OAKTON COMMUNITY COLLEGE'S ECONOMIC IMPACTS AND STUDENT EMPLOYMENT OUTCOMES

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By

The Center for Governmental Studies
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The Oakton Community College's Economic Impacts report was prepared by the Center for Governmental Studies at Northern Illinois University (NIU) under agreement with the Illinois Community College Board (ICCB). Questions and inquiries regarding the contents of this report may be directed to Brian Richard at NIU (815/753-0162) or Nathan Wilson at ICCB (217/558-2067).

The findings and conclusions presented in this report are those of the NIU project team alone and do not necessarily reflect the views, opinions, or policies of the officers and/or trustees of Northern Illinois University nor those of the employees, officers, and/or trustees of the Illinois Community College System.

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Oakton Community College Operating Environment

The demographics and economic conditions in the regions where they operate impact community colleges offerings as well as the success of their program completers. Declining populations, especially in younger residents can affect enrollment. Economic conditions, especially job opportunities in specific industries, are directly related to the workforce outcomes of college completers.

This report is meant as a supplement to a statewide report, *Illinois Community Colleges' Economic Impacts and Student Employment Outcomes.* The statewide report summarizes important demographic and economic conditions in Illinois, provides statewide Illinois community college student outcomes and estimates the economic impacts of the combined operations of the community colleges in Illinois.

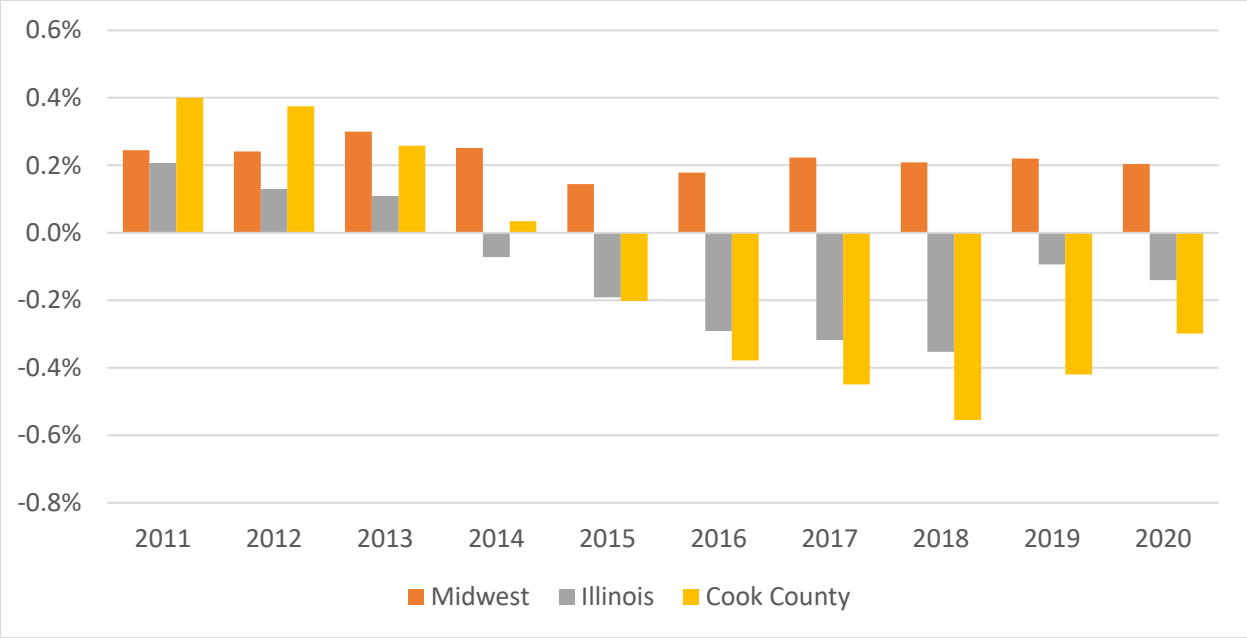
Demographic and economic data are not available for the exact Oakton Community College district boundaries. In the following charts and tables, the district is approximated by the region comprised of Cook County.

Population

The population loss experienced in Illinois since 2013 has been minimal but certainly noteworthy, as the rate of decline gradually increased through 2018, then began to reverse. Figure 1 shows the net change in population since 2011 for Cook County, Illinois, and the Midwest. A decline in the birthrate, increase in the death rate, and changes in the patterns of international and domestic migration all contribute to these changes. The net loss of population in Illinois appears to have moderated in recent years.

Cook County lost population in the last six years of the decade. The losses moderated in the last couple of years.

Figure 1. Net Change in Population, 2011-2020



Source: EMSI, 2020.

Race & Ethnicity Changes

The primary driver of population loss in Illinois has been the decrease in White and African American non-Latinx residents. Throughout this report, data reported for White and African American populations represent non-Latinx persons. The Latinx may contain multiple races. If it were not for the Asian, Other, and Latinx populations having higher birth rates or moving into Illinois, the population loss would be much greater. Figure 2 shows the change in the race and ethnicity categories for Illinois and the Cook County. Illinois has lost nearly 550,000 White and 68,000 African American residents since 2010. The Latinx population in Illinois grew by about 200,000. Cook County's loss of White and African American residents was somewhat offset by gains in all other races and ethnicities. However, the county lost population overall.

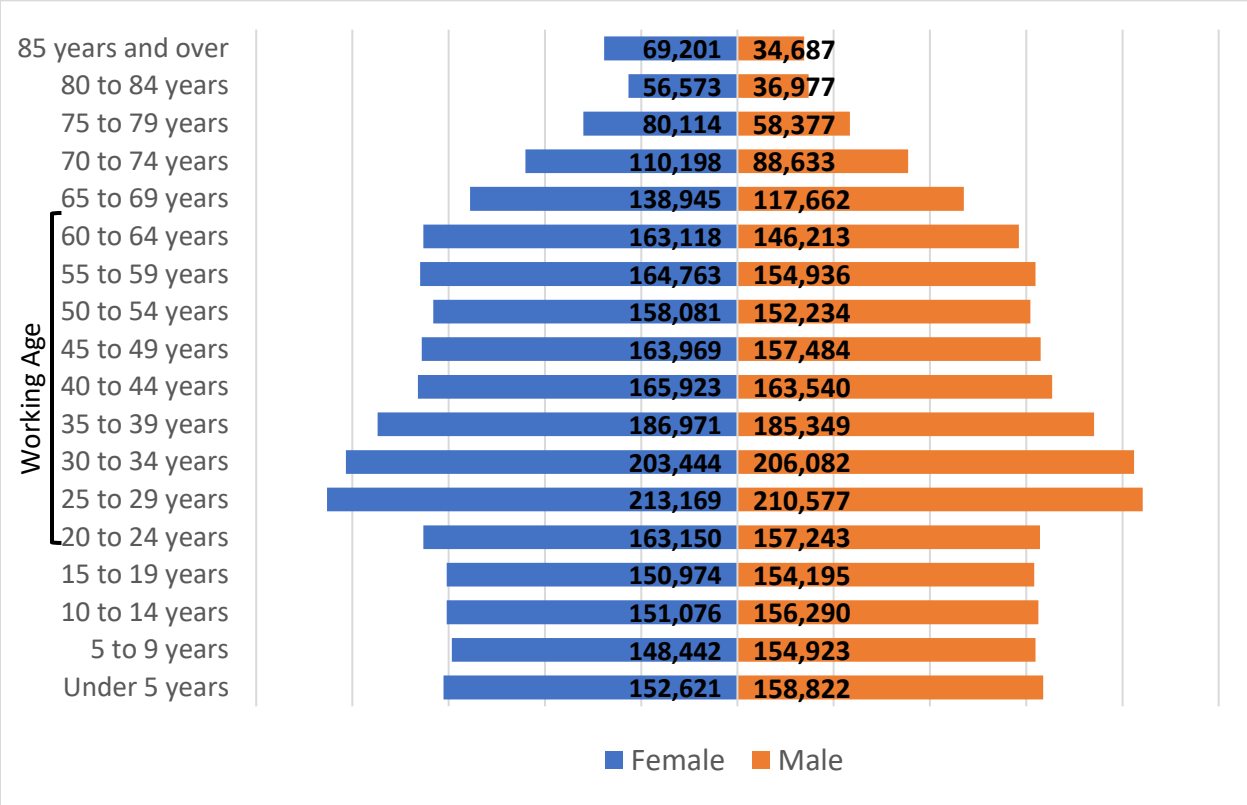
Figure 2. Race & Ethnicity Change in Population, 2010-2020

	Population Change	White	African American	Asian	Other	Latinx
Illinois	(221,803)	(544,675)	(67,721)	146,570	44,341	199,683
Cook County	(86,648)	(145,526)	(100,165)	75,421	14,334	69,288

Source: EMSI, 2020.

Figure 3 shows the age and gender distribution of Cook County's population. There are significant numbers of people in the early working-age population (25-35).

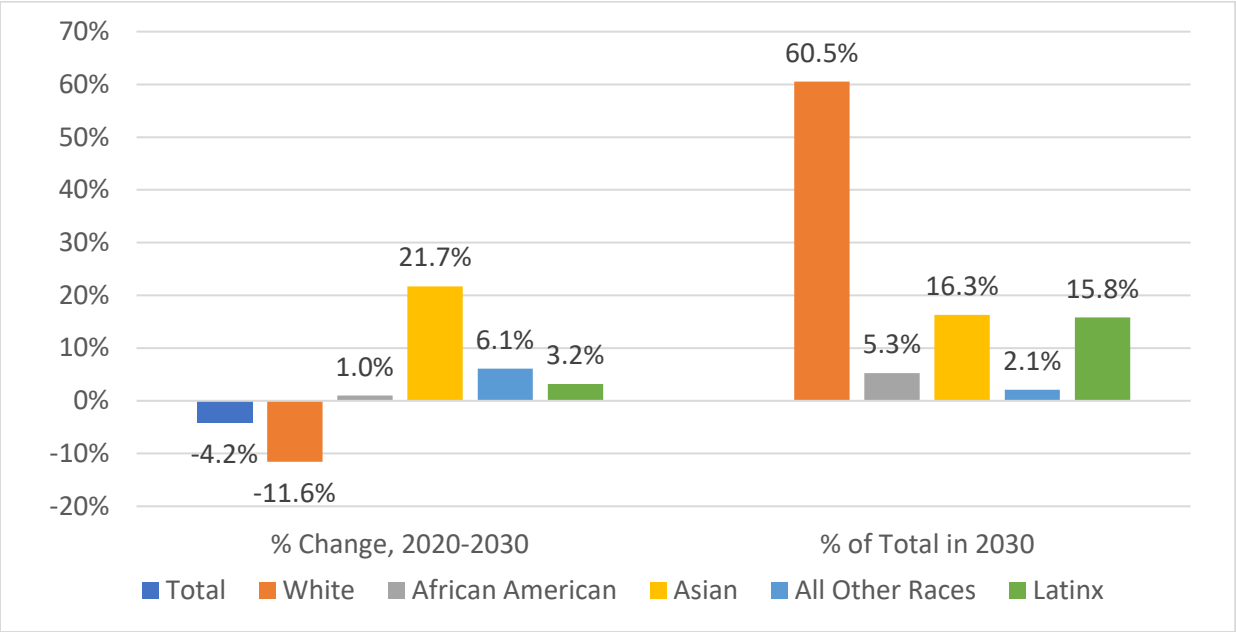
Figure 3. Age Pyramid for District, 2019



Source: EMSI, 2020.

Cook County population is projected to decline slightly in the next decade. As displayed in Figure 4, the White population is expected to decline. Offsetting those declines, all other racial groups are expected to grow. Through 2030, the White population is expected to continue to decline slowly while other races and ethnicities grow. The county will still be predominately White.

