

# Mid Iowa Growth Partnership Skillshed Analysis



*A study of occupational clusters, skills, & gap analysis  
in the Mid Iowa Growth Partnership Region*

*Released November 2009*



## Introduction

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A Skillshed is the geographic area from which a region pulls its workforce and the skills, education, and experience that the workforce possesses. Traditionally, labor markets have been studied in terms of the products produced by a region to understand what industries are relatively strong. A Skillshed helps to understand not only where the region's competitive strengths currently lie by detailing the current workforce mix, but also in which occupations or industries the region could grow into by understanding the difference between the current skill set and that skill set needed by emerging markets. The outcome of the Skillshed helps to analyze four key findings:

- Identification of the current skills possessed by the supply of workers.
- Projected employment growth, and median wages, skills, and knowledge needed by employers.
- The demand for workers considering the factors affecting supply and demand
- Gap analysis between the current set of skills and education and that set needed by current and prospective employers.

The Skillshed analysis integrated and analyzed information from three different sources; the Mid Iowa Growth Region Laborshed Study, the Regional Workforce Needs Assessment (Job Vacancy) Survey, and information from the Occupational Information Network (O\*NET). These three sources were used to present the supply and demand for labor within the region and the examples of gap analysis from current to emerging or high growth occupations.

The Laborshed survey was conducted and analyzed using 2,672 telephone survey responses from a random sample of 18-64 year olds within the region. Respondents were asked a wide range of demographic and employment-related questions. Areas of interest from the Laborshed survey:

- Work experience within the region
- Population by occupational category
- Unemployment and commuting patterns

The second annual Workforce Needs Assessment was conducted from September 2008 through January 2009. There were 479 employer responses from the Mid Iowa Growth Region, yielding a 22.9 percent response rate. In addition to vacancy and retirement data, this year's survey included questions pertaining to average hourly starting wage. Analysis of the survey illustrates the demand for workers and skills required in the vacant positions. Areas analyzed using the Iowa Workforce Needs Assessment were:

- Vacancies by occupation
- Vacancies across industries
- Work activities, skills, and knowledge areas most needed by employers
- Starting wages offered and experience required

The Occupational Information Network (O\*NET) is a joint effort between the US Department of Labor and the North Carolina Employment Security Commission. It provides a database of standardized and occupation-specific descriptions that help determine which factors are critical in the performance of an occupation. Data used for these analyses were:

- Work activities
- Knowledge
- Skills
- Job Description

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## Supply of Workers

Through use of the Laborshed study, the current occupations and skills of the region were identified. **Table 1** (below) shows the top occupational experience reported in the region by percentage of total and compares the regional Laborshed percent of occupations to that of the state. This comparison helps to identify those categories of occupations in which the region may have a higher concentration of workers and, therefore, may have a competitive advantage.

The table also includes the statewide projected annual growth rate in employment<sup>1</sup>. The average projected growth rate for all jobs in the state of Iowa is 1.1 percent with trucking and healthcare occupations exceeding the state average.

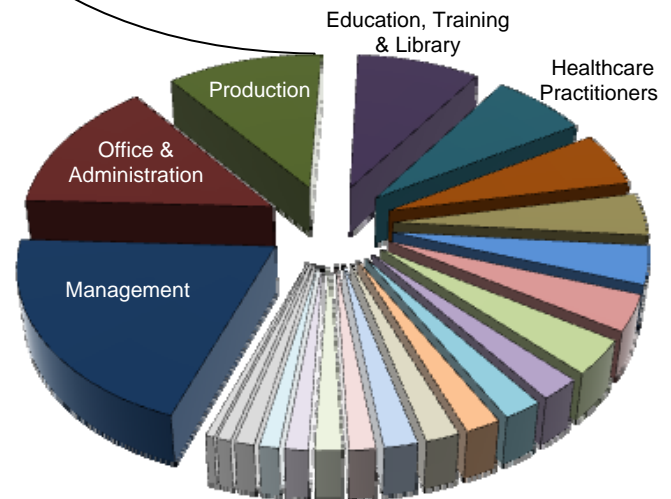
**Table 1**  
**Occupational Experience in Region**

