Harper College

ENVIRONMENTAL SCAN

FY 2024

Harper College

NORTHERN ILLINOIS UNIVERSITY
Center for
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Outreach, Engagement, and Regional Development

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Harper College Environmental Scan

Introduction

In 2023, Harper College engaged the Center for Governmental Studies to conduct a regional economic analysis to inform the college's planning efforts and inform curriculum development. CGS previously conducted an economic impact study for the Illinois Community College System in 2021, including a statistical overview for the Harper College region. CGS also conducted environmental scans for Harper College in previous years. This study offers an update to the statistical overview that was provided for Harper College in 2021.

Community college districts do not conform directly to other political boundaries, but we approximate the Harper College region in county-level data. In the 2021 Harper College report, the region was represented by the counties of Cook, Lake, and DuPage. Where appropriate, we compare the region to Illinois statewide and the 12-state Midwest region as defined by the U.S. Census Bureau. The Midwest includes the following states: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Kansas, North Dakota, Ohio, and South Dakota.

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Executive Summary

This environmental scan includes a review of population trends, commuting patterns, businesses' employment needs, workforce trends, regional equity indicators, and occupational diversity. It also includes a curriculum analysis, assessing the alignment of Harper College programs with employment opportunities in the region. Below are some key trends from each section:

Population Trends

- Population in the state and region decreased most years between 2014 and 2019, but it increased in 2020. The upward trend was more pronounced in the region than it was in the state or Midwest at large.
- The number of people aged 20-24 within the region is expected to steadily increase. A net increase is also expected for the population aged 15-19, but the trend is less consistent over the 2023-2028 period.
- The region represents the majority of the statewide population, but the total population loss in the region was about 1/3rd of the statewide population loss.
- Population projections indicate that the White and African American populations will continue to decline throughout the region. The Hispanic demographic is projected to continue increasing.

Commuting Patterns

- There are 3,161,547 jobs in the region, of which 77.8% are held by residents and 22.2% are held by people who live outside the region, either commuting in or working remotely.
- Among the 702,702 workers in the region who commute from outside of the region, most come from neighboring counties within the Chicago metropolitan area.
- In-commuting and out-commuting patterns in the region are similar.

Businesses' Employment Needs

- The total number of jobs in the region increased 4.4% between 2012 and 2022, but employment trends varied considerably by type of business. The sector with the largest number of jobs added was professional services with 55,197 jobs added, or 18.6%. The sector with the largest job losses was retail trade, with a decrease of 21,014 jobs or 3.3%.
- The top industries by job postings over the past year are mostly consistent with the top industries by current employment size. Health care was the largest employment sector and it represents the largest share of job postings.
- The most in-demand occupation in the region is registered nursing, with 55,234 unique job postings over the past year.
- The most in-demand specialized skill in the job postings was project management, representing 8.9% of total job postings.
- Most of the certifications prevalent in job postings relate to health care occupations. Registered Nurse certification was the most-in-demand credential.

Workforce Trends

- The unemployment rate declined quickly over 2020 and 2021, and then declined gradually in 2022 and 2023. As of the 3rd quarter 2023, unemployment rates in the region and Illinois were just under 5%.

- Although unemployment rates have mostly returned to pre-pandemic levels, labor force participation remains somewhat lower. In 2019, 66.3% of the region population ages 16 and over were in the labor force. as of August 2023 (latest available), the participation rate was 65.1%.
- Employment in occupations typically requiring a certificate or license are projected to increase 2.8% between 2022 and 2032, but trends vary widely by occupation. The largest share of job openings are for truck drivers, with 6,467 annual openings and 8.3% growth in total employment.
- The total number of jobs in occupations typically requiring an associate's degree are projected to increase 7.2%, with 8,163 annual openings. The largest share of job openings are for preschool teachers and the second largest share of job openings are for paralegals.
- About 21.2% of all associate's-degree-level jobs in the region are held by workers age 55 or older. The occupation with the largest share of workers nearing retirement age was electrical engineers, with 34.7% of workers age 55 or older.

Equity Indicators

- Between 2012 and 2021, the percentage of population in the region with income below poverty level decreased from 14.3% to 11.9%. The share of residents with income below poverty level decreased for all racial and ethnic groups.
- Educational attainment in the region has improved over the decade, as the share of residents with less than a high school diploma decreased from 14.2% to 10.5%, and the share of residents with a college diploma increased from 43.2% to 50.6%. The share of Hispanic residents with less than a high school diploma decreased from 38.5% to 27.1%, and the percentage with a college degree increased from 17.9% to 25.1%.
- Median household income increased for all racial and ethnic groups in the region over the decade. The overall median income increased by about 30% in Cook County and DuPage County.

Occupational Diversity

- Truck driving is one of the higher-paying occupations requiring a certificate or license, and Hispanics and African Americans are highly represented in this occupation.
- Hispanic and African American workers are underrepresented in most of the associate's-degree occupations. The exceptions were preschool teaching, respiratory therapists, and human resources assistants.
- Minorities are especially underrepresented in software development, one of the highest-paying occupations at a bachelor's-degree level.

Curriculum Analysis

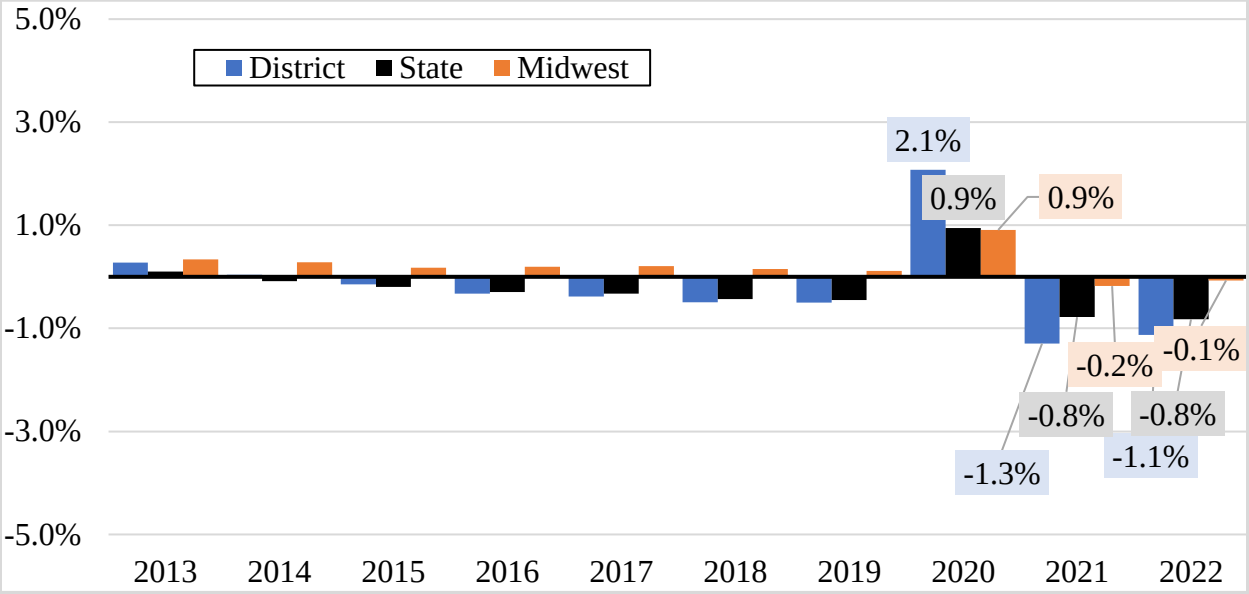
- Fourteen certificate programs and nine career associate programs appear to have strong labor market alignment. All of these programs relate to jobs that pay a living wage in Cook County and have more than 700 annual job openings in the region.
    - Several programs have median earnings above $50 hourly in growing occupations - computer programing, preventive medicine, health information administration, and engineering.

- There were ten certificate programs and three career associate programs that seemed to have declining labor market alignment. These programs relate to occupations that have few job openings or declining and employment, and some pay less than a living wage or already have a large supply of completers relative to the job openings.
    - There are less than 50 job openings for the Emergency Care Attendant program annually, and completers of this program typically earn less than a living wage.
- Some programs relate to occupations with growing employment, but have earnings below the living wage. These programs might still prove valuable for job seekers as part of a career pathway. Examples include:
    - Culinary Arts / Chef Training – median earnings increase to $28.46 for chefs and head cooks
    - Child Care Provider / Assistant – earnings increase to $28.49 for child/family/school social workers
    - Nursing Assistant – earnings increase to $38.27 for registered nurses
    - Building / Property Maintenance – earnings increase to $39.52 for first-line supervisors of repairers
- The current programs offered seem well-suited to current employment needs by businesses. Most of the occupations and certifications that were prevalent in job postings for the region have corresponding curricula at Harper College.
- Harper College also offers programs related to most of the associate's-degree-level occupations with larger shares of workers nearing retirement. An exception was medical equipment repairers- about 1/3rd of current workers in this occupation are age 55 or higher.

Population Trends

Population in the state and region decreased most years between 2014 and 2019, but it increased in 2020. The upward trend was more pronounced in the region than it was in the state or Midwest at large. This is also the case for the following population declines in 2021 and 2022. While the Midwest as a region was increasing in population prior to 2020, the state and the region experienced a pronounced decline as they are in present day.

