ILLINOIS COMMUNITY COLLEGES' ECONOMIC IMPACTS AND STUDENT EMPLOYMENT OUTCOMES

A Report to the Illinois Community College Board
by the Center for Governmental Studies
Northern Illinois University

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ICCB
ILLINOIS COMMUNITY COLLEGE BOARD

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The Illinois Community Colleges' 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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INTRODUCTION

Illinois' community college system consists of 39 college districts, along with the East St. Louis Higher Education Center, and includes 48 colleges (see map of the 39 college districts on Page 3). As the third largest community college system in the nation, Illinois community colleges serve more than 600,000 Illinois residents each year in credit and noncredit courses. The system provides traditional and nontraditional students with smooth transitions into and across higher education and training for in-demand occupations with economic value. Community colleges create an educated and skilled workforce by increasing credential attainment, building quality career pathways, closing the skills gap, and addressing the current and future needs of the workforce.

Community colleges produce substantial economic impacts for the state and communities where they reside. This is an in-depth study of these impacts. Overall, the impacts are positive and are achieved on two fronts. First the study looks at students completing certificates and degrees in the Illinois Community College System (ICCS) that generate economic impacts by their employment and earnings gains. Then the study turns to evaluating economic impacts generated by the ICCS in the form of increased expenditures and employment. Additionally, to provide context with the economic impacts of the system, an analysis of the ICCS operating environment (i.e., environmental scan) is presented and focuses on external factors impacting community colleges such as population shifts, workforce trends, and the Coronavirus pandemic. Additionally, equity within the ICCS and its commitment to it is examined.

A summary of **key findings** is presented below followed by the detailed study.

Illinois' 48 community colleges boost the economies of local communities. They are important sources of revenue and employment for the communities and regions they serve. These direct impacts ripple through the economy creating additional jobs, payrolls, and other economic activity.

- In fiscal year 2020, Illinois community colleges directly employed **32,867** staff with a total payroll of **$1.3 billion**. In addition to wages and salaries, Illinois community colleges account for around **$500 million** in additional expenditures for a total of **$1.8 billion** in total operating expenditures.

- These direct impacts ripple through the economy creating additional jobs, payrolls, and other economic activity. The total economic output of Illinois community colleges on the statewide economy in fiscal year 2020 is estimated at **$3.5 billion** and **43,316 jobs**.

Illinois community colleges meet the needs of business and industry.

- Illinois community colleges support local workforce and economic development services through employer and business engagement. During academic year 2020, Illinois community colleges worked with nearly **9,800 unique employers**. Activities ranged from curriculum and apprenticeship development and review, contract training, internships, and professional development to job placement for graduating students.

An Illinois community college education increases earnings for workers.

- Obtaining a credential at a community college is an investment for students. The time and money invested in education results in higher earnings after completion. Investing in an Illinois community college long-term certificate or Associate in Applied Science degree yields an **average annual rate of return of nearly 27%**.

- After adjusting for inflation, the class of 2009 community college graduates (long-term certificates and Associate degrees), **earned $54,516 at the ten year mark after graduating**. Earnings growth is most significant in the first few years after graduation, and there was **an immediate increase of 40 % for the first year after graduation.**

- Annual earnings are even greater in specific areas of study. For students graduating with long-term certificates in architecture and construction programs, annual earnings five years after graduating were $60,552 while manufacturing program graduates earned $54,378 in the same timeframe.

- **Short-term certificates** (defined as certificates under 30 credit hours) provide students with a quick and focused program of study that can lead to immediate employment. Select short-term programs that **yield considerable annual earnings** three years after completion include:

    - Electrical and Power Transmission Installers - **$69,216**
    - Fire Protection - **$54,108**
    - HVAC and Refrigerator Maintenance - **$48,708**
    - Criminal Justice and Corrections - **$43,902**
    - Computer Systems Networking and Telecommunications - **$43,554**
    - Ground Transportation (Truck Driving) - **$42,492**

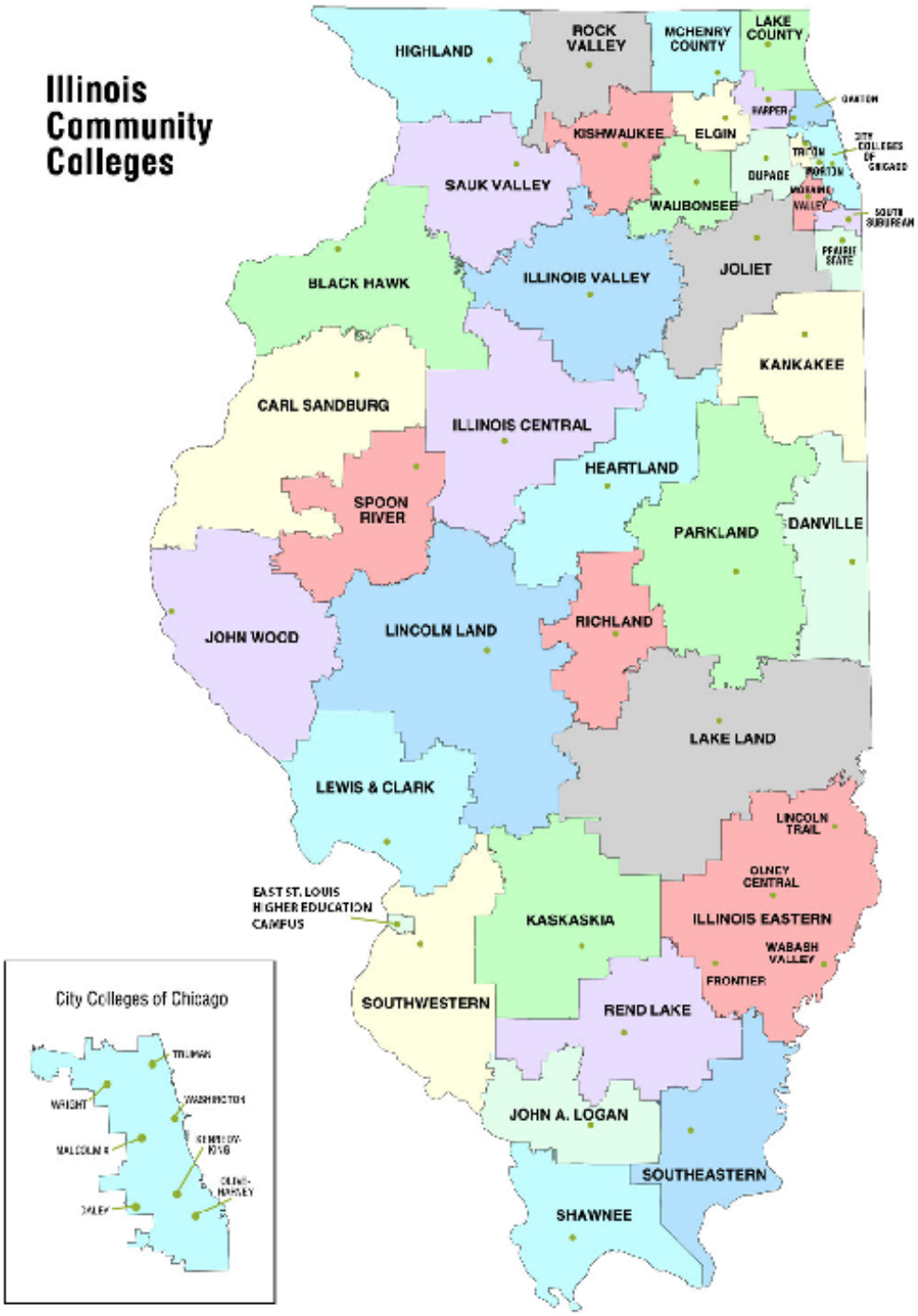
- When isolating graduates from long-term certificate and Associate in Applied Science programs and examining earnings one year prior to completion to three years after, African American student earnings increased 88% and Latinx students increased their earnings by 119%.

Graduates from Illinois community colleges obtain stable employment upon completion.

- More than 84% of completers in long-term certificate or Associate in Applied Science programs are employed in jobs in their chosen career field within a year of graduation.

- Graduates with an associate degree (i.e., transfer degrees to a four-year institution) have an employment rate of 85% after five years and this increases to 92% ten years after graduation.

ILLINOIS COMMUNITY COLLEGE DISTRICTS MAP



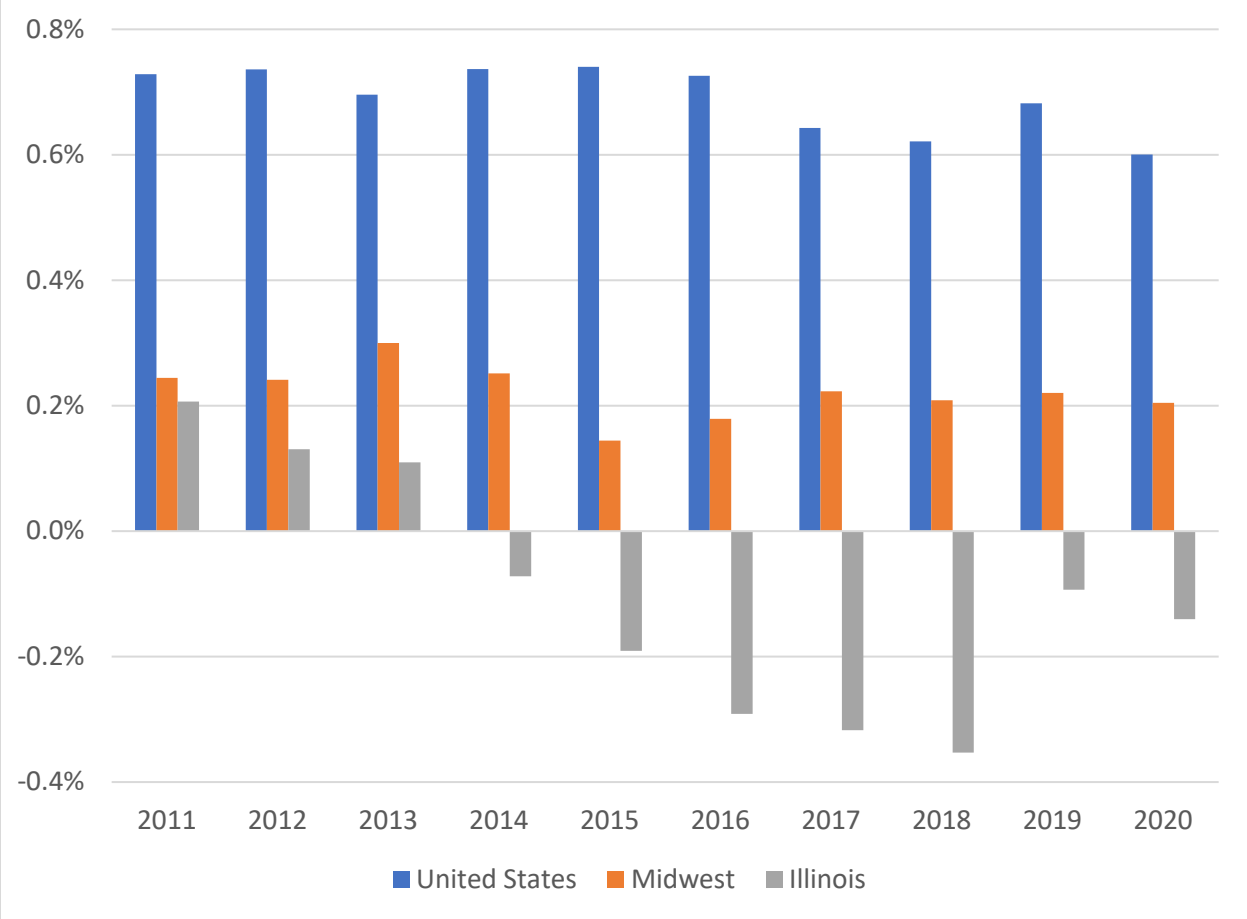
Illinois Community Colleges' Operating Environments

The demographics and economic conditions in the regions where they operate impact community colleges offerings as well as the success of their students completing programs. 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. The following section summarizes important demographic and economic conditions in Illinois.