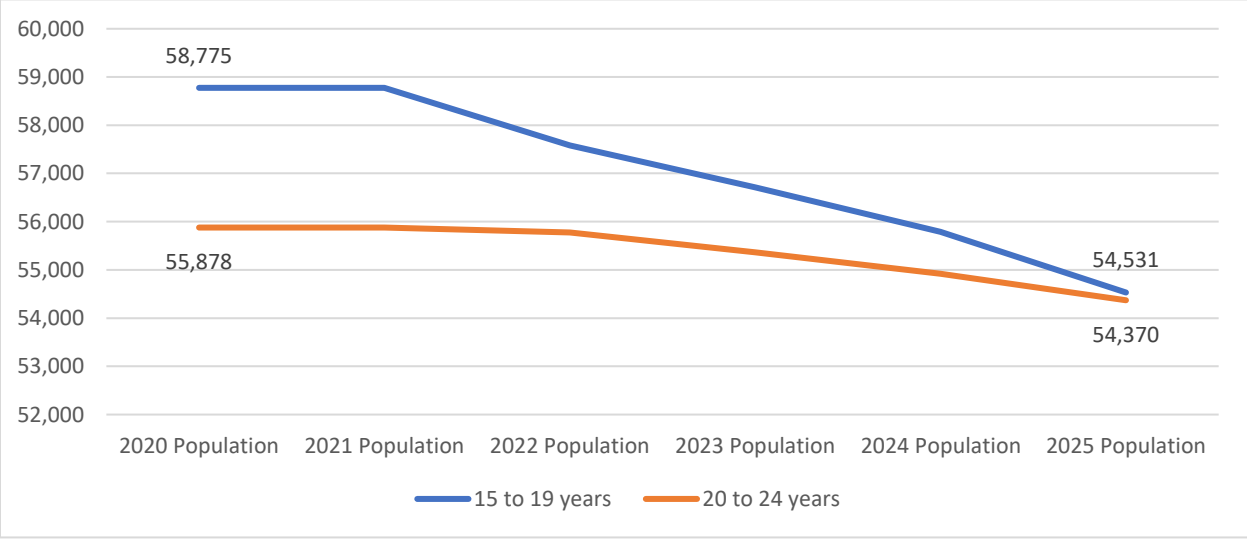
Figure 4. Population Projections by Race and Ethnicity, 2020-2030



Source: EMSI, 2020.

Mirroring declines at the national and state level, the population of typical college aged students will fall in the coming years (Figure 5) in Cook County. The population ages 15 to 19 is projected to decrease by over 4,000 and the population ages 20 to 24 is projected to decline by about 1,500.

Figure 5. College-Aged Population Projections, 2020-2025



Source: EMSI, 2020.

Meeting the Needs of Business and Industry

Illinois community colleges support local workforce and economic development through employer and business engagement. During academic year 2020, Oakton Community College interacted with 104 unique employers. Activities ranged from curriculum and apprenticeship development and review, contract training, internships, and professional development to job placement for graduating students.

Community colleges meet the demands of local business and industry needs and respond to the many changes in the workforce. Although the Great Recession officially ended in June 2009, the economic recovery in Illinois has been relatively weak when compared to the rest of the nation. While unemployment rates fell substantially in the years before the pandemic, labor force participation among key working aged populations continue to decline. This section looks at employment trends and the related demand for skills in Illinois. We examine employment conditions from the perspective of industry and occupation. *Industry* refers to the types of goods produced or services provided by the employer. *Occupation* refers to the work activities conducted by the employee. For example, registered nurse is an occupation in the health care industry.

Industry Employment Trends

Transportation and warehousing, professional, scientific, and technical services, and health care were the fastest growing sectors in the county between 2010 and 2020 (Figure 6). Going forward, these growth patterns may be altered by the ongoing, perhaps permanent, impacts of the Coronavirus pandemic. See the discussion later in this document for more detail about these impacts.

Figure 6. Change in Industry Employment

	Employment		2010-2020 Change	
Description	2010	2020	Number	Percent
Utilities	3,742	4,832	1,090	29.1%
Construction	88,102	95,858	7,755	8.8%
Manufacturing	197,199	180,594	-16,604	-8.4%
Wholesale Trade	101,259	101,509	251	0.2%
Retail Trade	230,718	219,265	-11,453	-5.0%
Transportation and Warehousing	122,211	158,839	36,628	30.0%
Information	53,637	54,013	376	0.7%
Finance and Insurance	160,268	172,437	12,168	7.6%
Real Estate and Rental and Leasing	48,478	52,146	3,668	7.6%
Professional, Scientific, and Technical Services	209,634	253,201	43,567	20.8%
Admin, Support, Waste Mgmt and Remediation Svcs	182,240	200,793	18,553	10.2%
Educational Services	102,052	107,911	5,858	5.7%
Health Care and Social Assistance	334,022	375,918	41,896	12.5%
Arts, Entertainment, and Recreation	40,495	43,304	2,809	6.9%
Accommodation and Food Services	196,524	198,641	2,117	1.1%
Other Services (except Public Administration)	155,050	146,971	-8,079	-5.2%
Government	326,297	308,052	-18,245	-5.6%
Total	2,602,186	2,711,132	108,947	4.2%

Source: EMSI, 2020.

Currently Available Jobs

The demand for workers, as well as the required skills, credentials, and other attributes can now be assessed through web-based technologies that scan millions of job and applicant postings on popular sites such as Monster, SimplyHired, and Indeed or posted by various state and local employment bureaus.

Job Posting Analytics (JPA), developed by EMSI can help measure the demand for talent in a given region. It is more granular than traditional labor market information (LMI), providing details about the labor market (e.g. specific skills requested by employers) that LMI simply can't.

The top advertised occupations in the county cover a wide range of occupations, but show a strong demand for truck driving, software developers, nursing, and sales occupations (Figure 7).

Figure 7. Occupations by Number of Job Postings, 2020

Occupation	Unique Postings
Heavy and Tractor-Trailer Truck Drivers	64,003
Software Developers and Software Quality Assurance Analysts and Testers	37,576
Registered Nurses	35,081
Marketing Managers	21,121
Computer Occupations, All Other	20,914
Sales Managers	16,919
Retail Salespersons	16,069
Accountants and Auditors	15,606
Customer Service Representatives	14,797
First-Line Supervisors of Retail Sales Workers	13,314

Source: EMSI, 2020.

The high number of postings for truck drivers is reflective of the nationwide demand for professional drivers, as well as the Chicago area's position as an important transportation and distribution center. Job posting data can be useful in identifying immediate workforce needs of local employers. However, the number of postings may be either higher or lower than the number of actual hires. Further, analysis of total job postings does not necessarily reflect long-term career opportunities, to the extent that it includes temporary positions. Postings might outnumber hires when a company is trying hard to find talent, or postings may be significantly fewer than hires because certain types of jobs (e.g., roofers, welders, and other blue-collar jobs) aren't typically advertised online. When this happens, EMSI de-duplicates the postings as much as possible and then provides a realistic ratio of unique postings to hires.

Current Demand for Workers

Figure 8 displays the industries that have the greatest job posting activity in Cook County. The largest number of postings came from companies in the administrative, support, waste management and remediation services sector. Other sectors with significant hiring activity include professional, scientific, and technical services, health care and social assistance, and retail trade.

Figure 8. Top Industries Seeking Employees, 2020

Industry	Unique Postings
Administrative and Support and Waste Management and Remediation Services	140,630
Professional, Scientific, and Technical Services	116,918
Unclassified Industry	113,125
Health Care and Social Assistance	76,757
Retail Trade	75,488
Transportation and Warehousing	62,270
Finance and Insurance	54,103
Manufacturing	47,893
Educational Services	38,857
Accommodation and Food Services	34,075

Source: EMSI, 2020.

When analyzing the top skills requested by employers, duplication is very evident as most job ads list multiple skillsets. Figure 9 gives a sense of the kinds of skills that employers in the county are seeking in new employees, although it is difficult to assess how, and to what degree, employers evaluate these skills (e.g., it could be based on the applicant's on-the-job experience, credentials obtained, pre-employment testing, etc.). However, 'soft-skills' or 'people skills' (such as customer service, customer contact, sales and relationship building) are highly valued for a wide range of jobs. These skills are more value-oriented but educational programs could integrate instilling values, such as ethics and professionalism. Furthermore, some aspects of customer service or sales also involve increased use of technology (e.g., social media marketing). Community colleges can recruit additional students by offering more credentialed courses for these skills.

Figure 9. Top Skills by Number of Job Openings, 2020

Skill or Qualification	Frequency in postings
Accounting	5.9%
Auditing	5.0%
Selling Techniques	4.7%
Merchandising	4.0%
Nursing	3.9%
Agile Methodology	3.8%
SQL (Programming Language)	3.5%
Strategic Planning	3.2%
Customer Relationship Management	3.1%
Business Development	3.1%

Source: EMSI, 2020.

The certifications listed in Figure 10 were found within the job postings and are ranked according to the number of postings in which they appeared. Commercial driver's licenses dominates this list. This is not surprising given truck driving's position at the top of the occupation demand list (Figure 7 above). Nurses and other related healthcare certifications appeared frequently as well.

Figure 10. Top Qualifications Sought by Employers, 2020

Skill or Qualification	Frequency in postings
Commercial Driver's License (CDL)	5.5%
Master Of Business Administration (MBA)	2.1%
Certified Nursing Assistant	1.3%
Licensed Practical Nurse	0.9%
Bachelor of Science in Business	0.9%
Certified Public Accountant	0.7%
Bachelor of Science in Nursing (BSN)	0.7%
Project Management Professional Certification	0.5%
Nurse Practitioner	0.4%
Certified Information Systems Security Professional	0.4%

Source: EMSI, 2020.

Workforce Trends

Occupational Employment

Occupations in Illinois with expected annual openings that often require a career and technical education certificate and/or a professional license (typically defined as "some college no degree" by the US Census or "some college or postsecondary nondegree award" by US Department of Labor) are displayed in Figure 11. Example occupations include truck driving, emergency medical technicians, and hairstylists.

Truck drivers, nursing and medical assistants, and hairstylists are expected to be in high demand in coming years. While some of the hires will be from industry growth, these occupations experience large numbers of employees leaving their jobs each year. These employees may leave because the occupation is a poor fit for their skills or desired lifestyle or as they advance into other careers. Skills training for these occupations should be paired with education about the working conditions and pay levels that workers can expect when they enter these jobs.

Figure 11. Job Growth in Occupations that Often Require a Certificate and/or License

SOC	Description	2020 Jobs	2030 Jobs	Growth Rate	Annual Openings
53-3032	Heavy and Tractor-Trailer Truck Drivers	31,406	32,117	2.3%	3,299
31-1131	Nursing Assistants	24,270	25,374	4.5%	2,659
31-9092	Medical Assistants	8,872	9,986	12.6%	1,047
39-5012	Hairdressers, Hairstylists, and Cosmetologists	10,815	8,455	-21.8%	1,043
49-3023	Automotive Service Technicians and Mechanics	10,312	9,243	-10.4%	842
29-2061	Licensed Practical and Licensed Vocational Nurses	8,003	8,624	7.8%	638
31-9091	Dental Assistants	5,015	5,109	1.9%	516
25-4031	Library Technicians	3,210	2,980	-7.1%	440
33-2011	Firefighters	6,287	5,911	-6.0%	386
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technicians, All Other	4,770	4,955	3.9%	359
31-9011	Massage Therapists	2,965	3,126	5.4%	325
49-3011	Aircraft Mechanics and Service Technicians	3,639	4,006	10.1%	325
49-9021	Heating, AC, and Refrigeration Mechanics and Installers	3,779	3,571	-5.5%	314
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	3,404	2,359	-30.7%	283
31-9097	Phlebotomists	2,298	2,504	9.0%	247
29-2041	Emergency Medical Technicians and Paramedics	3,957	3,591	-9.2%	221
39-5092	Manicurists and Pedicurists	1,959	1,999	2.0%	209

Source: EMSI, 2020.

Figure 12 displays occupations with more than 120 expected annual openings in Cook County that typically require an associate degree for entry. Some occupations that are expected to grow slowly or even decline still are expected to have significant numbers of openings. These openings will be due to retirements and incumbent workers being promoted to higher level occupations or changing careers. Projected job openings for occupations typically requiring a bachelor's degree, including registered nursing, are shown later in Figure 20.

Figure 12. Job Growth in Occupations that Typically Require an Associate Degree

SOC	Description	2020 Jobs	2030 Jobs	Growth Rate	Annual Openings
25-2011	Preschool Teachers, Except Special Education	11,229	12,108	7.8%	1,141
23-2011	Paralegals and Legal Assistants	9,396	9,879	5.1%	977
15-1231	Computer Network Support Specialists	6,173	5,925	-4.0%	407
15-1257	Web Developers and Digital Interface Designers	3,547	3,763	6.1%	263
31-2021	Physical Therapist Assistants	1,381	1,758	27.3%	202
29-1292	Dental Hygienists	3,131	3,173	1.4%	191
29-2034	Radiologic Technicians	3,856	3,891	0.9%	190
43-4161	Human Resources Assistants, Except Payroll	1,784	1,643	-7.9%	171
17-3011	Architectural and Civil Drafters	1,618	1,476	-8.8%	134
29-2056	Veterinary Technicians	1,205	1,462	21.3%	125
31-2011	Occupational Therapy Assistants	899	1,125	25.1%	120

Source: EMSI, 2020.

The Aging of the Workforce

As the Baby Boomers age into retirement, many occupations will face significant departures. Figure 13 displays occupations that typically require an associate degree for entry that have the highest percentages of workers over the age of 55. Many of these occupations are in the architecture and engineering (Standard Occupation Codes or SOCs beginning with 17-) and healthcare (SOC 29-) fields.