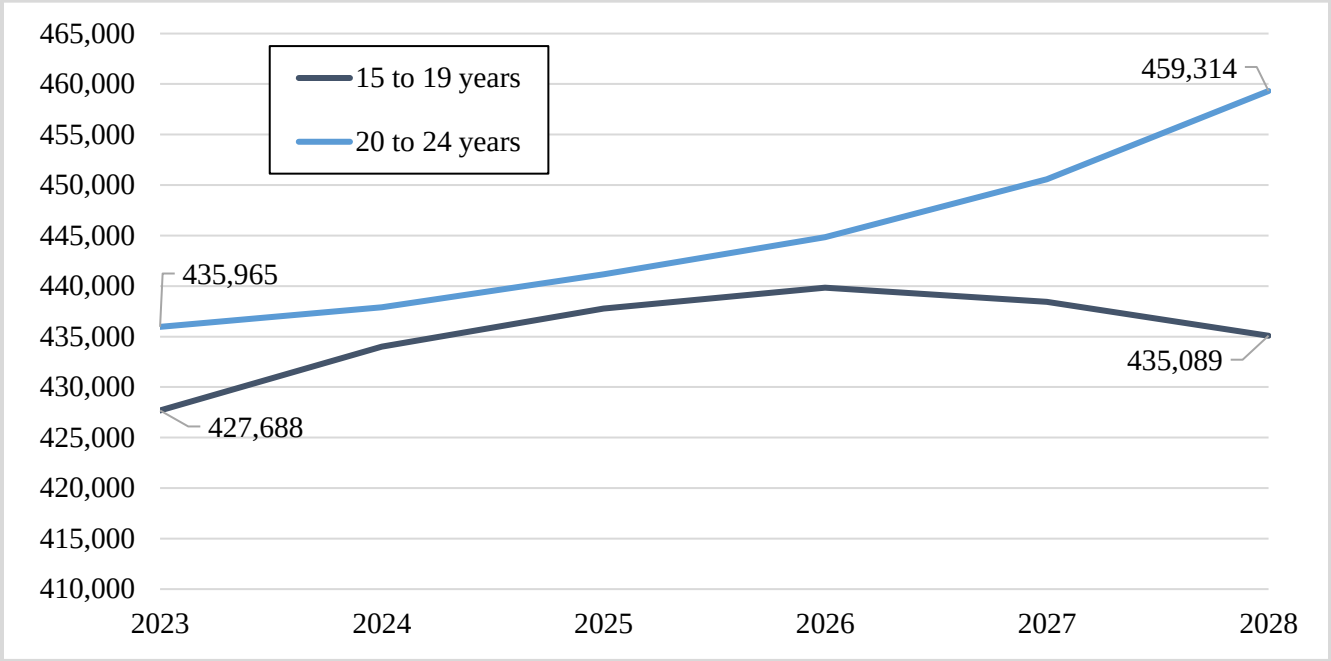
Population Change Over Previous Year, 2012-2022



Source: Lightcast, 2023.

According to 5-year forecasts from Lightcast, the number of people aged 20-24 within the region is expected to steadily increase. A net increase is also expected for the population aged 15-19, but the trend is less consistent. Between 2023 and 2026, the population aged 15-19 is forecast to increase. It is then projected to decrease somewhat in 2027 and 2028, but the projected total population in this age group is forecast to remain higher than in 2023. This implies that the native population of the region will become a less reliable source of enrollments, and that inward migration to the state at the current rate might not sustain this demographic. Combined with a continuously decreasing birth rate nationally since 2007, this implies a heightened level of competition among organizations that rely on this demographic in the future.

College-Aged Population in the Region



Source: Lightcast, 2023.

Trends in the region's demographics (broadly reflective of the US at large) indicate a pronounced contraction in population between the under-five demographic and the ages of 20 and 24. This is largely due to a declining birth rate (which is more pronounced in high population density areas such as the region). While this implies a future lack of working-aged adults and college-aged members of the population, there is a bulge in population among those within the tax-paying class between the ages of 25 and 34 who will be at the peak of their consumption spending within the next 10 years.

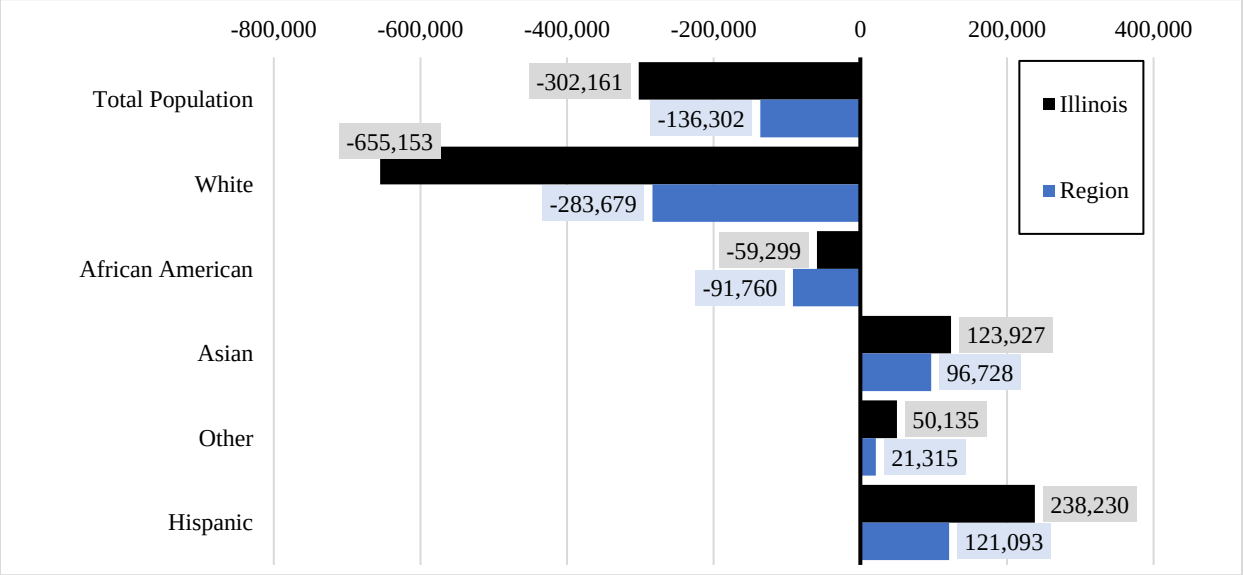
Age Pyramid for the Region

Source: Lightcast, 2023.

Population loss is most profound among the White and African American demographics, while much of the growth is attributed to an increase in Hispanic, Asian, and populations of other racial identities. The

region represents the majority of the statewide population, but the total population loss in the region was about 1/3rd of the statewide population loss, suggesting that the region fared better than the state as a whole.

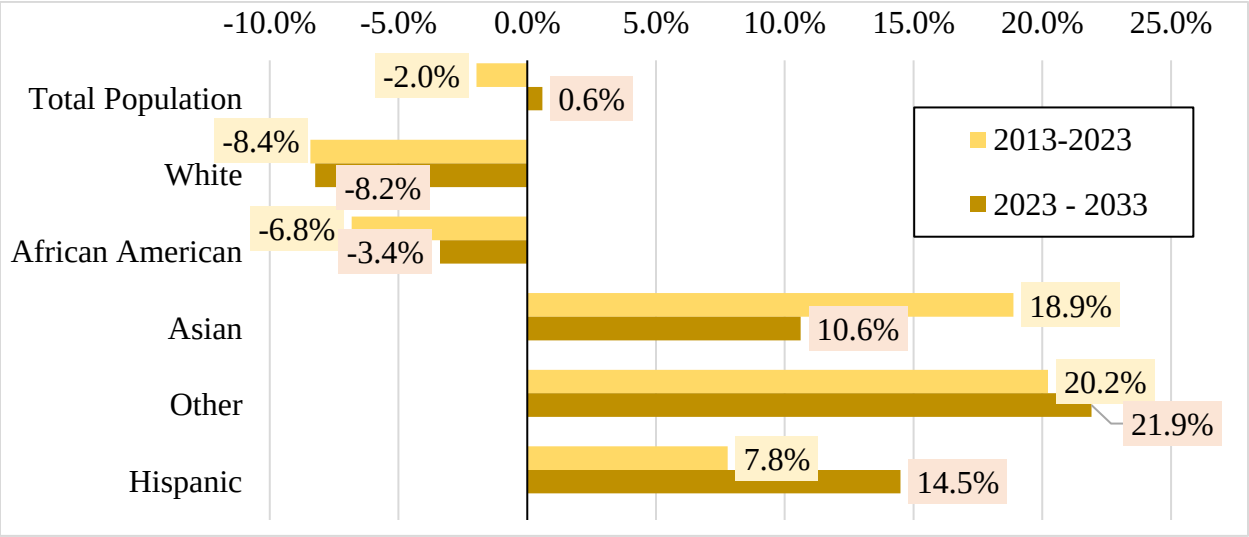
Change in Population by Race/Ethnicity, 2013-2023



Source: Lightcast, 2023.

Population projections indicate that the White and African American populations will continue to decline throughout the region. The Hispanic demographic is projected to continue increasing both in total and as a share of the broader population. Based on these forecasts, the white population is projected to represent 41.7% of the region population in 2033, the Hispanic population is expected to represent 28.3% of total, and African Americans are expected to represent 17.8% of total.

Population Changes by Race, 2013-2033



Source: Lightcast, 2023.

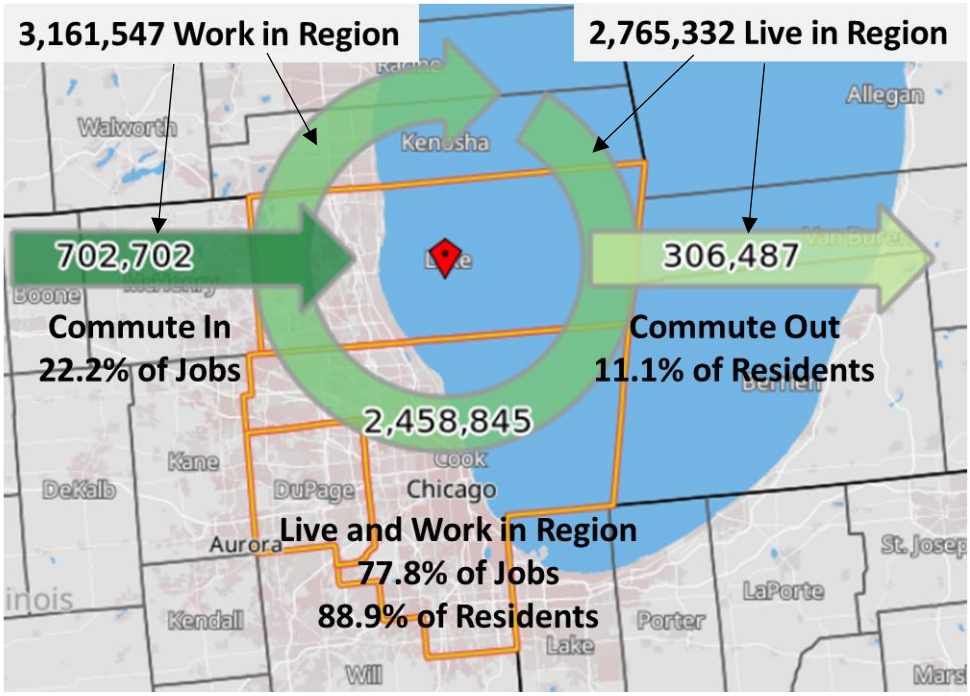
Population by Race/Ethnicity, 2023 & 2033

Population	Count in 2023	Count in 2033(p)	Share in 2023	Share in 2033(p)
Total Population	6,752,771	6,791,988		
White	3,084,870	2,830,786	45.7%	41.7%
African American	1,253,603	1,211,160	18.6%	17.8%
Asian	609,217	673,914	9.0%	9.9%
Other	126,750	154,522	1.9%	2.3%
Hispanic	1,678,330	1,921,606	24.9%	28.3%

Source: Lightcast, 2023.