Population

The population loss experienced in Illinois since 2013 has been minimal but certainly noteworthy as the trend slowly increased through 2018. Figure 1 shows the net change in population since 2011 for Illinois, the Midwest, and the nation. A decline in the birthrate, increase in the death rate, and changes in the patterns of international and domestic migration all contribute to this change. The net loss of population in Illinois appears to have moderated in recent 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, non-Latinx, and then 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 U.S. Illinois has lost nearly 550,000 White and more than 67,000 African American residents since 2010. The Latinx population in Illinois grew by about 200,000.

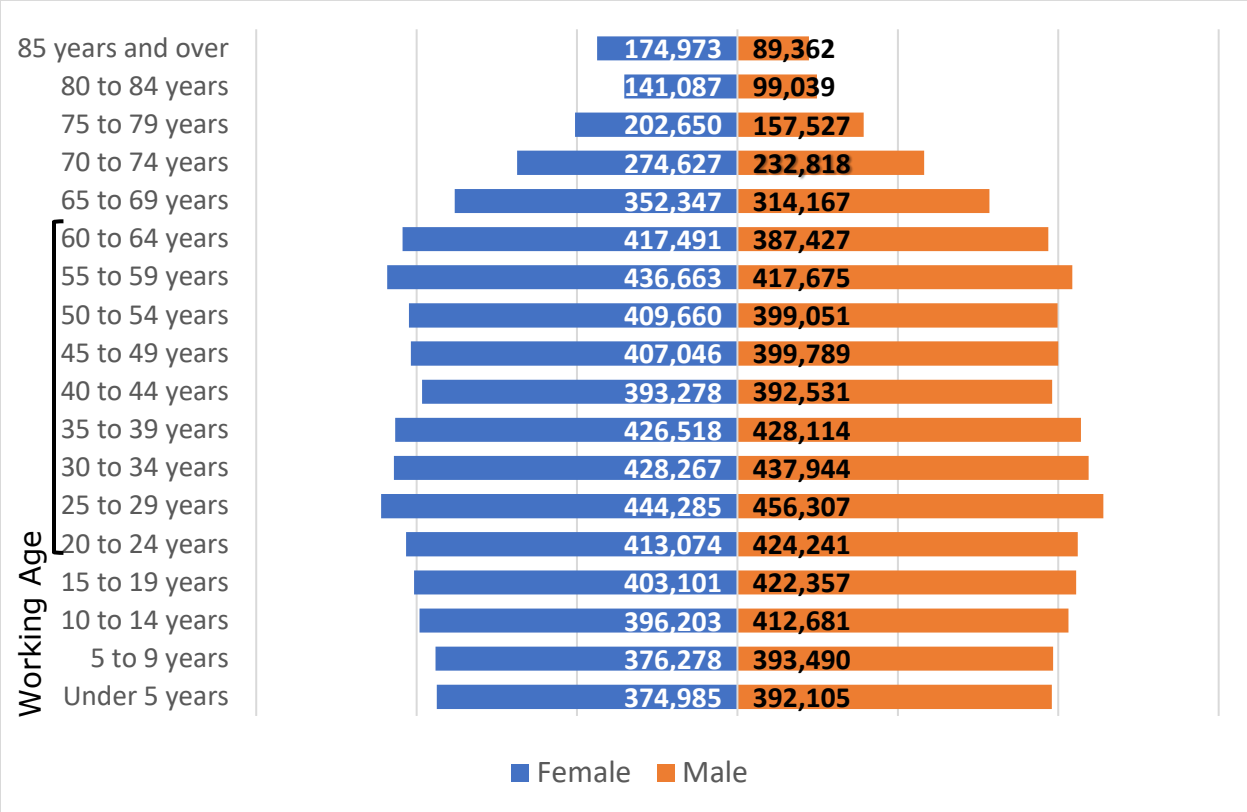
Figure 2. Race & Ethnicity Change in Population, 2010-2020

	Population Change	White, Non-Latinx	African American, Non-Latinx	Asian	Other	Latinx
United States	21,269,775	38,668	3,504,790	4,562,575	2,416,042	10,747,700
Illinois	(221,803)	(544,675)	(67,721)	146,570	44,341	199,683

Source: EMSI, 2020.

age cohorts, below age 30, are relatively smaller. Figure 3 shows the age and gender distribution of the Illinois population. There are significant numbers of people at or approaching retirement age (55-64). The younger age cohorts, below age 30, are relatively smaller.

Figure 3. Age Pyramid for Illinois, 2019

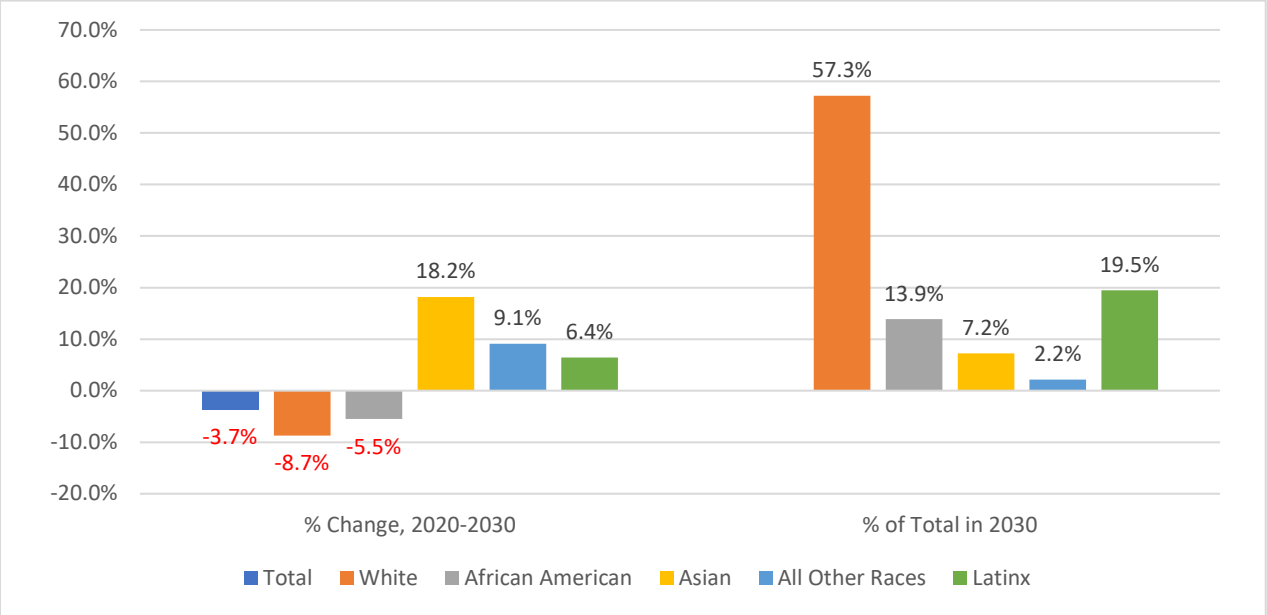


Source: EMSI, 2020.

The Illinois population is projected to decline slightly in the next decade. As displayed in Figure 4, both the White and African American populations are expected to decline. Offsetting those declines, Latinx, Asian, and other racial groups are expected to grow.

By 2030, the White population is expected to comprise about 57.3% of the total, Latinx 19.5% and African American 13.9%.

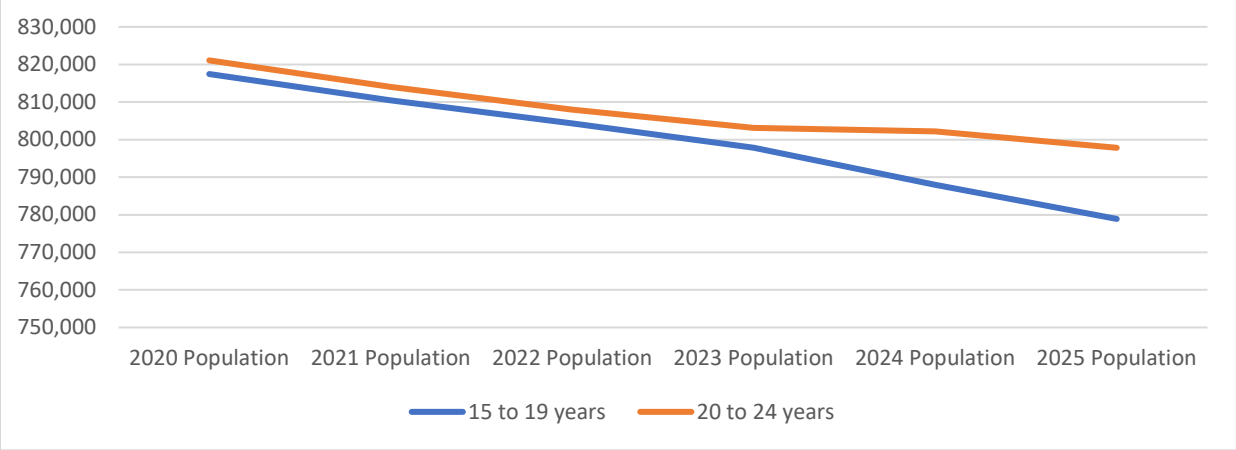
Figure 4. Population Projections by Race and Ethnicity, 2020-2030



Source: EMSI, 2020.

Following broad national trends, the population of typical college aged students will decline in the coming years (Figure 5). The number of Illinois residents aged 15-19 is expected to decline by nearly 5%. The number of residents in their early 20s will also decline, although at a less severe rate.

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 services through employer and business engagement. During academic year 2020, Illinois community colleges interacted with approximately 9,800 unique employers. Activities ranged from curriculum and apprenticeship development and review, contract training, internships, professional development, and job placement.

Community colleges meet the demands of local business and industry needs and have been responding to the many changes in the workforce for decades. While unemployment rates fell substantially in the years before the pandemic, labor force participation among key working aged populations continues 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; administrative, support, waste management and remediation services; arts, entertainment, and recreation; and accommodation and food services were the fastest growing sectors in Illinois between 2010 and 2020 (Figure 6). These industries added over 380,000 jobs between them. Health care and social assistance, although growing at a slower pace, added more than 100,000 additional jobs. Among the remaining largest employment sectors in Illinois, manufacturing grew slightly while retail trade and government declined.

Going forward, these growth patterns may be altered by the ongoing, perhaps permanent, impacts of the Coronavirus pandemic. See the discussion 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	23,164	25,506	2,342	10.1%
Construction	256,778	285,523	28,745	11.2%
Manufacturing	567,538	594,480	26,942	4.7%
Wholesale Trade	291,563	297,727	6,164	2.1%
Retail Trade	608,431	601,476	(6,955)	(1.1%)
Transportation and Warehousing	242,903	334,479	91,576	37.7%
Information	105,740	98,769	(6,971)	(6.6%)
Finance and Insurance	307,440	325,433	17,993	5.9%
Real Estate and Rental and Leasing	88,601	99,193	10,592	12.0%
Professional, Scientific, and Technical Services	388,905	477,356	88,451	22.7%
Admin, Support, Waste Mgmt and Remediation Svcs	384,864	468,920	84,056	21.8%
Educational Services	167,416	187,999	20,583	12.3%
Health Care and Social Assistance	732,242	833,420	101,178	13.8%
Arts, Entertainment, and Recreation	91,282	112,102	20,820	22.8%
Accommodation and Food Services	444,590	544,300	99,710	22.4%
Other Services (except Public Administration)	310,928	322,018	11,090	3.6%
Government	900,939	869,616	(31,323)	(3.5%)
Total	6,066,479	6,614,295	547,816	9.0%

Source: EMSI, 2020.

Currently Available Jobs

The real-time 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. Another of JPA's strengths is that it has virtually no time lag for publication, since job postings are live; hence it is also sometimes known as "real-time labor market data."

The top advertised occupations in Illinois cover a wide range of occupations, but show a strong demand for truck driving, computer and software, and health care fields (Figure 7).

Figure 7. Occupations by Number of Job Postings, 2020

Occupation	Unique Postings
Heavy and Tractor-Trailer Truck Drivers	368,477
Registered Nurses	92,770
Software Developers and Software Quality Analysts and Testers	61,187
Retail Salespersons	51,212
First-Line Supervisors of Retail Sales Workers	48,457
Customer Service Representatives	39,907
Light Truck Drivers	32,849
Stockers and Order Fillers	32,758
Computer Occupations, All Other	32,675
Marketing Managers	30,314
Home Health and Personal Care Aides	30,114
Insurance Sales Agents	27,366
Accountants and Auditors	26,802
Childcare Workers	25,368

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 Illinois. The largest number of postings came from companies in the transportation and warehousing sector. Other sectors with significant hiring activity include

administrative, support, waste management and remediation services; retail trade; professional, scientific, and technical services; and health care and social assistance.