*Figure 13. Employment Distribution by Age: Occupations that Typically Require an Associate Degree**

SOC	Description	2020 Jobs	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+
17-3023	Electrical and Electronic Engineering Technicians	1,261	224	244	306	315	92
17-3098	Calibration and Engineering Technicians, Except Drafters, All Other	1,403	277	284	333	298	92
19-4031	Chemical Technicians	1,296	308	266	262	274	74
23-2099	Legal Support Workers, All Other	913	234	180	194	156	63
29-1126	Respiratory Therapists	2,014	527	499	459	401	81
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	1,784	460	386	339	305	111
17-3011	Architectural and Civil Drafters	1,618	458	360	300	255	91
23-2011	Paralegals and Legal Assistants	9,396	2,684	2,086	1,863	1,546	451
29-2031	Cardiovascular Technicians	1,309	396	319	259	218	59
29-1292	Dental Hygienists	3,131	856	820	648	525	131
29-2035	Magnetic Resonance Imaging Technologists	992	287	249	211	165	39
29-2034	Radiologic Technicians	3,856	1,147	968	786	625	156
29-2032	Diagnostic Medical Sonographers	1,456	438	372	294	231	61

Source: EMSI, 2020.

* Only top ranked occupations by the share of workers age 55 years and older are shown.

Equity

The Illinois Community College System and ICCB are committed to create, support, and expand workforce training opportunities in high-need communities focused on specific sectors with identified workforce gaps. The recently implemented Workforce Equity Initiative (WEI) in 2019 is evidence of Illinois community college efforts on improving education and employment opportunities in at-risk communities. The ICCB granted $18.7 million dollars to community colleges throughout Illinois to help address education and unemployment gaps in the African American and other minority communities. The funding will be used across 17 community colleges throughout the state that serve larger African American populations under Illinois' Workforce Equity Initiative, now in its second year. Programs within WEI accelerate the time to enter and succeed in education/training programs. Illinois community colleges and ICCB are devoted to initiatives like WEI and others to promote gainful employment for underrepresented populations.

There are several state and federal initiatives that the Illinois Community College System and ICCB are committed to and collaborating on with state agency and business/workforce partners. One of Governor Pritzker's earliest actions was to issue Executive Order 2019-03 (EO3), focused on strengthening the state's commitment to workforce development and job creation. EO3 directed the Department of Commerce and Economic Opportunity (DCEO) to deliver a report containing three components: identifying target growth industries, review of effective and efficient investment in targeted industries, and report on improving alignment of workforce resources for disenfranchised communities. That final component stated the report should contain "comprehensive recommendations for improving the alignment of workforce resources for communities that have been disenfranchised, including rural and urban communities."

The report prepared in response by DCEO in cooperation with Departments of Employment Security and Human Services and the Illinois Community College Board includes three *Action Areas* (An Action Agenda, p. 3-4):

- Action Area 1. Unite workforce development partners around regional cluster strategies: Regional cluster strategies will focus resources on the industries with the highest potential to add jobs and increase prosperity in regions across Illinois. These strategies bring together the public and private sectors in each region to build on their unique strengths.
- Action Area 2. Prepare Illinois workers for a career, not just their next job: Regardless of background, life circumstances, or education level, Illinois workers can be prepared for high-demand careers by developing core academic, technical, and essential employability skills throughout their lifetimes.
- Action Area 3. Connect job seekers with employers: Illinois businesses can find the productive workers they need through more efficient training and better services for job seekers and employers.

Action Area 2 included a strategy focused on equity: *Establish and support equity goals*. "Preparing workers to meet the needs of business while connecting them to viable career pathways in Illinois' most vibrant industries will lead to economic prosperity at all levels. An important focus of these efforts must be ensuring that disenfranchised populations have access to these employment opportunities" (An Action Agenda, p. 15). This strategy had several Action Steps, including (An Action Agenda, p. 16):

- Disaggregate data by race, gender, and target population to reveal where disparities and inequities exist in policies and programs.
- Compel advisory and oversight boards/councils to set equity goals and prepare action plans to achieve them.

Subsequent to the release of the EO3 report, a number of economic, education and workforce development plans have been developed and released. These plans have increasingly placed an importance on equity issues. The Illinois economic development plan includes an Aspirational Goal focused on equity (A Plan to Revitalize, p. 3):

> Reduce the Equity Gap by investing in, providing support to, and taking down barriers for economically disadvantaged populations. We will track our progress toward this goal by tracking average earnings relative to the statewide average for the following populations:
>
> - Women
> - Rural residents
> - People of color
> - People with disabilities
> - Veterans
> - Justice-impacted populations
> - Immigrant populations

The Illinois Perkins V plan includes a *Foundational Tenet* focused on increasing educational equity for members of special populations (Illinois' Perkins V State Plan, p. 5):

> Illinois aims to place equity at the forefront of decisions made regarding career and technical education (CTE) programming, acknowledging that opportunity and achievement gaps exist for members of special populations. Perkins V affords Illinois the opportunity for an increased focus on meeting the needs of members of special populations by improving systems to identify and understand equity gaps, aligning resource systems, and providing professional learning to support the implementation of CTE programs that are accessible and effective for all students.

Similarly, the Illinois Workforce Innovation Board guided the development of the Illinois Workforce Innovation and Opportunity Act (WIOA) Unified State Plan, which includes a set of principles as part of its vision statement. One focuses on equity:

> Equitable Access and Opportunity for All Populations - Connecting individuals with relevant supports, such as transportation, child care and transition services will enable the system to be responsive to the workforce readiness needs of all individuals and help targeted populations prepare for and advance along a career pathway.

While these plans place an importance on equity issues, only the economic development plan provides guidance on how equity should be quantified and tracked. There are other resources that suggest metrics for tracking progress on equity. The Center for Urban Education states that "Effective state attainment goals are based on an understanding of for whom and by how much higher education access and success must improve" (Making Equity Part, p. 4). This understanding answers these questions:

- Which populations have the lowest rates of postsecondary attainment historically?

- Which populations are the fastest-growing in the state?
- What career fields and occupations in the state have strong labor market demand currently? In five, 10, 15 years? What are the levels of educational attainment required for those jobs? What are the projected shortfalls of adults with those credentials?
- At current rates of educational attainment, will some populations in the state be disproportionately excluded from opportunities in high-wage, high-demand jobs?

Similarly, a report from Education Trust cites degree attainment as an important regional measure of equity. Based on an analysis of social mobility (the ability of people to achieve higher incomes than their parents), the authors conclude that education is a way out of poverty. Thus, they suggest three ways of looking at educational attainment (Del Pilar & Berger, p. 16):

- Overall degree attainment
- Growth in degree attainment
- Gaps in degree attainment

The Office of Community College Research and Leadership at University of Illinois at Urbana-Champaign also suggests metrics for ensuring programs align with labor market needs and demands, with a particular focus on equity (Welton & James-Gallaway, p. 9-11). These includes using data to identify inequitable employment outcomes.

Regional Equity Indicators

Income and Poverty

Racial and ethnic income disparities are significant and persistent in Illinois and in Cook County. White workers earn significantly more than African American and Latinx workers. Consequently, African American and Latinx households are more likely to be in poverty.

In 2010, the median income for African American households in the county was less than 55% that of White households in Cook County (Figure 14). The disparities increased by 2019. Median income for African American increased at a smaller rate than non-Latinx White incomes, leaving African American households' median incomes less than half of White households.

Latinx households have higher incomes than African American households, but still earn significantly less that White households. Cook County median Latinx incomes also fell farther behind non-Latinx White households between 2010 and 2019. Care must be taken when comparing incomes for Latinx households, since Latinx ethnicity can include any race.

Figure 14. Median Household Income by Race, 2010 and 2019

	Cook County	
	2010	2019
All Households	$53,942	$64,660
Non-Latinx White	$66,848	$84,545
African American	$35,890	$39,149
Asian	$66,673	$81,503
Latinx	$45,443	$53,942

Source: American Community Survey, 5 year estimates

The percentage of persons with income below the poverty level in Cook County fell from 15.3% to 114.4% between 2010 and 2019 (Figure 15). White persons are significantly less likely to be low income by this measure. The percentage of Asian persons below the poverty level increased, while African American and Latinx persons declined somewhat. African American persons are more than three times more likely to be in poverty compared to Whites.

Figure 15. Percentage of Persons with Income Below the Poverty Level by Race, 2010 and 2019

	2010	2019
All Households	15.3%	14.4%
Non-Latinx White	7.1%	7.5%
African American	27.2%	25.0%
Asian	11.7%	12.1%
Latinx	19.1%	16.8%

Source: American Community Survey, 5 year estimates

Based on the review of state education and workforce development plans and higher education equity research, two main indicators of workforce equity were chosen to give broad insight into the racial and ethnic income disparities. As Del Pilar & Berger (2019) assert, education is a way out of poverty. Thus, educational attainment is an important indicator. Welton & James-Gallaway, (2019) suggest using data to identify inequitable employment outcomes. Occupational employment and wage rates by race are the best available measure of employment outcomes.

Educational Attainment

White residents of Cook County were significantly more likely than African American and especially Latinx residents to complete high school in 2010 (Figure 16). The higher educational attainment of White residents persists at all levels of education. Asian persons were significantly more likely to continue their educations through bachelor's degrees.

The percentage of African American persons that earned a high school diploma but did not continue their education was about 28%, higher than the rate of White persons (23%). African American persons had some college or and associate degree at a higher rate as Whites. White residents were significantly more likely to complete a bachelor's degree or higher.

Latinx persons had significantly lower attainment rates than the other groups. More than 41% had not completed high school in 2010. They were also much less likely to continue their education beyond high school.

Figure 16. 2010 Educational Attainment by Race and Ethnicity for Population Age 25 and Over

	Total	White	African American	Asian	Latinx
Total	3,413,901	1,715,702	802,979	221,139	647,750
Less than high school diploma	16.8%	7.9%	18.2%	10.4%	41.1%
HS graduate (incl equivalency)	24.9%	23.3%	28.5%	13.0%	28.7%
Some college or associate deg	25.2%	24.3%	34.4%	16.9%	18.6%
Bachelor's degree or higher	33.2%	44.4%	18.8%	59.7%	11.6%

Source: American Community Survey, 5 year estimates

Most racial and ethnic groups had improved their attainment rates by 2019 (Figure 17). For all persons over 25 years old, the percentage at least completing high school improved by about 4 percentage points and the percentage of those obtaining a bachelor's degree or higher improve by about 5 percentage points. About 64% of had had furthered their education beyond high school, compared with about 58% in 2010.

African American persons continued to have significantly lower attainment rates than Whites in 2019. White bachelor's attainment reached over 52%, while the rate was only 23% for African American residents. Of those that completed high school, non-Latinx Whites were more likely to further their education, including more likely to complete a bachelor's degree or higher.

Figure 17. 2019 Educational Attainment by Race and Ethnicity for Population Ages 25 and Over

	Total	White	African American	Asian	Latinx
Total	3,587,576	1,691,109	809,334	279,637	761,888
Less than high school diploma	12.9%	5.2%	12.7%	10.1%	31.4%
HS graduate (incl equivalency)	23.1%	19.3%	28.2%	11.9%	30.9%
Some college or associate deg	25.2%	22.8%	36.5%	14.9%	22.2%
Bachelor's degree or higher	38.8%	52.6%	22.6%	63.1%	15.6%

Source: American Community Survey, 5 year estimates

Occupational Employment

There were about 2.7 million jobs in Cook County in 2020[1]. Overall, about 50% of jobs were held by women, 43% held by non-White persons, and 18% held by Latinx persons. Figure 18 displays data for occupations employing at least 6,000 in the county that have a typical entry education level of 'Some College or Postsecondary Nondegree Award' according to the U.S. Department of Labor. Example occupations include truck driving, emergency medical technicians, and hairstylists.

Occupations in this category tend to have very low gender diversity. Truck driving, automotive service technicians, and firefighters occupations all employ at least 90% males. Conversely, bookkeepers, nursing assistants, teaching assistants, hairdressers, and others employ at least 85% females. Of the four occupations that have a median hourly wage of at least $24, three are dominated by males. All four occupations that pay less than $20 are female dominated.

Jobs in those occupations held by higher percentages of non-White persons also tended to be lower paying. Two out of three occupations employing more than 50% non-White persons (43% is the average for all occupations in Cook County) had median earnings of less than $18/hour. The exception to this was licensed practical nurses, which employed 64% non-Whites and had a median wage of nearly $28/hour.

Latinx persons are underrepresented in most of the occupations in this category. Despite making up about 18% of the workforce, Latinx persons only exceeded 25% of the workforce in two occupation:

[1] The data in Figures 18-20 display numbers of jobs. A single person can hold more than one job. According to the US Bureau of Labor Statistics, the total number of persons employed In Illinois in 2019 was just under 6.2 million.

automotive service technicians and medical assistants. Medical assistants had median wages under $18/hour.

