



Corridors of Opportunity

Target Industry Analysis

December 2021

Prepared for the City of Charlotte



Table of Contents

04	Target industry recommendations
09	Target industry profiles
10	Technology & Administrative Support
14	Healthcare
18	Logistics & Distribution
22	Manufacturing
26	City and regional employment cluster trends
36	Corridors of Opportunity Industry Cluster Analysis

About this report

The following Target Industry Analysis includes recommended target industries, profiles of each of these industries, and an examination of recent city and regional employment trends.

This report contains three sections:

Target Industry Recommendations

This report begins with a description of how target industries were identified for Charlotte's Corridors of Opportunity and provides a summary of recommended target industries and aligned niche sectors.

Target Industry Profiles

Next, this report contains profiles of each target industry. Each profile contains an overview of the industry; a review of the industry's national performance in recent years; a brief look at the global forces affecting industry dynamics; a succinct summary of the industry's local performance in recent years; descriptions of each niche sector; and a review of the leading occupations that support each industry and the availability of aligned labor within each corridor.

City and Regional Employment Cluster Trends

This report also contains an examination of local and regional employment trends. Specifically, the analysis examines the ability of Charlotte's ability to capture regional employment growth across various industries and occupations.

Corridors of Opportunity Industry Cluster Analysis

This report concludes with an examination of local employment trends within the corridor-based zip code areas. Specifically, this analysis examines the historic growth trajectory of individual industry clusters (advanced manufacturing, logistics and distribution, etc.) within the geographies.

A photograph of two hikers on a mountain trail. The hiker on the left is wearing a green jacket and a large blue backpack. The hiker on the right is wearing a dark jacket and using a red trekking pole. They are walking on a path with dry grass, and snow-capped mountains are visible in the background under a clear sky. A large yellow rectangle is overlaid on the left side of the image, containing the text 'Target Industry Recommendations'.

Target Industry Recommendations

City share of regional employment growth by industry

Target industry selection is an iterative process combining both quantitative and qualitative information. Through a process of data analysis and conversations, target industries were identified and tailored to Charlotte's Corridors of Opportunity. We evaluated the targets identified by the Charlotte Regional Business Alliance today as well as the former Charlotte Regional Partnership in its most recent 2016 study. Finally, we reviewed the assets in the corridor and how these communities can support aligned employment growth.

The four key filters examined when identifying target industries are shown below. The analysis begins with a global view of whether an industry is growing and then filters through an increasingly local lens until the target is validated. Throughout the process of identifying target industries, the consulting team also considered whether the industry will make Charlotte's Corridors more economically diverse, resilient, and sustainable.



1. Is the industry growing in the Charlotte region and the US?

Examining global and national trends helps determine if the target industry will continue to grow and create future opportunities in Charlotte.

2. What industries have an existing presence in the Corridor?

Industries with an existing concentration in the Corridors demonstrate local competitive strengths and present some of the best opportunities for expansion, recruitment, and startup growth.

3. Which industries are best suited to the Corridor's assets?

The presence of local assets (including workforce and real estate) within each Corridor support industry ecosystems and expanded activity is an important filter.

4. Which industries align with the Corridors of Opportunity goals and needs?

Each industry was evaluated on whether it reinforces the goals and needs identified by local stakeholders through interviews, workshops, and a resident survey.

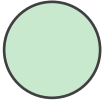
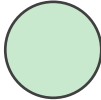
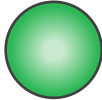
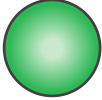
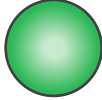
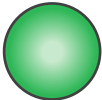
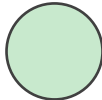
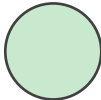
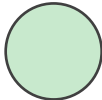
Target industry recommendations

The following four target clusters are recommended for the four examined Corridors of Opportunity –Technology & Administrative Support Services, Health Care, Logistics & Distribution, and Manufacturing. All four clusters are growing, both nationally and locally. The clusters also encompass a variety of occupations at various skill levels, from positions that require a high school degree to jobs that demand a post-secondary education. Finally, all four clusters align with existing local and regional efforts, including those of Charlotte Works, the Charlotte Regional Business Alliance, and the Centralina Economic Development District.

Cluster		Niche Sector	Charlotte Works	Charlotte Regional Business Alliance	Centralina EDD
Technology & Administrative Support Services		Software/IT Call Centers / Administrative Support			
Health Care		Community Health Center Practitioner Offices			
Logistics & Distribution		Intermodal Distribution Warehousing & Fulfilment			
Manufacturing		Food Processing Medical Equipment & Supplies			

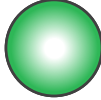
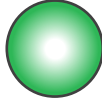
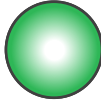
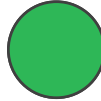
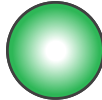
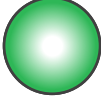
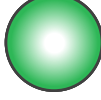
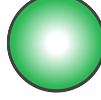
Target industry corridor considerations

The four target clusters leverage existing assets within each of the examined Corridors of Opportunity. These assets exist across a spectrum. In some areas, for example, the Corridors of Opportunity are home to a labor force highly aligned with cluster needs. In other areas, the alignment between local skills and employer demand may be less developed. Similar dynamics exist across other factors such as industry trends and disruptions, local demand dynamics, and real estate availability.

		Workforce	Industry Trends & Disruptions	Local Demand	Real Estate Availability
Technology & Administrative Support Services					
Health Care					
Logistics & Distribution					
Manufacturing					
Key		Less Aligned   More Aligned			

Target industry corridor considerations

While opportunities exist to advance growth across all target clusters within each of the examined Corridors of Opportunity, some industries may be especially suited for specific areas. Due to the presence of Charlotte Douglas International Airport, for example, the Freedom, Wilkinson & West Corridors is a particularly favorable location for Logistics & Distribution operations.

		Freedom, Wilkinson & West	Beatties Ford	Sugar Creek	Albemarle
Technology & Administrative Support Services 					
Health Care 					
Logistics & Distribution 					
Manufacturing 					
Key Less Aligned   More Aligned					

Target Industry Profiles



Technology & Administrative Support – Industry Overview

INDUSTRY OVERVIEW

Technology & Administrative Support Services includes a variety of business process outsourcing services, including information technology infrastructure development and maintenance, payment processing, claims and transaction processing, purchase order management and processing, and customer service call centers.

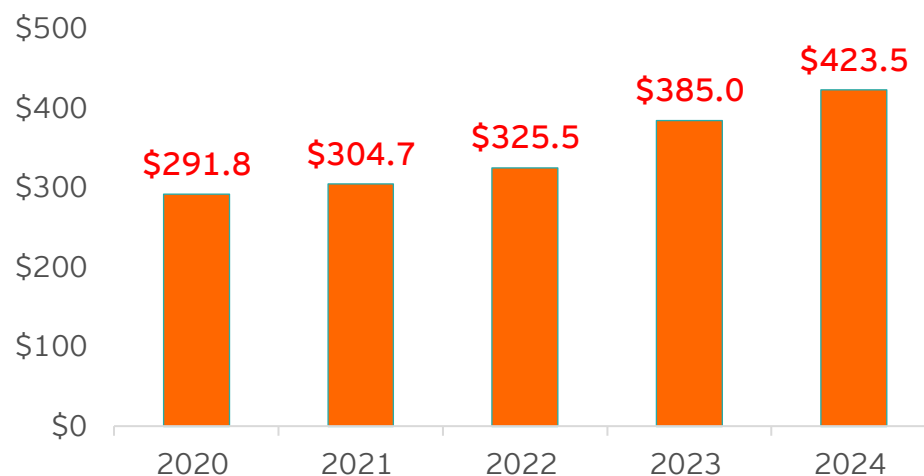
Despite the diversity of Technology & Administrative Support Services, individual niches within the cluster share many operational requirements. Perhaps most importantly, Technology & Administrative Support Services firms require minimal infrastructure support beyond office space and modern telecommunications infrastructure. Instead, talent availability is often a more important consideration. For Software/IT operations, the availability of workers with the latest computer programming skills is often paramount. Proximity to a university with a computer science program is a plus. For Call Centers / Administrative Support, the availability of an extensive pool of competitively priced labor is often the driving force behind site selection decisions.

Fueled by growth in a variety of niche clusters, Technology & Administrative Support Services employment increased more than twice as fast as the overall job market between 2014 and 2019.

GLOBAL FORCES

Technology & Administrative Support Services continues to evolve in response to macroeconomic forces and technological innovation. As the country emerges from the economic downturn of the previous year, there is likely to be a renewed focus on Technology & Administrative Support Services investment that were delayed due to the pandemic. Additionally, the rise in remote work will fuel new investments in technologies that support an increasingly virtual workplace.

US Business Process and Software Market Value (billions)



Source: Marketline

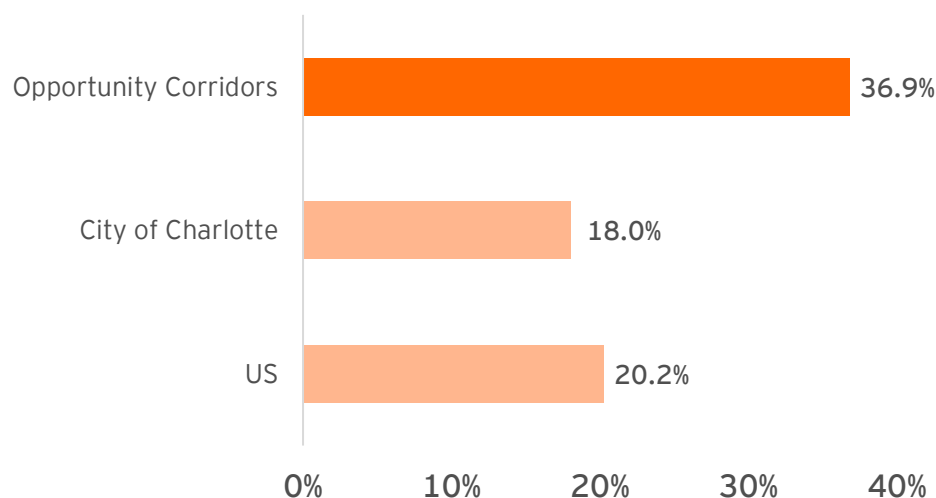
Tech. & Administrative Support - Performance & Niche Sectors

LOCAL PERFORMANCE

Between 2014 and 2019, Technology & Administrative Support Services employment in Charlotte increased by 18%. While the local rate of growth slightly trailed the US average, the industry outperformed the overall rate of growth within Charlotte at large.

Notably, total Technology & Administrative Support Services employment growth in the four corridors outperformed the national and citywide average during this period.

Tech. & Admin. Support employment growth, 2014 - 2019



Source: EMSI

NICHE SECTORS

Software / IT - The Software / IT industry continues to benefit from mature sectors such as business processing and personal desktop applications as well as fast-growing segments such as mobile computing and cloud computing. Looking ahead, the exponential increase in data production is likely to fuel significant growth in data analytics. Similarly, the migration of more and more data to the cloud will require increasingly sophisticated security capabilities. As such, cybersecurity is likely to experience significant growth in the years ahead.

Call Centers / Administrative Support - The continued migration of Administrative Support Service operations to lower cost regions, especially in the area of Financial Services, will benefit regions with a competitive cost of living and doing business. The growing importance of digitalization in business processes is likely to create new market opportunities for the Call Centers / Administrative Support sector. Traditional call centers, for example, may be increasingly augmented or even replaced by chatbots and social media-based customer service technologies.

Technology & Administrative Support – Workforce Profile

Technology & Administrative Support Services companies employ a variety of workers across all skill and educational attainment levels. Positions in occupations such as Software Development and Computer System Analysts typically require a four-year degree. Other occupations such as Customer Service Representatives and Computer Use Support Specialists, on the other hand, have more modest educational requirements. All four Corridors of Opportunity have a disproportionately large number of residents employed in some of the region's leading Technology & Administrative Support Services occupations.

Leading Technology & Administrative Support Services occupations in Charlotte region

SOC Code	Industry Group	2019 Charlotte Regional Employment	Beatties Ford (28212) Resident Worker LQ	Freedom, Wilkinson & West (28208) Resident Worker LQ	Sugar Creek (28206/28213) Resident Worker LQ	Albemarle (28205/28212) Resident Worker LQ
15-1256	Software Developers and Quality Analysts	5,139	1.0	1.0	1.0	1.2
43-4051	Customer Service Representatives	3,762	1.2	1.2	1.2	1.3
15-1211	Computer Systems Analysts	3,002	1.8	1.8	2.0	2.3
15-1232	Computer User Support Specialists	1,784	1.1	1.1	1.1	1.3
41-3091	Sales Representatives of Services	1,423	1.4	1.5	1.4	1.5
11-3021	Computer and Information Systems Managers	1,390	1.3	1.3	1.4	1.5
11-1021	General and Operations Managers	905	0.8	0.9	0.9	0.9
13-1198	Project Management and Business Operations Specialists	763	0.9	0.9	0.9	1.0
43-9061	Office Clerks, General	741	0.9	0.9	0.9	0.9
15-1244	Network and Computer Systems Administrators	715	1.2	1.2	1.2	1.5
13-1111	Management Analysts	683	1.0	1.1	1.2	1.3
15-1212	Information Security Analysts	644	2.2	2.3	2.5	3.1
15-1251	Computer Programmers	660	0.8	0.8	0.9	1.0
43-3011	Bill and Account Collectors	615	1.2	1.2	1.2	1.1
13-1161	Market Research Analysts and Marketing Specialists	587	1.0	1.1	1.1	1.2
43-1011	First-Line Supervisors of Office and Administrative Support Workers	575	0.9	0.9	1.0	1.1
13-2011	Accountants and Auditors	529	1.0	1.0	1.1	1.3
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Sr	507	1.1	1.2	1.1	1.2
43-3031	Bookkeeping, Accounting, and Auditing Clerks	478	1.0	1.0	1.0	1.1
15-1299	Computer Occupations, All Other	458	0.5	0.5	0.5	0.5

-  Higher than average concentration of residents employed in occupation (LQ > 1.0)
-  Average to slightly lower than average concentration of residents employed in occupation (LQ = 0.5 - 1.0)
-  Much lower than average concentration of residents employed in occupation (LQ < 0.5)

Source: EMSI

Technology & Administrative Support – Workforce Profile

Leading Technology & Administrative Support Services occupations encompass a variety of skill and wage levels. Many positions, including Software Developers and Computer Systems Analysts, require a bachelor's degree or higher level of educational attainment. With a median wage exceeding \$40 an hour, they are also characterized by high levels of compensation. Other jobs that support occupations encompass a variety of skill and wage levels only require a high school diploma or some college.