Occupation	Percent of Region	Percent of State	Statewide Projected Annual Growth Rate <sup>1</sup>
General & Operations Managers	8.92%	0.34%	0.2%
Secondary School Teachers, Except Special & Vocational Education	5.23%	0.24%	0.4%
Production, Helpers	3.92%	0.16%	0.4%
Chief Executives	3.65%	5.14%	0.4%
Registered Nurses	3.24%	2.48%	2.3%
Farmers & Ranchers	2.70%	1.94%	-0.8%
Executive Secretaries & Administrative Assistants	1.98%	1.35%	1.5%
First-Line Supervisors/ Managers of Office & Administrative Support Workers	1.67%	1.61%	0.7%
Retail Salespersons	1.62%	0.46%	1.5%
Nursing Aides, Orderlies, & Attendants	1.58%	0.97%	1.7%
First-Line Supervisors/ Managers of Retail Sales Workers	1.53%	1.27%	0.9%
Office Clerks, General	1.53%	0.83%	1.5%
Truck Drivers, Heavy & Tractor-Trailer	1.53%	1.85%	1.7%
Accountants & Auditors	1.26%	0.81%	1.9%

**Table 2**  
**Population by Occupational Category**

Occupational Category	Percentage of All Workers
Management	20.1%
Office & Administrative Support	13.7%
Production	11.3%
Education, Training, & Library	8.9%
Healthcare Practitioner & Technical	6.9%
Sales & Related	5.5%
Business & Financial Operations	4.3%
Installation, Maintenance, & Repair	3.9%
Healthcare Support	3.7%
Transportation & Material Moving	3.6%
Food Preparation & Serving Related	2.3%
Construction & Extraction	2.2%
Personal Care & Service	2.0%
Architecture & Engineering	1.9%
Community & Social Services	1.9%
Arts, Design, Entertainment, Sports, & Related	1.5%
Building & Grounds Cleaning & Maintenance	1.4%
Protective Service	1.3%
Computer & Mathematical Science	1.1%
Life, Physical & Social Science	1.1%
Farming, Fishing, & Forestry	0.8%
Legal	0.5%

The occupations listed above can also be analyzed by overall occupational category. **Table 2** presents the occupational categories for the region. The region has a high relative concentration of workers in the management, office & administrative support, and production occupational categories which is similar to that of the state with management (15.5%), office & administrative support (13.8%), and production (13.4%).



<sup>1</sup> Iowa Occupational Projections 2006-2016, Iowa Workforce Development: Iowa Workforce Information Network

## Commuting and Willingness to Change/Accept Employment

The Laborshed Study also presents data on the commuting patterns and the willingness to change and/or accept employment. On average, workers within the region currently commute 10 miles each way to work for an average median wage of \$13.00 per hour but would be willing to commute up to 13 miles for a desired average wage of \$13.90 per hour.

One-fourth (25.3%) of the employed are willing to change employment and over half (55.4%) of those reporting to be unemployed are willing/able to accept employment within the region. Commuting ranges and the willingness to change and/or accept employment could have an impact on economic development as the region covers a relatively large area and the majority are rural communities.

## Demand for Workers

The Workforce Needs Assessment reveals the vacant jobs employers reported in the region. **Table 3** shows the occupations with the most reported vacancies, the average starting wage, and the median regional wage. When comparing the occupations with the most vacancies and the occupational experience in the region (**Table 1**, previous page), there is overlap. There are several possibilities that might explain this overlap of employers and workers which are explained in the Factors Affecting Supply and Demand section on page five. In the region there is a labor supply and current vacancies for both registered nurses and nursing aides. However, the majority (92.3%) of registered nurses are currently employed and earn a median hourly wage of \$22.00 per hour which is well above the starting and regional entry level wages. On the other hand, only 71.4 percent of nursing aides are currently employed and earning a median hourly wage of \$10.25 per hour, below the statewide median wage but above the entry level wage. This indicates an available supply of nursing aides at current wages.

