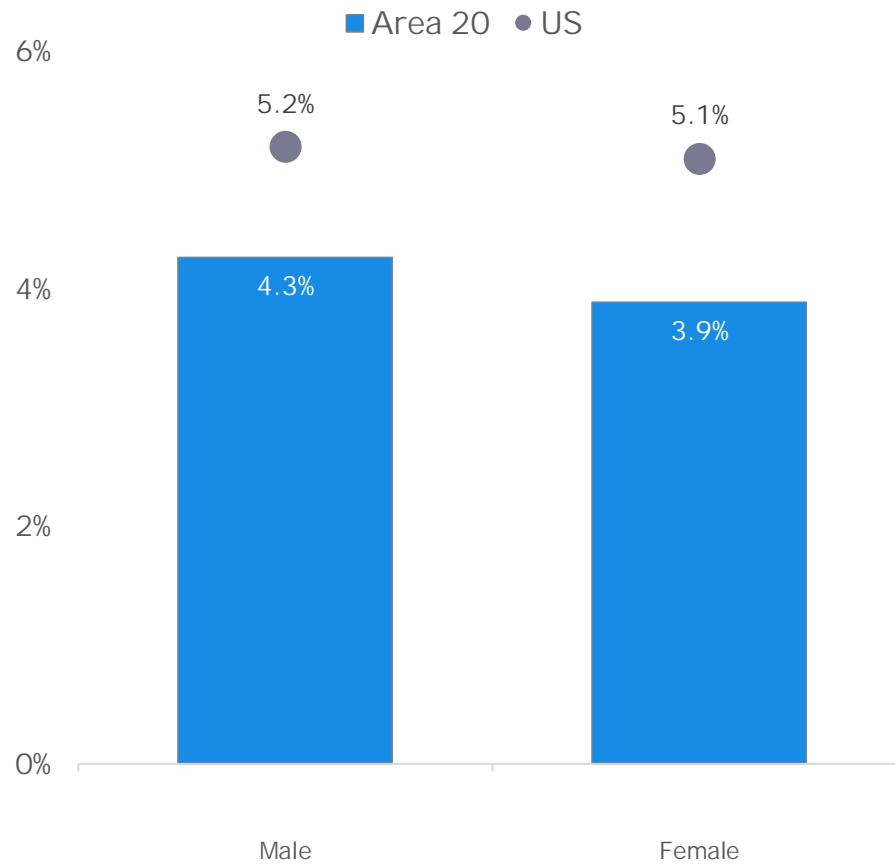
Unemployment rate by age cohort (among residents 16 years and older) in the region, 2021



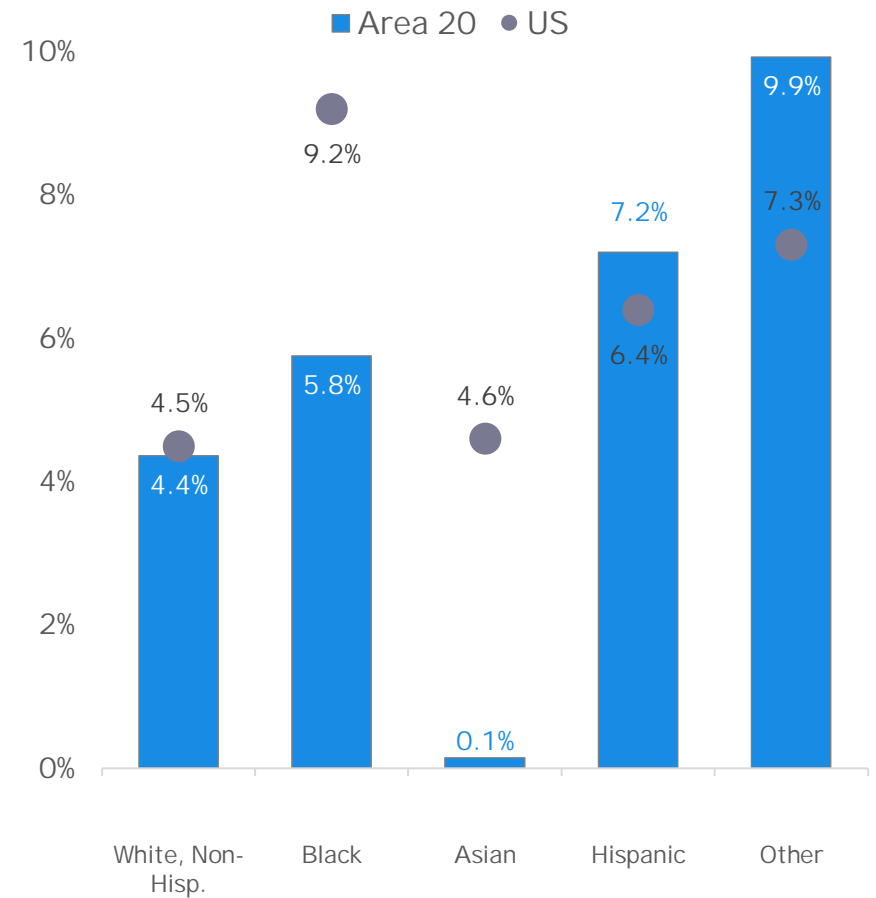
Source: US Census Bureau

Unemployment (continued)

Unemployment rates by gender (ages 20 to 64), 2021



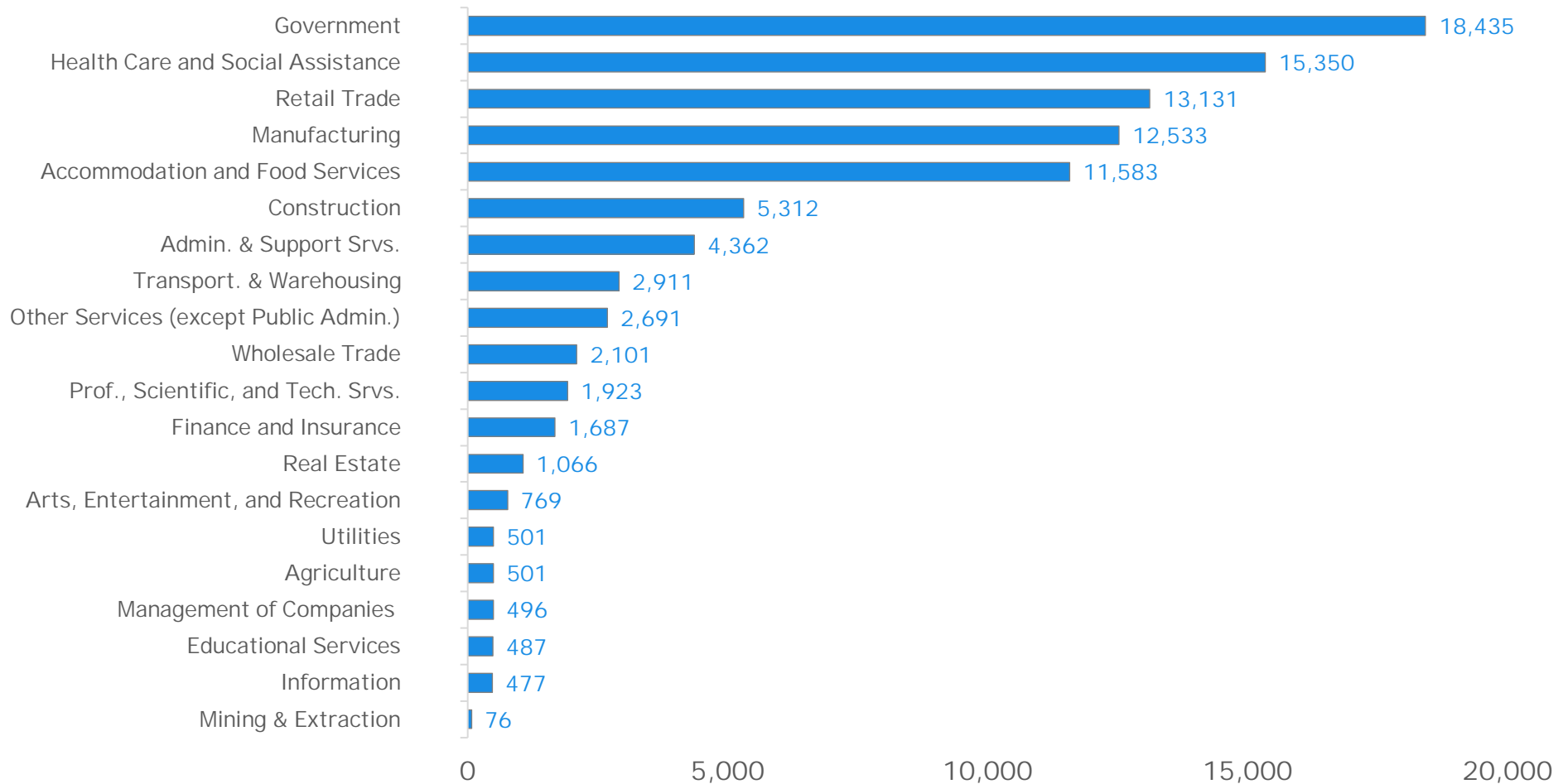
Unemployment rates by race/ethnicity, (16 years and older), 2021



Source: US Census Bureau

Employment by industry

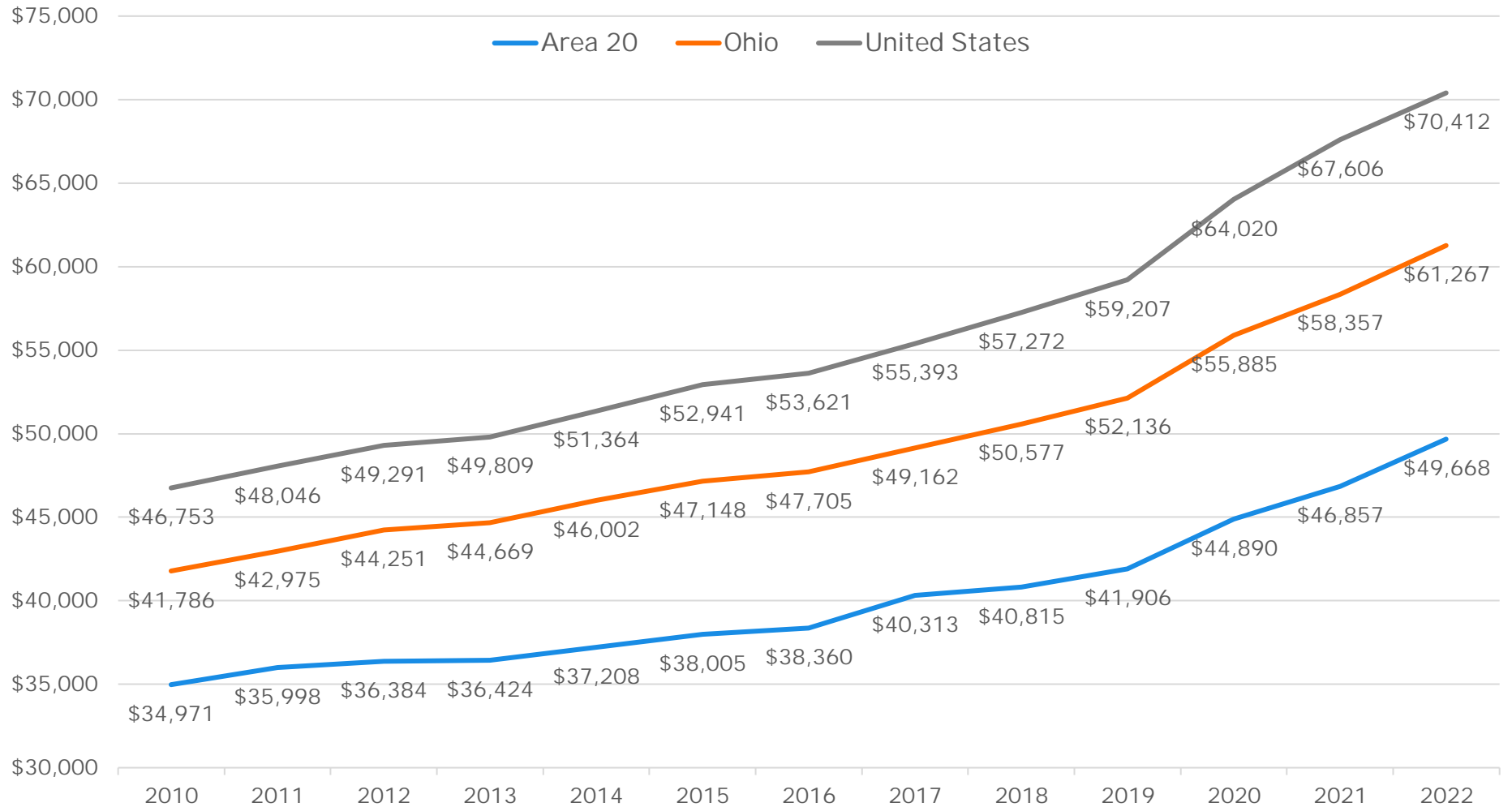
Employment by industry (2-Digit NAICS, QCEW), 2022



Source: Lightcast

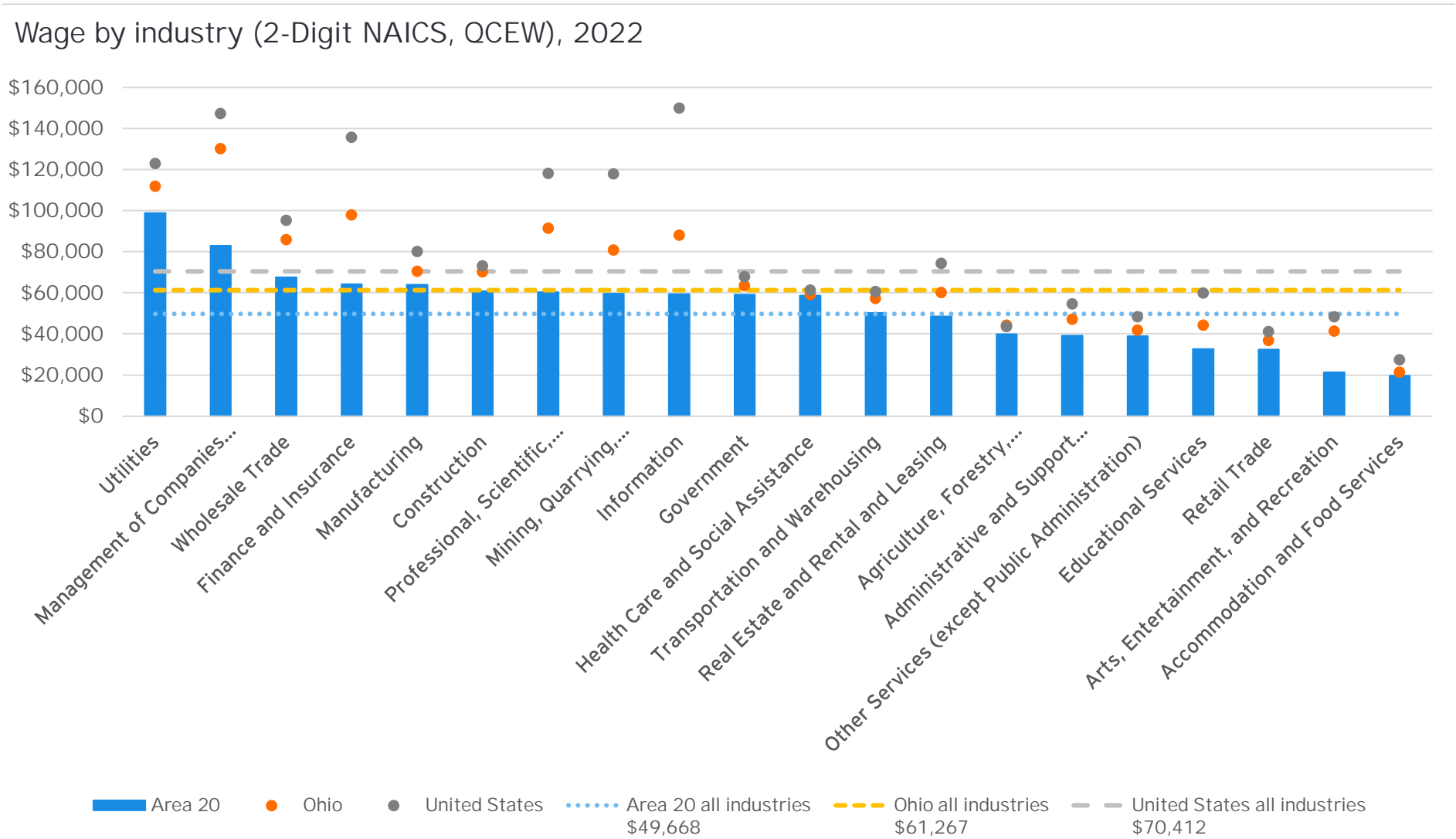
Average wage growth

Average annual wage growth (QCEW), 2010-22



Source: Lightcast

Wage by industry

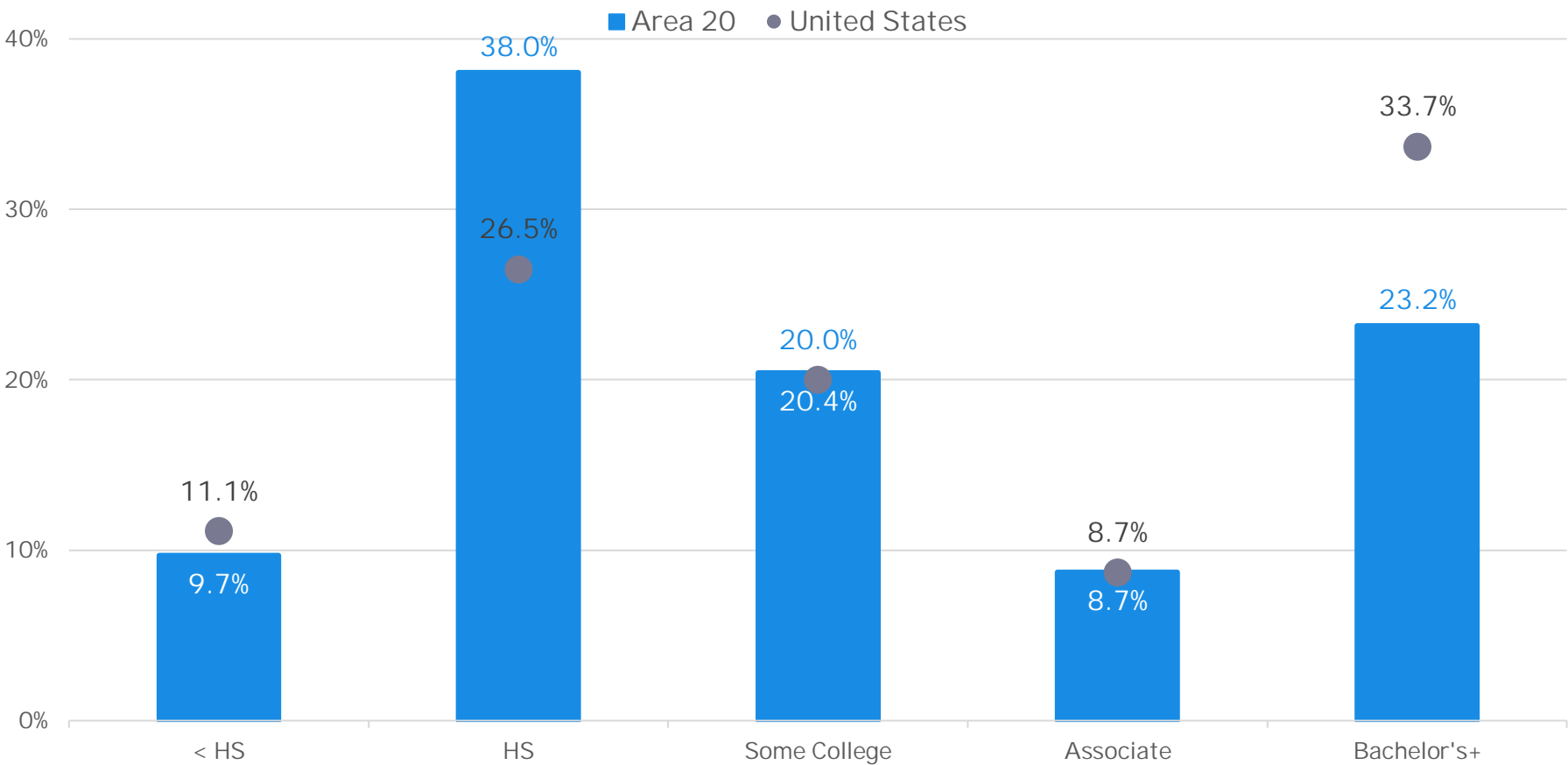


Source: Lightcast



Educational attainment

Educational attainment, 2021

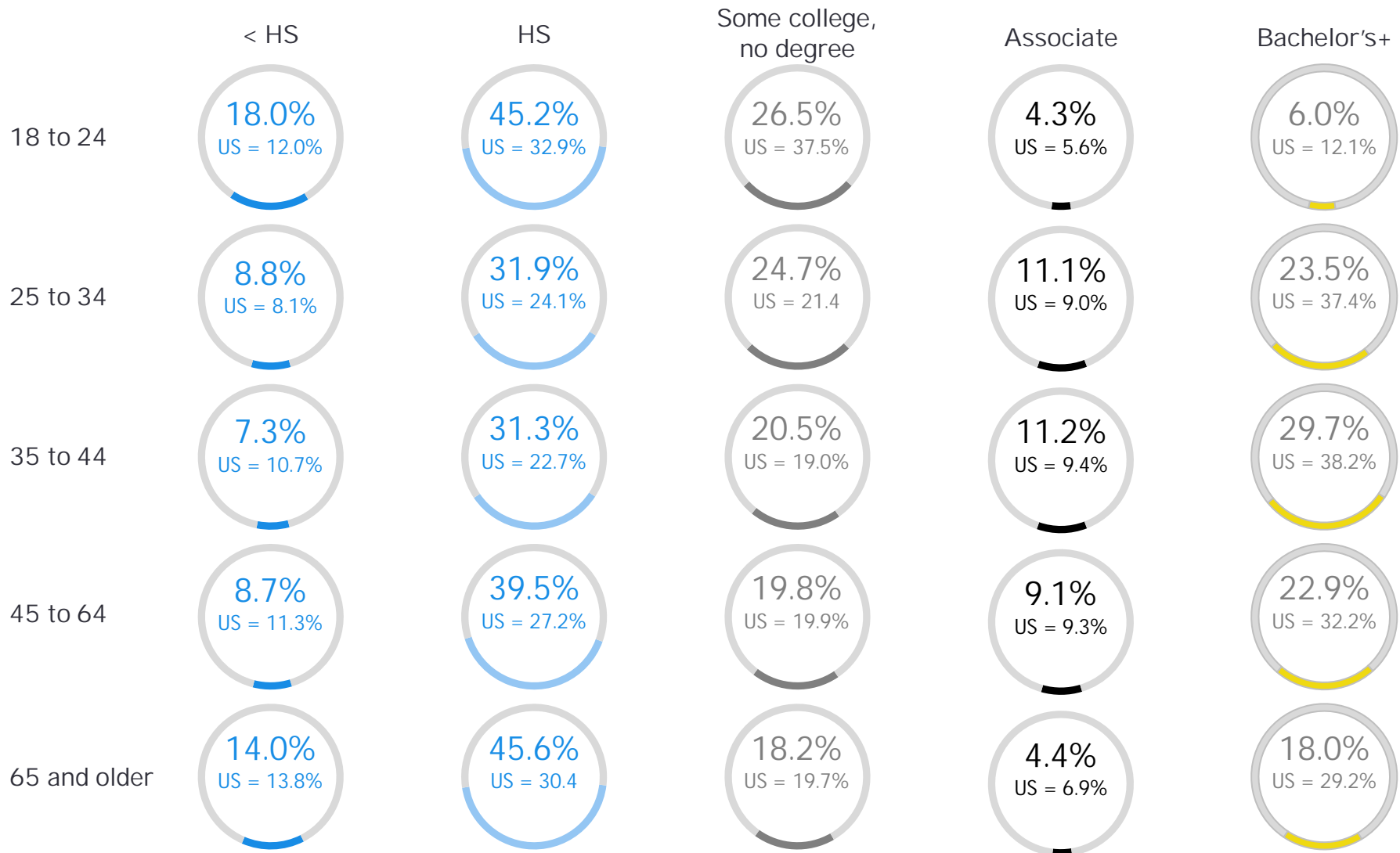


Source: US Census Bureau



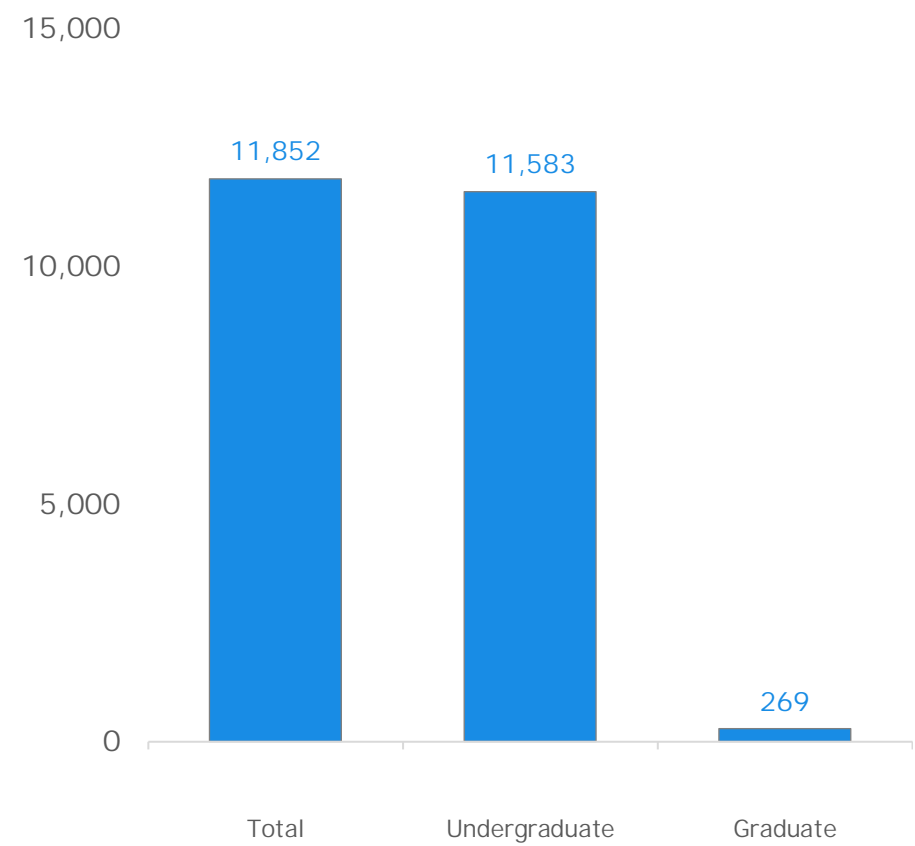
Educational attainment by age

Educational attainment by age (among residents 18 years of age and older), 2021

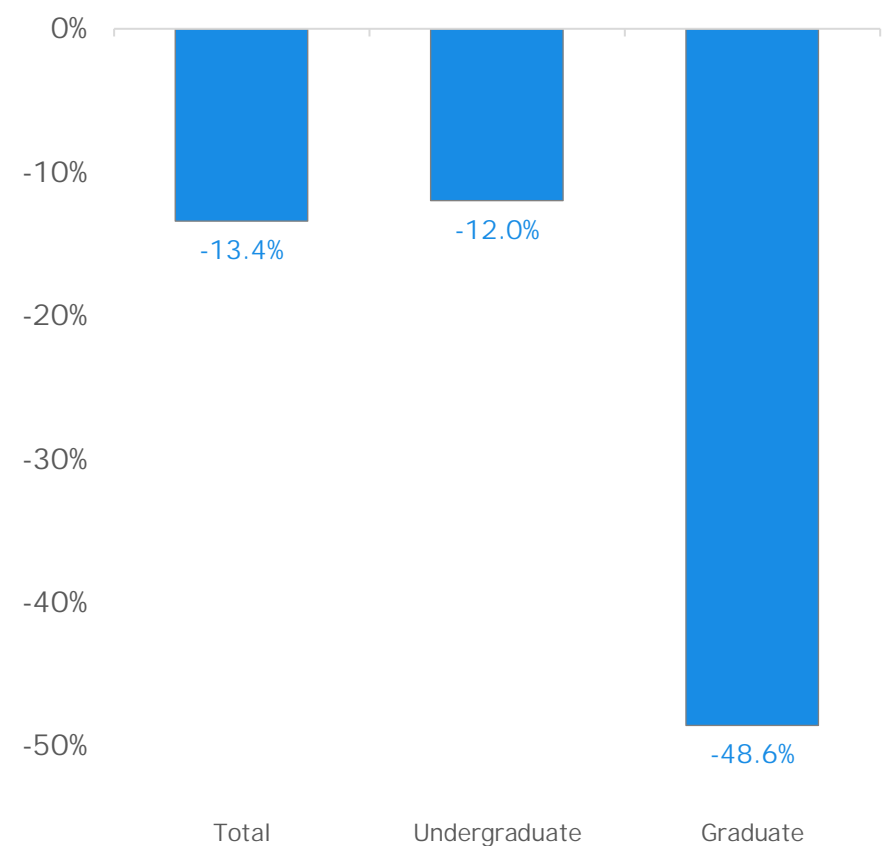


College enrollment and growth

Annual college enrollment, 2021



Change in annual college enrollment, 2016-21

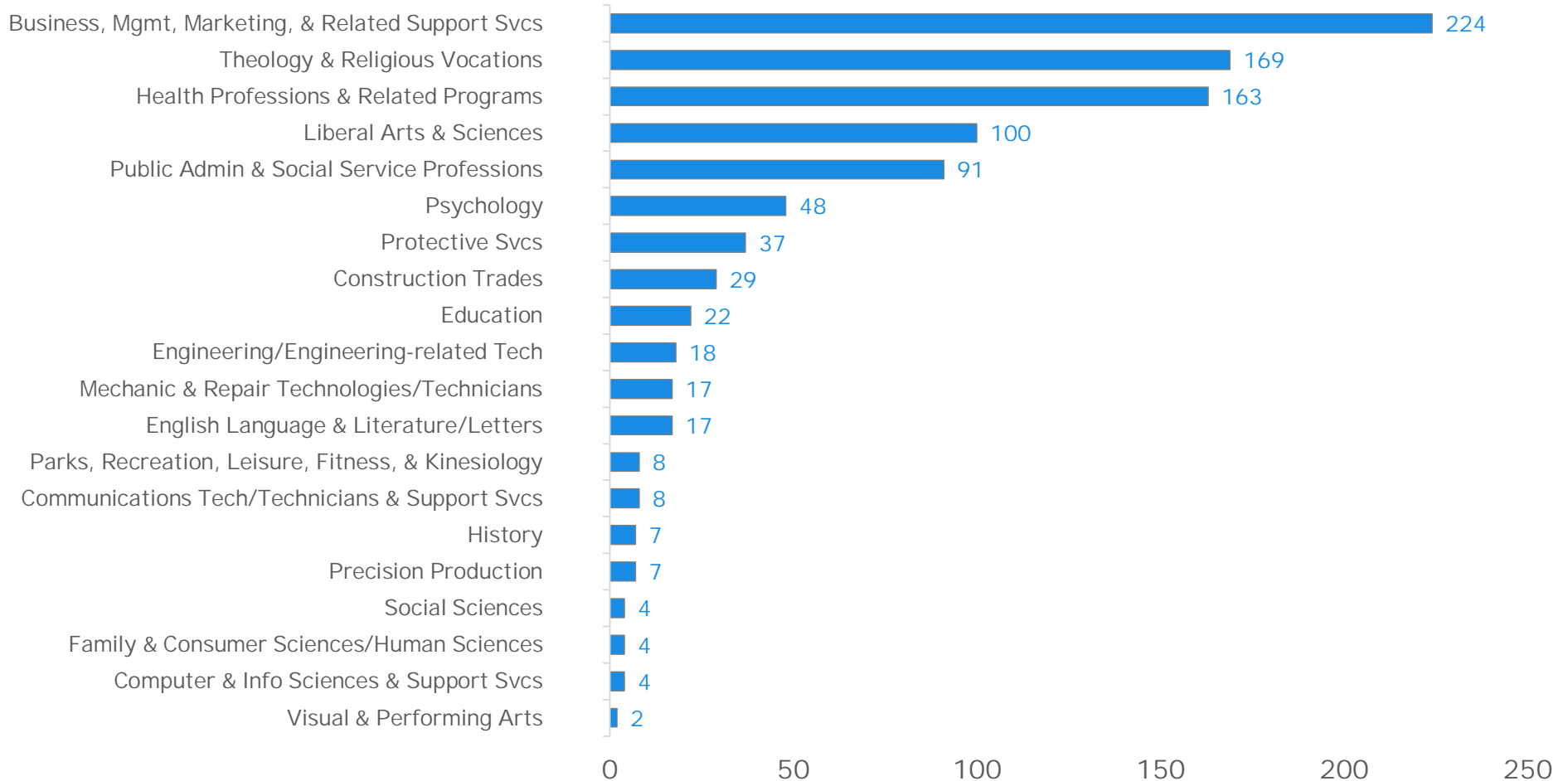


Source: National Center for Education Statistics, IPEDS



Certificates and degrees conferred

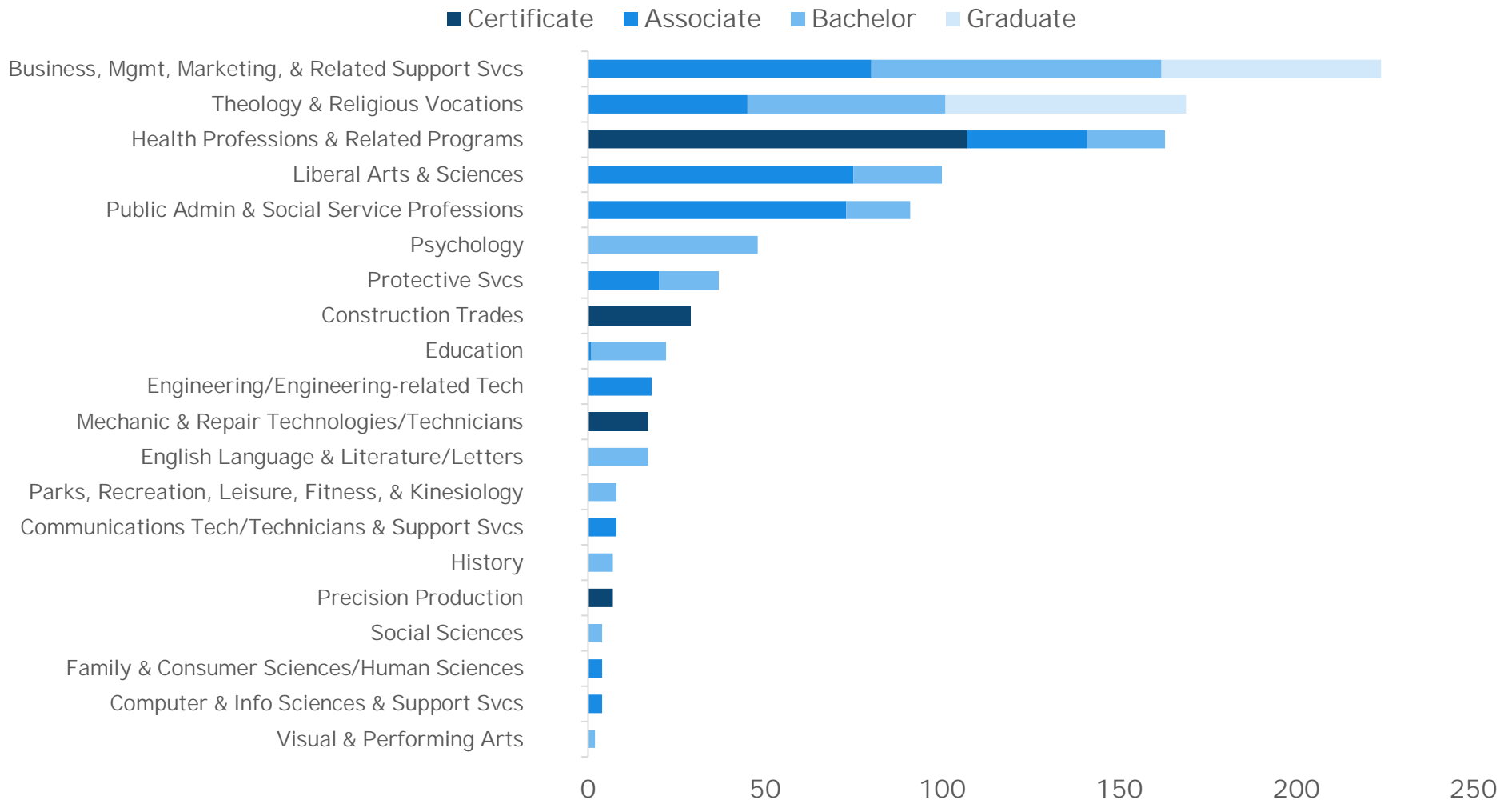
Certificates and degrees conferred, 2021