Figure 8. Top Industries Seeking Employees, 2020

Industry	Unique Postings
Transportation and Warehousing	352,565
Administrative and Support and Waste Management and Remediation Svcs	320,133
Retail Trade	229,050
Professional, Scientific, and Technical Services	209,737
Health Care and Social Assistance	207,416
Manufacturing	120,099
Finance and Insurance	103,997
Accommodation and Food Services	100,201
Educational Services	75,164
Information	67,740
Other Services (except Public Administration)	40,092
Wholesale Trade	35,830
Public Administration	33,562
Real Estate and Rental and Leasing	26,960
Construction	24,846
Arts, Entertainment, and Recreation	7,752
Agriculture, Forestry, Fishing and Hunting	5,180
Utilities	5,104
Management of Companies and Enterprises	3,461
Mining, Quarrying, and Oil and Gas Extraction	2,117

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 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 this sector.

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

Skill	Frequency in Postings
Merchandising	5.3%
Flatbed Truck Operation	4.3%
Accounting	4.3%
Nursing	4.2%
Auditing	3.9%
Selling Techniques	3.9%
Warehousing	3.7%
Restaurant Operation	3.3%
Customer Satisfaction	2.6%
Agile Methodology	2.2%
Strategic Planning	2.1%
Customer Relationship Management	2.1%
SQL (Programming Language)	2.0%

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 license dominates this list. This is not surprising given truck driving's position at the top of the occupation demand list (Figure 7 above). Registered nurses and other related healthcare certifications appeared frequently as well. This is not surprising as the healthcare sector has exhibited substantial job growth.

Figure 10. Top Qualifications Sought by Employers, 2020

Qualification	Postings with Qualification
Commercial Driver's License (CDL)	281,289
Certified Nursing Assistant	28,943
Master of Business Administration (MBA)	28,123
Licensed Practical Nurse	24,692
Bachelor of Science in Nursing (BSN)	14,948
Bachelor of Science in Business	13,934
Certified Public Accountant (CPA)	10,255
Nurse Practitioner	10,180
Hazmat Endorsement	9,236
Project Management Professional Certification	7,702
Certificate of Clinical Competence in Speech-Language Pathology	7,202
Licensed Vocational Nurses	7,167
Tanker Endorsement	7,084
Certified Pharmacy Technician	6,774
Automotive Service Excellence (ASE) Certification	6,079
Licensed Clinical Social Worker (LCSW)	6,078
Certified Information Systems Security Professional	5,828
Associate Degree in Nursing	5,167
Top Secret-Sensitive Compartmented Information (TS/SCI Clearance)	4,229
Master of Science in Nursing (MSN)	3,919

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 assistants, bookkeepers, and teaching assistants 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	80,642	84,833	5.2%	8,920
43-3031	Bookkeeping, Accounting, and Auditing Clerks	64,840	60,453	-6.8%	6,646
25-9045	Teaching Assistants, Except Postsecondary	59,901	61,949	3.4%	6,030
31-1131	Nursing Assistants	59,070	60,973	3.2%	6,448
49-3023	Automotive Service Technicians and Mechanics	29,942	29,373	-1.9%	2,691
39-5012	Hairdressers, Hairstylists, and Cosmetologists	23,953	20,732	-13.4%	2,494
31-9092	Medical Assistants	22,900	26,136	14.1%	2,767
15-1232	Computer User Support Specialists	21,801	23,170	6.3%	1,662
29-2061	Licensed Practical and Licensed Vocational Nurses	20,844	22,408	7.5%	1,674
33-2011	Firefighters	14,338	13,672	-4.7%	903
29-2041	Emergency Medical Technicians and Paramedics	12,666	12,876	1.7%	851
31-9091	Dental Assistants	12,245	12,242	-0.0%	1,266
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technicians, All Other	10,944	11,486	5.0%	850
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	10,003	10,036	0.3%	893
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	8,911	7,390	-17.1%	838
25-4031	Library Technicians	6,625	6,020	-9.1%	896
31-9011	Massage Therapists	6,303	6,843	8.6%	726
49-3011	Aircraft Mechanics and Service Technicians	6,217	6,772	8.9%	552
29-2053	Psychiatric Technicians	5,270	5,576	5.8%	439
31-9097	Phlebotomists	5,130	5,700	11.1%	573
49-2011	Computer, Automated Teller, and Office Machine Repairers	4,709	4,676	-0.7%	476
51-4111	Tool and Die Makers	4,453	3,923	-11.9%	390
29-2055	Surgical Technologists	3,847	3,923	2.0%	302

Source: EMSI, 2020.

Figure 12 displays occupations with more than 100 expected annual openings in Illinois that typically require an associate degree for entry. Some occupations that are expected to grow slowly or even decline still are expected to have a significant number 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	24,140	25,048	3.8%	2,364
23-2011	Paralegals and Legal Assistants	13,912	14,748	6.0%	1,474
15-1231	Computer Network Support Specialists	13,178	12,906	-2.1%	903
29-2034	Radiologic Technicians	8,639	8,858	2.5%	456
29-1292	Dental Hygienists	7,507	7,449	-0.8%	466
15-1257	Web Developers and Digital Interface Designers	6,714	7,223	7.6%	515
29-1126	Respiratory Therapists	4,398	4,939	12.3%	263
17-3098	Calibration Technicians and Engineering Technicians, Except Drafters, All Other	4,320	4,229	-2.1%	371
29-2056	Veterinary Technicians	3,950	4,545	15.1%	379
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	3,913	3,700	-5.4%	387
31-2021	Physical Therapist Assistants	3,895	4,873	25.1%	559
19-4031	Chemical Technicians	3,376	3,275	-3.0%	306
17-3023	Electrical and Electronic Engineering Technicians	3,317	3,357	1.2%	294
17-3011	Architectural and Civil Drafters	3,192	2,956	-7.4%	273
29-2032	Diagnostic Medical Sonographers	3,081	3,423	11.1%	192
17-3022	Civil Engineering Technicians	2,805	2,761	-1.6%	240
29-2031	Cardiovascular Technicians	2,768	2,791	0.8%	143
19-4099	Life, Physical, and Social Science Technicians, All Other	2,461	2,462	0.1%	282
31-2011	Occupational Therapy Assistants	2,354	2,903	23.3%	312
29-2035	Magnetic Resonance Imaging Technologists	2,352	2,406	2.3%	125
29-2051	Dietetic Technicians	2,093	2,054	-1.9%	158
49-9062	Medical Equipment Repairers	2,036	2,129	4.5%	211
17-3026	Industrial Engineering Technicians	2,031	2,070	2.0%	185
17-3027	Mechanical Engineering Technicians	1,783	1,783	0.0%	158
17-3013	Mechanical Drafters	1,731	1,588	-8.2%	149
23-2099	Legal Support Workers, All Other	1,577	1,491	-5.5%	124
53-2021	Air Traffic Controllers	1,191	1,217	2.2%	102
19-4011	Agricultural and Food Science Technicians	1,082	1,117	3.3%	131
39-4031	Morticians, Undertakers, and Funeral Arrangers	1,013	913	-9.9%	105

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 health practitioner (SOC 29-) fields.

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

SOC	Description	2020 Jobs	Under 25	Age 25-34	Age 35-44	Age 45-54	55 and Over
39-4031	Morticians, Undertakers, and Funeral Arrangers	1,013	3.1%	9.6%	15.6%	17.3%	55.0%
49-9062	Medical Equipment Repairers	2,036	4.2%	17.6%	19.5%	26.2%	32.6%
17-3023	Electrical and Electronic Engineering Technicians	3,317	6.3%	17.0%	19.5%	24.9%	32.2%
17-3026	Industrial Engineering Technicians	2,031	5.5%	17.1%	20.5%	26.0%	31.0%
17-3027	Mechanical Engineering Technicians	1,783	7.1%	17.4%	20.7%	25.0%	29.8%
17-3013	Mechanical Drafters	1,731	7.1%	21.1%	20.7%	21.1%	29.8%
17-3098	Calibration Technicians and Engineering Technicians, Except Drafters, All Other	4,320	8.6%	18.5%	20.4%	24.4%	28.2%
19-4031	Chemical Technicians	3,376	7.6%	22.1%	20.7%	22.2%	27.3%
23-2099	Legal Support Workers, All Other	1,577	9.1%	23.2%	19.5%	22.4%	26.1%
17-3022	Civil Engineering Technicians	2,805	11.9%	19.0%	20.6%	22.8%	25.7%
29-1126	Respiratory Therapists	4,398	3.0%	25.2%	24.7%	23.1%	24.1%
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	3,913	10.9%	24.1%	21.6%	19.6%	23.7%
17-3011	Architectural and Civil Drafters	3,192	10.0%	25.8%	21.9%	19.3%	22.9%
23-2011	Paralegals and Legal Assistants	13,912	7.7%	26.1%	22.2%	21.1%	22.9%
19-4011	Agricultural and Food Science Technicians	1,082	14.6%	23.2%	19.7%	20.0%	22.5%
29-1292	Dental Hygienists	7,507	4.5%	25.3%	25.9%	22.7%	21.7%
29-2031	Cardiovascular Technicians	2,768	5.5%	28.8%	24.3%	20.2%	21.4%
29-2035	Magnetic Resonance Imaging Technologists	2,352	4.8%	27.0%	25.4%	21.9%	21.1%
29-2034	Radiologic Technicians	8,639	5.0%	27.9%	25.2%	21.1%	20.9%
29-2032	Diagnostic Medical Sonographers	3,081	4.8%	28.3%	25.7%	20.9%	20.6%

Source: EMSI, 2020.
* Only top ranked occupations by the share of workers age 55 years and older are shown.

Diversity, Equity, and Inclusion

The Illinois Community College System and ICCB are committed to creating, supporting, and expanding 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 African American and other minority communities. 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: identify 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 State Plan for Perkins V 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:

> *<u>Equitable Access and Opportunity for All Populations</u> - 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 include using data to identify inequitable employment outcomes.

Regional Equity Indicators

Income and Poverty

Racial and ethnic income disparities are significant and persistent in Illinois. Non-Latinx White and Asian 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 Illinois was about 57% of non-Latinx White households (Figure 14). The median income for non-Latinx White households grew by about 18% between 2010 and 2019 while African American households only grew by about 12%. Thus, the median income for African American households in 2019 fell to just 54% of non-Latinx White households.

Latinx households tend to have higher incomes than African American households, but still earn significantly less than non-Latinx White households. However, Latinx household median income grew slightly more than non-Latinx White households. Latinx household median income grew from about 77% of non-Latinx White households in 2010 to about 78% in 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

	2010	2019
All Households	$55,735	$65,886
Non-Latinx White	$61,342	$71,922
African American	$34,874	$38,573
Asian	$72,492	$90,278
Latinx	$47,170	$55,836

Source: American Community Survey, 5-year estimates

The percentage of persons with income below the poverty level fell very slightly from 12.6% to 12.5% between 2010 and 2019 (Figure 15). Non-Latinx White persons are significantly less likely to be low income by this measure. The percentage of White and Asian persons below the poverty level increased slightly, while other races and Latinx persons declined somewhat. However, African American persons are nearly 3 times more likely to be in poverty compared to non-Latinx Whites. Latinx persons are almost twice as likely as Whites to be in poverty.

Interestingly, Asian persons are more likely than Whites to be in poverty despite tending to have higher household incomes (Figure 15). This suggests that the dispersion of incomes among Asians is greater. While many Asians have higher incomes, significant numbers continued to earn an income below that poverty level.

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

	2010	2019
All Households	12.6%	12.5%
Non-Latinx White	8.0%	9.4%
African American	28.0%	26.1%
Asian	10.2%	10.8%
All Other Races	18.0%	17.0%
Latinx	18.2%	16.1%

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

Educational attainment rates for persons over 25 years old were significantly higher for non-Latinx White and Asian persons in 2010 (Figure 16). They were more likely to complete high school and more likely to earn higher level degrees. About one-third of non-Latinx White persons had a bachelor's degree or higher. An additional 30% had at least some college or an associate degree. Less than 9% failed to finish high school.