Figure 18. Employment for Occupations Often Require a Certificate and/or License

SOC	Description	2020 Jobs	Avg. Annual Openings	Pct Female	Pct Non-White	Pct Latinx	Median Hourly Earnings
53-3032	Heavy and Truck Drivers	31,406	3,299	6%	44%	22%	$24.05
43-3031	Bookkeeping, Accounting, and Auditing Clerks	27,455	2,766	87%	30%	13%	$22.19
31-1131	Nursing Assistants	24,270	2,659	87%	76%	14%	$15.33
25-9045	Teaching Assistants	23,582	2,391	90%	37%	16%	$15.10
39-5012	Hairstylists, and Cosmetologists	10,815	1,043	91%	31%	15%	$13.38
49-3023	Automotive Service Technicians	10,312	842	2%	45%	31%	$21.44
15-1232	Computer User Support Specialists	9,905	738	27%	38%	11%	$25.46
31-9092	Medical Assistants	8,872	1,047	92%	61%	34%	$17.75
29-2061	Licensed Practical and Vocational Nurses	8,003	638	90%	64%	12%	$28.16
33-2011	Firefighters	6,287	386	5%	22%	8%	$32.36

Source: EMSI, 2020.

Figure 19 displays employment in Cook County for occupations that typically require an associate degree. Diversity is generally more balanced for these occupations relative to the lower skilled occupations in Figure 18. However, significant challenges remain in some occupations to increase diversity.

All three occupations in this category that have median hourly earnings below $30 are dominated by women. Of the seven occupations in this category that have median earnings greater than $30 three of those are male dominated and four female.

Latinx persons are underrepresented in most of these occupations relative to their overall percentage of the workforce (18%). Preschool teachers have a slightly higher percentage of Latinx persons. This occupation has the lowest level of pay in the category.

Figure 19. Occupational Employment, Associate Degree Typical Entry Level Education

SOC	Description	2020 Jobs	Avg. Annual Openings	Pct Female	Pct Non-White	Pct Latinx	Median Hourly Earnings
25-2011	Preschool Teachers	11,229	1,141	97%	52%	20%	$15.86
23-2011	Paralegals and Legal Assistants	9,396	977	82%	33%	18%	$29.65
15-1231	Computer Network Support Specialists	6,173	407	27%	39%	11%	$32.06
29-2034	Radiologic Technicians	3,856	190	72%	39%	15%	$32.60
15-1257	Web Developers and Digital Interface Designers	3,547	263	33%	31%	9%	$36.69
29-1292	Dental Hygienists	3,131	191	95%	27%	16%	$36.63
29-1126	Respiratory Therapists	2,014	114	64%	47%	13%	$30.31
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	1,784	171	84%	50%	19%	$21.82
17-3011	Architectural and Civil Drafters	1,618	134	23%	28%	13%	$30.88
29-2032	Diagnostic Medical Sonographers	1,456	86	73%	38%	15%	$39.55

Source: EMSI, 2020.

Information about occupations employing more than 17,000 in Cook County that typically require a bachelor's degree for entry are displayed in Figure 20. It should be noted that while U.S. Department of Labor identifies a bachelor's degree as the 'typical' entry level education required, there are pathways to occupations on this list that do not require a bachelor's degree. For example, it is possible to become a registered nurse without earning a bachelor's degree.

As with the lower skilled occupations, those with higher pay tend to be male dominated. Of the three occupations with median wages above $50/hour, two employ 65% or more males. Only financial managers is gender balanced in these higher paying occupations.

Only one occupation in this category has a significantly higher percentage of non-White persons than the average of all occupations (43%). About 40% of those employed int his occupation, software developers, are Asian. Again, reflecting their lower than average educational attainment, Latinx persons are underrepresented in all occupations in this category.

Figure 20. Occupational Employment, Bachelor's Degree Typical Entry Level Education

SOC	Description	2020 Jobs	Avg. Annual Openings	Pct Female	Pct Non-White	Pct Latinx	Median Hourly Earnings
29-1141	Registered Nurses	62,280	3,032	90%	44%	9%	$37.05
11-1021	General and Operations Managers	55,775	4,052	32%	28%	12%	$54.98
13-2011	Accountants and Auditors	28,816	2,421	54%	33%	9%	$36.47
15-1256	Software Developers and Quality Assurance Analysts and Testers	27,240	2,198	20%	50%	5%	$53.02
13-1198	Project Management and Business Operations Specialists, All Other	26,140	2,299	58%	40%	13%	$42.19
13-1111	Management Analysts	23,513	2,245	43%	32%	7%	$46.68
11-3031	Financial Managers	22,447	1,618	50%	31%	12%	$71.57
25-2021	Elementary School Teachers	22,160	1,555	80%	20%	8%	$33.73
13-1161	Market Research Analysts and Marketing Specialists	19,841	2,050	59%	31%	10%	$32.77
11-9198	Personal Service, Entertainment and Recreation Managers	17,104	1,105	35%	30%	13%	$45.69

Source: EMSI, 2020.

Coronavirus Pandemic

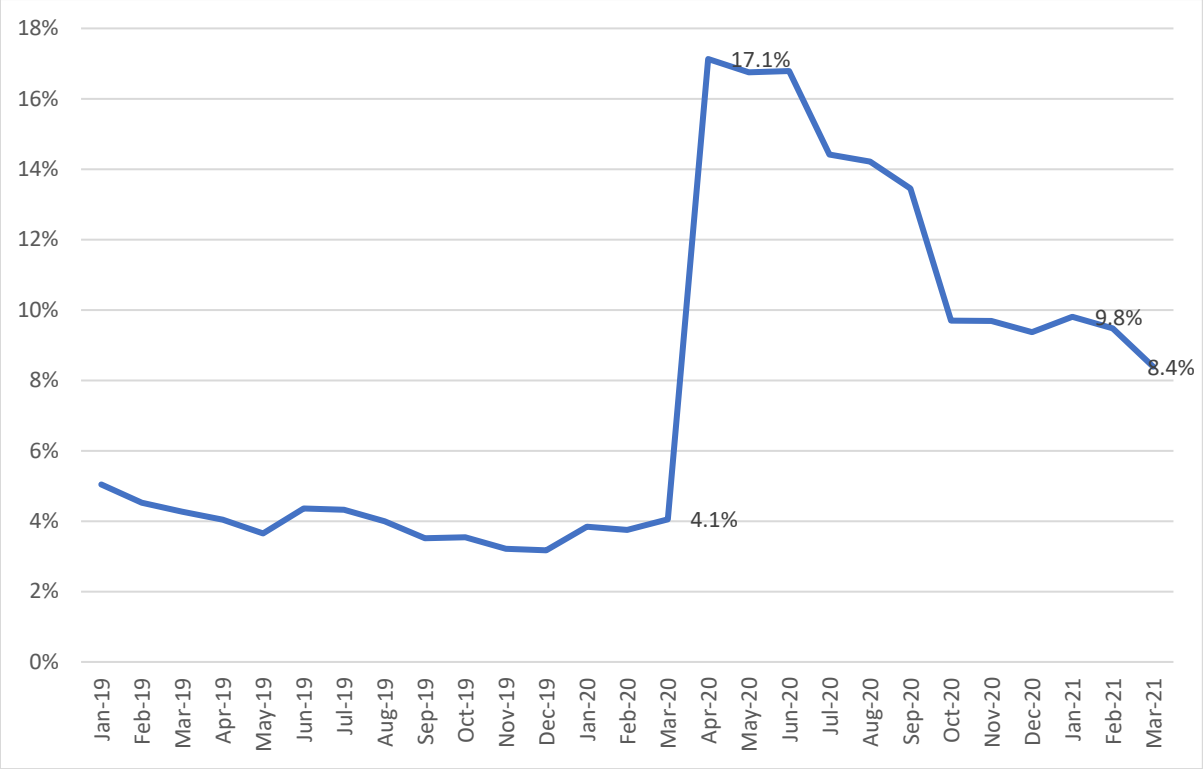
In early 2020 the Coronavirus pandemic disrupted the social and economic structures of communities worldwide. Government regulations such as stay-at-home orders and restrictions on business operations changed the way many businesses could operate. In addition, individuals changed their spending habits to avoid contracting the virus. The impact on employment was rapid and severe, with many businesses laying off employees or completely closing their doors. While significant recovery occurred by early 2021, employment levels remained below 2019 averages.

In late 2019 Illinois unemployment rates had fallen below 4%, hitting a low of just 3.4% in February 2020. Between February and April 2020, about 1.1 million out of about 6.2 million Illinois workers lost their jobs. The unemployment rate soared to 17.2%.

About 600,000 workers had regained their jobs by January 2021, bringing the unemployment rate below 8%. By comparison, during the 'Great Recession' of 2008-2009 the Illinois unemployment rate peaked at 11.3%. During the Coronavirus pandemic, the U.S. unemployment rate peaked at 14.7% in April and fell to 8% by October 2020.

In Cook County, the monthly unemployment rate peaked at just over 17% April 2020 (Figure 21). The rate declined steadily, falling to about 8% in March 2021. Unemployment trends in the county were largely consistent with the state.

Figure 21. District Unemployment Rate Trend



Source: Illinois Department of Employment Security, Economic Information and Analysis

The pandemic had uneven impacts. The U.S. Bureau of Labor Statistics publishes national unemployment rates by various demographic groups. Figure 22 displays national quarterly unemployment rates (this level of detail is not available at the county level). The rate for all persons 16 and over rose from 3.5% in 2019 to 12.9% in 2020. The rate for youth 16-19 rose from an already significant 13.4% to 28.7% and for those 20-24 years it rose from 6.5% to 22.7%. Those in older age brackets fared better but still experienced rates above 11%. Women were impacted to a greater degree than men, with an unemployment rate reaching 14% vs. just under 12% for men.

Unemployment rates for White workers were slightly lower than the overall averages for all age groups and genders. African Americans, already experiencing higher unemployment rates than other races experienced an unemployment rate of over 16% during the height of the pandemic. Their unemployment rates were higher than the overall averages for all age groups. African American male unemployment rates rose higher than females, which was not the case for other races/ethnicities.

Asians had lower unemployment rates prior to the pandemic than the overall averages. However, their rates increased to above the rates for White workers for all age groups and genders. Asians aged 20-24 were especially hard hit, rising from 4% to nearly 30% unemployment rates.

Latinx workers had unemployment rates similar to the overall averages in 2019. The pandemic caused their rates to rise more significantly than White workers. Latinx youth aged 16-19 years had the highest rate of any group examined, with 1 out of 3 being unemployed.

Figure 22. National Quarterly Unemployment Rates by Gender, Race, and Ethnicity

	2020				2021
	1st	2nd	3rd	4th	1st
White					
Total, 16 Years and Over	3.3	12.2	7.8	6	5.5
Men, 20 Years and Over	3.1	10.7	7.2	5.8	5.4
Women, 20 Years and Over	3	12.8	7.9	5.6	5.1
Both Sexes, 16 to 19 Years	11	27.2	15.9	13.6	13.1
African American					
Total, 16 Years and Over	6.3	16.3	13.1	10.3	9.6
Men, 20 Years and Over	6.2	15.8	13.6	11	9.8
Women, 20 Years and Over	5.2	15.7	12	8.9	8.7
Both Sexes, 16 to 19 Years	23.4	29.3	21.7	22.1	18.4
Asian					
Total, 16 Years and Over	3.2	14.4	10.5	6.7	5.9
Latinx					
Total, 16 years and over	4.9	17	11.2	8.9	8.3
Men, 20 years and over	3.9	14.8	9.9	8.3	7.6
Women, 20 years and over	5.1	18.1	11.8	8.8	8.2
Both sexes, 16 to 19 years	15.4	33.2	20.8	16.6	17

Source: U.S. Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*, 2020.

National research by the Pew Research Center found that the true impacts on employment were more significant than the government unemployment statistics suggest. Their analysis estimated that the true national unemployment rate in May 2020 was 16%, higher than the 'official' rate calculated from U.S. Census Bureau's Current Population Survey (CPS) of 13% (Kochhar, 2020). The discrepancy was largely due to the fact that millions of workers were listed as 'employed but absent from work' in the unemployment survey. These workers were not counted as unemployed. They found that the rate for women was nearly 18% (higher than the 14.3% CPS estimate) and about 20% for African Americans, Asians, and Latinx persons (16.6%, 14.9%, and 17.2% CPS estimates respectively).

Data from Illinois indicate that the impacts on various demographic groups have been mostly similar to the rest of the nation. Figure 23 displays averages of initial unemployment claims in Cook County for 2019 (pre-pandemic), the 2nd quarter of 2020 (pandemic impact peak) and the first quarter of 2021 (most recent available). Claims increase by about 110% at the height of the pandemic impacts. By early 2021, claims had actually fallen below 2019 levels.