Commuting Patterns

According to the U.S. Census Bureau, Longitudinal Employer-Household Dynamics dataset as of 2021 (latest available), there are 3,161,547 jobs in the region, of which 77.8% are held by workers living in the region, and the remaining 22.2% are held by people living outside the region- either commuting in or working remotely. Given that the region includes the three largest counties in the Chicago metropolitan area, commuting patterns are largely contained within these counties. This dataset does not offer detail on the commuting situations of workers, but based on statewide American Community Survey data, 19.3% of workers worked from home in 2021, and in 2022, the percentage decreased to 15.8%.



Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics, 2021. Retrieved via OnTheMap.

Among the 702,702 workers in the region who live outside of the region, most come from neighboring counties within the Chicago metropolitan area. About 11.6% of workers live in the counties of Will, Kane, or McHenry. About 1.4% of workers live in Lake County, Indiana, and 0.6% live in Kenosha County,

Wisconsin. Both of these counties share borders with the region. These data do not distinguish full-time commuters from remote workers and hybrid workers.

In-commuting and out-commuting patterns are similar in the region. The counties that are home to most in-bound commuters are also the counties representing most of the outbound commuting. The majority of residents with jobs at businesses outside the region work for companies in Will, Kane, and McHenry Counties. About 0.5% of the jobs were with businesses in Lake County, Indiana, and 0.3% were at businesses in Kenosha County, Wisconsin. The table below shows details within the commuter flows, with Workers by Home County showing the number of people who work in the region by county of residence, and Residents by Work County showing the number of people who live in the region by county of employment.

County	Count	Share
Workers by Home County		
All Counties	3,161,547	100.0%
Cook	1,847,343	58.4%
DuPage	356,459	11.3%
Lake	255,043	8.1%
Will	171,561	5.4%
Kane	121,511	3.8%
McHenry	74,631	2.4%
Lake County, IN	45,627	1.4%
Kendall	36,696	1.2%
Kenosha County, WI	18,418	0.6%
Winnebago	17,734	0.6%
All Other Locations	216,524	6.8%
Residents by Work County		
All Counties	2,765,332	100.0%
Cook	1,854,550	67.1%
DuPage	377,155	13.6%
Lake	227,140	8.2%
Will	81,045	2.9%
Kane	57,865	2.1%
McHenry	18,136	0.7%
Sangamon	14,683	0.5%
Lake County, IN	12,763	0.5%
Winnebago	8,577	0.3%
Kenosha County, WI	8,428	0.3%
All Other Locations	104,990	3.8%

Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics, 2021. Retrieved via OnTheMap.

Businesses' Employment Needs

The total number of jobs in the region increased 4.4% between 2012 and 2022, but employment trends varied considerably by type of business. The largest employment sector was health care and social assistance, and employment in this sector grew 11.5%. The second largest employment sector was government and public administration, which declined 2.8%. The sector with the largest number of jobs

added was professional services with 55,197 jobs added, or 18.6%. The sector with the largest job losses was retail trade, with a decrease of 21,014 jobs or 3.3%.

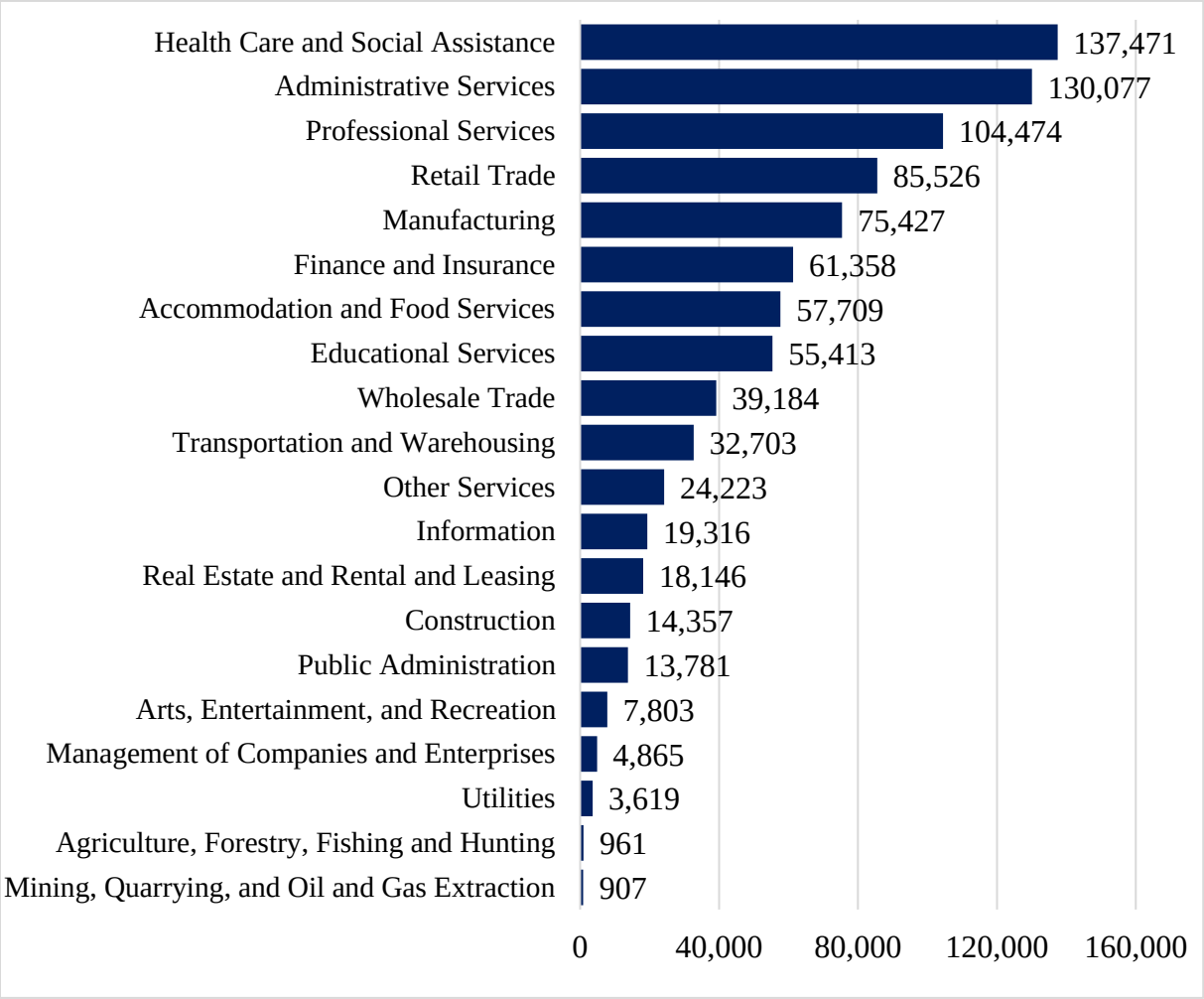
Employment in Region by Industry

Industry	Jobs in 2012	Jobs in 2022	Jobs Change	% Change
Total	3,634,406	3,796,057	161,651	4.4%
Health Care and Social Assistance	440,032	490,521	50,488	11.5%
Government	424,837	412,919	(11,918)	-2.8%
Professional, Scientific, and Technical Services	296,649	351,845	55,197	18.6%
Retail Trade	340,881	319,866	(21,014)	-6.2%
Administrative Services, incl. staffing	277,208	296,770	19,562	7.1%
Manufacturing	298,624	288,791	(9,833)	-3.3%
Accommodation and Food Services	275,919	286,029	10,110	3.7%
Finance and Insurance	207,713	218,373	10,660	5.1%
Transportation and Warehousing	160,807	214,255	53,448	33.2%
Other Services (except Public Administration)	206,332	190,924	(15,409)	-7.5%
Wholesale Trade	172,832	170,665	(2,167)	-1.3%
Construction	122,863	146,077	23,214	18.9%
Educational Services	125,952	134,182	8,230	6.5%
Real Estate and Rental and Leasing	61,621	68,858	7,236	11.7%
Information	70,854	65,611	(5,243)	-7.4%
Arts, Entertainment, and Recreation	57,425	63,425	6,000	10.4%
Management of Companies and Enterprises	77,928	61,855	(16,072)	-20.6%
Utilities	8,133	8,706	573	7.0%
Agriculture, Forestry, Fishing and Hunting	3,201	5,329	2,128	66.5%
Mining, Quarrying, and Oil and Gas Extraction	657	724	68	10.3%
Unclassified Industry	3,936	331	(3,606)	-91.6%

Source: Lightcast, 2023.

The top industries by unique job postings over the past year are mostly consistent with the top industries by current employment size. Health care was the largest employment sector and it represents the largest share of job postings. The second largest sector for job postings was administrative services, which includes temporary jobs posted by staffing firms. The third largest sector for job postings was scientific/technical/professional services.

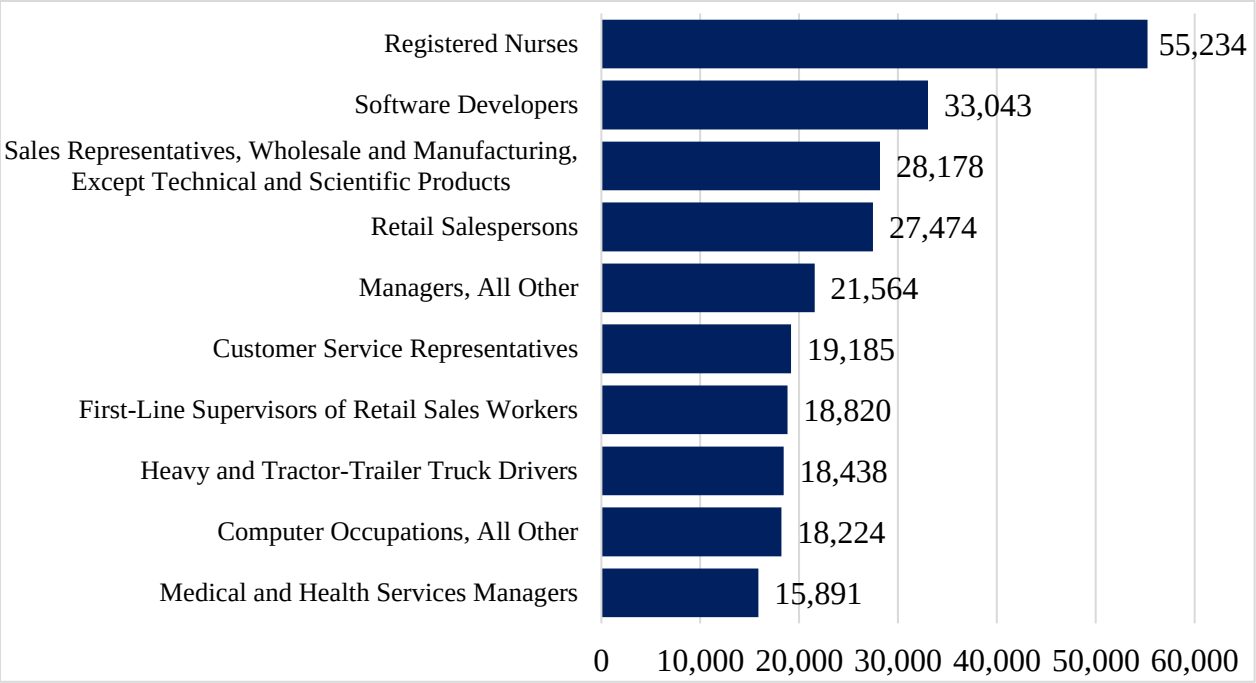
Job Postings by Industry, September 2022-2023



Source: Lightcast, 2023.