Leading Technology & Administrative Support Services occupations in Charlotte region

SOC Code	Industry Group	2019 Charlotte Regional Employment	Typical Educational Requirement	Median Hourly Wage
15-1256	Software Developers and Quality Analysts	5,139	Bachelor's degree	\$49.25
43-4051	Customer Service Representatives	3,762	High school diploma or equivalent	\$17.55
15-1211	Computer Systems Analysts	3,002	Bachelor's degree	\$45.45
15-1232	Computer User Support Specialists	1,784	Some college, no degree	\$23.49
41-3091	Sales Representatives of Services	1,423	High school diploma or equivalent	\$23.67
11-3021	Computer and Information Systems Managers	1,390	Bachelor's degree	\$66.20
11-1021	General and Operations Managers	905	Bachelor's degree	\$54.20
13-1198	Project Management and Business Operations Specialists	763	Bachelor's degree	\$34.55
43-9061	Office Clerks, General	741	High school diploma or equivalent	\$16.06
15-1244	Network and Computer Systems Administrators	715	Bachelor's degree	\$40.50
13-1111	Management Analysts	683	Bachelor's degree	\$45.36
15-1212	Information Security Analysts	644	Bachelor's degree	\$47.16
15-1251	Computer Programmers	660	Bachelor's degree	\$44.67
43-3011	Bill and Account Collectors	615	High school diploma or equivalent	\$17.65
13-1161	Market Research Analysts and Marketing Specialists	587	Bachelor's degree	\$32.05
43-1011	First-Line Supervisors of Office and Administrative Support Workers	575	High school diploma or equivalent	\$27.45
13-2011	Accountants and Auditors	529	Bachelor's degree	\$37.50
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and S	507	Bachelor's degree	\$40.91
43-3031	Bookkeeping, Accounting, and Auditing Clerks	478	Some college, no degree	\$19.80
15-1299	Computer Occupations, All Other	458	Bachelor's degree	\$43.95

Source: EMSI

Healthcare - Industry Overview

INDUSTRY OVERVIEW

The Healthcare industry encompasses a range of products and services that contribute to the physical and mental well-being of human patients. From an occupational perspective, the Healthcare industry is characterized by extraordinary diversity. Growing demand for healthcare services has contributed to gains at all levels, from lower-skill, low-wage positions to the most highly skilled and lucrative positions.

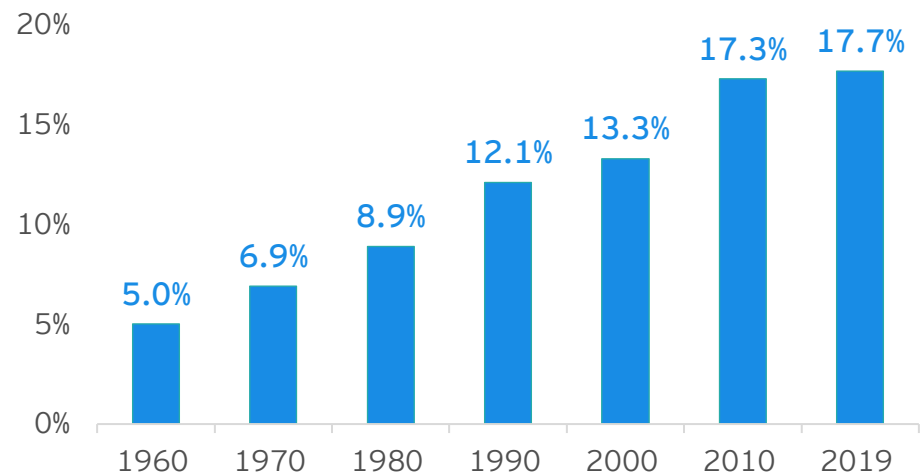
The primary providers of healthcare services—hospitals, clinics, nursing facilities, and physician offices—tend to cluster near substantial patient populations. Other factors such as public budgets and insurance systems may also play a role in the location of these operations. More specialized Healthcare functions such as clinical trials and drug development tend to locate in relative proximity to large hospital networks and research universities. The presence of colleges and universities also help ensure local Healthcare operations have access to a pipeline of highly skilled talent.

A favorable demographic and regulatory climate has made Healthcare largely insulated from the ups and downs of the broader economy. In good years, Healthcare employment increases. During economic downturns, Healthcare jobs also increase. Between 2014 and 2019, Healthcare employment increased nearly 40% faster than the US average.

GLOBAL FORCES

Growth in the Healthcare industry is currently being influenced by a variety of demographic, technological and economic forces. An aging US population continues to fuel significant growth for healthcare services—each day, more than 10,000 Baby Boomers turn 65. Innovations in areas such as telehealth and vaccine development have taken on greater urgency in the wake of a global pandemic. With healthcare costs capturing nearly 18% of all US spending, companies are under growing pressure to contain costs. At the same time, the Affordable Care Act has increased funding for many healthcare services.

US Health Expenditures as a Percent of Gross Domestic Product



Source: Centers for Medicare & Medicaid Services

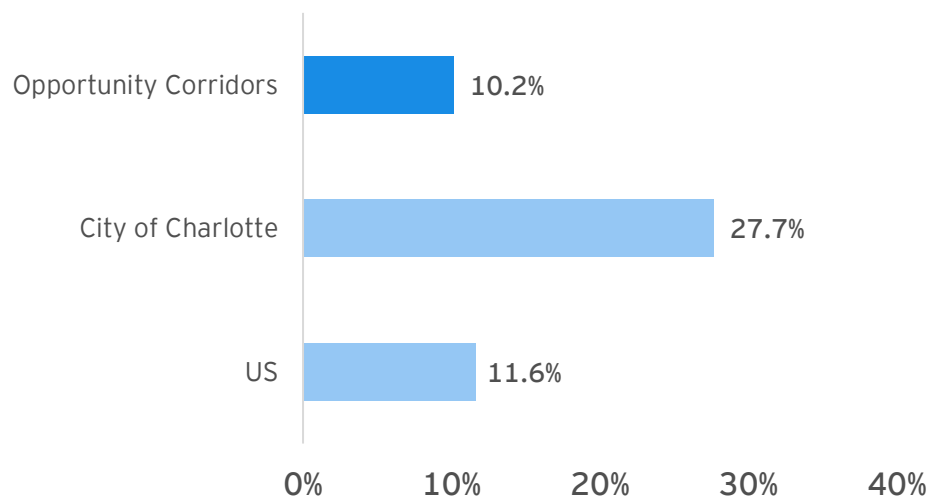
Healthcare - Performance & Niche Sectors

LOCAL PERFORMANCE

Strong population growth in Charlotte has contributed to sustained gains in Healthcare employment. Between 2014 and 2019, US Healthcare employment rose by nearly 12%. During this same period, Healthcare companies in the City of Charlotte increased their employment by more than 27%.

Between 2014 and 2019, healthcare employment increased in the examined Corridors of Opportunity, with the exception of the Sugar Creek Corridor. On a proportional basis, however, these gains trailed the citywide average.

Healthcare employment growth, 2014 - 2019



Source: EMSI

NICHE SECTORS

Community Health Centers - Community Health Centers provide primary care services, including screening, diagnosis, and management of chronic illnesses such as diabetes, heart disease, and cancer. They are the country's primary source of primary care for medically underserved communities and populations. In recent years, Community Health Centers have experienced substantial growth thanks to the Affordable Care Act. The legislation not only increased direct investments in Community Health Centers, but also expanded the patient base due to increase in Medicaid and private health insurance coverage. Between 2009 and 2019, the number of Americans served by Community Health Centers increased by more than 50%.

Practitioner Offices & Clinical Services - These facilities include physician's offices and clinics, outpatient care facilities, and medical and diagnostic laboratories. While aligned with the broader Healthcare industry, Practitioner Offices & Clinical Services operate independently of hospitals. Demand for Practitioner Offices & Clinical Services continues to grow as insurers look to reduce the use of more expensive hospital services in favor of outpatient care.

Healthcare - Workforce Profile

As highlighted earlier, the educational requirements for individuals in Healthcare occupations vary widely. Some positions, for example, may only require a high school diploma or post-secondary non-degree award. More advanced occupations such as physicians, on the other hand, may require many years of post-secondary education. Corridor residents are represented in a variety of Healthcare occupations.

Leading Healthcare occupations in Charlotte region

SOC Code	Industry Group	2019 Charlotte Regional Employment	Beatties Ford (28212) Resident Worker LQ	Freedom, Wilkinson & West (28208) Resident Worker LQ	Sugar Creek (28206/28213) Resident Worker LQ	Albemarle (28205/28212) Resident Worker LQ
29-1141	Registered Nurses	7,482	1.0	0.9	1.0	1.0
31-9092	Medical Assistants	2,745	1.0	0.8	0.8	0.9
43-4171	Receptionists and Information Clerks	2,373	1.2	1.1	1.1	1.3
31-9091	Dental Assistants	1,765	0.9	0.7	0.8	0.8
29-1292	Dental Hygienists	1,465	1.2	1.0	1.0	1.0
43-6013	Medical Secretaries and Administrative Assistants	2,247	0.5	0.5	0.5	0.5
31-1131	Nursing Assistants	1,210	1.0	0.8	0.9	0.9
29-1228	Physicians, All Other; and Ophthalmologists, Except Pediatric	1,376	0.9	0.7	0.8	0.8
43-9061	Office Clerks, General	1,236	0.9	0.9	0.9	0.9
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technolo	925	1.0	0.9	0.9	0.9
29-1171	Nurse Practitioners	479	1.0	0.9	0.9	1.0
43-1011	First-Line Supervisors of Office and Administrative Support Workers	866	0.9	0.9	1.0	1.1
43-3021	Billing and Posting Clerks	971	0.9	0.9	0.9	1.1
29-2034	Radiologic Technologists and Technicians	789	1.0	0.9	1.0	0.9
11-9111	Medical and Health Services Managers	576	0.7	0.6	0.7	0.7
29-2057	Ophthalmic Medical Technicians	527	1.7	--	1.4	1.9
29-1151	Nurse Anesthetists	482	3.7	3.1	3.4	2.9
29-2061	Licensed Practical and Licensed Vocational Nurses	873	0.6	0.5	0.6	0.6
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	450	1.0	0.8	0.9	0.8
31-9097	Phlebotomists	855	1.4	1.3	1.3	1.3

-  Higher than average concentration of residents employed in occupation (LQ > 1.0)
-  Average to slightly lower than average concentration of residents employed in occupation (LQ = 0.5 - 1.0)
-  Much lower than average concentration of residents employed in occupation (LQ < 0.5)

Source: EMSI

Healthcare - Workforce Profile

Perhaps more than any other profession, the Healthcare industry features a multitude of jobs across various skill and income levels. Positions such as Physicians require many, many years of post-secondary education. Still other Healthcare jobs may only require a high school diploma or associate's degree. Given the variety of skill levels involved, it is perhaps unsurprising that the leading Healthcare occupations span a variety of wage levels.

Leading Healthcare occupations in Charlotte region

SOC	Industry Group	2019 Charlotte Regional	Typical Educational Requirement	Median Hourly Wage
29-1141	Registered Nurses	7,482	Bachelor's degree	\$31.43
31-9092	Medical Assistants	2,745	Postsecondary nondegree award	\$16.07
43-4171	Receptionists and Information Clerks	2,373	High school diploma or equivalent	\$14.35
31-9091	Dental Assistants	1,765	Postsecondary nondegree award	\$20.66
29-1292	Dental Hygienists	1,465	Associate's degree	\$36.32
43-6013	Medical Secretaries and Administrative Assistants	2,247	High school diploma or equivalent	\$17.67
31-1131	Nursing Assistants	1,210	Postsecondary nondegree award	\$13.48
29-1228	Physicians, All Other; and Ophthalmologists, Except Pediatric	1,376	Doctoral or professional degree	\$83.15
43-9061	Office Clerks, General	1,236	High school diploma or equivalent	\$16.06
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technologists	925	Postsecondary nondegree award	\$17.69
29-1171	Nurse Practitioners	479	Master's degree	\$49.49
43-1011	First-Line Supervisors of Office and Administrative Support Workers	866	High school diploma or equivalent	\$27.45
43-3021	Billing and Posting Clerks	971	High school diploma or equivalent	\$18.50
29-2034	Radiologic Technologists and Technicians	789	Associate's degree	\$27.34
11-9111	Medical and Health Services Managers	576	Bachelor's degree	\$46.49
29-2057	Ophthalmic Medical Technicians	527	Postsecondary nondegree award	\$17.89
29-1151	Nurse Anesthetists	482	Master's degree	\$94.50
29-2061	Licensed Practical and Licensed Vocational Nurses	873	Postsecondary nondegree award	\$22.15
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	450	Bachelor's degree	\$21.70
31-9097	Phlebotomists	855	Postsecondary nondegree award	\$16.04

Source: EMSI

Logistics & Distribution - Industry Overview

INDUSTRY OVERVIEW

The Logistics & Distribution industry involves the storage and distribution of goods and people. Historically, the industry has often been characterized by low margins and limited innovation, but robotics and automation are changing how distribution centers operate. In the years ahead, however, innovations in areas such as autonomous vehicles, drones, and smart infrastructure promise to significantly transform how goods and people are moved across multi-modal transportation systems. As a result, the industry is likely to be increasingly technology driven.