The percentage of African American persons that earned a high school diploma but did not continue their education was about 29%, the same rate as White persons. A higher percentage of African American persons (34%) than Whites had some college or an associate degree. However, African American persons are significantly less likely to earn a bachelor's degree or higher than Whites. Nearly 19% of African American persons had not earned a high school diploma or equivalent.

Latinx persons had significantly lower attainment rates than the other groups. Over 40% 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	Non-Latinx White	African American	Asian	All other races	Latinx
Total	8,345,982	5,770,378	1,109,827	384,202	1,081,575	1,012,645
Less than high school diploma	13.8%	8.6%	18.5%	9.0%	38.5%	40.5%
HS graduate (incl equivalency)	27.9%	28.7%	28.7%	11.6%	28.4%	28.8%
Some college or associate deg	28.1%	29.2%	34.3%	16.8%	19.9%	18.9%
Bachelor's degree or higher	30.3%	33.6%	18.5%	62.6%	13.2%	11.8%

Source: American Community Survey, 5-year estimates

While all racial and ethnic groups had improved their attainment rates by 2019, their relative rates remained similar (Figure 17). For all Illinoisans over 25 years old, the percentage at least completing high school improved by over 2 percentage points and the percentage of those obtaining a bachelor's degree or higher improved by about 4 percentage points. More than 63% had furthered their education beyond high school.

Despite increasing attainment rates, African American persons still lagged non-Latinx Whites and Asians in 2019. About 86% of African American persons had at least completed high school, compared with 94% of non-Latinx White persons. Of those that completed high school, non-Latinx Whites were more likely to further their education, and significantly 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	Non-Latinx White	African American	Asian	All other races	Latinx
Total	8,682,343	5,736,418	1,159,554	483,869	1,302,502	1,202,410
Less than high school diploma	10.8%	5.8%	13.5%	9.3%	30.5%	32.3%
HS graduate (incl equivalency)	26.0%	26.0%	28.6%	10.8%	29.2%	30.1%
Some college or associate's deg	28.6%	29.4%	36.2%	15.0%	23.4%	22.6%
Bachelor's degree or higher	34.7%	38.8%	21.7%	64.9%	17.0%	14.9%

Source: American Community Survey, 5-year estimates

Occupational Employment

There were nearly 6.3 million jobs in 2020[1]. Overall, about 49.5% of jobs were held by women, 35% held by non-White persons, and 15% held by Latinx persons. Figure 18 displays data for occupations employing at least 5,000 in Illinois 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, firefighters, and other installation and maintenance occupations all employ at least 90% males. Conversely, nursing assistants, bookkeepers, teaching assistants, hairdressers, and others employ at least 85% females. Of the 11 occupations that have a median hourly wage of at least $20, seven are dominated by males, with four out of five occupations paying more than $25 being male dominated. Seven out of nine 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. Three out of four occupations employing more than 44% non-White persons (35% is the average for all occupations in Illinois) had median earnings of less than $19/hour. The exception to this was Licensed Practical/Vocational Nurses, which employed nearly 45% non-Whites and had a median wage of just over $25/hour.

Latinx persons are underrepresented in most of the occupations in this category. Despite making up about 15% of the workforce, Latinx persons only exceeded 20% of the workforce in three occupations: automotive technicians, medical assistants, and dental assistants. Automotive technicians had median earnings just over $20, but medical and dental assistants had median wages under $20/hour.

[1] The data in Figures 16 -18 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.

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
	Total All Occupations	6,280,088	661,141	49.5%	35.3%	15.0%	
53-3032	Heavy Truck Drivers	80,642	8,920	5.8%	32.2%	16.2%	$23.94
43-3031	Bookkeeping, Accounting, and Auditing Clerks	64,840	6,646	87.9%	23.3%	9.9%	$20.89
25-9045	Teaching Assistants, Except Postsecondary	59,901	6,030	91.0%	32.2%	14.5%	$13.70
31-1131	Nursing Assistants	59,070	6,448	88.5%	56.7%	11.1%	$14.49
49-3023	Automotive Service Technicians and Mechanics	29,942	2,691	1.5%	31.2%	21.6%	$20.66
39-5012	Hairdressers, Hairstylists, and Cosmetologists	23,953	2,494	92.2%	26.8%	12.8%	$12.92
31-9092	Medical Assistants	22,900	2,767	92.4%	44.5%	23.8%	$17.58
15-1232	Computer Support Specialists	21,801	1,662	27.2%	34.0%	9.4%	$24.66
29-2061	Licensed Practical and Licensed Vocational Nurses	20,844	1,674	90.9%	45.0%	8.5%	$25.74
33-2011	Firefighters	14,338	903	5.3%	22.9%	8.2%	$27.68
29-2041	Emergency Medical Technicians and Paramedics	12,666	851	41.8%	24.9%	11.0%	$16.86
31-9091	Dental Assistants	12,245	1,266	94.2%	37.7%	25.9%	$19.24
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technicians, All Other	10,944	850	85.4%	38.6%	11.8%	$22.37
49-9021	Heating, AC, and Refrigeration Mechanics and Installers	10,003	893	1.3%	20.2%	12.5%	$26.18
49-2022	Telecommunications Equipment Installers and Repairers	8,911	838	10.8%	31.8%	12.2%	$34.64
25-4031	Library Technicians	6,625	896	78.1%	27.5%	8.2%	$15.26
49-3011	Aircraft Mechanics and Service Technicians	6,217	552	5.5%	35.6%	16.9%	$33.72

Source: EMSI, 2020.

Figure 19 displays employment 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.

Of the seven occupations in this category that have median hourly earnings below $25, five are dominated by women and one has about two-thirds males, and the other is balanced at about 50% female. Nine occupations in this category have median earnings greater than $30. Five of those are male dominated and four female.

Only one occupation in this category employs greater than 40% non-Whites. This occupation, human resources assistant, is among the lowest paying in this category. Non-White persons make up less than 25% of employment in four occupations, all but one of which have median earnings of greater than $29.

Latinx persons are underrepresented in nearly every occupation in this category. This reflects the fact that Latinx persons trail the rest of the population in educational attainment.

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
	Total All Occupations	6,280,088	661,141	49.5%	35.3%	15.0%	
25-2011	Preschool Teachers, Except Special Education	24,140	2,364	97.2%	38.7%	15.2%	$14.82
23-2011	Paralegals and Legal Assistants	13,912	1,474	83.5%	29.1%	15.4%	$27.50
15-1231	Computer Network Support Specialists	13,178	903	27.3%	35.1%	9.9%	$30.05
29-2034	Radiologic Technicians	8,639	456	73.7%	27.9%	10.8%	$29.99
29-1292	Dental Hygienists	7,507	466	95.7%	19.1%	11.1%	$35.89
15-1257	Web Developers and Digital Interface Designers	6,714	515	33.1%	28.1%	7.8%	$34.80
29-1126	Respiratory Therapists	4,398	263	66.9%	33.4%	9.3%	$28.92
17-3098	Calibration and Engineering Technicians	4,320	371	19.7%	30.3%	11.8%	$32.65
29-2056	Veterinary Technicians	3,950	379	75.7%	22.5%	9.5%	$17.86
43-4161	Human Resources Assistants	3,913	387	83.4%	44.1%	16.4%	$21.03
31-2021	Physical Therapist Assistants	3,895	559	73.4%	24.2%	8.0%	$29.39
19-4031	Chemical Technicians	3,376	306	35.3%	32.4%	11.0%	$24.37
17-3023	Electrical and Electronic Engineering Technicians	3,317	294	16.7%	32.2%	12.8%	$32.32
17-3011	Architectural and Civil Drafters	3,192	273	21.4%	22.9%	11.2%	$29.87
29-2032	Diagnostic Medical Sonographers	3,081	192	75.2%	28.1%	10.7%	$37.87

SOC	Description	2020 Jobs	Avg. Annual Openings	Pct Female	Pct Non-White	Pct Latinx	Median Hourly Earnings
17-3022	Civil Engineering Technicians	2,805	240	20.9%	28.0%	10.5%	$30.33
29-2031	Cardiovascular Technicians	2,768	143	72.3%	30.2%	10.8%	$23.41
19-4099	Life, Physical, and Social Science Technicians, All Other	2,461	282	50.3%	34.3%	9.7%	$23.49
31-2011	Occupational Therapy Assistants	2,354	312	85.5%	25.9%	6.3%	$30.74
29-2035	Magnetic Resonance Imaging Technologists	2,352	125	71.5%	27.0%	9.6%	$35.87
29-2051	Dietetic Technicians	2,093	158	80.5%	38.8%	9.1%	$12.73
49-9062	Medical Equipment Repairers	2,036	211	11.1%	28.3%	12.7%	$25.23

Source: EMSI, 2020.

Information about occupations employing more than 15,000 in Illinois 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.

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
	Totals	6,280,088	661,141	49.5%	35.3%	15.0%	
29-1141	Registered Nurses	130,444	6,829	90.8%	32.8%	6.7%	$34.90
11-1021	General and Operations Managers	126,074	9,625	31.2%	21.9%	9.8%	$49.40
13-1198	Project Management and Business Operations Specialists	57,529	5,223	58.2%	34.1%	10.7%	$40.00
15-1256	Software Developers and Quality Assurance Analysts	57,055	4,652	20.0%	47.4%	4.5%	$50.74
25-2021	Elementary School Teachers	56,709	4,031	81.2%	17.8%	7.0%	$30.13
13-2011	Accountants and Auditors	55,071	4,764	56.5%	28.5%	7.6%	$34.48
11-3031	Financial Managers	43,278	3,275	53.0%	26.3%	10.2%	$63.40
13-1111	Management Analysts	42,639	4,087	43.9%	29.0%	6.5%	$43.70
25-2031	Secondary School Teachers	41,982	2,853	61.9%	17.3%	6.9%	$33.93

SOC	Description	2020 Jobs	Avg. Annual Openings	Pct Female	Pct Non-White	Pct Latinx	Median Hourly Earnings
13-1161	Market Research Analysts and Marketing Specialists	36,749	3,929	59.4%	27.2%	8.9%	$30.66
11-9198	Personal Service, Entertainment and Recreation Managers	36,028	2,442	34.1%	26.0%	11.0%	$43.31
15-1211	Computer Systems Analysts	31,388	2,107	36.2%	36.8%	6.5%	$44.35
13-1071	Human Resources Specialists	30,703	2,891	72.2%	35.2%	12.5%	$29.58
41-3031	Securities, Commodities, and Financial Services Sales Agents	24,027	2,030	29.2%	23.3%	9.6%	$32.35
13-2098	Fin'l and Investment Analysts	23,066	1,748	41.8%	33.1%	8.4%	$41.06
11-2021	Marketing Managers	22,423	1,765	48.6%	22.3%	9.0%	$60.71
25-2022	Middle School Teachers	21,593	1,542	81.3%	17.6%	6.8%	$29.67
25-3031	Substitute Teachers, Short-Term	21,560	2,363	72.6%	30.9%	12.8%	$14.57
21-1021	Child, Family, and School Social Workers	15,799	1,568	84.1%	48.0%	11.3%	$26.18
29-2018	Clinical Laboratory Technicians	15,142	931	75.2%	43.7%	10.5%	$24.90

Source: EMSI, 2020.

As with the lower skilled occupations, those with higher pay tend to be male dominated. Of the seven occupations with median wages above $45/hour, three employ 65% or more males. None of those higher paying occupations are majority females.

Only one of the occupations in this category have higher percentages of non-White persons than the average of all occupations (35%). This occupation, Software Developers, is among the highest paying occupation in the category. However, African Americans make up less than 4% of incumbents in this occupation, compared to about 13% in all occupations. Asians comprise 38% of workers in this occupation. The occupation with the highest percentage of Latinx persons in this category is substitute teachers. This occupation has by far the lowest median earnings in this category.