By far the most in-demand occupation in the region is registered nursing, with 55,234 unique job postings over the past year. The occupation with the second-highest demand in job postings was software development, with 33,043 unique postings. Sales representatives for wholesale trade and manufacturing had 28,178 job postings. In the 2020 economic impact study and environmental scan for Harper College, truck driving had more than 90,000 job postings, but demand has slowed considerably in 2023 with 18,438 job postings.

Job Postings by Occupation, September 2022-2023



Source: Lightcast, 2023.

The most in-demand specialized skill in the job postings was project management, representing 8.9% of total job postings. Marketing was also mentioned frequently, representing 8.2% of job postings. Nursing, auditing, and accounting each appeared in 6.2% of the job postings.

Top Specialized Skills by Job Postings, September 2022-2023

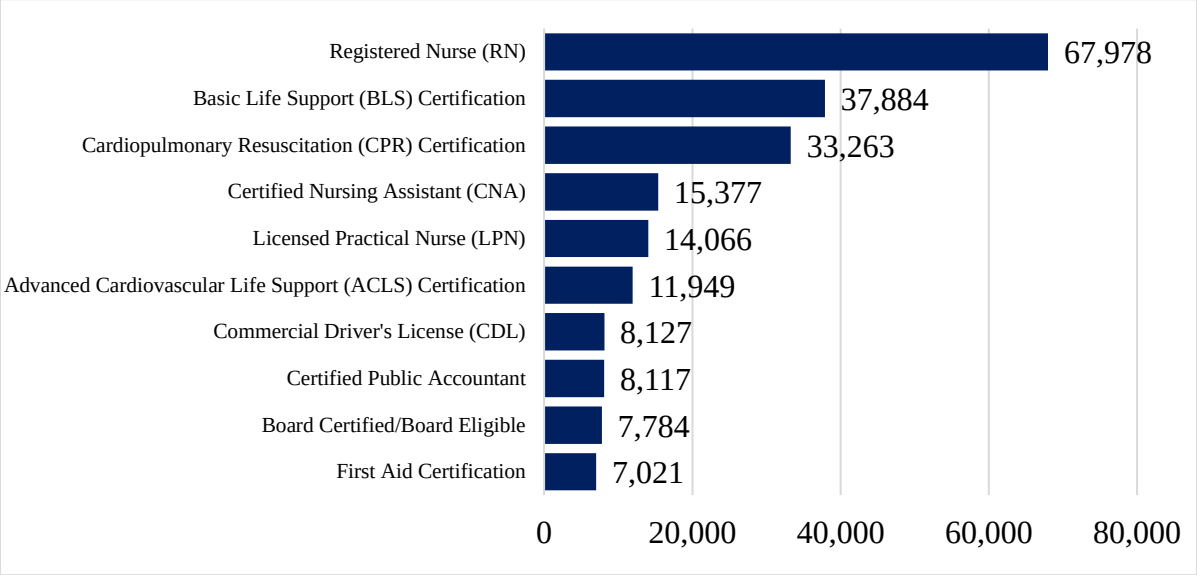
Skill	Unique Postings	% of Postings
Project Management	100,455	8.9%
Marketing	92,612	8.2%
Nursing	69,913	6.2%
Auditing	69,720	6.2%
Accounting	69,483	6.2%
Finance	67,045	5.9%
Merchandising	53,855	4.8%
Selling Techniques	46,072	4.1%
Computer Science	45,177	4.0%
Data Analysis	42,500	3.8%

Source: Lightcast, 2023.

Most of the credentials or certifications prevalent in job postings relate to health care occupations. The Lightcast data on job postings by certifications and credentials does not necessarily distinguish between certificate programs and degree programs. Registered Nurse certification was the most-in-demand credential. Life support and CPR certifications were also frequently mentioned in job postings, with more than 30,000 unique postings for each. CPR certification is also preferred in some construction trades and other occupations unrelated to health care. Some other health care credentials prevalent in

the job postings included CNA, LPN, advanced cardiovascular life support, and board certification. First Aid was the 10th most frequently-mentioned certification, and this is sometimes required as a safety precaution in the construction sector.

Job Postings by Certification, September 2022-2023*



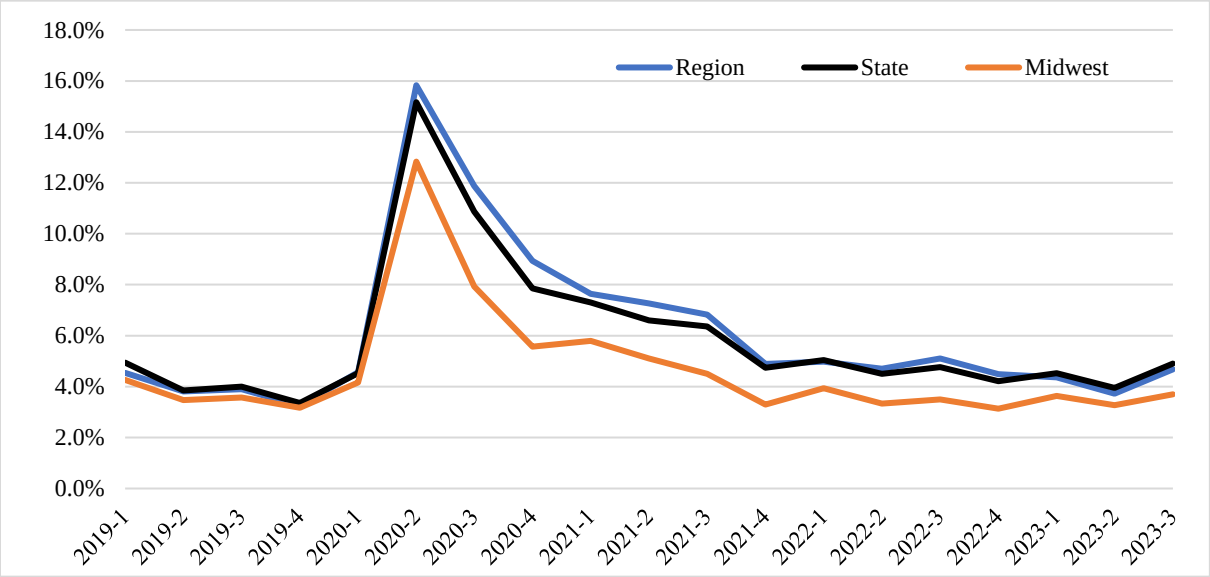
**There were 83,968 job postings that listed a valid driver's license and 16,702 job postings that listed an MBA. These were excluded from the chart as they are included in the Lightcast data for qualifications, but are not certifications.*

Source: Lightcast, 2023.

Workforce Trends

To track the extent of labor force recovery from the pandemic, we examine unemployment rates and labor force participation rates over time since 2019. For most of 2019, the unemployment rate in the region and Illinois remained at or below 4%. During the height of the pandemic, 2nd quarter 2020, the unemployment rate soared to 15.8% in the region and 15.2% in the state. Unemployment in the 12-state Midwest region was slightly lower at 12.8%. The unemployment rate declined quickly over 2020 and 2021, and then declined gradually in 2022 and 2023. As of the 3rd quarter 2023, unemployment rates in the region and Illinois were just under 5%, while the Midwest unemployment rate has mostly returned to pre-pandemic levels. The statewide unemployment trend generally does not differ from the trend for the region, given that the region counties include the majority of the state's population and labor force. The Midwest typically has a slightly lower unemployment rate than Illinois.

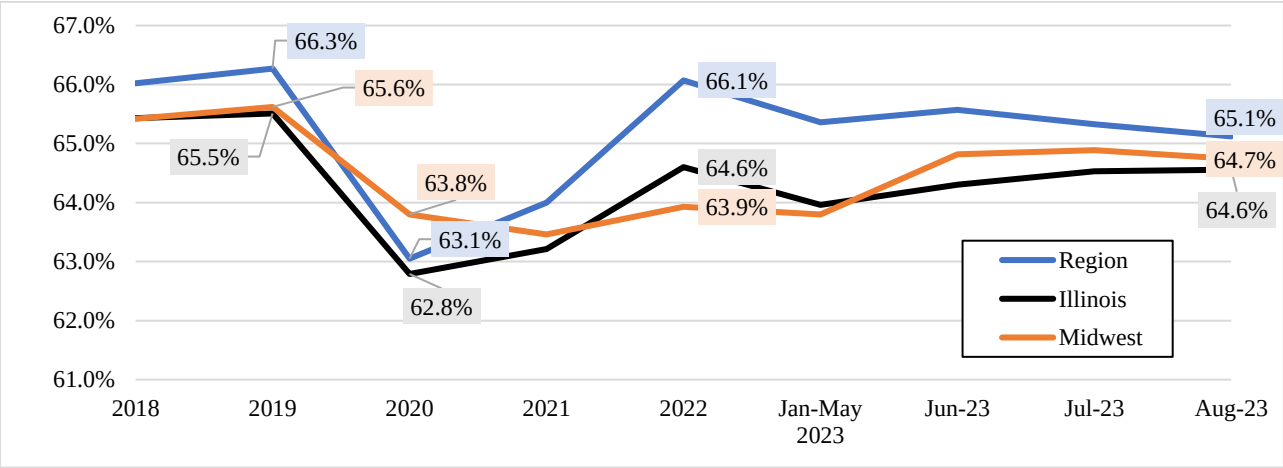
Quarterly Unemployment Rates, 2019 – Q3 2023



Source: Illinois Department of Employment Security, Local Area Unemployment Statistics, respective years.

