

GREATER DUBUQUE REGION SKILLS GAP ANALYSIS

FALL 2016

Presented by



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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 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 Skills Gap Analysis, as well as this 2016 Analysis.

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 2016 3rd quarter data release.

REGION

This analysis contains data for seven counties:

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

The analysis also covers the Dubuque Metropolitan Statistical Area (MSA), defined by the Office of Management and Budget as, "urban areas in the United States centered on an urban cluster with a population of 50,000 or more." Dubuque's MSA is the same as Dubuque County.



DEFINITIONS

The term "skills gap" can be used to refer to either (or both) of the following phenomenon:

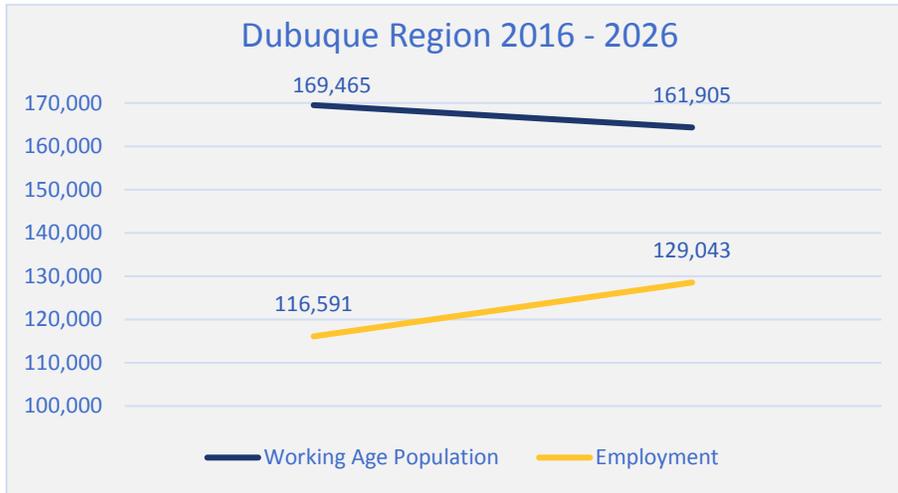
- the available pool of prospective employees compared to the jobs available in a particular occupation, and
- the skills and abilities possessed by current or prospective employees compared to the requirements of available jobs

We'll refer to the first challenge as the "Labor Skills Gap" and the second as the "Technical Skills Gap." This report focuses on Labor.

This report provides the following information:

- Occupations projected to have the greatest number of openings by 2026 in the region (paying over \$16/hr. median wage).
- The difference between projected jobs and anticipated graduates possessing training from local higher education institutions.

LABOR MARKET OVERVIEW

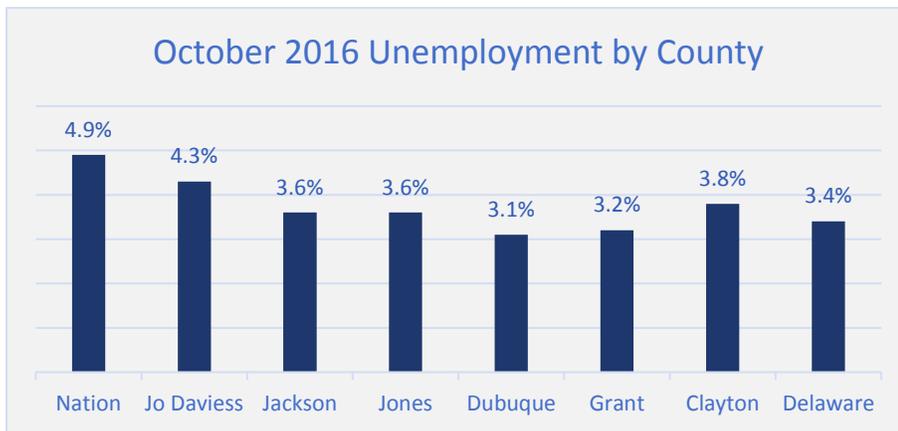


Employment Growth

Region	2006-2016	2016-2026
Dubuque MSA	9.3%	12.2%
Dubuque Region	5.2%	10.7%
Iowa	5.4%	11.0%
Nation	6.2%	10.1%

Working Age Population

Region	2006-2016	2016-2026
Dubuque MSA	7.3%	-1.8%
Dubuque Region	1.8%	-4.5%
Iowa	5.2%	-2.3%
Nation	8.5%	-0.6%



