

GREATER DUBUQUE REGION SKILLS GAP ANALYSIS

FALL 2020



Emsi



*NORTHEAST IOWA
COMMUNITY COLLEGE*

Introduction	3
Background	3
Region	3
Definitions	3
Labor Market Overview	4
Demographic Information	5
Projected Working Age Population	5
Projected Population by Race/Ethnicity	5
Educational Attainment Overview	6
Regional Industry Earning Change	7
Occupational Outlook	8
Notes	10
Appendix A - Definitions	11
How does EMSI calculate projections?	11
Differences in Coverage	11
We Don't Use BLS/State Occupation Projections	11
Differences in Methodology	11
Release Lag	11
Occupation Data	11
Staffing Patterns Data	12
State Data Sources	12
Primary Data Source Information Legend	12
Appendix B - Descriptions and Additional Definitions	13
Occupational Descriptions	13
Industry Descriptions	13
Complete Skills Gap Table	13

Notes

Covid-19 Pandemic

Workforce data from the Bureau of Labor Statistics at the occupational level tends to lag by two quarters. At the time of this report, the impact to specific occupations or graduate outcomes from the Covid-19 pandemic and resulting recession are not present in the data.

Standard Occupational Classification (SOC)

The 2018 SOC system is used by federal statistical agencies to classify workers and jobs into occupational categories for the purpose of collecting, calculating, analyzing, or disseminating data (*BLS SOC Manual 2018*). Although officially launched in November of 2017 via Federal Register notice 82 FR 56271-56273 stakeholders are still navigating a hybridized version of the 2010 and 2018 versions as organizations transition to the updated system.

Of the 867 occupations in the current structure, only 392 are left completely unchanged (45%). The remaining occupations had either a change in code, title, or definition. Entirely new occupations were added (27) to the groups and significant alterations were made to Information Technology and Healthcare occupations (*BLS SOC Manual 2018*). A full review of changes, additions, and deletions can be found in the [Standard Occupational Classification Manual](#) published by the BLS. There may be some impact on SOC codes used for this Skills Gap report.

Classification of Instructional Programs (CIP)

The sixth edition of the CIP was launched in mid 2019. It includes hundreds of new programs of study and recategorization of some existing codes, titles, and definitions ([NCES Blog, July 10, 2019](#)). There may be some impact on graduate data reported for this Skills Gap report.

CIP to SOC Crosswalk

In March 2020 the National Center for Education Statistics and Bureau of Labor Statistics released their [official crosswalk](#) designed to relate education to employment based on the changes to the new SOC and CIP manuals. EMSI modifies this crosswalk with the intent of being more accurate. This was further refined by Greater Dubuque Development Corporation and Northeast Iowa Community College to best reflect local data. Crosswalks cannot capture all potential outcomes between programs of completion and employment. Metrics in this report are meant to act as guideposts for likely outcomes.

Due to the changes noted above, it is recommended that readers do not apply a direct comparison to prior versions of the Skills Gap report. Please see Appendix B of this report for contact information if you have questions.

Introduction

Background

In 2014, Greater Dubuque Development Corporation contracted with Smart Solutions to develop a regional Skills Gap Analysis to identify both skill and training deficiencies in the local economy. The purpose of the Skills Gap Analysis is to provide economic developers, workforce developers, and educators with information on projected workforce shortages (gaps) and to identify strategies to mitigate these shortages.

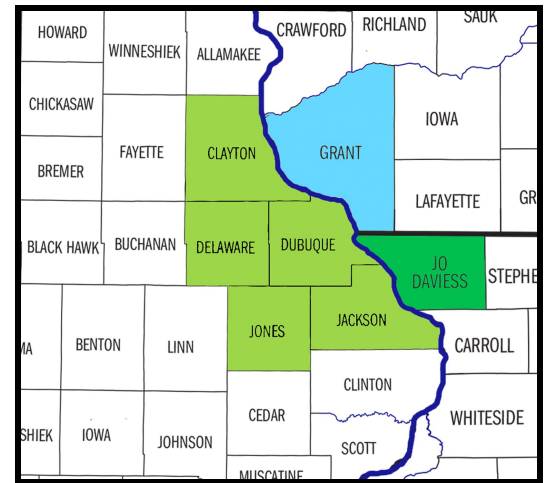
In 2015, Northeast Iowa Community College (NICC) obtained access to EMSI Analyst through a statewide grant awarded to Iowa's community colleges through the Department of Labor. The College partnered with Greater Dubuque Development Corporation on the implementation of EMSI Analyst and the development of the 2015 and subsequent annual Skills Gap Analysis reports. In 2020, Greater Dubuque Development purchased Emsi Developer and continues to partner with Northeast Iowa Community College to develop this report.

EMSI is a leading provider of historical databases of economic, industry, occupation, demographic, and education completion data. EMSI's primary data sources for this skills gap analysis are the Bureau of Labor Statistics and the National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS). This report utilizes EMSI and IPEDS data as primary sources, based on EMSI's 2020 3rd and 4th quarter data release. EMSI recommends *not* comparing annual releases because data 'noise' introduced by process improvements [EMSI 2014.4 Release Notes].

Region

This analysis contains data for seven counties:

Clayton, IA Dubuque, IA Jones, IA Grant, WI
Delaware, IA Jackson, IA Jo Daviess, IL