In recent years, the US Logistics & Distribution industry has enjoyed exceptionally strong growth thanks to a variety of favorable market forces. Between 2014 and 2019, for example, Logistics & Distribution employment increased at more than three times the pace of overall US job growth during this period. Global trade and a resurgent domestic manufacturing sector continue to bolster import and export activity. The explosive growth of online retailing, which has only been possible thanks to an ever-growing logistics and distribution ecosystem, has also significantly boosted the industry's fortunes.

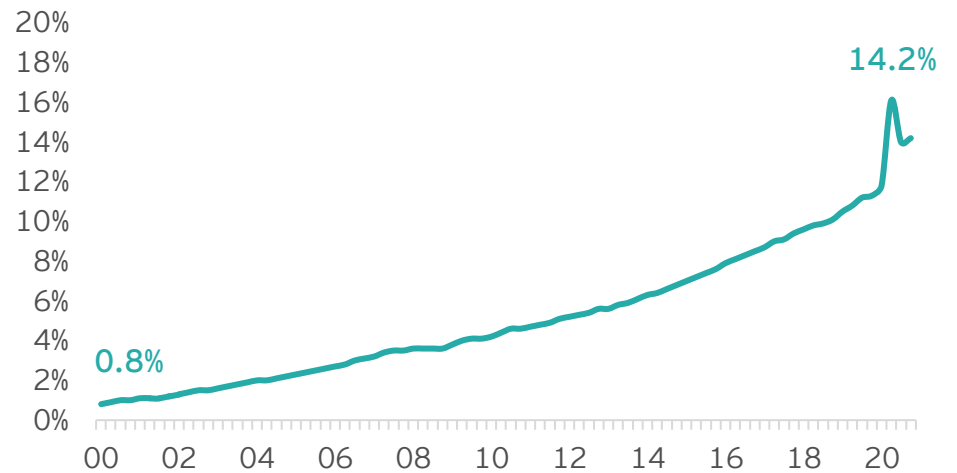
Logistics & Distribution firms tend to locate in regions that enjoy proximity to large consumer markets and/or centers of production. The presence of rail lines, ports, and /or an airport can be critical to facilitating multi-modal transportation options. While the facilities vary widely, firms generally require sites with sufficient egress and ingress to accommodate trucks as well as parking. The availability nearby freeways is also an important consideration.

GLOBAL FORCES

Although US consumers have been gradually embracing online shopping for the past several decades, this trend has significantly accelerated since the outbreak of the pandemic. According to estimates from the US Census Bureau, e-commerce activity surged nearly 45% between the second quarter of 2019 and the second quarter of 2021.

The growth of e-commerce has helped spur a building binge of warehousing and distribution facilities throughout the US. In 2021, brokerage firm CBRE anticipates industrial real estate absorption will reach nearly 250 million square feet.

E-commerce sales as percentage of total retail sales



Source: US Census Bureau

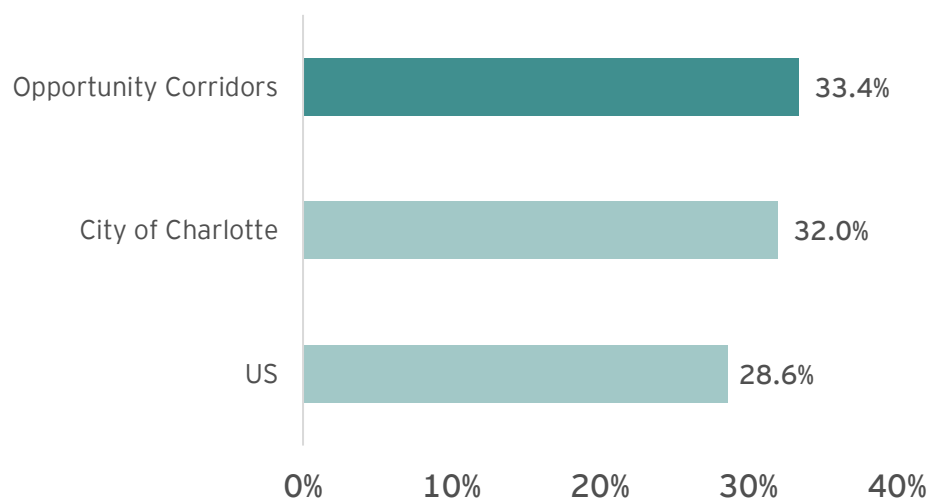
Logistics & Distribution - Performance & Niche Sectors

LOCAL PERFORMANCE

If the Logistics & Distribution industry is enjoying strong growth nationally, the cluster is experiencing exceptionally robust growth in Charlotte. Between 2014 and 2019, US Logistics & Distribution employment rose by more than 28%. In the City of Charlotte, Logistics & Distribution companies grew their workforce by 32%.

Notably, collective Logistics & Distribution employment in the four Corridors of Opportunity outperformed the city's gains on a percentage basis and is more concentrated compared to the US average. Virtually all of new job growth occurred in the Wilkinson Boulevard and Sugar Creek corridors. Logistics & Distribution employment in Albemarle is minimal, though 1,500 residents commute out for jobs.

Logistics & distribution employment growth, 2014 - 2019



Source: EMSI

NICHE SECTORS

Intermodal Distribution - The modern Logistics & Distribution industry relies on the seamless integration of rail, truck, air, and sea transportation modes. Regions rich with infrastructure and geographic advantages are best positioned to capture various elements of the Intermodal Distribution sector. Charlotte is one of these regions. The Charlotte Douglas International Airport, located immediately adjacent to the Wilkinson Boulevard corridor, is perhaps best known for its passenger air service. During the past decade, however, freight traffic at the airport has risen considerably; between 2012 and 2019, landed freight at the Charlotte Douglas International Airport more than doubled. Increased freight activity has helped boost local employment in areas such as Freight Transportation Arrangement and Support Activities for Air Transportation.

Fulfillment Centers - As more retailers are offering unlimited free delivery as well as same-day or two-hour delivery, proximity to consumer markets has grown more important to warehousing site selection. Fulfillment centers may have 60-100,000 square feet - much smaller than the typical 1+M sf distribution centers built to serve large, sometimes multi-state regions. Fast-growing e-commerce segments such as groceries are increasingly exploring the use of "micro" fulfillment centers in urban areas.

Logistics & Distribution - Workforce Profile

Leading Logistics & Distribution occupations typically have modest educational requirements. Among the twenty leading occupations supporting the Charlotte region's Logistics & Distribution industry, only one requires a four-year college degree. All four corridors are home to relatively large proportions of residents employed in leading Logistics & Distribution occupations.

Leading Logistics & Distribution occupations in Charlotte region

SOC Code	Industry Group	2019 Charlotte Regional Employment	Beatties Ford (28212) Resident Worker LQ		Freedom, Wilkinson & West (28208) Resident Worker LQ		Sugar Creek (28206/28213) Resident Worker LQ		Albemarle (28205/28212) Resident Worker LQ	
53-3032	Heavy and Tractor-Trailer Truck Drivers	11,091	1.3	●	1.6	●	1.4	●	1.1	●
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	5,379	1.4	●	1.7	●	1.4	●	1.3	●
53-7051	Industrial Truck and Tractor Operators	2,575	1.4	●	1.6	●	1.4	●	1.2	●
53-7065	Stockers and Order Fillers	2,012	1.2	●	1.1	●	1.1	●	1.0	●
53-1047	First-Line Supervisors of Transportation and Material Moving Workers,	1,388	1.5	●	1.8	●	1.6	●	1.3	●
53-3033	Light Truck Drivers	1,122	1.2	●	1.3	●	1.2	●	1.1	●
53-7064	Packers and Packagers, Hand	818	1.5	●	1.6	●	1.5	●	1.3	●
43-5011	Cargo and Freight Agents	784	2.1	●	2.9	●	1.9	●	1.7	●
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	736	1.2	●	1.4	●	1.3	●	1.2	●
43-5071	Shipping, Receiving, and Inventory Clerks	648	0.9	●	1.0	●	0.9	●	0.9	●
43-9061	Office Clerks, General	683	0.9	●	0.9	●	0.9	●	0.9	●
43-4051	Customer Service Representatives	594	1.2	●	1.2	●	1.2	●	1.3	●
43-5032	Dispatchers, Except Police, Fire, and Ambulance	596	1.2	●	1.4	●	1.2	●	1.0	●
11-1021	General and Operations Managers	489	0.8	●	0.9	●	0.9	●	0.9	●
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Finan	475	1.4	●	1.5	●	1.4	●	1.5	●
43-1011	First-Line Supervisors of Office and Administrative Support Workers	368	0.9	●	0.9	●	1.0	●	1.1	●
43-3031	Bookkeeping, Accounting, and Auditing Clerks	329	1.0	●	1.0	●	1.0	●	1.1	●
49-9071	Maintenance and Repair Workers, General	286	0.9	●	0.9	●	0.9	●	0.9	●
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and E	287	0.7	●	0.7	●	0.7	●	0.8	●
53-3031	Driver/Sales Workers	233	1.6	●	1.6	●	1.5	●	1.4	●

- Higher than average concentration of residents employed in occupation (LQ > 1.0)
- Average to slightly lower than average concentration of residents employed in occupation (LQ = 0.5 - 1.0)
- Much lower than average concentration of residents employed in occupation (LQ < 0.5)

Source: EMSI

Logistics & Distribution - Workforce Profile

Typical Logistics & Distribution occupations are characterized by modest educational requirements. Most of the industry's leading occupations require at most a high school degree or on-the-jobs training. Approximately half of the twenty most common Logistics & Distribution occupations have median wages of at least \$20 an hour.

Leading Logistics & Distribution occupations in Charlotte region

SOC Code	Industry Group	2019 Charlotte Regional Employment	Typical Educational Requirement	Median Hourly Wage
53-3032	Heavy and Tractor-Trailer Truck Drivers	11,091	Postsecondary nondegree award	\$21.65
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	5,379	No formal educational credential	\$13.04
53-7051	Industrial Truck and Tractor Operators	2,575	No formal educational credential	\$16.19
53-7065	Stockers and Order Fillers	2,012	High school diploma or equivalent	\$12.41
53-1047	First-Line Supervisors of Transportation and Material Moving Workers,	1,388	High school diploma or equivalent	\$25.23
53-3033	Light Truck Drivers	1,122	High school diploma or equivalent	\$15.09
53-7064	Packers and Packagers, Hand	818	No formal educational credential	\$11.40
43-5011	Cargo and Freight Agents	784	High school diploma or equivalent	\$22.53
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	736	High school diploma or equivalent	\$23.52
43-5071	Shipping, Receiving, and Inventory Clerks	648	High school diploma or equivalent	\$16.52
43-9061	Office Clerks, General	683	High school diploma or equivalent	\$16.06
43-4051	Customer Service Representatives	594	High school diploma or equivalent	\$17.55
43-5032	Dispatchers, Except Police, Fire, and Ambulance	596	High school diploma or equivalent	\$19.95
11-1021	General and Operations Managers	489	Bachelor's degree	\$54.20
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Finance	475	High school diploma or equivalent	\$23.67
43-1011	First-Line Supervisors of Office and Administrative Support Workers	368	High school diploma or equivalent	\$27.45
43-3031	Bookkeeping, Accounting, and Auditing Clerks	329	Some college, no degree	\$19.80
49-9071	Maintenance and Repair Workers, General	286	High school diploma or equivalent	\$20.34
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and	287	High school diploma or equivalent	\$18.71
53-3031	Driver/Sales Workers	233	High school diploma or equivalent	\$9.08

Source: EMSI

Manufacturing - Industry Overview

INDUSTRY OVERVIEW

Manufacturing involves the transformation of raw materials into components and finished products. As Manufacturing operations typically involve substantial capital investment, provide relatively high-paying employment opportunities, and often generate significant multiplier effects, the industry is aggressively recruited by communities throughout the US.

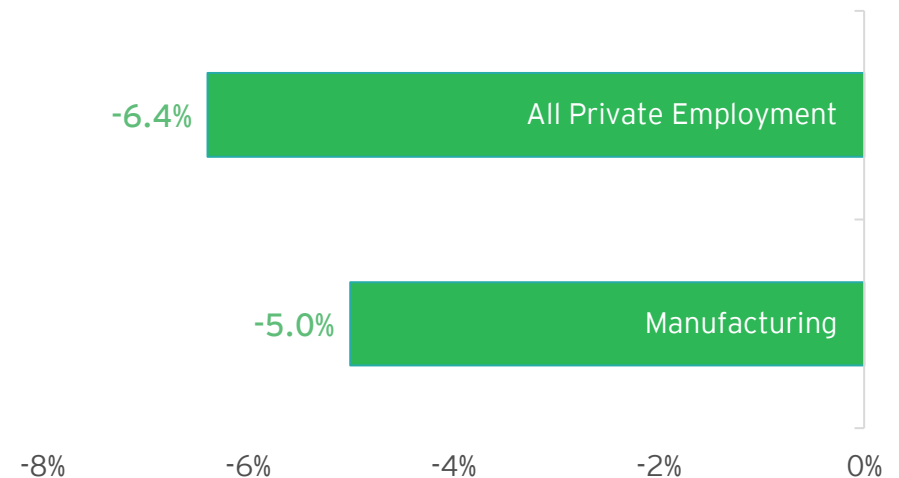
During the past decade, domestic manufacturing has enjoyed a period of sustained employment growth. On a year-over-year basis, US manufacturers added workers to their payrolls every year between 2010 and 2019. Today, more than 12 million Americans work in Manufacturing. Increased automation has helped fuel demand for skilled workers and continued to the industry's relatively high wages. At nearly \$70,000, the average Manufacturing wage is \$10,000 higher than the national average.