Source: National Center for Education Statistics, IPEDS

Certificate and degrees conferred (continued)

Certificates and degrees conferred, 2021



Source: National Center for Education Statistics, IPEDS

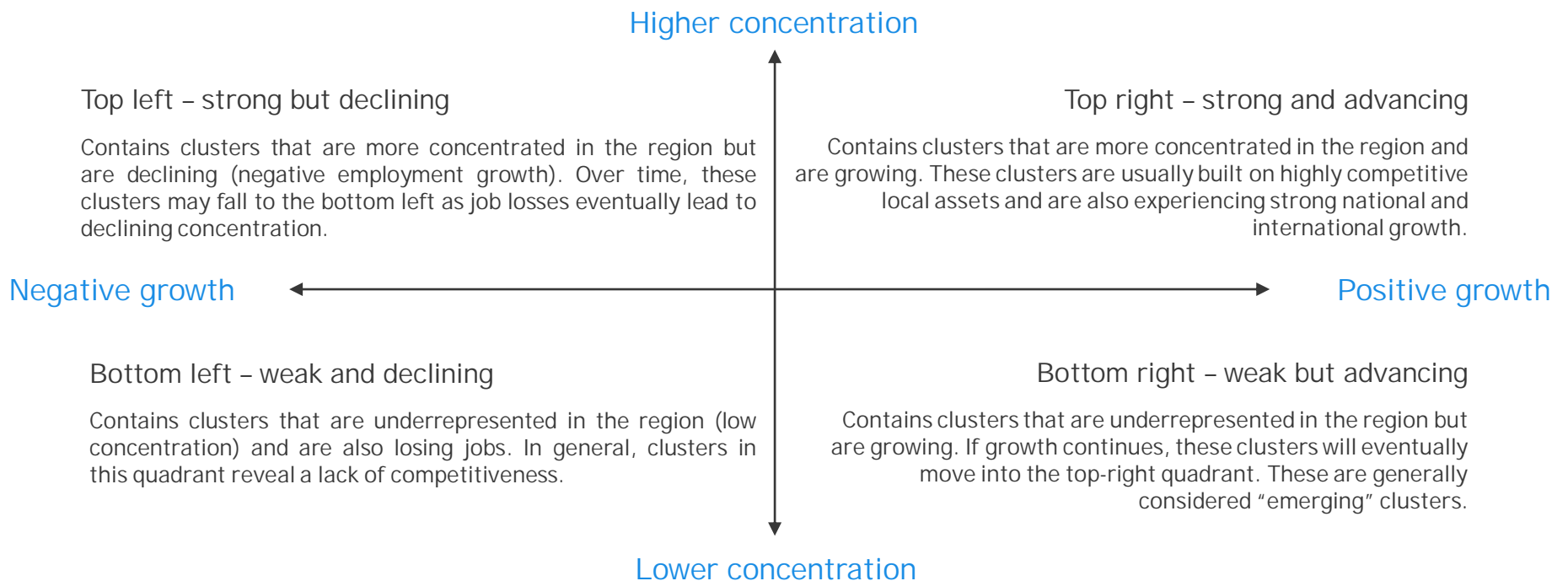
Certificate and degrees conferred (continued)

CIP Code	Description	Certificate	Associate	Bachelor's	Graduate	Total
52	Business, Mgmt, Marketing, & Related Support Svcs		80	82	62	224
39	Theology & Religious Vocations		45	56	68	169
51	Health Professions & Related Programs	107	34	22		163
24	Liberal Arts & Sciences		75	25		100
44	Public Admin & Social Service Professions		73	18		91
42	Psychology			48		48
43	Protective Svcs		20	17		37
46	Construction Trades	29				29
13	Education		1	21		22
15	Engineering/Engineering-related Tech		18			18
23	English Language & Literature/Letters			17		17
47	Mechanic & Repair Technologies/Technicians	17				17
10	Communications Tech/Technicians & Support Svcs		8			8
31	Parks, Recreation, Leisure, Fitness, & Kinesiology			8		8
48	Precision Production	7				7
54	History			7		7
11	Computer & Info Sciences & Support Svcs		4			4
19	Family & Consumer Sciences/Human Sciences		4			4
45	Social Sciences			4		4
50	Visual & Performing Arts			2		2
	Grand total	160	362	327	130	979

Source: National Center for Education Statistics, IPEDS

Industry composition

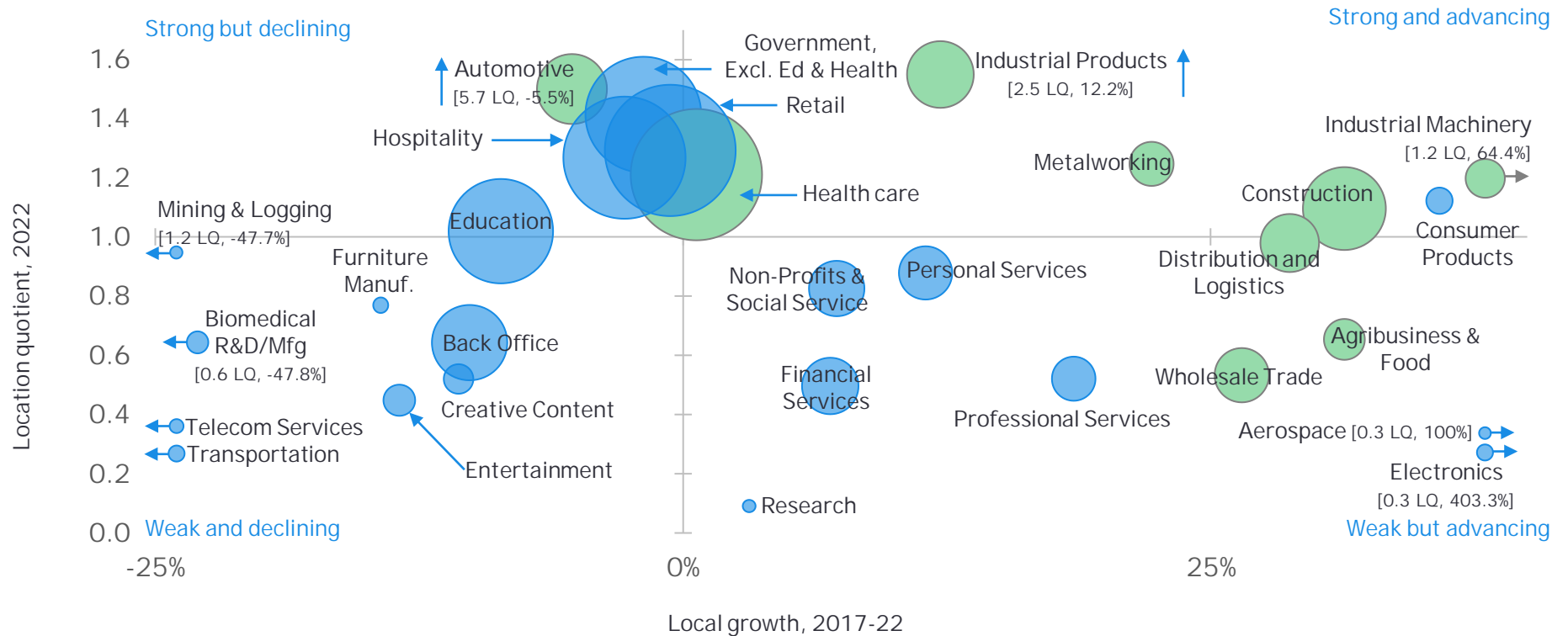
The chart on the following page combines location quotients (LQs), growth and relative size to illustrate a snapshot of Area 20's industry cluster performance. The analysis provides a more granular view of employment dynamics than traditional federal definitions. The horizontal axis displays employment growth of each cluster from 2014 through 2019. The vertical axis shows the location quotient (LQ). An LQ is the ratio of local share of industry employment relative to the national share of industry employment. For example, an LQ greater than 1 individuates that local industry employment is greater than the US average. The size of each bubble indicates the number of local jobs in the cluster. Clusters can generally be grouped in four categories, as described in the diagram below.



Industry composition (continued)

Between 2017 and 2022, more than half of industry clusters experienced job growth. Despite experiencing marginal growth, Health care remained the largest cluster in terms of jobs in 2022. Other top clusters for employment such as Retail, Hospitality, Government, and Education experienced a decrease in jobs between 2017 and 2022. While Automotive experienced a decrease in total number of jobs, it remained the most concentrated cluster in the region followed by Industrial Products.

Area 20's industry cluster analysis



● Clusters related to target industries

Source: Lightcast (only clusters with more than 50 jobs are shown).

Industry composition (continued)

In terms of percentage growth, Electronics experienced the largest growth; however, Construction Services posted the largest net gains in employment between 2017 and 2022, adding nearly 1,300 jobs during the period. Overall, the region grew by 2.1%, which translates to nearly 2,000 net new jobs added between 2017 and 2022.

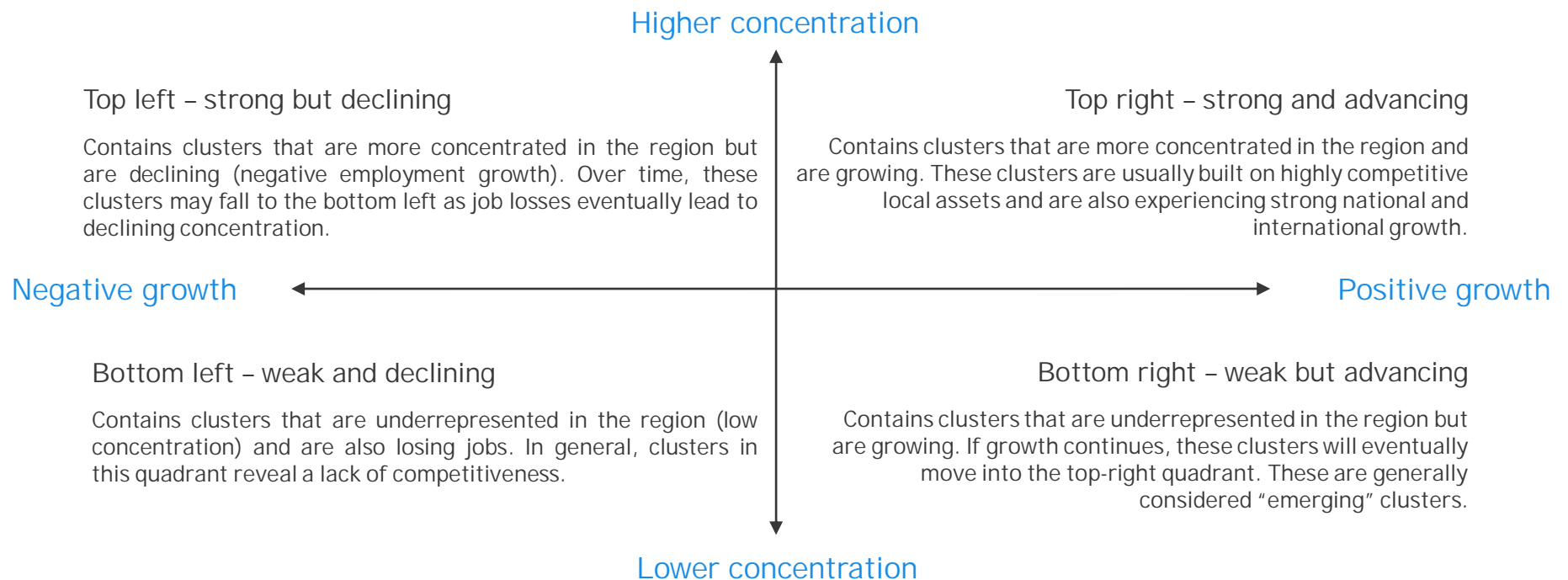
Area 20's industry cluster performance

Cluster	Employment (2022)	Employment growth (2017-2022)	Location quotient (2022)	Cluster	Employment (2022)	Employment growth (2017-2022)	Location quotient (2022)
Aerospace	117	100.0%	0.3	Healthcare	13,366	0.6%	1.2
Agribusiness & Food	1,326	31.3%	0.7	Hospitality	11,583	-2.8%	1.3
Apparel & Textiles	12	-5.5%	0.1	Industrial Products	3,487	12.2%	2.5
Automotive	3,802	-5.3%	5.7	Industrial Machinery	1,194	64.4%	1.2
Back Office	4,399	-10.1%	0.6	Industrial Products	3,487	12.2%	2.5
Biomedical R&D/Mfg	382	-47.8%	0.6	Metalworking	1,535	22.2%	1.2
Construction Svcs.	5,358	31.3%	1.1	Mining & Logging	130	-47.7%	0.9
Consumer Products	555	35.8%	1.1	Non-Profits & Social Service	2,413	7.3%	0.8
Creative Content	696	-10.6%	0.5	Personal Services	2,208	11.5%	0.9
Distribution & Logistics	2,662	28.7%	1.0	Professional Services	1,512	18.5%	0.5
Education	8,467	-8.6%	1.0	Research	134	3.1%	0.1
Electronics	216	403.3%	0.3	Retail	13,303	-0.6%	1.3
Energy	531	-29.6%	0.7	Software/Info. Tech.	268	40.6%	0.1
Entertainment	782	-13.4%	0.4	Telecom Services	168	-44.3%	0.4
Financial Svcs.	2,495	7.0%	0.5	Transportation	214	-32.2%	0.3
Furniture Mfg.	193	-14.3%	0.8	Wholesale Trade	2,319	26.5%	0.5
Government	10,425	-1.9%	1.4	Total	96,417	2.1%	1.0

Source: Lightcast

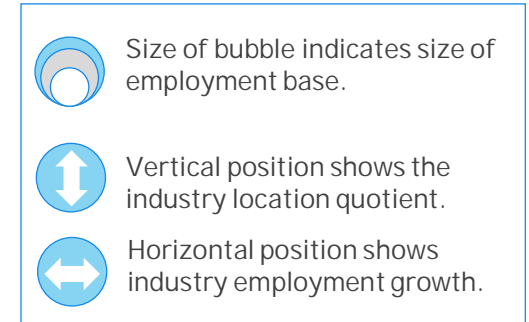
Occupational cluster analysis

The chart on the following page combines LQs, growth and relative size to illustrate a snapshot of Area 20's occupational cluster performance. The analysis focuses on occupations that exist in the region, whether held by residents or non-residents, and provides a more granular view of employment dynamics than traditional federal definitions. The horizontal axis displays employment growth of each cluster from 2014 through 2019. The vertical axis shows the location quotient (LQ). An LQ is the ratio of local share of industry employment relative to the national share of industry employment. For example, an LQ greater than 1 individuates that local industry employment is greater than the US average. The size of each bubble indicates the number of local jobs in the cluster. Clusters can generally be grouped in four categories, as described in the diagram below.

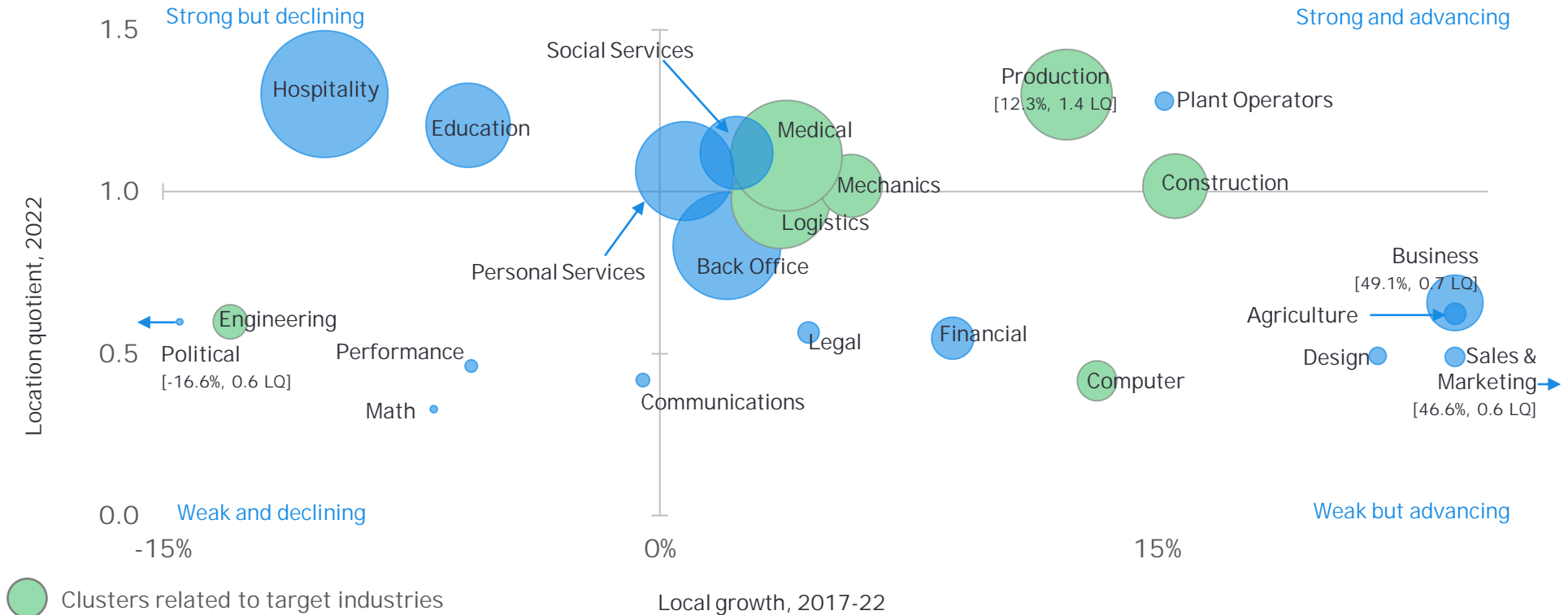


Occupational composition

Between 2017 and 2022, the majority of occupational clusters experienced job growth. Despite a more than 10% decline, Hospitality remained the largest occupational cluster in terms of total jobs in 2022. Other top employment clusters such as Medical, Back Office, Logistics, Personal Services, and Production all experienced job growth during the same period.



Area 20 Region occupational cluster analysis



Source: Lightcast, (only clusters with more than 50 jobs are shown).

Occupational composition (continued)

In recent years, several smaller occupational clusters that tend to require college degrees or specialized certificates such as Legal, Financial, Business, and Computer have enjoyed exceptionally strong growth. The Business cluster had the largest net and percentage increase in net new jobs between 2017 and 2022, while Hospitality saw the largest net loss of jobs between the same period. Overall employment growth in the region was 2.1% during this period.

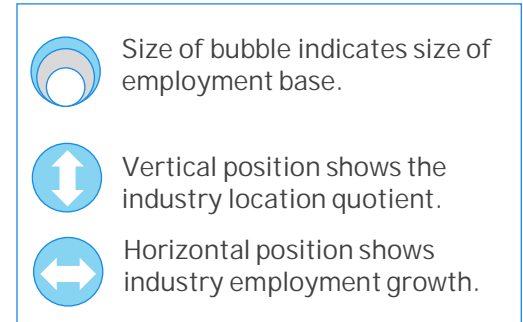
Area 20 occupational cluster performance

Cluster	Employment (2022)	Employment growth (2017-2022)	Location quotient (2022)	Cluster	Employment (2022)	Employment growth (2017-2022)	Location quotient (2022)
Agriculture	456	24.0%	0.6	Legal	447	4.5%	0.6
Architecture	33	-16.4%	0.3	Logistics	9,467	3.7%	1.0
Back Office	11,159	2.0%	0.8	Math	61	-6.8%	0.3
Business	3,043	49.1%	0.7	Mechanics	3,847	5.8%	1.0
Communications	186	-0.5%	0.4	Medical	11,908	3.8%	1.1
Computer	1,545	13.2%	0.4	Performance	164	-5.7%	0.5
Construction	4,059	15.5%	1.0	Personal Services	9,439	0.7%	1.1
Design	294	21.7%	0.5	Plant Operators	336	15.2%	1.3
Education	6,881	-5.8%	1.2	Political	50	-16.6%	0.6
Engineering	1,183	-13.0%	0.6	Production	7,989	12.3%	1.4
Financial	1,753	8.8%	0.5	Sales & Marketing	383	46.6%	0.5
Geology	0	-100.0%	0.0	Social Service	5,163	2.3%	1.1
Hospitality	15,594	-10.1%	1.3	Total	96,417	2.1%	1.0

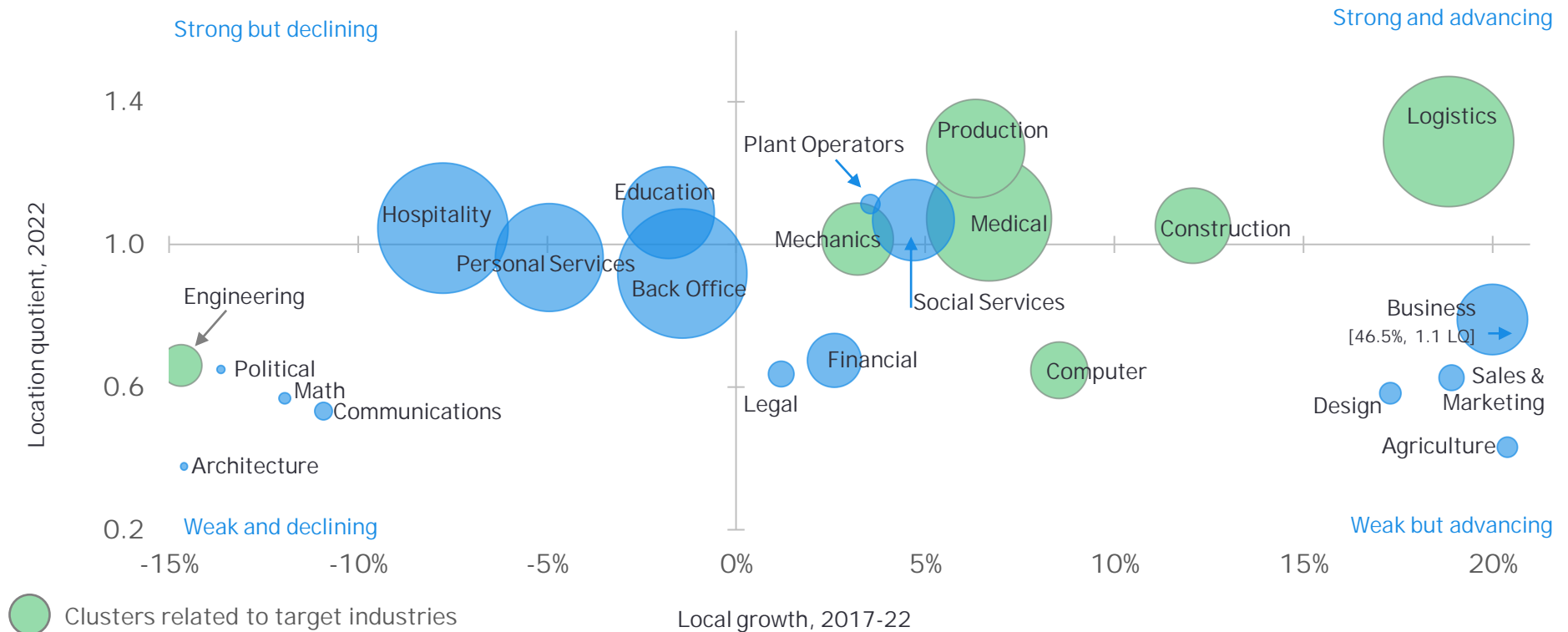
Source: Lightcast

Occupational composition of resident workers

Resident workers are individuals who live in the region but may work outside of the region. These occupational clusters reflect the types of jobs your residents hold and can be seen as potential assets, even if they work outside the region. In 2022, the top five occupational clusters in terms of total resident workers were Logistics, Back Office, Hospitality, Medical, and Personal Services. Combined, these five clusters account for more than 60% of workers.



Area 20 Region occupational cluster analysis for resident workers



Source: Lightcast (only clusters with more than 50 jobs are shown).

Occupational composition of resident workers (continued)

Between 2017 and 2022, the Logistics cluster experienced the largest net growth, while Business experienced the largest percentage growth in net new resident workers. Logistics has the highest worker concentration (1.4X US levels) among clusters. Hospitality saw the largest decline in workers during the same time period. Other notable declines include the Engineering and Back Office clusters.

Area 20 occupational cluster performance for resident workers

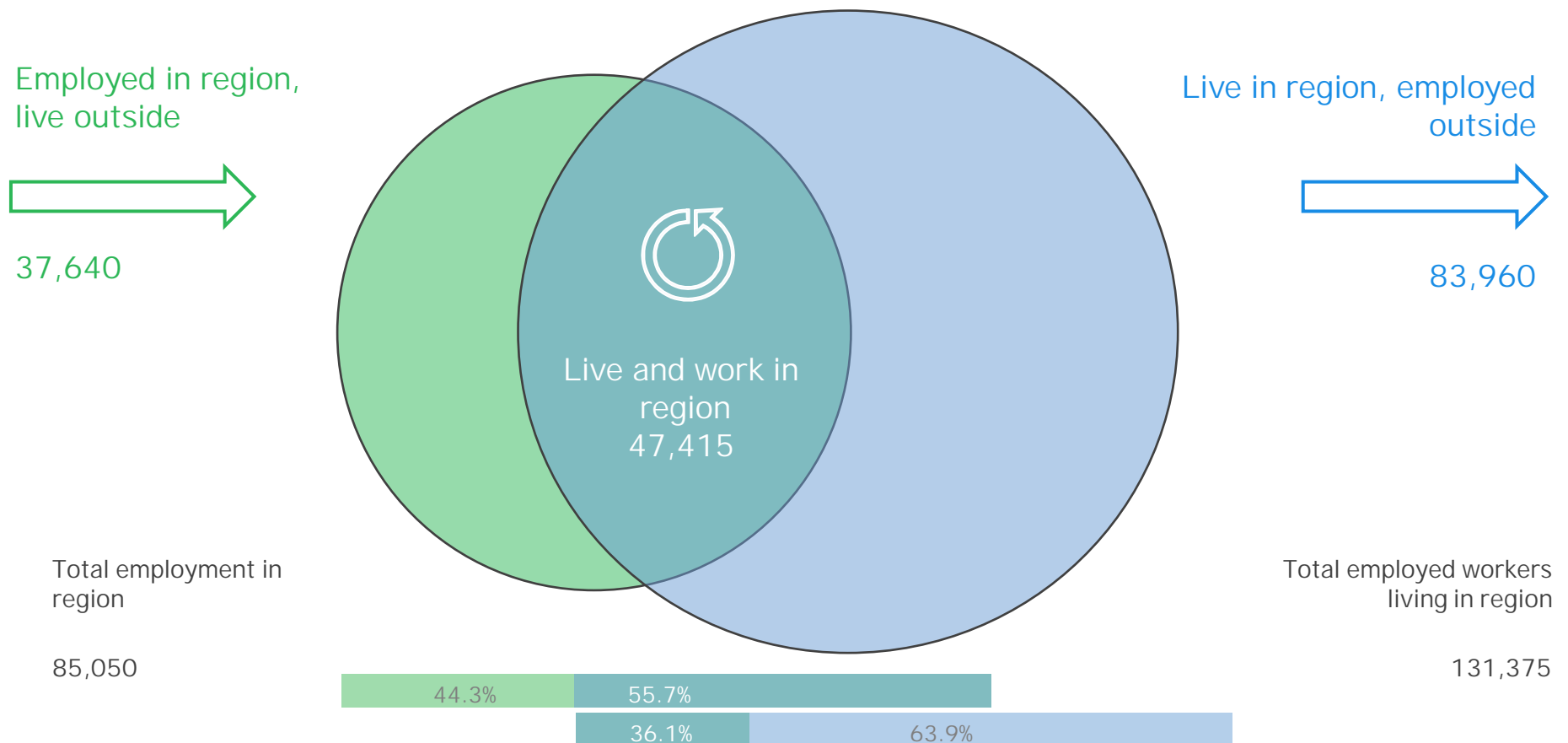
Cluster	Resident workers (2022)	Resident worker growth (2017-2022)	Location quotient (2022)	Cluster	Resident workers (2022)	Resident worker growth (2017-2022)	Location quotient (2022)
Agriculture	446	20.4%	0.4	Legal	712	1.2%	0.6
Architecture	64	-14.6%	0.4	Logistics	17,640	18.8%	1.3
Back Office	17,384	-1.4%	0.9	Math	150	-11.9%	0.6
Business	5,166	46.5%	0.8	Mechanics	5,419	3.2%	1.0
Communications	334	-10.9%	0.5	Medical	16,224	6.7%	1.1
Computer	3,398	8.5%	0.6	Performance	221	-19.7%	0.4
Construction	5,939	12.1%	1.1	Personal Services	12,065	-4.9%	1.0
Design	489	17.3%	0.6	Plant Operators	413	3.5%	1.1
Education	8,779	-1.8%	1.1	Political	77	-13.6%	0.6
Engineering	1,845	-14.7%	0.7	Production	10,094	6.3%	1.3
Financial	3,053	2.6%	0.7	Sales & Marketing	691	18.9%	0.6
Geology	10	-65.3%	0.1	Social Service	6,956	4.7%	1.1
Hospitality	17,685	-7.8%	1.0	Total	136,112	3.6%	1.0

Source: Lightcast

Commuting inflow/outflow analysis

While the region is both an importer and exporter of talent, there is a larger outflow of talent overall. Of the 131,375 employed individuals residing in the region, approximately 64% are employed outside of the five-county region. At the same time, approximately 44% of workers employed in the region live elsewhere outside of the region.