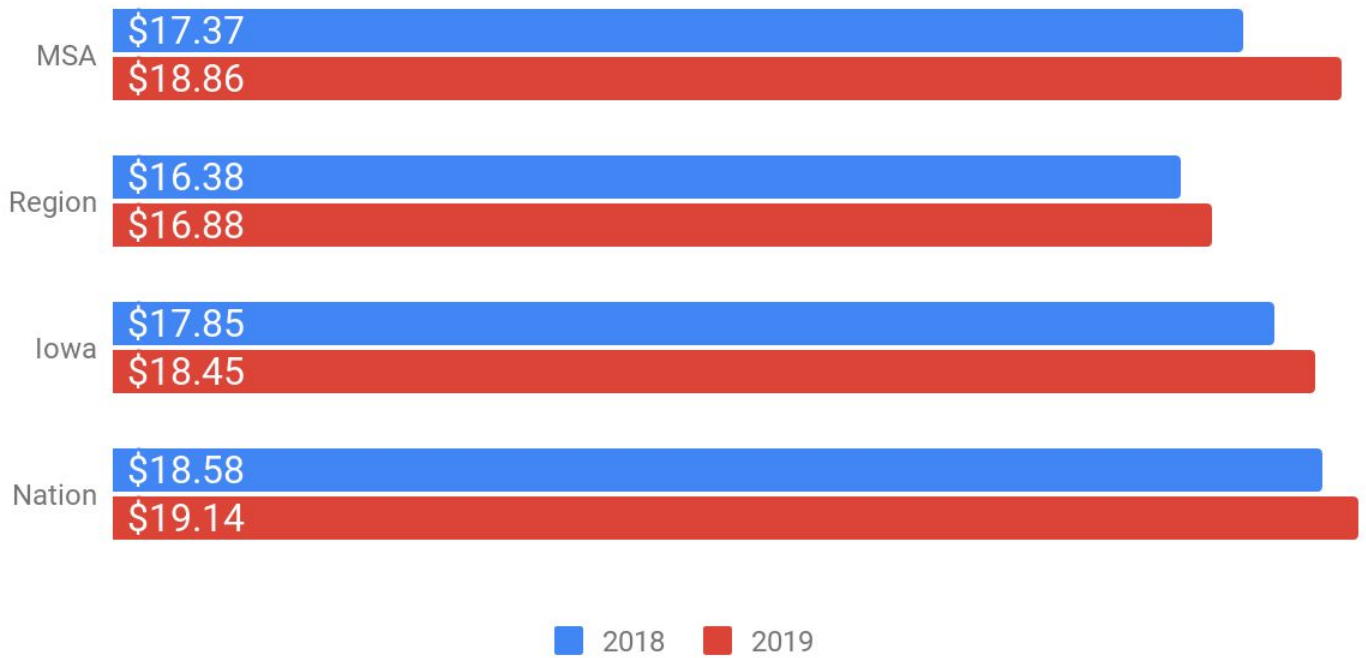
Definitions

This report provides the following information:

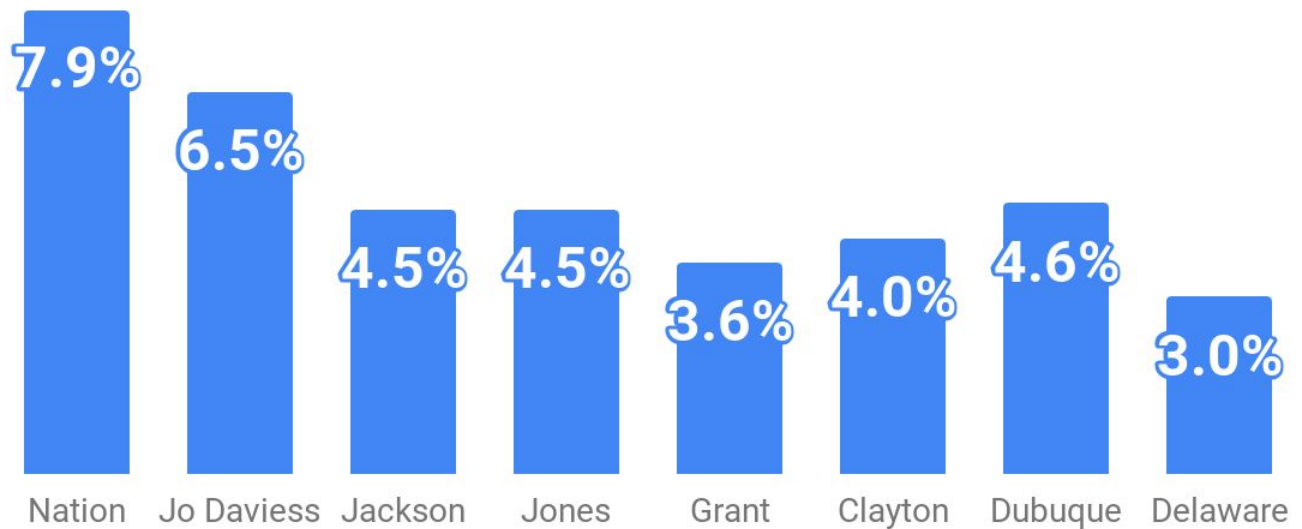
- Annual Openings: the estimated employment change and turnover for an occupation for a given year.
- Turnover: Includes workers who leave the workforce entirely (i.e. retired or choose to stay at home or go to school), and workers who transfer to a different occupation group. It does not include turnover from one opening in the same occupation to another.
- Change is defined as the net increase or decrease in regional jobs in an occupation over the selected timeframe.
- Annual Completions: The number of degrees or certificates conferred for a specific course of study in a given year. Includes all award levels. May be greater than the actual number of students who graduated [source: EMST]. IPEDS completion data is collected for the following institutions: Capri College (Dubuque), Carlson College of Massage, Clarke University, Divine Word College, Emmaus Bible College, Loras College, Northeast Iowa Community College (Peosta/Dubuque), Southwest Wisconsin Technical College, University of Dubuque, University of WI-Platteville
- Median Wage: The hourly earnings for occupations, excluding benefits, of a worker in that group. Median earnings of \$15/hr would mean that half of the workers in that occupation make more, and half make less. In the occupational report, it represents the midpoint of the wage distribution for an occupation: half of the workers make more, half of them make less [source: EMSI].
- Wage data: This edition contains 2019 wage data. The prior year would then be 2018.
- Working Age: Between the ages of 15-69 years old.