**Table 3**  
**Occupations with Most Vacancies**

Job Title	Regional Average Starting Wage	Statewide Median Wage <sup>2</sup>	Statewide Entry Level Wage <sup>2</sup>
Nursing Aides, Orderlies, & Attendants	\$ 9.25	\$ 11.21	\$ 9.44
Medical & Clinical Laboratory Technicians	\$ 15.89	\$ 17.69	\$ 12.97
Registered Nurses	\$ 16.75	\$ 23.80	\$ 18.78
Truck Drivers, Heavy & Tractor-Trailer	\$ 12.00	\$ 17.08	\$ 11.82
Healthcare Support Workers, All Other	\$ 7.84	\$ 11.16	\$ 8.17
Laborers & Freight, Stock, & Material Movers, Hand	\$ 8.87	\$ 10.81	\$ 7.99
Office Clerks, General	\$ 8.37	\$ 11.84	\$ 8.62
Automotive Service Technicians & Mechanics	\$ 11.50	\$ 15.16	\$ 9.95
Cashiers	\$ 7.25	\$ 7.85	\$ 7.00
Cooks, All Other	\$ 9.06	*	*
Production Workers, All Other	\$ 8.75	\$ 11.94	\$ 8.96
Farmworkers, Farm & Ranch Animals	\$ 7.25	\$ 11.77	\$ 8.81
Coaches & Scouts	\$ 7.25	\$ 12.52	\$ 7.11
First-Line Supvs/Mgrs of Retail Sales Workers	\$ 9.00	\$ 15.95	\$ 11.62

\*Insufficient Data

**Table 4** (next page) shows the largest industries in the region (by employment), and the vacancies most reported by those industries. The wholesale and retail trade industries have been combined due to the similarity in occupational mix.

In some instances, employers may have difficulty filling a vacancy in one industry but can fill the same occupation in another industry quite easily. Aside from differences in starting wages, these cases can occur because work duties and educational requirements may be similar across industries, but the work environment may be different and applicants may need some industry specific knowledge. Other occupations may be equally difficult to fill across industries. By examining the occupations demanded across industries, we can begin to see a demand picture for occupational categories.

<sup>2</sup> Iowa Wage Survey 2007, Iowa Workforce Development: Iowa Trends

Employers in the region reported requiring less experience and fewer years of formal education for their vacancies than those levels generally reported on O\*NET or other occupational planning sources. This indicates that employers are willing to work with applicants to develop the skills and knowledge for the job rather than demanding that an applicant possess all skills at the outset.