- Employment in the Dubuque MSA is projected to grow (12.2%) at a rate slightly above the projections for the region (10.7%), State of Iowa (11.0%) and the Nation (10.1%).
- While the working age population (age 15 to 69) is projected to remain relatively flat nationally (-0.6%), greater declines are projected in Iowa (2.3%) and the Dubuque MSA (1.8%), with the greatest decline projected for the region at 4.5%.
- Iowa's labor force participation rate hovers around 70%; The labor force participation rate is the percentage of the eligible age population that is either employed or actively seeking work. Nationally the rate currently 62.3%.
- The region's unemployment rate remains low and below the national unemployment rate; highlighting the region's need to import workforce in as part of an overall workforce strategy.
- The Dubuque MSA's median hourly earnings per worker of \$17.89/hr. is 7% less than the State median and only slightly higher (2%) than the region's median hourly wage.
- Of the 8 MSAs in Iowa, Dubuque's median wage ranks 6th.

Notes:

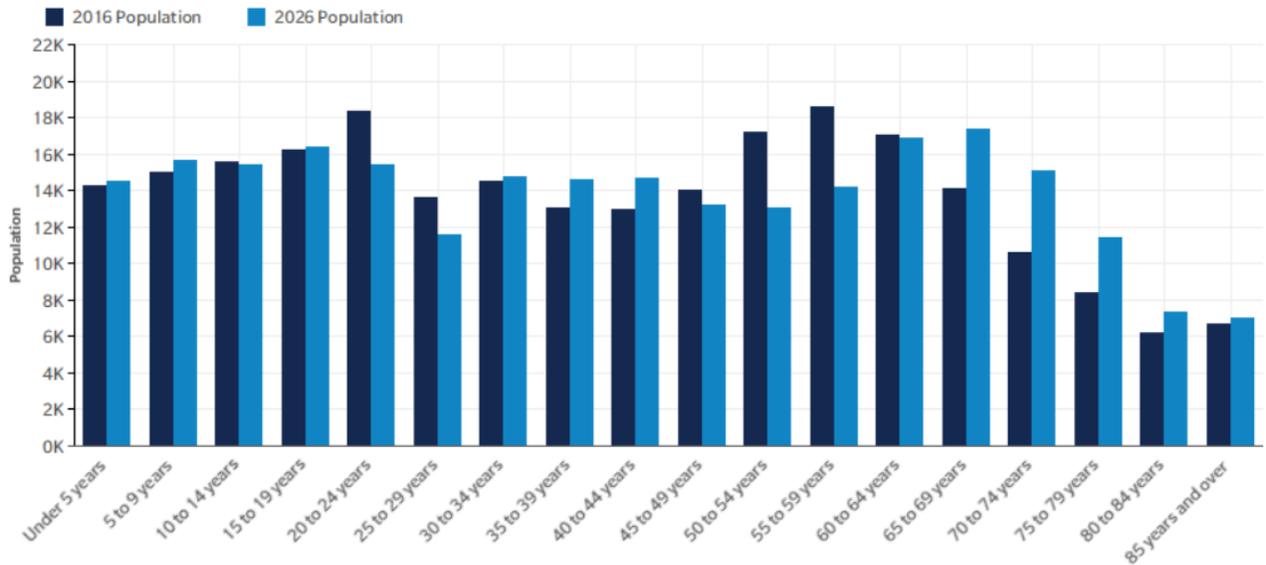
- Median Hourly Earnings Per Worker: The hourly earnings, excluding benefits, of a worker in that group. In the occupational report, it represents the midpoint of the wage distribution for an occupation: half of the workers make more, half of them make less. Source: EMSI, Inc. (EMSI Proprietary estimates will likely vary from other state and federal estimates.)

DEMOGRAPHIC INFORMATION

Source for Demographic Information from 2006 through 2026:

- 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. (See appendix A).

PROJECTED WORKING AGE POPULATION



The graph above represents projected working age population for the 7-county region

Working Age Population 7 County Region (2016-2026)				
Age	2016 Pop.	2026 Pop.	% 2016 Total Pop.	% 2026 Total Pop.
15 to 19	16,237	16,345	6.6%	6.6%
20 to 24	18,323	15,393	7.4%	6.2%
25 to 29	13,638	11,605	5.5%	4.7%
30 to 34	14,473	14,715	5.9%	5.9%
35 to 39	13,042	14,562	5.3%	5.9%
40 to 44	12,915	14,645	5.2%	5.9%
45 to 49	14,037	13,161	5.7%	5.3%
50 to 54	17,154	13,000	7.0%	5.2%
55 to 59	18,554	14,187	7.5%	5.7%
60 to 64	17,029	16,899	6.9%	6.8%
65 to 69	14,063	17,393	5.7%	7.0%
Total Population	169,465	161,905	68.8%	65.2%