Labor Market Overview

Median Wages by Location (2018 vs 2019)

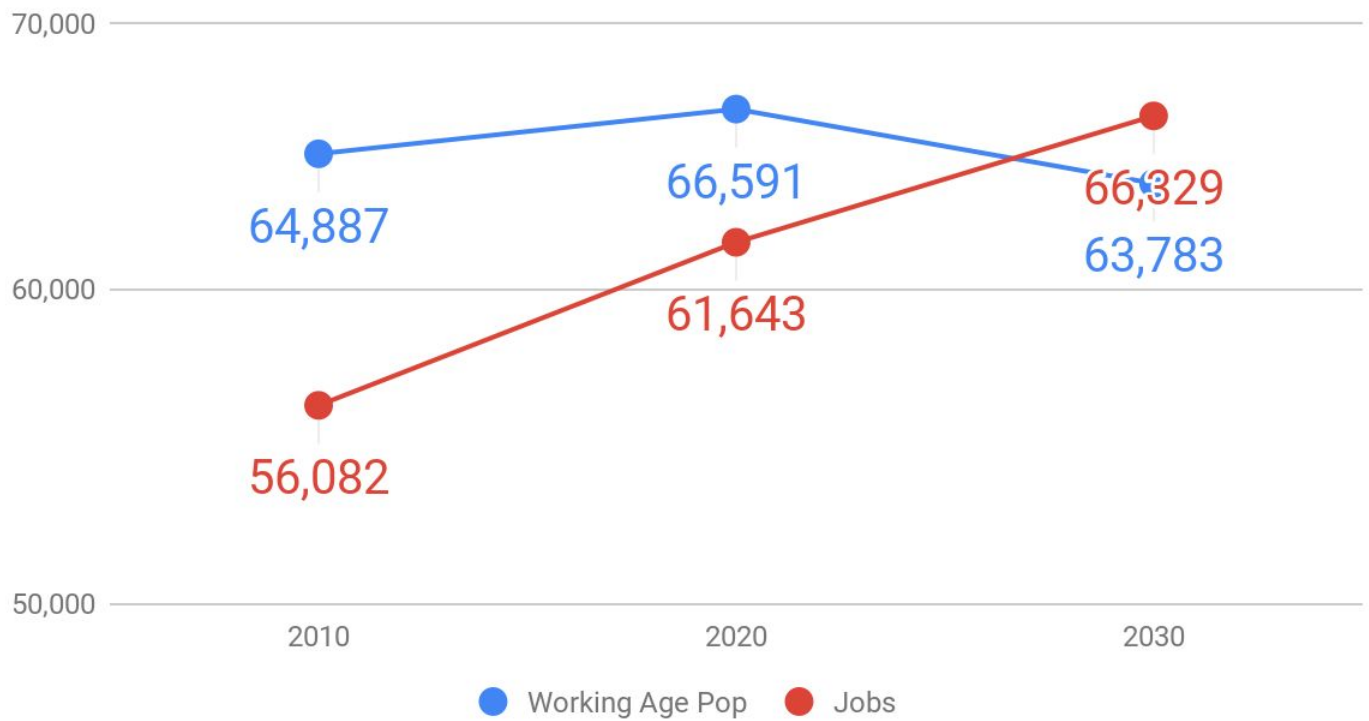


Unemployment by County (September 2020)

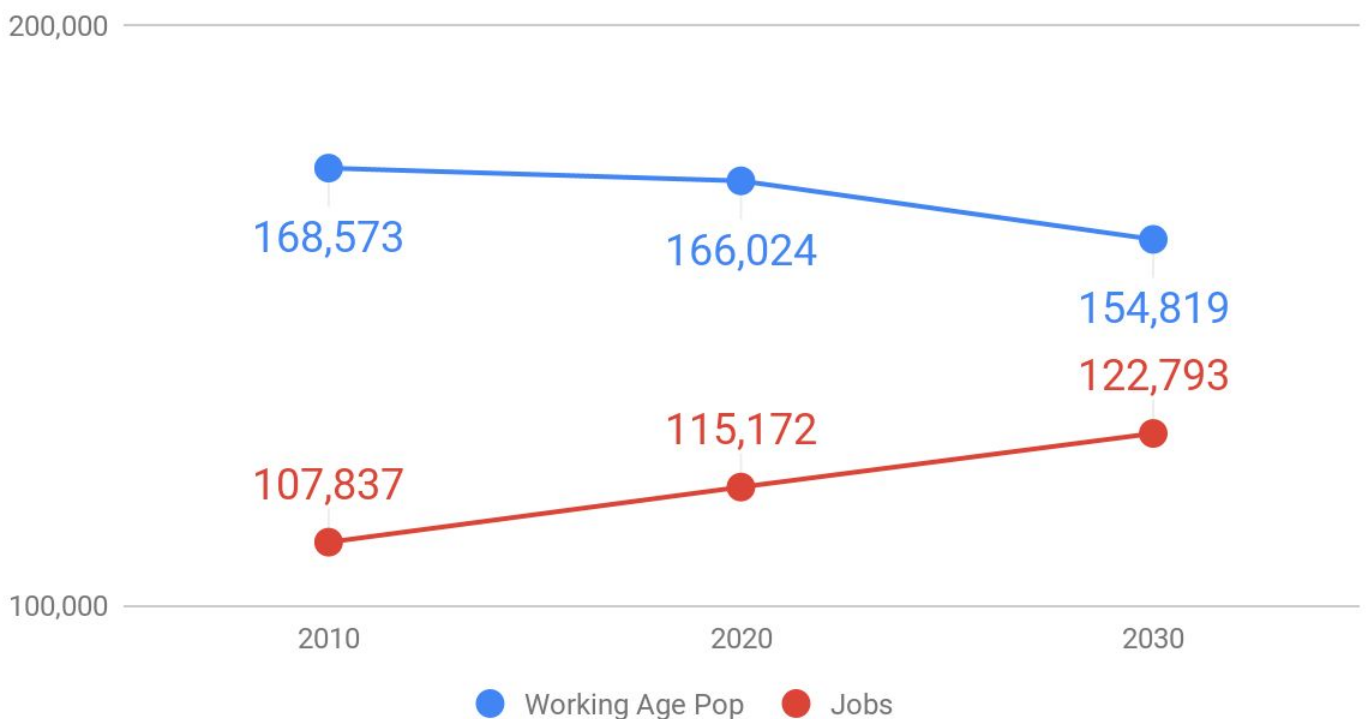


Labor Market Overview (continued)

Working Age Population and Jobs 2010 to 2030 (MSA)



Working Age Population and Jobs 2010 to 2030 (Region)



Labor Market Overview (continued)

Employment Growth		
Region	'10-'20 Chg	'20-'30 Chg
Dubuque MSA	9.9%	7.6%
Dubuque Region	6.8%	6.6%
State	7.8%	7.3%
Nation	15.8%	7.7%

Working Age Growth		
Region	'10-'20 Chg	'20-'30 Chg
Dubuque MSA	2.6%	-4.2%
Dubuque Region	-1.5%	-6.7%
State	2.6%	-3.0%
Nation	5.3%	-0.8%

Employment in the Dubuque MSA is projected to grow (7.6%) above projections for the region (6.6%), above the State of Iowa (7.3%) and below the Nation (7.7%).

