

COMPETENCY NEEDED

Addressing Iowa's Skilled Construction Worker Shortage



**MIDWEST ECONOMIC
POLICY INSTITUTE**

Jill Manzo
Researcher

**Midwest Economic Policy Institute
Illinois Economic Policy Institute
(708) 375-1002**

**COMPETENCY NEEDED: ADDRESSING IOWA'S
SKILLED CONSTRUCTION WORKER SHORTAGE**
MEPI Economic Commentary #32

Executive Summary

Construction contractors in Iowa are facing an impending skilled worker shortage. Construction firms increasingly are demanding high skill levels from their new hires. Fewer than half of Iowa's construction industry employees had more than a high school degree in 2010. From 2010 through 2014, however, three-fifths of all new construction jobs in Iowa were filled by a worker with more than a high school degree.

At the same time that Iowa contractors are demanding more skilled construction workers, the industry is producing an inadequate supply of registered apprentices. Compared to neighboring states with higher construction worker union membership rates and prevailing wage laws, Iowa has fewer apprentices and invests less in worker training. While apprentices make up approximately 7.6 percent of all construction workers in Iowa, they comprise 10.2 percent of the workforce in Minnesota. Contractors in Minnesota are thus better able to meet the increasing demand for skilled, safe, and productive construction workers.

In addition, inadequate training contributes to relatively high economic costs due to construction worker injuries and fatalities. Iowa has 2.2 workplace fatalities per 10,000 construction workers and 266 nonfatal injuries and illness per 10,000 full-time construction workers. By contrast, Illinois had lower fatality and injury rates: 1.4 deaths per 10,000 construction workers and a nonfatal injuries 152 per 10,000 full-time construction workers. The economic cost of construction-related fatalities and injuries amounts to \$125 million per year in Iowa. Iowa's construction labor market is more dangerous and more costly to the state than similar states with stronger trades unions, more apprenticeship programs, and effective prevailing wage policies.

To foster a high-skilled construction workforce, the state should take steps to expand registered apprenticeship programs. On the one hand, Iowa could increase adult education funding for state-run programs. On the other hand, the state could support worker organizing, encourage the payment of fair share fees to trades unions, or enact a prevailing wage law. Each of these policy changes would indirectly increase enrollment in— and private funding for— apprenticeship programs without expending additional taxpayer dollars. In addition to increase productivity and worker safety, these high-wage solutions would also attract skilled workers from other industries to join the construction labor market in Iowa.

It is evident that Iowa's construction industry is facing an impending skilled labor shortage. If state legislators take high-road actions to bolster training programs, the private marketplace can meet the demand.

Introduction

Construction firms around the nation are having difficulty filling job vacancies. Workers of all construction trades are expected to remain in high demand across the country. Entry-level positions and experienced-level positions in the construction industry are continuing to remain empty due to a lack of skilled applicants. Despite Iowa’s 5 percent increase in construction jobs between 2013 and 2014, the workforce shortages of skilled laborers are evident and are expected to continue (IWD(a), 2015). Iowa may not be able to find skilled workers, and may be falling behind other states, because the state does not invest in employee training at the same frequency as other states.

The Associate General Contractors of America’s report, “Ready to Hire Again: The 2015 Construction Hiring and Business Outlook,” and Iowa Workforce Development– in the “Workforce Needs Assessment” and “Iowa’s Workforce and the Economy” studies– discuss Iowa’s construction industry and its vacancy rates, employment rates, and productivity. These reports contain surveys of construction contractors. These polls include questions pertaining to workforce development, payroll expansion or reduction, and the annual growth rate of the industry as a whole (Aschbrenner, 2015).

Background Information from Economic Data and Contractor Surveys

Construction employment dropped after the market crash of 2008. Fewer houses were being constructed and public investment in infrastructure dropped as state and local government lost tax revenues. Since the Great Recession, the construction sector has been recovering and continues to add more jobs each year. According to Iowa Workforce Development, there are 74,263 private-sector employees and 1,500 public-sector employees in Iowa’s construction sector as of 2016 (IWD(b), 2015).