Working Age Population Dubuque MSA (2016-2026)				
Age	2016 Pop.	2026 Pop.	% 2016 Total Pop.	% 2026 Total Pop.
15 to 19	6,645	6,648	3.2%	3.2%
20 to 24	6,760	6,258	3.2%	3.0%
25 to 29	6,218	5,390	3.0%	2.6%
30 to 34	6,420	6,028	3.1%	2.9%
35 to 39	5,450	6,458	2.6%	3.1%
40 to 44	5,145	6,417	2.5%	3.1%
45 to 49	5,750	5,449	2.8%	2.6%
50 to 54	6,701	5,143	3.2%	2.5%
55 to 59	6,968	5,730	3.3%	2.7%
60 to 64	6,380	6,488	3.1%	3.1%
65 to 69	5,058	6,281	2.4%	3.0%
Total Population	67,495	66,290	32.4%	31.7%

PROJECTED POPULATION BY RACE/ETHNICITY

Hispanic = (HIS)

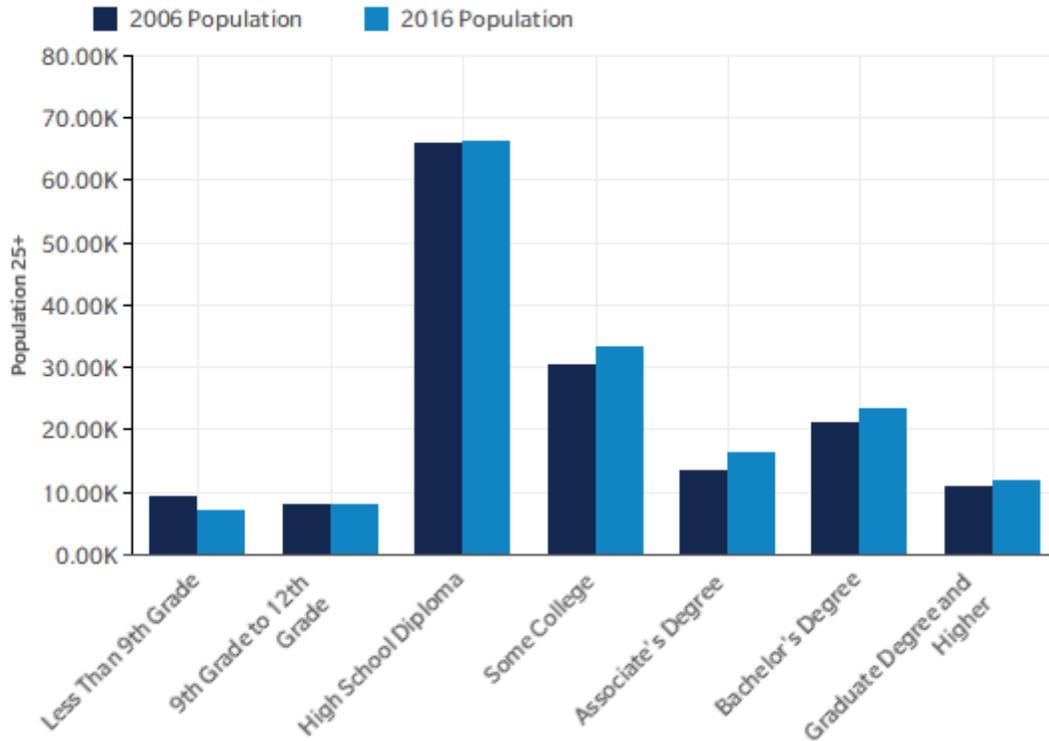
Non-Hispanic = (NHS)