Coronavirus Pandemic

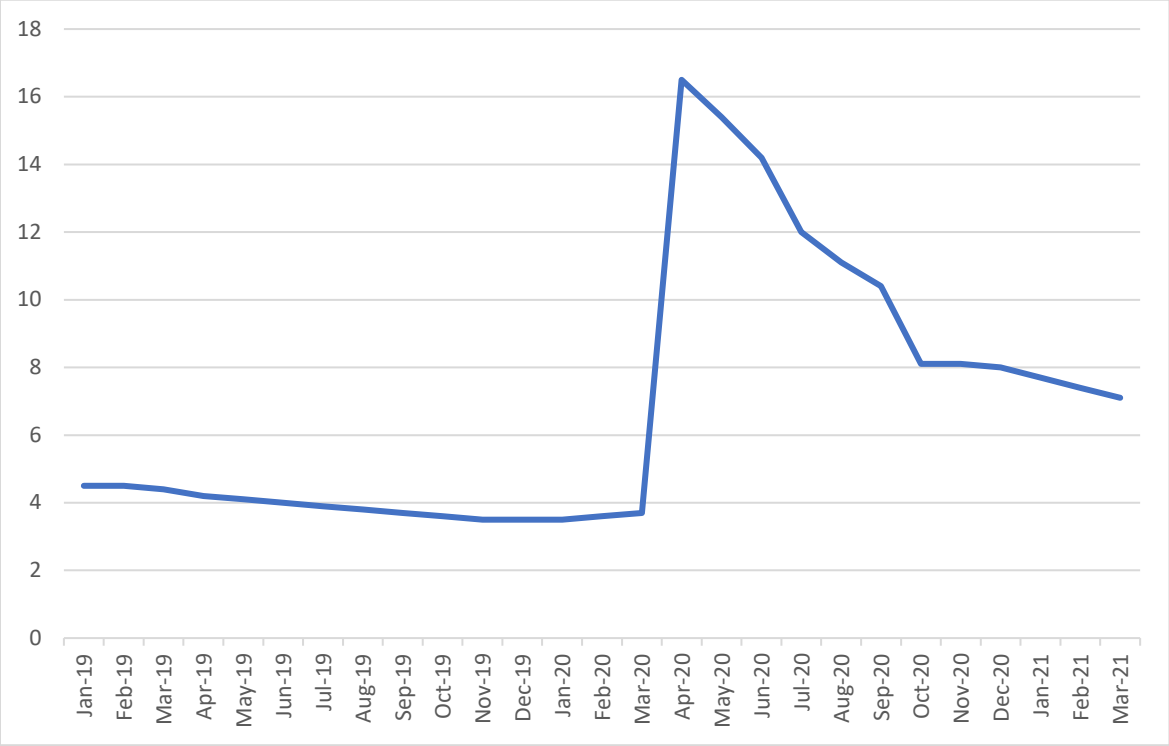
In early 2020 the Coronavirus pandemic disrupted the social and economic structures of communities worldwide. Government regulations such as stay-at-home orders and restrictions on business operations changed the way many businesses could operate. In addition, individuals changed their spending habits 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 remain 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% (Figure 21).

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.

Figure 21. Illinois 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 2nd quarter (April through June) 2020 unemployment rates, compared with the same period in 2019. 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 like 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 because 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 quarterly averages of initial unemployment claims in Illinois for 2020 and the first quarter of 2021. The level of claims in the first quarter of 2020 was similar to 2019 averages and thus represents pre-pandemic conditions.

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

	2020				2021
	1st	**2nd**	**3rd**	**4th**	**1st**
Total	110,618	596,095	458,917	275,326	221,143
Age 16-24	4,914	77,557	57,167	30,065	21,841
Age 25-44	49,009	278,660	215,250	118,572	98,547
Age 45-64	50,655	203,916	154,912	108,565	86,576
Age 65 and Older	6,039	35,727	31,527	18,086	14,152
Race/Ethnicity					
White/Not of Latinx Origin	52,868	316,105	208,611	136,601	105,235
Share of total	48%	53%	45%	50%	48%
African American/Not of Latinx Origin	21,261	114,462	126,565	75,661	54,321
Share of total	19%	19%	28%	27%	25%
Asian or Pacific Islander	2,143	32,280	23,909	8,970	6,021
Share of total	2%	5%	5%	3%	3%
Latinx Origin	29,194	106,681	78,790	41,401	45,498
Share of total	26%	18%	17%	15%	21%
Gender					
Male	78,431	277,815	213,643	143,822	134,836
Female	31,686	315,966	243,372	130,295	85,450
Female Share	29%	53%	53%	47%	39%

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

As indicated by the national unemployment statistics, youth were impacted to a greater degree. Claims by workers aged 16-24 increased from less than 5,000 in Q1 2020 to over 77,000 at the height of the impacts in Q2 2020. Claims levels for this group remained over 4 times higher than pre-pandemic levels in the first quarter of 2021. Workers aged 45-64 had the smallest initial increase, still a very significant 300% from Q1 to Q2 2020.

Non-Latinx White workers experienced a slightly greater initial increase in claims compared to the overall total. However, their share of the total (about 50%) is somewhat less than their share of the overall Illinois workforce (about 65%). African American workers had a smaller increase in claims, but their share of total claims (19% in Q2 2020) is higher than their overall share of the workforce (about 13%).

African American workers' share of total claims was higher as the impact of COVID-19 continued through the second half of 2020 and into 2021.

Asians had the highest percentage increase in claims, although their share of the total continues to be smaller than their share of the overall workforce (about 6%). Latinx persons had an increase in claims similar to the overall total and their share of claims is not significantly different than their share of the workforce (about 15%).

Like the national unemployment statistics, women had fewer claims in Q1 2020 and greater numbers of claims during the height of the pandemic.

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 10-fold increases in unemployment claims (Figure 24). All other sectors had increases less than the overall average. Moving in to early 2021, education and health services and leisure and hospitality both had unemployment claim levels more than triple their pre-pandemic levels.

Figure 24. Illinois Quarterly Initial Unemployment Claims by Industry Sector

	2020				2021
	1st	2nd	3rd	4th	1st
Agriculture, forestry, fishing and hunting	851	584	501	642	1,001
Mining	593	1,182	862	466	632
Construction	28,695	31,328	17,461	16,666	32,504
Manufacturing	11,320	49,796	31,241	21,624	17,492
Wholesale trade	4,229	19,359	15,831	10,951	7,496
Retail trade	5,476	64,463	40,009	19,921	14,980
Transp, Warehousing, and Utilities	6,127	27,809	28,239	18,009	12,711
Information	1,494	8,611	7,677	4,482	2,784
Financial Activities	4,018	13,741	12,754	12,333	8,511
Professional and Business Services	27,312	82,401	83,644	50,806	44,110
Educational and Health Services	6,179	68,549	64,414	41,333	21,743
Leisure and Hospitality	7,118	131,866	94,343	35,261	23,768
Other Services	1,999	28,705	16,241	7,306	4,897
Public administration	1,631	6,185	7,040	7,740	4,198

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). Food preparation and serving occupations had the highest number of second quarter 2020 unemployment claims, followed by sales and management occupations. Those three occupations represented about 40% of all claims. Perhaps surprisingly, production and transportation occupations had the fourth and fifth highest number of claims. Food preparation and serving, personal care, and education, training, and library occupations had the highest percentage increases.

As of the first quarter of 2021, unemployment claim levels remain stubbornly high, especially for service occupations. The total number of unemployment insurance claims in the first quarter was about double that of the first quarter of 2020. Education, food preparation and serving, and personal care occupations had claims levels about five time higher than pre-pandemic levels.

Many of these job losses 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."

Figure 25. Illinois Quarterly Initial Unemployment Claims by Occupation

	2020				2021
	1st	2nd	3rd	4th	1st
Management	8,910	55,694	39,596	42,208	25,596
Bus. & Fin. Operations	3,585	15,602	14,152	12,491	7,986
Computer & Math.	1,711	5,981	5,528	3,896	2,665
Architecture & Eng.	882	3,863	3,633	3,537	2,295
Life Phys. & Soc. Sci.	225	2,620	1,707	1,096	699
Comm. & Social Service	566	5,403	5,014	3,215	2,225
Legal	360	2,273	2,064	1,647	1,074
Edu. Training & Library	964	22,222	25,570	11,353	4,929
Art Ent. Sport & Media	1,082	15,892	12,173	4,555	2,891
Healthcare Pract. & Tech.	1,595	24,701	14,075	9,469	5,721
Healthcare Support	2,203	16,309	14,542	9,961	6,816
Protective Service	918	5,712	6,866	4,363	2,835
Food Prep. & Serving	4,360	100,094	76,881	32,337	20,955
Building & Grounds Maint.	10,320	26,173	20,970	12,026	14,221
Personal Care	1,035	26,354	14,509	7,475	5,258
Sales & Related	7,101	78,464	54,192	25,694	18,420
Office & Admin. Support	6,405	39,920	33,195	20,112	13,195
Farm Fishing & Forestry	1,839	1,398	861	1,247	2,195
Const. & Extraction	29,418	30,640	17,395	17,924	35,710
Instal. Maint. & Repair	6,170	20,444	12,831	8,178	9,065
Production	12,673	48,701	36,161	21,352	19,751
Transportation	7,790	44,329	44,578	19,604	15,281

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

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. In assisting many individuals reengaging in postsecondary to reskill and/or upskill in occupations, and also offering a multitude of educational opportunities to students new to higher education, community colleges

provide pathways to increased employment and earnings. In the next section, Illinois community college students completing certificates and degrees and the significant economic impact are examined both in longer term credentials (long-term certificate, Associate in Applied Science, and Associate Degree) and short-term certificates (less than 30 credit hours). With a substantial portion of African American and Latinx students being served in the community college sector, investing in a community college both for students and the State is integral in making a recovery from the pandemic an equitable one. The economic returns for community college students in filling gaps for larger and emerging occupations and industries, as well as meeting the population demographic shifts described in the above section are examined below.

Illinois Community Colleges Student Outcomes

Illinois community colleges are multipurpose institutions with the capacity to offer short- and long-term certificate programs for high demand jobs, associate 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 were 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 completer. 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 four-year institution (AAS or long-term certificate) in fiscal year 2018. The cost of attending school during the Fiscal Year (FY) 2017 and FY 2018 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 FY 2018. Present value of the expected cash flows is computed by discounting them at the rate of return. Within the community college system, a considerable portion of the student population is nontraditional (older population) and may be working in a career job already as they are upskilling. However, for this 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.

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 two 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.

The major benefit of completing college is the resulting increased earnings. Earnings data for ICCS students 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 associate 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 $31,260, or $9,691. 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 $31,883. The return on investment occurs over a 40-year working life, where increased earnings for a degree completer are estimated to total nearly $600,000 (compared to someone not attending community college).

[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.

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

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	$5,650	$ 9,751	$15,401		-$16,017
0	$5,563	$ 10,919	$16,482		-$16,482
1				$9,691	$9,303
2				$10,369	$9,556
3				$11,095	$9,816
4				$11,872	$10,083
5				$12,703	$10,357
6				$13,592	$10,639
7				$14,543	$10,928
8				$15,561	$11,226
9				$16,650	$11,531
10				$16,650	$11,070
⋮				⋮	.....
38				$16,650	$3,530
39				$16,650	$3,388
40				$16,650	$3,253
		Total Increased Earning		**$598,939**	**NPV $238,785**
					IRR 26.8%

The net present value of investing in a community college associate degree is more than $238,000. The internal rate of return on their investment is 26.8%. In other words, if a student put $33,368 in an investment that returned 40 annual payments equivalent to the earnings gains from an associate degree, they would earn interest at a rate of 26.9%.

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 (IDES) administrative data systems to generate student outcomes on employment and wages. The IR dataset includes information on ICCS students 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 provides 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

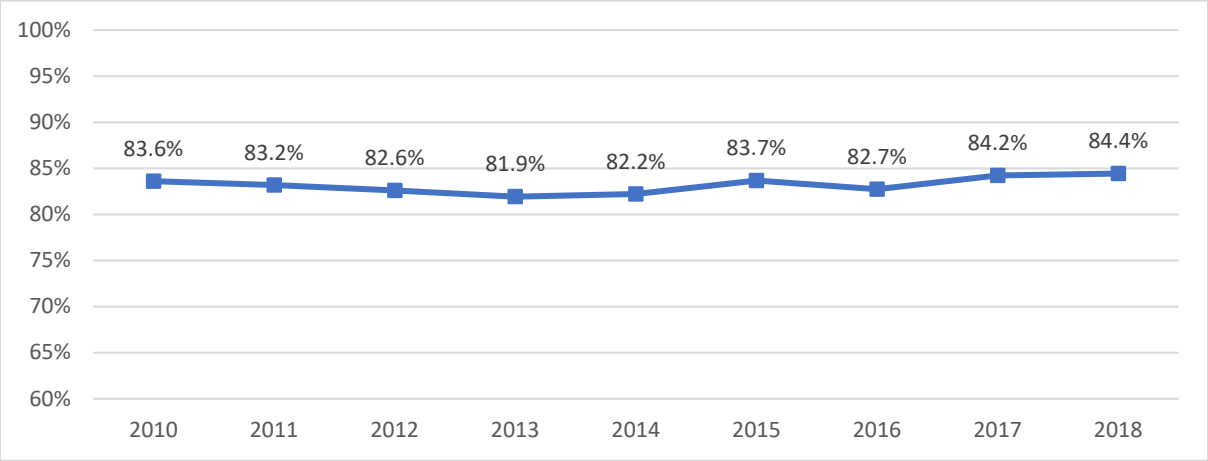
enrollment, and earnings. All information is presented on a fiscal year basis, with the year corresponding to the calendar year of the spring semester (e.g., FY 2018 begins with the summer 2017 term and ends with the spring 2018 term).