As indicated by the national unemployment statistics, youth were impacted to a greater degree. Claims by workers aged 16-24 increased by 500% from about 18,000 in 2019 to over 109,000 at the height of the impacts in Q2 2020. Workers aged 45-64 had the smallest initial increase, about 60% from 2019 to Q2 2020.

White workers experienced a greater initial increase in claims compared to the overall total. African American and Latinx workers had a smaller increase in claims. Asians had the highest percentage increase in claims.

Claims by female workers increased at a greater rate than males. The national data also indicate that women were more severely impacted by the pandemic.

Figure 23. District Initial Unemployment Claims by Age, Gender, Race, and Ethnicity

	Initial UI Claims			% Change	
	2019	Q2 2020	Q1 2021	2019 vs Q2 2020	Q2 2020 vs Q1 2021
TOTAL	412,651	867,293	303,998	110.2%	-64.9%
Age 16-24	18,338	109,015	32,950	494.5%	-69.8%
Age 25-44	198,082	431,710	143,042	117.9%	-66.9%
Age 45-64	174,452	277,966	109,041	59.3%	-60.8%
Age 65 and Older	21,778	48,172	18,916	121.2%	-60.7%
RACE/ETHNICITY					
White/Not of Latinx Origin	116,636	314,972	95,364	170.0%	-69.7%
Share of total	28.3%	36.3%	31.4%		
African American/Not of Latinx Origin	166,309	240,966	110,284	44.9%	-54.2%
Share of total	40.3%	27.8%	36.3%		
Asian or Pacific Islander	12,137	63,442	11,353	422.7%	-82.1%
Share of total	2.9%	7.3%	3.7%		
Latinx Origin	94,166	204,808	71,951	117.5%	-64.9%
Share of total	22.8%	23.6%	23.7%		
GENDER					
Male	227,121	411,088	171,586	81.0%	-58.3%
Female	183,010	452,162	131,111	147.1%	-71.0%
Female Share	44.3%	52.1%	43.1%		

Source: Illinois Department of Employment Security, Characteristics of Unemployment Insurance Claimants by State and County, 2021 (data are averages of monthly levels).

Due to their high levels of person-to-person interaction, employment in service industries were impacted the greatest by the pandemic. Retail trade, education and health services, leisure and hospitality, and other services all had greater than 100% increases in unemployment claims (Figure 24). Moving in to early 2021, claims in most sectors had fallen below 2019 levels.

Figure 24. District Initial Unemployment Claims by Industry Sector

	Initial UI Claims			% Change	
	2019	Q2 2020	Q1 2021	2019 vs Q2 2020	Q2 2020 vs Q1 2021
Agriculture, forestry, and fishing	362	162	298	-55.2%	84.0%
Mining	196	192	214	-2.0%	11.5%
Construction	49,122	31,826	28,401	-35.2%	-10.8%
Manufacturing	34,757	49,527	17,068	42.5%	-65.5%
Wholesale trade	17,409	25,036	9,365	43.8%	-62.6%
Retail trade	28,115	92,890	21,709	230.4%	-76.6%
Transp, Warehousing, and Utilities	26,278	43,500	19,952	65.5%	-54.1%
Information	10,542	15,690	4,632	48.8%	-70.5%
Financial Activities	26,895	22,713	13,239	-15.5%	-41.7%
Professional and Business Services	108,510	140,989	65,682	29.9%	-53.4%
Educational and Health Services	40,990	86,768	34,677	111.7%	-60.0%
Leisure and Hospitality	36,759	216,523	37,843	489.0%	-82.5%
Other Services	11,166	40,491	7,615	262.6%	-81.2%
Public administration	9,739	8,438	6,255	-13.4%	-25.9%

Source: Illinois Department of Employment Security, Characteristics of Unemployment Insurance Claimants by State and County, 2021 (data are averages of monthly levels).

As would be expected, service occupations were the most impacted by the pandemic (Figure 25). Personal care occupations had the highest increase in unemployment claims in the 2nd Quarter 2020, followed by food preparation, healthcare, and arts and entertainment occupations.

Job losses in some of these sectors may be permanent. Using data from the Federal Reserve Bank of Atlanta/Chicago Booth/Stanford Survey of Business Uncertainty (SBU), Barrero, Bloom, and Davis (2020) estimate that 42% of the jobs lost in the U.S. will be permanently eliminated. "But even as many firms were shedding workers, some were hiring. The April SBU showed that the COVID-19 shock caused three new hires in the near term for every 10 layoffs. A restaurant server, for instance, might take a job with a delivery service or a clothing store clerk might go to work in an online retailer's distribution center."

As long-term changes to the economy become more apparent, community colleges and other parts of the workforce development system can help retrain those that have permanently lost their jobs.

Figure 25. Cook County Initial Unemployment Claims by Occupation

	Initial UI Claims			% Change	
	2019	Q2 2020	Q1 2021	2019 vs Q2 2020	Q2 2020 vs Q1 2021
Management	42,569	80,436	36,640	89.0%	-54.4%
Bus. & Fin. Operations	25,765	24,990	12,929	-3.0%	-48.3%
Computer & Math.	9,426	9,087	4,122	-3.6%	-54.6%
Architecture & Eng.	3,742	4,917	3,126	31.4%	-36.4%
Life Phys. & Soc. Sci.	1,059	3,880	1,200	266.4%	-69.1%
Comm. & Social Service	4,366	8,286	4,069	89.8%	-50.9%
Legal	3,059	4,106	2,077	34.2%	-49.4%
Edu. Training & Library	9,599	29,549	8,002	207.8%	-72.9%
Art Ent. Sport & Media	8,619	29,931	5,415	247.3%	-81.9%
Healthcare Pract. & Tech.	8,252	29,488	8,351	257.3%	-71.7%
Healthcare Support	13,643	22,006	10,941	61.3%	-50.3%
Protective Service	8,200	11,828	6,275	44.2%	-46.9%
Food Prep. & Serving	26,424	163,147	34,426	517.4%	-78.9%
Building & Grounds Maint.	25,639	46,672	20,211	82.0%	-56.7%
Personal Care	5,512	38,020	9,149	589.8%	-75.9%
Sales & Related	39,676	119,183	28,953	200.4%	-75.7%
Office & Admin. Support	35,907	58,154	19,812	62.0%	-65.9%
Farm Fishing & Forestry	1,849	799	1,324	-56.8%	65.7%
Const. & Extraction	49,173	31,046	32,337	-36.9%	4.2%
Instal. Maint. & Repair	14,746	22,562	8,978	53.0%	-60.2%
Production	42,335	49,393	20,825	16.7%	-57.8%
Transportation	31,171	75,407	22,881	141.9%	-69.7%

Source: Illinois Department of Employment Security, Characteristics of Unemployment Insurance Claimants by State and County, 2021 (data are averages of monthly levels).

Oakton Community College Student Outcomes

Illinois community colleges are multipurpose institutions with the capacity to offer short- and long-term certificate programs for high demand jobs, associate's degrees for career preparation or transfer to bachelor's degree programs, college preparatory courses, and noncredit continuing education. Community colleges are diverse throughout Illinois and exist to meet the needs of the communities they serve.

Community college programs prepare individuals for high-skill, in-demand employment that furthers Illinois' global competitiveness. Education programs offer flexible scheduling, work-based learning, and stackable credentials that provide a pathway from education to employment not only for recent high school graduates, but also for returning adults, veterans, and incumbent workers. Success in education programs like Career and Technical Education areas of study are amplified by academic support services, work-based learning opportunities, and business engagement. CTE's reach in Illinois' workforce continues to be expansive; in academic year 2020, there are over 4,300 different CTE program offerings across the community college system.

Figure 26. Academic Year 2020 Illinois Community College Annual Headcount Enrollments by Instructional Program Area

Area of Instruction	Academic Year 2020
General Associate	28,346
Baccalaureate/Transfer	249,146
Career & Technical Education	119,269
Vocational Skills	27,898
ABE/ASE/ESL	46,603
General Studies Cert	1,216
Total	472,478

Figure 27. Annual Duplicated Headcount for Continuing Noncredit Education by Category of Activity

Category of Activity	Academic Year 2020
Business and Industry Contract	8,066
Professional/Vocational Development	21,244
Personal and Social Development	92,415
Youth Programs	18,083
Total	139,808

Most students attend college to improve skills that will be valuable to employers. The following section details workforce outcomes of community college completers. It begins by calculating the return on investment of a typical Illinois community college completers. It then details program completion rates by various academic programs and student groups. Finally average annual earnings for various demographic groups and program types are presented.

Student Return on Investment

Obtaining a credential at a community college is an investment. The time and money invested in education results in higher earnings after completion. Students attending college pay for their education in both cash and in foregone earnings. The net cash price is the cost of tuition, fees, books, and room and board. Foregone earnings result when a student spends time going to school and studying in place of earning money at work.

The analysis in this section focuses on the return on investment of students aged 20 to 29 that completed a two year program that was not focused on transfer to a 4-year institution (AAS or long-term certificate) in FY2018. The cost of attending school during the FY2017 and FY2018 school years is compared with projected earnings over a 40 year post graduation time frame. The results are net present value (NPV) and internal rate of return (IRR) estimates for the average completer in FY2018. Within the community college system, a considerable portion of the student population is non-traditional (older population) and may be working in a career job already as they are upskilling. However, for this particular model the focus is more on the traditional matriculation of high school to college and full-time status within the community college system. There are many different paths to completing a community college credential. This analysis focuses on a student that completes their program within two years in their early 20s, and does not work during their time in school. After completion, the calculations assume a 40 year working career.

There are many different paths to completing a community college credential. This analysis focuses on a student that completes their program within two years in their early 20s, and does not work during their time in school. After completion, the calculations assume a 40 year working career.

If a student works while in school this may reduce their initial investment (by reducing opportunity costs), thereby increasing the ROI and NPV. If a student takes longer than 2 years to complete their degree this may increase their initial investment, thereby reducing the ROI and NPV.

The net cash price of attending school was obtained from the National Center for Education Statistics' College Navigator tool. College Navigator employs Integrated Postsecondary Education Data System (IPEDS) data from the National Center for Education Statistics to calculate the *average net price*[2] for annual attendance at each school. The statewide figure is the average (weighted by student enrollment counts) of individual Illinois community colleges.

The other major cost for college attendees is their foregone earnings, often referred to as the 'opportunity cost' of attending college. The estimate for foregone earnings is based on average high school graduate earnings levels. In Illinois, average earnings for a 20-year old high school graduate is $9,751[3], increasing to $10,919 for a 21 year old. These values are used as the estimates for the opportunity costs of attending a community college in the ROI calculations.

[2] "Average net price is generated by subtracting the average amount of federal, state/local government, or institutional grant or scholarship aid from the total cost of attendance. Total cost of attendance is the sum of published tuition and required fees (lower of in-district or in-state), books and supplies, and the weighted average for room and board and other expenses." (Source: National Center for College Statistics, COLLEGENavigator. https://nces.ed.gov/Collegenavigator/)

[3] Source: U.S. Census Bureau, 2014-2018 American Community Survey.

The major benefit of completing college is the resulting increased earnings. Earnings data for ICCS completers in a 2014 study showed that earnings gains for statewide completers totaled about 31% of post-completion earnings. This is very similar to the earnings difference between associates degree holders and high school graduates for persons in their early 20s. Thus, first year earnings gains are estimated as 31% of post-completion earnings of $31,829, or $9,867. Other studies[4], as well as Census data on earnings by age, indicate that earnings gains from educational attainment grow significantly in the first decade of a worker's career, and subsequently flatten. Based on these data, earnings gains from credential attainment are assumed to grow by 7% per year in the 10 years following completion then remain stable.

Figure 28 presents the net return analysis based on the calculations noted above. The total cost during the two years the student is in school, including out of pocket expenses and foregone earnings is $33,894. The return on investment occurs over a 40 year working life, where increased earnings for a degree completer are estimated to total nearly $610,000 (compared to someone not attending community college).

Figure 28. Estimate Net Return for AAS Degree and Long-Term Certificate Completers

Year	Net Price	Opportunity Cost	Total Cost	Post Completion Earnings Gains	Discounted Cash Flow
-1	$6,883	$9,751	$16,634		-$17,299
0	$6,341	$10,919	$17,260		-$17,260
1				$9,867	$9,472
2				$10,558	$9,730
3				$11,297	$9,995
4				$12,087	$10,266
5				$12,934	$10,546
6				$13,839	$10,833
7				$14,808	$11,127
8				$15,844	$11,430
9				$16,953	$11,741
10				$16,953	$11,271
⋮				⋮	⋮
38				$16,953	$3,594
39				$16,953	$3,450
40				$16,953	$3,312
		Total Increased Earnings		$609,833	NPV $241,660
					IRR 25.7%

[4] See for example *Ranking ROI Of 4,500 US Community Colleges And Universities* from the Georgetown Center on Education and the Workforce.