Although unemployment rates have mostly returned to pre-pandemic levels, labor force participation remains somewhat lower. In 2019, 66.3% of the region population ages 16 and over were in the labor force, either employed or unemployed *and actively seeking employment.* In 2020, the labor force participation rate (LFP) decreased to 63.1%. In 2021 and 2022, LFP gradually increased, reaching 66.1% in 2022. LFP is susceptible to seasonal fluctuations within the year, but as of August 2023 (latest available), the participation rate remained lower than in 2019, at 65.1%. The labor force does not include retirees, full-time students not currently seeking employment, and individuals who are unemployed but not seeking re-employment. Some who exited the labor force in 2020 might not return, due to retirements. Illinois and the Midwest followed similar trends to the region, although LFP was typically higher in the region.

Labor Force Participation Rates Over Time



Source: Lightcast, 2023.

Employment in occupations typically requiring a certificate or license are projected to increase 2.8% between 2022 and 2032, but trends vary widely by occupation. The largest number of job openings are for truck drivers, with 6,467 annual openings and 8.3% growth in total employment. Total employment for nursing assistants is projected to increase 5.1%, and there are a projected 4,837 annual openings for this occupation. Total employment for bookkeeping clerks is projected to decrease 6.5%, but there are 4,786 annual openings. Job openings can include turnover and replacement, so they do not correspond directly to employment growth. Other occupations with considerable job growth and job openings include medical assistants, teaching assistants, Licensed Practical Nurses.

Projected Job Growth in Occupations Typically Requiring a Certificate or License

SOC	Description	2022 Jobs	2032 Jobs	2022 - 2032 % Change	Avg. Annual Openings
	Total, All Certificate or License Occupations*	309,264	317,893	2.8%	37,585
53-3032	Heavy and Tractor-Trailer Truck Drivers	49,236	53,308	8.3%	6,467
31-1131	Nursing Assistants	30,508	32,076	5.1%	4,837
43-3031	Bookkeeping, Accounting, and Auditing Clerks	40,072	37,481	-6.5%	4,786
25-9045	Teaching Assistants, Except Postsecondary	28,549	30,749	7.7%	3,688
31-9092	Medical Assistants	12,709	14,599	14.9%	2,091
39-5012	Hairdressers, Hairstylists, and Cosmetologists	14,454	14,263	-1.3%	2,020
49-3023	Automotive Service Technicians and Mechanics	17,408	17,481	0.4%	1,741
15-1232	Computer User Support Specialists	18,139	18,418	1.5%	1,455
31-9091	Dental Assistants	7,841	8,434	7.6%	1,236
29-2061	Licensed Practical and Licensed Vocational Nurses	8,976	9,889	10.2%	855
33-2011	Firefighters	10,028	9,833	-1.9%	795
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	6,659	6,876	2.8%	670
39-5092	Manicurists and Pedicurists	3,558	4,159	8.3%	547
31-9011	Massage Therapists	3,258	3,774	5.1%	529

*Exceeds sum of rows because not all occupations are shown. Table lists all occupations in category with at least 500 projected annual openings.

Source: Lightcast, 2023.

The total number of jobs in occupations typically requiring an associate's degree are projected to increase 7.2% in the region for 2022 – 2032, with 8,163 annual openings. The largest share of job openings are for preschool teachers and the second largest share of job openings are for paralegals. Total employment for computer network support specialists is projected to decrease 2.5%, but there are 494 projected annual openings including replacements.

Projected Job Growth for Occupations Typically Requiring an Associate's Degree

SOC	Description	2022 Jobs	2032 Jobs	2022 - 2032 % Change	Avg. Annual Openings
	Total, All Associate's Degree Occupations*	75,906	81,393	7.2%	8,163
25-2011	Preschool Teachers, Except Special Education	13,055	15,376	17.8%	1,760
23-2011	Paralegals and Legal Assistants	9,674	10,884	12.5%	1,228
15-1231	Computer Network Support Specialists	6,425	6,264	-2.5%	494
31-2021	Physical Therapist Assistants	2,579	3,059	18.6%	442
29-1292	Dental Hygienists	5,298	5,680	7.2%	402
29-2056	Veterinary Technologists and Technicians	2,480	3,059	23.3%	332
23-2099	Legal Support Workers, All Other	2,503	2,450	-2.1%	280
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	2,345	2,244	-4.3%	262
29-2034	Radiologic Technologists and Technicians	4,352	4,539	4.3%	260
17-3011	Architectural and Civil Drafters	2,191	2,063	-5.8%	244
31-2011	Occupational Therapy Assistants	1,269	1,476	16.3%	233

* Exceeds sum of rows because not all occupations are shown. Table lists all occupations in category with at least 200 projected annual openings.

Source: Lightcast, 2023.

About 21.2% of all associate's-degree-level jobs in the region are held by workers age 55 or older. Some positions might remain vacant as these workers retire, but others will need to be replaced. The occupation with the largest share of workers nearing retirement age was electrical engineers, with 34.7% of workers age 55 or older. About 33.5% of medical equipment repairers are nearing retirement. About 1/3rd of industrial engineers and mechanical drafters are also nearing retirement.

Associate's Degree Occupations by Age in 2022

SOC	Description	2022 Jobs	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+	Ages 55+
	Total, All Associate's Degree Occupations*	75,906	20,287	17,221	15,286	12,183	3,923	21.2%
17-3023	Electrical and Electronic Engineering Technologists and Technicians	1,610	275	300	372	420	139	34.7%
49-9062	Medical Equipment Repairers	1,298	225	249	343	333	101	33.5%
17-3026	Industrial Engineering Technologists and Technicians	1,603	279	319	400	402	117	32.4%
17-3013	Mechanical Drafters	891	183	177	183	193	95	32.3%
43-9031	Desktop Publishers	159	34	31	30	28	22	31.6%
17-3027	Mechanical Engineering Technologists and Technicians	821	154	162	190	191	64	31.1%
17-3019	Drafters, All Other	413	92	86	84	84	38	29.5%

SOC	Description	2022 Jobs	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+	Ages 55+
17-3012	Electrical and Electronics Drafters	260	56	55	56	51	24	28.7%
17-3028	Calibration Technologists and Technicians	343	72	72	79	75	22	28.2%
17-3029	Engineering Technologists and Technicians, Except Drafters, All Other	947	191	197	208	194	59	26.7%
19-4031	Chemical Technicians	815	187	171	178	167	46	26.1%

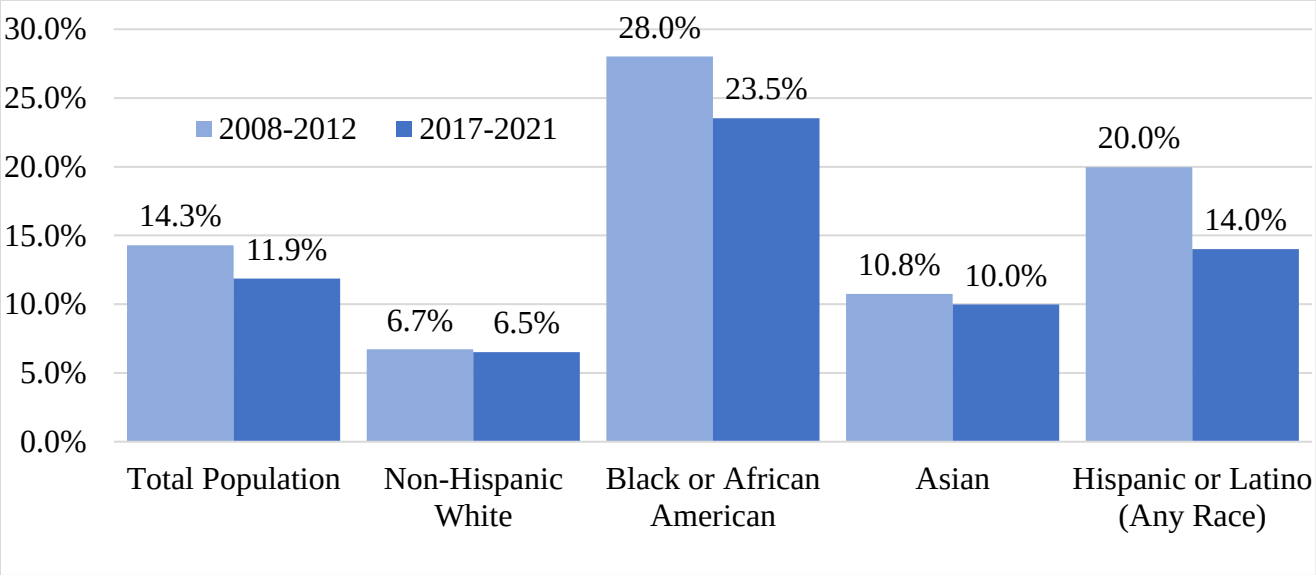
*Rows and columns do not sum to total, as not all ages and occupations are shown. Ages under 25 are excluded for simplicity and more limited data. Occupations with less than 25% of workers age 55+ are excluded for space.

Source: Lightcast, 2023.

Equity Indicators

Between 2012 and 2021, the percentage of population in the region with income below poverty level decreased from 14.3% to 11.9%. The likelihood of a person having income below poverty level varies considerably by race and ethnicity, but the percentage of residents with income below poverty level decreased in every racial and ethnic group. About 10% of Asians and 6.5% of white persons in the region experienced poverty, while the poverty rate for African Americans was 23.5%. The percentage of Hispanic persons in poverty decreased from 20.0% to 14.0%.