**Table 4  
Top Jobs Within Region's Largest Industries**

Industry	Occupation	Average Education Requirement	Average Experience Requirement	Average Starting Wage <sup>3</sup>
Healthcare	Nursing Aides, Orderlies, and Attendants	Technical Training/ Certification	No Experience Needed	\$ 9.25
	Registered Nurses	Associate Degree	No Experience Needed	\$ 16.75
	Healthcare Support Workers, All Other	No Education Required	No Experience Needed	\$ 7.84
	Office Clerks, General	High School Diploma	No Experience Needed	\$ 9.02
	Cooks, All Other	No Education Required	No Experience Needed	\$ 9.06
	Maids and Housekeeping Cleaners	No Education Required	No Experience Needed	\$ 8.09
Manufacturing	Production Workers, All Other	High School Diploma	No Experience Needed	\$ 8.75
	Numerical Tool and Process Control Programmers	Associate Degree	1-2 Years	\$ 18.00
	Multiple Machine Tool Setters, Operators, and Tenders	High School Diploma	No Experience Needed	\$ 15.39
	Farmworkers, Farm and Ranch Animals	No Education Required	No Experience Needed	\$ 7.25
	Packers and Packagers, Hand	No Education Required	No Experience Needed	\$ 7.25
Educational Services	Coaches and Scouts	Technical Training/ Certification	No Experience Needed	\$ 7.25
	Postsecondary Teachers, All Other	Undergraduate Degree	No Experience Needed	\$ 18.83
	Teacher Assistants	Technical Training/ Certification	Less than One Year	\$ 10.49
	Janitors and Cleaners, Except Maids and Housekeeping	High School Diploma	No Experience Needed	\$ 10.60
Wholesale & Retail Trade	Automotive Service Technicians and Mechanics	Technical Training/ Certification	No Experience Needed	\$ 11.50
	Cashiers	High School Diploma	No Experience Needed	\$ 7.25
	Truck Drivers, Heavy and Tractor-Trailer	Technical Training/ Certification	Less than One Year	\$ 12.00
	Agricultural Workers, All Other	High School Diploma	No Experience Needed	\$ 11.00
	Coil Winders, Tapers, and Finishers	No Education Required	No Experience Needed	\$ 11.00
Construction	Construction Laborers	No Education Required	No Experience Needed	\$ 10.50
	Carpenters	No Education Required	3-5 Years	\$ 12.75
	Construction and Related Workers, All Other	Technical Training/ Certification	3-5 Years	\$ 10.00
	Cement Masons and Concrete Finishers	No Education Required	1-2 Years	\$ 12.00

**Table 5, Table 6, and Table 7** show the top work activities, the top skills, and the top knowledge required by employers to fill current positions and those critical to the three occupational clusters of Healthcare, Engineering, and Natural Sciences & Environmental Management. Overwhelmingly, employers reported their need for workers that could interact and communicate with others inside and outside the organization.

**Table 5  
Work Activities by  
Employer Needs**

**Table 6  
Skills by  
Employer Needs**

**Table 7  
Knowledge by  
Employer Needs**

Work Activities	Skills	Knowledge
Assisting and Caring for Others	Active Listening	Biology
Communicating with Supervisors, Peers, or Subordinates	Complex Problem Solving	Computers & Electronics
Documenting or Recording Information	Coordination	Customer & Personal Service
Establishing and Maintaining Interpersonal Relationships	Critical Thinking	Design
Evaluating Information to Determine Compliance with Standards	Judgment & Decision Making	Engineering & Technology
Identifying Objects, Actions, or Events	Monitoring	English Language
Interacting with Computers	Reading Comprehension	Mathematics
Making Decisions and Solving Problems	Service Orientation	Medical & Dental
Organizing, Planning, and Prioritizing Work	Social Perceptiveness	Physics
Processing Information	Speaking	Psychology
Updating and Using Relevant Knowledge	Time Management	Therapy & Counseling

<sup>3</sup> Iowa Workforce Needs Assessment Survey, Iowa Workforce Development: Regional Research & Analysis Bureau

**Table 8** presents a sample of high growth occupations, their projected annual growth rates, and median wages. These data (projected employment 2006-2016) represent the occupations that are most likely to experience growth throughout the region based on current employment. The industry projections for the same time period show growth by percent employment change<sup>1</sup> in Social Assistance (40.4%); Amusement, Gambling, & Recreation (36.7%); Securities, Commodity Contracts, & Other Investments (32.8%); and Management of Companies & Enterprises (26.4%)<sup>3</sup>.