The net present value of investing in an Oakton Community College associate degree or long-term certificate is more than $240,000. The internal rate of return on their investment is 25.7%. In other words, if a student put $33,894 in an investment that returned 40 annual payments equivalent to the earnings gains from an associate degree/long-term certificate, they would earn interest at a rate of 25.7%.

Student Employment Outcomes

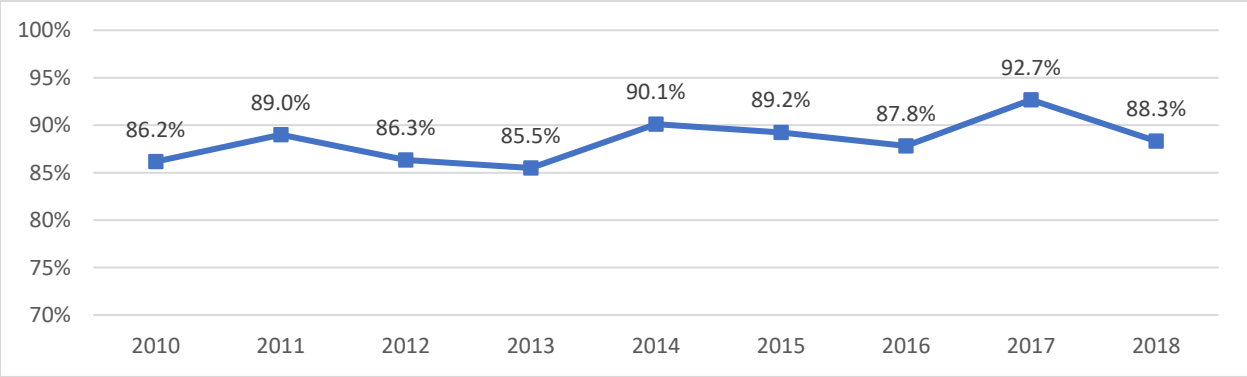
Information on student outcomes derives from the Institutional Researcher (IR) Tool dataset, which connects individual-level data from ICCB and Illinois Department of Employment Security ((DES) administrative data systems to generate student outcomes on employment and wages. The IR dataset includes information on ICCS completers who completed a credential in 2009 through spring 2018, including their earnings and employment status before and after completion.

In this study, a mix of panel data and snapshot data provide information about student outcomes from multiple angles. Panel data shows outcomes for the same group of completers over time. For example, we use panel data to show the trajectory or earnings for students who completed in 2009. Snapshot data shows the characteristics of students that completed each year, such as the employment rate for the class of 2009, the employment rate for the class of 2010 and so on. Next, student outcomes are examined in terms of employment rates, postsecondary enrollment, and earnings. All information is presented on a fiscal year basis, with the year corresponding to the calendar year of the spring semester, e.g., FY2018 begins with the summer 2017 term and ends with the spring 2018 term.

Employment

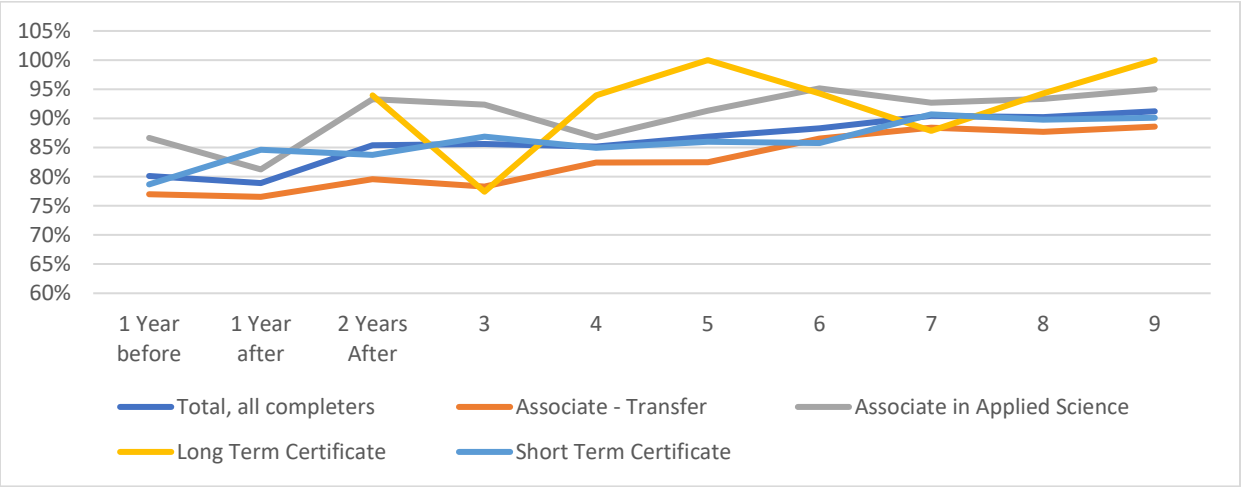
According to ICCB data, in recent years more than 80% of completers of long-term certificate programs or Associate in Applied Science programs at Oakton Community College are employed in career jobs within a year of graduation. This trend was consistent for completers each fiscal year through FY2018, which includes those who completed programs in the spring of 2018. Completers of short-term and transfer programs are excluded from the one-year employment rates because they typically pursue further education in the year after completion. The career job employment rate for Oakton Community College completers improved between FY2013 and FY2018.

Figure 29. Career Job Employment Rate One Year After Completion (Long-Term Certificates and Associate in Applied Science Completers)



Career job employment rates typically improve for Oakton Community College completers over time. Among those who completed programs in 2009, 78.9% were employed one year after graduating, and 91.2% were employed in career jobs after 10 years. Starting two years after completion, AAS and long term certificate completers had the highest employment rate.

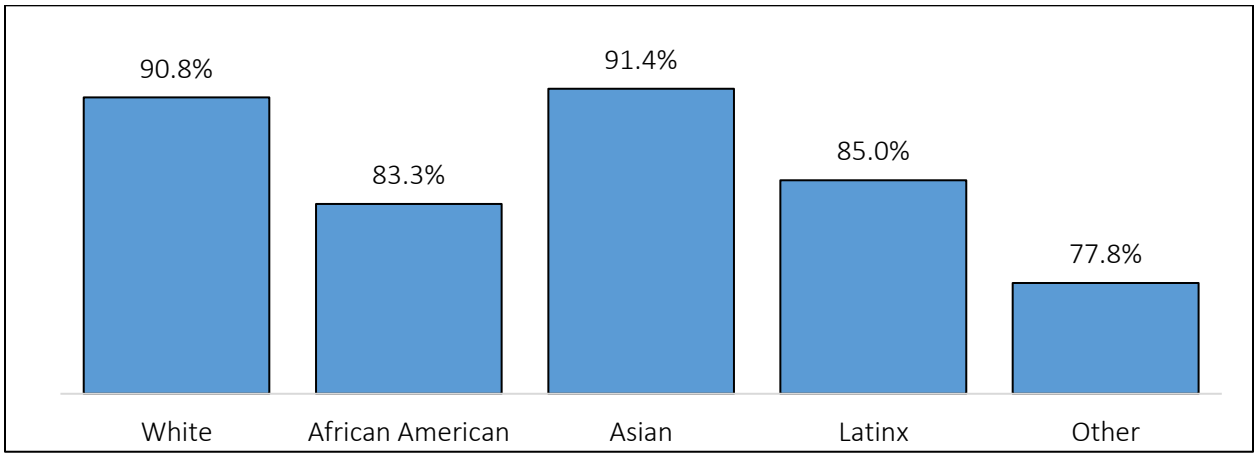
*Figure 30. Career Job Employment Rate for 2009 Completers**



*Career job employment rate is excluded for short-term certificate completers, and long term certificate completers 1 year after, due to insufficient data.

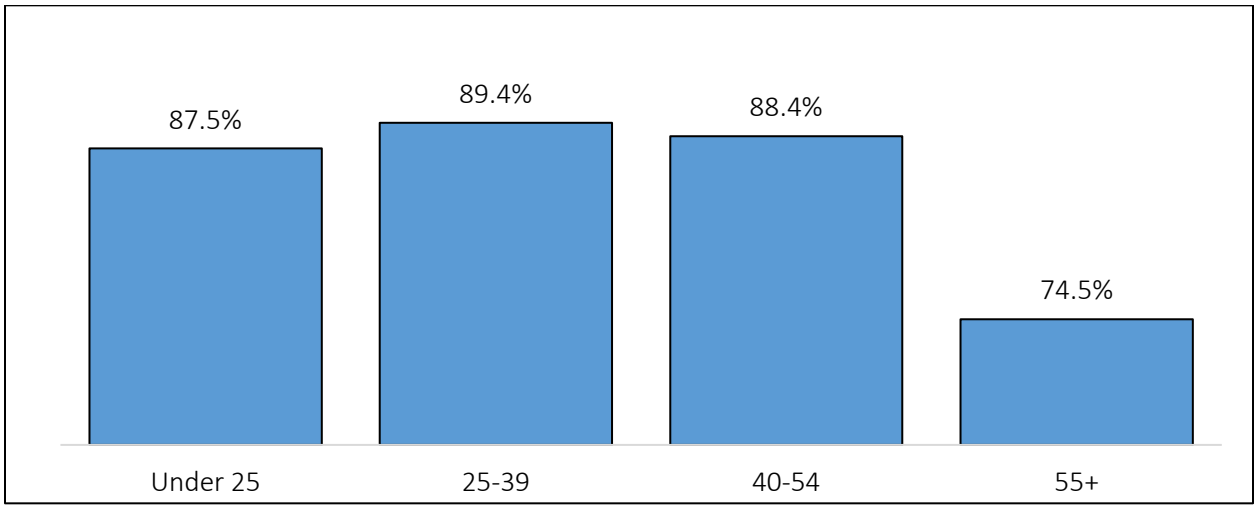
Employment rates varied by race and ethnicity for those who completed Oakton Community College programs in FY2018 (latest full year available). The two largest minority groups by number of completers were Asian and Latinx, with career job employment rates of 91.4% and 85.0% respectively. The majority of completers were White, so their employment rate was consistent with the average. Care must be taken when comparing employment rates because they can be skewed by the employment status of students before they graduate. The IR dataset shows employment status up to one year before graduation, but employment rates before *enrollment* would show a stronger indication of growing employment opportunities.

Figure 31. Career Job Employment Rate One Year After Completion by Race/Ethnicity (Long-Term Certificates and Associate in Applied Science Completers)



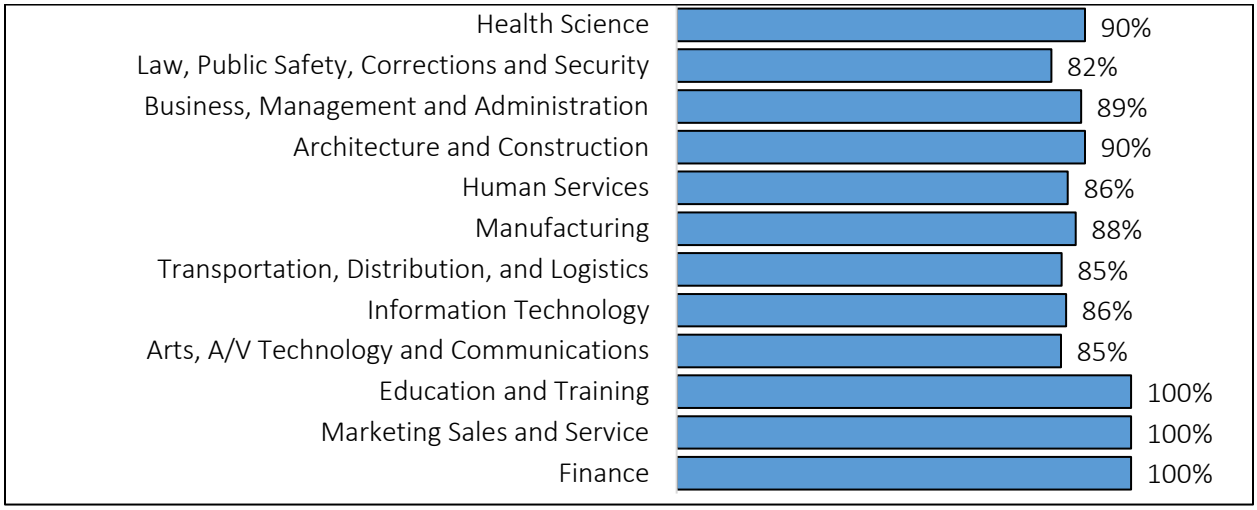
Employment rates for Oakton Community College completers were mostly consistent across prime working age groups. Completers under age 25 had an employment rate of 87.5%, compared to 89.4% for ages 25-39, and 88.4% for ages 40-54. In some cases, the employment rate is lower because completers defer working full-time to pursue a university degree. Employment rates fall significantly for the oldest (55+) completers.