Race/Ethnicity 7 County Region (2016-2026)					Race/Ethnicity Dubuque MSA (2016-2026)				
Race/Ethnicity	2016 Pop	2026 Pop	% 2016 Pop	% 2026 Pop	Race/Ethnicity	2016 Pop	2026 Pop	% 2016 Pop	% 2026 Pop
White (NHS)	230,786	230,305	93.7%	92.8%	White (NHS)	89,109	90,398	91.4%	90.2%
Black (NHS)	4,550	5,271	1.8%	2.1%	Black (NHS)	2,942	3,443	3.0%	3.4%
White (HIS)	4,339	4,937	1.8%	2.0%	White (HIS)	1,919	2,186	2.0%	2.2%
Asian (NHS)	2,587	3,023	1.1%	1.2%	Asian (NHS)	1,426	1,707	1.5%	1.7%
Two or More Races (NHS)	2,344	2,812	1.0%	1.1%	Two or More Races (NHS)	1,317	1,533	1.4%	1.5%
Native Hawaiian or Pacific Islander (NHS)	485	575	0.2%	0.2%	Native Hawaiian or Pacific Islander (NHS)	299	335	0.3%	0.3%
American Indian or Alaskan (NHS)	425	461	0.2%	0.2%	American Indian or Alaskan (NHS)	162	173	0.2%	0.2%
Black (HIS)	211	290	0.1%	0.1%	Black (HIS)	122	171	0.1%	0.1%
American Indian or Alaskan Native (HIS)	185	237	0.1%	0.1%	American Indian or Alaskan Native (HIS)	104	136	0.1%	0.1%
Two or More Races (HIS)	181	220	0.1%	0.1%	Two or More Races (HIS)	86	104	0.1%	0.1%
Asian (HIS)	73	98	0.0%	0.0%	Asian (HIS)	49	69	0.1%	0.1%
Native Hawaiian or Pacific Islander (HIS)	22	21	0.0%	0.0%	Native Hawaiian or Pacific Islander (HIS)	11	9	0.0%	0.0%
Total	246,188	248,250	100%	100%	Total	97,546	100,264	100%	100%

PROJECTED POPULATION BY GENDER

7 County Region (2016-2026)					Dubuque MSA (2016-2026)				
Gender	2016 Pop	2026 Pop	% 2016 Pop	% 2016 Pop	Gender	2016 Pop	2026 Pop	% 2016 Pop	% 2016 Pop
Males	124,268	125,647	50.5%	50.6%	Females	49,227	50,421	50.5%	50.3%
Females	121,920	122,603	49.5%	49.4%	Males	48,318	49,844	49.5%	49.7%
Total	246,188	248,250	100.0%	100.0%	Total	97,545	100,265	100.0%	100.0%

EDUCATIONAL ATTAINMENT OVERVIEW



The graph above represents educational attainment for the 7 county region.

7 County Region (2006-2016)			
Education Level	2016 Pop.	% Chg.	% Total Pop.
< 9th Grade	7,376	2.5%	4%
9th - 12th Grade	8,220	0.4%	5%
High School Diploma	66,756	2.5%	40%
Some College	32,827	0.9%	20%
Associate's Degree	15,590	4.3%	9%
Bachelor's Degree	23,596	2.6%	14%
Graduate and Higher	12,439	5.6%	7%
Total	166,804		100%

Dubuque MSA (2006-2016)			
Education Level	2016 Pop.	% Chg.	% Total Pop.
< 9th Grade	2,486	1.7%	4%
9th - 12th Grade	3,330	5.6%	5%
High School Diploma	24,241	4.7%	37%
Some College	12,105	1.2%	18%
Associate's Degree	5,794	7.8%	9%
Bachelor's Degree	11,453	4.7%	17%
Graduate and Higher	6,098	5.5%	9%
Total	65,507		100%

Notes:

- 1) The adult population is defined as the population 25 and older for the purposes of this analysis.
- 2) The data in the tables above represents the highest level of education attained by the total population of each set.
- 3) For example, in the Dubuque MSA there is not a 37% graduation rates of High School Students; the table shows that 37% of the Dubuque MSA population has a High School Diploma as their highest level of educational achievement.

SKILL GAPS BY OCCUPATION

ORGANIZATIONAL METHOD

- ⚑ All occupations where the 2016 median hourly earnings adjusted to only include an amount > \$15.99/hr.
- ⚑ Openings greater than 10 (Openings represents replacement jobs and BLS employee growth estimates).
- ⚑ Top 60 occupations with a skills gap greater than 0. (Skills gap is the difference between projected openings and graduates.)
- ⚑ Sorted by largest skills gap to smallest.
- ⚑ Growth, Replacements, Openings, Graduates, and Skills Gap all represent 2016-2026, 10-year estimates.
- ⚑ Graduate values of AD (Advanced Degree), HS (High School or Equivalent), XP (Experience) indicate typical levels of education required, which we do not train for in the region.