Share of Population in Region with Income Below Poverty Level

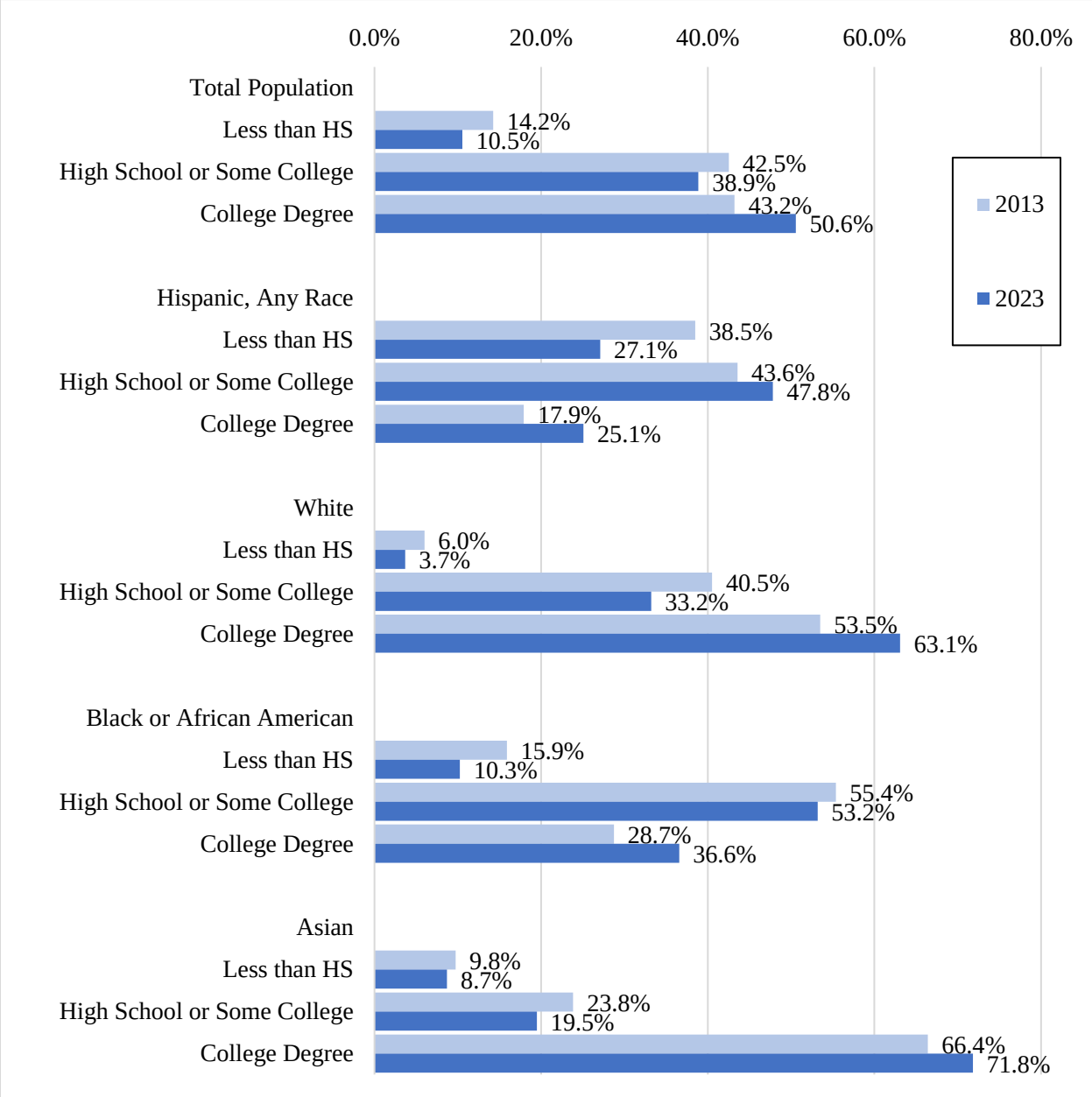


Source: U.S. Census Bureau, 2008-2012 & 2017-2021 American Community Survey, Table S1701.

Educational attainment relates to poverty, in that it impacts employment prospects and economic mobility. A slight majority of residents in the region ages 25 and over have a college degree (Associate's or higher). Educational attainment in the region has improved over the decade, as the share of residents with less than a high school diploma decreased from 14.2% to 10.5%, and the share of residents with a

college diploma increased from 43.2% to 50.6%. Educational attainment improved for all racial and ethnic groups, and the largest improvements were among the Hispanic population. The share of Hispanic residents with less than a high school diploma decreased from 38.5% to 27.1%, and the percentage with a college degree increased from 17.9% to 25.1%. The share of African Americans with college degrees increased from 28.7% to 36.6%, and the percentage of African Americans with less than a high school diploma decreased from 15.9% to 10.3%.

Educational Attainment in the Region by Race & Ethnicity, 2013 & 2023

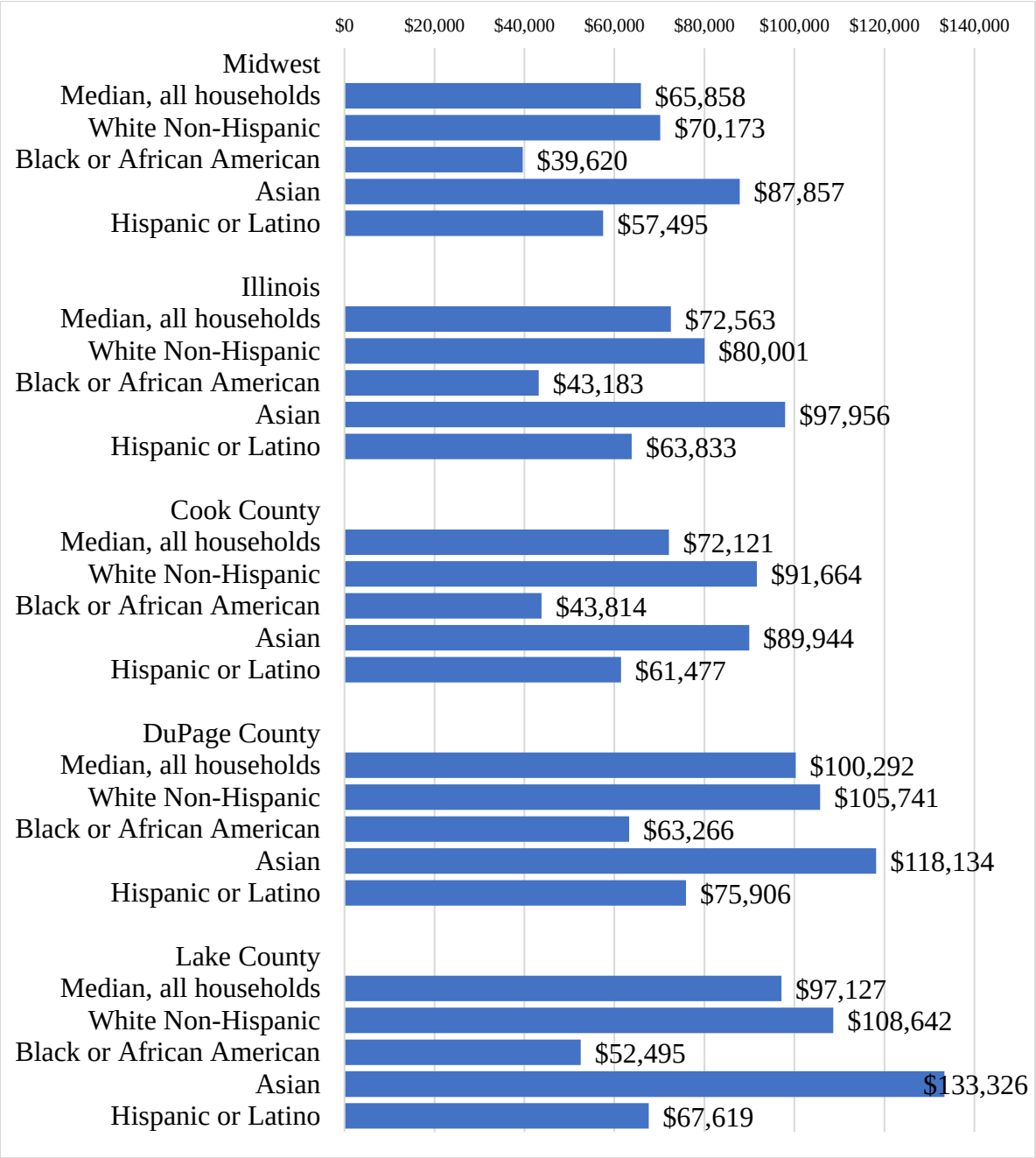


Source: Lightcast, 2023.

Across the 12-state Midwest census region, the median household income was $65,858. Incomes are typically higher in Illinois and the counties in the Harper College region. In all five geographies, the

highest incomes were for White Non-Hispanic households and Asian households, and households that were African American or Hispanic typically had income below the median. African Americans had the lowest median income in all five geographies.

Median Household Income by Race, 2017-2021

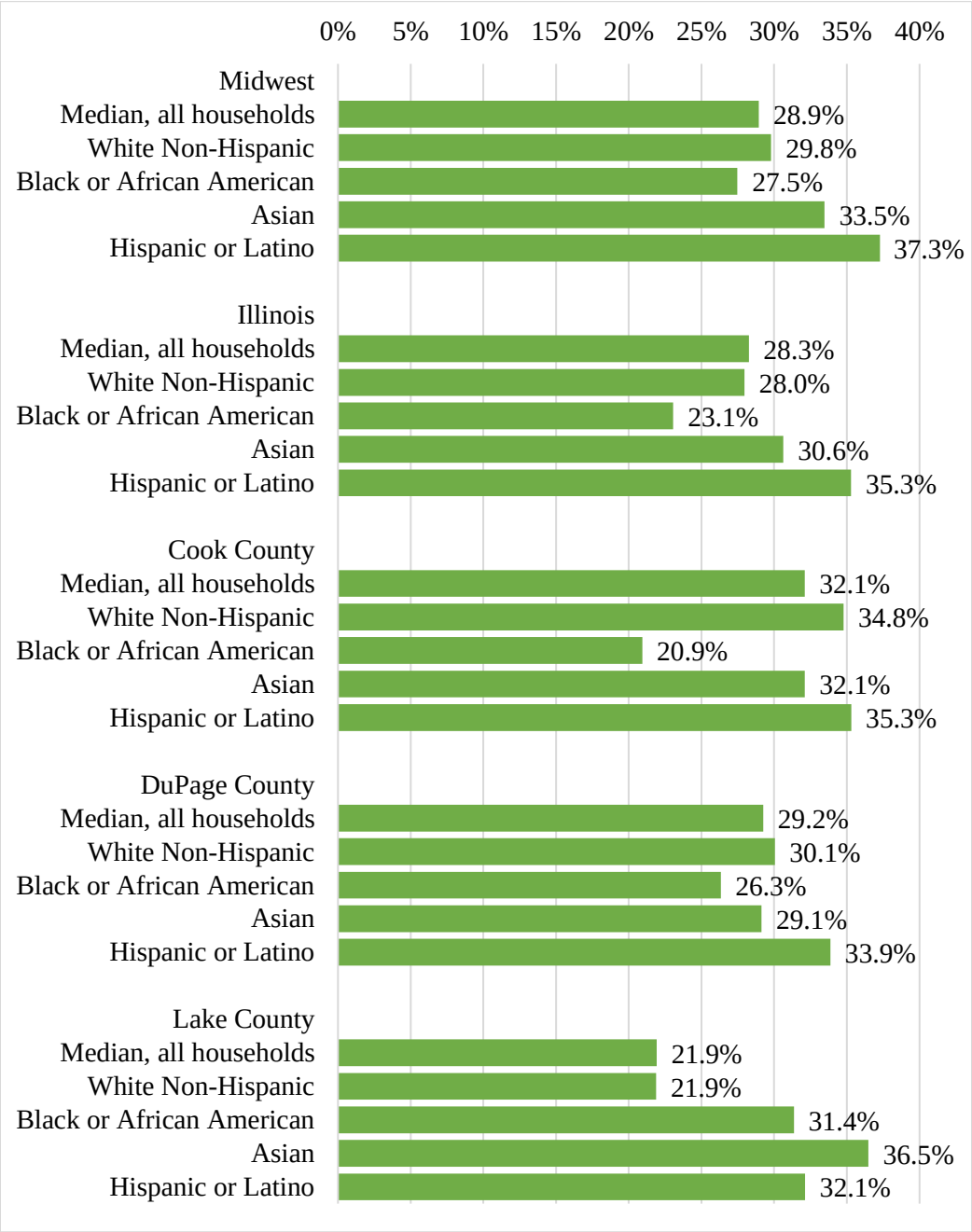


Source: U.S. Census Bureau, 2017-2021 American Community Survey, Table S1903.