Working age population (age 15 to 69) is projected to decline nationally (-0.8%), in Iowa (-3.0%), the Dubuque MSA (-4.2%), and the region (-6.7%).

The region's unemployment rate remains below the national unemployment rate.

The Dubuque MSA's median hourly earnings per worker of \$16.92 is an increase (8.6%) from the 2018 Median Hourly Earnings. The earnings are less (-1.5%) than the National median.

MSA Median Wage Change

Of the 8 MSAs in the tri-state area, Dubuque ranks 6 in Median Hourly Wage.

Area	2015	2016	2017	2018	2019	1yr Chg	5yr Chg	Rank
Rochester	\$18.45	\$19.20	\$20.03	\$20.23	\$21.76	4%	9%	1
Cedar Rapids	\$17.65	\$18.04	\$18.48	\$19.15	\$20.08	2%	5%	2
Iowa City	\$17.53	\$17.71	\$18.38	\$19.03	\$19.73	4%	5%	3
Quad Cities	\$16.00	\$16.59	\$17.07	\$17.61	\$18.51	3%	7%	4
La Crosse	\$15.88	\$16.31	\$16.92	\$17.61	\$18.67	4%	7%	5
Dubuque	\$15.71	\$16.02	\$16.82	\$17.37	\$18.86	5%	7%	6
Waterloo	\$15.78	\$16.16	\$16.30	\$16.80	\$18.14	1%	3%	7
Platteville	\$14.84	\$15.40	\$15.83	\$16.61	\$17.25	3%	7%	8

Demographic Information

ALL demographic data is from the U.S. Census Bureau's Population Estimates program and the U.S. Census Bureau and Bureau of Labor Statistics Current Population Survey. Information in this report has been modified to bring the data in line with the hierarchy outlined in Federal Register 59266 and other reports published by Northeast Iowa Community College.

Projected Working Age Population

7 County Region				
Age Group	2020	2030	'10-'20 Chg	'20-'30 Chg
15 to 19 years	16,736	15,820	-7.0%	-5.5%
20 to 24 years	17,303	15,618	1.7%	-9.7%
25 to 29 years	14,239	12,045	4.2%	-15.4%
30 to 34 years	13,430	13,651	3.7%	1.6%
35 to 39 years	14,099	14,920	9.6%	5.8%
40 to 44 years	12,792	13,586	-12.3%	6.2%
45 to 49 years	12,768	14,095	-29.0%	10.4%
50 to 54 years	14,047	12,741	-24.8%	-9.3%
55 to 59 years	17,241	12,687	0.1%	-26.4%
60 to 64 years	17,646	13,619	21.4%	-22.8%
65 to 69 years	15,724	16,036	42.0%	2.0%
Working Age Total	166,024	154,819	1.5%	-6.7%
Total Population	244,514	244,160	0.1%	-0.1%

Dubuque MSA				
2020	2030	'10-'20 Chg	'20-'30 Chg	
6,647	6,501	-3.9%	-2.2%	
6,736	6,227	-0.1%	-7.6%	
6,406	5,672	7.8%	-11.4%	
6,047	5,954	14.9%	-1.5%	
5,977	6,395	18.2%	7.0%	
5,189	5,905	-11.1%	13.8%	
5,013	5,782	-26.3%	15.4%	
5,701	4,923	-17.1%	-13.7%	
6,573	4,887	3.6%	-25.6%	
6,481	5,575	23.8%	-14.0%	
5,822	5,961	50.9%	2.4%	
66,591	63,783	2.6%	-4.2%	
97,468	98,561	3.8%	1.1%	