Figure 1 uses separate *American Community Survey* data to depict the number of employed construction workers in Iowa from 2010 to 2014. Employment dropped by a few thousand workers in both 2012 and 2013. However, employment grew in 2014, demonstrating that the construction industry is growing in Iowa and workers are in demand. Vacancies remain in the construction workforce even though employment has risen.

FIGURE 1: CONSTRUCTION EMPLOYMENT IN IOWA, 2010-2014

Year	Construction Employment
2010	74,625
2011	75,699
2012	73,871
2013	72,569
2014	76,102

Source(s): Authors’ analysis of Ruggles et al., 2015 – American Community Survey.

The need for construction workers continues to grow and vacancies remain in Iowa because the workforce is less skilled and less educated. A survey conducted by the ACG of America found that 87 percent of contractors had difficulty finding workers to fill professional and craft worker positions in 2015. Out of those surveyed, 81 percent said they expected finding workers to become harder or remain as difficult during the next 12 months. Furthermore, the construction and extraction industries in Iowa had a job vacancy rate of 3.6 percent in 2015 (IWD(a), 2015). This vacancy rate placed the construction sector 4th among industries with the highest vacancy rates in Iowa. That is, construction had relatively more unoccupied positions compared to the size of its labor force size than other occupations.

Though Iowa has a low unemployment rate of 3.8 percent, the construction industry continues to have difficulty finding skilled workers. In early 2015, a shortage of skilled construction workers delayed an Iowa DuPont biofuel plant project (Grayson, 2015). The difficulty in finding labor drives up construction costs and postpones project completion.

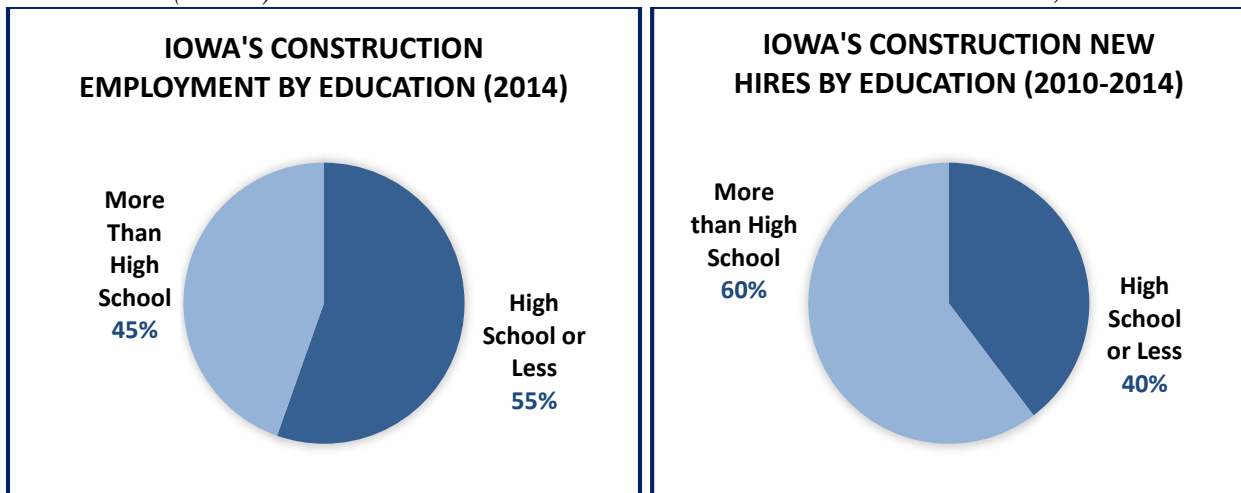
The Important Role of Training Programs

Research and data collected from reports and surveys indicate that apprenticeship training programs in Iowa may be inadequate compared to those in other states. It is difficult for contractors to find highly-skilled construction workers because Iowa does not invest enough in worker training. In fact, 56 percent of respondent contractors said that they believed the training programs provided for new employees are below average (ACG, 2015).