Regional workforce inflow/outflow dynamics, 2020



Source: US Census Bureau

Commuting patterns across counties

The intra-regional resident and work origin table shows the commuting patterns of resident workers within the region. Fairfield County has the greatest number of residents who both live and work in their home county. Ross County has the largest percentage share of resident workers who work within the region, followed by Hocking and Vinton counties. Fairfield and Pickaway counties export larger shares of their workers to places outside of the region compared with Ross, Hocking and Vinton counties.

Intra-regional resident and worker origin, 2020

Live and work		Work					Lives and works in Area 20 Region	Lives in Area 20 Region but works outside
		Fairfield County	Hocking County	Pickaway County	Ross County	Vinton County		
Live	Fairfield County	16,543	470	988	582	35	28.1%	71.9%
	Hocking County	1,713	2,883	301	347	55	56.1%	43.9%
	Pickaway County	871	75	4,179	1,180	3	25.2%	74.8%
	Ross County	381	83	1,401	13,085	110	57.3%	42.7%
	Vinton County	145	167	86	668	1,065	48.6%	51.4%

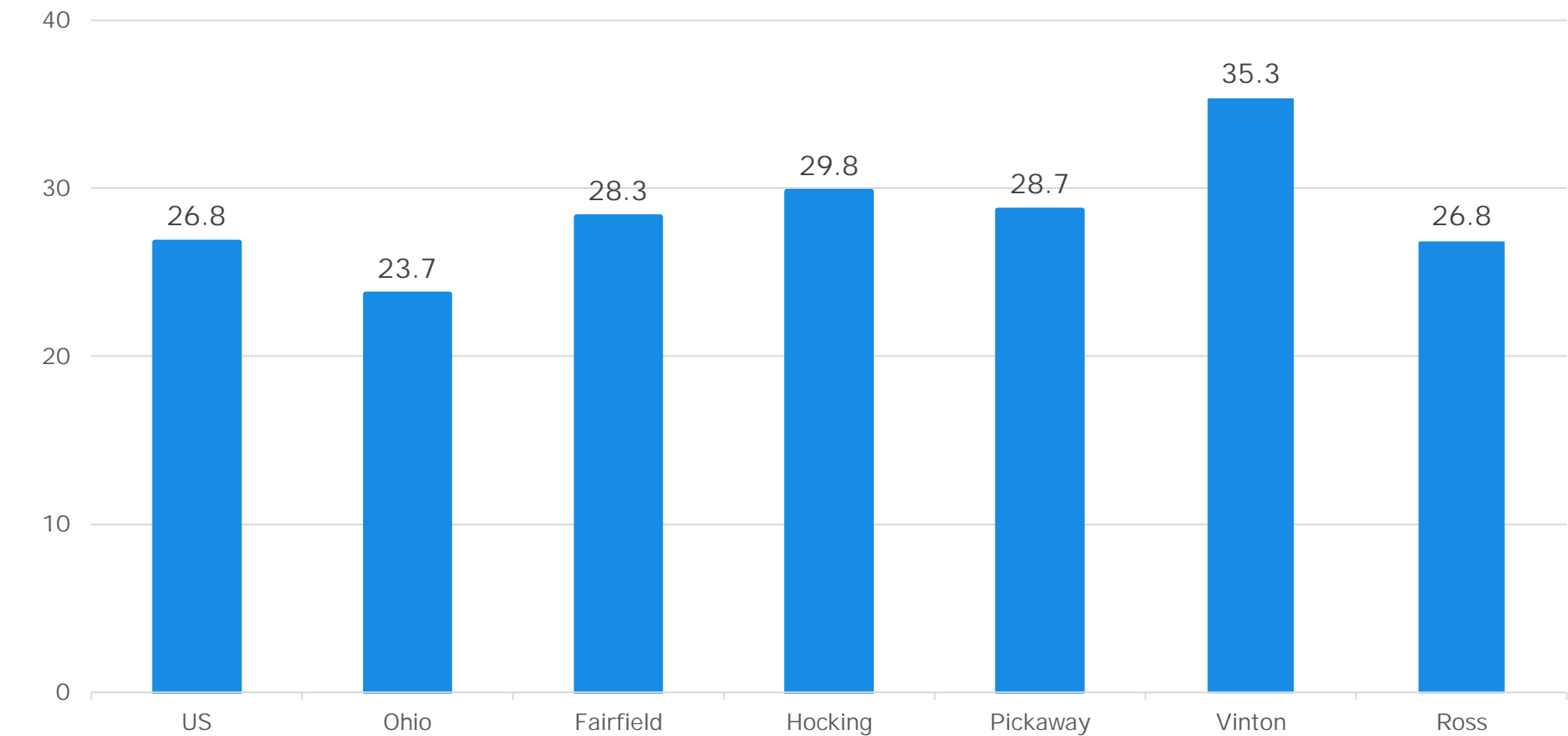
Live in geo

Work in geo

Source: US Census Bureau

Average commute time

Average commute time (in minutes), 2021



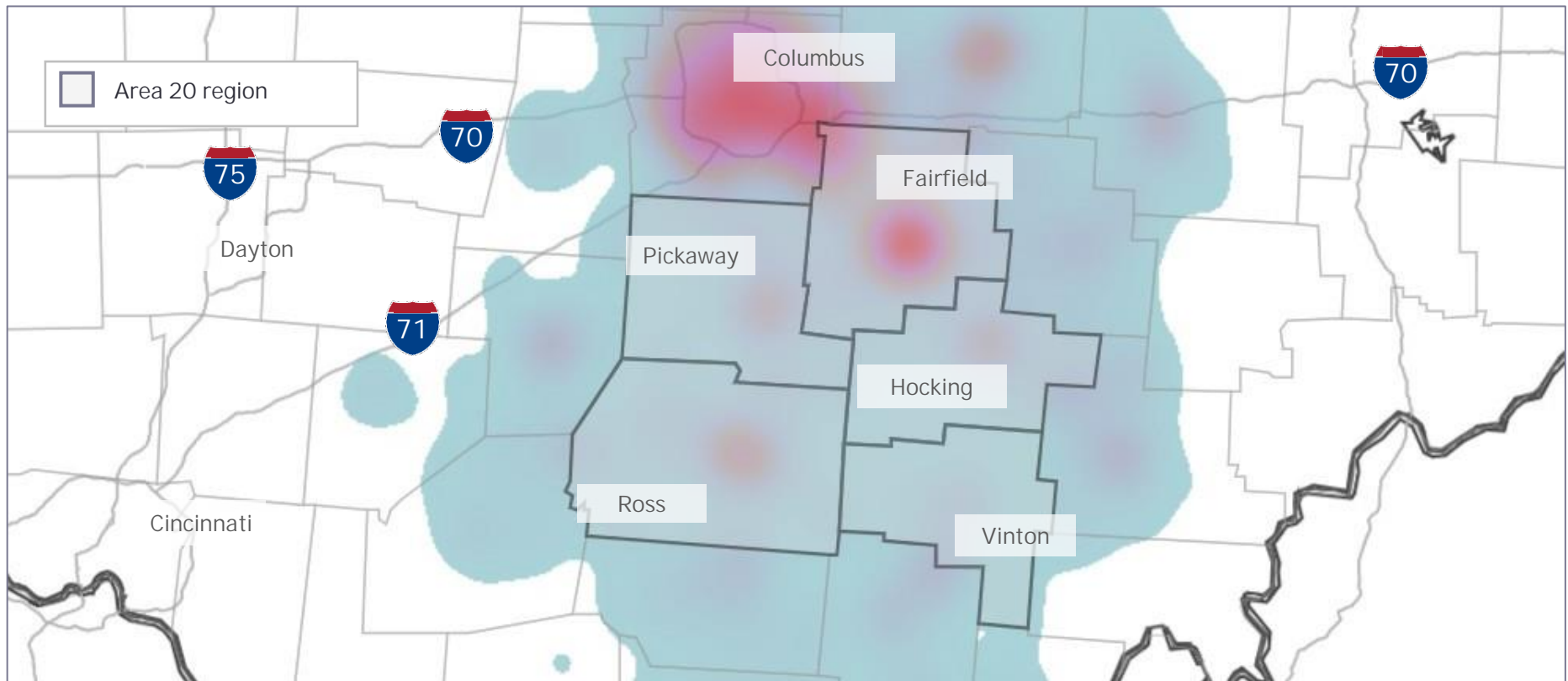
Source: US Census Bureau



Area 20 worker origin

The map below shows the origins of workers who commute into and within the Area 20 region. The area shown below accounts for nearly 84% of the labor shed for the region and reflects approximately 71,270 workers. While the region provides the majority (56%) of workers for its jobs, Franklin County is the largest external source of talent into the region.

Area 20 worker origin, 2020

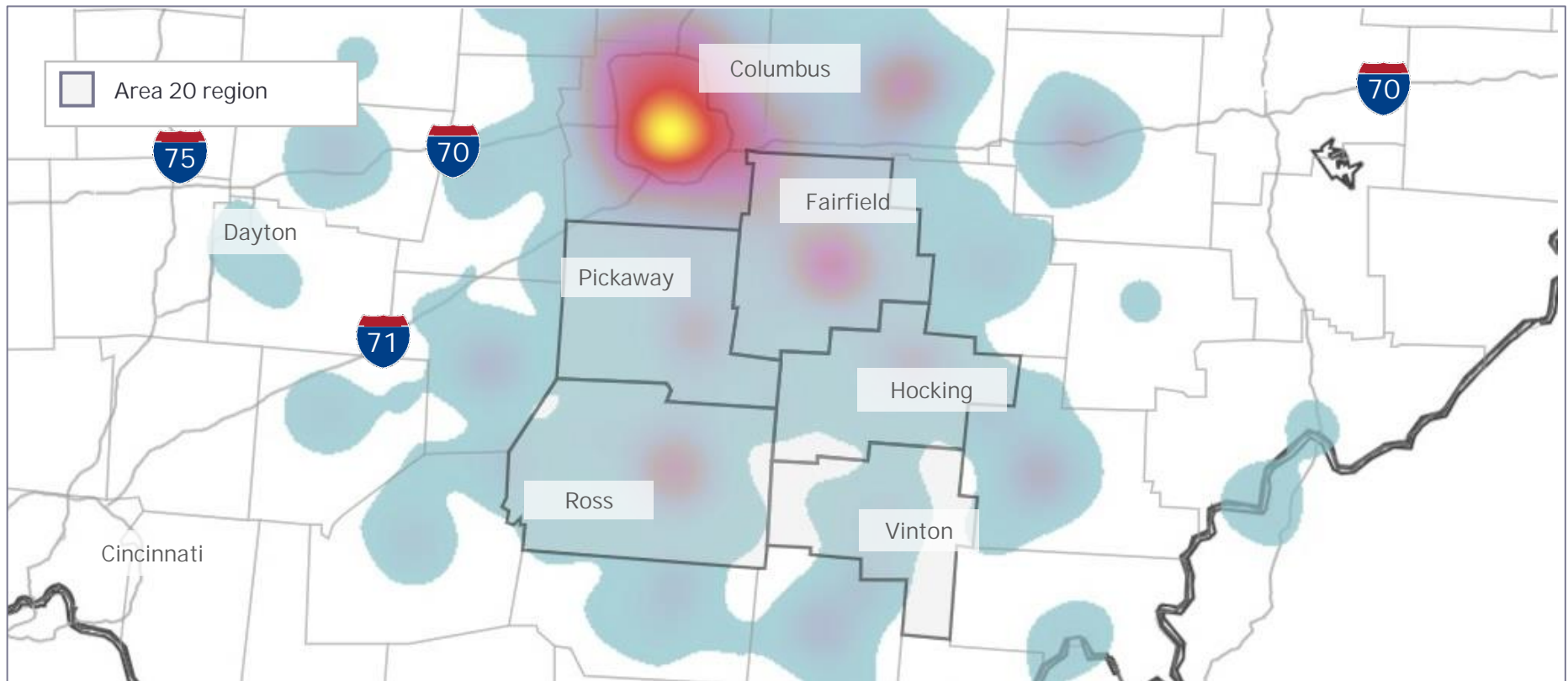


Source: US Census Bureau

Area 20 resident work destinations

The map below shows the work destinations of residents who commute outside and within the Area 20 region. The area shown below accounts for nearly 110,000 resident workers, or 84% of the region's resident workforce. While the region retains much of its own labor shed, Franklin County attracts the largest source of resident workers outside the region.

Area 20 resident work destinations, 2020

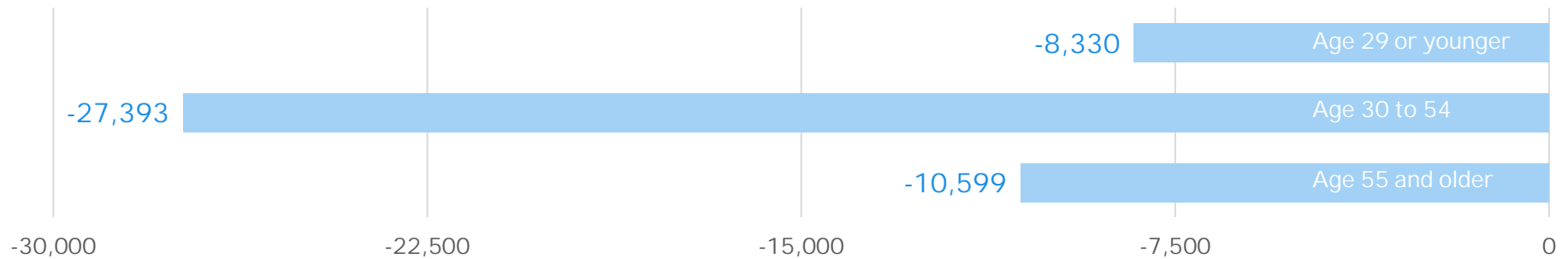


Source: US Census Bureau

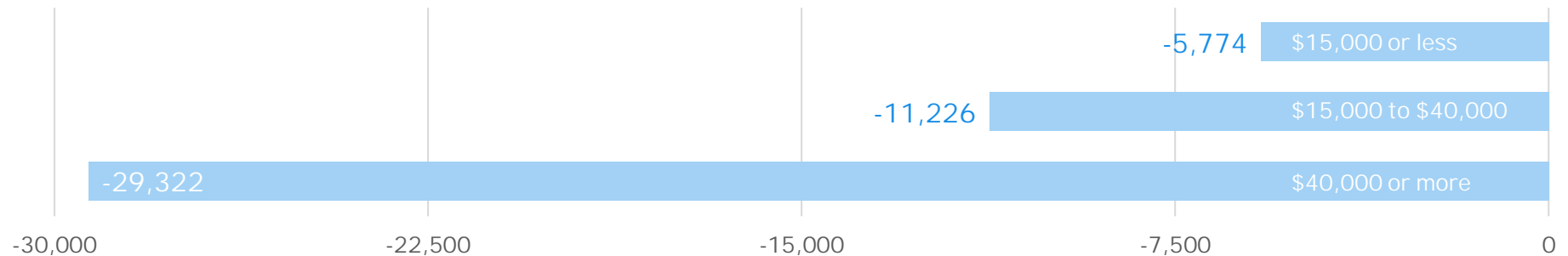
Inflow/outflow of workers by age and earnings

The region exported talent at every age and earnings bracket in 2020. Prime working age residents, ages 30 to 54, commuted out in larger numbers compared with the other age cohorts. Similarly, workers earning \$40,000 or more commuted out of the region at much higher levels than those workers earning less than \$40,000 annually.

Net inflow/outflow of workers into Area 20 by age, 2020



Net inflow/outflow of workers into Area 20 by earnings, 2020



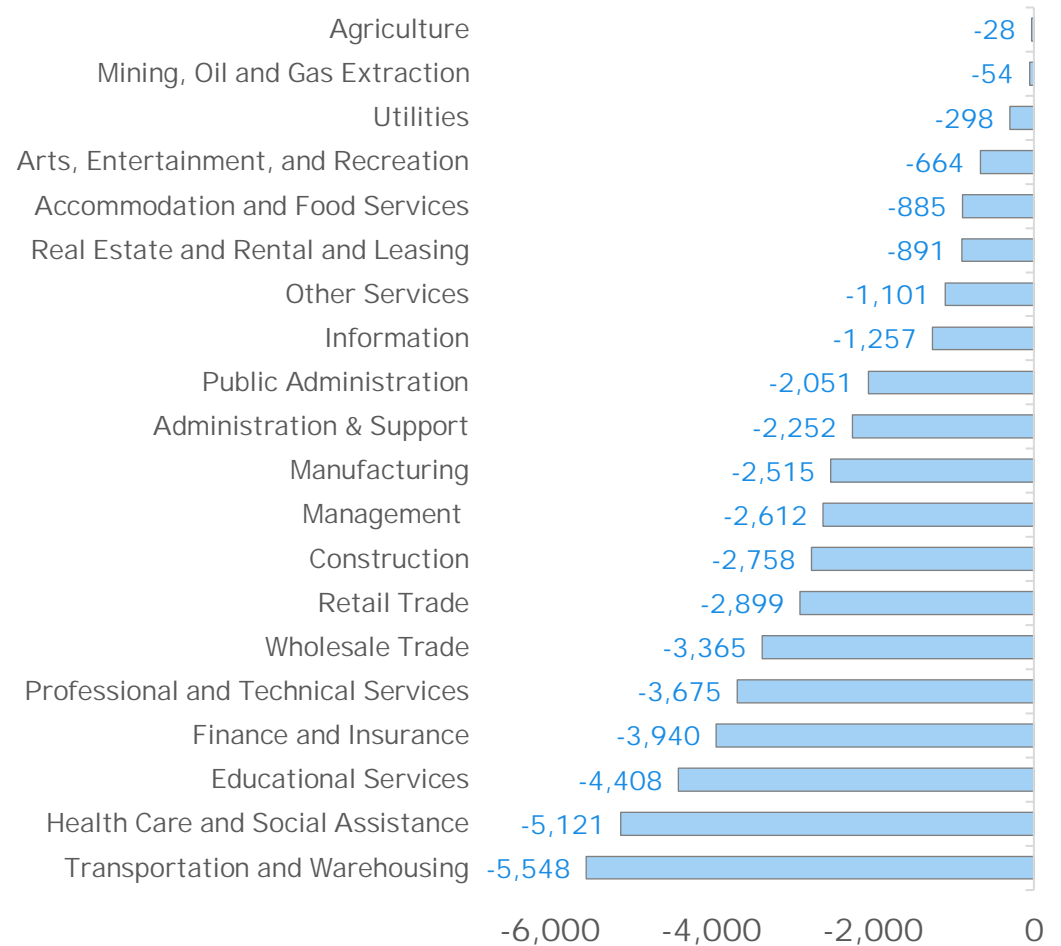
Source: US Census Bureau

Net inflow of workers by industry

Area 20 is a net exporter of talent across all observed industries, where the number of resident workers exceeds the number of jobs. For example, Area 20 is home to approximately 5,550 more workers employed in Transportation and Warehousing compared with the total number of industry jobs located within the region. Other industries in which Area 20 is an exporter of talent include Health Care and Social Assistance, Education, Finance and Insurance, and Professional and Technical Services.

While the region has more residents working in every industry than it has jobs, more location-based industries, such as Agriculture; Mining, Oil and Gas Extraction; and Utilities export fewer residents compared with other sectors.

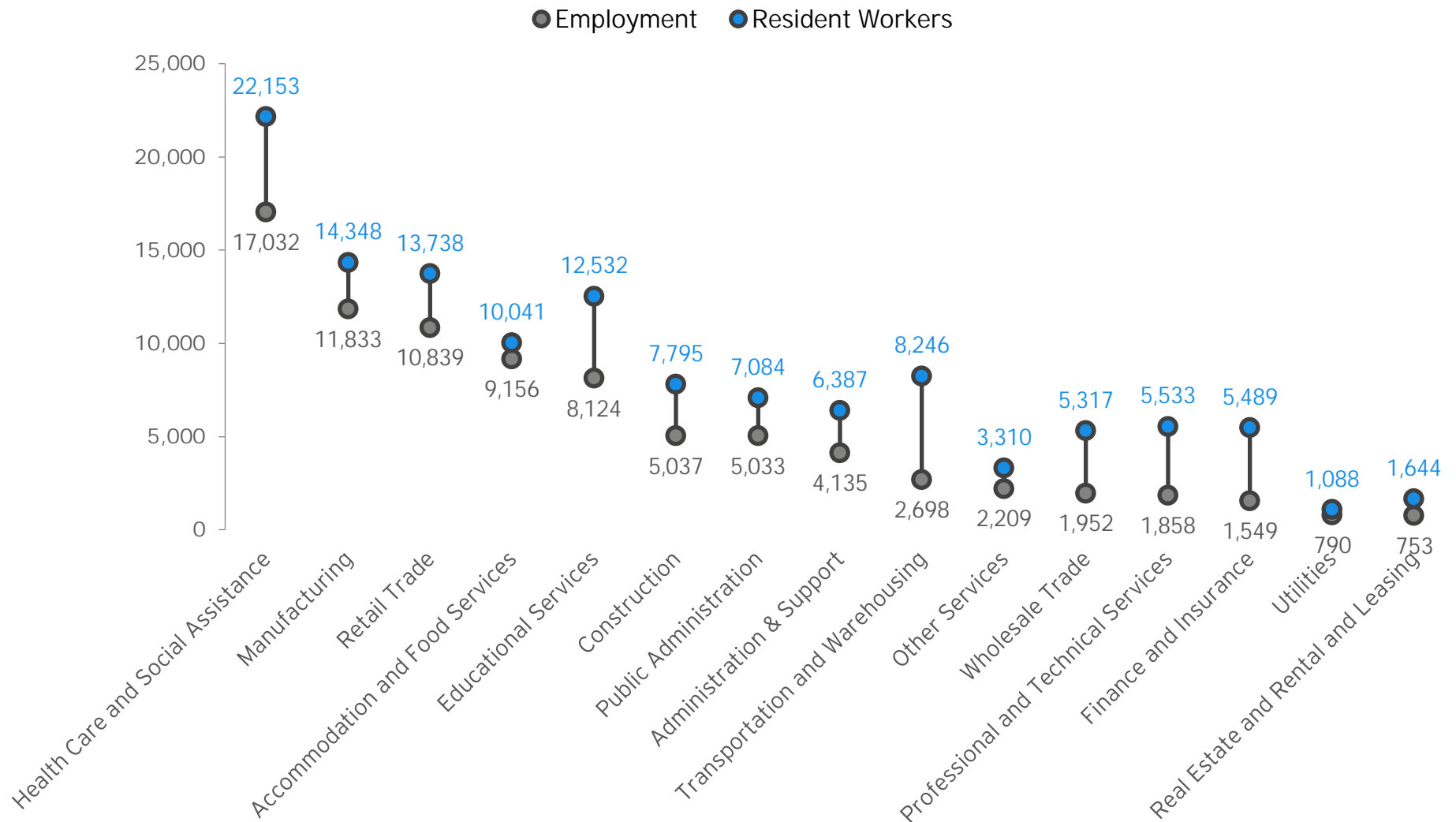
Net inflow/outflow of workers into Area 20 region by industry composition, 2020



Source: US Census Bureau

Industry composition by worker origin

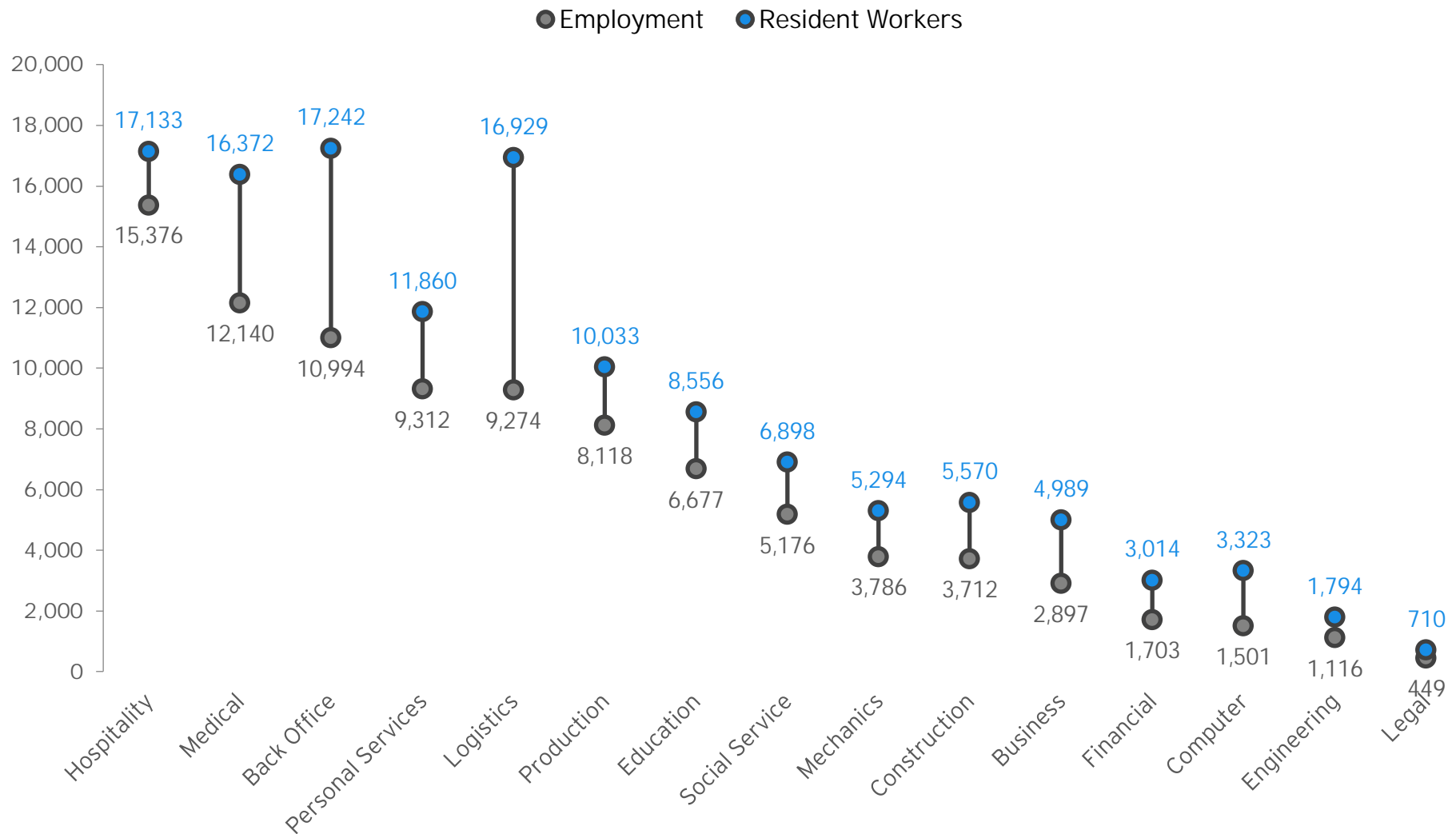
Area 20 employment vs. resident workers for top 15 industry clusters, 2020



Source: US Census Bureau

Occupation composition by worker origin

Area 20 employment vs. resident workers for top 15 occupational clusters, 2021



Source: Lightcast

Forecasted growth in industry composition

In the table below, we examine possible employment forecasts for industry clusters at the regional level. More than three quarters of the industry clusters are forecasted to experience employment gains over the next decade. Hospitality, Health Care, and Construction Services are expected to see the largest gains in net new jobs over the next 10 years.

Area 20 industry cluster forecasted growth

Cluster	Employment (2022)	Forecasted Employment (2024)	Forecasted Employment (2032)	Cluster	Employment (2022)	Forecasted Employment (2024)	Forecasted Employment (2032)
Aerospace	117	154	222	Healthcare	13,366	13,659	14,305
Agribusiness & Food	1,326	1,491	1,790	Hospitality	11,583	12,041	12,824
Apparel & Textiles	12	26	21	Industrial Products	3,487	3,456	3,294
Automotive	3,802	4,020	4,169	Industrial Machinery	1,194	1,355	1,590
Back Office	4,399	4,318	4,007	Industrial Products	3,487	3,456	3,294
Biomedical R&D/Mfg	382	380	362	Metalworking	1,535	1,670	1,885
Construction Svcs.	5,358	5,700	6,185	Mining & Logging	130	125	115
Consumer Products	555	598	659	Non-Profits & Social Service	2,413	2,599	3,067
Creative Content	696	752	828	Personal Services	2,208	2,304	2,493
Distribution & Logistics	2,662	2,875	3,142	Professional Services	1,512	1,581	1,694
Education	8,467	8,455	8,452	Research	134	142	151
Electronics	216	273	375	Retail	13,303	13,409	13,288
Energy	531	554	587	Shipbuilding	0	0	0
Entertainment	782	855	954	Software / Info. Tech.	268	294	339
Financial Svcs.	2,495	2,556	2,620	Telecom Services	168	144	106
Furniture Mfg.	193	221	268	Transportation	214	224	243
Government	10,425	10,299	10,014	Total	96,417	99,187	103,052

Source: Lightcast

Forecasted growth in occupational composition

In the table below, we examine possible employment forecasts for occupational clusters at the regional level. With the exception of the Plant Operators cluster, all other occupational clusters are forecasted to experience growth over the next decade. Hospitality, Logistics, Medical, and Production occupations are forecasted to see the largest net gains in employment over the next 10 years.

Area 20 occupational cluster forecasted growth

Cluster	Employment (2022)	Forecasted Employment (2024)	Forecasted Employment (2032)	Cluster	Employment (2022)	Forecasted Employment (2024)	Forecasted Employment (2032)
Agriculture	456	496	576	Legal	447	448	454
Architecture	33	35	37	Logistics	9,467	9,878	10,416
Back Office	11,159	11,346	11,347	Math	61	64	72
Business	3,043	3,179	3,422	Mechanics	3,847	4,027	4,337
Communications	186	208	236	Medical	11,908	12,179	12,837
Computer	1,545	1,618	1,731	Performance	164	179	208
Construction	4,059	4,290	4,642	Personal Services	9,439	9,591	9,654
Design	294	318	330	Plant Operators	336	340	322
Education	6,881	6,899	6,953	Political	50	51	51
Engineering	1,183	1,244	1,334	Production	7,989	8,379	8,719
Financial	1,753	1,811	1,902	Sales & Marketing	383	400	423
Geology	0	0	10	Social Service	5,163	5,214	5,321
Hospitality	15,594	16,038	16,749	Total	96,417	99,187	103,052

Source: Lightcast



Industry-specific workforce needs assessment

Before deciding on the steps to take to strengthen Area 20's workforce, it is helpful to know the focus of workforce development activities and the alignment of those activities with economic development targets. This section of the report shares data related to the suggested target industries and occupations: Manufacturing, Logistics, Technology, Health Care, and Construction and Skilled Trades.

Overview

Target industry and occupation review

The Industry-specific workforce needs assessment section presents five target industries and occupations based on analysis from the previous section and a review of past reports and strategies from Area 20 and its counties. Data considerations included employment size, concentration and growth; emerging technology and industries; and high wages and potential for economic mobility in the industry. Stakeholder input about higher-wage jobs and retaining more of the outbound commuter workforce were also important. The information review aligned with these considerations, with some industries consistently targeted by economic developers across Area 20 counties based on employment concentration and growth in the region.