Infrastructure and workforce considerations often drive Manufacturing company location decisions. On the labor front, Manufacturing companies are typically attracted to communities with a labor force that is both skilled and cost-competitive. As proximity to customers and suppliers can be critical, domestic manufacturers often prefer locations with proximity to an interstate, seaport, cargo airport, and/or rail line. Manufacturing operations often requires plentiful, affordable energy supplies. Some companies may also have specific water and wastewater requirements. Finally, large-scale manufacturing companies tend to pursue incentive packages when exploring new locations.

GLOBAL FORCES

After several decades in which US companies increasingly moved production to foreign shores, the limits of offshoring have become increasingly evident. During the initial outbreak of the COVID pandemic, for example, personal protective equipment and other essential items were scarce due to the lack of domestic producers. Rising concerns about lax intellectual property protection overseas, a growing global tide of protectionism, increased automation, and the need to boost the resiliency of the supply chain all promise to contribute to a reshoring of manufacturing in America in the coming years.

US employment change, January 2020 - September 2020



Source: Bureau of Labor Statistics

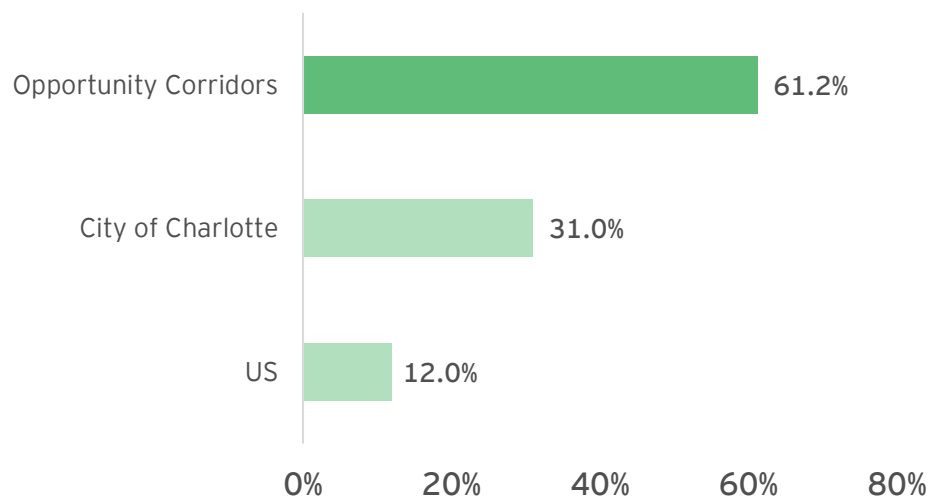
Manufacturing - Performance & Niche Sectors

LOCAL PERFORMANCE

In recent years, the Manufacturing industry in Charlotte has performed extremely well. Between 2014 and 2019, manufacturing employment in the city rose by 31%, more than double the national rate of growth during this period.

On a percentage basis, Manufacturing employment in the four Corridors of Opportunity outperformed national and citywide averages between 2014 and 2019. While employment remains modest, there has been significant employment growth between 2014 and 2019.

Manufacturing employment growth, 2014 - 2019



Source: EMSI

NICHE SECTORS

Food Processing - Food Processing involves the transforming of livestock and agricultural products into products for intermediate or final consumption. Food Processing operations typically support wholesalers or retailers for distribution to consumers. Industry growth is typically driven by evolving consumer tastes. In recent years, for example, the market has benefitted from increasing demand for food products that require little or no preparation as well as food products that are considered healthy or natural. In recent years, industry innovation has focused on the development of meat alternative products.

Medical Equipment & Supplies - Medical Equipment & Supplies encompasses a variety of products that support human health, including basic items such as surgical gloves and instruments to remarkably complex medical diagnostic tools. In recent years, growth in the Medical Device & Supplies industry has been fueled by a variety of favorable trends. Within the US, the aging of the US population assures a growing market for a variety of healthcare products, including Medical Devices & Supplies. In foreign markets, rising incomes in developing countries are creating new export opportunities for US manufacturers. Federal reshoring initiatives will likely target this industry.

Consumer Goods Assembly - With the new expansion of Lowe's Global Technology Hub and proximity Lowe's larger distribution network, opportunities may exist to attract a value-added manufacturer similar to the garden hose manufacturer attracted to a Charlotte suburb last year (144 employees in 120,000 sf).

Manufacturing - Workforce Profile

Occupations that support Food Processing and Medical Equipment & Supplies operations in the Charlotte region typically require a high school diploma or equivalent. Some positions may require additional on-the-job training. Relatively to the national average, individuals residing in both the Corridors are more likely to work in leading Manufacturing occupations.

Leading Manufacturing occupations in Charlotte region

SOC Code	Industry Group	2019 Charlotte Regional Employment	Beatties Ford (28212) Resident Worker LQ	Freedom, Wilkinson & West (28208) Resident Worker LQ	Sugar Creek (28206/28213) Resident Worker LQ	Albemarle (28205/28212) Resident Worker LQ
51-9111	Packaging and Filling Machine Operators and Tenders	579	0.8	0.9	0.8	0.9
51-3092	Food Batchmakers	344	--	0.7	0.5	0.5
51-3011	Bakers	324	0.7	0.7	0.7	0.8
53-7064	Packers and Packagers, Hand	293	1.5	1.6	1.5	1.3
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	249	1.4	1.7	1.4	1.3
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	230	1.3	1.6	1.3	1.3
51-1011	First-Line Supervisors of Production and Operating Workers	228	0.7	0.8	0.7	0.7
51-9198	Helpers--Production Workers	228	1.4	1.7	1.4	1.3
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	179	0.8	0.9	0.8	0.8
41-4012	Sales Representatives, Wholesale and Manufacturing	171	1.1	1.2	1.1	1.1
41-2011	Cashiers	168	1.2	1.0	1.1	1.0
41-2031	Retail Salespersons	168	1.1	1.0	1.0	1.0
51-2098	Miscellaneous Assemblers and Fabricators	143	1.0	1.2	1.0	0.9
53-3031	Driver/Sales Workers	143	1.6	1.6	1.5	1.4
35-3023	Fast Food and Counter Workers	135	1.3	1.3	1.2	1.1
53-7051	Industrial Truck and Tractor Operators	130	1.4	1.6	1.4	1.2
49-9041	Industrial Machinery Mechanics	127	0.7	0.8	0.7	0.7
49-9071	Maintenance and Repair Workers, General	102	0.9	0.9	0.9	0.9
51-9011	Chemical Equipment Operators and Tenders	96	--	--	0.7	0.7
41-9011	Demonstrators and Product Promoters	96	1.5	1.6	1.4	1.6

-  Higher than average concentration of residents employed in occupation (LQ > 1.0)
-  Average to slightly lower than average concentration of residents employed in occupation (LQ = 0.5 - 1.0)
-  Much lower than average concentration of residents employed in occupation (LQ < 0.5)

Source: EMSI

Manufacturing - Workforce Profile

The leading Manufacturing occupations in Charlotte region have minimal educational requirements. Among the 20 largest occupational groups that support the region's manufacturers, all either require a high school diploma or have no formal educational credential. Wages among these occupations vary widely. While median hourly wages for some positions are as low as \$10 an hour, other occupations have median wages in excess of \$30 an hour.

Leading Manufacturing occupations in Charlotte region

SOC	Industry Group	2019 Charlotte Regional	Typical Educational Requirement	Median Hourly
51-9111	Packaging and Filling Machine Operators and Tenders	579	High school diploma or equivalent	\$15.02
51-3092	Food Batchmakers	344	High school diploma or equivalent	\$13.10
51-3011	Bakers	324	No formal educational credential	\$12.95
53-7064	Packers and Packagers, Hand	293	No formal educational credential	\$12.25
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	249	No formal educational credential	\$13.94
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	230	High school diploma or equivalent	\$18.19
51-1011	First-Line Supervisors of Production and Operating Workers	228	High school diploma or equivalent	\$31.02
51-9198	Helpers--Production Workers	228	High school diploma or equivalent	\$13.89
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	179	High school diploma or equivalent	\$19.80
41-4012	Sales Representatives, Wholesale and Manufacturing	171	High school diploma or equivalent	\$33.69
41-2011	Cashiers	168	No formal educational credential	\$11.55
41-2031	Retail Salespersons	168	No formal educational credential	\$12.75
51-2098	Miscellaneous Assemblers and Fabricators	143	High school diploma or equivalent	\$16.12
53-3031	Driver/Sales Workers	143	High school diploma or equivalent	\$9.54
35-3023	Fast Food and Counter Workers	135	No formal educational credential	\$10.24
53-7051	Industrial Truck and Tractor Operators	130	No formal educational credential	\$17.54
49-9041	Industrial Machinery Mechanics	127	High school diploma or equivalent	\$28.08
49-9071	Maintenance and Repair Workers, General	102	High school diploma or equivalent	\$22.00
51-9011	Chemical Equipment Operators and Tenders	96	High school diploma or equivalent	\$26.10
41-9011	Demonstrators and Product Promoters	96	No formal educational credential	\$11.06