Employment

The ICCB tracks the employment status of its completers in terms of career jobs. Career jobs are defined as jobs with three consecutive quarters of earnings, and that represent the highest share of the completer's earnings. The career job employment rate is more conservative than the total employment rate because it excludes individuals who derived most of their earnings from jobs that have not been held for three quarters.

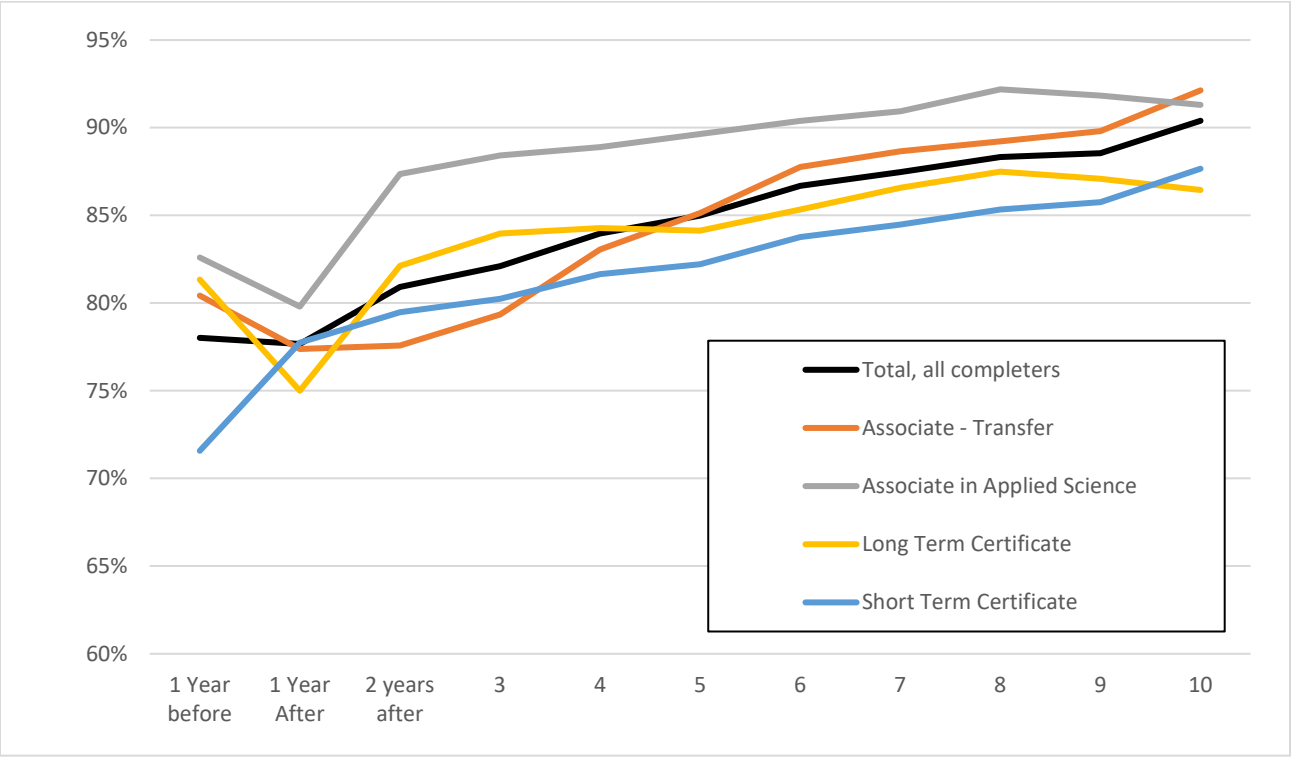
According to ICCB data, more than three quarters of completers of long-term certificate programs or Associate in Applied Science programs are employed in career jobs within a year of graduation. This trend was consistent for completers each fiscal year through FY 2018, which includes those who completed 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.

Figure 29. Career Job Employment Rate One Year After Completion



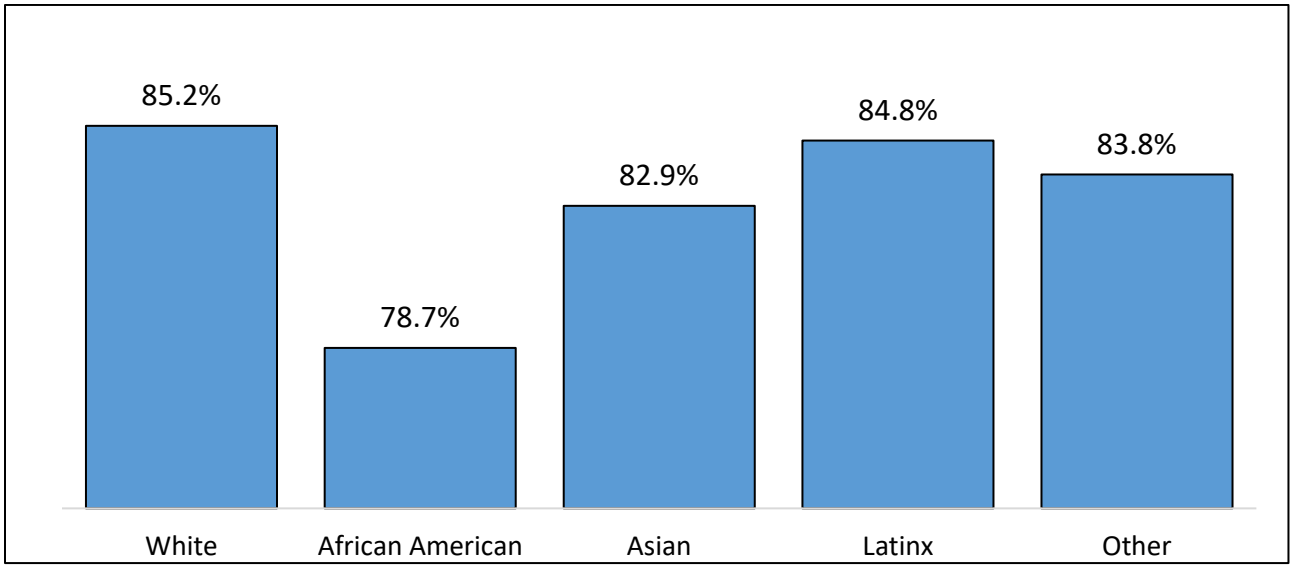
Career job employment rates typically improve for ICCS completers over time. Among those who completed from ICCS programs in 2009, 77.7% were employed one year after graduating, and 90.4% were employed in career jobs after 10 years.

Figure 30. Career Job Employment Rate for 2009 Completers



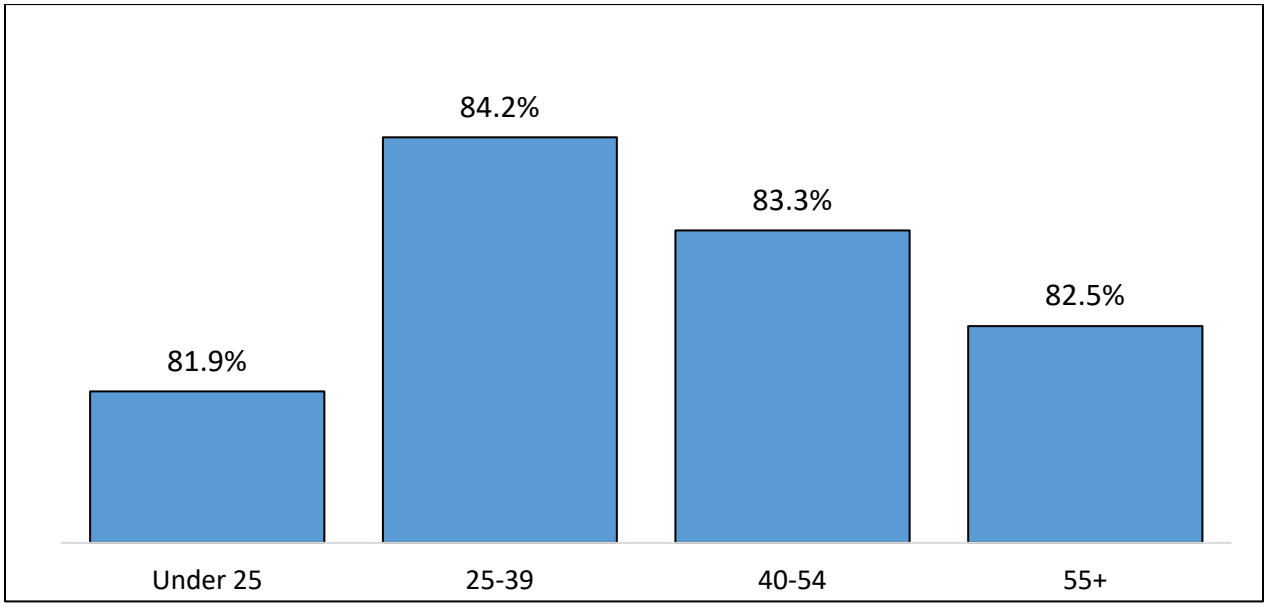
Employment rates varied by race and ethnicity for those who completed ICCB programs in FY 2018 (latest full year available). Latinx completers (any race) represented the largest minority group by share of completers and they had a career job employment rate of 84.8%. African American completers had a career job employment rate of 78.7%. 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)



Unsurprisingly, older students have a higher employment rate when they graduate, usually because they are mid-career. About 81.9% of completers of long-term certificate programs or AAS programs in the traditional college age, under age 25, were employed in career jobs six months after graduating. About 84.2% of completers in the 25-39 age range were employed in career jobs, and completers over age 39 had similar employment rates. In some cases, the employment rate is lower because completers defer working full-time to pursue a university degree.

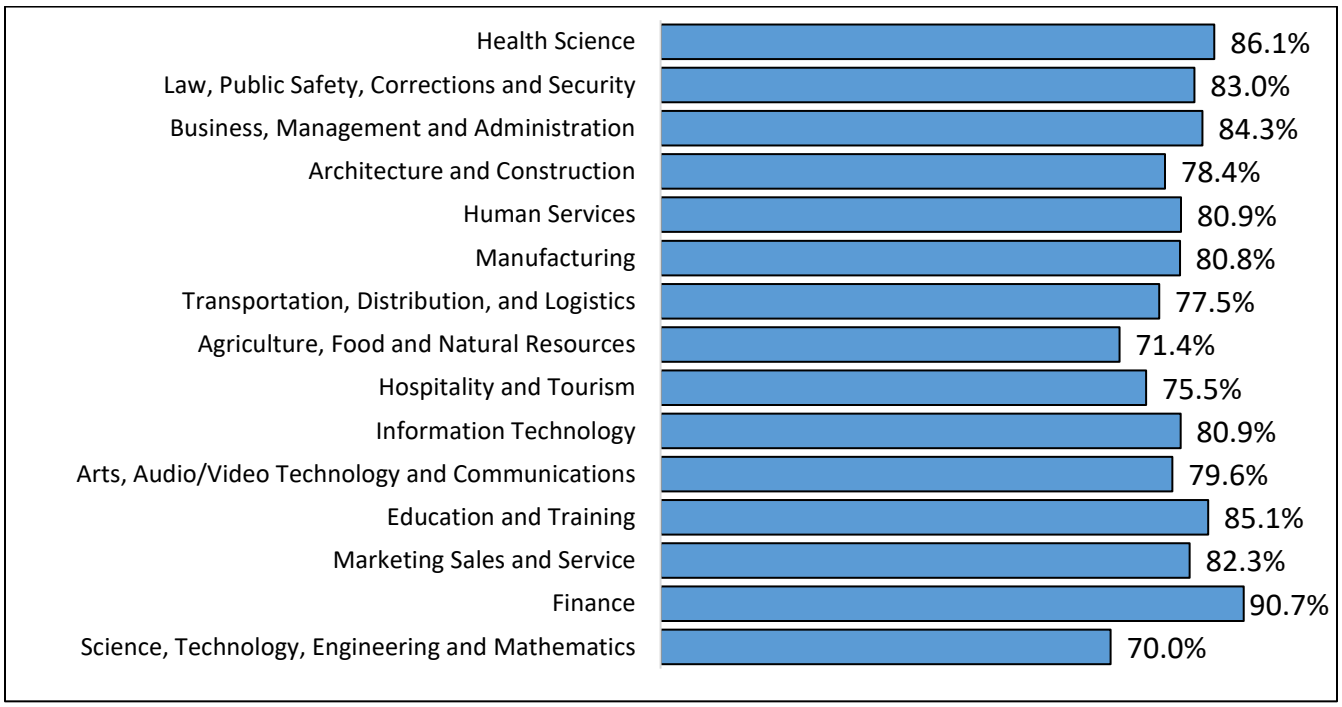
Figure 32. Career Job Employment Rate One Year After Completion by Age (Long-Term Certificates and Associate in Applied Science Completers)



Employment rates also varied considerably by the career clusters that completers studied for. Those who studied for transportation, distribution, and logistics careers

had a lower career job employment rate (77.5%), while those who completed programs for health science, finance, business, or law had higher career job employment rates.