Apprenticeship training programs are typically supported through joint labor-management agreements to provide future construction workers hands-on experiences and technical learning. The programs allow workers to upgrade their skills to become attractive hires for potential employers with job vacancies. Economic research finds that those who graduate from apprenticeship programs earn higher wages, have consistent jobs, and are promoted sooner than those who were not enrolled and trained as an apprentice (Pardee, 2015). Over the course of his or her career, the average construction worker earns \$123,906 more by participating in a registered apprenticeship program (Reed et al., 2012)

The economic data reveals that contractors and construction employers are in fact hiring more-educated employees over recent years. Contractors are demanding workers with more than a high school degree because they tend to be more skilled and more productive. In 2010, 44 percent of those employed in Iowa’s construction industry achieved a level of education above the high school degree or equivalent. By 2014, 45 percent of those employed had greater than a high school degree. This was driven by the fact that 60 percent of new construction employees had earned more than a high school degree from 2010 through 2014 (Figure 2 and Figure 3). Less than half of the current construction workforce in Iowa has more than a high school degree, but contractors are demanding that three-fifths of new hires have more than a high school degree.

FIGURE 2 (LEFT): IOWA’S CONSTRUCTION EMPLOYMENT BY EDUCATION IN 2014
 FIGURE 3 (RIGHT): IOWA’S CONSTRUCTION EMPLOYMENT CHANGE BY EDUCATION, 2010-2014



Source(s): Authors’ analysis of Ruggles et al., 2015 – American Community Survey.

A Tale of Two Construction Industries: Iowa vs. Minnesota

Construction labor market outcomes in Iowa contrast considerably with those in Minnesota, a neighboring state. In 2015, Iowa had 6,272 active apprentices and Minnesota had 11,091 active apprentices. In the peak month of July 2015, Iowa had approximately 80,000 workers in the construction industry while Minnesota had about 108,400 workers. As a result, registered apprentices comprised approximately 7.6 percent of the construction workforce in Iowa. Minnesota's apprenticeship share is 2.6 percentage points higher, at 10.2 percent of the construction workforce (Figure 4). Accordingly, the data indicates that Iowa contractors invest less in worker training than those in Minnesota. As the construction industry continues to expand throughout the Midwest, contractors in Minnesota are able to find the skilled workers they need to fill job openings while Iowa's employers are facing a shortage of skilled workers.

FIGURE 4: APPRENTICESHIP SHARE OF CONSTRUCTION EMPLOYMENT IN IOWA AND MINNESOTA, 2015

2015	Iowa	Minnesota	Difference
Active Registered Apprentices	6,272	11,091	76.8%
Estimated Employment (BLS)	80,000	108,400	35.5%
Apprenticeship Share of Employment	7.6%	10.2%	2.6 p.p.

Source(s): DOLETA, 2015 – “Registered Apprenticeship National Results: Fiscal Year 2014 (10/01/2013 to 9/30/2014);” BLS(a), 2015 – “Economy at a Glance: Iowa;” BLS(b), 2015 – “Economy at a Glance: Minnesota.”

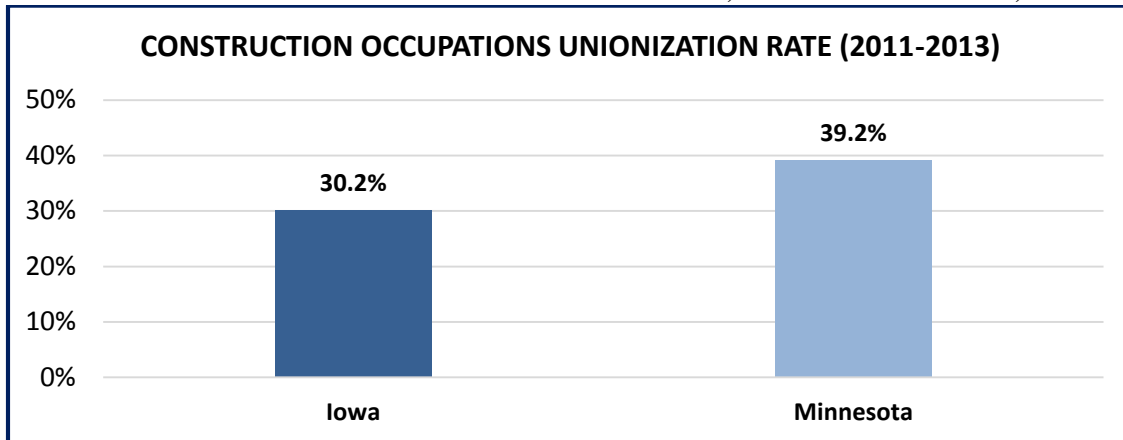
FIGURE 5: LABOR MARKET OUTCOMES OF CONSTRUCTION WORKERS IN IOWA AND MINNESOTA, 2014