Three of the five industries are targeted from an economic development perspective, seeking to galvanize business recruitment, entrepreneurship and expansion efforts in the region.

- Manufacturing: Food and Beverage, Packaging, Materials, Machinery and Equipment, Automotive
- Logistics
- Technology: Data Centers, Computing Hardware Software

Two industries are targeted from a workforce development perspective, supporting large concentrations of higher wage employment in industries that are important to the regional economy.

- Health Care
- Construction and Skilled Trades

The target industries and occupations have average wages that range from 21% to 59% higher than Area 20's overall average wage. Manufacturing, Health Care, and Construction and Skilled Trades have employment concentrations at 5.5X, 1.4X, and 1.1X US levels, respectively. The Logistics target industry seeks to attract the resident workforce that currently commute out to that industry's jobs elsewhere. The concentration of resident workers in logistics occupations is at 1.3X national levels, compared with an industry employment concentration of 0.9. The Technology target industry, along with parts of Manufacturing, are more nascent and will build upon investments in Area 20 and beyond related to electric vehicles, semiconductors and data centers.

Overview (continued)

Workforce needs assessment based on target industries

The target industries and occupations provide the basis for a more specific workforce analysis of the most common occupations and frequently required skills. Staffing patterns closely align with industries. For example, truck drivers are the most common occupation for Logistics, nurses for Health Care, and software developers for Technology. This section includes detailed tables of these occupations' current employment levels, two-year and 10-year forecasted employment growth, median wages, and typical education and training requirements.






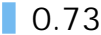





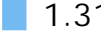





We also examine the potential impacts of the Intel and Honda megaprojects, including the extent to which their labor sheds will reach into Area 20. A 30-minute drive time from the project sites barely encroaches on Fairfield, Pickaway, and Ross counties. A 60-minute drive time, however, encompasses nearly the whole of those counties and encroaches on Hocking and Vinton as well.

An analysis of other regions in the US that have already experienced growth in semiconductors and electric vehicles provides insights on what can be anticipated from the megaprojects. While Area 20 and the wider central Ohio area will not follow the exact same path with these emerging industries, the occupational data from existing hubs indicate future workforce needs in semiconductor processing technicians, hardware engineers, and engineers, technicians and assemblers in electrical and electronics. Additionally, construction and skilled trades will be important to build and maintain the advanced manufacturing and technology facilities.

Proposed target – Manufacturing

The proposed Manufacturing target industry includes existing strengths in materials (e.g., metal, plastic, paper) and automotive, as well as growing categories in food and beverage and machinery. The latter category includes automation and robotics equipment that look toward the future of manufacturing, including semiconductors and electric vehicles.

Area 20 Manufacturing target industry jobs, wages and employment concentration












	2022 Jobs	2017-2022 Change	2022 Wages, Salaries, & Proprietor Earnings	2022 Employment Concentration (US=1.00)
Manufacturing target industry	10,665	 10%	 \$64,436	 5.47
Food and beverage	911	 28%	 \$51,746	 0.73
Materials	5,023	 16%	 \$63,772	 3.21
Machinery	930	 56%	 \$68,791	 1.31
Automotive	3,802	-5% 	 \$67,288	 10.62
All Area 20 employment	96,417	 2%	 \$49,668	

Source: Lightcast

Proposed target – Logistics

The proposed Logistics target industry is experiencing rapid employment growth and seeks to retain more of the workers residing in Area 20 who currently commute out.

Area 20 Logistics target industry jobs, wages and employment concentration















	2022 Jobs	2017-2022 Change	2022 Wages, Salaries, & Proprietor Earnings	2022 Employment Concentration (US=1.00)
Logistics target industry	4,719	 23%	 \$59,002	 0.89
Warehouse, wholesale	2,474	 21%	 \$64,887	 0.50
Transportation	2,245	 25%	 \$52,517	 1.32
All Area 20 employment	96,417	 2%	 \$49,668	

Source: Lightcast

Proposed target – Technology

The proposed Technology target industry is nascent but fast-growing in Area 20. This industry will build upon the Google data center underway as well as supply chain opportunities in semiconductors.

Area 20 Technology target industry jobs, wages and employment concentration












	2022 Jobs	2017-2022 Change	2022 Wages, Salaries, & Proprietor Earnings	2022 Employment Concentration (US=1.00)
Technology target industry	466	 99%	 \$77,525	 0.21
Computing hardware mfg.	221	 401%	 \$62,531	 0.32
Data centers	22	-20% 	 \$86,934	 0.07
Software	224	 37%	 \$91,400	 0.11
All Area 20 employment	96,417	 2%	 \$49,668	

Source: Lightcast

Proposed target – Health care

Health care is a workforce-based target industry, or occupation target. While typically not targeted from a regional economic development perspective, health care represents an important source of employment and growth in Area 20. It also serves the region's quality of life.

Area 20 Technology target industry jobs, wages and employment concentration












	2022 Jobs	2017-2022 Change	2022 Wages, Salaries, & Proprietor Earnings	2022 Employment Concentration (US=1.00)
Healthcare	7,837	 15%	 \$78,966	 1.43
Hospitals and labs	4,694	 2%	 \$64,607	 1.49
Doctors' offices, outpatient care	3,143	 42%	 \$100,411	 1.33
All Area 20 employment	96,417	 2%	 \$49,668	

Source: Lightcast

Proposed target – Construction/skilled trades

Construction and skilled trades are an occupational target. While typically not targeted from a regional economic development perspective, these skills represent an important source of employment and growth in Area 20. They are also critical in supporting the investments occurring in manufacturing and other industries targeted for economic development.

Area 20 Construction/skilled trades target industry jobs, wages and employment concentration

	2022 Jobs	2017-2022 Change	2022 Wages, Salaries, & Proprietor Earnings	2022 Employment Concentration (US=1.00)
Construction & Skilled Trades	4,705	 29%	 \$59,957	 1.11
Building construction	1,125	 45%	 \$63,464	 1.01
Specialty trades	3,580	 25%	 \$58,854	 1.14
All Area 20 employment	96,417	 2%	 \$49,668	

Source: Lightcast

Forecasts of industry employment and high-growth occupations: Construction & Skilled Trades

Forecasted growth for top 25 occupations in Construction & Skilled Trades

SOC Code	Occupation	Area 20 Jobs ('22)	Job Forecast ('24)	Forecasted Growth ('22-'24)	Job Forecast ('32)	Forecasted Growth ('22-'32)	Median Hourly Wage ('22)	Typical Entry Level Edu.	Typical OJT Training
47-2061	Construction Laborers	505	536	6.1%	583	15.5%	\$20.20	None	None
47-2111	Electricians	496	536	8.1%	608	22.5%	\$26.41	HS diploma or equiv.	None
47-2031	Carpenters	322	344	6.7%	374	16.1%	\$22.05	HS diploma or equiv.	None
47-1011	First-Line Supervisors of Cons...	273	294	7.6%	325	19.1%	\$29.50	HS diploma or equiv.	5 yrs.+
49-9021	Heating, Air Conditioning, and...	255	277	8.7%	311	21.9%	\$21.50	Certificate	None
47-2152	Plumbers, Pipefitters, and Ste...	254	274	7.8%	301	18.2%	\$26.95	HS diploma or equiv.	None
43-9061	Office Clerks, General	168	174	3.4%	173	3.1%	\$16.70	HS diploma or equiv.	None
47-2051	Cement Masons and Concrete Fin...	153	161	5.7%	170	11.1%	\$24.89	None	None
13-1082	Project Management Specialists	150	161	7.7%	179	19.4%	\$35.60	Bachelor's	None
47-2073	Operating Engineers and Other ...	143	147	2.9%	150	4.7%	\$24.68	HS diploma or equiv.	None
11-1021	General and Operations Manager...	137	145	5.8%	155	13.1%	\$41.22	Bachelor's	5 yrs.+
11-9021	Construction Managers	123	136	11.3%	163	33.1%	\$43.52	Bachelor's	None
13-1051	Cost Estimators	82	87	5.2%	91	10.4%	\$28.14	Bachelor's	None
53-3032	Heavy and Tractor-Trailer Truc...	82	84	2.2%	84	2.9%	\$22.80	Certificate	None
47-2021	Brickmasons and Blockmasons	52	54	3.8%	59	13.1%	\$26.51	HS diploma or equiv.	None
47-2181	Roofers	49	51	3.7%	52	7.3%	\$18.77	None	None
47-2141	Painters, Construction and Mai...	47	45	-4.4%	39	-15.7%	\$20.49	None	None
47-2211	Sheet Metal Workers	45	49	7.8%	53	16.4%	\$26.01	HS diploma or equiv.	None
49-1011	First-Line Supervisors of Mech...	39	42	6.6%	45	14.9%	\$29.36	HS diploma or equiv.	< 5 yrs.
47-2221	Structural Iron and Steel Work...	37	42	12.9%	51	35.7%	\$26.50	HS diploma or equiv.	None
47-3013	Helpers--Electricians	36	39	6.6%	41	13.6%	\$13.80	HS diploma or equiv.	None
47-3015	Helpers--Pipelayers, Plumbers,...	31	33	7.6%	36	18.3%	\$12.60	HS diploma or equiv.	None
43-1011	First-Line Supervisors of Offi...	30	31	3.9%	32	4.5%	\$25.72	Some College, No Degree	< 5 yrs.
53-7062	Laborers and Freight, Stock, a...	29	31	5.2%	32	11.8%	\$15.58	None	None
49-9071	Maintenance and Repair Workers...	26	27	5.1%	28	11.0%	\$20.45	HS diploma or equiv.	None

Source: Lightcast

Most frequently required technical skills in job postings for Construction & Skilled Trades

In-demand skills in job postings for top occupations in Construction & Skilled Trades

Specialized skills		Common skills	
Warehousing	Machinery	Communications	Microsoft Excel
Plumbing	Preventive Maintenance	Lifting Ability	Professionalism
Truck Driving	Project Management	Problem Solving, Troubleshooting	Coordinating
Forklift Truck	Palletizing	Loading And Unloading	Self-Motivation
Construction	Pallet Jacks	Detail Oriented	Decision Making
Carpentry	OSHA	Computer Literacy	Teamwork
Painting	Inventory Control	Planning and Scheduling	Mathematics
Power Tool Operation	Equipment Repair	Verbal Communication Skills	Strong Work Ethic
Hand Tools	Electrical Wiring	Time Management	Packaging And Labeling
HVAC	Blueprinting	Organizational Skills	Hand Trucks

Source: Lightcast

Forecasts of industry employment and high-growth occupations: Logistics

Forecasted growth for top 25 occupations in Logistics

SOC Code	Occupation	Area 20 Jobs ('22)	Job Forecast ('24)	Forecasted Growth ('22-'24)	Job Forecast ('32)	Forecasted Growth ('22-'32)	Median Hourly Wage ('22)	Typical Entry Level Edu.	Typical OJT Training
53-3032	Heavy and Tractor-Trailer Truc...	1,004	1,044	4.0%	1,090	8.6%	\$22.80	Certificate	None
53-7062	Laborers and Freight, Stock, a...	553	610	10.3%	697	26.0%	\$15.58	None	None
53-3033	Light Truck Drivers	370	414	11.9%	489	32.2%	\$16.51	HS diploma or equiv.	None
41-4012	Sales Representatives, Wholesa...	357	386	8.0%	443	23.8%	\$28.45	HS diploma or equiv.	None
53-7065	Stockers and Order Fillers	191	210	9.9%	236	23.1%	\$15.71	HS diploma or equiv.	None
53-1047	First-Line Supervisors of Tran...	127	137	7.6%	152	19.6%	\$22.11	HS diploma or equiv.	< 5 yrs.
43-4051	Customer Service Representativ...	127	136	6.9%	147	15.7%	\$16.38	HS diploma or equiv.	None
11-1021	General and Operations Manager...	122	132	8.4%	150	23.4%	\$41.22	Bachelor's	5 yrs.+
53-7051	Industrial Truck and Tractor O...	109	121	10.4%	135	23.4%	\$19.37	None	None
43-9061	Office Clerks, General	103	108	5.0%	113	9.5%	\$16.70	HS diploma or equiv.	None
49-3031	Bus and Truck Mechanics and Di...	96	102	6.6%	113	17.2%	\$22.07	HS diploma or equiv.	None
43-5071	Shipping, Receiving, and Inven...	94	102	8.7%	111	18.3%	\$16.83	HS diploma or equiv.	None
43-5032	Dispatchers, Except Police, Fi...	58	61	4.4%	63	7.9%	\$17.66	HS diploma or equiv.	None
53-3031	Driver/Sales Workers	56	59	4.3%	63	11.6%	\$11.79	HS diploma or equiv.	None
43-6014	Secretaries and Administrative...	46	48	4.4%	49	6.3%	\$17.10	HS diploma or equiv.	None
43-1011	First-Line Supervisors of Offi...	46	49	7.4%	54	16.7%	\$25.72	HS diploma or equiv.	< 5 yrs.
51-2098	Miscellaneous Assemblers and F...	32	35	7.1%	37	14.1%	\$17.52	HS diploma or equiv.	None
41-3091	Sales Representatives of Servi...	31	33	6.2%	36	16.3%	\$25.58	HS diploma or equiv.	None
41-2022	Parts Salespersons	31	35	12.4%	42	34.5%	\$14.30	None	None
49-9071	Maintenance and Repair Workers...	31	33	8.6%	38	22.0%	\$20.45	HS diploma or equiv.	None
11-3071	Transportation, Storage, and D...	30	33	8.0%	36	20.7%	\$40.95	HS diploma or equiv.	5 yrs.+
11-2022	Sales Managers	29	31	8.7%	36	25.5%	\$56.89	Bachelor's	< 5 yrs.
13-1028	Buyers and Purchasing Agents	28	30	7.0%	33	16.5%	\$28.33	Bachelor's	None
49-3023	Automotive Service Technicians...	25	28	13.3%	34	37.5%	\$20.13	Certificate	None
53-7064	Packers and Packagers, Hand	25	28	11.9%	32	29.7%	\$13.49	None	None

Source: Lightcast

Most frequently required technical skills in job postings for Logistics

In-demand skills in job postings for top occupations in Logistics

Specialized skills		Common skills	
Warehousing	Palletizing	Customer Service	Good Driving Record
Merchandising	Data Entry	Communications	Computer Literacy
Forklift Truck	Machinery	Sales	Arithmetic
Truck Driving	Inventory Management	Management	Self-Motivation
Selling Techniques	Hand Tools	Operations	Writing
Plumbing	Housekeeping	Lifting Ability	Multitasking
Accounting	Office Equipment	Leadership	Microsoft Office, Excel
Auditing	Changing Oil	Detail Oriented	Time Management
Marketing	Product Knowledge	Loading And Unloading	Positivity
Invoicing	Billing	Problem Solving	Verbal Communication Skills

Source: Lightcast

Forecasts of industry employment and high-growth occupations: Technology

Forecasted growth for top 25 occupations in Technology

SOC Code	Occupation	Area 20 Jobs ('22)	Job Forecast ('24)	Forecasted Growth ('22-'24)	Job Forecast ('32)	Forecasted Growth ('22-'32)	Median Hourly Wage ('22)	Typical Entry Level Edu.	Typical OJT Training
15-1252	Software Developers	85	96	13.3%	120	41.2%	\$42.80	Bachelor's	None
51-2028	Electrical, Electronic, and El...	32	41	25.4%	54	66.1%	\$17.74	HS diploma or equiv.	None
15-1232	Computer User Support Speciali...	22	24	8.7%	27	23.1%	\$21.43	Some college, no degr.	None
15-1211	Computer Systems Analysts	16	18	9.1%	20	25.0%	\$40.55	Bachelor's	None
51-2098	Miscellaneous Assemblers and F...	12	15	18.6%	18	41.8%	\$17.52	HS diploma or equiv.	None
11-1021	General and Operations Manager...	12	14	14.9%	17	40.4%	\$41.22	Bachelor's	5 yrs.+
43-4051	Customer Service Representativ...	13	14	11.0%	16	24.5%	\$16.38	HS diploma or equiv.	None
13-1082	Project Management Specialists	11	12	11.5%	15	39.6%	\$35.60	Bachelor's	None
17-2112	Industrial Engineers	4	11	165.5%	15	271.1%	\$38.06	Bachelor's	None
11-3021	Computer and Information Syste...	11	12	12.1%	15	34.7%	\$57.57	Bachelor's	5 yrs.+
41-3091	Sales Representatives of Servi...	11	12	7.7%	13	19.2%	\$25.58	HS diploma or equiv.	None
15-1253	Software Quality Assurance Ana...	4	4	0.0%	13	219.2%	\$34.64	Bachelor's	None
51-9061	Inspectors, Testers, Sorters, ...	4	4	0.0%	12	191.4%	\$17.91	HS diploma or equiv.	None
17-2071	Electrical Engineers	4	4	0.0%	12	188.5%	\$44.05	Bachelor's	None
13-1161	Market Research Analysts and M...	4	4	0.0%	11	177.2%	\$27.33	Bachelor's	None
15-1244	Network and Computer Systems...	4	4	0.0%	11	166.1%	\$36.06	Bachelor's	None
17-2141	Mechanical Engineers	4	4	0.0%	10	150.8%	\$35.40	Bachelor's	None
11-1011	Chief Executives	4	4	0.0%	4	0.0%	\$75.11	Bachelor's	5 yrs.+
11-2021	Marketing Managers	4	4	0.0%	4	0.0%	\$54.58	Bachelor's	5 yrs.+
11-2022	Sales Managers	4	4	0.0%	4	0.0%	\$56.89	Bachelor's	< 5 yrs.
11-3012	Administrative Services Manage...	4	4	0.0%	4	0.0%	\$35.51	Bachelor's	< 5 yrs.
11-3013	Facilities Managers	4	4	0.0%	4	0.0%	\$37.43	Bachelor's	< 5 yrs.
11-3031	Financial Managers	4	4	0.0%	4	0.0%	\$54.14	Bachelor's	5 yrs.+
11-3051	Industrial Production Managers	4	4	0.0%	4	0.0%	\$47.23	Bachelor's	5 yrs.+
11-3061	Purchasing Managers	4	4	0.0%	4	0.0%	\$55.52	Bachelor's	5 yrs.+

Source: Lightcast

Most frequently required technical skills in job postings for Technology

In-demand skills in job postings for top occupations in Technology

Specialized skills		Common skills	
Marketing	Warehousing	Communications	Self-Motivation
Merchandising	Cash Handling	Management	Microsoft Excel, Office
Auditing	Supply Chain	Operations	Multitasking, Time Management
Project Management	Customer Relationship Management	Sales	Organizational Skills
Process Improvement	New Product Development	Leadership	Coordinating, Scheduling
Selling Techniques	Customer Inquiries	Problem Solving, Troubleshooting	Decision Making
Accounting, Billing	Electrical Engineering	Planning	Presentations
Continuous Improvement Process	Operations Management	Detail Oriented	Coaching
Business Development	Computer Science	Writing	Professionalism
Finance	Automation	Computer Literacy	Mathematics

Source: Lightcast

Forecasts of industry employment and high-growth occupations: Manufacturing

Forecasted growth for top 25 occupations in Manufacturing

SOC Code	Occupation	Area 20 Jobs ('22)	Job Forecast ('24)	Forecasted Growth ('22-'24)	Job Forecast ('32)	Forecasted Growth ('22-'32)	Median Hourly Wage ('22)	Typical Entry Level Edu.	Typical OJT Training
51-2098	Miscellaneous Assemblers and F...	2,019	2,099	4.0%	2,094	3.8%	\$17.52	HS diploma or equiv.	None
51-1011	First-Line Supervisors of Prod...	411	435	6.0%	464	13.1%	\$28.88	HS diploma or equiv.	< 5 yrs.
53-3032	Heavy and Tractor-Trailer Truc...	335	339	1.2%	331	-1.4%	\$22.80	Certificate	None
51-4041	Machinists	335	363	8.3%	409	21.9%	\$17.89	HS diploma or equiv.	None
51-9196	Paper Goods Machine Setters, O...	318	284	-10.8%	225	-29.4%	\$17.89	HS diploma or equiv.	None
53-7062	Laborers and Freight, Stock, a...	305	321	5.5%	341	11.7%	\$15.58	None	None
51-9061	Inspectors, Testers, Sorters, ...	299	317	5.9%	337	12.5%	\$17.91	HS diploma or equiv.	None
51-4081	Multiple Machine Tool Setters,...	278	300	7.9%	327	17.6%	\$20.23	HS diploma or equiv.	None
51-4121	Welders, Cutters, Solderers, a...	249	266	6.7%	288	15.7%	\$21.79	HS diploma or equiv.	None
41-4012	Sales Representatives, Wholesa...	218	231	5.8%	245	12.2%	\$28.45	HS diploma or equiv.	None
49-9071	Maintenance and Repair Workers...	189	198	4.4%	206	8.8%	\$20.45	HS diploma or equiv.	None
51-4031	Cutting, Punching, and Press M...	189	203	7.4%	216	14.4%	\$16.11	HS diploma or equiv.	None
49-9041	Industrial Machinery Mechanics	188	202	7.6%	230	22.6%	\$29.09	HS diploma or equiv.	None
51-9111	Packaging and Filling Machine ...	184	202	10.2%	230	25.2%	\$17.32	HS diploma or equiv.	None
17-2112	Industrial Engineers	158	170	7.6%	190	20.1%	\$38.06	Bachelor's	None
11-1021	General and Operations Manager...	144	155	7.5%	170	18.3%	\$41.22	Bachelor's	5 yrs.+
43-5071	Shipping, Receiving, and Inven...	143	149	4.4%	152	6.2%	\$16.83	HS diploma or equiv.	None
11-3051	Industrial Production Managers	140	148	5.2%	155	10.4%	\$47.23	Bachelor's	5 yrs.+
53-7051	Industrial Truck and Tractor O...	140	145	3.8%	150	7.2%	\$19.37	None	None
51-9161	Computer Numerically Controlle...	127	137	7.6%	148	16.4%	\$17.92	HS diploma or equiv.	None
51-9011	Chemical Equipment Operators a...	116	121	4.4%	121	4.8%	\$23.29	HS diploma or equiv.	None
51-9124	Coating, Painting, and Sprayin...	111	117	5.0%	123	10.6%	\$18.13	HS diploma or equiv.	None
51-9023	Mixing and Blending Machine Se...	110	115	4.6%	120	9.3%	\$18.82	HS diploma or equiv.	None
17-2141	Mechanical Engineers	108	118	8.4%	131	21.0%	\$35.40	Bachelor's	None
51-4072	Molding, Coremaking, and Casti...	106	115	7.8%	124	16.2%	\$14.32	HS diploma or equiv.	None

Source: Lightcast

Most frequently required technical skills in job postings for Manufacturing

In-demand skills in job postings for top occupations in Manufacturing

Specialized skills		Common skills	
Warehousing	Pallet Jacks	Customer Service	Computer Literacy
Forklift Truck	Project Management	Communications	Multitasking, Time Management
Truck Driving	Inventory Management	Management	Arithmetic, Math
Merchandising	Billing	Operations	Writing
Plumbing	Lean Manufacturing	Problem Solving, Troubleshooting	Self-Motivation
Machinery	Process Improvement	Sales	Planning, Scheduling
Hand Tools	Manufacturing Processes	Leadership	Verbal Communication Skills
Power Tool Operation	Office Equipment	Lifting Ability	Organizational Skills
Palletizing	Preventive Maintenance	Detail Oriented	Microsoft Office, Excel
Continuous Improvement Process	Safety Standards	Loading And Unloading	Good Driving Record

Source: Lightcast

Forecasts of industry employment and high-growth occupations:

Health care

Forecasted growth for top 25 occupations in Health care

SOC Code	Occupation	Area 20 Jobs ('22)	Job Forecast ('24)	Forecasted Growth ('22-'24)	Job Forecast ('32)	Forecasted Growth ('22-'32)	Median Hourly Wage ('22)	Typical Entry Level Edu.	Typical OJT Training
29-1141	Registered Nurses	1,689	1,740	3.0%	1,841	9.0%	\$33.17	Bachelor's	None
31-9092	Medical Assistants	478	530	10.9%	644	34.7%	\$17.63	Certificate	None
31-1131	Nursing Assistants	348	354	1.8%	367	5.5%	\$14.82	Certificate	None
43-6013	Medical Secretaries and Admini...	337	360	6.9%	403	19.8%	\$16.78	HS diploma or equiv.	None
43-4171	Receptionists and Information ...	228	246	8.1%	280	22.9%	\$13.46	HS diploma or equiv.	None
29-2061	Licensed Practical and License...	217	231	6.5%	257	18.5%	\$22.83	Certificate	None
29-2034	Radiologic Technologists and T...	215	225	4.5%	244	13.6%	\$27.38	Associate	None
29-1229	Physicians, All Other	210	221	5.4%	242	15.5%	\$94.57	Doctoral	None
11-9111	Medical and Health Services Ma...	188	205	9.3%	249	32.6%	\$47.51	Bachelor's	< 5 yrs.
29-2018	Clinical Laboratory Technologi...	177	185	5.0%	201	13.8%	\$25.27	Bachelor's	None
29-1171	Nurse Practitioners	168	197	17.1%	275	63.7%	\$55.38	Master's degree	None
29-2099	Health Technologists and Techn...	112	121	8.6%	139	24.1%	\$19.35	Certificate	None
43-3021	Billing and Posting Clerks	112	120	7.1%	134	20.1%	\$17.60	HS diploma or equiv.	None
43-4051	Customer Service Representativ...	111	115	4.0%	120	8.3%	\$16.38	HS diploma or equiv.	None
37-2012	Maids and Housekeeping Cleaner...	99	100	1.6%	104	4.8%	\$12.04	None	None
43-1011	First-Line Supervisors of Offi...	90	95	6.1%	104	15.8%	\$25.72	HS diploma or equiv.	< 5 yrs.
29-1126	Respiratory Therapists	89	91	3.1%	99	11.1%	\$30.03	Associate	None
29-2055	Surgical Technologists	88	92	3.9%	99	11.7%	\$23.47	Certificate	None
43-4111	Interviewers, Except Eligibili...	85	85	-0.7%	80	-6.5%	\$16.19	HS diploma or equiv.	None
29-1051	Pharmacists	85	89	5.0%	99	17.3%	\$56.78	Doctoral	None
21-1018	Substance Abuse, Behavioral Di...	82	86	5.4%	95	15.6%	\$22.29	Bachelor's	None
43-9061	Office Clerks, General	80	83	4.2%	87	8.9%	\$16.70	HS diploma or equiv.	None
29-2052	Pharmacy Technicians	77	80	3.2%	85	9.5%	\$15.84	HS diploma or equiv.	None
29-2072	Medical Records Specialists	75	79	5.2%	87	15.9%	\$20.56	Certificate	None
31-9097	Phlebotomists	74	79	6.6%	87	17.8%	\$16.12	Certificate	None

Source: Lightcast

Most frequently required technical skills in job postings for Health care

In-demand skills in job postings for top occupations in Health care

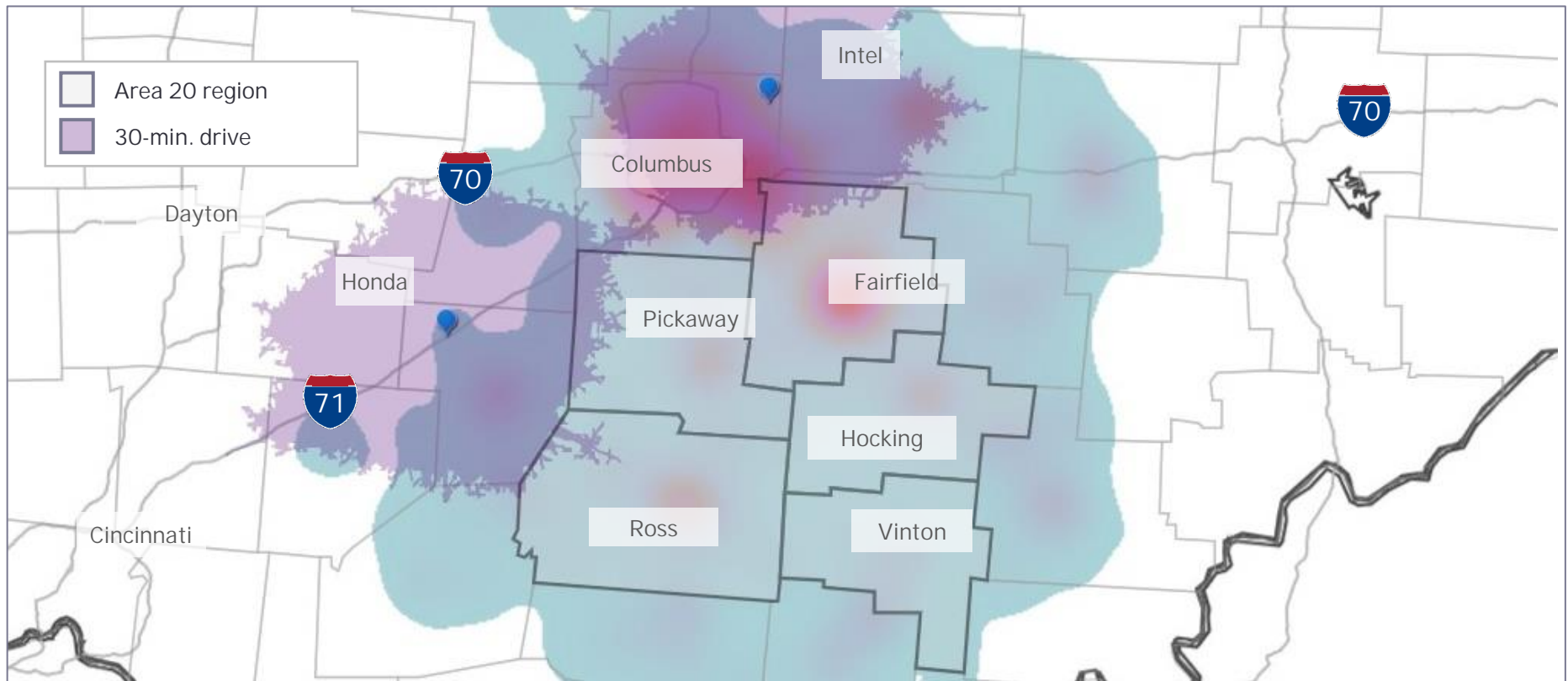
Specialized skills		Common skills	
Nursing, Nursing Care	Computerized Physician Order Entry	Communications	Professionalism
Medication Administration	Treatment Planning	Customer Service	Detail Oriented
Home Health Care	Data Entry	Management	Computer Literacy
Direct Patient Care	Workflow Management	Clerical Works	Multitasking
Cardiopulmonary Resuscitation (CPR)	Nursing Process	Coordinating	Writing
Vital Signs	Phlebotomy	Scheduling	Time Management
Caregiving	Medical Assistance	Leadership	Critical Thinking
Rehabilitation	Patient Assistance	Operations	Compassion
Billing	Discharge Planning	Problem Solving	Microsoft Office
Electronic Medical Record	Case Management	Planning	Interpersonal Communications

Source: Lightcast

Area 20 worker origin for large future facilities

The map below shows the origins of workers for the Area 20 region against a 30-minute drivetime radius for the two mega projects underway in the region. The area shown below accounts for nearly 84% of the labor shed for the region and reflects approximately 71,270 workers. Fairfield, Pickaway, and Ross counties fall within the 30-minute drivetime radii of at least one of the megaprojects.