Median household income increased for all racial and ethnic groups in the Midwest and the region over the decade. The overall median income increased by about 30% across all geographies except Lake County, where income grew 21.9%. Lake County also has considerably higher income than the state and

region as a whole. In all geographies except Lake County, Hispanic households had the fastest income growth and African Americans had the slowest income growth. In Lake County, the fastest income growth was for Asian households. Some trends in median income might be due to relocations.

Change in Median Household Income, 2007-2011 vs 2017-2021*



*Due to how the American Community Survey Data is published, it is not possible to compute a region-wide median income weighted by the households and income in each county.

Source: U.S. Census Bureau, American Community Survey, Table S1903, respective years.

Occupational Diversity

To explore potential opportunities for equity-focused workforce development, we examine levels of diversity within occupations at several education levels. In the region, 49.9% of workers are female, but gender balance varies widely in some occupations. Similarly, about 19.2% of workers identify as Hispanic and 14.2% identify as African American, but their representation varies by occupation. The following section shows the top 10 occupations by 2022 employment size at three education levels: certificate or license, associate's degree, and bachelor's degree. We highlight occupations that meet one or more of the following criteria:

- Median hourly wage exceeds the living wage in Cook County- $19.23 for one adult with no children.
- Occupations well-represented by Hispanic workers – at least 20% compared to the region average of 19.2%
- Occupations well-represented by African American workers- at least 15% compared to the region average of 14.2%.

The largest occupation for employment requiring a certificate or license is truck driving, which represented 49,236 jobs in 2022. The second most prevalent occupation was bookkeeping clerks, with 40,072 jobs, and 87.8% of jobs held by females. The third most common occupation was nursing assistants, who are 87% female. The highest-paying occupation in this category was firefighters, who earn $35 hourly. This occupation is male-dominant. Nursing assistants and hairdressers typically earn less than the living wage for the Chicago area and both of these occupations are female-dominant.

Truck driving is one of the higher-paying occupations requiring a certificate or license, and Hispanics and African Americans are highly represented in this occupation. Firefighting was the highest-paid occupation in this category, and African American and Hispanic workers were underrepresented in it.

Employment for Occupations Typically Requiring a Certificate or License (Earnings in Red are Below the Living Wage for Cook County)

Occupation	Avg. Annual Openings	Median Hourly Earnings	% Female	% Hispanic	% African American
Heavy and Tractor-Trailer Truck Drivers	6,452	$26.90	6.4%	25.4%	16.7%
Bookkeeping, Accounting, and Auditing Clerks	4,771	$23.97	87.8%	13.7%	9.1%
Nursing Assistants	4,854	$18.62	87.0%	16.3%	44.7%
Teaching Assistants, Except Postsecondary	3,696	$15.44	90.4%	20.3%	13.7%
Computer User Support Specialists	1,453	$28.68	27.9%	11.6%	12.2%
Automotive Service Technicians and Mechanics	1,740	$23.10	1.9%	30.6%	7.8%
Hairdressers, Hairstylists, and Cosmetologists	2,018	$16.69	89.5%	15.2%	8.8%

Occupation	Avg. Annual Openings	Median Hourly Earnings	% Female	% Hispanic	% African American
Medical Assistants	2,097	$19.47	92.3%	34.6%	16.1%
Firefighters	795	$35.94	5.1%	9.8%	12.7%
Licensed Practical and Licensed Vocational Nurses	857	$28.86	89.6%	13.0%	36.5%

Source: Lightcast, 2022.

The associate's degree occupation with the most employment and job openings was preschool teachers, with 13,055 jobs and 1,766 annual job openings. This was by far the lowest-paid occupation in this category and the employees are nearly all female. The second largest occupation was paralegals, with 9,674 jobs and 1,233 annual openings. The third largest occupation was computer network support specialists, and it was also one of the the highest-paying occupations in the associate's degree category. Most occupations in this category have a majority of female workers. The highest-paying occupation was dental hygienists and it is female-dominant.

Hispanic and African American workers are underrepresented in most of the associate's-degree occupations. The exceptions were preschool teaching, respiratory therapists, and human resources assistants. Preschool teaching was by far the lowest-paying occupation in this category. Respiratory therapy and human resources assistance had above-average shares of employment held by African Americans.

Employment for Occupations Typically Requiring an Associate's Degree (Earnings in Red are Lower than the Living Wage)

Description	Avg. Annual Openings	Median Hourly Earnings	% Female	% Hispanic	% African American
Preschool Teachers, Except Special Education	1,766	$17.96	96.8%	20.6%	22.1%
Paralegals and Legal Assistants	1,233	$31.05	82.5%	17.8%	9.4%
Computer Network Support Specialists	493	$33.77	27.9%	11.7%	12.9%
Dental Hygienists	401	$37.31	95.7%	17.0%	4.0%
Radiologic Technologists and Technicians	260	$31.77	72.8%	16.4%	10.9%
Respiratory Therapists	199	$32.62	65.7%	14.3%	17.1%
Physical Therapist Assistants	444	$31.23	69.3%	12.9%	10.9%
Legal Support Workers, All Other	279	$27.10	67.7%	13.2%	13.2%
Veterinary Technologists and Technicians	332	$20.50	71.9%	14.3%	8.2%
Human Resources Assistants, Exc. Payroll and Timekeeping	262	$23.36	82.9%	19.5%	20.5%

Source: Lightcast, 2022.

The bachelor's-degree-level occupation with the most employment and job openings was general and operations managers, with 121,116 jobs and 10,603 annual openings. General managers typically earn $51.06 hourly, and employment in this occupation is male-dominant. The second-largest occupation at this education level was registered nursing. Nationally, registered nurses typically hold bachelor's degrees, although the Illinois Community College completers often enter this occupation with an associate's degree. About 90% of registered nurses in the region are female, and they earn $38 hourly. The highest-paying bachelor's-degree occupation was financial managers, who earn $66.84 hourly.

Hispanic and African American workers are underrepresented in most of the bachelor's-degree-level occupations described previously. The exception was registered nursing, which includes 15.4% African American workers. Minorities are especially underrepresented in software development, one of the highest-paying occupations.

Employment for Occupations Typically Requiring a Bachelor's Degree

Description	Avg. Annual Openings	Median Hourly Earnings	% Female	% Hispanic	% African American
General and Operations Managers	10,603	$51.06	32.8%	13.0%	7.2%
Registered Nurses	4,895	$38.27	90.3%	10.0%	15.4%
Management Analysts	4,056	$51.87	45.1%	7.8%	10.2%
Accountants and Auditors	3,510	$39.26	56.5%	9.4%	9.1%
Software Developers	3,399	$61.29	20.5%	5.3%	3.9%
Elementary School Teachers, Except Special Education	2,599	$32.23	80.2%	8.6%	8.4%
Financial Managers	2,728	$66.84	52.7%	12.3%	8.4%
Market Research Analysts and Marketing Specialists	2,991	$36.04	61.4%	10.4%	6.9%
Business Operations Specialists, All Other	2,425	$36.88	59.2%	13.0%	14.6%
Managers, All Other	2,076	$52.67	35.8%	13.9%	8.9%

Source: Lightcast, 2023.

Curriculum Analysis

Median earnings and projected job opening by curriculum help identify how Harper College completions align with regional labor market demands. Lightcast developed a crosswalk between curriculums to occupations based on information from the National Center for Education Statistics and their experience consulting with educational agencies. This crosswalk served as the basis for this analysis. Some Harper College programs in the same broad curriculum category might have duplicate values for employment and earnings estimates because they map to the same occupations.

We consider labor market alignment across four dimensions: projected job openings, the supply gap ratio, projected job growth, and median hourly earnings. Job growth and job openings are considered separately, given that a job can have openings due to replacement even if the occupation is projected to decline in total employment overall. An occupation that is declining can still have a large number of

openings due to retirements and job changes. These metrics are used to generate and index to rank programs in terms of their alignment with regional labor market conditions.

- Projected Job Growth: The change in total employment in the occupation in the coming decade. Programs that led to employment in higher growth occupations are ranked higher.
- Projected Job Openings: The annual openings that are projected to occur in the occupation in the coming decade. Programs that led to employment in occupations with higher numbers of projected openings are ranked higher.
- Median Hourly Earnings: The living wage for one adult living alone in Cook County (county with the largest living expenses in the region) is $19.23/hourly, so occupations with median earnings below this threshold are assigned the lowest tier. The living wage for a household with 1 working adult providing for a partner and one child is $35.61 and this was set as the cutoff for the highest ranking for median earnings. In curriculum analyses for other community colleges, we included consideration for a supply gap ratio that measures the supply of recent educational completers relative to demand in terms of projected job openings in related occupations. The data file provided with this report includes gap ratios for all Harper College programs, but it is not used in the program rankings for this study, due to lack of variation. Given the employment size of Cook County, nearly all programs in the region have job openings exceeding regional completions.

The other thresholds for earnings, job growth, and job openings were based on natural breaks in the data for Harper College programs that had completers in FY2022. The ranking criteria are summarized below:

Ranking Thresholds for Programs in the Region

Ranking	Projected Job Openings, 2022-2032	Projected Job Growth, 2022-2032	Median Earnings
1	25,000	5,000	$35.61
2	10,000	2,000	$25
3	500	0	$19.23
4	<500	<0	<$19.23

The rankings are summarized with an overall score of 3 to 12, with 3 being the most favorable in the labor market and 12 being the least favorable. We then assigned programs into initial categories based on natural breaks in the data. The exception is Entry-Level Growth Programs, which were found within the programs that ranked low for median earnings, ranked high for projected job growth or job openings, and might have advancement potential along career pathways.