**Table 8  
Regional High Growth Occupations**

Occupation	Projected Annual Growth Rate <sup>2</sup>	Statewide Median Wage <sup>2</sup>
Gaming Surveillance Officers & Gaming Investigators	6.4%	\$ 12.37
Home Health Aides	4.3%	\$ 10.48
Computer Software Engineers, Applications	4.3%	\$ 34.32
Network Systems & Data Communications Analysts	4.2%	\$ 29.71
Gaming Supvs	3.7%	\$ 21.26
Personal & Home Care Aides	3.6%	\$ 9.82
Marriage & Family Therapists	3.6%	\$ 16.21
Pharmacy Technicians	3.5%	\$ 12.22
Veterinary Technologists & Technicians	3.4%	\$ 13.48
Medical Assistants	3.3%	\$ 13.50
Woodworking Machine Setters, Operators, & Tenders, Except Sawing	3.2%	\$ 11.54
Gaming Cage Workers	3.1%	\$ 9.83
Veterinarians	3.1%	\$ 29.89

The average projected annual job growth projections for the region is 1.4 percent. Jobs with a negative annual projected employment growth should be studied to see which skills or training would be necessary to move workers in the occupations that show more growth in the opportunities in the future.

**Table 9** presents a sample of occupations with negative or low growth, their projected annual growth rates (projected employment 2006-2016) throughout the state based on current employment, and median wages for the region. The industry projections for the same time period, show a negative growth by percent employment change in Textile Mills (-18.3%); Apparel Manufacturing (-17.0%); Electrical Equipment, Appliance & Component Manufacturing (-14.8%); and Leather and Allied Product Manufacturing (-13.4%). Though these industries represent the lowest growth by percentage, they comprise less than one percent of employment. More attention should be paid to projections for industries more relevant to the region: Machinery Manufacturing (-4.8%), Fabricated Metal Manufacturing (-4.4%), and Plastics & Rubber Products (-4.3%) which comprise 4.3 percent of total estimated employment<sup>3</sup>.

**Table 9  
Regional Declining and Low Growth Occupations**

Occupation	Projected Annual Growth Rate <sup>2</sup>	Statewide Median Wage <sup>2</sup>
File Clerks	-3.9%	\$ 10.88
Order Clerks	-2.9%	\$ 14.02
Metal Workers & Plastic Workers, All Other	-2.0%	\$ 13.26
Computer Operators	-1.9%	\$ 13.53
Conveyor Operators & Tenders	-1.6%	*
Weighers, Measurers, Checkers, & Samplers, Recordkeeping	-1.6%	\$ 13.73
Bindery Workers	-1.2%	\$ 12.71
Information & Record Clerks, All Other	-0.9%	\$ 14.31
Railroad Brake, Signal, & Switch Operators	-0.9%	\$ 22.89
Cut/Punch/Press Machine Setters, Operators, & Tenders, Metal/Plastic	-0.9%	\$ 14.10
Packers & Packagers, Hand	-0.9%	\$ 8.87
Office & Administrative Support Workers, All Other	-0.9%	\$ 11.44
Food Cooking Machine Operators & Tenders	-0.8%	\$ 12.07
Word Processors & Typists	-0.8%	\$ 14.36

\*Insufficient Data

<sup>1</sup> Industries with employment of more than 250 employees

<sup>2</sup> Iowa Occupational Projections 2006-2016, Iowa Workforce Development: Iowa Workforce Information Network

<sup>3</sup> Iowa Industry Projections 2006-2016, Iowa Workforce Development: Iowa Workforce Information Network

## **Factors Affecting Supply & Demand**

**Starting wages** that are below the required wage a worker would need to consider employment could present a problem for employers trying to fill a vacant position. Aside from increasing starting wages, possible solutions are those that decrease the cost of transportation for employees, increasing benefits, flexible hours, or providing training opportunities for employed people with income constraints.

**Employee turnover** has an affect on the job market in the Mid Iowa Growth just as it does everywhere else. The Workforce Needs Survey showed high levels of vacancies for jobs in the food preparation & serving, sales & related, and the personal care & services occupational categories. High turnover in these occupations does not necessarily indicate high demand for employees. There is little economic developers can do to decrease turnover within occupational categories or the job market as a whole.

**Mismatch in skills** between workers and job vacancies can be identified by examining individuals that are employed in positions that do not maximize their previous experience, skills and education, or that do not adequately compensate them based on their qualifications.