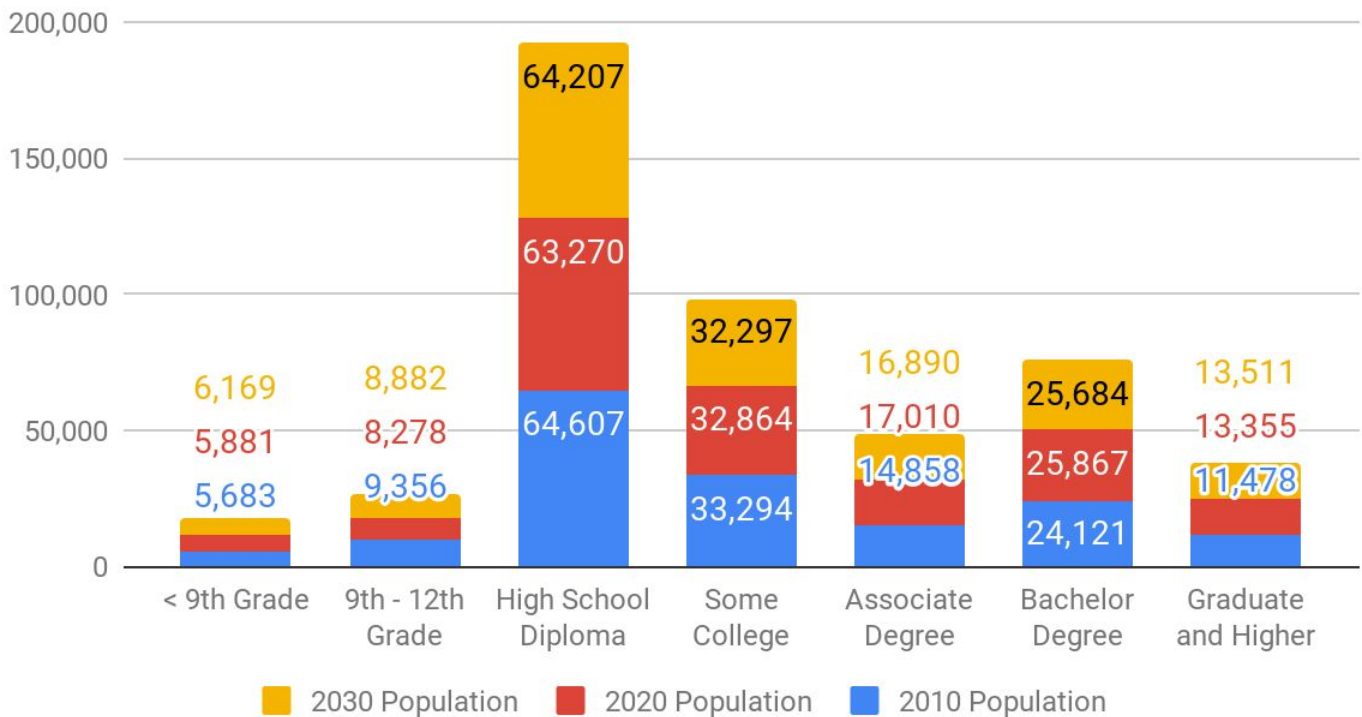
Projected Population by Race/Ethnicity

7 County Region Population			
Ethnicity/Race	2020	%	'20-'30 Chg
White	227,120	92.9%	-1.2%
Black	5,440	2.2%	13.7%
Hispanic (White)	4,932	2.0%	14.9%
Two or More Races	2,869	1.2%	11.7%
Asian	2,085	0.9%	1.9%
American or Alaskan Native	491	0.2%	13.4%
Pacific Islander	775	0.3%	31.2%
Hispanic (Multiple)	234	0.1%	25.5%
Hispanic (American/Alaskan Native)	255	0.1%	27.6%
Hispanic (Black)	227	0.1%	18.7%
Hispanic (Asian)	63	0.0%	8.6%
Hispanic (Pacific Islander)	24	0.0%	20.6%
Total	244,514	100.0%	-0.1%

Dubuque MSA			
2020	%	'20-'30 Chg	
87,738	90.0%	-0.3%	
3,539	3.6%	14.6%	
2,233	2.3%	15.6%	
1,569	1.6%	15.6%	
1,204	1.2%	-2.0%	
608	0.6%	37.8%	
188	0.2%	9.8%	
110	0.1%	9.5%	
124	0.1%	17.1%	
109	0.1%	16.2%	
30	0.0%	-18.2%	
14	0.0%	21.0%	
97,468	100.0%	1.1%	

Educational Attainment Overview

Educational Attainment 2010-2030 (Region)



7 County Region			
Demographic	2020	'10-'20 Chg	% of '20 Pop
< 9th Grade	5,881	3.5%	3.7%
9th - 12th Grade	8,278	-11.5%	5.3%
High School Diploma	63,270	-2.1%	38.3%
Some College	32,864	-1.3%	19.3%
Associate's Degree	17,010	14.5%	10.1%
Bachelor's Degree	25,867	7.2%	15.3%
Graduate and Higher	13,355	16.4%	8.1%
Total	166,525	1.9%	100%

Dubuque MSA			
2020	'10-'20 Chg	% of '20 Pop	
1,926	-7.8%	3.1%	
3,490	4.3%	5.6%	
22,628	2.6%	35.3%	
12,797	4.0%	19.1%	
5,652	15.7%	8.3%	
12,224	7.8%	17.9%	
6,924	20.2%	10.7%	
65,641	6.3%	100%	

Notes:

- Column [% Chg] is collected in educational attainment groups and the 2020 population is divided by the 2010 population.
- Column [% Pop] is the percentage of the 2020 population the group represents.
- The adult population is defined as the population 25 and older for the purposes of this analysis.
- The data in the tables above represents the highest level of education attained by the total adult population of each set. For example, in the Dubuque MSA there is not a 35% graduation rate of High School Students; the table shows that 35% of the Dubuque MSA population has a High School Diploma as their highest level of educational achievement.

Occupational Outlook

- The top 85 jobs in descending order for the 7 County Region in 2020 based on number of jobs.
- Historic median wages are *not* adjusted for Cost-of-Living, or Inflation.
- An Info column value of 'AD' denotes jobs that typically require an advanced degree, 'XP' denotes jobs that typically require workplace experience to advance, and '<HS' denotes jobs that typically do not require training beyond high school. XP and HS categories do not have associated college completions.