2016 Rank	2015 Rank	Description	2016 Jobs	2026 Jobs	Growth	Replacements	Openings	Graduates	Skills Gap	Median Hourly Earnings
1	-	Heavy and Tractor-Trailer Truck Drivers	2214	2486	272	414	686	270	416	\$18.09
2	23	First-Line Supervisors of Office and Administrative Support Workers	793	937	144	133	277	XP	277	\$20.49
3	-	Construction Laborers	1092	1315	223	244	467	240	227	\$16.42
4	3	First-Line Supervisors of Production and Operating Workers	722	764	42	123	165	XP	165	\$23.38
5	5	Inspectors, Testers, Sorters, Samplers, and Weighers	424	470	46	115	161	0	161	\$16.89
6	4	First-Line Supervisors of Mechanics, Installers, and Repairers	310	359	49	67	116	XP	116	\$26.76
7	-	First-Line Supervisors of Construction Trades and Extraction Workers	388	467	79	34	113	XP	113	\$26.25
8	7	Industrial Machinery Mechanics	428	535	107	127	234	130	104	\$22.46
9	21	Highway Maintenance Workers	301	316	15	83	98	HS	98	\$20.27
10	8	Cement Masons and Concrete Finishers	319	403	84	44	128	30	98	\$17.67
11	10	Pharmacists	228	256	28	60	88	AD	88	\$53.32
12	24	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	143	161	18	50	68	XP	68	\$20.53
13	16	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	139	158	19	48	67	XP	67	\$24.05
14	34	Brickmasons and Blockmasons	205	243	38	52	90	30	60	\$20.86
15	-	Postal Service Mail Carriers	314	239	-75	128	53	HS	53	\$25.25
16	43	Crane and Tower Operators	108	120	12	40	52	0	52	\$21.18
17	20	Dispatchers, Except Police, Fire, and Ambulance	105	124	19	30	49	HS	49	\$18.53
18	9	Dental Hygienists	152	169	17	32	49	0	49	\$31.77
19	22	Lawyers	190	208	18	30	48	AD	48	\$34.89
20	50	Education Administrators, Elementary and Secondary School	230	245	15	69	84	40	44	\$42.71
21	-	Family and General Practitioners	163	152	-11	54	43	AD	43	\$94.57
22	-	Food Batchmakers	157	157	0	42	42	HS	42	\$17.20

2016 Rank	2015 Rank	Description	2016 Jobs	2026 Jobs	Growth	Replacements	Openings	Graduates	Skills Gap	Median Hourly Earnings
23	1	Operating Engineers and Other Construction Equipment Operators	556	624	68	104	172	130	42	\$22.21
24	-	Computer-Controlled Machine Tool Operators, Metal and Plastic	638	752	114	217	331	290	41	\$17.06
25	-	Chief Executives	176	183	7	33	40	XP	40	\$62.21
26	12	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	1265	1324	59	280	339	300	39	\$23.05
27	39	Speech-Language Pathologists	68	86	18	20	38	AD	38	\$30.31
28	33	Special Education Teachers, Kindergarten and Elementary School	126	138	12	25	37	0	37	\$22.81
29	-	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	208	250	42	35	77	40	37	\$22.00
30	14	Human Resources Specialists	341	379	38	89	127	90	37	\$20.82
31	-	Mental Health Counselors	76	94	18	18	36	AD	36	\$19.47
32	40	First-Line Supervisors of Police and Detectives	86	91	5	31	36	XP	36	\$34.10
33	-	Compliance Officers	117	135	18	18	36	0	36	\$26.08
34	2	Electricians	511	484	-27	123	96	60	36	\$23.07
35	52	First-Line Supervisors of Non-Retail Sales Workers	163	178	15	20	35	XP	35	\$24.05
36	48	Special Education Teachers, Secondary School	130	138	8	26	34	0	34	\$26.10
37	51	Occupational Therapists	64	83	19	14	33	0	33	\$29.00
38	38	Education Administrators, Postsecondary	177	194	17	54	71	40	31	\$36.35
39	36	Sheet Metal Workers	112	125	13	27	40	10	30	\$22.43
40	32	Telecommunications Line Installers and Repairers	42	61	19	11	30	0	30	\$23.32
41	30	Paralegals and Legal Assistants	97	103	6	23	29	0	29	\$18.40
42	19	Librarians	116	120	4	23	27	0	27	\$20.45
43	58	Veterinarians	92	99	7	18	25	0	25	\$33.17
44	56	Fundraisers	79	92	13	12	25	0	25	\$19.40
45	31	Telecommunications Equipment Installers and Repairers, Except Line Installers	71	85	14	10	24	0	24	\$23.94
46	-	Construction and Building Inspectors	64	69	5	18	23	0	23	\$25.23
47	26	Painters, Construction and Maintenance	106	113	7	26	33	10	23	\$18.46
48	47	Chiropractors	53	65	12	11	23	AD	23	\$34.08
49	-	Dentists, General	56	65	9	14	23	AD	23	\$71.12
50	48	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	50	60	10	11	21	XP	21	\$19.74
51	-	Financial Managers	614	705	91	160	251	230	21	\$40.07
52	-	Occupational Therapy Assistants	29	40	11	10	21	0	21	\$25.82
53	-	First-Line Supervisors of Fire Fighting and Prevention Workers	36	39	3	17	20	XP	20	\$33.64