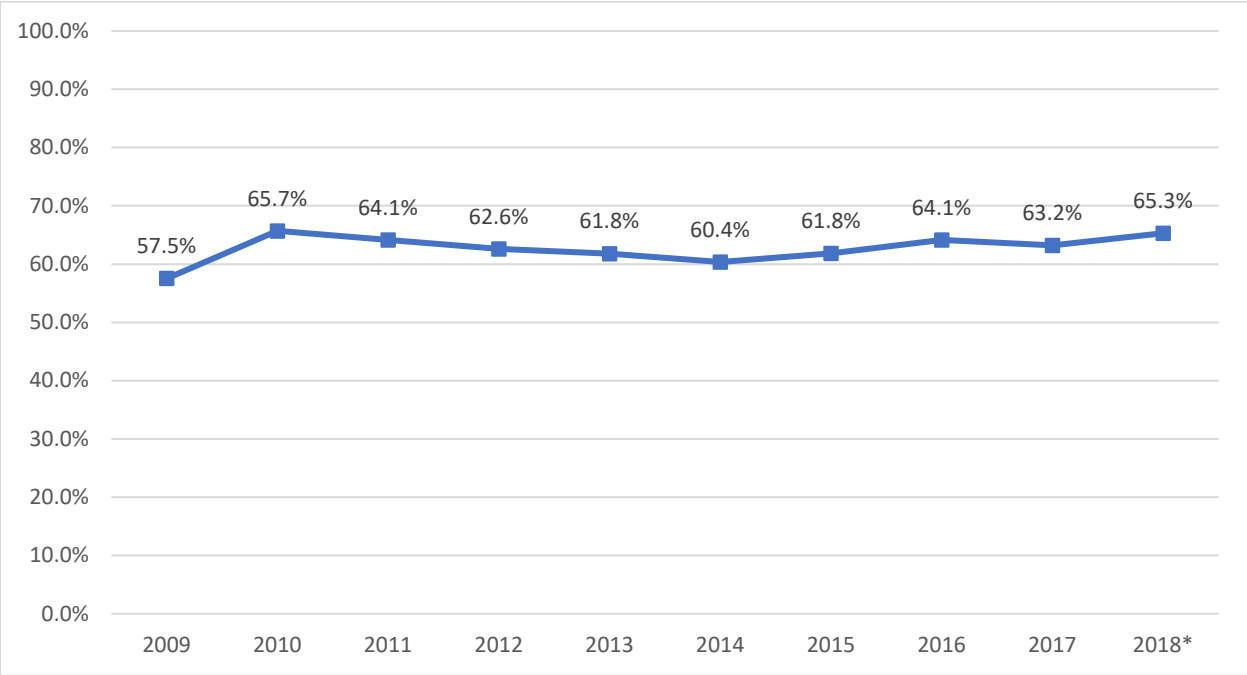
Figure 33. Career Job Employment Rate One Year After Completion by Career Cluster (Long-Term Certificates and Associate in Applied Science Completers)



Postsecondary Enrollment

A fairly substantial number of ICCS completers continue their education in the same institution or another two- or four-year educational institution within a year after graduating. Students in CTE programs are 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 for ICCS completers varied slightly from year to year. 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 ICCS system. Postsecondary enrollment rates have remained between 60% and 65% since 2010.

Figure 34. Postsecondary Enrollment Rate by Year of Completion

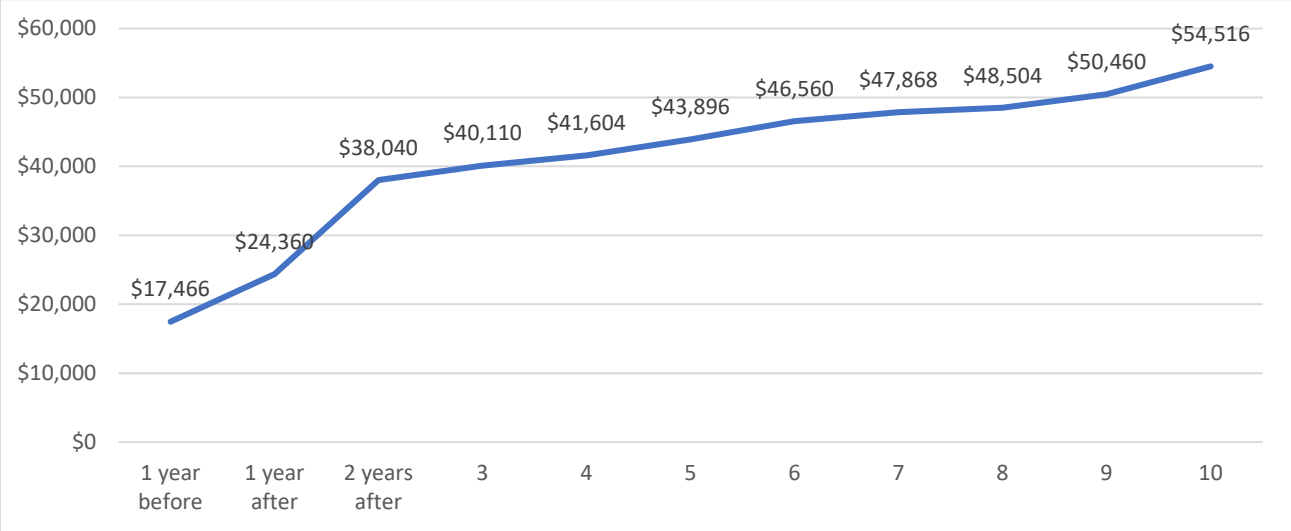


*Spring 2018 only.

Earnings

Looking at a longer time horizon, the class of 2009 earned $54,516 ten years after graduating, representing an average annual growth rate of 21.2%. The earnings growth is most significant in the first few years after graduation, and there was an immediate increase of 39.5% for the first year after graduation. Some of the earnings growth in the first year could reflect working additional hours or securing a higher-paying job.

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



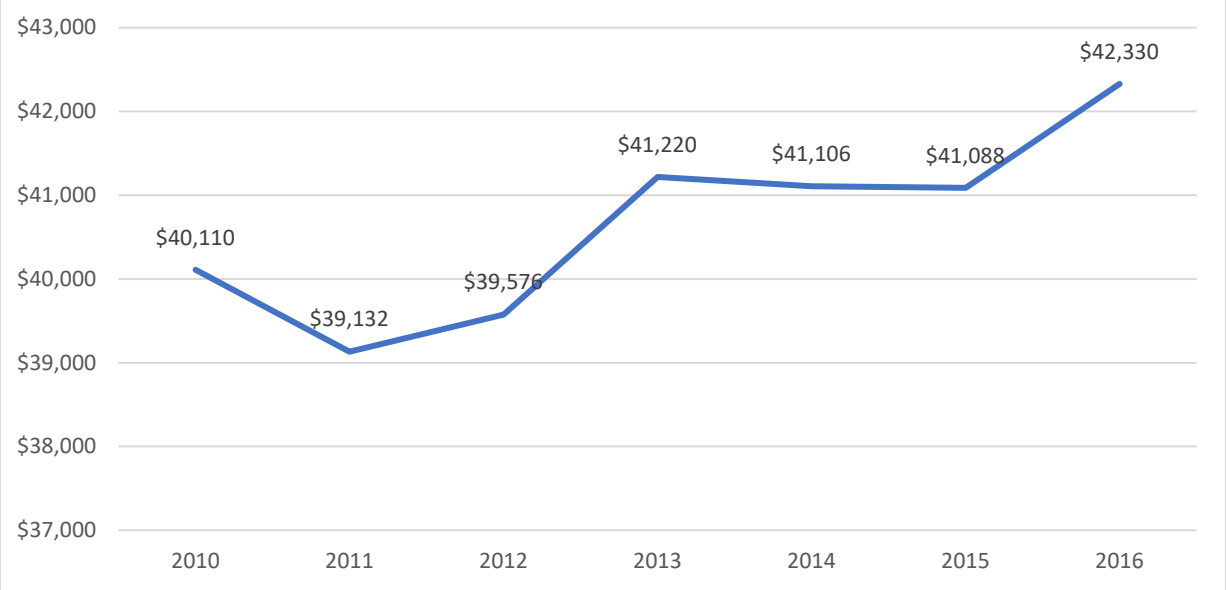
Completers of associate degrees for transfer to other institutions earned a median of $36,972 five years after completing their program in the ICCS. Ten years after

completion, the median earnings were $48,972, which represented a 6.5% increase each year. Earnings for the first five years are excluded because these completers are still finishing their four-year degrees at this time.

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

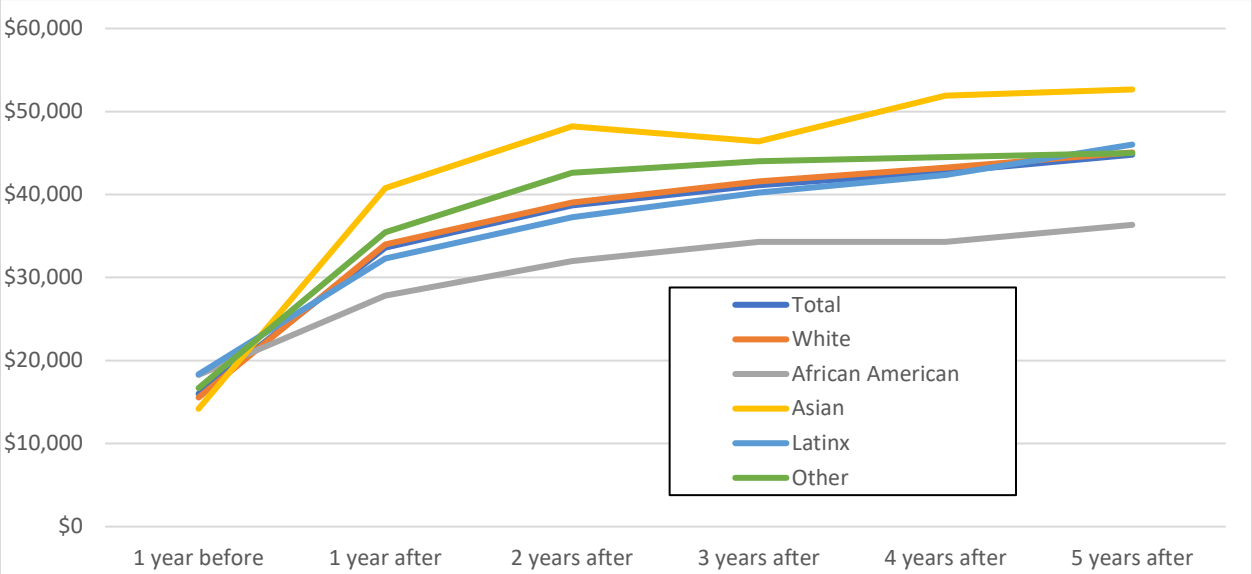
The earnings of ICCS completers varied slightly by year of completion. Those who completed their program in FY 2010 earned a median of $40,110 after three years. For FY 2016, completers earned a median of $42,330 after three years. Median earnings were somewhat lower for completers in FY 2011 and 2012, but they increased for FY 2013 onward.