Description	2020 Jobs	2030 Jobs	20 - 30 Change	2020 Turnover Rate	Annual Openings	2019 Median Earnings	2015 Median	Annual Completions	Ed Codes
Retail Salespersons	3,327	3,307	-20	75%	492	\$11.36	\$9.54	0	<HS
Cashiers	2,987	2,918	-69	97%	563	\$10.49	\$8.67	0	<HS
Fast Food & Counter Workers	2,766	2,886	120	122%	576	\$9.50	\$8.73	0	<HS
Customer Service Representatives	2,396	2,507	111	62%	341	\$17.46	\$14.31	426	
Registered Nurses	2,278	2,520	242	20%	152	\$27.86	\$24.17	131	
Office Clerks, General	2,221	2,222	1	64%	271	\$15.38	\$13.45	64	
Heavy & Tractor-Trailer Truck Drivers	2,205	2,406	201	56%	286	\$20.03	\$18.15	0	
Stockers & Order Fillers	2,068	2,097	29	64%	281	\$13.73	\$10.96	0	<HS
Nursing Assistants	1,835	1,950	115	65%	226	\$13.42	\$11.56	200	
Home Health & Personal Care Aides	1,771	2,357	586	71%	383	\$11.93	\$10.41	200	
Waiters & Waitresses	1,685	1,633	-52	130%	320	\$9.23	\$8.62	0	<HS
Teaching Assistants (not Postsecondary)	1,585	1,656	71	50%	178	\$12.37	\$10.73	0	
General & Operations Managers	1,583	1,755	172	40%	163	\$36.73	\$29.51	0	XP
Laborers & Freight, Stock, & Material Movers, Hand	1,510	1,696	186	86%	244	\$15.51	\$13.68	0	<HS
Assemblers & Fabricators Team Assemblers (Other)	1,459	1,467	8	47%	179	\$17.25	\$14.40	0	<HS
Elementary School Teachers (not) Special Education	1,388	1,438	50	34%	110	\$25.93	\$23.84	100	
Sales Reps, Wholesale & Manf (not) Tech & Sci Products	1,328	1,437	109	34%	157	\$27.53	\$23.11	422	
Janitors & Cleaners (not) Maids & Housekeeping	1,258	1,326	68	82%	179	\$13.13	\$11.42	0	<HS
Bookkeeping, Accounting, & Auditing Clerks	1,258	1,269	11	58%	152	\$17.35	\$15.31	183	
Postsecondary Teachers	1,250	1,410	160	53%	131	\$30.20	\$30.30	160	AD
Maintenance & Repair Workers, General	1,145	1,222	77	55%	124	\$18.16	\$15.87	157	
Secondary School Teachers (not) Special or CTE	1,113	1,154	41	33%	84	\$26.86	\$23.99	79	
Secretaries & Admin Assistants (not) Legal, Med & Exec	1,067	1,042	-25	63%	120	\$16.25	\$13.86	37	
Bartenders	964	939	-25	106%	172	\$9.33	\$8.76	0	<HS
Cooks, Restaurant	954	1,019	65	93%	147	\$11.45	\$9.35	20	
Maids & Housekeeping Cleaners	887	841	-46	103%	118	\$11.21	\$9.95	0	<HS
1st-Line Sprvr of Office & Admin Support	867	913	46	46%	99	\$23.27	\$20.62	0	XP
Construction Laborers	863	936	73	89%	108	\$18.12	\$16.18	16	
Light Truck or Delivery Services Drivers	820	890	70	54%	105	\$15.73	\$12.07	0	<HS
1st-Line Sprvr of Retail Sales Workers	811	823	12	55%	93	\$17.26	\$15.32	0	XP
1st-Line Sprvr of Food Prep & Serving Workers	769	779	10	94%	121	\$13.72	\$12.34	0	XP
1st-Line Sprvr of Production & Operating Workers	766	865	99	34%	94	\$28.24	\$23.15	0	XP
Industrial Truck & Tractor Ops.	735	783	48	57%	93	\$18.55	\$14.44	0	

Description	2020 Jobs	2030 Jobs	20 - 30 Change	2020 Turnover Rate	Annual Openings	2019 Median Earnings	2015 Median	Annual Completions	Ed Codes
Mechanical Engineers	685	758	73	0	57	\$42.37	\$33.82	221	
Substitute Teachers, Short-Term	666	688	22	1	80	\$13.84	\$13.18	0	
Accountants & Auditors	634	719	85	0	72	\$28.30	\$25.81	174	
Welders, Cutters, Solderers, & Brazers	634	739	105	0	88	\$20.28	\$16.71	0	
Automotive Service Techs & Mechanics	613	648	35	0	65	\$18.93	\$17.33	38	
Electrical, Electronic, & Electromech Assemblers	584	555	-29	0	68	\$20.23	\$17.61	12	
Childcare Workers	570	599	29	1	91	\$9.03	\$8.58	31	
Shipping, Receiving, & Traffic Clerks	559	600	41	0	62	\$16.74	\$14.81	0	<HS
Receptionists & Information Clerks	556	582	26	1	80	\$13.03	\$12.16	9	
Tellers	548	485	-63	0	63	\$13.94	\$12.35	0	<HS
Project Mgmt Spec & Business Ops Spec (Other)	545	621	76	0	64	\$28.95	\$22.79	4	
Cooks, Institution & Cafeteria	538	585	47	1	84	\$12.97	\$11.09	21	
Financial Managers	536	633	97	0	55	\$47.68	\$40.17	0	XP
Farmworkers & Laborers, Crop, Nursery, & Greenhouse	515	622	107	1	104	\$13.25	\$12.32	12	
Operating Engineers & Other Construction Equip. Ops.	515	540	25	1	63	\$24.33	\$21.92	4	
Food Prep Workers	492	518	26	1	90	\$9.95	\$8.98	0	<HS
Landscaping & Groundskeeping Workers	490	531	41	1	70	\$13.94	\$11.26	0	<HS
Licensed Practical & Licensed Vocational Nurses	485	528	43	0	44	\$20.33	\$19.49	64	
Packaging & Filling Machine Ops. & Tenders	476	562	86	1	70	\$14.40	\$13.79	0	<HS
Middle School Teachers (not) Special or CTE	476	523	47	0	42	\$25.13	\$23.90	42	
Carpenters	462	482	20	1	52	\$22.94	\$19.64	14	
Industrial Machinery Mechanics	461	542	81	0	55	\$23.40	\$22.09	35	
Inspectors, Testers, Sorters, Samplers, & Weighers	452	435	-17	1	57	\$17.92	\$16.63	0	
Machinists	452	513	61	0	57	\$19.89	\$18.23	17	
1st-Line Sprvr of Construction Trades & Extraction	440	485	45	1	53	\$29.01	\$26.11	0	XP
Driver/Sales Workers	419	411	-8	1	48	\$10.75	\$10.75	0	<HS
Police & Sheriff's Patrol Officers	402	408	6	0	30	\$26.51	\$23.75	181	
Computer Systems Analysts	400	429	29	0	33	\$40.75	\$31.45	50	
Insurance Sales Agents	396	497	101	0	55	\$23.90	\$19.39	422	
Medical Secretaries	391	431	40	0	50	\$14.86	\$14.04	74	
Passenger Vehicle Drivers (not Bus)	390	432	42	1	56	\$13.38	\$11.37	0	
Pharmacy Techs	381	342	-39	0	31	\$13.16	\$13.16	0	
Electricians	381	461	80	1	57	\$28.39	\$23.01	7	
Software Dev & Qual Assurance Analysts & Testers	370	468	98	0	43	\$38.14	\$33.18	40	
Market Research Analysts & Marketing Specialists	370	447	77	0	49	\$24.74	\$22.90	80	
1st-Line Sprvr of Mechanics, Installers, & Repairers	365	399	34	0	39	\$29.99	\$26.55	0	XP
Human Resources Specialists	363	390	27	1	41	\$24.41	\$20.84	27	
Medical & Health Services Managers	360	404	44	0	35	\$39.78	\$34.88	0	XP
Loan Officers	346	368	22	0	33	\$30.31	\$31.18	103	