Score Thresholds for Program Categories:

Category	Score Range	Notes
Strong Programs	7 or lower	On average ranked in the upper half for all criteria
Stable Programs	8-9	The most common score category in the data for Harper College. Programs that do not strongly map to the other categories.
Declining Programs	10 or higher	On average ranked in the lower half for all criteria
Entry-Level Growth Programs	--	Low earnings, but high rankings for job openings or employment growth. Might have advancement potential in related occupations on career pathways.

From this analysis, programs typically fit into one of several categories: emerging programs that offer strong earnings potential and align with growing jobs in the region, and maturing programs that fit current employer needs, but are projected to have declining demand in the next ten years, and gateway programs that have low earnings potential but can offer entry points to career pathways with advancement potential and growing employment.

Next is more detailed information for programs that showed strong labor market alignment, were related to declining employment opportunities, or linked to entry-level occupations that might lead to higher-paying jobs with growing employment. Programs not presented in the curriculum analysis were considered stable, i.e., not showing strong trends of growth or decline. The employment and earnings data corresponding to stable programs is included in the data file provided along with this report.

Fourteen certificate programs and nine career associate programs appear to have strong labor market alignment. All of these programs relate to jobs that pay a living wage in Cook County and have more than 700 annual job openings in the region. Some programs with projected net employment declines were included because they ranked highly in all other criteria, including job openings due to replacement. By far the highest-paying program was remote aircraft pilot, with median earnings of $65.77, although this depends heavily on sector of employment.[1] Several other programs had potential earnings above $50 hourly- computer programming, preventive medicine, health information administration, and engineering (transfer program). According to the crosswalk of curriculums to occupations, completers of health information administration programs typically find employment as medical records specialists, health services managers, computer systems analysts, or information systems managers.

[1] The current Standard Occupation Classification / O*NET scheme does not currently include a category for remote aircraft operation. In the Lightcast crosswalk, completers of this program might find employment as commercial pilots, surveyors, or photographers. Airline pilots earn more than $100 hourly, photographers earn $21.15, and surveyors earn $37.46.

Harper College Programs With Strong Labor Market Alignment

Program	CIP	Projected Job Openings, 2022-2032	Projected Job Growth, 2022-2032	Median Earnings	Overall Score
Certificate Programs					
Computer Programming/Programmer, General	11.0201	6,889	10,639	$56.57	5
Teaching English as a Second or Foreign Language/ESL Language Instructor	13.1401	5,068	3,497	$33.54	7
Homeland Security	43.0301	7,030	3,577	$45.68	6
Forensic Science and Technology	43.0406	722	374	$42.17	7
Geographic Information Science and Cartography	45.0702	2,690	1,781	$48.30	7
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician	47.0201	10,106	2,465	$32.30	6
Remote Aircraft Pilot	49.0109	1,466	428	$65.77	7
Community Health and Preventive Medicine	51.2208	1,185	2,669	$52.44	6
Business Administration and Management, General	52.0201	56,344	2,449	$39.36	4
Purchasing, Procurement/Acquisitions and Contracts Management	52.0202	6,654	562	$40.07	7
Accounting	52.0301	11,876	1,125	$36.92	7
Parts, Warehousing, and Inventory Management Operations	52.0409	30,191	4,731	$19.54	6
Small Business Administration/Management	52.0703	19,123	1,092	$44.82	6
Human Resources Management/Personnel Administration, General	52.1001	7,417	2,535	$41.93	6
Career Associate Programs					
Computer Programming/Programmer, General	11.0201	6,889	10,639	$56.57	5
Manufacturing Engineering Technology/Technician	15.0613	31,827	-19	$43.01	6
Criminal Justice/Police Science	43.0107	2,112	476	$44.93	7
Homeland Security	43.0301	7,030	3,577	$45.68	6
Forensic Science and Technology	43.0406	722	374	$42.17	5
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician	47.0201	10,106	2,465	$32.30	4

Program	CIP	Projected Job Openings, 2022-2032	Projected Job Growth, 2022-2032	Median Earnings	Overall Score
Health Information/Medical Records Administration/Administrator	51.0706	4,123	5,563	$54.53	5
Business Administration and Management, General	52.0201	56,344	2,449	$39.36	4
Parts, Warehousing, and Inventory Management Operations	52.0409	30,191	4,731	$19.54	6
Transfer Associate Programs					
Engineering, General	14.0101	2,150	192	$52.21	7
Liberal Arts and Sciences/Liberal Studies	24.0101	63,782	-8,161	$31.00	7
General Studies	24.0102	63,782	-8,161	$31.00	7
Biological and Physical Sciences	30.0101	5,588	5,327	$35.48	6

Source: Lightcast, 2022.

There were eight certificate programs and three career associate programs that seemed to have weak labor market alignment. These programs relate to occupations that pay less than the living wage, have fewer job openings in the region, or have projected declines in total employment. For example, across all institutions in the region, there were 8.65 completers of Emergency Care Attendant programs per job opening. There are less than 50 job openings for this program annually, and completers typically earn less than a living wage. Two programs had strong earnings potential, but few employment opportunities. These included Architectural Drafting and Interior Design. Completers of some of these programs might need to find employment outside of the region.

Harper College Programs with Weak Employment Opportunity*

Program	CIP	Projected Job Openings, 2022-2032	Projected Job Growth, 2022-2032	Median Earnings	Overall Score
Certificate Programs					
Graphic and Printing Equipment Operator, General Production	10.0305	1,322	-2,773	$18.73	11
Baking and Pastry Arts/Baker/Pastry Chef	12.0501	1,830	363	$17.81	10
Teacher Assistant/Aide	13.1501	4,781	1,876	$15.83	10
Architectural Drafting and Architectural CAD/CADD	15.1303	199	-70	$29.64	10
Apparel and Textile Manufacture	19.0902	447	-818	$16.05	12
Computer Numerically Controlled (CNC) Machinist Technology/CNC Machinist	48.0510	2,861	-4,111	$21.54	10
Interior Design	50.0408	288	-205	$30.07	10

Emergency Care Attendant (EMT Ambulance)	51.0810	45	-9	$14.87	12
Career Associate Programs					
Electrical, Electronic, and Communications Engineering Technology/Technician	15.0303	1,086	-901	$21.19	10
Interior Design	50.0408	288	-205	$30.07	10

*No Transfer Associate Programs were classified as declining.

Source: Lightcast, 2022.

Several programs are associated with growing employment and plentiful job openings, but have median earnings below the living wage. These programs might still prove valuable for job seekers as part of a career pathway. For example, nursing assistance is among the lowest-paying programs, but employment in the occupation is growing and it offers advancement potential in the health science career pathway. For example, registered nurses earn $38.27 hourly. The food service sector does not typically pay a living wage at entry level for cooks, but chefs and head cooks earn $28.46. Entry-level jobs for property maintenance, including janitors and groundskeepers, typically have lower pay, but the construction and architecture career pathway includes supervisory roles with considerably higher pay.

Harper College Entry-Level Job Growth Programs

Description	CIP	Projected Job Openings, 2022-2032	Projected Job Growth, 2022-2032	Median Earnings	Potential Advancement Occupations
Certificate Programs					
Culinary Arts/Chef Training	12.0503	13,163	9,283	$18.54	Chefs and Head Cooks- $28.46
Child Care Provider/Assistant	19.0709	10,701	2,782	$16.12	Child, Family, and School Social Workers - $28.49
Nursing Assistant/Aide and Patient Care Assistant/Aide	51.3902	21,340	25,593	$15.51	Registered Nurse - $38.27
Career Associate Programs					
Child Care Provider/Assistant	19.0709	10,701	2,782	$16.12	Child, Family, and School Social Workers - $28.49

Description	CIP	Projected Job Openings, 2022-2032	Projected Job Growth, 2022-2032	Median Earnings	Potential Advancement Occupations
Building/Property Maintenance	46.0401	22,681	4,091	$18.82	First-Line Supervisors of Mechanics, Installers, and Repairers- $39.52

Source: Lightcast, 2022.

Based on review of the review of programs available at Harper College and broader labor market trends in the region, the current programs offered seem well-suited to current employment needs by businesses. Most of the occupations and certifications that were prevalent in job postings for the region have corresponding curricula at Harper College. An exception was truck driving and CDL certification. Although labor market demand for truck driving has declined considerably from in years past, it remains one of the top ten most in-demand occupations.

Harper College also offers programs related to most of the associate's-degree-level occupations with larger shares of workers nearing retirement, including drafters and engineering technicians. An exception was medical equipment repairers- about 1/3rd of current workers in this occupation are age 55 or higher. A program in medical equipment repair might have synergies with other programs at Harper College related to health care and construction.

Appendix. Data Considerations

Nearly all data from this report comes from Lightcast, formerly known as Emsi-Burning Glass. Lightcast provides estimated population and employment data for states, counties, and ZIP codes, based on data collections from state and federal agencies. For demographic estimates, Lightcast references annual population estimates by the U.S. Census Bureau and uses a cohort-survival model to forecast future population levels. For employment estimates, Lightcast references county-level data collections from the Bureau of Labor Statistics and provides more recent estimates based on state and national employment projections adjusted for local employment base characteristics.

All job postings information is presented as unique job postings. Lightcast provides counts of job advertisements from multiple online platforms such as LinkedIn, Indeed, and Monster, with details by employer, occupation type, and education/skill requirements. Lightcast deduplicates the job postings information to prevent double-counting the same job openings advertised across multiple platforms. If the same employment position for the same employer over the same time frame is listed on two websites, it is counted as one unique job posting. If an employer makes another advertisement for the same opening at a later date, due to lack of suitable responses in the initial recruitment period, that would be shown as two unique job postings. Job postings analytics might not be representative of labor market demand for some professions where occupations are typically filled via networking or direct contact by recruiters.

Commuting data comes from the U.S. Census Bureau's Longitudinal Employer-Household Dynamics dataset (LEHD). The LEHD is a dataset providing information on employment and place of work. For example, it shows how many workers in one county commute to each other county. For this report, LEHD data was retrieved via the OnTheMap data tool provided by the Census Bureau. This dataset was created by linking Census Bureau survey data to wage records in the national unemployment insurance program. Due to extensive data validation requirements in this linkage progress, the data is susceptible to time lags and at the time of writing, 2021 was the most recent available. All LEHD data presented in this report is for primary jobs, defined as the jobs representing the largest share of a worker's earnings over the year. We use commuter counts by primary jobs to avoid double-counting individuals with multiple jobs, and to avoid emphasizing jobs that are part-time or seasonal when identifying major employment sectors.