Area 20 worker origin vs. mega projects, 2020

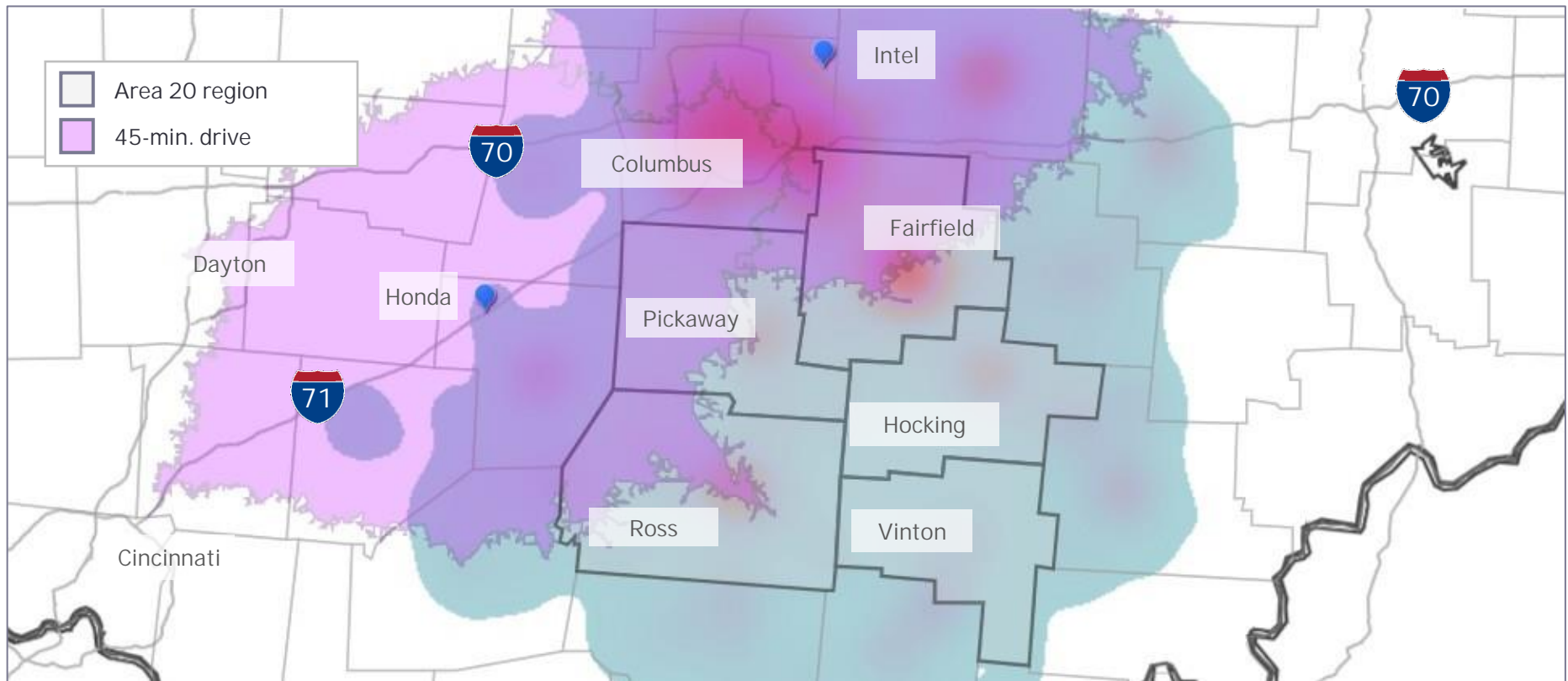


Source: US Census Bureau

Area 20 worker origin for large future facilities (continued)

The map below shows the origins of workers for the Area 20 region against a 45-minute drivetime radius for the two mega projects underway in the region. Fairfield, Pickaway, and Ross counties fall within the 45-minute drivetime radiuses of at least one of the megaprojects, though Pickaway County falls within the radiuses of both projects.

Area 20 worker origin vs. mega projects, 2020

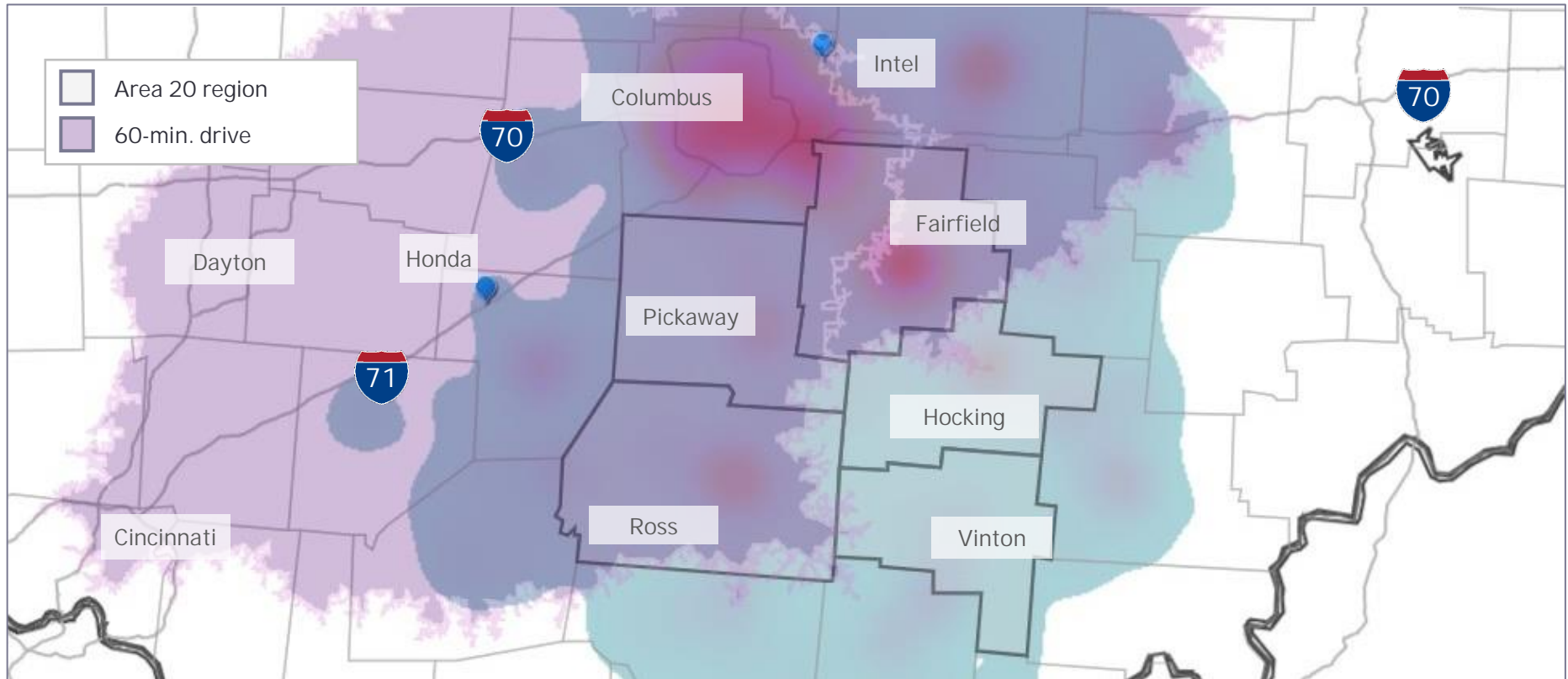


Source: US Census Bureau

Area 20 worker origin for large future facilities (continued)

The map below shows the origins of workers for the Area 20 region against a 60-minute drivetime radius for the two mega projects underway in the region. All counties within the Area 20 region have some part of their county falling within the radiuses of one or both projects.

Area 20 worker origin vs. mega projects, 2020



Source: US Census Bureau

EV battery manufacturing occupations, examples

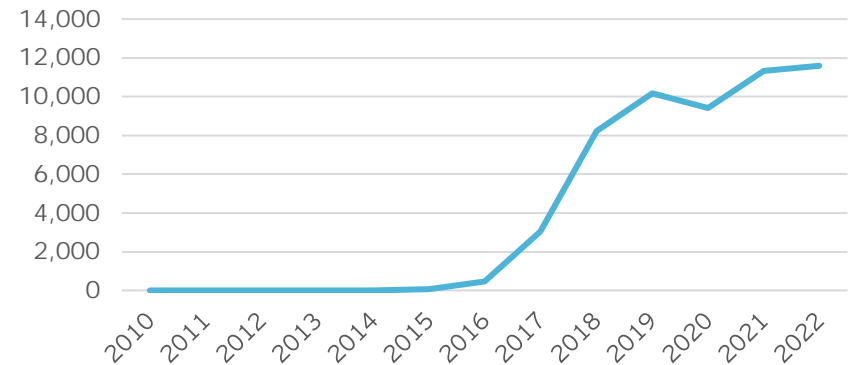
Data analysis of a region that has already experienced growth in electric vehicle (EV) battery manufacturing provides insights on what could be expected in and around central Ohio. The Reno, NV, metro area has seen battery manufacturing employment grow from zero in 2014 to 11,603 in 2022. A comparison of the occupational composition within Reno's industry to the occupations of Area 20's jobs and workers reveals potential areas for workforce development. These include engineers, technicians and assemblers in electrical and electronics.

Area 20 jobs and workers in most common engineering and production occupations in Reno MSA battery manufacturing industry

SOC	Description	% of Reno battery mfg. jobs	Area 20 jobs	Area 20 resident workers	Area 20 jobs LQ	Area 20 resident workers LQ	Reno jobs (all ind.) LQ
51-2090	Miscellaneous Assemblers and Fabricators	16.0%	2,351	2,469	2.58	1.92	2.96
53-7060	Laborers and Material Movers	6.1%	4,082	7,746	0.96	1.29	1.69
51-9060	Inspectors, Testers, Sorters, Samplers, and Weighers	4.4%	424	653	1.13	1.23	1.32
51-1010	First-Line Supervisors of Production and Operating Workers	4.2%	567	739	1.33	1.23	1.10
43-5070	Shipping, Receiving, and Inventory Clerks	4.0%	455	937	0.84	1.23	1.95
17-3020	Engineering Technologists and Technicians	3.8%	194	286	0.74	0.77	1.75
51-9190	Miscellaneous Production Workers	3.5%	622	666	1.51	1.15	1.85
51-2020	Electrical, Electronics, and Electromechanical Assemblers	3.3%	131	210	0.66	0.75	0.86
11-1020	General and Operations Managers	3.3%	1,460	2,222	0.70	0.76	1.12
17-2110	Industrial Engineers, Including Health and Safety	2.0%	223	310	1.03	1.02	1.27
49-9040	Industrial Machinery Installation, Repair, and Maintenance	1.8%	420	530	1.30	1.16	0.87
11-3050	Industrial Production Managers	1.8%	176	234	1.35	1.27	1.64
17-2070	Electrical and Electronics Engineers	1.8%	129	193	0.64	0.68	0.63
49-9070	Maintenance and Repair Workers, General	1.7%	1,064	1,519	1.09	1.10	1.15
51-4040	Machinists	1.5%	411	509	1.84	1.62	0.64
51-4020	Forming Machine Setters, Operators, and Tenders, Metal and Plastic	1.2%	71	110	0.99	1.08	3.37

Area 20 employment concentration below Reno MSA

Reno MSA battery manufacturing (NAICS 33591) employment

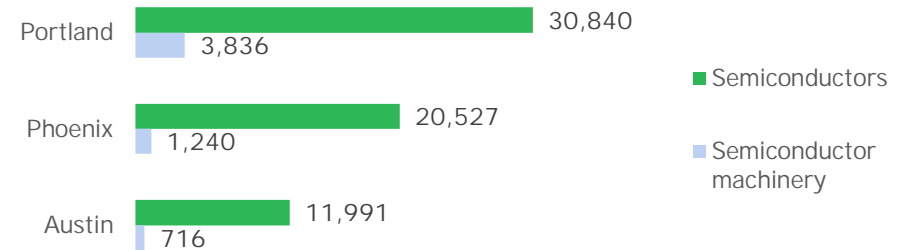


Source: Lightcast

Semiconductor manufacturing occupations, examples

Data analysis of regions that already have established semiconductor industries provides insights on what could be expected in and around central Ohio. The industry has several specialized occupations for which Area 20 has a much lower or, in some cases, minimal concentration of jobs or resident workers. These include semiconductor processing technicians, hardware engineers, and engineers, technicians and assemblers in electrical and electronics.

Semiconductor (NAICS 334413) and semiconductor machinery (333242) manufacturing employment, 2022



Area 20 jobs and workers in most common engineering and production occupations in Austin, Phoenix, Portland MSA semiconductor (NAICS 3344) industry

SOC	Description	% of semi. jobs (3-metro avg)	Area 20 jobs	Area 20 resident workers	Area 20 jobs LQ	Area 20 resident workers LQ	3-metro avg jobs (all ind.) LQ
51-9140	Semiconductor Processing Technicians	10.5%	<10	<10	<0.05	<0.05	11.64
51-2020	Electrical, Electronics, and Electromechanical Assemblers	8.7%	131	210	0.66	0.75	1.15
17-3020	Engineering Technologists and Technicians, Except Drafters	6.7%	194	286	0.74	0.77	1.49
17-2070	Electrical and Electronics Engineers	5.5%	129	193	0.64	0.68	1.50
15-1250	Software and Web Developers, Programmers, and Testers	5.2%	426	1,103	0.32	0.59	1.54
17-2060	Computer Hardware Engineers	4.4%	<10	<10	<0.05	<0.05	4.60
51-9060	Inspectors, Testers, Sorters, Samplers, and Weighers	4.3%	424	653	1.13	1.23	0.84
17-2110	Industrial Engineers, Including Health and Safety	4.0%	223	310	1.03	1.02	1.10
51-2090	Miscellaneous Assemblers and Fabricators	2.9%	2,351	2,469	2.58	1.92	0.66
51-1010	First-Line Supervisors of Production and Operating Workers	2.5%	567	739	1.33	1.23	0.70
11-1020	General and Operations Managers	2.1%	1,460	2,222	0.70	0.76	1.23
11-9040	Architectural and Engineering Managers	2.1%	57	98	0.45	0.55	1.55
53-7060	Laborers and Material Movers	1.6%	4,082	7,746	0.96	1.29	0.94
13-1080	Logisticians and Project Management Specialists	1.5%	544	970	0.84	1.06	1.59
17-2140	Mechanical Engineers	1.4%	162	240	0.85	0.90	0.97

Area 20 employment concentration below average of Austin, Phoenix and Portland MSAs

Source: Lightcast

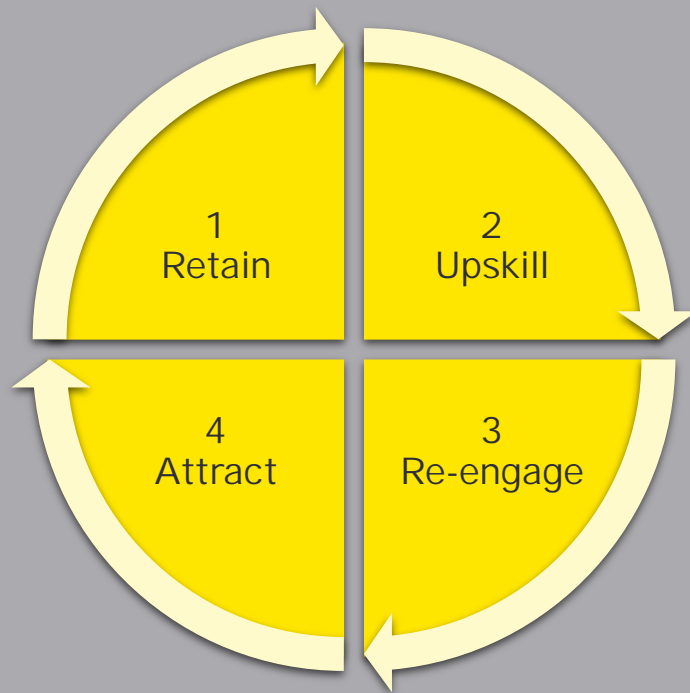


4 Strategy considerations

Building a sustained talent pipeline requires a multi-pronged and coordinated approach. While talent attraction is an important element of the approach, investing in initiatives locally to help retain, upskill, and re-engage workers is also important.

The recommendations offered in the following pages focus on supporting Area 20's current challenges and opportunities. However, the Partnership's future actions will most likely shift over time. The strategic framework illustrated on the following page is provided to help organize activities going forward, even if the tactical steps vary from the specific suggestions provided in this report. A complete approach would include actions within each of the four categories shown.

Strategy framework



Elements of a workforce strategy

1

Retain Area 20's workforce.

2

Expand targeted workforce training and education programs that prepare workers for the needs of our current and future industries.

3

Coordinate with partner organizations on programs that assist people with returning to work and overcoming barriers.

4

Proactively attract talent into Area 20.

Stakeholder input takeaways

During the research process conducted for this report, stakeholders consistently reported a shortage of skilled labor and challenges filling existing roles within their organizations. The data analysis provided in the previous sections reinforces those concerns. Suggested goals and tactics in this report are inspired by the following takeaways from analysis and stakeholder input:

- Negative perceptions and lack of awareness of careers in trades such as manufacturing exist within region. Stakeholders cited that it is important to help inform parents, teachers, counselors, influencers, and community leaders. For example, programs like The GRIT Project and Pickaway Works are examples of initiatives that address this need. In addition, industry collaboration, via peer or mentorship programs, tours, marketing collateral, promotion, events and other activities can counter misperceptions of trades as an alternative to higher education pathways, resulting in greater interest and engagement at a much younger age.
- Employers have an essential role in career opportunity awareness and talent attraction. Their presence and engagement in the community, participation in career awareness events and support of employees engaging in mentorship programs are pivotal in creating more excitement for local career opportunities. In designing their approaches, they will need to be cognizant of generational and cultural differences to capture potential talent from incumbent, untapped and underutilized talent. Developing, marketing and scaling of current programs that directly hire training participants or allow for earn-and-learn opportunities can further incentivize these talent pools to pursue careers in trades.
- Reaching and engaging the target populations could involve a well-resourced multimedia campaign and interactive platform for promoting careers and educational opportunities in the target sectors. An initiative of this size could be led at the regional level with ties to county resources and opportunities.
- Some local graduates and young professionals move out of the region for more competitive salaries. By comparison, local employers may perceive that wages are competitive. A first step toward attracting, retaining and re-engaging talent could include a thorough review of wages across targeted industries and associated benefits. These insights could be helpful in communications campaigns, addressing misperceptions, and informing businesses.
- Stakeholders expressed concerns that a large component of their existing workforce is about to retire. For business leaders, without a solid pipeline of talent entering the workforce, there is a risk of losing the legacy knowledge of retired workers. Data analysis affirms this concern – total college enrollments in Area 20 dropped by 13.4% between 2016 and 2021.

Stakeholder input takeaways (continued)

- Many employers in the Area 20 region have successful in-house training programs. For example, one employer cited its free training program on Monday nights for workers looking to upskill in a particular area. The issue is twofold in that those seeking careers in the targeted industries are not aware of the career progression pathways available and therefore do not seek out additional training. Others simply may not know that upskilling opportunities are available to them.
- There have been recent announcements of two large-scale manufacturers establishing facilities in adjacent counties. Stakeholders expressed excitement about the growth of manufacturing in the surrounding area. They also shared apprehension that these operations could further increase strain on the labor supply.
- Adopting automation and artificial intelligence (AI) on the factory floor is increasingly of interest to local stakeholders to address talent shortages. Employers participating in this research process stated that they are investing heavily in automating production and implementing unmanned processes and digital services.
- Traditional and emerging wraparound services to help workers overcome barriers can be impactful yet complex and expensive to deliver. For example, Area 20 region's size and commuting requires some job seekers to have reliable transportation. The average commute time in Area 20 region is approximately 30 minutes compared with 23.7 minutes in Ohio, creating a potential need for public transportation that does not exist to necessary capacity today. Several employers' facilities exist outside of available bus routes, and the schedules for these jobs often are not aligned with bus schedules. Barriers like these can impede those who do not have access to a vehicle from pursuing jobs within the industry.
- Stakeholders observed that current recruitment methods across industries appear not to have evolved from traditional recruitment methods such as utilizing recruiters or online career platforms. While one employer had success with recruitment through referrals over the past year, this passive approach to recruitment cannot be solely relied upon. There are several recruiting companies and startups in Ohio focusing on industry-specific, innovative ways to recruit talent, which could be adopted and expanded upon to better the recruitment efforts of current employers.
- The Fairfield County Workforce Center providing training programs for high-demand industries has been well-received and nationally recognized for its success in building career awareness, attracting talent and upskilling people. The programs are currently offered through a collaborative partnership among the Fairfield County Commissioners, Ohio University Lancaster Campus, the Russ College of Engineering and Hocking College. Stakeholders expressed interest in expanding the Center's services across Area 20.

Stakeholder input takeaways (continued)

- During stakeholder engagement there were instances of people and their respective organizations being introduced to one another for the first time. This supported a desire for greater cohesion and collaboration among public, private and educational institutions within the region. A unified workforce development strategy, including the actions suggested in this report, could be a strong starting point for greater alignment to support target industries and occupations.
- Some employers have developed in-house training programs to better align employee skill sets with those required to be successful in their role. However, stakeholders stated that they encounter difficulty getting those programs approved as accredited training. Without accreditation, the programs may be viewed as only a supplementary learning exercise, potentially cumbersome and unnecessary by some employees.
- As of April 2023, Area 20's unemployment rate is at the lowest since January 2010. Workforce participation is below state and national averages where of the labor force aged 16-24, 12.1% are unemployed and of the labor force aged 25-44, 4.5% are unemployed. Survey input and stakeholder engagement reiterated these statistics, with many participants stating that Area 20 has a high population of underutilized and underserved talent that faced barriers to entering the workforce or returning to the workforce.
- Some physical training facilities exist but may be disjointed. Further resources and collaboration are necessary to scale quality programs. Area leaders face challenges when trying to expand programs, including space, equipment, consumables, instruction, instructors, curriculum and design. Standing up training programs, particularly to suit the needs of the targeted industries, can be cumbersome if only one entity is responsible for all aspects. Memorandums of understanding, operating agreements and consortiums utilizing proprietary and industry-validated curriculum have proven to be effective models in other regions.
- Stakeholders frequently raised concerns that a critical concern of those unemployed and disengaged workers is access to and eligibility for benefits if they were to be employed. Overcoming "benefits cliff" concerns could require outreach, education and intentional efforts at quantifying the benefits of returning to work. A pilot program in Ohio, Benefit Bridge, holds promise and could potentially expand into Area 20 in the future with proper local support.

Potential actions: Retain talent



1 Retain Area 20's workforce.

Employers participating in this research process expressed strong concerns over the growing labor shortage in the region, acknowledging the above barriers and others to employing the current Area 20 workforce. Employers have expressed hiring and onboarding fatigue due to the skills shortage, and high turnover rates, particularly among the unskilled workforce. Addressing these concerns for both employers and employees in some capacity will be a critical component to developing a strong workforce pipeline by enabling existing residents to overcome barriers preventing them from entering the workforce, inadvertently creating a stronger talent pool for employers.

Potential actions: Retain talent (continued)

Action: Create pathways for skills development in target industries and occupations.

Companies can offer on-the-job training programs, workshops, seminars and courses aimed at providing employees with the necessary skills to advance in their current positions or transition to new roles. Mentorship programs could be established where experienced employees guide less experienced ones, and coaching should focus on developing specific skills or behaviors to improve performance. Career development plans along with cross-training can help identify, motivate and keep employees on track for constant improvement and career progression.

It is important that companies focus on developing a supportive and learning culture, promoting any in-house services on an easily accessible platform for all levels of the workforce. Begin by identifying career paths and related wages and educational requirements to help people navigate options. An online career portal where employees can explore different career paths, including full transparency around the skills required and regular performance and career discussions, can contribute to motivating employees to stay and grow within a company, rather than seeking opportunities elsewhere.

Considerations

- There is a generational gap of understanding between employers and younger, new talent. What drives younger generations is not fully aligned with what attracted older generations to the industry.
- Events like Manufacturing Day and career open houses seek to raise awareness for opportunities in the sector, but efforts could be more frequent, coordinated and targeted to the job seeker/those looking to upskill. In general, job seekers may not be fully aware and informed of the full extent of a career opportunity offered within the target industries.
- Education and awareness efforts should be promoted both internally and externally to an organization to retain existing employees and attract new talent. Employers have an essential role in career opportunity awareness and talent attraction. Their presence and engagement in the community, participation in career awareness events and support of employees engaging in mentorship programs are pivotal in creating more excitement for local career opportunities.
- A first step toward retaining, re-engaging and attracting talent could include a thorough review of wages across targeted industries and associated benefits.
- Building plentiful and diverse apprenticeship programs will be a significant piece of retention for businesses and should be driven as a collective strategy between training institutions, employers and local government.

Potential actions: Retain talent (continued)

Action: Adopt innovative and inclusive hiring processes that are sustainable.

Employers in the Area 20 region have expressed that they are having hiring and onboarding fatigue due to a shortage of viable candidates and high turnover. One potential approach could be adopting innovative and inclusive hiring processes to sustainably acquire new talent from within and outside the region.

Innovative hiring solutions can include:

- Data-driven recruitment: using data to identify where potential recruits are located and what they are looking for in a job
- Social media and digital marketing: using conventional and unconventional social media platforms and digital marketing strategies to reach potential recruits (e.g., targeted ads, engaging content and direct outreach on platforms like LinkedIn, Twitter and industry-specific boards and education institutions)
- Virtual job fairs and networking events: using live chats, webinars and virtual tours to help job seekers learn about opportunities without having to drive to a job fair; considering hosting these events at alternate times of the day (early mornings and evenings)
- Gamification: incorporating elements of “game playing” (e.g., point scoring, competition, rules of play) into the recruitment process to make it more engaging and interactive; including online quizzes, competitions or challenges related to the job role or industry
- AI and machine learning: automating résumé screening, chatbots for initial candidate engagement and predictive analytics to identify high-potential applicants

Inclusive hiring practices can help reduce the barrier of entry for many workers. This can look like removing unnecessary job requirements (extensive drug testing and screening, to name a few), accommodating people with disabilities but creating more disability-friendly workplaces and job roles suitable for all personnel and flexible work schedules, which can help parents in a very impactful way.

Potential actions: Retain talent (continued)

Action: Continue to increase accessibility to education and training for Area 20 residents.

The Partnership currently offers a variety of free services and resources to help employers in the Area 20 region. However, more can be done to make access to education and training more attainable to the underserved and vulnerable population. This can be achieved through flexible training schedules, online learning (acknowledging that not everyone might have access to internet and devices so creative workarounds are to be considered) and financial aid for low-income individuals. Another accessibility issue comes from there being a disconnect between the trainer and the trainee. It is important that the trainee can relate to the trainer (e.g., ex-field workers and people who have come up from similar backgrounds make for great trainers as they are more relatable) as this can create a safer learning environment and will most likely result in the trainee completing the course rather than feeling intimidated by an academic. Actively promoting free services will be imperative for encouraging more of the underserved and vulnerable population to utilize the free services being offered.



Bridges Program - Ohio

The Child & Family Health Collaborative of Ohio launched a new initiative in 2016 – the Bridges Program. Bridges is a voluntary program available to young adults between ages 18 and 20 who leave foster care in Ohio and are in school, working, participating in an employment program, or have a medical condition that prevents them from going to school or working. The program provides guidance and support on their personal development path.

Considerations

- The value proposition of training programs among vulnerable populations is centered around attainability, accessibility, funding and placement. An assessment of the short-term, direct-hire programs in the Area 20 region is essential, and enlisting direct-hire support from training programs and employers is a leading practice in placement and talent development.
- Currently, the percent of young adults without a high school degree is higher in Area 20 than the US average. Consider expanding and/or better promoting Aspire and other programs aimed at helping young people attain GEDs or complete high school.
- Veterans often have unique skills and the necessary career readiness to enter the workforce but face challenges in connecting with employers that are informed about their needs and relevant skill sets.
- There are often legal and logistic barriers (e.g., obtaining a driver's license, stable housing and food) that may prevent viable candidates from participating in the workforce.

Potential actions: Retain talent (continued)



Ohio Aspire Programs

Ohio Aspire programs provide free services to individuals preparing for the high school equivalency certificate. By enrolling in an Aspire program, you can develop study skills and test-taking skills. You can take practice tests to prepare for the exam. Ohio Aspire can also prepare you for entrance exams for career training programs and community college or university degree programs.



Top Ohio Recruiting Startups

- tilr corporation – an algorithmic hiring solution, matching workers with jobs based on skills and offering companies a new way to hire
- PulsedIn – professional, recruiting, social learning and skill building network for nurses
- Crimcheck – specializes in pre-employment screening and background checks

Considerations

- A central repository of leading practices for talent acquisition and retention, pipeline development and training within the region for employers can provide a consistent and up-to-date resource for any size employer.
- As the targeted industries across the region continue to grow and evolve, identifying the roles new and existing employers, training organizations and social service organizations play can help reduce inefficiencies and prevent duplication of efforts in the region.
- Workforce boards and industry ambassadors can help create a streamlined process for employers of certain industries, advocating for and sharing improvement processes, success stories and practices that do not add value.

Potential actions: Retain talent (continued)

Action: Consider return to work incentives.

It is important to understand that of those in the underserved and vulnerable population, it would take a lot to incentivize them to return to work, particularly if they are comfortable with their current lifestyle or cannot overcome the challenges of returning to work; however, employers and governing bodies can do their best to make the transition as seamless as possible.

Employers can do their best to have incentives in place such as sign-on bonuses as a one-time financial incentive given after the employee has been with the company for a certain period. Nonfinancial incentives on the other hand can include flexible work arrangements like remote work or flexible hours, or aiding individuals in balancing work with other responsibilities. More long-term incentives would be providing career development opportunities such as training programs or chances for career advancement, which also aims to keep employees employed. Returning to work can be daunting so having a supportive network is important. Things like mentoring, coaching, and providing suitable health care and mental health support also are important.

The Partnership currently offers a variety of free services and resource to employers in the Area 20 region including customized training (CT) program, fundings for training that assists employees learn specific knowledge or skills and incumbent worker training (IWT), which helps employers retain and further train individuals already employed at the company.

Considerations

- Potential job seekers who have been out of the workforce sometimes require coaching to prepare for a job and mentoring once employed.
- For residents whose primary language is not English, traditional workforce barriers are compounded by language barriers.

Potential actions: Upskill talent



Expand targeted workforce training and education programs that prepare workers for the needs of our current and future industries.

The most consistent comments and themes among the various stakeholder engagement efforts were that there is an evident lack of training and job-specific education programs directly aligned with businesses' workforce and employment requirements. The health care industry, for example, requires a fine balance between qualifications and hands-on training. The qualifications students receive from institutions are more targeted at ticking the box of demonstrating learning capabilities and generic skill sets; however, the on-the-job, hands-on training that is required is targeted at critical thinking. Currently employers are receiving one or the other, which is problematic given the field of work.

Having targeted and aligned workforce training and education programs offer numerous benefits for both the organization and its employees and can help close the skills and knowledge gaps that currently exist for learners and employees.

Potential actions: Upskill talent (continued)

Action: Clarify career lattices/pathways in targeted industries and occupations.

Career latticing illuminates ways that employees and job seekers can move across various roles in an organization, or even across career fields. Employers can integrate this concept into their in-house training programs by creating skills maps that help navigate workers through upskilling and other career-building opportunities. Promoting cross-functional collaboration and mentorship programs helps employees gain a broad range of skills. Active involvement in career planning discussions and clear communication about career paths and necessary skills enhance employee engagement and job satisfaction.

In some cases, jobs may not be easily filled because individuals do not clearly understand how their skillsets may be relevant to the role or how additional training could prepare them. In some cases, individuals may not see the connection between their current role in one industry and the potential role they may be eligible for in another industry. With career latticing in place – especially for in-demand jobs in target industries – the Partnership and area employers will have information needed to actively engage with the community. Career latticing insights can be layered into communications campaigns, shared at job fairs, provided to students and their families, and made available at job sites. Educating individuals on how to traverse from their current job and skills sets into careers with strong future growth and wage-earning potential will serve both employers and individuals alike.

Considerations

- Events like Manufacturing Day and career open houses seek to raise awareness for opportunities in the sector, but efforts could be more frequent, coordinated and tailored to the job seeker. In general, job seekers may not be fully aware and informed of the career opportunities offered by sectors such as advanced manufacturing.
- It is important to consider that different generations are motivated by different things and so career lattices / skills mapping should consider how the employee is intrinsically motivated. Tailor plans to suit.
- Career latticing requires time and resources to develop and implement. The Partnership has an opportunity to develop career lattices / skills maps for industries and occupations that are prevalent in the region, and then share those tools with Area 20 employers.

Potential actions: Upskill talent (continued)

Action: Strengthen ties among businesses within Area 20's target industries and occupations in support of workforce development.

Consider establishing workforce-focused target industry and target occupation groups to help advocate for programs, share resources, help inform educators and training providers, and participate in career awareness campaigns. (In some cases, an existing industry association or business group might be in place that could serve that role.) In some cases, these groups may evolve into their own training consortiums or co-host their own job fairs.

The Partnership, perhaps in collaboration with an area chamber of commerce or economic development organization, could serve these groups by convening meetings and fueling their discussions with data, leading practices, and planning frameworks. In particular, this could be highly beneficial to the region's small and mid-sized businesses that might have limited resources to explore these insights on their own. Bringing companies together in this fashion could serve an important long-term objective as well: business retention (see ambassador example below).