Description	2020			2020		2019		Annual Completions	Ed Codes
	2020 Jobs	2030 Jobs	20 - 30 Change	Turnover Rate	Annual Openings	Median Earnings	2015 Median		
Cement Masons & Concrete Finishers	340	351	11	1	39	\$20.48	\$17.48	4	
Food Servers, Nonrestaurant	335	368	33	1	59	\$12.50	\$9.24	0	<HS
Preschool Teachers (not) Special Education	334	361	27	1	38	\$11.99	\$12.04	42	
Cooks, Fast Food	329	294	-35	1	44	\$10.24	\$8.67	0	<HS
Financial & Investment Analysts (Other)	328	361	33	0	34	\$28.37	\$28.60	19	
Coaches & Scouts	327	347	20	1	51	\$13.32	\$9.51	73	
Medical Assistants	327	371	44	0	43	\$16.89	\$14.54	64	
Molding, Core, & Casting Machine Setters, Metal & Plastic	322	321	-1	1	37	\$16.94	\$21.57	0	
Packers & Packagers, Hand	321	359	38	1	54	\$14.24	\$10.06	0	<HS
1st-Line Sprvr of Transport & Material Moving (not Aircraft Cargo)	320	356	36	0	40	\$25.77	\$22.66	0	XP
Industrial Engineers	315	378	63	0	30	\$36.60	\$33.10	203	
Woodworking Machine Setters, Ops. (not) Sawing	311	291	-20	0	43	\$15.06	\$13.48	0	
Sales Reps of Svc (not) Advertising, Insurance, Financial & Travel	307	372	65	1	50	\$22.99	\$21.04	422	
Insurance Claims & Policy Processing Clerks	305	401	96	0	45	\$20.47	\$17.17	29	
Bus & Truck Mechanics & Diesel Engine Specialists	304	334	30	0	33	\$19.96	\$19.20	9	
Cleaners of Vehicles & Equip.	302	317	15	1	47	\$10.68	\$9.44	0	<HS
Hotel, Motel, & Resort Desk Clerks	295	248	-47	2	46	\$10.83	\$10.34	0	
Computer User Support Specialists	293	333	40	0	30	\$22.23	\$18.46	59	
Postal Service Mail Carriers	293	235	-58	0	20	\$23.59	\$24.88	0	
Dining Room & Cafeteria Attendants & Bartender Helpers	293	294	1	1	51	\$9.49	\$8.54	0	<HS
Dishwashers	291	281	-10	1	46	\$9.00	\$8.45	0	<HS
Farmers, Ranchers, & Other Agricultural Managers	288	322	34	1	34	\$30.86	\$30.72	0	XP
Computer Numerically Controlled Tool Operators	287	297	10	0	32	\$19.71	\$17.16	0	
Plumbers, Pipefitters, & Steamfitters	285	322	37	1	38	\$27.68	\$24.00	22	
Recreation Workers	279	305	26	1	51	\$12.02	\$9.92	69	
Correctional Officers & Jailers	278	248	-30	0	23	\$22.66	\$20.58	168	

Notes

Graduates may be counted in multiple occupations because their award could qualify them for many occupations (*i.e. a business grad could be an insurance agent or a sales rep*). The link between occupations and associated awards is determined by crosswalk**.

Why could we see more completions than annual openings, yet still see a workforce shortage for that occupation?

- Completion CIPs are linked to **multiple** jobs and one person will only hold one job at a time, removing them from the pool of available completers.
- We may have out-migration of skilled graduates to other communities.
- We may have unknown barriers to hiring new graduates, such as reluctance to hire and train, lack of employer or community connections with students before they graduate to keep them in the region, and/or narrow qualification requirements.

*Unless completions are otherwise noted.

**A modified version EMSI Proprietary of the NCES-BLS 2020 CIP-to-SOC crosswalk.

Appendix A - Definitions

Note: The entirety of Appendix A comes directly from EMSI.

How does EMSI calculate projections?

If you use an EMSI product or service, chances are you've seen some of our labor market projections. We provide detailed job estimates by industry and occupation, for each of the next 10 years from the current year.

A common question that we get from clients who see these figures is where do EMSI projections come from? The short answer is that we create our projections based on past trends carried forward, and published projections from state and federal sources. If you're after something a little more detailed, read on.

The first step in both our industry and occupation projections is our robust industry data. We first create, simple short-, mid-, and long-term trend lines for every industry and county based on the historical data.

Those lines are then averaged and dampened to prevent extreme change. We then incorporate national industry projections (BLS national employment projections) as well as state and regional projections provided by state labor market organizations to adjust these numbers again.

Finally, we take aggregate geography and industry group figures for 10-year percentage change and make sure it matches the corresponding published geography and industry numbers.

EMSI projections will not match the BLS or any other individual state projections at the most detailed level. This can be explained in a variety of ways.

Differences in Coverage

EMSI has broken out our labor market data into four different classes of worker that allow our clients to dig into specific elements of their economy. In most states, the first two classes of workers (QCEW Employees and Non-QCEW Employees) are most closely comparable to the industry projections from the published sources. We don't expect our self-employment and proprietors projections to match BLS and state-level projections.

We Don't Use BLS/State Occupation Projections

(except for our Annual Job Openings estimates)

Our occupation projections are based off of our industry numbers with our projected, regionalized staffing pattern applied to the figures. As a result, the occupation projections will necessarily differ from BLS occupation numbers.

Differences in Methodology

EMSI uses a combination of BLS, state, and internal projection methods. This will naturally differ from the BLS and state projections alone.