**Worker/Employer connection** is another factor affecting the relationship between the supply of workers in the region and the demand for those workers. The most likely cause of this imbalance in the labor market is a lack of information shared between people that have necessary skills to those seeking employees. Counseling services, consolidated region-wide job banks, and other services promoting the dissemination of information are those most likely to assist with closing this gap.

The media most used by job seekers in the region, as reported by the Laborshed Analysis, are: the internet (51.7%), local/regional newspapers (51.7%), local Iowa Workforce Development Centers (40.9%), and networking with family, friends, or acquaintances (24.2%). The most visited internet sites for worker job search are: [www.monster.com](http://www.monster.com), [www.iowaworkforce.org](http://www.iowaworkforce.org), and [www.careerbuilder.com](http://www.careerbuilder.com). The top four media used by employers to find applicants, as reported by the Workforce Needs Assessment Survey, are local/regional newspapers (89.1%), the internet (55.8%), college/university career centers (48.9%), and local Iowa Workforce Development Centers (67.9%). The most used internet sites for employers are: company specific websites, [www.iowaworkforce.org](http://www.iowaworkforce.org), [www.monster.com](http://www.monster.com), or [www.careerbuilder.com](http://www.careerbuilder.com).

## **Gap Analysis**

Three occupational clusters have been selected for gap analysis based on strength of the workforce and targeted industries identified by the Laborshed and Workforce Needs Assessment. The clusters are Healthcare, Engineering, and Natural Sciences & Environmental Management. They were selected for their projected employment growth, high average wages, and the proximity between required skills for the occupations and the current skill set of the workforce. For these reasons, the workforce will be able to transfer into these occupations easily and with the most value added to the regional economy. **Tables 10-12** provide examples of the occupations within the workforce that are most related to the emerging occupations. The tables also include those skills shared by the occupations and those in which more training will be needed to transition from the occupation currently in great supply within the regional workforce to an emerging occupation.

Within the Healthcare cluster of occupations, the regional workforce fell short with respect to education in Medicine & Dentistry, Therapy & Counseling, and Psychology. On average, the occupations within the cluster demand an associate degree level of understanding in the core areas. With respect to experience, the current workforce met all requirements for the emerging occupations but would benefit from additional experience in Documenting & Recording Information and Assisting & Caring for Others.

It is important to note the difference between the results of the gap analysis for the population on average and that displayed in the figures. The following tables display the shared and additional skills or education needed to transition a worker from a related occupation into one of the emerging occupations. The gap analysis for the population on average showed that there were certain areas of skills and education that were needed to transition a group of the population into the group of emerging occupations. For example, **Table 10** shows that a Teacher's Assistant will need education in Medicine & Dentistry and Customer & Personal Service. The portion of the population that was well suited for careers in the Healthcare group; however, needs training and education in Medicine & Dentistry, Therapy & Counseling, and Psychology.

Further analysis of the skills differences between specific occupations is available through the O\*NET system. The analysis of the overall skills and educational differences between the population and the groups of emerging occupations is provided in this report and in the Skillshed Technical Report.

From the table below, we also see that some of the most common skills needed to transition the workforce are: Medicine & Dentistry; Therapy & Counseling; Biology; Communicating with Persons Outside the Organization; and Monitoring Processes, Materials, or Surroundings.