2016 Rank	2015 Rank	Description	2016 Jobs	2026 Jobs	Growth	Replacements	Openings	Graduates	Skills Gap	Median Hourly Earnings
54	-	First-Line Supervisors of Farming, Fishing, and Forestry Workers	66	67	1	19	20	XP	20	\$25.61
55	-	Claims Adjusters, Examiners, and Investigators	228	317	89	70	159	140	19	\$23.17
56	53	Special Education Teachers, Middle School	62	68	6	12	18	0	18	\$25.16
57	-	Property, Real Estate, and Community Association Managers	46	54	8	9	17	0	17	\$20.22
58	42	Morticians, Undertakers, and Funeral Directors	55	58	3	13	16	0	16	\$27.10
59	-	Optometrists	20	25	5	10	15	AD	15	\$44.83
60	-	Sales Engineers	29	34	5	9	14	0	14	\$37.56
Total			14804	16673	1869	3442	5555	1680	2655	

Top 60 Regional Skills Gap Notes:

- Some graduates are counted in multiple occupations because their degree would qualify them for multiple occupations (i.e. a business graduate could be an insurance agent or a sales rep). The relevant occupations per degree are determined by a proprietary EMSI crosswalk (version 2015.4 utilized for this report).
- The total projected graduates (1680) represents *unduplicated* educational certificates and degrees projections based on the 2015 IPEDS regional total of 168 awards relevant to the Top 60 occupations projected out 10 years.
- **The Skills Gap total (2655)** is calculated by 1) removing the openings that require Experience or a HS Diploma/Equivalent and 2) subtracting from that the number of projected graduates. Experienced openings are removed because we cannot fill that gap with graduates alone. High School openings are removed because we experience relatively high graduation rates in our region. (4,335-1,680=2,655)
- Utilizing the same methodology, the 2015 Skills Gap (based on 2015 Top 60 Occupations and relevant regional graduates from the 2014 IPEDS report) was slightly higher at 2,827.

Total Regional Skills Gap:

- The complete Regional Skills Gap Analysis includes 404 unique occupations projecting 42,544 openings due to growth and replacements in the next ten years.
- Total regional college degrees or certificates awarded in the 2015 IPEDS was 5,121, which projects out to 51,210 in the next 10 years.
- Isolating regional openings for occupations requiring more than a High School diploma, but not significant experience, 31,249 openings are projected.
- **Therefore, a complete Skills Gap of our region suggests a negative skills gap of 19,961 additional graduates than new job openings.**

How can this be explained?

- 1) We may have a mis-alignment of degrees and certificates for the in-demand jobs in our regional economy.
- 2) We may have out-migration of skilled graduates to other communities.
- 3) We may not be successfully importing in talent with the skills for which we do not educate for regionally.
- 4) 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 here, and or narrow qualification requirements.

DEFINITIONS

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 also 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

Primary Data Source Information Legend

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

Property	Abbrev	Source Agency	Version Used (EMSI 2016.2)	Version Used (EMSI 2016.1)
State Personal Income	SPI	BEA	2014	2013
Local Area Personal Income	LPI	BEA	2013	2013
Industry Economic Accounts	IEA	BEA	2002-2014	2002-2013
American Community Survey	ACS	Census	2005-2014	2005-2014
County Business Patterns	CBP	Census	2013	2013
ZIP Code Business Patterns	ZBP	Census	2013	2013
Nonemployer Statistics	NES	Census	2013	2013
Quarterly Census of Employment and Wages	QCEW	BLS	2015Q3	2015Q2
Current Employment Statistics	CES	BLS	February 2016	December 2015
Natl. Employment Projections	EP	BLS	2014-2024	2012-2022
Occupational Employment Statistics	OES	BLS	2014	2014
Railroad Retirement Board, State/County	RRB	RRB	2013/2012	2013/2012
Business-Level Data		Infogroup	Updated Separately	Updated Separately
Long-term state industry projections		Individual states	varies by state	varies by state
LEHD / Quarterly Workforce Indicators	QWI	Census	2015Q2 (states vary)	2015Q2 (states vary)
Consumer Expenditure Survey	CEX	BLS	2014	2012
Current Population Survey	CPS	Census	2014	2013
Census of Governments	COG	Census	2012	2007
Gross Domestic Product by State	GSP	BEA	2014	2013
Origin-Destination Employment Statistics	LODES	Census	2013	2009