Figure 32. Career Job Employment Rate One Year After Completion by Age (Long-Term Certificates and Associate in Applied Science Completers)



Employment rates also varied considerably by the career clusters that completers studied for. The highest career job employment rates were for those who studied for education, marketing, or finance. The lowest career job employment rates were for completers of programs in law and public safety.

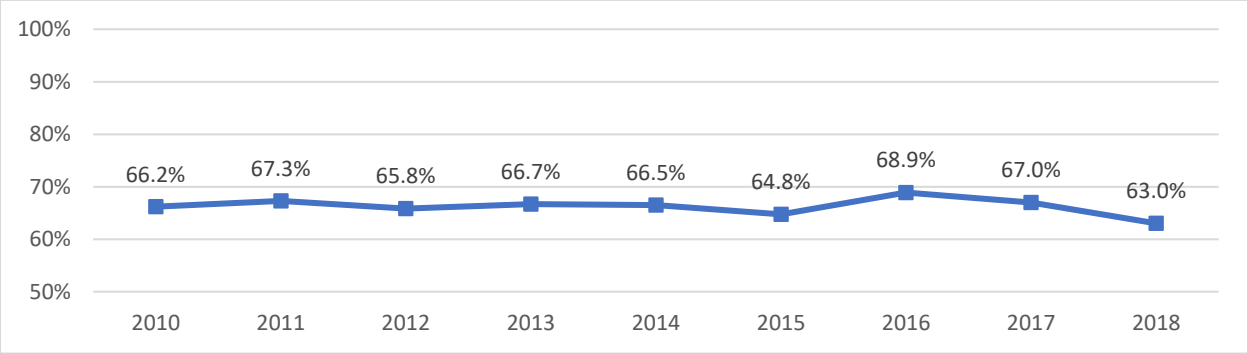
Figure 33. Career Job Employment Rate One Year After Completion by Career Cluster (Long-Term Certificates and Associate in Applied Science Completers)



Postsecondary Enrollment

A fairly substantial number of Oakton Community College completers continue their education in the same institution or another 2- or 4-year educational institution within a year after graduating Students sometimes complete CTE programs as part of a sequence of credentials that can be accumulated or are "stackable" over time to build up an individual's qualifications and help them to move along a career pathway or up a career ladder to different and potentially higher-paying jobs. Students in associate degree transfer programs, of course, also continue education in their path to a Bachelor's degree. The postsecondary enrollment rate, the percentage of completers who enroll in a four-year degree program within a year of completion, for Oakton Community College completers varied slightly from year to year, although the general trend shows a slight decline. These figures do not include completers who pursue further education after their first year out of community college. They also exclude completers who pursue shorter-term training or education, such as additional credentials in the ICCB system. Postsecondary enrollment rates have decreased from 66.2% for FY2010 to 63.0% in spring 2018.

*Figure 34. Postsecondary Enrollment Rate by Year of Completion**

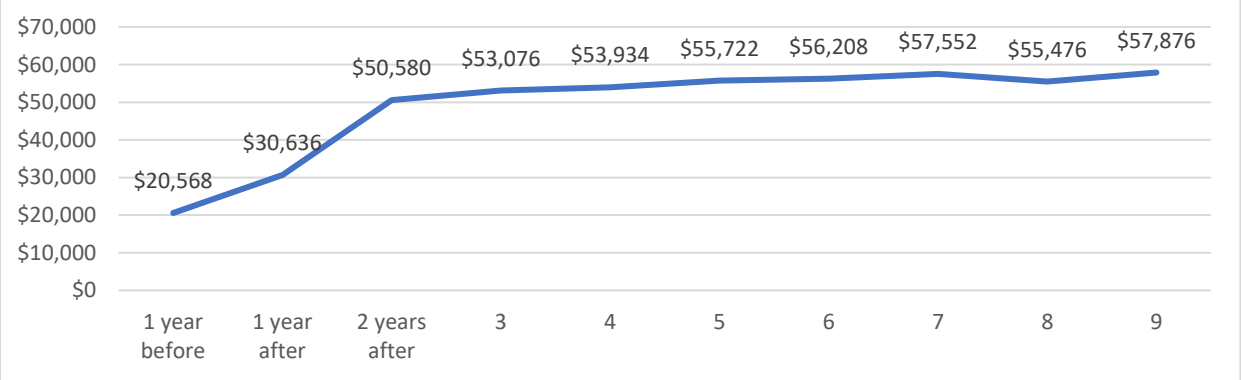


*Spring only for 2018.

Earnings

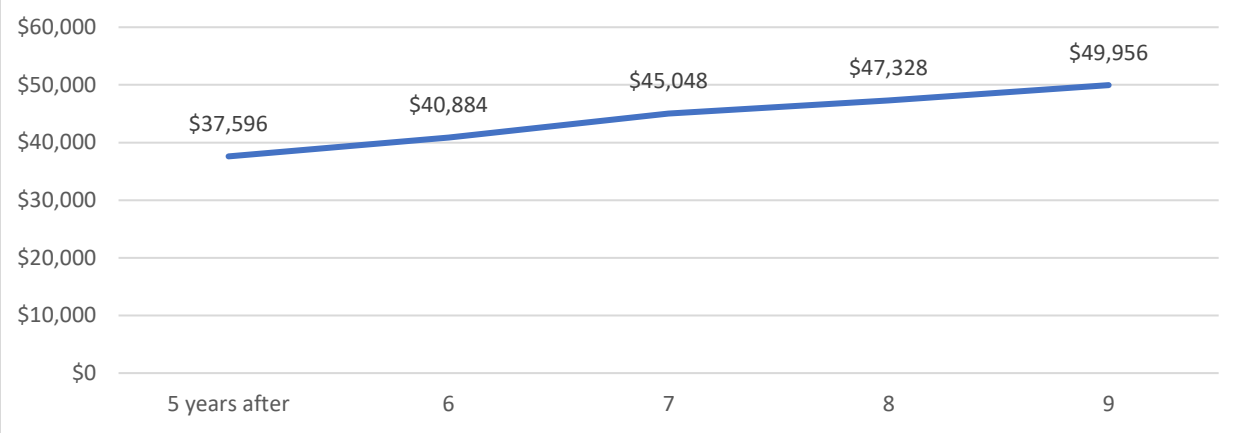
Looking at a longer time horizon, the class of 2009 earned $57,876 nine years after graduating, representing an average annual growth rate of 18.1%. The earnings growth is most significant in the first few years after graduation. Some of the earnings growth in the first year include transitioning from part-time to full-time employment.

Figure 35. Median Earnings Over Time for 2009 Completers (Long-Term Certificates and Associate in Applied Science Completers)



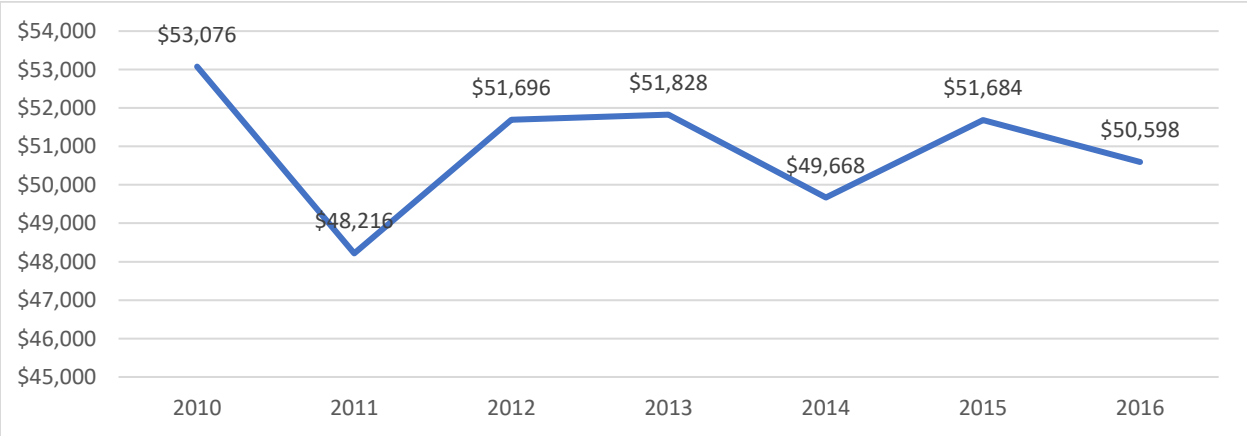
Completers of associate degrees for transfer to other institutions earned a median of 37,596 five years after completing their program at Oakton Community College. Ten years after completion, the median earnings were $49,956, which represented a 6.6% increase each year. Earnings for the first five years are excluded because these completers are still finishing their four-year degrees at this time. Statewide, earnings for associate transfer completers are typically lower than for AAS and long-term certificate completers.

Figure 36. Median Earnings Over Time for 2009 Completers (Associate - Transfer Completers)



The earnings of Oakton Community College completers varied slightly by year of completion. Those who completed their program in FY2010 earned a median of $53,076 after three years. For FY 2016, completers earned a median of $50,598 after three years. Median earnings were somewhat lower for completers in FY2011, but they increased for FY2012 onward.

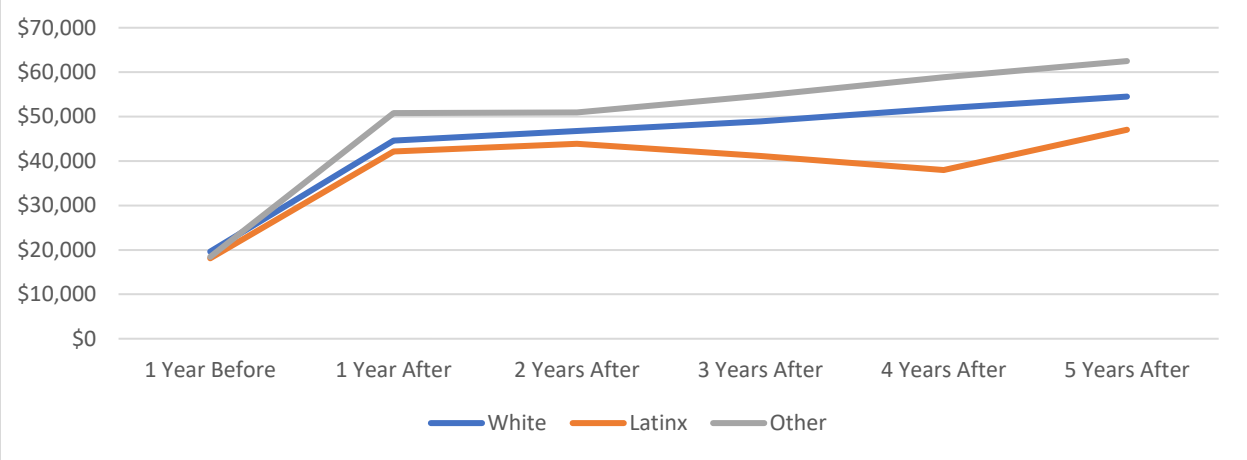
Figure 37. Median Annual Earnings 3 Years After Graduation, by Year of Graduation (Long-Term Certificates and Associate in Applied Science Completers)



Information on earnings trajectories by race for Oakton Community College completers is limited due to few completers in several minority groups. However, Latinx completers generally had lower median earnings than White completers. The "Other" race/ethnicity category is difficult to generalize because it includes those with multiple races and nonresident exchange students. It is not possible to dissect

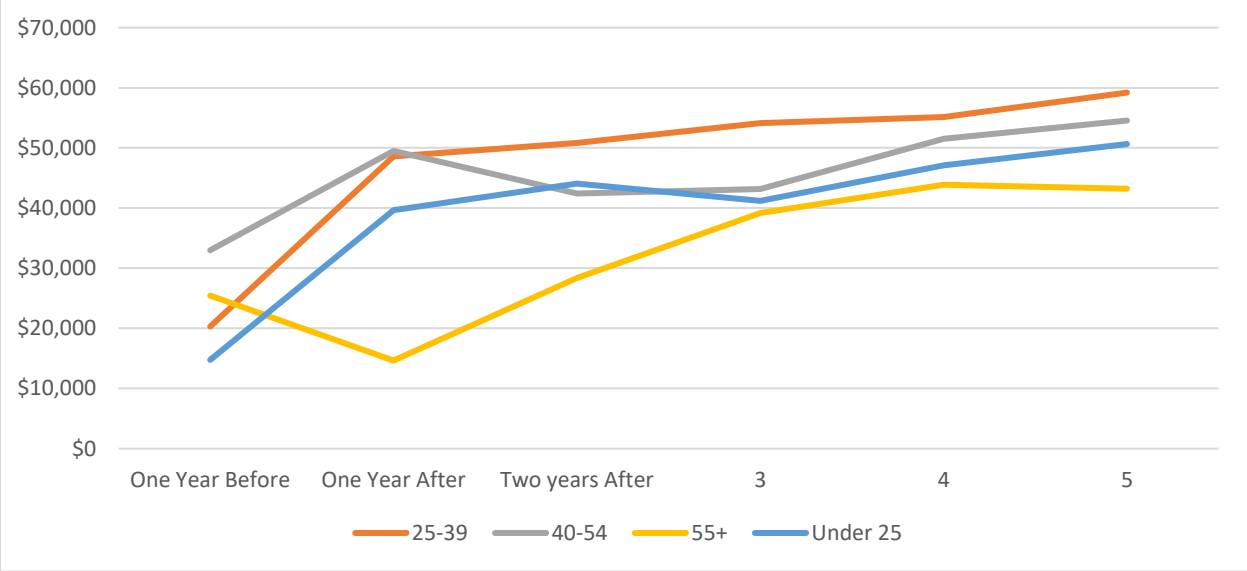
earnings further within the "other" category due to limited data over time for completers in each sub-category.