Throughout stakeholder input sessions, several topics were repeatedly top of mind for businesses and could be good points of discussion and learning for the groups. They include:

- Creating a workplace that retains workers
- Smart hiring practices
- Earn-and-learn models
- Building a successful apprenticeship/internship program
- Structuring great on-the-job and experiential training programs
- Raising awareness of career opportunities
- Engaging with K12 to support soft skill development
- Workforce development incentives, offsetting training costs

Connecticut establishes business ambassadors



The Connecticut Department of Economic and Community Development is enlisting the support of eight statewide ambassadors to conduct outreach in its target industries. These ambassadors are intended to address needs related to growth and expansion plans, talent needs and transportation access, to name a few. The project is also meant to provide a more coordinated response to industry needs so businesses are not being asked the same questions by multiple entities. Data sharing through a customer relationship management (CRM) system is one example of this more coordinated approach.

Potential actions: Upskill talent (continued)

Considerations

- Workforce-focused target industry/occupation groups could help lend clarity as to which programs in the region need scaling and what gaps should be filled through new initiatives.
- Effective communication and coordination will be key in this collaborative effort. The meetings and discussions should have formal agendas and result in tangible action items and deadlines. Between meetings, regular progress reports will be important.
- The talent challenges facing employers in the Area 20 region will likely not be solved by one entity alone. With input from these groups, a host of partners will likely need to be involved to develop solutions – employers, educators, community-based organizations/not for profits, social services organizations and government organizations, to name a few.
- As the targeted industries and occupations continue to grow, the workforce groups will likely evolve as well.
- A central repository of leading practices including the topics on the prior page could be created and serve Area 20 employers beyond those participating in the workforce groups.
- These groups could convene with education and workforce development leaders on a regular basis, such as the KerrEDC example provided below. Another example is the Central Ohio Manufacturing Partnership (COMP) – local companies and education partners are working together to build the talent pipeline that will drive the region's economic growth.
- An important outcome of these groups will be stronger local businesses whose workforce programs and growth will help attract, retain and re-engage workers in the region.



KerrEDC Industry, Inclusion and Education Quarterly Roundtables

The Kerrville, Texas, Economic Development Corporation developed a four-way partnership among economic development, workforce, industry and education to collaborate and develop certification programs with the three independent school systems in the area. This has been crucial to ensuring that their educational institutions are creating and maintaining certification programs that will provide a young talent pipeline for the existing businesses.

Potential actions: Upskill talent (continued)

Action: Coordinate initiatives and immersive collaboration among schools, industry and local training centers focusing on K-12 industry engagement.

Industry collaboration, via peer or mentorship programs, tours, marketing collateral, promotion, events and other activities can counter misperceptions of trades as an alternative to higher education pathways, resulting in greater interest and engagement at a much younger age. A regional plan for employer engagement and career awareness initiatives for the K-12 pipeline could include a plan for job shadowing, pre-apprenticeship programming, and resource sharing. Designed in partnership with industry and local Business Advisory Councils (BACs), this plan could coordinate and build upon specific education curriculum, competitions and career awareness and exposure events at an early age. Middle school, junior high, and high school initiatives could occur in individual schools at a broader community level or regionally. The audience would include administrators, career counselors, parents and students. In some instances, new programs could be piloted in one district or school then scaled accordingly. The Ohio GRIT Project and Pickaway Works organization could be used as a model for future programs.

A strong example of this is the Fairfield County Workforce Center, which has been well-received and nationally recognized for its success in building career awareness, attracting talent and upskilling people. The programs are currently offered through a collaborative partnership among the Fairfield County Commissioners, Ohio University Lancaster Campus, the Russ College of Engineering and Hocking College. The Center serves multiple pillars of the overall strategy: talent attraction, upskilling, and retention. Stakeholders expressed interest in expanding the Center's services across Area 20.



The Ohio GRIT Project and Pickaway Works Organization

The Ohio GRIT Project provides ongoing employment opportunities, both in-person and remote, helps develop, and highlights special opportunities or partnerships with employers.

Pickaway Works is an organization that collaborated with education, business and community to build partnerships that create relevant career pathways for students and link them with resources and opportunities to succeed.

Potential actions: Upskill talent (continued)

Considerations

- Awareness and exposure can start at an early age with the level of employer engagement increasing over time as the students reach junior high school.
- Curriculum and activities should be focused on the applied aspect of the technical discipline, making the connection with hands-on experience to industry and technical careers.
- Comprehensive information about career opportunities related to targeted industries given to school administrators, teachers and career counselors could jump-start students' awareness and access to valuable training and opportunities.
- Information on career opportunities and pipelines in the targeted industries should be readily accessible to parents, as they often play an important role in guiding their child's future career and educational decisions.

Potential actions: Re-engage talent



Coordinate with partner organizations on programs that assist people with returning to work and overcoming barriers.

During this research process, stakeholders consistently reported several barriers that make it challenging for unemployed and underemployed residents to re-engage in education and full-time jobs. According to stakeholders, these barriers include, but are not limited to:

- Housing: shortage of affordable housing at various income levels, and supply may not keep up with the rate of demand
- Childcare: limited and lack of affordable, quality childcare options for individuals and families at various income levels, including those who are employed but whose childcare options exceed what is feasible
- Transportation: infrastructure development lags population growth and may not be enough affordable and suitable public transportation options, making it challenging for most to get to and from work; exacerbating this challenge is the high level of visitor traffic that congests roads during peak tourist seasons
- Education: individuals may acquire technical skills but lack soft skills and critical thinking aspects that employers desire
- Disabilities: individuals in the region who are disabled may be challenged to find worksites that are inclusive and accommodating to their needs

Potential actions: Re-engage talent (continued)

Action: Map existing programs and services, identify gaps, and create a plan.

Stakeholder input and a look at leading practices point to a possible need to map current programs and services in the region that address barriers, and then identify gaps to fill through scaling or starting new initiatives. An exercise like this could also involve forming a task force of service providers from across all five Area 20 counties who work together to create a regional approach and support its implementation.

Considerations

- Form a task force of leaders from organizations that are involved with one or more of the barrier topics described on the prior page.
- Through facilitated exercises, engage the group in mapping existing programs and services in the region. Then compare this map against an ideal continuum of services to identify gaps and disconnects in what's available locally.
- Support the task force in creating a plan for expanding programs, creating new initiatives, and even better connecting those that exist.
- Work with task force members in their pursuit of funding and other resources to support plan implantation.

Potential actions: Re-engage talent (continued)

Action: Arm employers with tools and know-how to help their workers overcome barriers.

Employers, together with the Partnership and others, have important roles in re-engaging people in the workforce. For career counseling, mentorship and job search assistance, companies can establish in-house programs or collaborate with external organizations that specialize in these areas. Workshops and seminars can also be offered, provide access to online resources or hire dedicated career counselors or job coaches. Childcare support could be improved by offering on-site daycare facilities, subsidies for external childcare services or more flexible work hours to accommodate parents. Similarly with transportation, offering ride-share programs, providing public transit passes (where suitable to do so) or locating businesses to where they are more accessible to public transport options. Enhancing health care options may involve providing comprehensive health insurance plans, making telehealth services available or partnering with local health care providers for discounted services. By implementing these strategies, employers can create a more inclusive, supportive work environment that encourages diverse participation.

Considerations

- Employers recognize that barriers exist that prohibit some Area 20 residents from seeking education and jobs. However, they may not be aware of things that they can do to help address these challenges.
- The Partnership, along with other Area 20 leaders, could host events and/or create an online platform for sharing tools, funding opportunities, and leading practices that prepare employers to stand up their own initiatives.
- Embedding wraparound services into short- and long-term training programs may increase participation and awareness among underserved populations. While it is common for this programming to be created and deployed independently, the integration may more effectively reduce barriers that this population encounters when trying to enter the workforce. This applies to employer-led training initiatives.

Potential actions: Attract talent

The following pages offer several suggested actions related to the four pillars of the strategy framework: attract, retain, upskill and re-engage. The actions respond to the challenges and opportunities revealed in the data analysis and stakeholder input conducted during this research process. These actions are proposed for the Partnership's consideration. It is very likely that additional actions will emerge, and the ones suggested here shift, as future progress is made.



Proactively attract talent into Area 20.

According to research, over the past 12 years, the population in the Area 20 region has steadily increased and unemployment rates are at an all-time low. Labor force participation (59.4%) is lower than the state, and the region is predominantly an exporter of talent. This highlights the opportunity to build awareness of the region's job and training opportunities. Employers that participated in this research process tend to focus on filling positions utilizing the talent available within the region. There could be enhanced focus on attracting new talent into Area 20 by proactive promotion of local strengths and potentially providing relocation incentives. A supplementary action could also be on developing the K-12 pipeline to attract more graduates into these targeted industries.

Potential actions: Attract talent (continued)

Action: Develop a talent attraction campaign promoting Area 20's assets and opportunities.

Talent attraction campaigns could be developed that highlight the unique benefits and opportunities of the region, such as quality of life, cost of living, recreational amenities, local industries, education pathways and the variety of job and apprenticeship opportunities. These campaigns could include testimonials from current residents, videos showcasing companies and occupations, and virtual reality experiences, to name a few. Content should be optimized for various media channels and sharing platforms. These campaigns can target specific types of talent, recent graduates and high-school students and experienced professionals. The goal of the campaign would be to dispel myths, create momentum and generate interest in attracting new residents and workers.

Considerations

- Due to the limited availability of housing stock and other factors, one element of a communications campaign could focus on residents who live in Area 20 and work outside of the region.
- Branding and marketing play a critical role in making the region more appealing to attract new residents and workers.
- Having a clear understanding and definition of the intent and purpose of the campaign will impact the outcomes.
- Attention should be paid to the labor shed analysis in this report to understand the region's unemployment rate, targeted industries, most in-demand skills and wages offered. This will assist in honing the target audience for the campaign.
- Local buy-in is important – external perceptions of the area are typically shaped by internal perceptions; if there is a consistent theme among existing residents that the Area 20 region is not a suitable place to live and work, it will have a negative impact on the external campaign.
- Career opportunities paired with a “live, work and play” community framework can impact a region's appeal, driving talent attraction and retention.
- A strategy implementation plan can be useful in evaluating the success of the campaign and making adjustments as necessary. This could involve tracking the number of new residents, changes in employment rates and feedback from newcomers.
- The Partnership should consider supporting housing and transportation expansion initiatives in the region to accommodate the retention of residents and the potential influx of talent as a result of a future talent attraction campaign. This might include asking board members to voice their support for new housing projects and their importance to workforce and economic development. It may also include Partnership team members participating in housing and transportation planning activities or even including housing components in grant pursuits.

Potential actions: Attract talent (continued)

Action: Establish and promote compelling relocation incentives.

This can be achieved by offering both financial and nonfinancial incentives that can appeal to a wide range of prospective residents. Financial incentives might include covering moving expenses, providing a signing bonus, offering monthly stipends or even subsidizing rent. These types of incentives can alleviate some of the financial burdens that often come with relocation, making the move to the Area 20 region more appealing.

Nonfinancial incentives can also be persuasive, offering a sense of community and support to those considering relocating. This could be by way of assistance in finding suitable housing, helping navigate local services, guaranteed job placements or even access to networking events and subscriptions. Furthermore, providing mentorship opportunities can facilitate the professional growth of new workers, which not only benefits the individuals but also enriches the talent pool in the region.



Hamilton Community Foundation Talent Attraction Program (TAP) Scholarship

Hamilton, Ohio, currently offers a TAP scholarship to incentivize recent STEAM (Science, Technology, Engineering, the Arts or Mathematics) graduates looking to relocate. Successful applicants will receive up to \$15,000 paid in monthly installments which is to assist with student loan paydowns. In the past 60 years, the program has provided over \$13 million dollars in scholarships to more than 3,000 students.

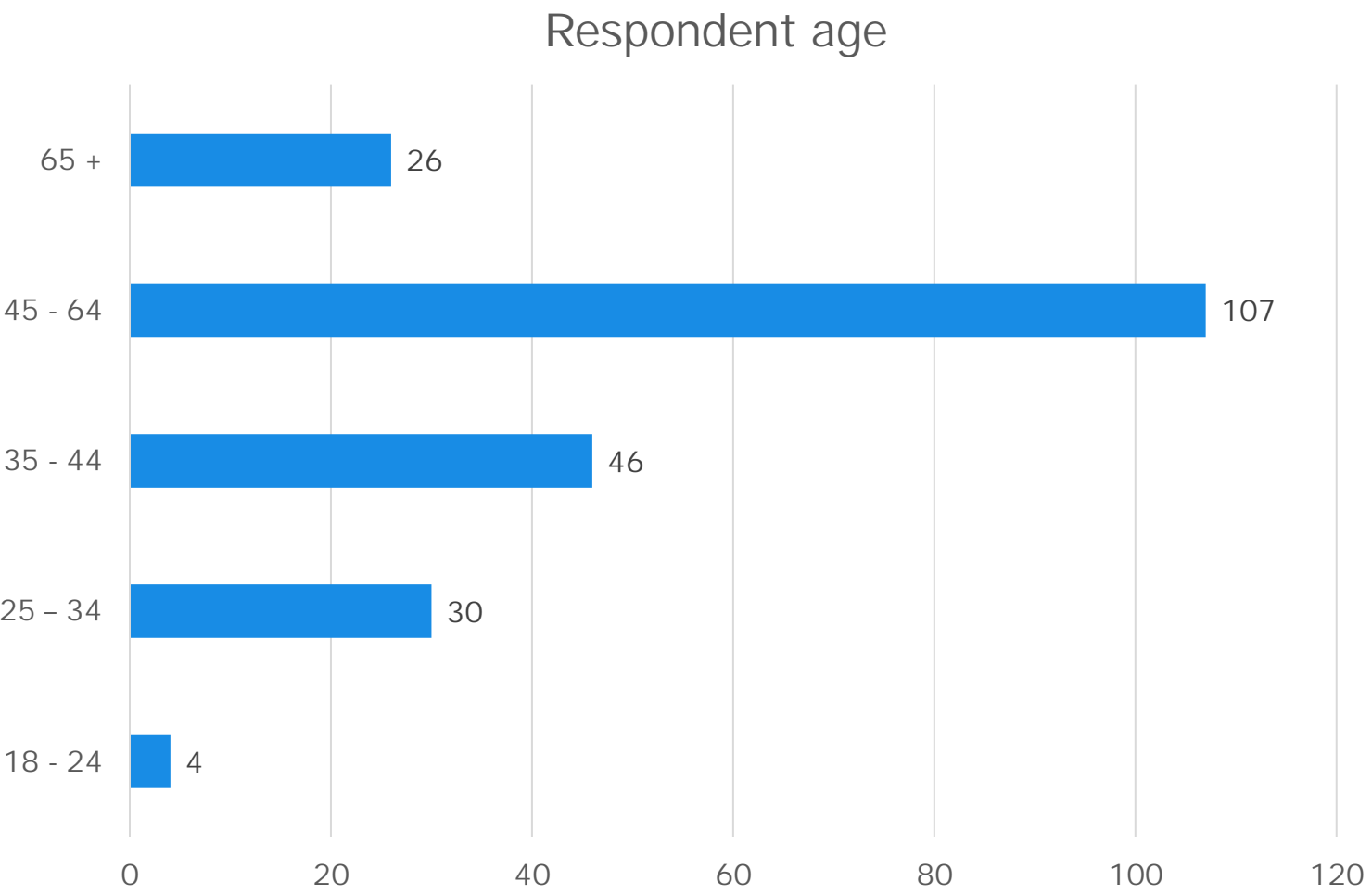
Considerations

- Creating a comprehensive package of incentives that address both financial and lifestyle considerations could position Area 20 as a desirable and supportive place for talented individuals to build their futures.
- Not all the counties that make up the Area 20 region have established community foundations. It could be worthwhile considering which county is poised more suitably to create and implement an incentivization program as an inaugural program for the region.
- A strategy implementation plan can be useful in evaluating the success of the program and making adjustments as necessary. This could involve tracking the number of new residents, changes in employment rates and feedback from newcomers.

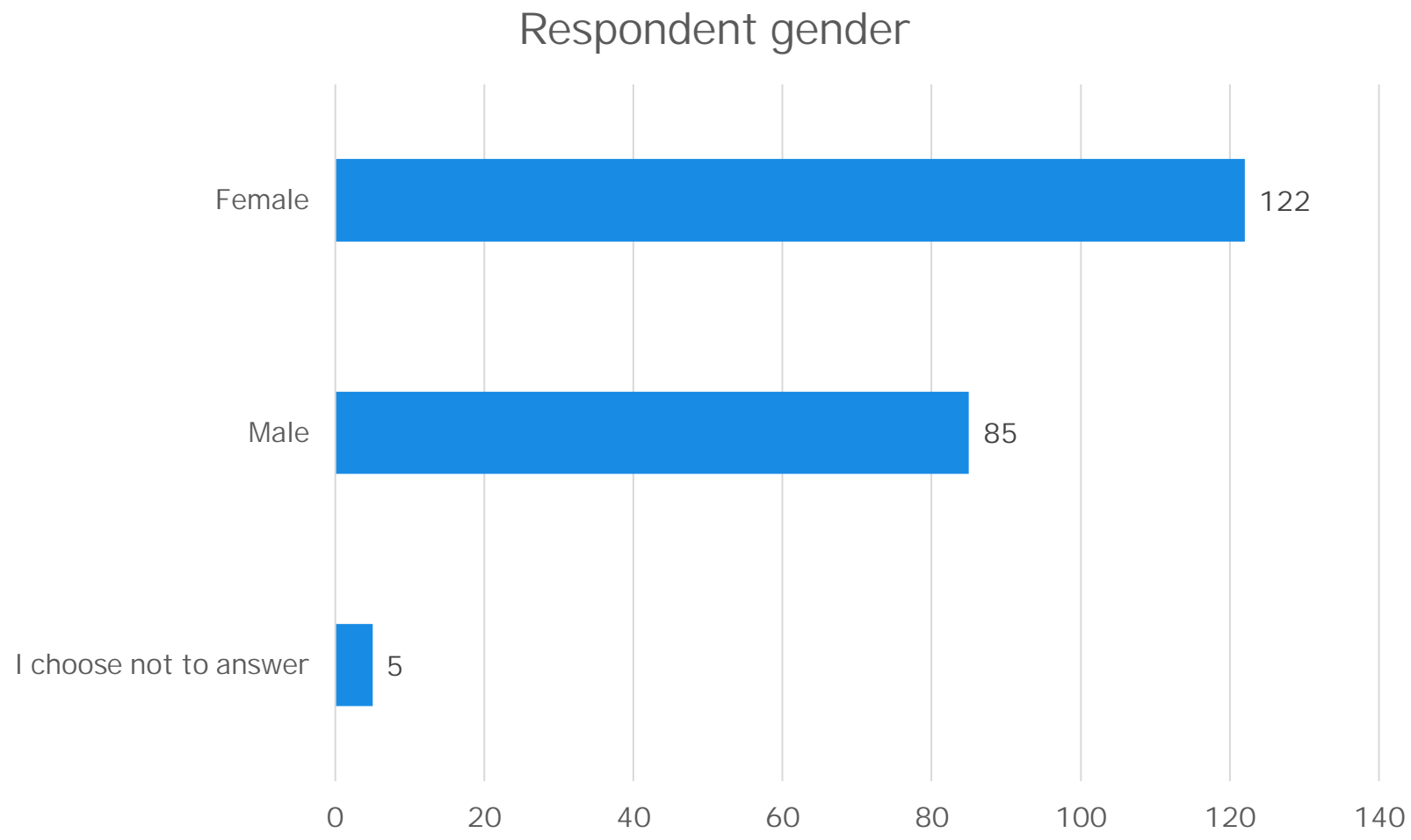


Appendix – survey responses

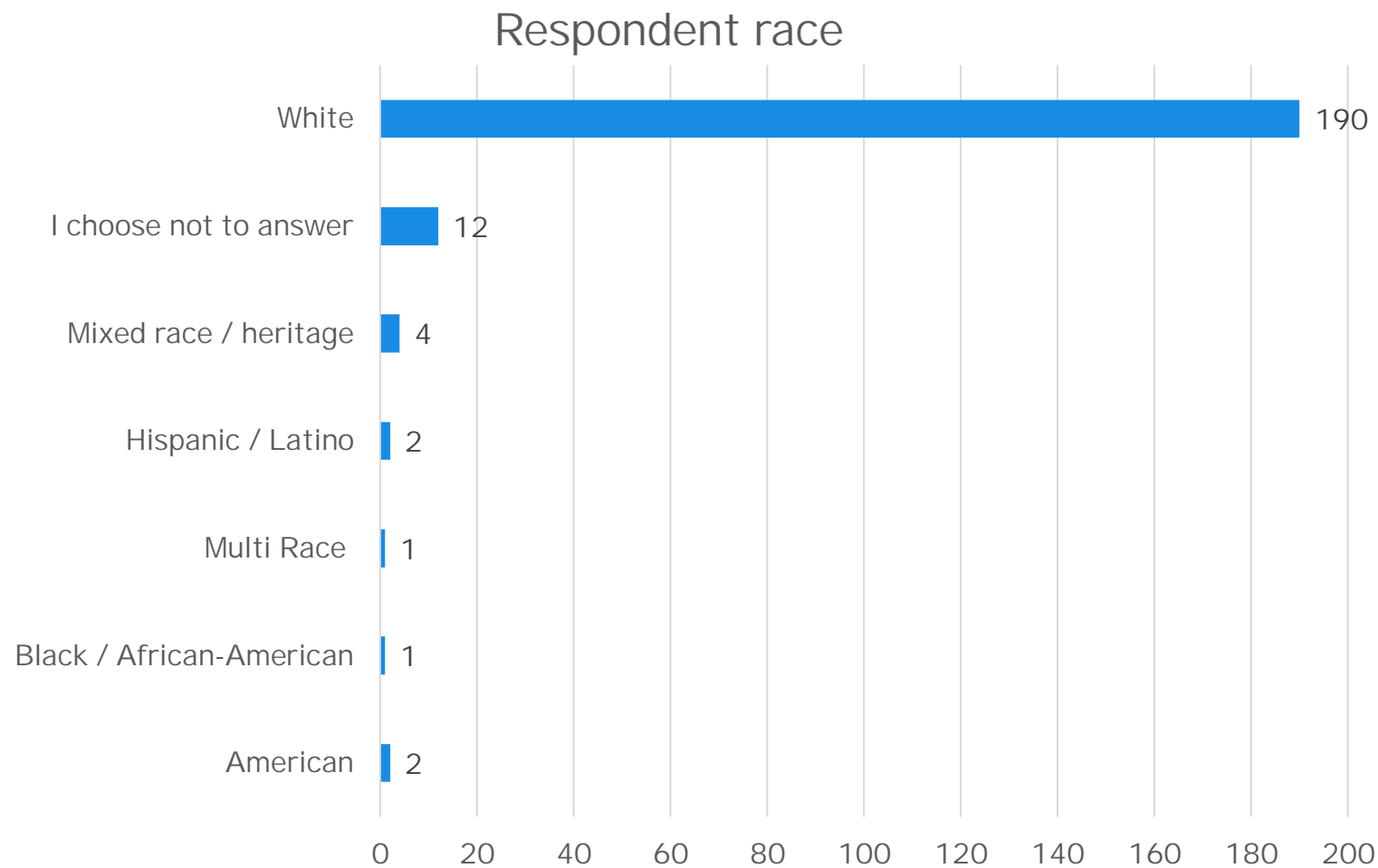
Survey



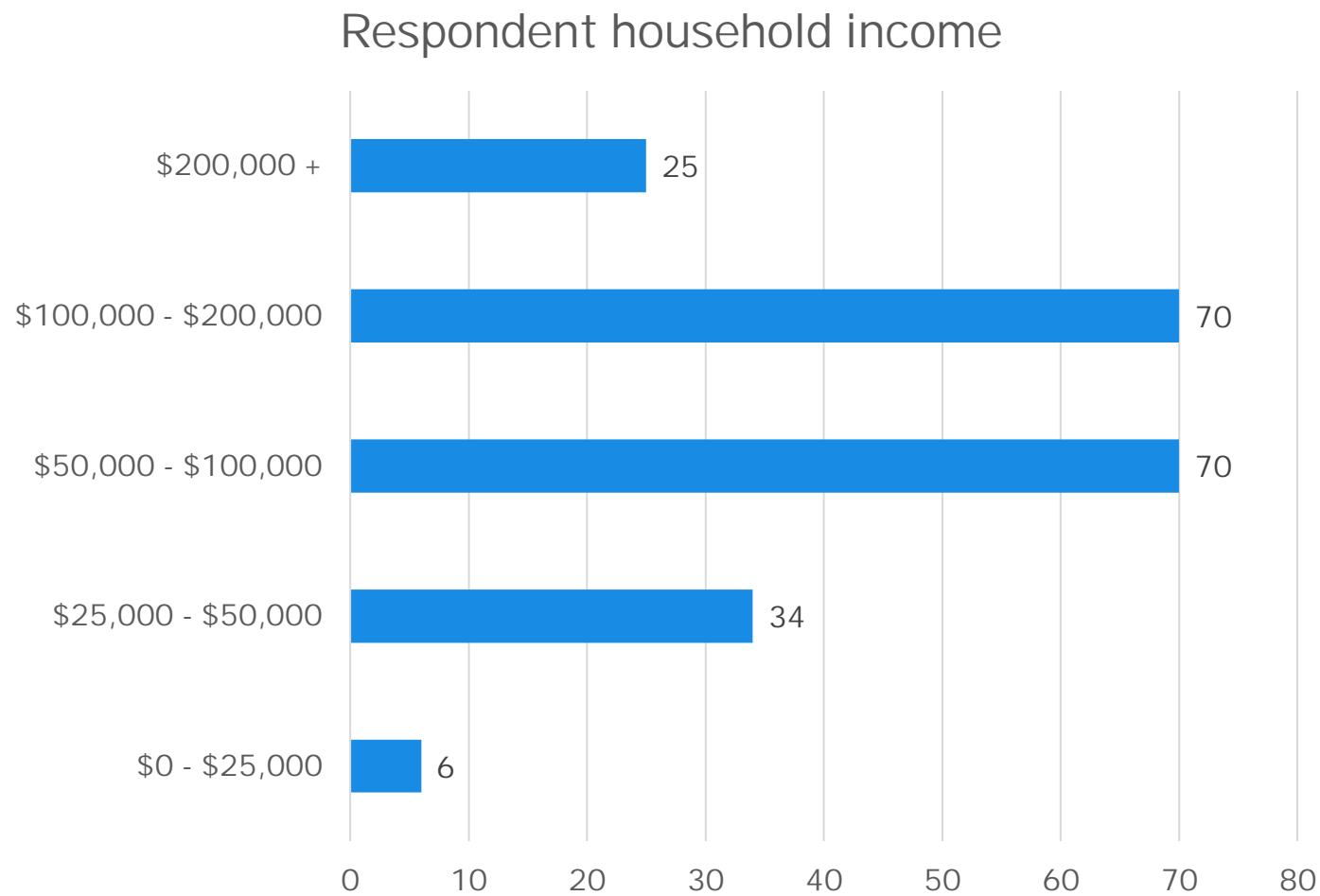
Survey



Survey

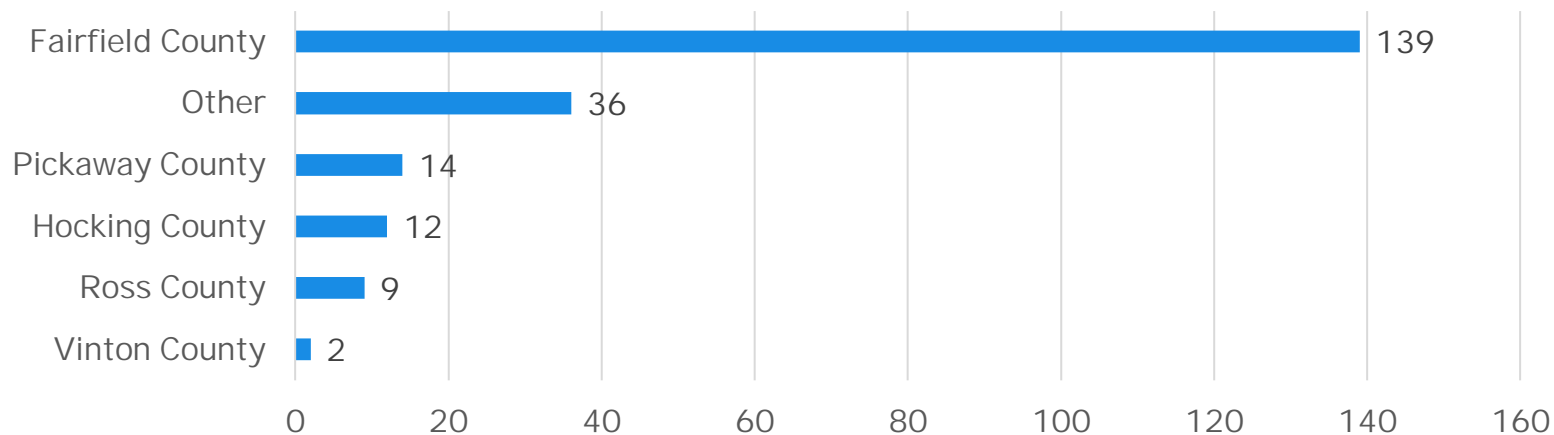


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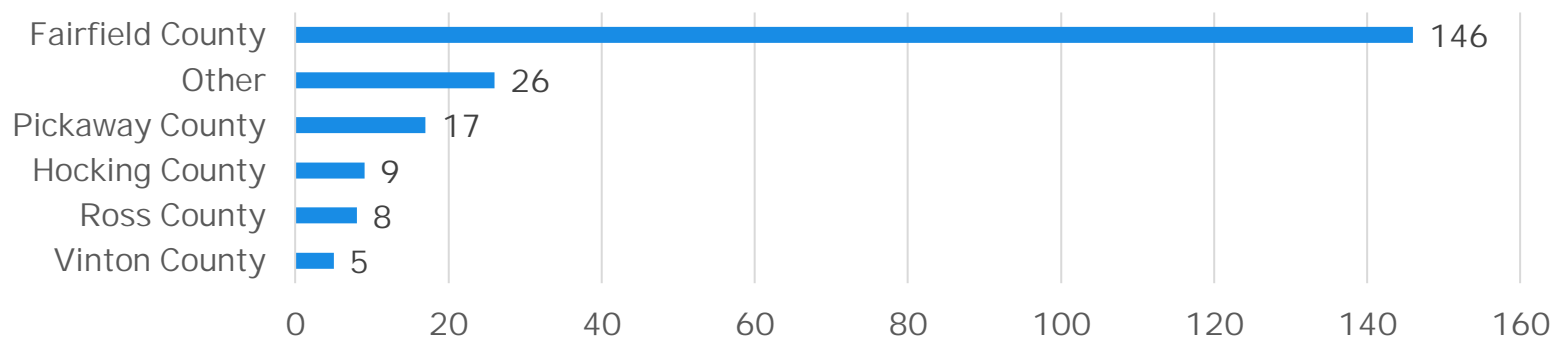


Survey

Which county in South Central Ohio do you LIVE in?