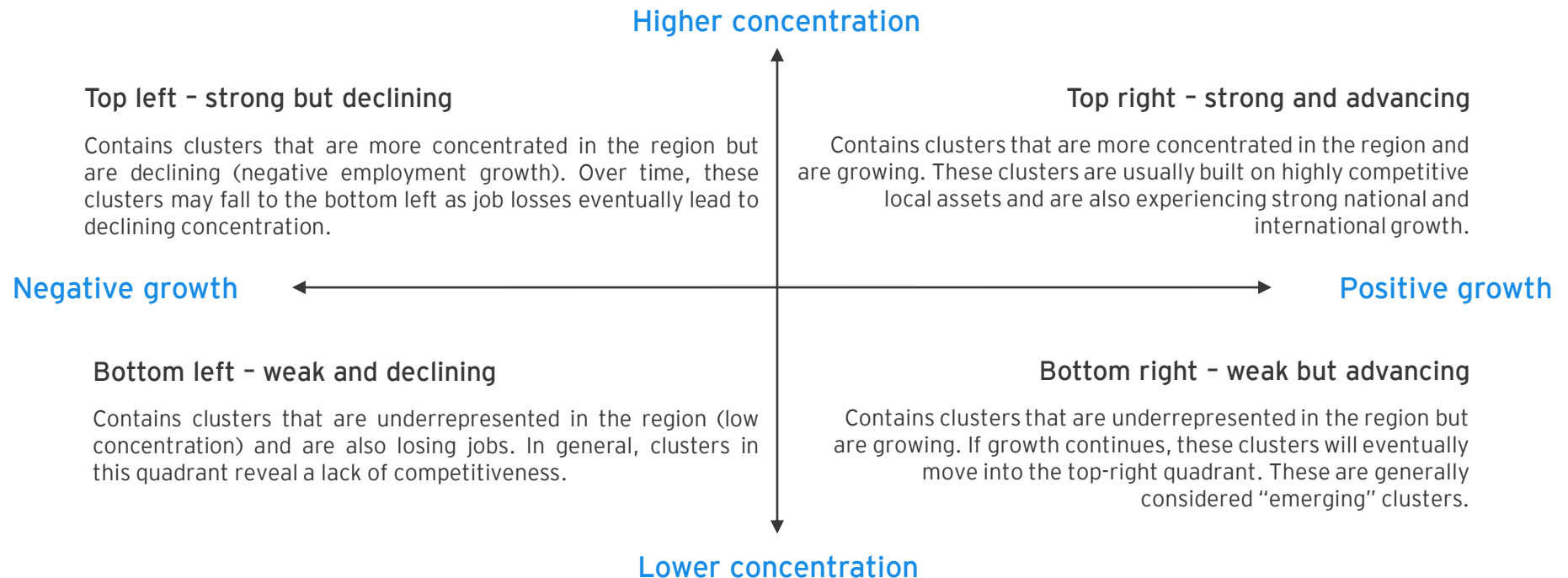
Source: EMSI

City and Regional Employment Cluster Trends



Industry cluster analysis

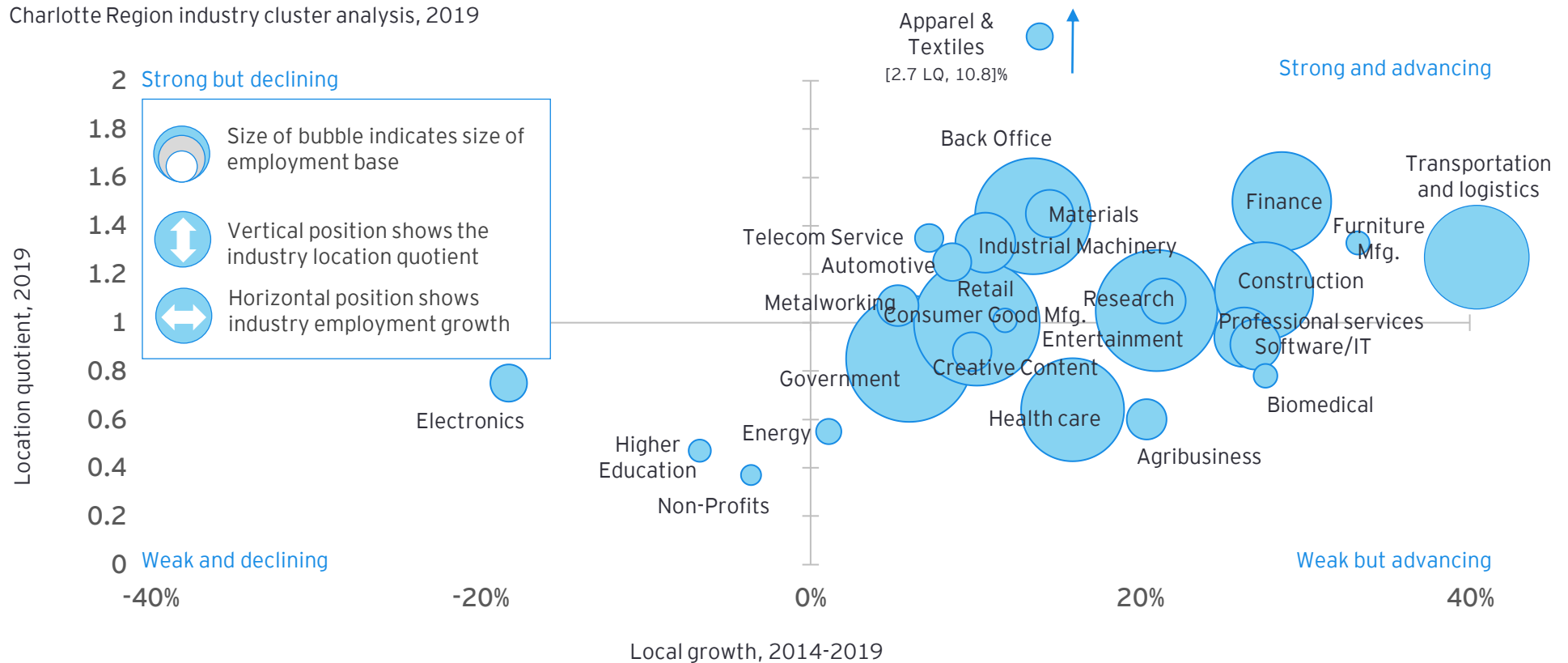
The chart on the following page combines LQs, growth and relative size to illustrate the industry cluster performance of both the City of Charlotte as well as the broader Charlotte region. The analysis provides a more granular view of employment dynamics than traditional federal definitions (as seen in the preceding section). 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 map below.



Regional industry composition

Between 2014 and 2019, virtually every industry cluster in the Charlotte region posted employment growth. This includes larger clusters such as Healthcare and Retail as heavily concentrated sectors such as Back Office, Finance, and Transportation & Logistics. Small, emerging clusters with strong employment gains included Professional Services and Software/IT.

Charlotte Region industry cluster analysis, 2019



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

Regional industry composition, continued

Charlotte Region industry cluster performance, 2019

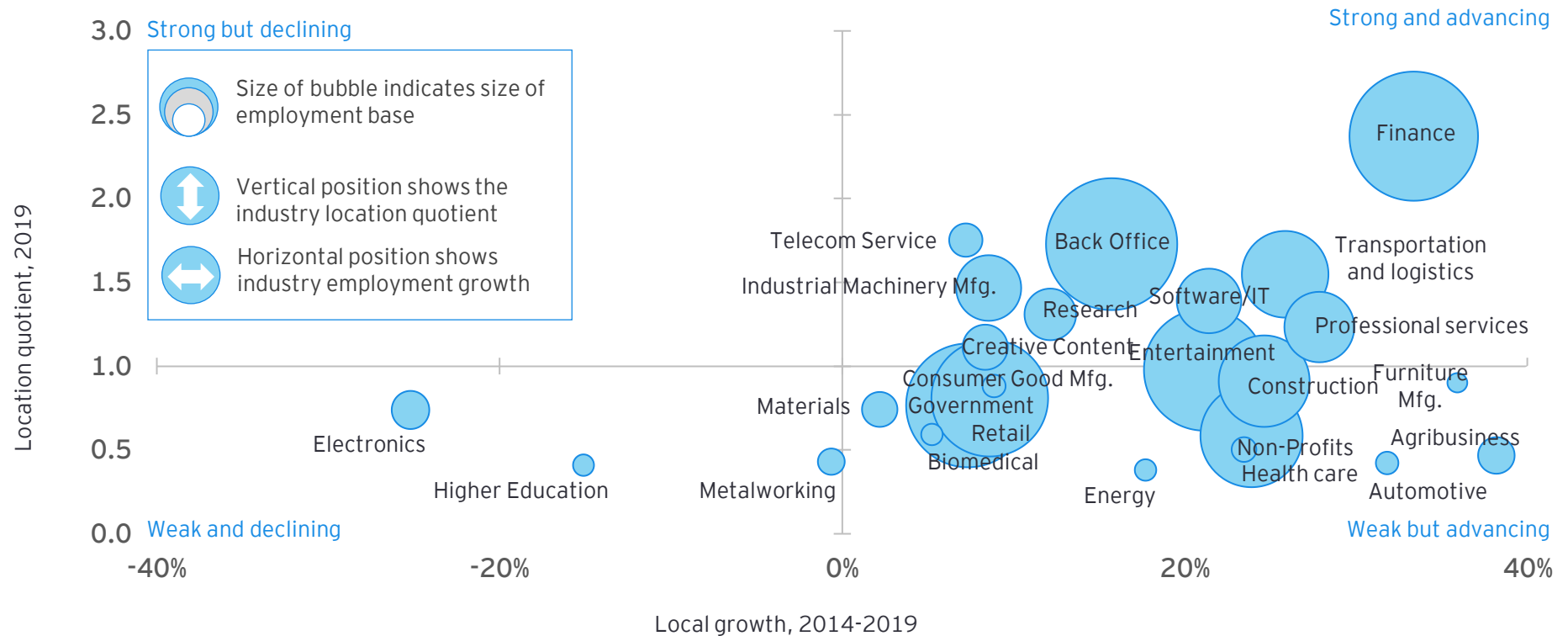
Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)	Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)
Agribusiness & Food	16,002	20.40%	0.6	Government	156,623	6.00%	0.9
Apparel & Textiles	11,464	10.80%	2.7	Healthcare	104,703	15.90%	0.6
Automotive	14,431	8.60%	1.3	Higher Education	5,022	-6.70%	0.5
Back Office	131,663	13.50%	1.4	Industrial Machinery	35,618	10.60%	1.3
Biomedical	5,884	27.60%	0.8	Materials	22,629	14.50%	1.5
Construction	94,664	27.50%	1.1	Metalworking	16,815	5.30%	1.1
Consumer Goods Mftg	5,690	11.80%	1.0	Non-Profits	4,334	-3.60%	0.4
Creative Content	15,022	9.80%	0.9	Professional Services	34,733	26.30%	0.9
Education	12,816	43.10%	0.9	Research	20,350	21.40%	1.1
Electronics	13,826	-18.30%	0.8	Retail	155,516	10.10%	1.0
Energy	6,512	1.10%	0.6	Software / Info. Tech.	25,112	27.00%	0.9
Entertainment	145,118	21.00%	1.1	Telecom Services	7,980	7.20%	1.4
Finance	96,176	28.60%	1.5	Transportation & Logistics	56,944	40.30%	1.3
Furniture	5,528	33.20%	1.3	Total	1,224,473	16.20%	

Sources: EMSI

City industry composition

Most industry cluster in the City of Charlotte experienced employment growth between 2014 and 2019. This includes large clusters such as Back Office, Retail, and Entertainment as well as emerging sectors such as Biomedical, Consumer Good Manufacturing and Automotive Manufacturing. Some of the most concentrated industry clusters in the city include Finance (2.4 LQ), Back Office (1.7), and Transportation & Logistics (1.6).

Charlotte industry cluster analysis, 2019



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

City industry composition, continued

City of Charlotte industry cluster performance, 2019

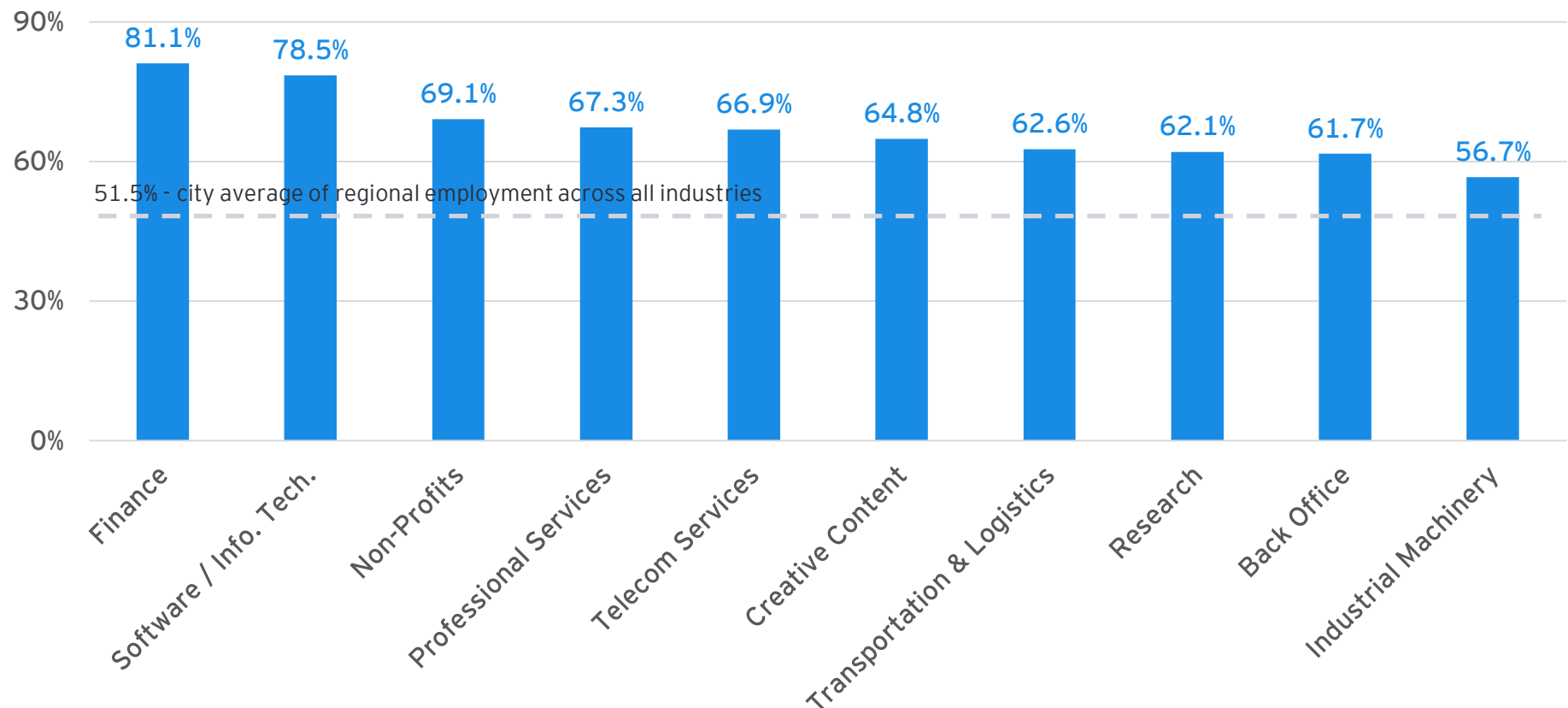
Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)	Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)
Agribusiness & Food	6,416	38.2%	0.47	Government	72,415	7.3%	0.77
Apparel & Textiles	2,467	48.9%	1.14	Healthcare	49,502	23.9%	0.58
Automotive	2,499	31.8%	0.42	Higher Education	2,228	-15.1%	0.41
Back Office	81,174	15.7%	1.73	Industrial Machinery	20,188	8.5%	1.47
Biomedical	2,299	5.2%	0.59	Materials	5,944	2.2%	0.74
Construction	39,358	24.6%	0.91	Metalworking	3,467	-0.6%	0.43
Consumer Goods Mfg.	2,556	8.9%	0.88	Non-Profits	2,993	23.5%	0.50
Creative Content	9,739	8.4%	1.11	Professional Services	23,392	27.8%	1.23
Education	5,822	40.7%	0.82	Research	12,633	12.2%	1.31
Electronics	6,957	-25.2%	0.74	Retail	64,617	8.6%	0.81
Energy	2,325	17.7%	0.38	Software / Info. Tech.	19,713	21.4%	1.39
Entertainment	69,667	21.1%	0.98	Telecom Services	5,336	7.2%	1.75
Finance	77,994	33.4%	2.37	Transportation & Logistics	35,647	25.9%	1.55
Furniture	1,924	35.9%	0.90	Total	630,182	17.5%	

Sources: EMSI

City share of regional employment by industry

The City of Charlotte represents slightly more than half of all jobs in the broader metropolitan region. The proportion of jobs of regional jobs compassed by the city, however, varies widely by industry. More than 80% of the region's Finance jobs, for example, are located in the City of Charlotte. A similar share of the region's Software/IT jobs are also located in the city. The City of Charlotte also represents more than 60% of jobs in industries such as Professional Services, Creative Content, Research, and Back Office.