Release Lag

EMSI projections are based on the most recent available data and published projections, but the BLS and states release only long-term projections on a two-year basis. EMSI's internal projections are more heavily weighted as state/national projections age.

Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates affected by county-level EMSI earnings by industry.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

State Data Sources

This report uses state data from the following agencies: Illinois Department of Employment Security, Employment Projections; Iowa Workforce Development; Wisconsin Department of Workforce Development, Bureau of Workforce Information

Jobs

A job is any position in which a worker provides labor in exchange for monetary compensation. This includes those who work as employees for businesses (a.k.a. “wage and salary” employees) and proprietors who work for themselves.

Emsi reports employment as annual averages. The exception is the Extended Proprietors Class of Worker (Class 4), which counts proprietors that existed at any time during a given year, because those data are based on tax returns. Employment averages represent jobs, not workers, since one individual may hold multiple jobs.

Due to limitations of source data, both full- and part-time jobs are included and counted equally, i.e. job counts are not adjusted to full-time equivalents. Geographically, payroll jobs are always reported by the place of work rather than the worker’s place of residence. Conversely, self-employed and extended proprietors are always reported by their place of residence. Unpaid family workers and volunteers are excluded from all Emsi data.

Source: Emsi data based primarily on the Quarterly Census of Employment and Wages (QCEW) from the Bureau of Labor Statistics (BLS) and the Bureau of Economic Analysis (BEA).

Annual Openings Estimate

A combination of both new jobs and replacement jobs constitutes total openings. The annual openings figure is derived by dividing total openings by the number of years in the user’s selected timeframe. For example, an occupation showing 130 openings between 2016 and 2026 would result in an annual openings figure of 13.

Classification and Methodology Changes

Emsi does not recommend comparing data releases due to the large amount of noise introduced by the continuous improvement of our processes and the number of updated data sources in each release. Each data release is a self-contained time series.

Staffing Pattern Improvements. We made some improvements to our staffing pattern process to improve the loading speed of staffing pattern reports. This change will result in extremely small employment numbers clustering more tightly around disclosed data and being less widely distributed (e.g. there will be more occupations with three jobs and fewer occupations with one job).

Improved ACS Methodology. For certain records, ACS cannot determine a specific industry to classify a job as, so they place these indeterminate records in less-detailed “catchall” categories. Emsi now distributes these values among the industries represented by the catchall, instead of dropping these records. This will result in 50k-80k jobs, depending on the year, being added to self-employed.

Improved Earnings Estimations. Emsi has reduced the volatility of earnings in occupation data for areas with small employment. Year over year data should be more continuous and less erratic as a result. Occupation Hires and Separations Improvements. Previous to this release, Emsi estimated occupation hires and separations using a combination of industry data from QWI and Emsi employment staffing patterns, implicitly assuming that hires and separations rates within an industry were the same across all occupations. Emsi’s new methodology estimates occupation hires and separations by combining QWI industry hires and separations with national occupation separation rates from the BLS and regional staffing pattern growth and decline. This change will not take effect immediately in Emsi’s tools, but will be released and messaged sometime later in the quarter.

Primary Data Source Information Legend

This is a breakout of the edition of the source used by EMSI. Bolded values indicate a change from the previous set.

Name	Source	2020.4 Datarun
Quarterly Census of Employment and Wages (QCEW)	BLS	2020Q1
Occupational Employment Statistics (OES)	BLS	2019
National Ind/Occ Employment Matrix (NIOEM)	BLS	2018-2028
Employment Projections Tables (EP)	BLS	2018-2028
Consumer Expenditure Survey (CEX)	BLS	2018
State Personal Income / Local Area Personal Income (SPI/LPI)	BEA	2018
Make & Use Tables (MUTs)	BEA	2018
National Income and Product Accounts (NIPA)	BEA	2020Q2
Gross Domestic Product by State (GSP)	BEA	2017 Revised**
American Community Survey (ACS)	Census	2018
County Business Patterns (CBP)	Census	2018
ZIP Code Business Patterns (ZBP)	Census	2016***
Nonemployer Statistics (NES)	Census	2018
Current Population Survey (CPS)	Census	2019
State and Local Finances (Census of Government, CoG)	Census	2017
Population Estimates (PopEst)	Census	2019
Origin-Destination Employment Statistics (LODES)	Census	2017
Quarterly Workforce Indicators (QWI)	Census	2020Q2
Railroad Retirement Board (RRB)	Railroad Retirement Board	2019/2018
Occupational Information Network (O*NET)	US Dept. of Labor, Education & Training Administration	25
Crime By County	Federal Bureau of Investigation (FBI)	2017
Completions	IPEDS	2019
Enrollments	IPEDS	2018
Birth/Death Rates	Center for Disease Control (CDC)	2018 (Birth), 2017 (Death)
Migration	Internal Revenue Service (IRS)	2018

Appendix B - Descriptions and Additional Definitions

Occupational Descriptions

In an effort to be more environmentally friendly the list of occupations and their definitions have been removed from the print version of this report. For a definition of an occupation, please use one of the following sources:

- <https://www.onetonline.org/crosswalk/SOC/>
- <https://www.bls.gov/soc/>

Complete Skills Gap Table

In an effort to be more environmentally friendly the complete skills gap table has been removed from the print version of this report. An electronic version of the table is available here:

<https://datastudio.google.com/s/sl1f0PijNZE>

Contact Us

This report is put together by the Northeast Iowa Community College Office of Institutional Research in partnership with Greater Dubuque Development Corporation. If you have any questions, please use the information below to contact us and we will assist you to the best of our abilities.

Wendy Knight

Northeast Iowa Community College, Vice President of Institutional Effectiveness

Email: knightw@nicc.edu

Phone: 844.642.2338 ext. 2379

Brandon Kadlec

Northeast Iowa Community College Institutional Effectiveness Coordinator

Email: kadlecbr@nicc.edu

Phone: 844.642.2338 ext. 1419

Rick Dickinson

Greater Dubuque Development Corporation, President and CEO

Email: RickD@greaterdubuque.org

Phone: 563-557-9049