APPENDIX B

STANDARD OCCUPATION CODES AND DEFINITIONS (FOR OCCUPATIONS IN TOP 60)

O*NET SOC Code	Title	Description
47-2021.00	Brickmasons and Blockmasons	Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures.
47-2051.00	Cement Masons and Concrete Finishers	Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; and use saws to cut expansion joints.
11-1011.00	Chief Executives	Determine and formulate policies and provide overall direction of companies or private and public sector organizations within guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.
29-1011.00	Chiropractors	Assess, treat, and care for patients by manipulation of spine and musculoskeletal system. May provide spinal adjustment or address sacral or pelvic misalignment.
13-1031.00	Claims Adjusters, Examiners, and Investigators	Review settled claims to determine that payments and settlements are made in accordance with company practices and procedures. Confer with legal counsel on claims requiring litigation. May also settle insurance claims.
13-1041.00	Compliance Officers	Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and perform other compliance and enforcement inspection and analysis activities not classified elsewhere.
51-4011.00	Computer-Controlled Machine Tool Operators, Metal and Plastic	Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.
47-4011.00	Construction and Building Inspectors	Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.
47-2061.00	Construction Laborers	Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers.
53-7021.00	Crane and Tower Operators	Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions.
29-2021.00	Dental Hygienists	Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop x rays, or apply fluoride or sealants.
29-1021.00	Dentists, General	Examine, diagnose, and treat diseases, injuries, and malformations of teeth and gums. May treat diseases of nerve, pulp, and other dental tissues affecting oral hygiene and retention of teeth. May fit dental appliances or provide preventive care.
43-5032.00	Dispatchers, Except Police, Fire, and Ambulance	Schedule and dispatch workers, work crews, equipment, or service vehicles for conveyance of materials, freight, or passengers, or for normal installation, service, or emergency repairs rendered outside the place of business. Duties may include using radio, telephone, or computer to transmit assignments and compiling statistics and reports on work progress.
11-9032.00	Education Administrators, Elementary and Secondary School	Plan, direct, or coordinate the academic, administrative, or auxiliary activities of public or private elementary or secondary level schools.
11-9033.00	Education Administrators, Postsecondary	Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges.

O*NET SOC Code	Title	Description
47-2111.00	Electricians	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems.
29-1062.00	Family and General Practitioners	Physicians who diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population. May refer patients to specialists when needed for further diagnosis or treatment.
11-3031.00	Financial Managers	Plan, direct, or coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.
47-1011.00	First-Line Supervisors of Construction Trades and Extraction Workers	Directly supervise and coordinate activities of construction or extraction workers.
45-1011.00	First-Line Supervisors of Farming, Fishing, and Forestry Workers	Directly supervise and coordinate the activities of agricultural, forestry, aquacultural, and related workers.
53-1021.00	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	Directly supervise and coordinate the activities of helpers, laborers, or material movers.
37-1012.00	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	Directly supervise and coordinate activities of workers engaged in landscaping or groundskeeping activities. Work may involve reviewing contracts to ascertain service, machine, and workforce requirements; answering inquiries from potential customers regarding methods, material, and price ranges; and preparing estimates according to labor, material, and machine costs.
49-1011.00	First-Line Supervisors of Mechanics, Installers, and Repairers	Directly supervise and coordinate the activities of mechanics, installers, and repairers.
41-1012.00	First-Line Supervisors of Non-Retail Sales Workers	Directly supervise and coordinate activities of sales workers other than retail sales workers. May perform duties such as budgeting, accounting, and personnel work, in addition to supervisory duties.
43-1011.00	First-Line Supervisors of Office and Administrative Support Workers	Directly supervise and coordinate the activities of clerical and administrative support workers.
51-1011.00	First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.
53-1031.00	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.
33-1012.00	First-Line Supervisors of Police and Detectives	Directly supervise and coordinate activities of members of police force.