2014	Iowa	Minnesota	Difference
Average Wage and Salary Income	\$41,032	\$46,615	13.6%
Average Household Income	\$80,791	\$94,784	17.3%
Covered by Health Insurance	84.3%	86.5%	2.2 p.p.
Female Share of Workers	1.6%	2.9%	1.3 p.p.
Average Age of Workers	41.8	40.8	-1.0 yrs

Source(s): Authors' analysis of Ruggles et al., 2015 – American Community Survey.

As a result, construction workers tend to experience better labor market outcomes in Minnesota than in Iowa (Figure 5). Compared to their counterparts in Iowa, average wage and salary incomes and average household incomes of blue-collar construction workers are, respectively, 13.6 percent and 17.3 percent higher. In addition, 86.5 percent of Minnesota's construction workers are covered by a health insurance plan compared to just 84.3 percent in Iowa. Relative to Iowa, the higher wages and better benefits packages in Minnesota may attract more young men and women to join the construction industry in their state.

Apprenticeship programs are bolstered in Minnesota relative to Iowa because the former has stronger trades unions and a prevailing wage law to support worker training. From 2011 through 2013, 39.2 percent of blue-collar workers employed in construction occupations were members of a labor union in Minnesota. In Iowa, on the other hand, the equivalent union membership rate was 30.2 percent during that time (Figure 6). With a unionization rate that is 9 percentage points higher, the construction industry in Minnesota has more private incentive to invest in worker training. In addition, economic research finds that prevailing wage laws significantly increase apprenticeship training (Philips, 2014; Philips et al., 1995). Iowa does not have a prevailing wage statute. Thus, Minnesota likely has a higher ratio of apprentices in its construction workforce because private funding for registered apprenticeship programs is supported through the state's prevailing wage law.

FIGURE 6: CONSTRUCTION OCCUPATION UNIONIZATION RATE, IOWA AND MINNESOTA, 2011-2013

Source(s): CEPR, 2015 – CPS ORG Uniform Extracts.

The Relatively High Rate of Construction Fatalities and Injuries in Iowa

By fostering skilled construction workers, training programs also reduce the amount of injuries and fatalities on the job. Federal law ensures that all workers have the right to a safe workplace, but construction remains one of the most dangerous occupations in the labor market. On-the-job injuries and fatalities in the industry can cost states hundreds of millions of dollars in economic output each year (Manzo, 2015).

According to a recent study by the Midwest Economic Policy Institute, there is a higher chance that worker injuries and fatalities will occur in Iowa than across the border in Illinois (Manzo, 2015). Data collected from 2011 to 2013 show that Iowa had 2.2 workplace fatalities per 10,000 construction workers and 266 nonfatal injuries and illnesses per 10,000 full-time construction workers. By contrast, Illinois had 1.4 on-the-job fatalities per 10,000 construction workers and 152 nonfatal injuries per 10,000 full-time construction workers. Furthermore, the estimated economic cost of construction-related fatalities and injuries is \$125 million per year in Iowa. Iowa's construction labor market is far more dangerous and costly to the state than similar states with stronger trades unions, more apprenticeship programs, and effective prevailing wage policies.

Additional taxpayer resources to expand training programs and improve worker safety programs may not be necessary in Iowa, however. Joint labor-management apprenticeship programs are funded entirely through private agreements. By facilitating worker organizing and ensuring that workers contribute fair share fees to a labor union, Iowa can generate more programs and produce journeymen and journeywomen at rates similar to Minnesota and Illinois. This would create a larger supply of skilled workers and would reduce the number of work-related injuries and fatalities in Iowa without the need for public funding.

Conclusions and Policy Implications

Construction contractors in Iowa are facing an impending skilled worker shortage. Construction firms increasingly are demanding high skill levels from their new hires. Fewer than half of Iowa's construction industry employees had more than a high school degree in 2010. From 2010 through 2014, however, three-fifths of all new construction jobs in Iowa were filled by a worker with more than a high school degree.