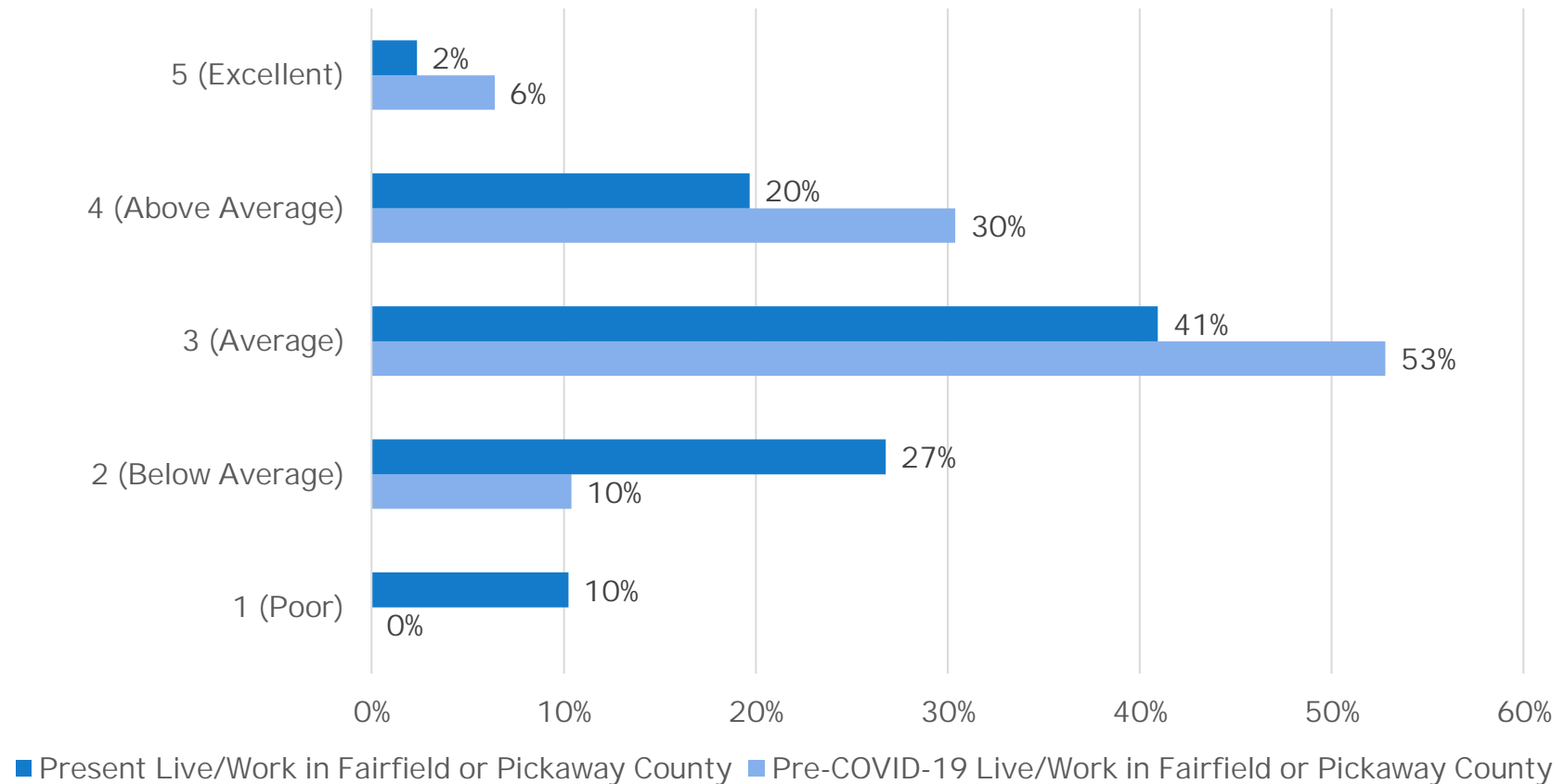


Which county in South Central Ohio do you primarily WORK in?



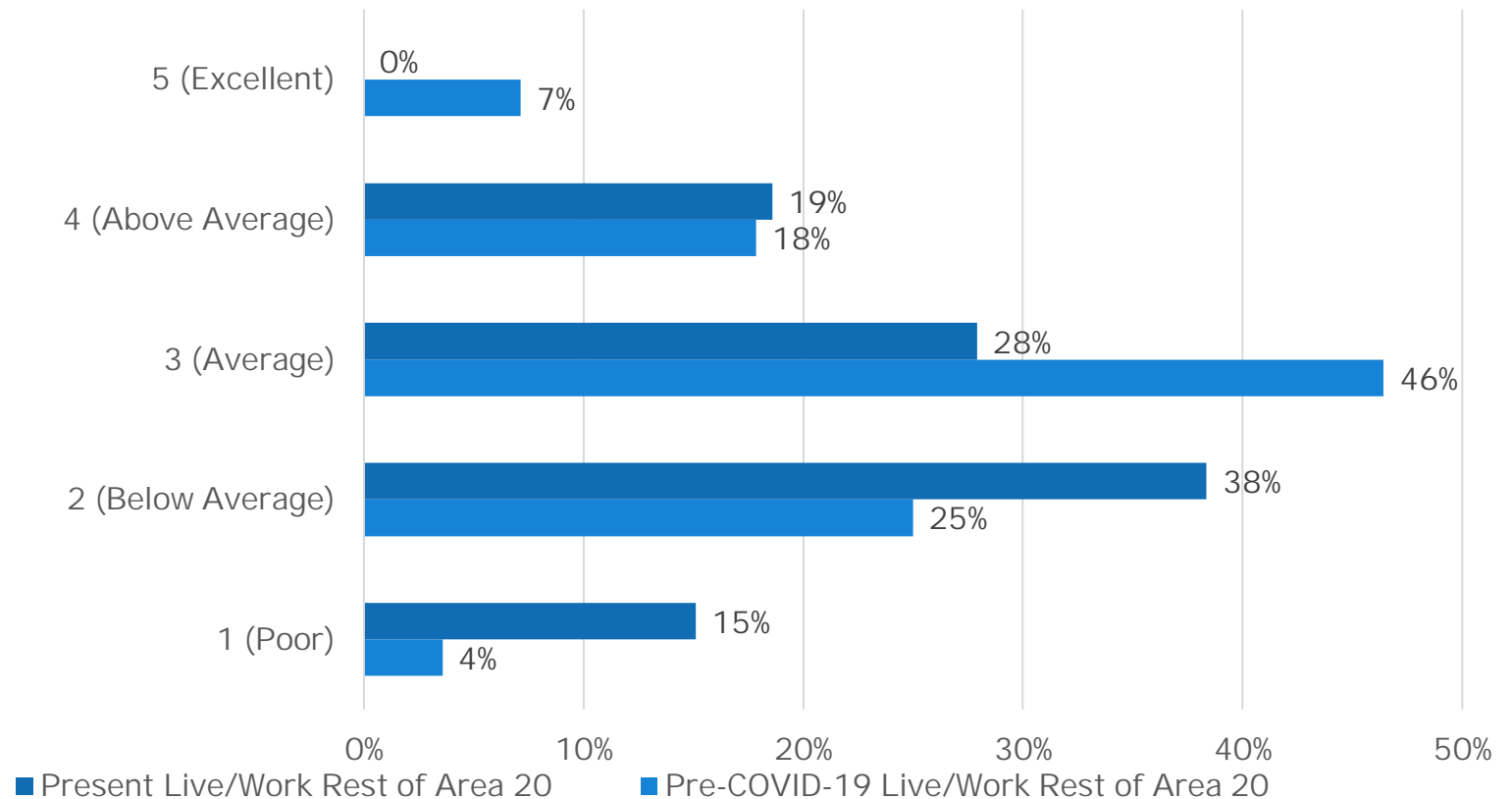
Survey

How would you grade the health of the region's economy?
(respondents who live and work in Fairfield or Pickaway County)



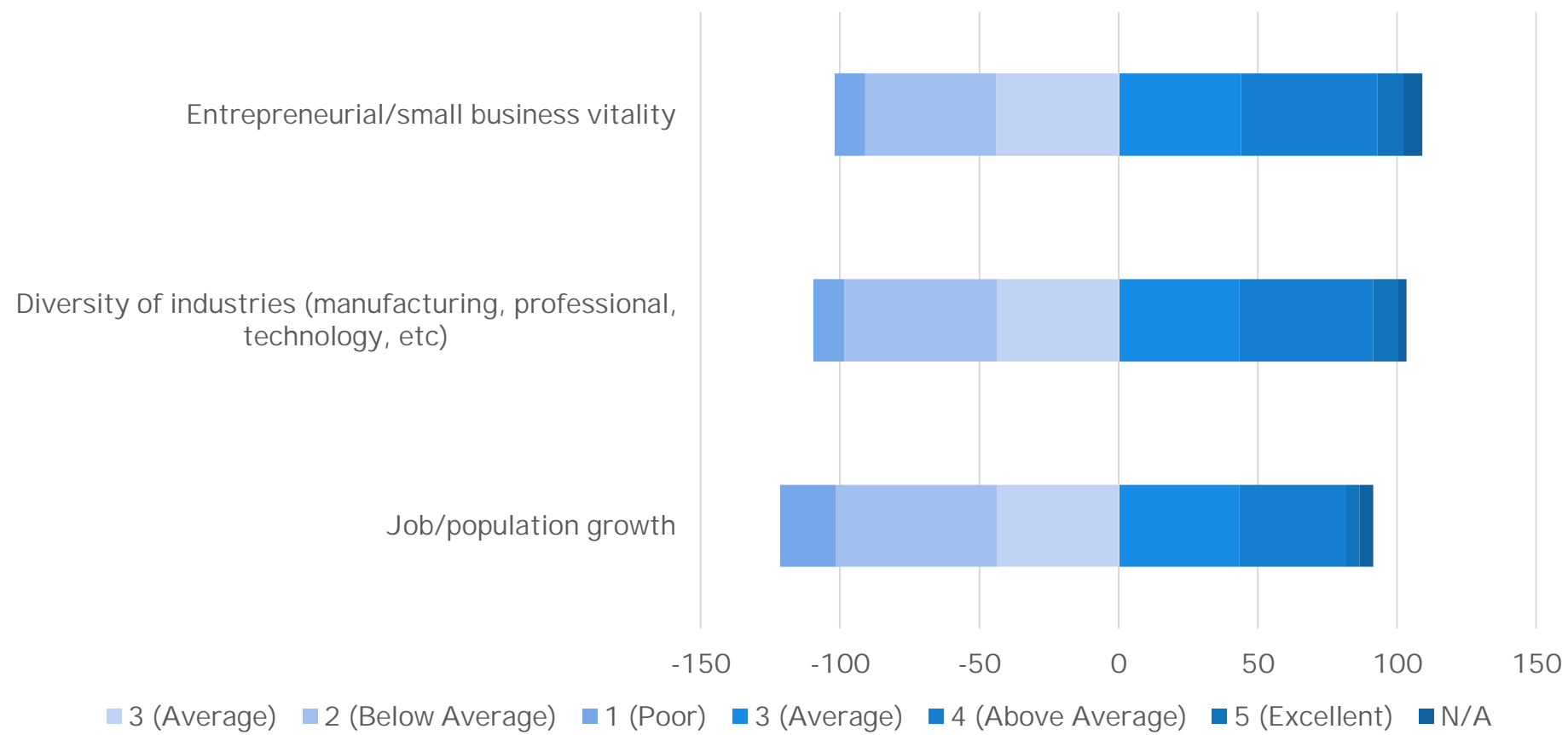
Survey

How would you grade the health of the region's economy?
(respondents who live and work in the remainder of Area 20)



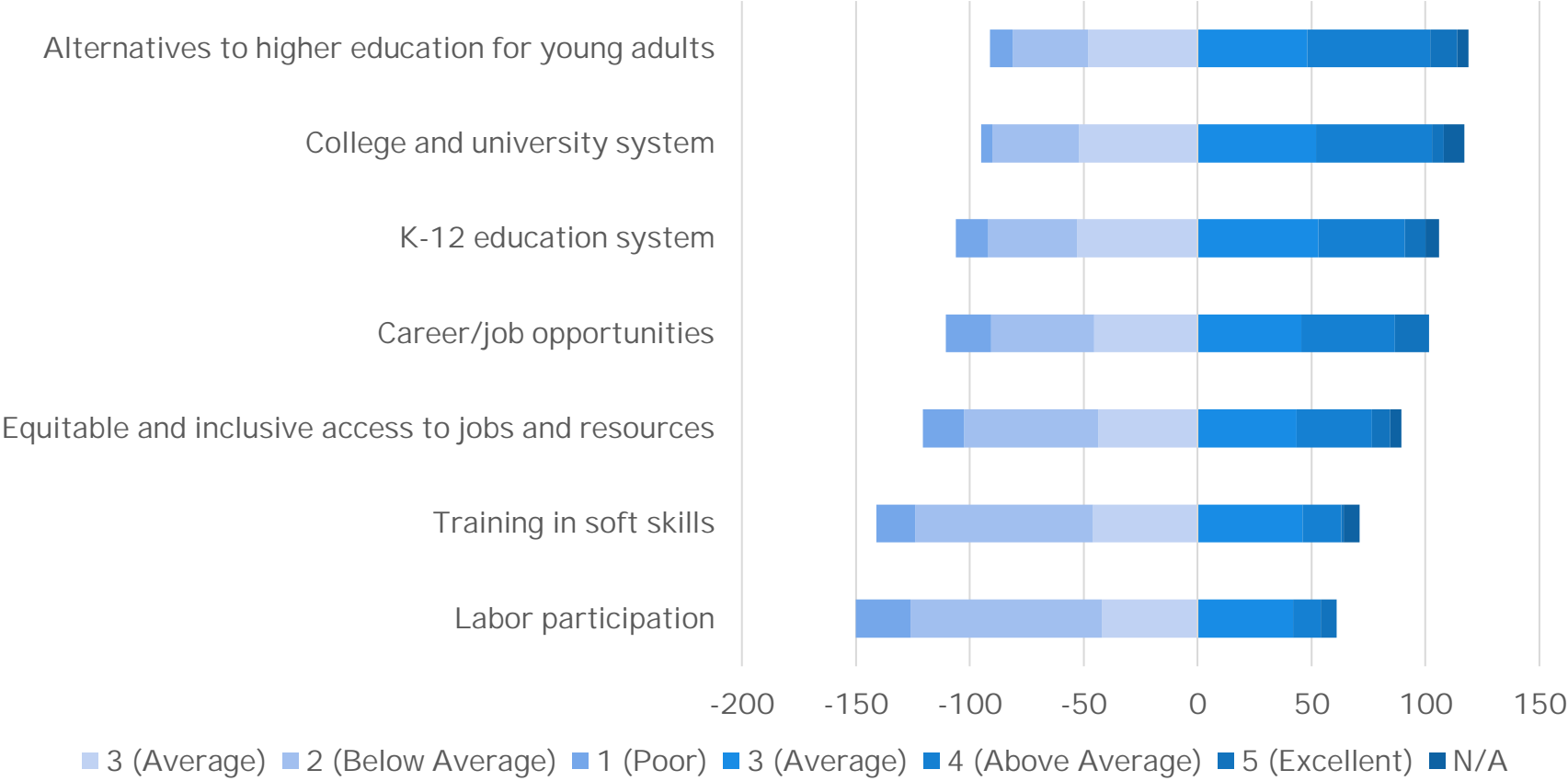
Survey

Economy



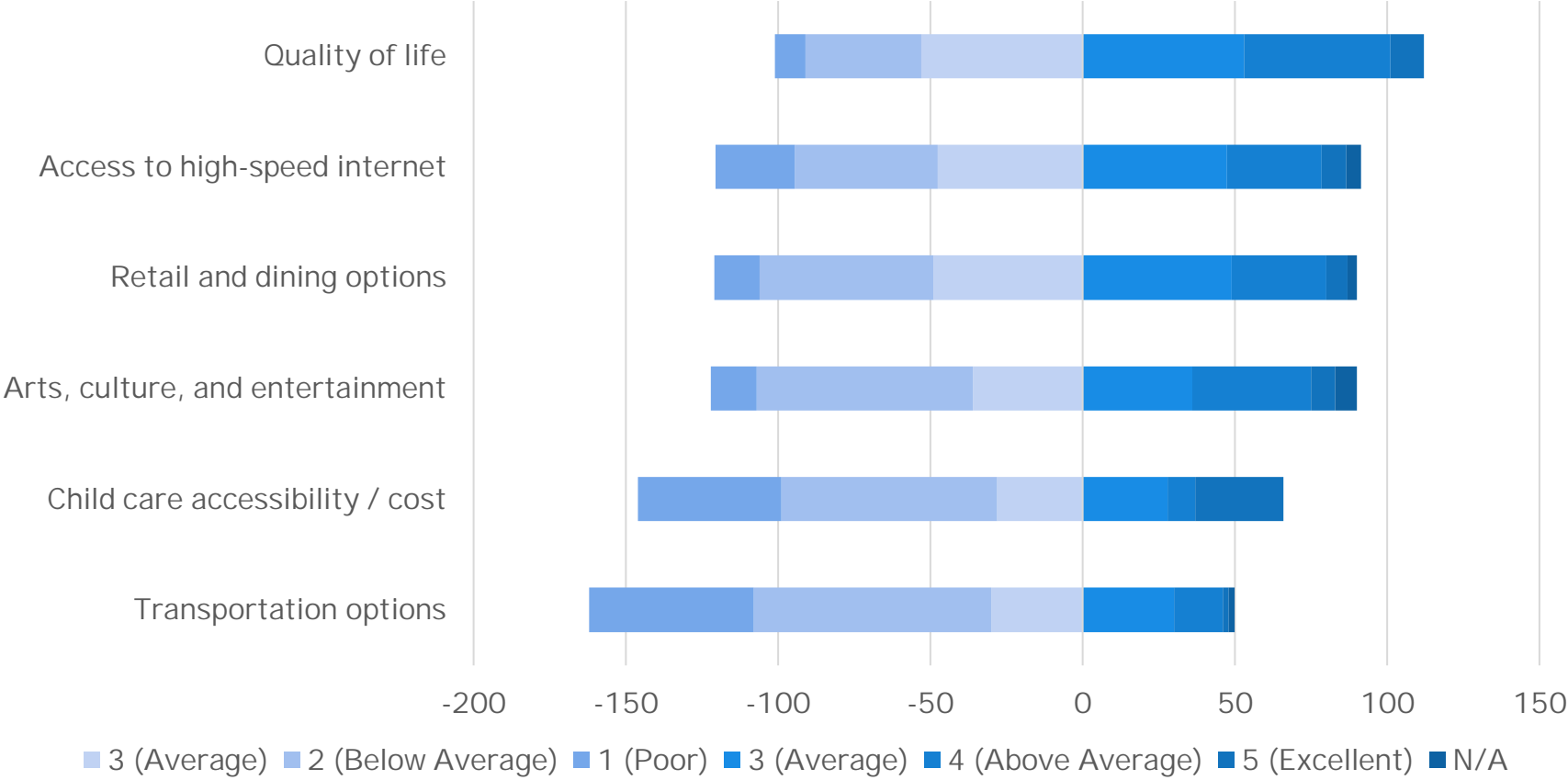
Survey

Education and workforce



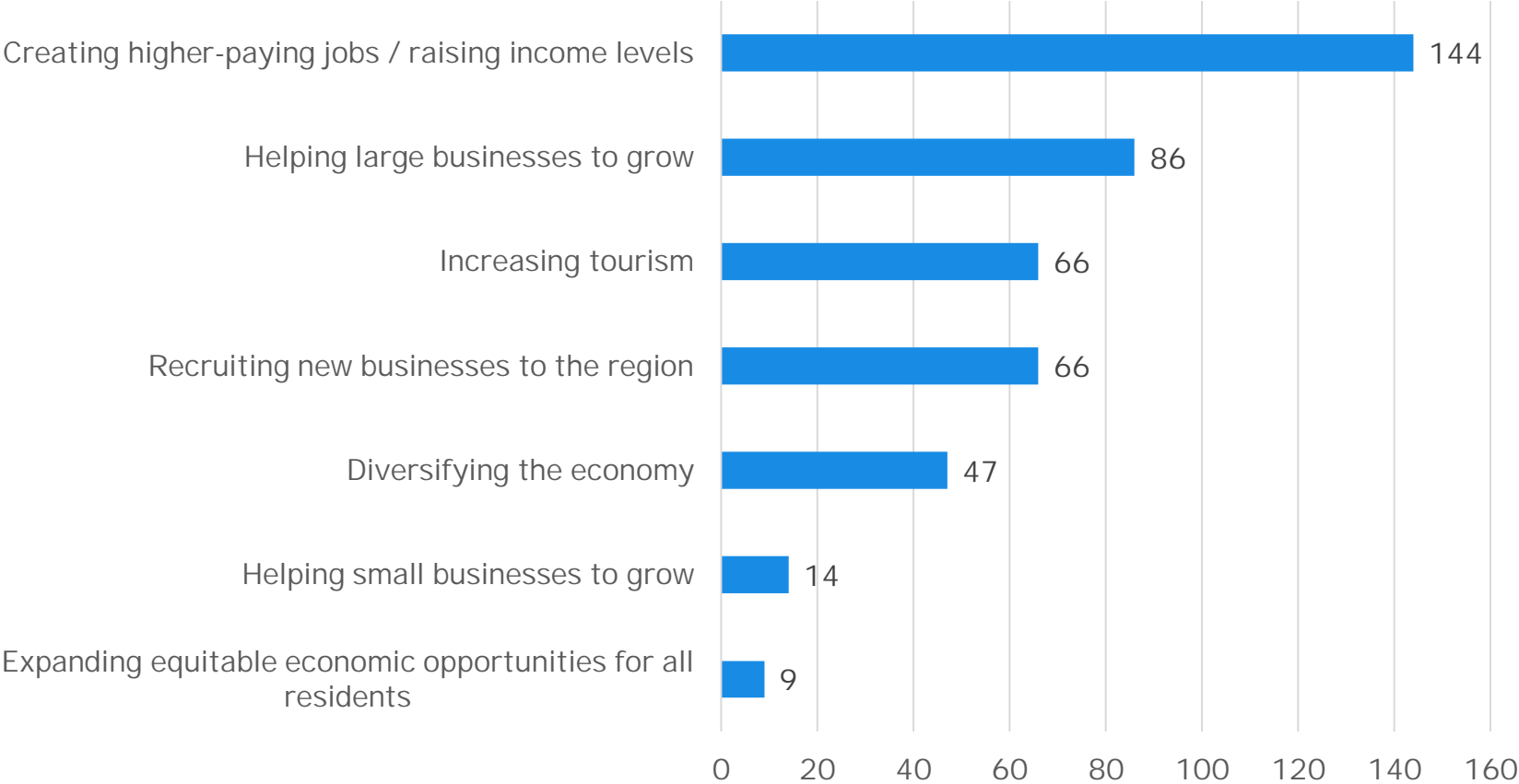
Survey

Lifestyle



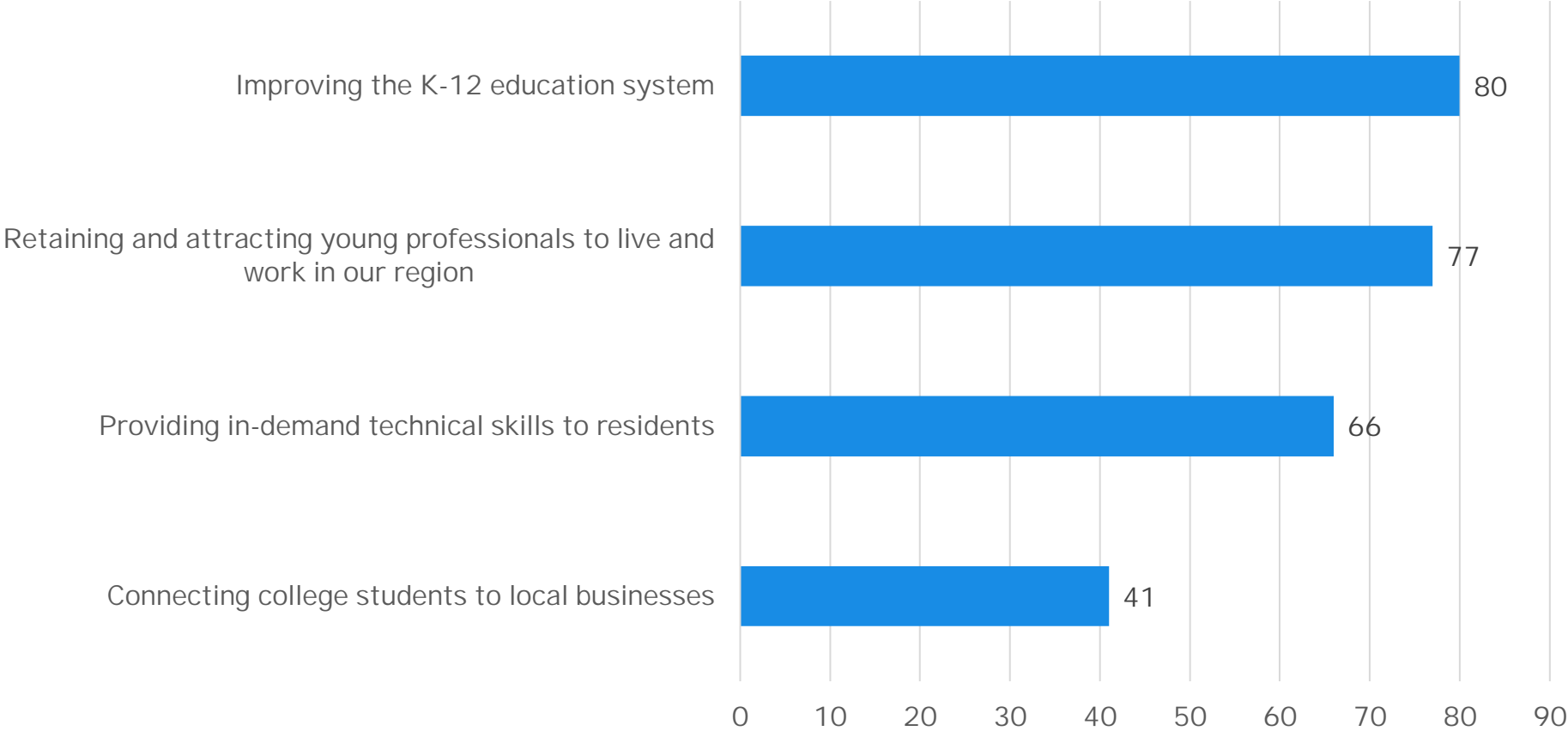
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Economy

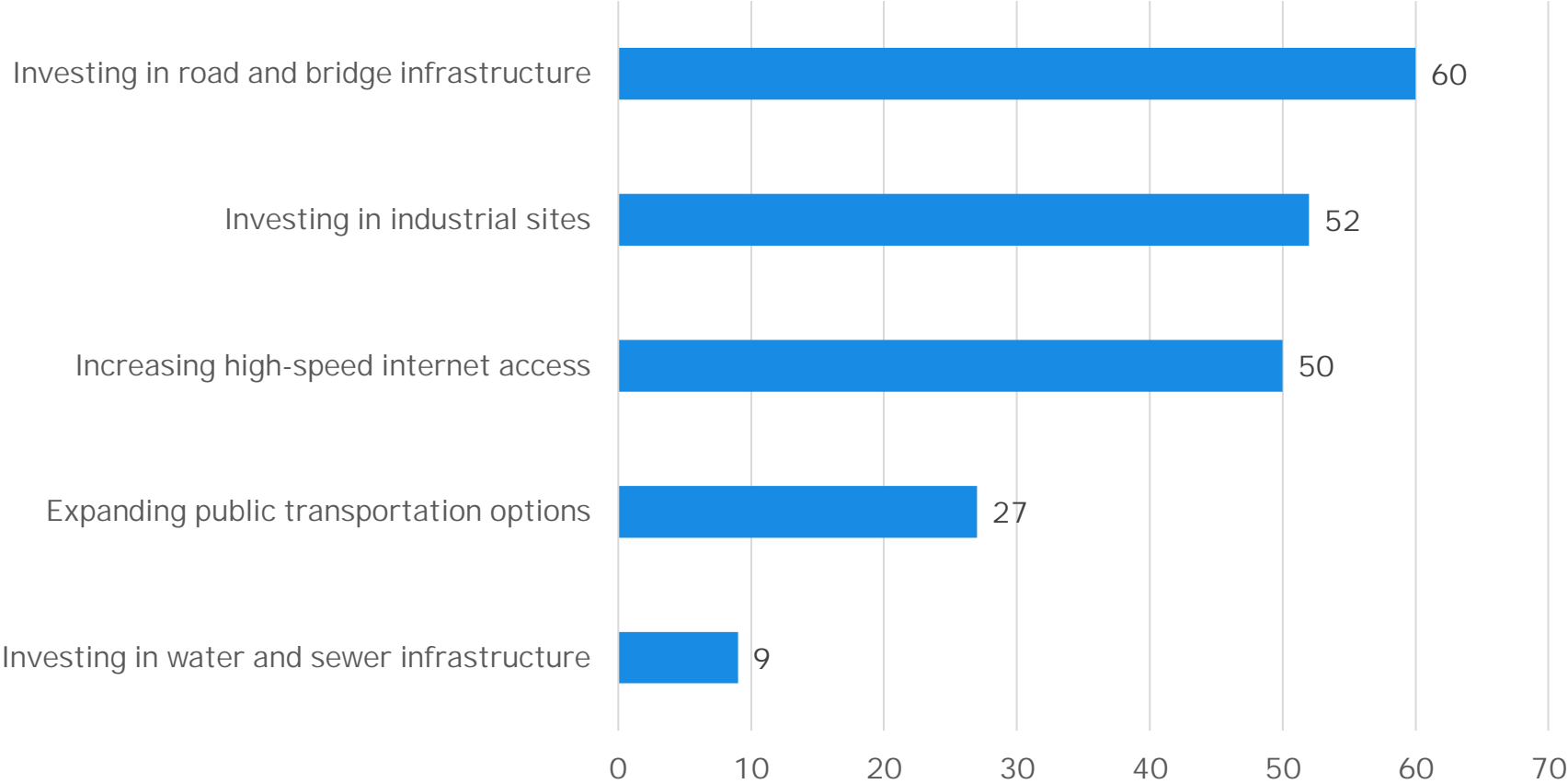


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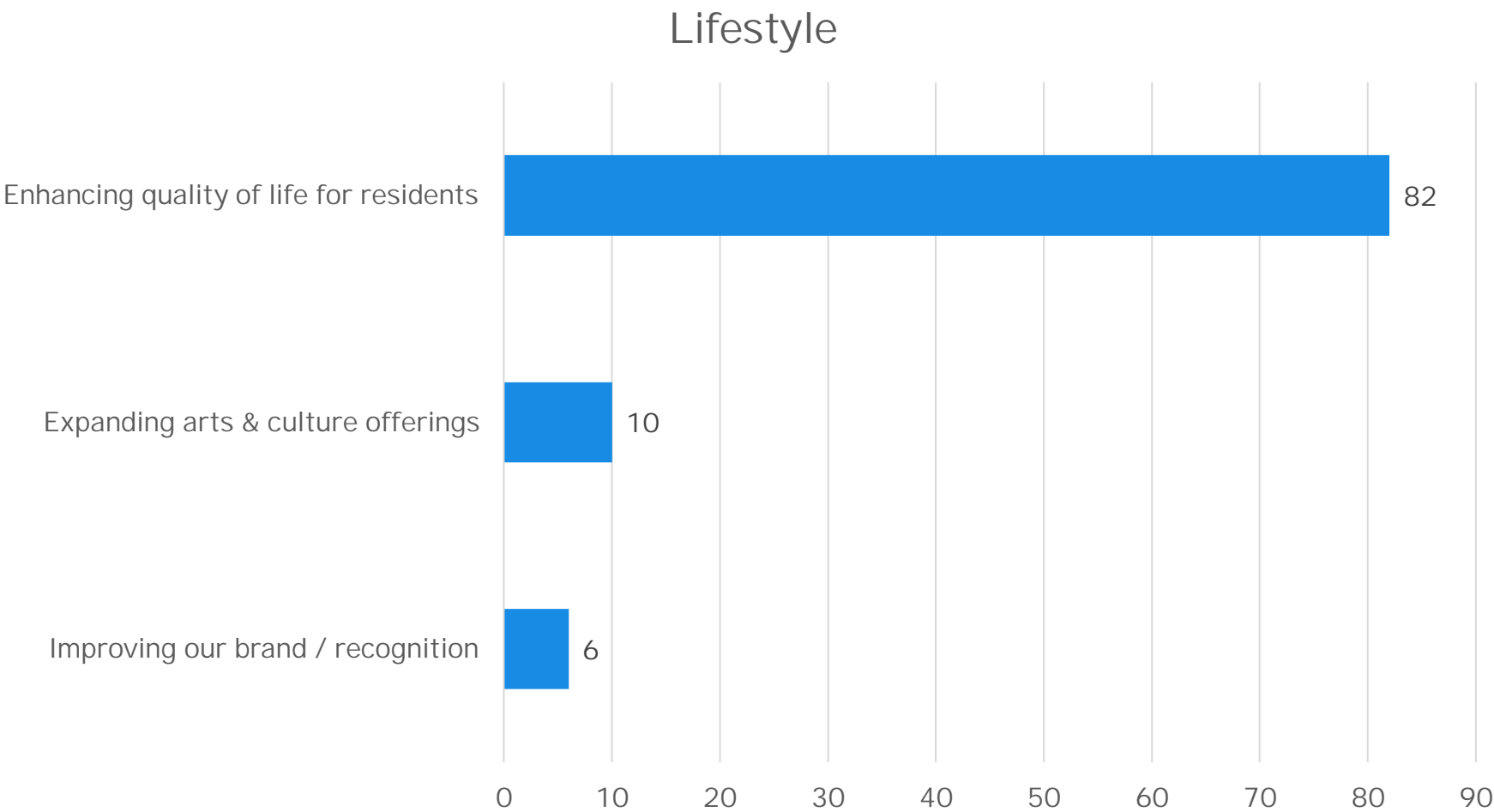
Education and workforce