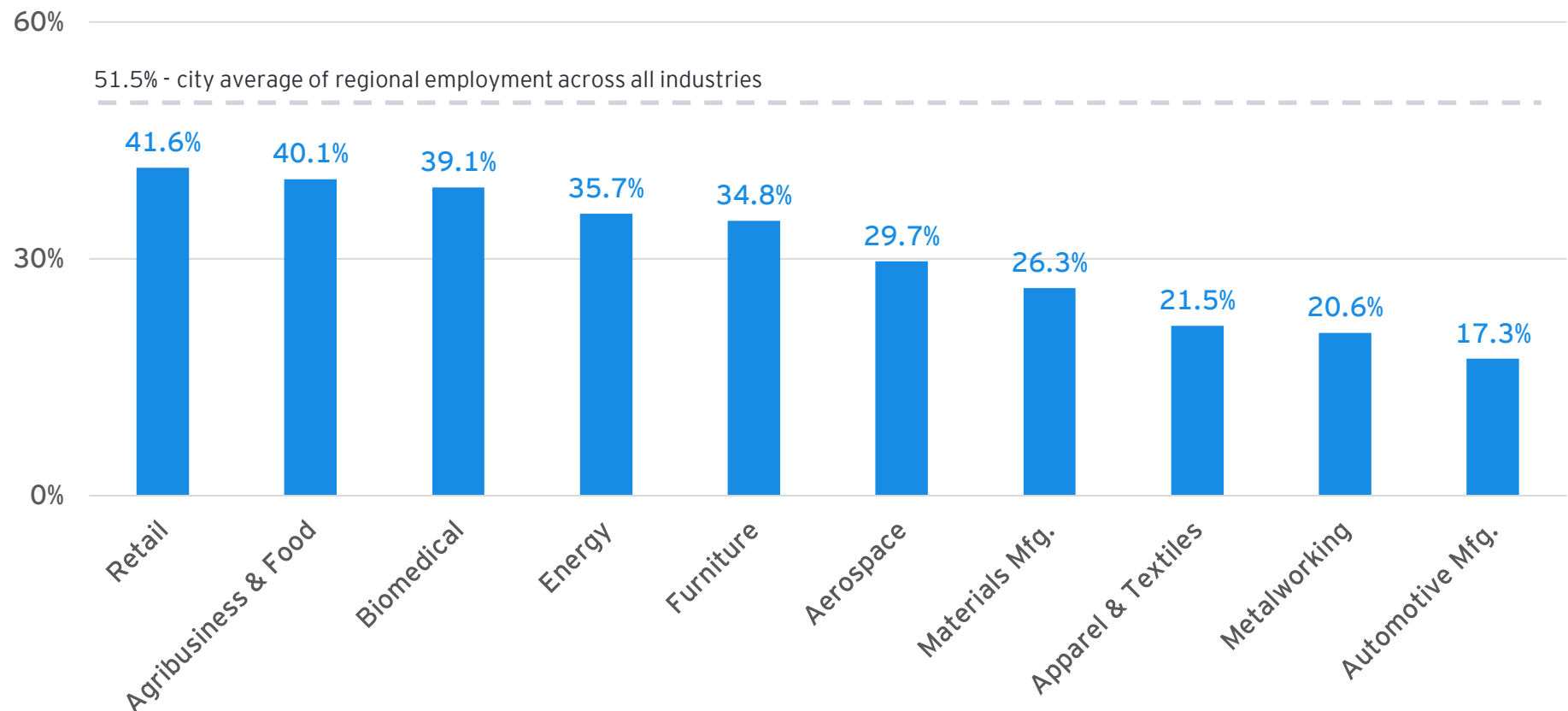
City share of regional employment - 10 industries with highest regional share, 2019



City share of regional employment by industry, *continued*

In general, the City of Charlotte is home to a relatively small share of the region's manufacturing jobs. For example, less than 20% of the region's Automotive Manufacturing jobs are located in the City of Charlotte. The city also comprises less than 25% of Apparel & Textile and Metalworking jobs. Other industries for which the city has a relatively low proportion of regional jobs include Furniture Manufacturing, Aerospace, and Materials Manufacturing.

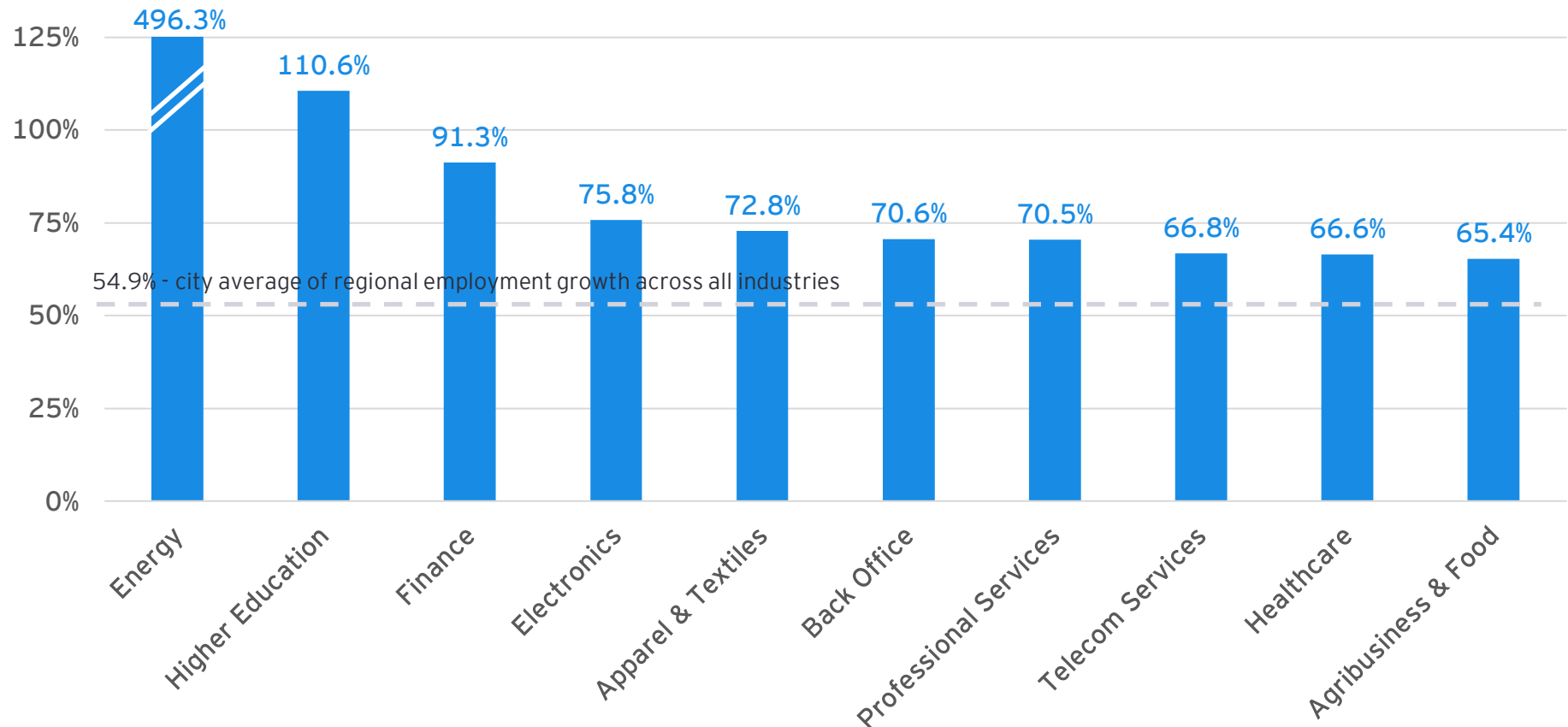
City share of regional employment - 10 industries with lowest regional share, 2019



City share of regional employment growth by industry

In recent years, employment in the City of Charlotte has increased at a faster pace than in the region as a whole. Between 2014 and 2019, approximately 55% of all jobs created in the Charlotte region were located in the city proper. The figure was much higher for specific industries. While Energy jobs declined regionally between 2014 and 2019, they increased in the city. In industries such as Finance, Back Office, and Professional Services, the City of Charlotte expanded upon existing strengths.

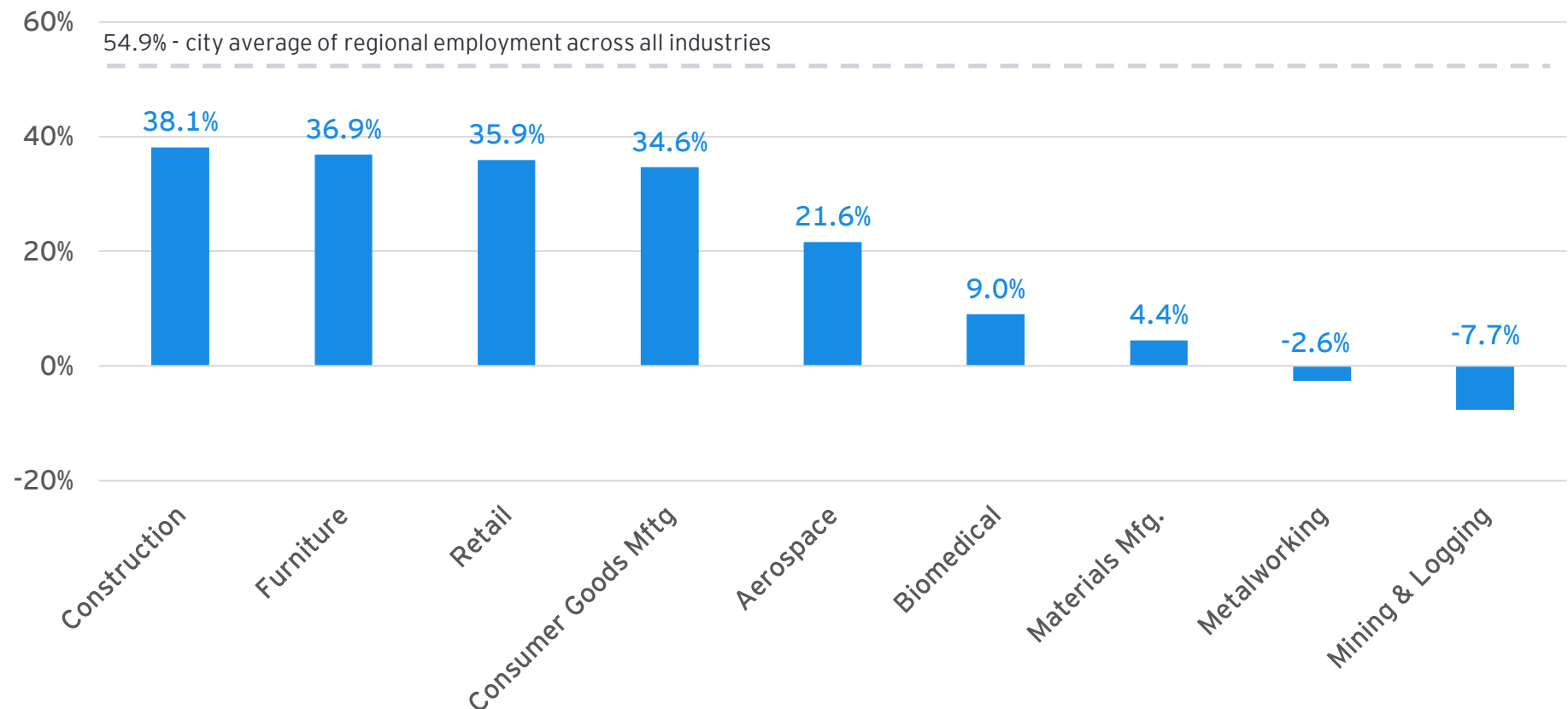
City share of regional employment growth - 10 industries with greatest regional share of growth, 2014 - 2019



City share of regional employment by occupation, *continued*

In other areas, the City of Charlotte captured relatively few jobs created within the region. This is especially true of many manufacturing sectors. In industries such as Furniture Manufacturing, Consumer Goods Manufacturing, Aerospace, Materials Manufacturing, and Metalworking, the majority of regional jobs created have occurred outside of the City of Charlotte. In sectors such as Metalworking and Mining & Logging, city employed declined while regional employment increased.

City share of regional employment growth - 10 industries with lowest regional share of growth, 2014 - 2019