At the same time that Iowa contractors are demanding more skilled construction workers, the industry is producing an inadequate supply of registered apprentices. Compared to neighboring states with higher construction worker union membership rates and prevailing wage laws, Iowa has fewer apprentices and invests less in worker training. While apprentices make up approximately 7.6 percent of all construction workers in Iowa, they comprise 10.2 percent of the workforce in Minnesota. Contractors in Minnesota are thus better able to meet the increasing demand for skilled, safe, and productive construction workers.

In addition, inadequate training contributes to relatively high economic costs due to construction worker injuries and fatalities. Iowa has 2.2 workplace fatalities per 10,000 construction workers and 266 nonfatal injuries and illness per 10,000 full-time construction workers. By contrast, Illinois had lower fatality and injury rates: 1.4 deaths per 10,000 construction workers and a nonfatal injuries 152 per 10,000 full-time construction workers. The economic cost of construction-related fatalities and injuries amounts to \$125 million per year in Iowa. Iowa's construction labor market is more dangerous and more costly to the state than similar states with stronger trades unions, more apprenticeship programs, and effective prevailing wage policies.

To foster a high-skilled construction workforce, the state should take steps to expand registered apprenticeship programs. On the one hand, Iowa could increase adult education funding for state-run programs. On the other hand, the state could support worker organizing, could encourage the payment of fair share fees to trades unions, or could enact a prevailing wage law. Each of these policy changes would indirectly increase enrollment in— and private funding for— apprenticeship programs without expending additional taxpayer dollars. In addition to increase productivity and worker safety, these high-wage solutions would also attract skilled workers from other industries to join the construction labor market in Iowa.

It is evident that Iowa's construction industry is facing an impending skilled labor shortage. If state legislators take high-road actions to bolster training programs, the private marketplace can meet the demand.

Sources and Data

- ACG. (2015) *Ready to Hire Again: The 2015 Construction Hiring and Business Outlook*. The Associate General Contractors of America.
- Aschbrenner, Joel. (2015). "Survey: Construction Companies Need More Workers." *The Des Moines Register*.
- BLS. (2015). (a). "Economy at a Glance: Iowa." U.S. Department of Labor, Bureau of Labor Statistics.
- BLS. (2015). (b). "Economy at a Glance: Minnesota." U.S. Department of Labor, Bureau of Labor Statistics.
- CEPR. (2015). *CPS ORG Uniform Extracts*, Version 1.7. Center for Economic and Policy Research.
- DOLETA. (2015). "Registered Apprenticeship National Results: Fiscal Year 2014 (10/01/2013 to 9/30/2014)." U.S. Department of Labor Employment and Training Administration.
- Grayson, Wayne. (2015). "Shortage of Skilled Construction Workers Delays Completion of Iowa Biofuel Plant." *Equipment World*.
- IWD. (2015). (a). *Workforce Needs Assessment: Iowa Analysis*. Iowa Workforce Development.
- IWD. (2015). (b). *Iowa's Workforce and the Economy 2015*. Iowa Workforce Development.
- Manzo IV, Frank. (2015). *The Cost of Construction Injuries and Fatalities in Illinois, Indiana, and Iowa*. Illinois Economic Policy Institute.
- Pardee, Justin. (2015). "Pardee: Prevailing Wage Law Supports Families, Service." *Lansing State Journal*.
- Philips, Peter. (2014). *Kentucky's Prevailing Wage Law: An Economic Impact Analysis*. University of Utah.
- Philips, Peter; Garth Mangum; Norm Waitzman; and Anne Yeagle. *Losing Ground: Lessons from the Repeal of Nine 'Little Davis-Bacon' Acts*. University of Utah.
- Reed, Debbie; Albert Yung-Hsu Liu; Rebecca Kleinman; Annalisa Matri; Davin Reed; Samina Sattar; and Jessica Ziegler. (2012). *An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States*. Mathematica Policy Research. Submitted to the U.S. Department of Labor Employment and Training Administration (DOLETA).
- Ruggles, Steven; Katie Genadek; Ronald Goeken; Josiah Grover; and Matthew Sobek. *Integrated Public Use Microdata Series: Version 6.0* [Machine-readable database]. Minneapolis: University of Minnesota, 2015.