**Table 10**  
**Related Occupations to Healthcare**

Related Occupations		Median Wages	Overlapping Skills and Education	Required Areas for Improvement	
Healthcare	<b>Emerging Occupation: Registered Nurse</b>		\$ 23.80		
	Career Pathways	Nursing Aides, Orderlies, and Attendants	\$ 11.21	Customer and Personal Service; Handling and Moving Objects	Biology; Therapy and Counseling; Provide Consultation and Advice to Others; Communicating with Persons Outside Organization
		Teacher's Assistants	\$ 9.52	Clerical; Interpreting the Meaning of Information for Others	Medicine and Dentistry; Customer and Personal Service; Handling and Moving Objects; Inspecting Equipment, Structures, or Material
		Information and Records Clerks	\$ 14.31	Clerical; Processing Information	Medicine and Dentistry; Psychology; Handling and Moving Objects; Assisting and Caring for Others
	<b>Emerging Occupation: Physical Therapist</b>		\$ 32.06		
	Career Pathways	Occupational Therapists	\$ 28.80	Psychology; Communicating with Persons Outside Organization	Medicine and Dentistry; Biology; Handling and Moving Objects; Estimating the Quantifiable Characteristics of Products, Events, or Information
		Recreation Workers	\$ 9.24	Clerical; Communicating with Persons Outside Organization	Therapy and Counseling; Medicine and Dentistry; Evaluating Information to Determine Compliance with Standards; Monitor Processes, Materials, or Surroundings
		Office & Administrative Support Workers, All Other	\$ 11.44	Clerical; Organizing, Planning, and Prioritizing Work	Therapy and Counseling; Psychology; Handling and Moving Objects; Performing General Physical Activities

The Natural Sciences & Environmental Management occupational cluster was the most closely related to the set of skills and experiences held by the regional workforce. The most critical gap in education required fell within biology. The gap between the current knowledge of these subjects within the regional workforce and the level of knowledge required was between the high school level and the associate degree level, or less than one year of coursework.

From the table below, we also see that some of the most common skills needed to transition the workforce are: Biology, Computers & Electronics, Analyzing Data or Information, and Interacting with Computers.

**Table 11**  
**Related Occupations to Natural Sciences and Environmental Management**

Related Occupations		Median Wages	Overlapping Skills and Education	Required Areas for Improvement	
Natural Sciences and Environmental Management	<b>Emerging Occupation: Soil and Plant Scientists</b>		\$ 27.45		
	Career Pathways	Farm Workers and Laborers, Crop	\$ 10.43	Production & Processing, Controlling Machines and Processes	Biology, Computers & Electronics, Processing Information, Analyzing Data or Information
		Landscaping and Groundskeeping Workers	\$ 10.33	Production & Processing, Controlling Machines and Processes	Biology, Computers & Electronics, Processing Information, Analyzing Data or Information
		Laundry and Dry-Cleaning Workers	\$ 9.75	Production & Processing, Controlling Machines and Processes	Biology, Computers & Electronics, Interpreting the Meaning of Information, Analyzing Data or Information
	<b>Emerging Occupation: Environmental Science and Protection Technician</b>		\$ 20.71		
	Career Pathways	Occupational Health and Safety Technicians	\$ 20.88	Biology; Inspecting Equipment, Structures, or Material	Mathematics, Engineering & Technology, Analyzing Data or Information, Interacting with Computers
		Cost Estimators	\$ 22.88	Biology; Inspecting Equipment, Structures, or Material	Mathematics, Computers & Electronics, Analyzing Data or Information, Interacting with Computers
		Healthcare Support Workers, All Others	\$ 10.95	Biology; Monitoring and Controlling Processes	Mathematics, Engineering & Technology, Analyzing Data or Information, Estimating Quantifiable Characteristics

The requirements of the Engineering occupational cluster are close to the current skill set of the region. The current workforce lacked some of the formal education required for the occupations within the cluster. The regional workforce showed a need for coursework in the areas of: Engineering & Technology, Physics, Design, and Mathematics.

From the table below, we also see that some of the most common skills needed to transition the workforce are: Engineering & Technology, Physics, Analyzing Data or Information, Processing Information, Computers & Electronics, and Interacting with Computers.