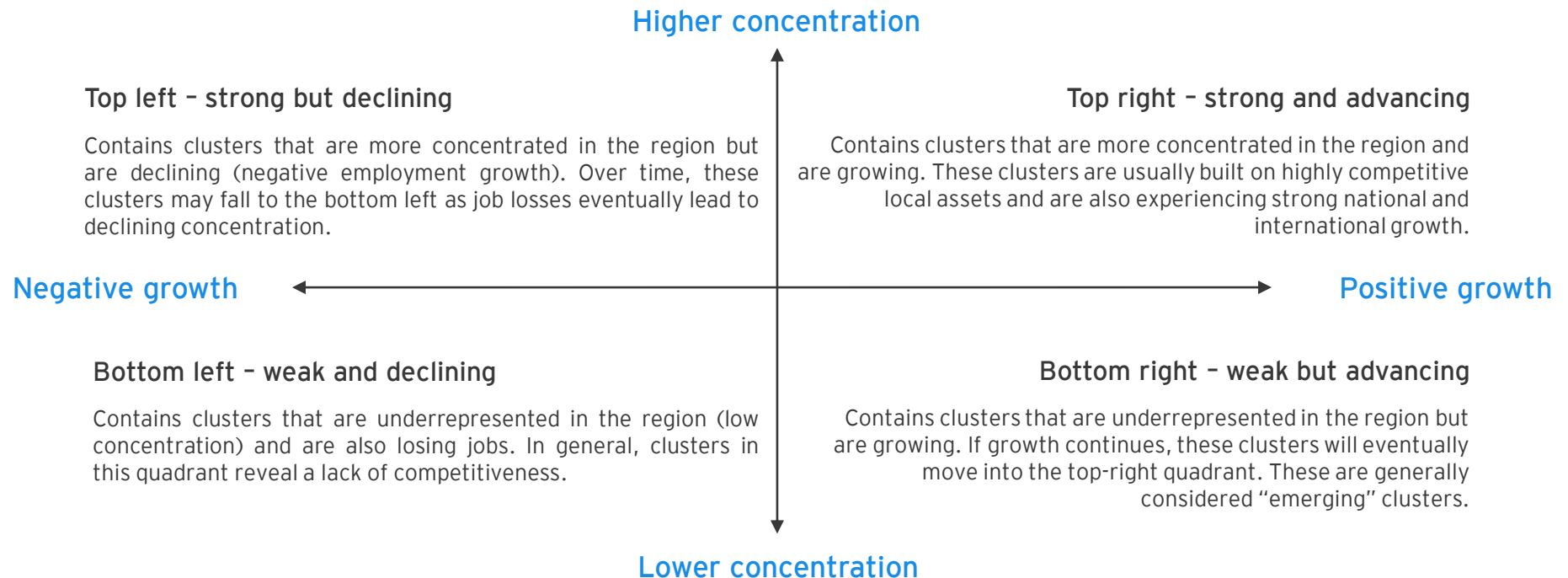


Corridors of Opportunity Industry Cluster Analysis



Industry cluster analysis

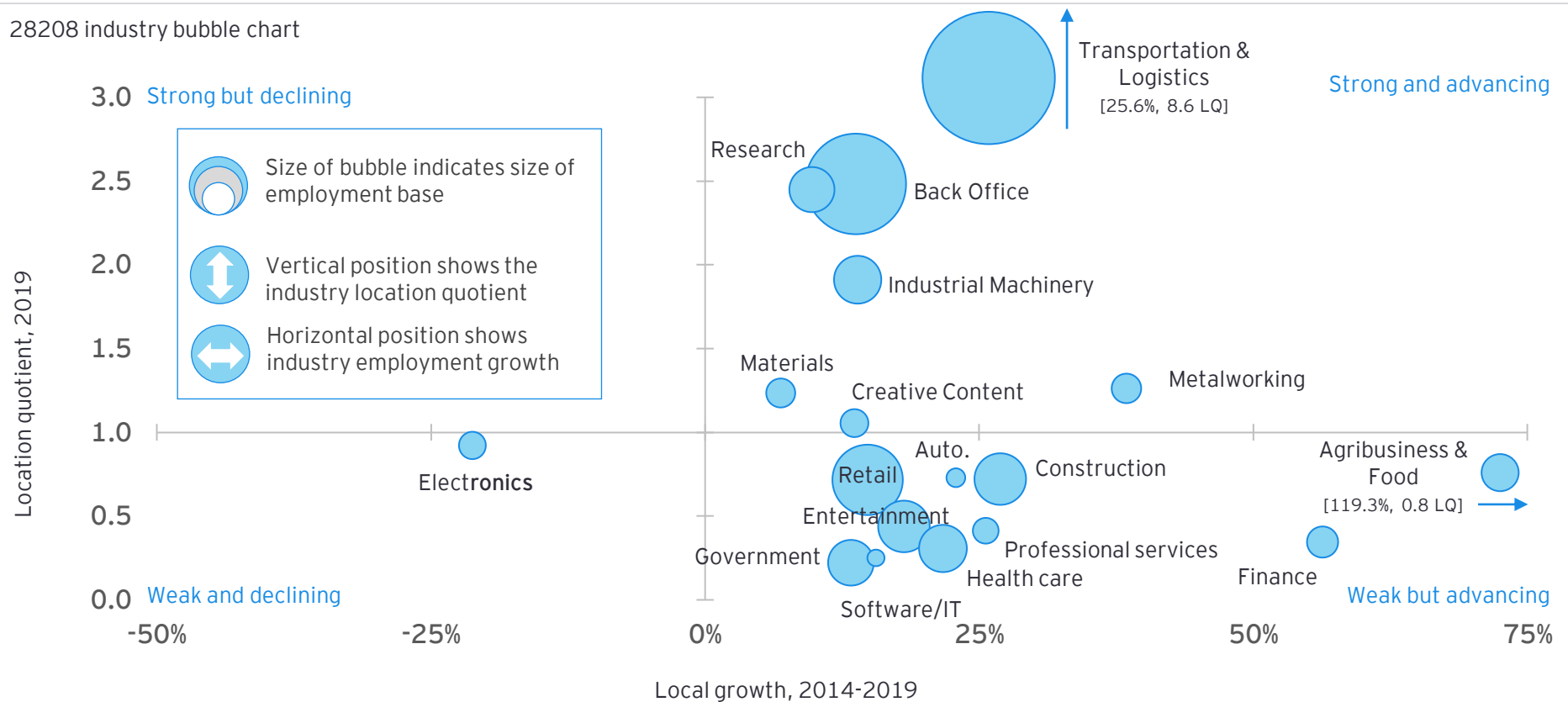
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Industry composition - 28208 Zip Code

During the past five years, most industry clusters in 28208 have posted employment gains. This includes several of the largest clusters in the community – Transportation & Logistics and Back Office – as well as smaller clusters such as Agribusiness & Food. Although most industry sectors in 28208 have experienced employment growth in recent years, Transportation & Logistics and Back Office were responsible for more than half of all job growth in the region between 2014 and 2019.

28208 industry bubble chart



Source:
EMSI (only clusters with more than 250 jobs are shown).

Sources: EMSI

Industry composition - 28208 Zip Code

Although employment in the 28208 zip code is dominated by clusters such as Transportation & Logistics and Back Office, the area is home to an abundance of strong and advancing clusters. These clusters, which are both growing and more concentrated locally relative to the US average, includes higher wage, higher skill industries such as healthcare and finance as well as sectors such as retail and construction that have more modest skill requirements.

28208 industry cluster performance

Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)	Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)
Agribusiness & Food	836	119.3%	0.8	Government	1,860	13.3%	0.2
Apparel & Textiles	525	49.4%	3.1	Healthcare	2,052	21.7%	0.3
Automotive	334	22.9%	0.7	Industrial Machinery	2,038	13.9%	1.9
Back Office	9,029	13.8%	2.5	Materials	765	6.9%	1.2
Construction	2,416	26.9%	0.7	Metalworking	788	38.4%	1.3
Creative Content	715	13.6%	1.1	Professional Services	606	25.6%	0.4
Education (Private)	206	49.7%	0.4	Research	1,829	9.7%	2.4
Electronics	672	-21.2%	0.9	Retail	4,427	14.8%	0.7
Energy	106	18.6%	0.2	Software / Info. Tech.	275	15.6%	0.3
Entertainment	2,411	18.1%	0.4	Telecom Services	165	1.8%	0.7
Finance	877	56.3%	0.3	Transportation & Logistics	15,297	25.6%	8.6
				Total	48,869	20.2%	1.0

Sources: EMSI

Industry composition - 28206/28213 Zip Codes

The 28206/28213 area is home to several strong and advancing clusters—clusters that are both growing and more concentrated locally relative to the US average. Both Professional Services and Back Office employment, for example, rose by more than 20% in the 28206/28213 area between 2014 and 2019. Other growing sectors include Government, Finance, and Entertainment.

28206/28213 industry cluster performance

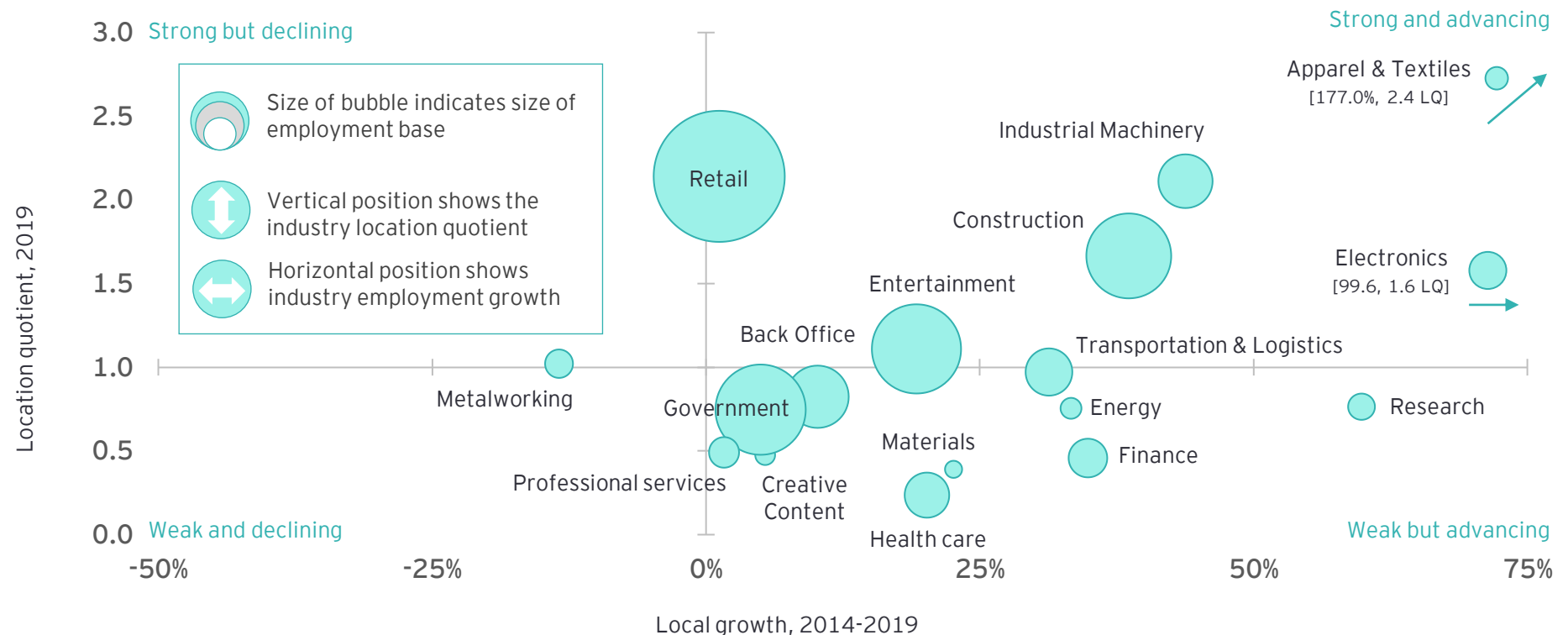
Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)	Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)
Apparel & Textiles	313	130.1%	3.3	Furniture	275	16.5%	3.0
Automotive	551	19.0%	2.1	Government	3,016	25.4%	0.6
Back Office	1,854	23.4%	0.9	Healthcare	1,556	16.9%	0.4
Biomedical	342	-47.5%	2.0	Industrial Machinery	1,640	31.6%	2.7
Construction	4,500	25.9%	2.4	Materials	437	-11.2%	1.3
Consumer Goods Mftg	333	23.8%	2.6	Metalworking	650	-4.1%	1.9
Creative Content	602	-30.8%	1.6	Professional Services	220	25.7%	0.3
Education	161	56.3%	0.5	Research	131	31.0%	0.3
Electronics	417	-51.2%	1.0	Retail	3,561	6.8%	1.0
Energy	148	8.8%	0.6	Telecom Services	472	13.5%	3.6
Entertainment	2,038	11.2%	0.7	Transportation & Logistics	3,435	35.0%	3.4
				Total	27,507	14.3%	1.0

Sources: EMSI

Industry composition - 28216 Zip Code

Similar to the growth dynamics of other examined opportunity corridors, nearly all industry clusters in the 28212 zip code posted employment gains between 2014 and 2019. Metalworking was the only cluster to suffer job losses in the area during this period. In absolute terms, the three clusters experiencing the greatest employment gains during this period were Construction, Entertainment, and Industrial Machinery. Collectively, these three clusters were responsible for approximately 45% of employment growth in the 28212 zip code during the past five years. All three clusters are also concentrated relative to the US average.

28216 industry bubble chart



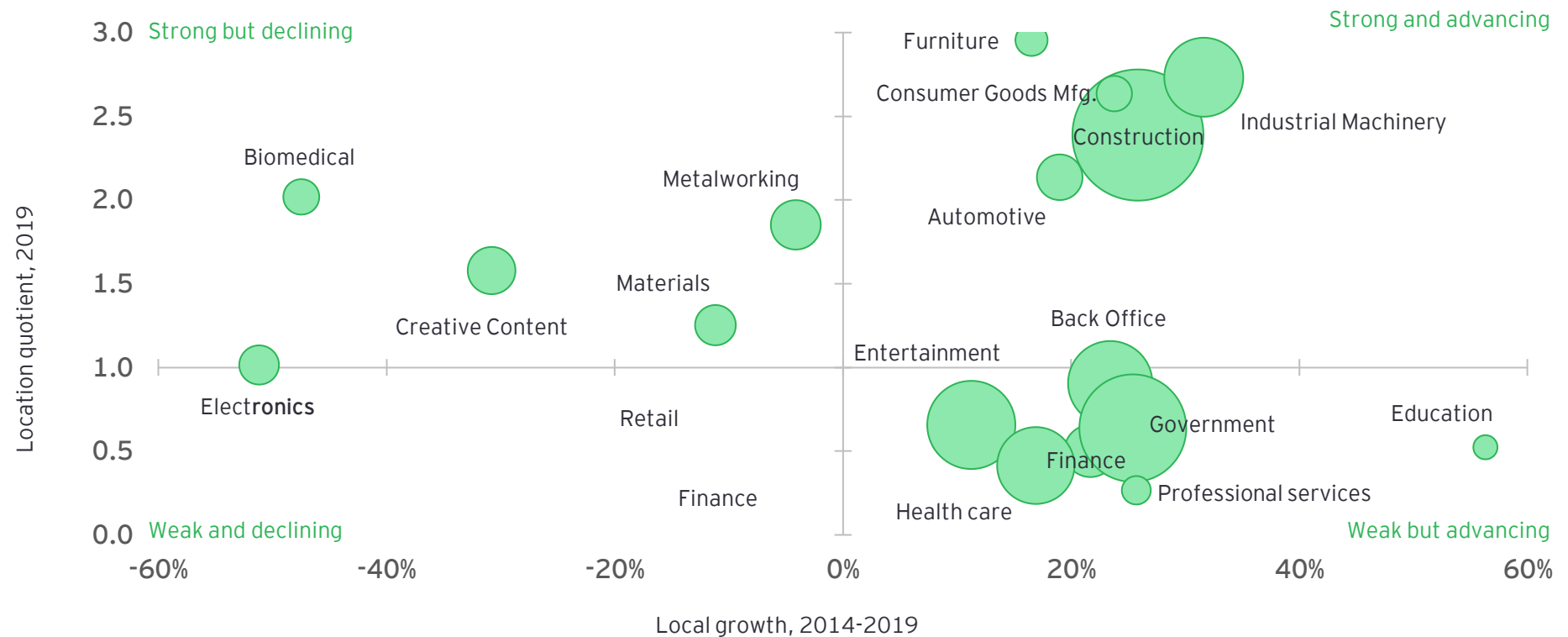
Source:
EMSI (only clusters with more than 100 jobs are shown).