O*NET SOC Code	Title	Description
33-1021.00	First-Line Supervisors of Fire Fighting and Prevention Workers	Directly supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.
13-1131.00	Fundraisers	Organize activities to raise funds or otherwise solicit and gather monetary donations or other gifts for an organization. May design and produce promotional materials. May also raise awareness of the organization's work, goals, and financial needs.
51-3092.00	Food Batchmakers	Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Includes candy makers and cheese makers.
49-9021.01	Heating and Air Conditioning Mechanics and Installers	Install, service, or repair heating and air conditioning systems in residences or commercial establishments.
49-9021.00	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.
53-3032.00	Heavy and Tractor-Trailer Truck Drivers	Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license.
47-4051.00	Highway Maintenance Workers	Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadway.
13-1071.00	Human Resources Specialists	Perform activities in the human resource area. Includes employment specialists who screen, recruit, interview, and place workers.
49-9041.00	Industrial Machinery Mechanics	Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.
51-9061.00	Inspectors, Testers, Sorters, Samplers, and Weighers	Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.
23-1011.00	Lawyers	Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, or manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law.
25-4021.00	Librarians	Administer libraries and perform related library services. Work in a variety of settings, including public libraries, educational institutions, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers. Tasks may include selecting, acquiring, cataloguing, classifying, circulating, and maintaining library materials; and furnishing reference, bibliographical, and readers' advisory services. May perform in-depth, strategic research, and synthesize, analyze, edit, and filter information. May set up or work with databases and information systems to catalogue and access information.
21-1014.00	Mental Health Counselors	Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental and emotional health. May help individuals deal with issues associated with addictions and substance abuse; family, parenting, and marital problems; stress management; self-esteem; and aging.
39-4031.00	Morticians, Undertakers, and Funeral Directors	Perform various tasks to arrange and direct funeral services, such as coordinating transportation of body to mortuary, interviewing family or other authorized person to arrange details, selecting pallbearers, aiding with the selection of officials for religious rites, and providing transportation for mourners.
29-1122.00	Occupational Therapists	Assess, plan, organize, and participate in rehabilitative programs that help build or restore vocational, homemaking, and daily living skills, as well as general independence, to persons with disabilities or developmental delays.
31-2011.00	Occupational Therapy Assistants	Assist occupational therapists in providing occupational therapy treatments and procedures. May, in accordance with State laws, assist in development of treatment plans, carry out routine functions, direct activity programs, and document the progress of treatments. Generally requires formal training.

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47-2073.00	Operating Engineers and Other Construction Equipment Operators	Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties.
29-1041.00	Optometrists	Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment. May prescribe therapeutic drugs to treat specific eye conditions.
47-2141.00	Painters, Construction and Maintenance	Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency.
23-2011.00	Paralegals and Legal Assistants	Assist lawyers by investigating facts, preparing legal documents, or researching legal precedent. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action.
29-1051.00	Pharmacists	Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.
43-5052.00	Postal Service Mail Carriers	Sort mail for delivery. Deliver mail on established route by vehicle or on foot.
11-9141.00	Property, Real Estate, and Community Association Managers	Plan, direct, or coordinate the selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties. Includes managers of homeowner and condominium associations, rented or leased housing units, buildings, or land (including rights-of-way).
41-9031.00	Sales Engineers	Sell business goods or services, the selling of which requires a technical background equivalent to a baccalaureate degree in engineering.
41-4012.00	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.
47-2211.00	Sheet Metal Workers	Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; or inspecting, assembling, and smoothing seams and joints of burred surfaces. Includes sheet metal duct installers who install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes.
25-2052.00	Special Education Teachers, Kindergarten and Elementary School	Teach elementary school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.
25-2054.00	Special Education Teachers, Secondary School	Teach secondary school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.
25-2053.00	Special Education Teachers, Middle School	Teach middle school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.
29-1127.00	Speech-Language Pathologists	Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.

O*NET SOC Code	Title	Description
49-2022.00	Telecommunications Equipment Installers and Repairers, Except Line Installers	Install, set-up, rearrange, or remove switching, distribution, routing, and dialing equipment used in central offices or headends. Service or repair telephone, cable television, Internet, and other communications equipment on customers' property. May install communications equipment or communications wiring in buildings.
49-9052.00	Telecommunications Line Installers and Repairers	Install and repair telecommunications cable, including fiber optics.
29-1131.00	Veterinarians	Diagnose, treat, or research diseases and injuries of animals. Includes veterinarians who conduct research and development, inspect livestock, or care for pets and companion animals.