**Table 12**  
**Related Occupations to Engineering**

Related Occupations		Median Wages	Overlapping Skills and Education	Required Areas for Improvement	
Engineering	<b>Emerging Occupation: Environmental Engineering Technician</b>	\$ 19.91			
	Career Pathways	Helpers- Installation, Maintenance, and Repair Workers	\$ 11.31	Mechanical; Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment	Engineering & Technology, Physics, Monitoring and Controlling Processes, Analyzing Data or Information
		Janitors and Cleaners, Except Maids and Housekeeping	\$ 10.95	Production & Processing, Controlling Machines and Processes	Physics, Engineering & Technology, Processing Information, Analyzing Data or Information
		Interior Designers	\$ 16.38	Mechanical; Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment	Engineering & Technology, Physics, Processing Information, Analyzing Data or Information
	<b>Emerging Occupation: Electrical and Electronic Engineering Technician</b>	\$ 22.27			
	Career Pathways	Electrical and Electronic Equipment Assemblers	\$ 11.33	Building & Construction, Inspecting Equipment, Structures, or Material	Telecommunications, Computers & Electronics, Interacting with Computers, Repairing and Maintaining Electronic Equipment
		Maintenance and Repair Workers, General	\$ 15.76	Building & Construction, Inspecting Equipment, Structures, or Material	Production & Processing, Engineering & Technology, Interacting with Computers, Documenting/Recording Information
Construction and Building Inspectors		\$ 22.76	Mechanical, Repairing and Maintaining Mechanical Equipment	Computers & Electronics, Engineering & Technology, Interacting with Computers, Repairing and Maintaining Electronic Equipment	

The current workforce also needs skills training in the areas of repairing and maintaining electronic equipment; making decisions and problem solving; and interacting with computers. Engineering occupations of all types are among the occupations projected to be in high demand for the cluster. The focus here has been placed on engineering technicians because these positions require fewer years of education and experience but are still projected to outpace the statewide averages for growth and wages. After a number of years as an engineering technician, a worker would be better equipped to make the further transition to engineer.

## Conclusion

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A Skillshed examines the interaction between the current supply of workers and the current demand for their skills by employers; also, it measures the difference between the current set of skills and education held by the regional workforce and that set of skills and education required for emerging occupations.

A region must develop a plan to meet the current needs of the labor market by ensuring that its workforce is prepared with the necessary skills. At the same time, the region must also help its labor market transition into a workforce with the skills and education required by emerging occupations.

An important note is that the data collected and used in this report, other than that from the Workforce Needs Assessment, is from before the collapse of the financial sector and the ensuing governmental response. More data will be available in the coming year to better assess the recession's effect on employment and industrial growth. The Finance, Insurance, & Real Estate industry will certainly not be as highly demanded as was originally thought while employment in Social Services, and possibly, Public Administration will increase.

### Key Findings:

- The supply of workers in the region currently possess skills in the following occupational categories:
    - Office & Administrative Support
    - Production
    - Management
  - More specifically, the supply of workers in the region currently possess skills in the following occupations:
    - Managers
    - Teachers & Instructors
    - Registered Nurses
    - Production Workers
  - The current education and skills of the workforce most closely resemble the education and skills of three occupational categories designated as knowledge clusters:
    - Healthcare Services
    - Engineering and Related Services
    - Natural Sciences and Environmental Management
  - The occupational categories with the highest projected annualized employment growth (2006-2016) are as follows:
    - Healthcare Support (2.3%)
    - Computer and Mathematical (2.3%)
    - Community and Social Services (2.2%)
    - Healthcare Practitioners and Technical (1.9%)
  - The occupations within the knowledge cluster occupational groups with the highest projected annualized employment growth (2006-2016) within the region are as follows:
    - Pharmacy Technicians (3.5%)
    - Veterinarians (3.1%)
    - Environmental science and protection technicians (2.8%)
    - Industrial engineers (2.8%)
    - Dental Hygienists (2.6%)
    - Environmental engineering technicians (2.5%)
    - Biomedical engineers (2.1%)
-

## In Partnership With:

Agriculture Commodity Development Foundation  
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## For more information on the Mid Iowa Growth Region Skilled contact:

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