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



First-year career job earnings varied slightly by race and ethnicity, and they contrast with the trends in employment rates and postsecondary enrollment. African American and Latinx completers had somewhat higher earnings than average in the year before completion, but their earnings grew more slowly in the years after completion. The "Other" race/ethnicity category is difficult to generalize because it includes those with multiple races and nonresident exchange students. This category was combined in the interest of simplicity.

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

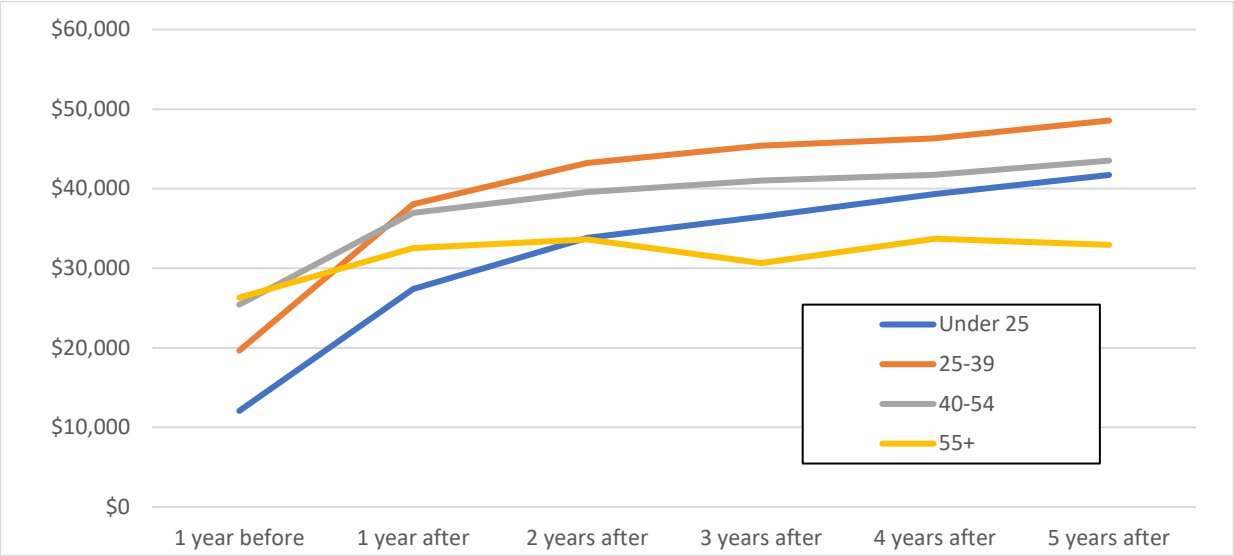


*Other includes the following categories: Native Hawaiian or Pacific Islander, American Indian or Alaskan Native, Unknown, and Nonresident Alien. They were combined due to few observations in each category individually.

Unsurprisingly, first-year earnings increased with graduate age. Completers in the 25-39 age group earned nearly twice as much as completers under age 25. Earnings are affected by work experience and hours worked. The highest earnings were in the 40-54 age group. Relatively fewer completers were of age 55 or higher, and this age group typically works fewer hours than the prime working age groups.[5]

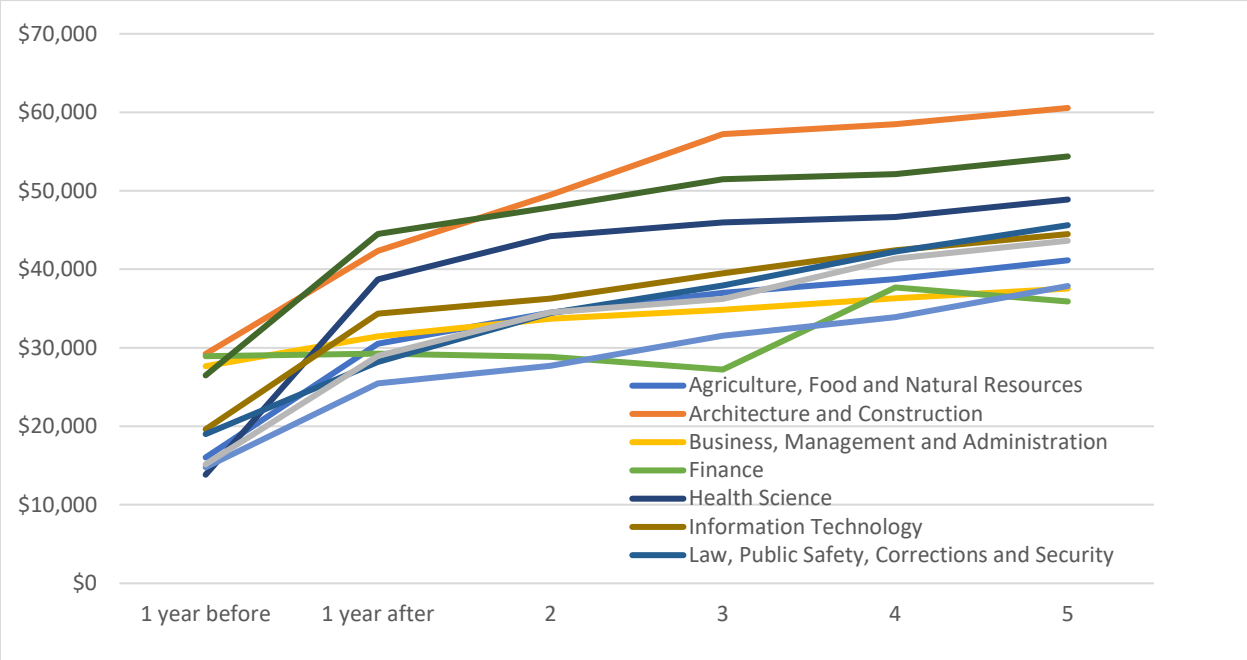
[5] https://www.bls.gov/cps/cpsaat22.htm

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



Earnings for ICCS completers depend on the types of jobs held after completion. Completers of STEM programs had considerably lower earnings than the average for all completers, but more than 75% of them enroll in four-year institutions within a year of completion. For this reason, earnings after one year do not fully reflect the trajectory of earnings for STEM completers. Earnings were substantially higher for completers of manufacturing programs, at $42,384 after one year. Completers of IT programs and programs in transportation/distribution/logistics also had above-average earnings.

Figure 40. Average Annual Career Job Earnings for 2017 Completers, 1 Year After Exit



Short-Term Certificate Student Employment Outcomes

To meet student and employer needs, Illinois community colleges offer a variety of certificate and degrees of varying lengths. Short-term certificates (defined as 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 study that allows continued education toward an advanced certificate or full associate degree that allows even further expansion in career opportunities.

Illinois community colleges are committed to continuing growth in short-term certificate opportunities particularly in high-need communities focused on 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. WEI also targets low-income individuals, those living in high crime and high poverty areas, and unemployed individuals and minorities. Figure 41 illustrates WEI's evidence-based model of developing short-term certificate programs and student completers in high-demand occupations that provide a salary 30% above a living wage within that region.

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

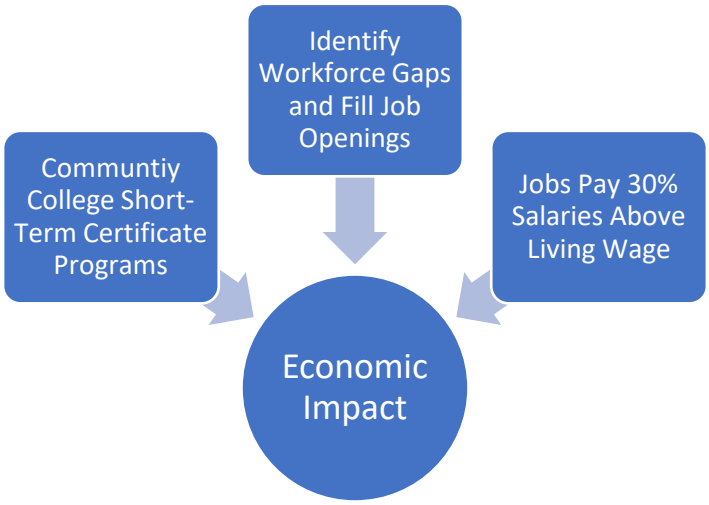


Figure 42 provides the ten short-term certificate programs with at least 100 completers in FY 2016 with the highest median actual earnings. Earnings for completers of short-term certificates can vary widely by program and many programs offer the ability to have substantially higher wages within an occupation depending on the employer and worker experience.

Figure 42. Median Earnings Three Years After Completion, FY 2016 Short-Term Completers (minimum of 100 completers for inclusion)

Curriculum Code	Median Annual Earnings, 3 Years After Completion	Count of completers
4603-Electrical and Power Transmission Installers	$69,216	291
4302-Fire Protection	$54,108	207
4702-Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician (HAC, HACR, HVAC, HVACR)	$48,708	143
4301-Criminal Justice and Corrections	$43,902	168
1109-Computer Systems Networking and Telecommunications	$43,554	110
4902-Ground Transportation (incl Truck Driving)	$42,492	545
5202-Business Administration, Management and Operations	$41,742	158
4805-Precision Metal Working	$39,792	398
1513-Drafting/Design Engineering Technologies/Technicians	$38,112	109
5203-Accounting and Related Services	$36,264	161

The Illinois community college system's commitment to strengthening job creation and workforce development is evident in the alignment of graduates in short-term certificate programs (Figure 42) with many occupations identified as having considerable job openings and/or growth rates projected through 2029 in Figure 43 in such occupations as Heavy and Tractor-Trailer Truck Drivers; Bookkeeping, Accounting, and Auditing Clerks; Computer User Support Specialists; Firefighters; Heating, Air Conditioning, and Refrigeration Mechanics and Installers; First-Line Supervisors of Firefighting and Prevention Workers; and Electrical and Electronics Repairers, Commercial and Industrial Equipment.

Figure 43. Job Growth in Occupations that Typically Require a Short-Term Certificate

SOC	Description	2019 Jobs	2029 Jobs	Growth rate	Annual Openings
53-3032	Heavy and Tractor-Trailer Truck Drivers	81,624	89,552	9.7%	10,723
43-3031	Bookkeeping, Accounting, and Auditing Clerks	61,828	60,045	-2.9%	7,236
15-1232	Computer User Support Specialists	26,777	29,434	9.9%	2,590
33-2011	Firefighters	17,080	17,343	1.5%	1,218
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	10,026	11,220	11.9%	1,174
33-1021	First-Line Supervisors of Firefighting and Prevention Workers	3,422	3,497	2.2%	228
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	2,241	2,259	0.8%	208

Source: EMSI, 2020.

ILLINOIS COMMUNITY COLLEGE ECONOMIC IMPACTS

Illinois' 48 community colleges are important sources of expenditures and employment for the communities and regions they serve. 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 community colleges 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 business. 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 Illinois community colleges, 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 consider the spending in the local economy of the new income generated by the new employment produced from the impact.

Data provided by the individual community colleges to the Illinois Community College Board identified about $1.8 billion in operating expenditures during fiscal year 2020 (including wages and salaries) by the colleges. Illinois community colleges paid over $1.3 billion in wages and benefits to their 32,867 employees that lived in the state. These direct impacts rippled through the economy creating additional jobs, payrolls, and other economic activity. These impacts are summarized below in Figure 44. Over 43,000 jobs could be attributed to statewide college operations. These operations were associated with about $3.5 billion 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 $2.4 billion.

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

Impact Type	Direct Effect	Indirect Effect	Total Effect
Employment	32,867	10,449	43,316
Output	$1,781,212,748	$1,700,343,176	$3,481,555,924
Total Value Added	$1,382,235,446	$1,040,788,920	$2,423,024,367
Employee Compensation	$1,320,815,918	$564,066,234	$1,884,882,152

Beyond the effects of direct spending and employment, the Illinois community college system also strengthens the Illinois economy by addressing employers' workforce needs. In a survey of the community colleges' business engagement, in 2019, 10,726 employers were served by credit or noncredit programs. In 2020, during the recession, 9,811 employers were served by ICCS programs. Several community colleges specifically include economic development services through employer and business engagement.

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