Sources: EMSI

Industry composition - 28206/28213 Zip Codes

Between 2014 and 2019, a majority of industry clusters in the combined 28206/28213 area have posted employment gains. This includes several large, concentrated clusters such as Construction and Industrial Machinery as well as smaller clusters such as Back Office and Health Care. Despite broad industry growth within 28206/28213 area, since 2014 Transportation & Logistics and Construction were responsible for more than half of all job growth in the region between 2014 and 2019.

28206/28213 industry bubble chart



Source:
EMSI (only clusters with more than 250 jobs are shown).

Sources: EMSI

Industry composition - 28216 Zip Code

Although employment in the 28216 zip code is highly concentrated in Construction, Entertainment, and Industrial Machinery, the 28216 zip code features many strong and advancing clusters. These clusters, which are both growing and more concentrated locally relative to the US average, includes Research, Finance, Healthcare, and Back Office.

28216q industry cluster performance

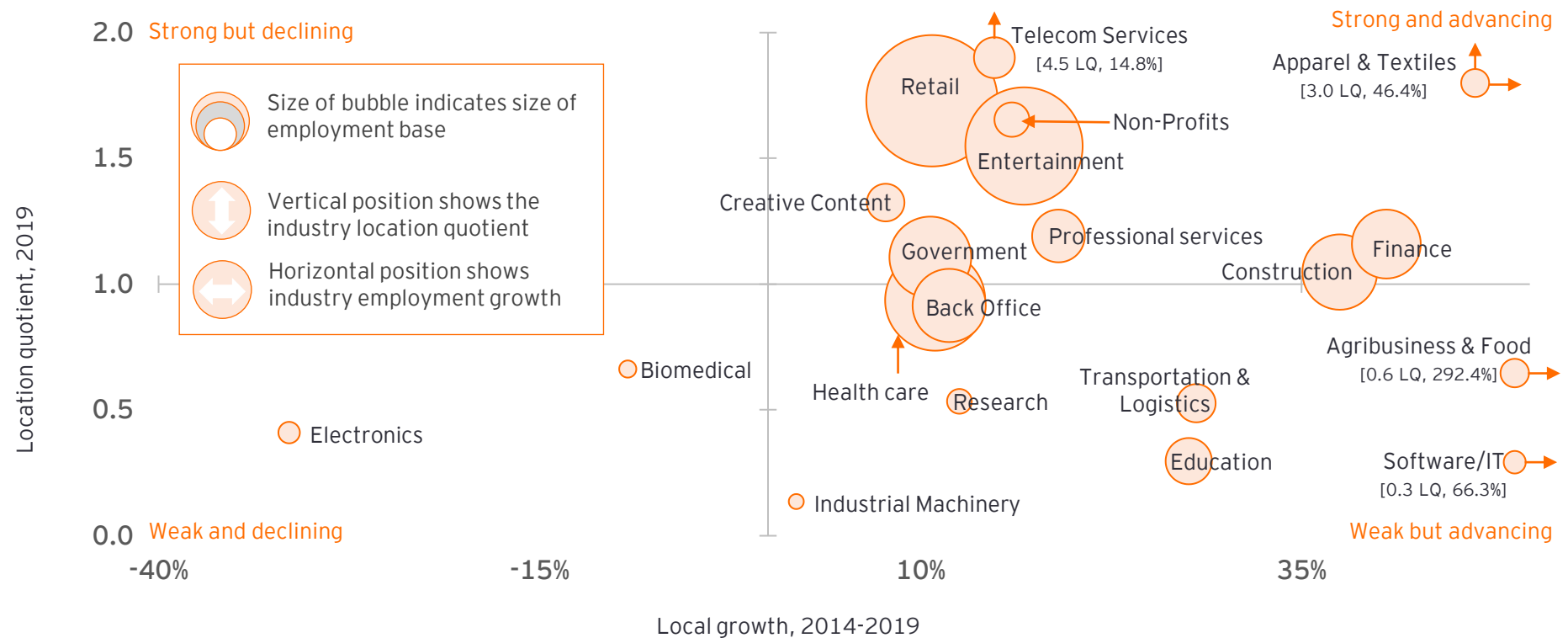
Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)	Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)
Apparel & Textiles	169	177.0%	2.4	Government	2,671	5.0%	0.7
Automotive	58	26.1%	0.3	Healthcare	673	20.2%	0.2
Back Office	1,276	10.2%	0.8	Industrial Machinery	959	43.8%	2.1
Construction	2,373	38.6%	1.7	Materials	103	22.6%	0.4
Creative Content	137	5.4%	0.5	Metalworking	271	-13.4%	1.0
Electronics	489	99.6%	1.6	Professional Services	307	1.7%	0.5
Energy	152	33.3%	0.8	Research	243	59.9%	0.8
Entertainment	2,605	19.2%	1.1	Retail	5,636	1.2%	2.1
Finance	495	34.9%	0.5	Transportation & Logistics	738	31.3%	1.0
Apparel & Textiles	169	177.0%	2.4	Total	20,802	17.1%	1.0
Automotive	58	26.1%	0.3				

Sources: EMSI

Industry composition - 28205/28212 Zip Code

Between 2014 and 2019, most industry clusters in 28205/28212 zip code area have posted employment gains. This includes several of the largest clusters in the community – Retail, Entertainment, and Healthcare – as well as smaller clusters such as Agribusiness & Food. Although most industry sectors in the 28205/28212 zip code area have experienced employment growth in recent years, the top three industries mentioned previously were responsible for nearly half of all net new jobs in the region between 2014 and 2019.

28205/28212 industry bubble chart



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

Sources: EMSI

Industry composition - 28205/28212 Zip Code

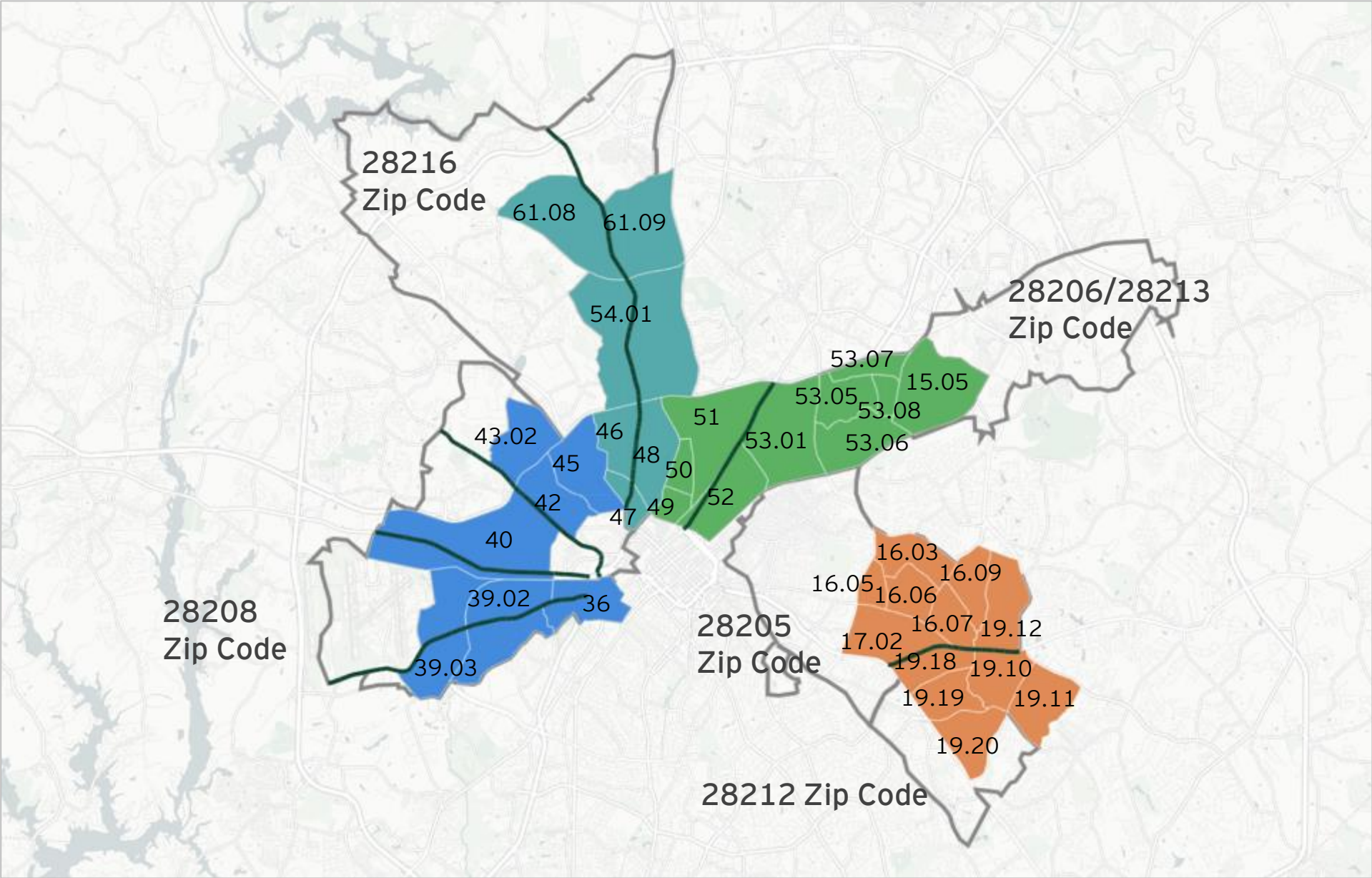
Although employment in the 28205/28212 zip codes is dominated by clusters such as Retail, Entertainment, and Healthcare, the area is home to numerous strong and advancing clusters. These clusters, which are both growing and more concentrated locally relative to the US average, includes higher wage, higher skill industries such as Finance, and Professional Services as well as sectors such as Entertainment, Retail and Apparel & Textiles, which have more modest skill requirements.

28205/28212 industry cluster performance

Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)	Cluster	Employment (2019)	Employment growth (2014-2019)	Location quotient (2019)
Aerospace	38	-69.0%	0.5	Government	1,780	10.7%	1.1
Agribusiness & Food	221	292.4%	0.6	Healthcare	2,705	11.0%	0.9
Apparel & Textiles	216	46.4%	3.0	Industrial Machinery	62	1.8%	0.1
Back Office	1,434	11.9%	0.9	Non-Profits	328	16.0%	1.7
Biomedical	82	-9.2%	0.7	Professional Services	753	19.1%	1.2
Construction	1,511	37.5%	1.0	Research	172	12.6%	0.5
Creative Content	387	7.7%	1.3	Retail	4,603	10.8%	1.7
Education	576	27.6%	0.3	Software / Info. Tech.	138	66.3%	0.3
Electronics	129	-31.5%	0.4	Telecom Services	453	14.8%	4.5
Entertainment	3,675	16.8%	1.5	Transportation & Logistics	404	28.1%	0.5
Finance	1,272	40.6%	1.2	Total	21,043	16.3%	1.0

Sources: EMSI

Study focus by tract



Appendix: Industry Cluster Definitions



Charlotte Corridors of Opportunity target industry definitions

INDUSTRY	NAICS	NAICS Description
Manufacturing	3111	Animal Food Manufacturing
	3112	Grain and Oilseed Milling
	3113	Sugar and Confectionery Product Manufacturing
	3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing
	3115	Dairy Product Manufacturing
	3116	Animal Slaughtering and Processing
	3117	Seafood Product Preparation and Packaging
	3118	Bakeries and Tortilla Manufacturing
	3119	Other Food Manufacturing
	3121	Beverage Manufacturing
	3122	Tobacco Manufacturing
	3254	Pharmaceutical and Medicine Manufacturing
	3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing
Health Care	6211	Offices of Physicians
	6212	Offices of Dentists
	6213	Offices of Other Health Practitioners
	6214	Outpatient Care Centers
	6215	Medical and Diagnostic Laboratories
	6219	Other Ambulatory Health Care Services
	6221	General Medical and Surgical Hospitals
	6222	Psychiatric and Substance Abuse Hospitals
	6223	Specialty (except Psychiatric and Substance Abuse) Hospitals

Charlotte Corridors of Opportunity target industry definitions

INDUSTRY	NAICS	NAICS Description
Information Technology	5112	Software Publishers
	5182	Data Processing, Hosting, and Related Services
	5191	Other Information Services
	5415	Computer Systems Design and Related Services
	5611	Office Administrative Services
	5614	Business Support Services
Logistics & Distribution	4812	Nonscheduled Air Transportation
	4841	General Freight Trucking
	4842	Specialized Freight Trucking
	4881	Support Activities for Air Transportation
	4882	Support Activities for Rail Transportation
	4883	Support Activities for Water Transportation
	4884	Support Activities for Road Transportation
	4885	Freight Transportation Arrangement
	4922	Local Messengers and Local Delivery
	4931	Warehousing and Storage

Charlotte Corridors of Opportunity: Target Industry Analysis

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