Figure 38. Median Earnings Over Time for 2013 Completers by Race/Ethnicity (Long-Term Certificates and Associate in Applied Science Completers)



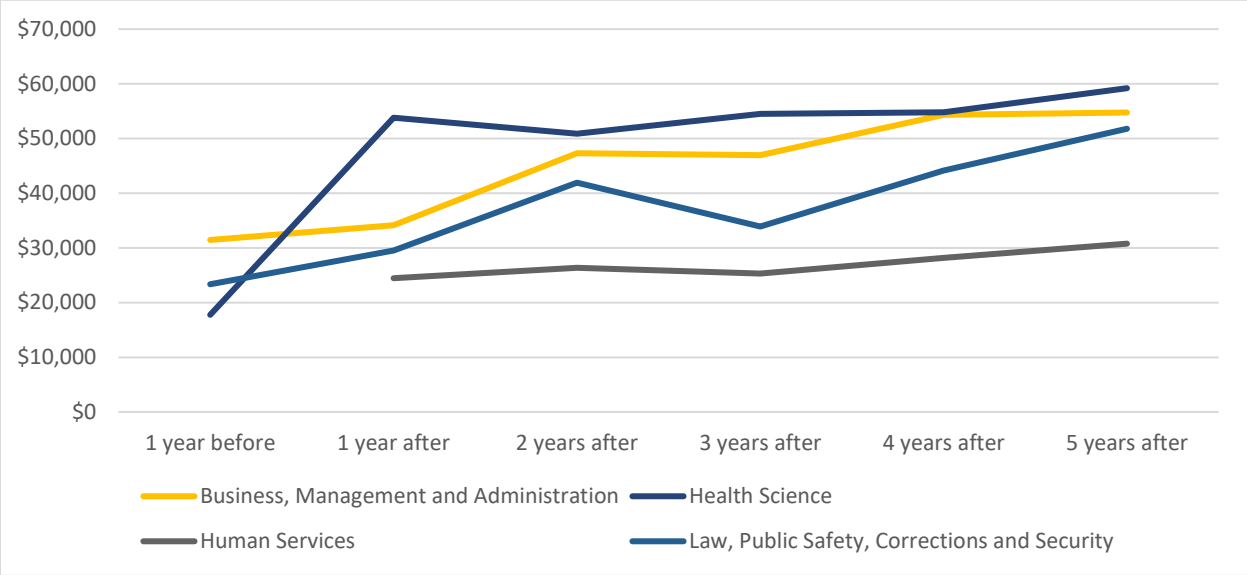
Unsurprisingly, 1st-year earnings increased with graduate age. Completers in the 25-39 age group typically earned more than completers under age 25. Earnings are affected by work experience and hours worked.

Figure 39. Median Earnings Over Time for 2013 Completers by Age (Long-Term Certificates and Associate in Applied Science Completers)



Earnings for Oakton completers depend on the types of jobs held after completion. Continuous earnings data for Oakton Community College completers in specific career clusters is limited, but the highest earnings after five years was for those with degrees in health science or business. The lowest earnings were for human services.

Figure 40. Career Job Earnings Over Time for 2013 Completers by Career Cluster Age (Long-Term Certificates and Associate in Applied Science Completers)

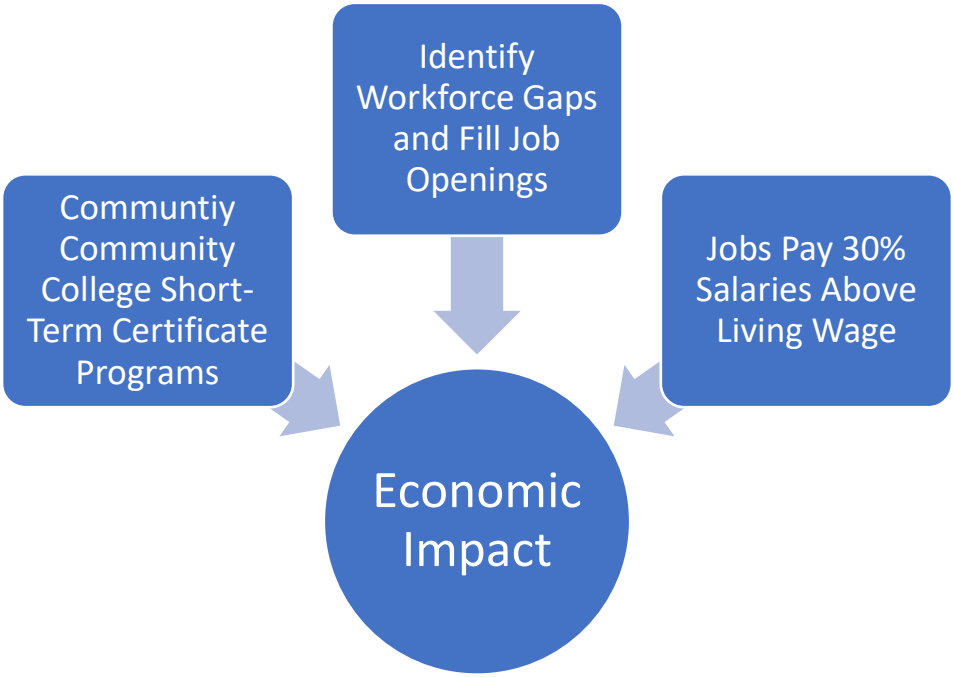


Short-Term Certificate Student Employment Outcomes

Illinois community colleges are committed to continuing growth in short-term certificate opportunities particularly in high-need communities focused on areas specific sectors with identified workforce gaps. The Workforce Equity Initiative (WEI) in particular, is evidence of Illinois community college efforts on short-term certificate expansion in high demand-careers. In addition, WEI also targets low-income individuals, those living in high crime and high poverty areas, and unemployed individuals and minorities. Illinois community colleges are leaders in workforce development and WEI, with its evidence-based model, even further economically impacts students, particularly underrepresented groups. The figure below illustrates WEI's model of developing short-term certificate programs in high-demand occupations that provide a salary 30% above a living wage within that region.

The Illinois community college system's commitment to strengthening job creation and workforce development is evident in the alignment of the short-term certificate graduate instructional areas (Figure 41) and many of the occupations with considerable job openings and/or growth rates projected through 2029 in Figure 11.

Figure 41. Illinois Community College Workforce Equity Initiative (WEI) Model



Illinois community colleges offer a variety of associate degrees and certificate programs of varying lengths. Short-term certificates (under 30 credit hours) provide students with a quick and focused program of study that can lead to immediate employment. Examples of short-term certificates include Truck Driving, Welding Web Design, HVAC Technician, Electrician, and Firefighting. Many of the short-term certificates allow students to enter the workforce but then are also embedded in a program of student that allows continued education toward an advanced certificate or full associate degree that allows even further expansion in career opportunities.

Earnings for completers of short-term certificates can vary widely by program. The figure below shows the top short-term programs by median earnings after three years, and the number of completers between FY2014 and FY2016. There may be other programs associated with high earnings, however data cannot be displayed for those with less than 10 completers. Certificate programs with the highest earnings include computer systems, electromechanical technologies, and fire protection.

Figure 42. Median Earnings Three Years After Completion, FY2014-2016 Short-Term Completers

Curriculum	No. of Completers With Earnings, FY14-16	Median Earnings After 3 Years
Computer Systems Networking and Telecommunications	13	$65,265
Electromechanical Technologies/Technicians	43	$58,690
Fire Protection	17	$53,048
Drafting/Design Engineering Technologies/Technicians	25	$44,172
Information Science/Studies	20	$41,759
Accounting and Related Services	24	$41,694
Computer/Information Technology Administration and Management	12	$38,433
Health and Medical Administrative Services	27	$38,259
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician (HAC, HACR, HVAC, HVACR)	18	$37,740
Mental and Social Health Services and Allied Professions	19	$35,442

The occupations linked to short-term certificate programs at Oakton Community College are expected to gain employment in the district between 2020 and 2030. Employment for accountants is projected to increase 1.7% in the district, including 2,421 job openings. Employment for medical secretaries is projected to increase 5.2%, including 853 openings per year. These employment projections are conservative, given that completers are not strictly limited to employment opportunities in the district they studied in, and completers can pursue stackable credentials for further employment opportunities.

Figure 43. Job Growth in Occupations Related to Short-Term Certificate Programs

SOC	Description	2020 Jobs	2030 Jobs	Growth rate	Annual Openings
13-2011	Accountants and Auditors	28,816	29,294	1.7%	2,421
43-6013	Medical Secretaries and Administrative Assistants	7,757	8,164	5.2%	853
11-3021	Computer and Information Systems Managers	10,981	11,266	2.6%	763
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	6,377	7,718	21.0%	756
33-2011	Firefighters	6,287	5,911	-6.0%	386
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	3,779	3,571	-5.5%	314
17-3011	Architectural and Civil Drafters	1,618	1,476	-8.8%	134

Source: EMSI, 2020.

Economic Impacts

Oakton Community College is an important source of expenditures and employment for the region. As part of their day-to-day operations, each college purchases goods and services, many of them from the local economy. They also pay their employees, who in turn spend their wages and salaries in the local economy. Additionally, the college invest in site improvements, remodeling, and new construction that generate additional expenditures and jobs.

Any change in economic activity, such as the purchase of a commodity or a service, has direct and indirect effects. The direct effects are the employment, payroll and purchases of goods and services directly by the colleges. The indirect effects occur through a variety of channels. For example, when a community college hires a local printer to produce its catalogues and brochures, these orders contribute directly to the income of the local printing industry. The printers' employees spend at least some of their income locally, and these purchases contribute to the employment and the income of other local industries and services. The printers spend part of their income from the community college's orders on the supplies that they need to run their businesses. To the extent that these purchases are local, they contribute to the incomes of employees in other industries, who in turn spend their incomes on still other goods and services with these effects again induced by the college's initial purchase.

IMPLAN Pro economic modeling software was used to produce estimates of the indirect economic impacts of Oakton Community College, based on the direct impacts. Direct impacts are simply the set of expenditures or employment applied to the predictive model for impact analysis. Indirect impacts are then derived as additional effects caused by industries purchasing from other industries. Induced impacts take into account the spending in the local economy of the new income generated by the new employment produced from the impact.

Data provided by Oakton Community College to the Illinois Community College Board (including wages, salaries, and capital costs) identified $69.3 million in operating expenditures during fiscal year 2020. Oakton Community College paid over $22.8 million in wages and benefits to their 425 employees that lived in the region. These direct impacts rippled through the economy creating additional jobs, payrolls, and other economic activity. These impacts are summarized below in Figure 44. About 338 jobs in the district could be attributed to the college operations. These operations were associated with about $133.5 million in economic output (equivalent to total sales of a business or total spending of a government enterprise). Value added, which is a measure similar to Gross State Product, totaled over $67.8 million.

Figure 44. Oakton Community Colleges' Operational Expenditures Output and Employment Impact - FY2020

Impact Type	Direct Effect	Indirect Effect	Total Effect
Employment	425	351	776
Output	$69,335,728	$64,130,505	$133,466,234
Total Value Added	$25,210,956	$42,555,408	$67,766,364
Employee Compensation	$22,820,131	$21,946,823	$44,766,954

Beyond the effects of direct spending and employment, Oakton Community College also strengthens the regional economy by addressing employers' workforce needs. According to their vision, "Oakton is the community's college. By providing access to quality education throughout a lifetime, we empower and transform our students in the diverse communities we serve." According to their vision statement, the college is "Dedicated to teaching and learning, Oakton is a student-centered college known for academic rigor and high standards. Through exemplary teaching that relies on innovation and collaboration with our community partners, our students learn to think critically, solve problems, and to be ethical global citizens who shape the world. We are committed to diversity, cultural competence, and achieving equity in student outcomes." In a survey of the community colleges' business engagement, in 2019, 130 employers were served by credit or noncredit programs at Oakton Community College. In 2020, including the recession, 104 employers were served by the college.

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