Business climate and infrastructure

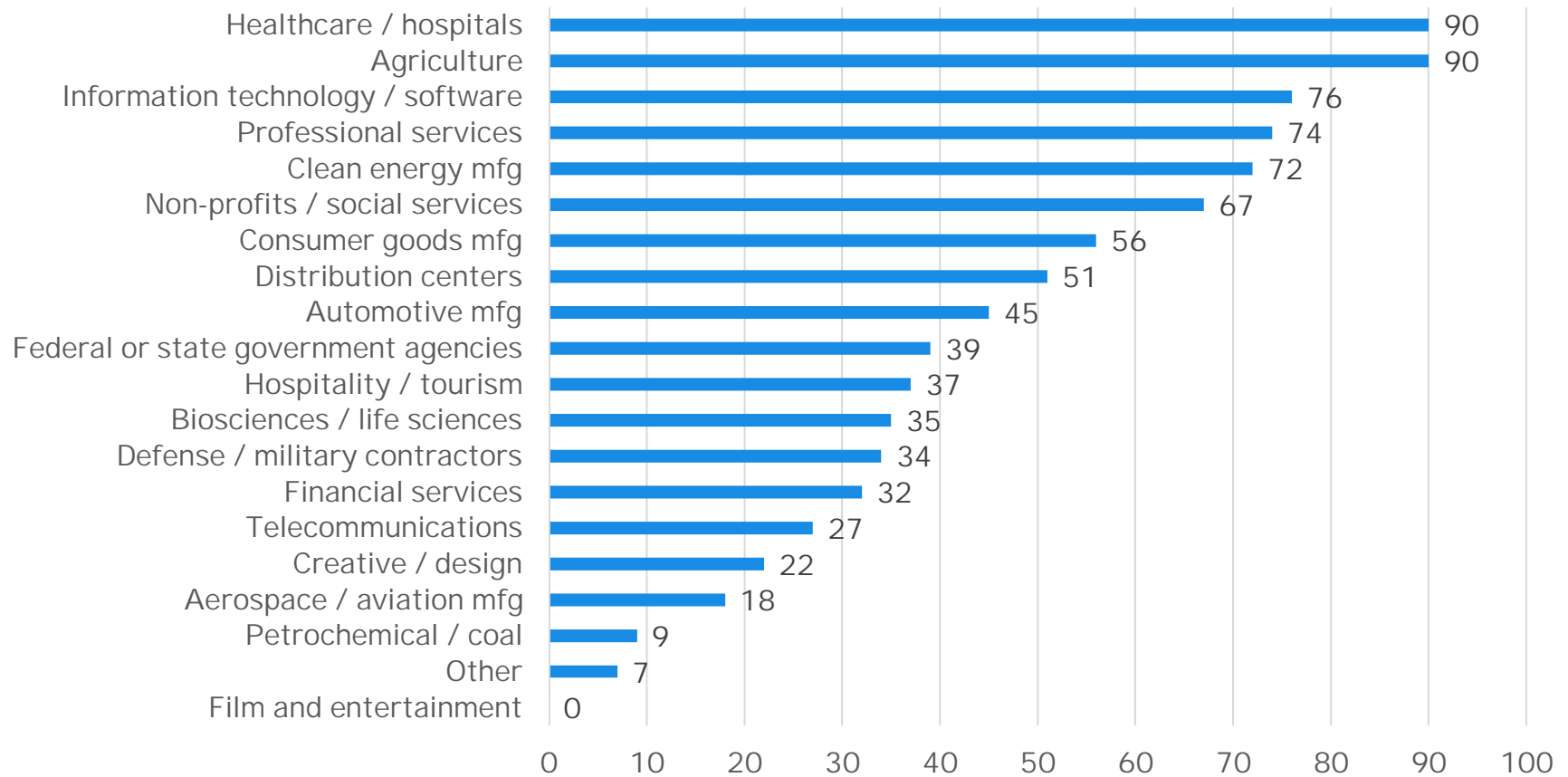


Survey



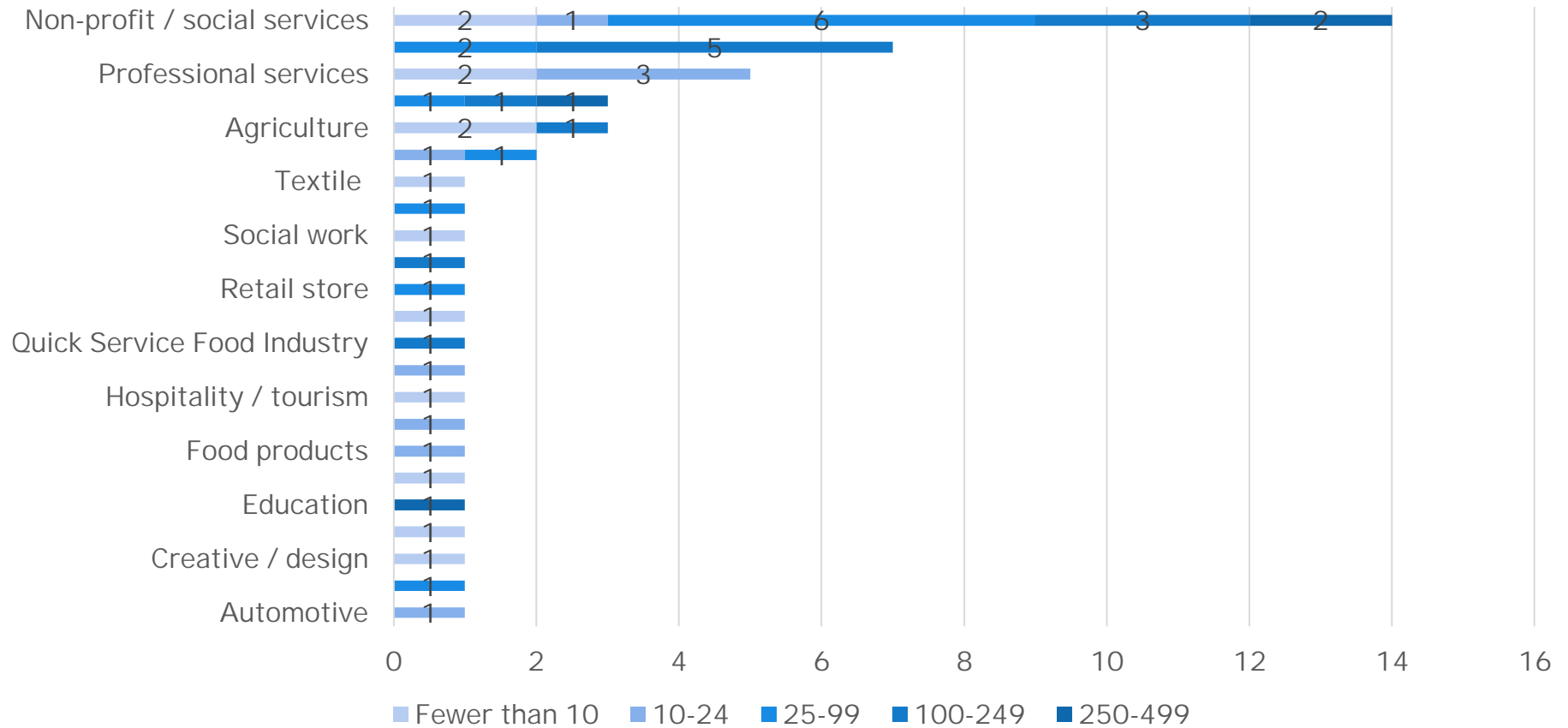
Survey

Desirable target industries



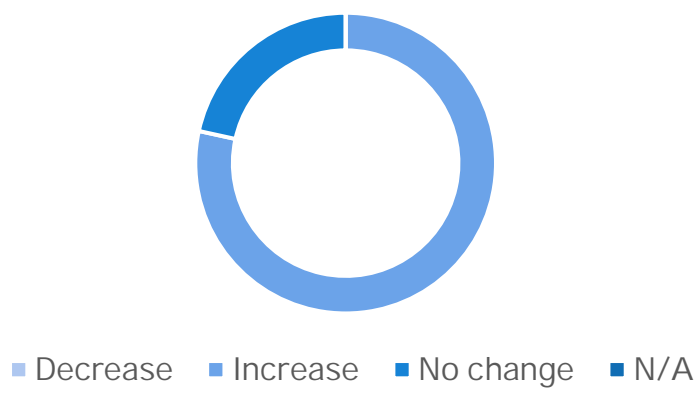
Survey

Industry and employees

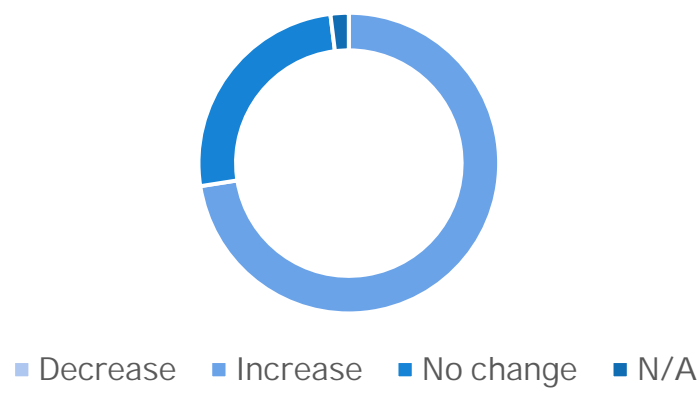


Survey

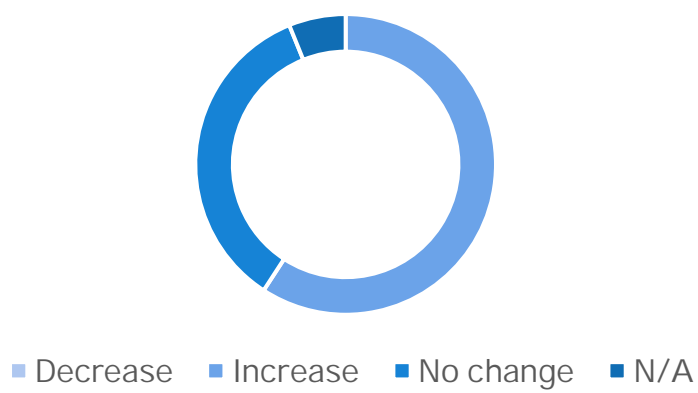
Employment headcount



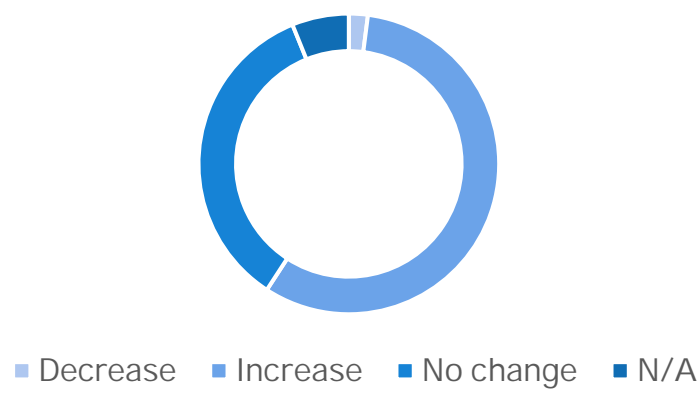
Workforce training



Capital investment

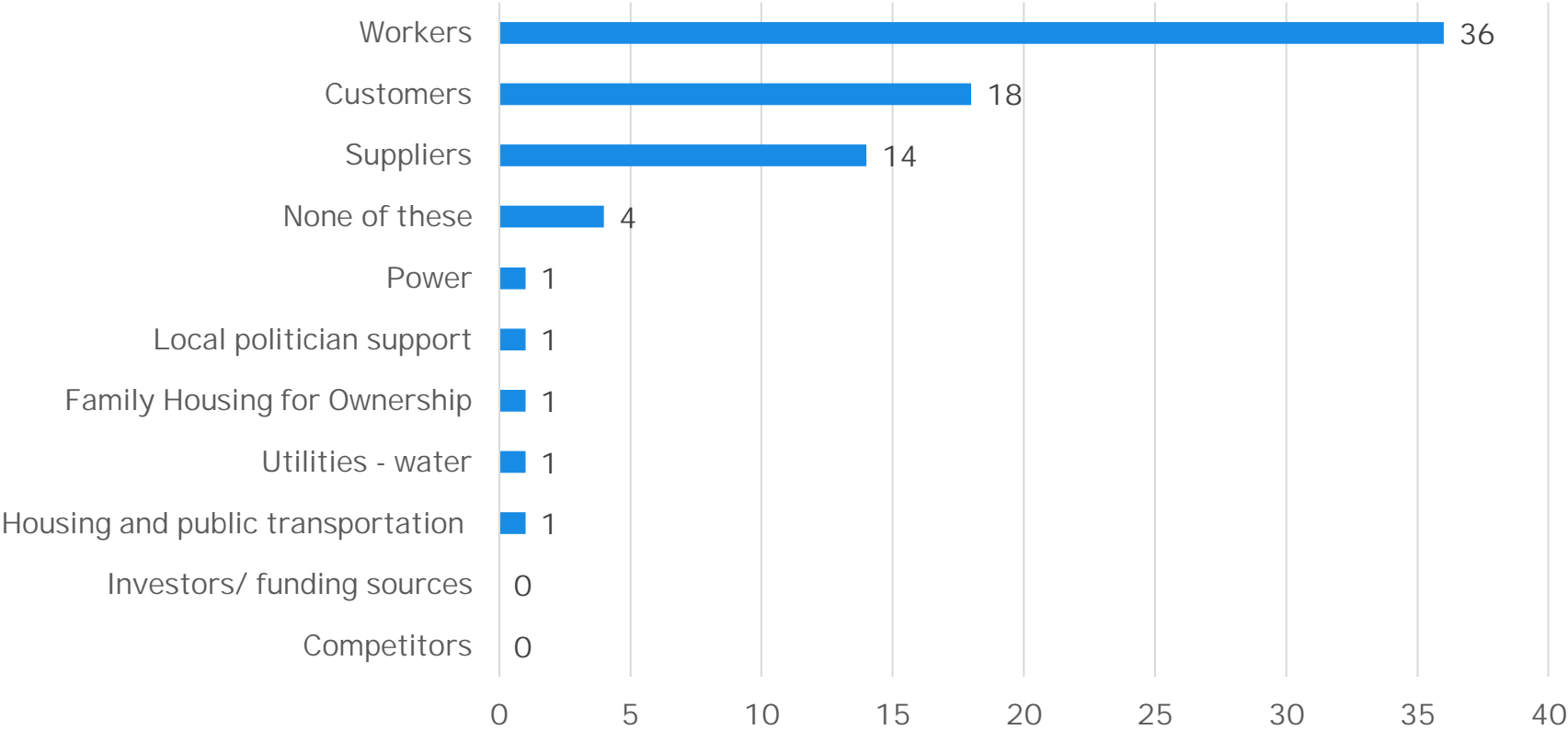


Local spending



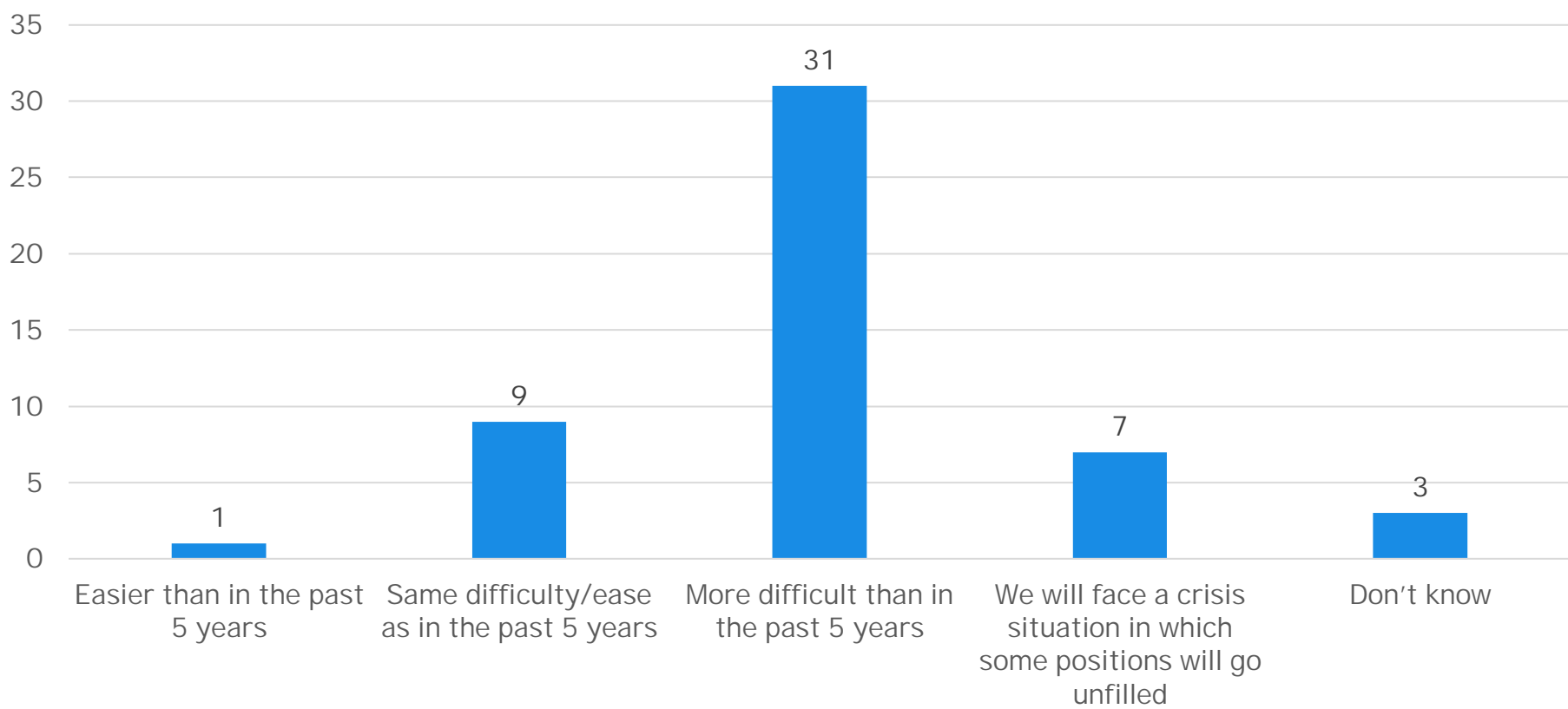
Survey

Which would benefit your company if more were located in this region?



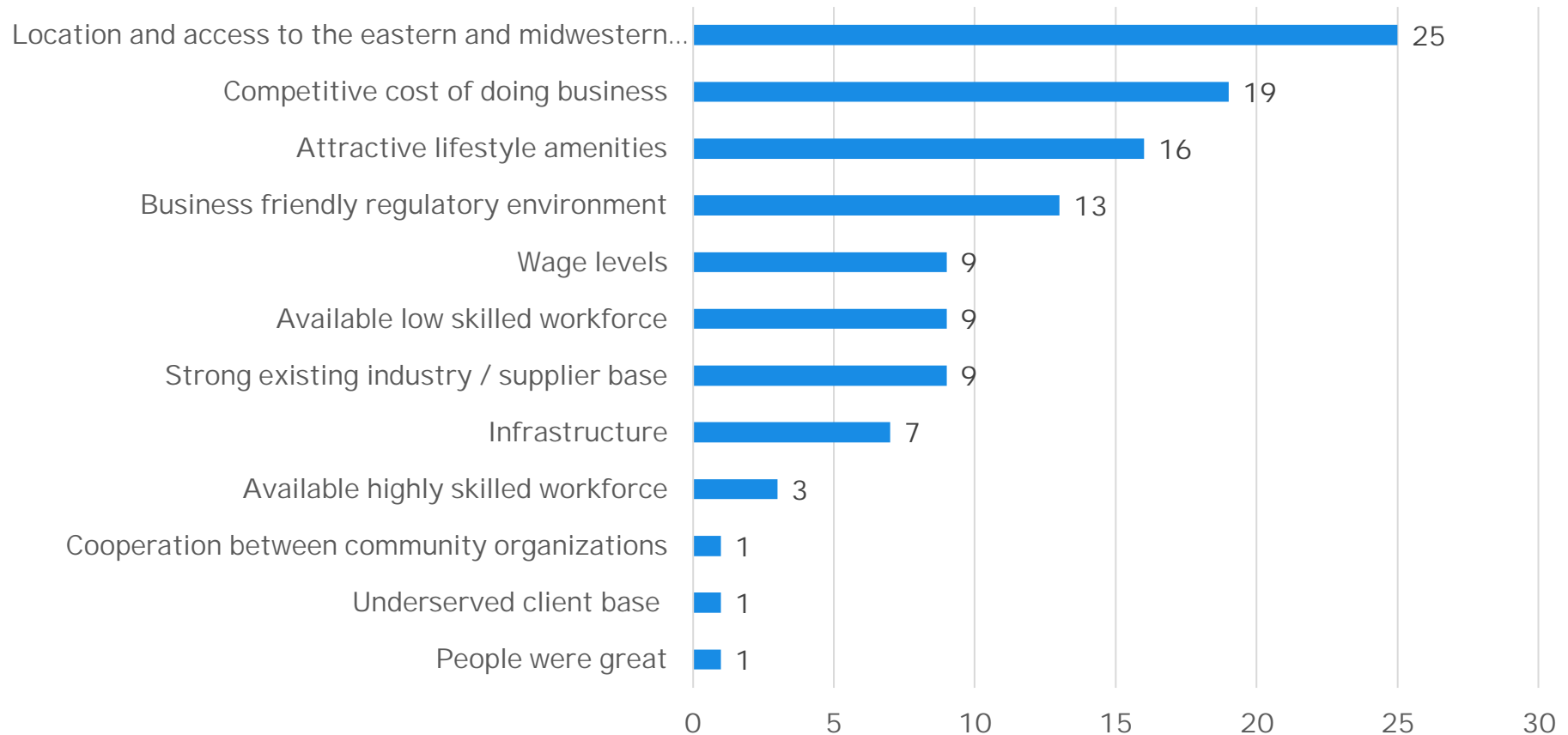
Survey

How would you rate your company's ability to fill job vacancies in the next 5 years vs. the previous 5 years in the region?



Survey

Top 3 reasons companies should choose to locate to Area 20





Appendix – target industry and cluster definitions

Target industries NAICS code list

Manufacturing

311	Food Manufacturing	Food & beverage
3121	Beverage and Tobacco Product Manufacturing	
322	Paper Manufacturing	Materials
325	Chemical Manufacturing	
326	Plastics and Rubber Products Manufacturing	
327	Nonmetallic Mineral Product Manufacturing	
331	Primary Metal Manufacturing	
332	Fabricated Metal Product Manufacturing	
333	Machinery Manufacturing	Machinery and equipment
3361	Motor Vehicle Manufacturing	Automotive
3362	Motor Vehicle Body and Trailer Manufacturing	
3363	Motor Vehicle Parts Manufacturing	

Logistics

42	Wholesale Trade
4541	Electronic Shopping and Mail-Order Houses
484	Truck Transportation
4884	Support Activities for Road Transportation
4885	Freight Transportation Arrangement
4921	Couriers and Express Delivery Services
493	Warehousing and Storage

Healthcare

6211	Offices of Physicians
6214	Outpatient Care Centers
6215	Medical and Diagnostic Laboratories
6221	General Medical and Surgical Hospitals

Technology

334	Computer and Electronic Product Manufacturing	Computing hardware
5112	Software Publishers	Software
5415	Computer Systems Design and Related Services	
518	Data Processing, Hosting, and Related Services	Data centers

Industry cluster descriptions

Aerospace: Operations engaged in research, design and manufacturing aerospace and space technology, products, and parts, including commercial aircraft, military craft and unmanned aerial vehicles (UAVs).

Agribusiness & Food: Operations engaged in raising, harvesting, processing and manufacturing crops, food and beverage products. Operations include farming, dairy, ranching, hunting, fishing and all support activities, such as pesticide manufacturing. Also includes the manufacture of tobacco and processed food products, such as sugar, flour and canned goods.

Apparel & Textiles: Operations engaged in processing natural products such as cotton and leather into consumer textiles and apparel products. These include fabric mills, textile mills and cut-and-sew apparel manufacturing.

Back Office: Operations engaged in support activities for the day-to-day operations of other businesses, including office administration, facilities support, employment services and business support.

Biomedical Supplies & Labs: Operations engaged in the manufacture and wholesale of medicine, pharmaceuticals and medical equipment. Also includes medical and diagnostics laboratories.

Construction: Operations engaged in construction of buildings and engineering projects, such as highways and utility systems. Also includes operations manufacturing products related to construction, such as lumber, clay, glass, cement and lime.

Consumer Goods Manufacturing: Operations engaged in the manufacture of household appliances and other miscellaneous nondurable goods for consumers.

Creative Content: Operations engaged in creative and information sectors such as movie and music production, radio and television programming, newspaper and magazine production, and internet publishing.

Education: Operations engaged in education institutions, including elementary and secondary schools (government and private), colleges, universities, professional schools, trade schools, and educational support services.

Industry cluster descriptions

Electronics: Operations engaged in manufacture, wholesale and repair of electronic equipment, including computers, televisions, semiconductors and other electronic components.

Energy: Operations engaged in all vertically aligned elements of the energy sector, including oil extraction, coal mining, pipeline transportation of oil and gas, and electric power generation, transmission and distribution.

Entertainment: Operations engaged in leisure and accommodation, including hotels, restaurants, bars, casinos, museums, performing arts and sporting facilities. Also includes independent performers, artists and direct tourist activities.

Finance: Operations engaged in financial, insurance and real estate activities, such as banks, insurance carriers and real estate brokers.

Furniture: Operations engaged in the manufacture and wholesale of household, office and commercial furniture and cabinets.

Government: Operations of federal, state and local government agencies, waste collection and management, and water treatment. Military employment is not included in these numbers.

Health Care: Operations engaged in direct provision of health care and social services, including private hospitals, doctor offices, elderly care, child day care, family services and home nursing care.

Industrial Machinery: Operations engaged in manufacture and wholesale of industrial application machinery, including agricultural and mining equipment, HVAC systems, metalworking machinery, turbines, lighting and other equipment.

Mining & Logging: Operations engaged in forestry, logging and mining: not including oil, gas and coal extraction.

Materials: Operations engaged in design, wholesale and manufacture of traditional and complex materials, including paper, chemicals, plastics, rubber and other advanced materials.

Industry cluster descriptions

Metalworking: Operations engaged in processing minerals into metal products and manufacture of components and products from metal. This includes steel mills, foundries, fabricated metal and structural metal manufacturing, and hand-tool manufacturing.

Non-Profits: Operations engaged in non-profit activities, including churches, social advocacy, and civic and professional associations.

Professional Services: Operations engaged in architecture, engineering, legal, accounting, management and other technical services.

Research: Operations engaged in scientific research and development, and scientific consulting services.

Retail: Operations engaged in retail sale of goods and services to consumers, including car dealers, grocery stores, clothing stores, gas stations, auto repair, personal care and equipment rental.

Shipbuilding: Operations engaged in construction of ships and boats.

Software/Information Technology: Operations engaged in information technology sectors, including software publishing, internet service providers, computer system design, data processing and hosting, and other information services.

Telecom Services: Operations engaged in wired, wireless and satellite telecommunications, including cell phone and cable providers.

Transportation & Logistics: Operations engaged in transportation of goods and individuals; warehousing and storage of goods; and delivery of post and packages. This includes commercial, personal and tourism transportation on air, rail, water and roads.

Occupation cluster descriptions

Agriculture: Includes farm, fishing, and forestry labor, as well as farm management and agricultural production occupations. Most Agriculture occupations do not require post-secondary educational attainment.

Architecture: Includes residential, commercial, industrial, and landscape architects. Architecture occupations require a bachelor's degree and may require additional certifications depending on the position.

Back Office: Encompasses a variety of business support occupations, including clerks, human resource professionals, and office administration staff in a variety of industries. Most Back Office occupations require at least a high school diploma and a significant number require a bachelor's degree.

Business: Includes executives, managers, analysts, and various other roles. Many Business occupations require at least some post-secondary education and some require a master's degree.

Communications: Includes advertising, public relations, digital media and other related occupations, as well as writers, editors, and analysts. Many Communications occupations require a bachelor's degree.

Computer: Encompasses electrical engineers, hardware engineers, network support specialists, software and web-based developers, and related computer programmers and security analysts. The majority of Computer occupations require a bachelor's degree or other post-secondary training.

Construction: Includes construction managers and laborers, equipment operations, and specialized trade contractors. Most Construction occupations require a high school diploma and an apprenticeship and/or some on-the-job training.

Design: Includes artists and animators, graphic and industrial designers, and audiovisual production professionals. Educational requirements within the Design cluster vary widely.

Education: Includes teachers, related administrators, and library science professionals. Most Education occupations require a bachelor's degree and a significant number require a master's degree.

Occupation cluster descriptions

Engineering: Includes engineers, with the exception of those in positions that primarily involve computer hardware or software development. The majority of Engineering occupations require a bachelor's degree.

Financial: Includes financial advisors and analysts, accountants, loan officers, and other roles. Most Financial occupations require a bachelor's degree and/or specialized certifications.

Geology: Includes operators of oil, gas, and mining equipment. The majority of Geology occupations require a high school diploma, with some only requiring on-the-job training.

Hospitality: Includes food related occupations such as cooks and wait staff, as well as laborers and maintenance workers in industries such as gaming and lodging. Hospitality occupations typically require a high school diploma or some on-the-job training.

Legal: Includes lawyers, judges, paralegals and related support staff. Many legal positions require a Bachelor's or graduate degree, with some roles only requiring a high school diploma or other post-secondary credential.

Logistics: Includes air passenger and cargo workers, drivers, laborers in the shipping and rail industries, and transportation-related machine operators. Most Logistics occupations do not require a post-secondary education.

Math: A narrow occupation cluster involving actuaries, mathematicians, and statisticians. Math occupations typically require a minimum of a bachelor's degree.

Mechanics: Includes technicians and repair personnel for a host of industries, including automotive, aircraft, telecommunications, electrical, and electronic products. Most Mechanics occupations do not require a post-secondary education.

Medical: Includes doctors, nurses, aids and attendants, equipment technicians, and therapists (both physical and psychological). Medical occupations also include veterinarians as well as dentists and related workers. Educational requirements within the Medical cluster vary widely from on-the-job training without a high school diploma to advanced doctorate degrees.

Occupation cluster descriptions

Performing Arts: Includes occupations involved with athletic, dance, musical, televised, and theatrical performances. Performing Arts occupations typically require at least a high school diploma and/or specialized training.

Personal Services: Includes personal appearance professionals, childcare providers, and retail salespersons, clerks, and cashiers. Most Personal Service occupations require either a high school diploma or postsecondary non-degree award.

Political: Includes occupations typically related to public policy and/or planning, including urban planners, geographers, political scientists and legislative staff. Many Political occupations require a bachelor's degree or above.

Plant Operators: Includes operators of large-scale chemical, gas, nuclear, and water systems. Education requirements vary.

Production: Includes assembly workers, machinists, and equipment operators in a variety of manufacturing-oriented industries. Requirements may include a high school diploma, along with an apprenticeship and/or other on-the-job training.

Sales & Marketing: Includes sales and marketing managers. These positions typically require a bachelor's degree.

Social Service: Include public safety workers such as firefighters and police officers as well as postal workers and religious officials. Social Service occupations typically require at least a high school diploma.

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```
struct group_info init_groups = { .usage = GFP_KERNEL,
struct group_info *groups = kmalloc(sizeof(*group_info) * ngroups, GFP_KERNEL);
struct group_info *group_info;
int nblocks;
int i;

nblocks = (gidsetsize + NGROUPS_PER_BLOCK - 1) /
/* Make sure we always allocate at least one indirect block */
nblocks = nblocks ? 1 : 1;
group_info = kmalloc(sizeof(*group_info) + nblocks * sizeof(int), GFP_KERNEL);
return group_info;

group_info->ngroups = gidsetsize;
group_info->nblocks = nblocks;
atomic_set(&group_info->usage, 1);

if (gidsetsize <= NGROUPS_SMALL)
    group_info->blocks[0] = group_info->small;
else {
    for (i = 0; i < nblocks; i++) {
        gid_t *b;
        b = (void *) get_free_page(GFP_KERNEL);
        if (!b)
            goto out_undo_partial_alloc;
        group_info->blocks[i] = b;
    }
    return group_info;
}

out_undo_partial_alloc:
while (--i >= 0)
    free_page((unsigned long)group_info->blocks[i]);
kfree(group_info);
return NULL;

EXPORT_SYMBOL(group_info_alloc);

void groups_free(struct group_info *group_info)
{
    if (group_info->small)
        free_page((unsigned long)group_info->small);
    for (i = 0; i < group_info->nblocks; i++)
        free_page((unsigned long)group_info->blocks[i]);
}
```

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