

MINNESOTA ECONOMIC

# TRENDS

## THE LABOR CRUNCH

HIGH DEMAND FOR WORKERS  
CHALLENGES MINNESOTA EMPLOYERS

A person's hand is visible on the left, holding a red sign with white text. The sign reads "HELP WANTED" in large, bold, white capital letters. The background is a blurred image of a person's face, looking slightly to the right, against a light blue sky with some clouds. The overall image conveys a sense of urgency and the need for workers.

**HELP  
WANTED**

JUNE 2017



# State of the State 2017

In a recent story about Utah's economy, the New York Times concluded that the biggest economic concern in the state is no longer a lack of jobs, but a lack of workers. Businesses all over the state are struggling to expand because of a labor shortage.

The newspaper easily could have been writing about Minnesota. The state's tight labor market is a common theme in the six regional stories in this issue of Trends. Job vacancies are at or near record highs in every area of Minnesota. The Twin Cities, which accounts for more than 60 percent of the jobs in the state, has 0.9 unemployed people for each job vacancy.

Depending on your perspective, that isn't necessarily a bad thing. A worker shortage means more opportunities for job seekers, rising salaries and lower educational requirements to make it easier to recruit employees.

Still, a tight labor market is concerning because it could slow the economy if employers can't find enough workers to keep growing.

Labor shortage aside, the overall economic outlook in Minnesota remains positive heading into the second half of the year. The state is keeping pace with the country in job growth, manufacturing hours are climbing, homebuilding permits are at their highest level in more than a decade and initial claims for unemployment benefits are at record lows.

With DEED and other organizations working to address the state's labor force challenges, including the equity gap experienced by people of color and other groups, there are plenty of reasons to be optimistic about the Minnesota economy and where it's headed.

**Monte Hanson**  
Editor

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# State of the State 2017

*With the recovery now eight years old, the Minnesota economy appears to be at or near full employment.*



Photo: huePhotography

The stories in this issue describe an economy that is still recovering from the ravages of the recession that officially ended eight years ago in June. Indeed, as of March, this expansion was the third-longest in U.S. history, at 93 months and counting.

As impressive as that is, though, the depth and severity of the recession means that by some measures we can only now claim that our labor markets have recovered. At the same time, from a macroeconomic perspective, the state appears to have reached “full employment.”

It is important to clarify what is meant by this term, especially when many of us are unemployed or know someone who is. How can we claim to be at “full employment” when clearly some Minnesotans are unemployed? The explanation for this disconnect is that a dynamic economy, even in the best of times, will experience declines in some sectors or regions even as growth persists in others.



For example, while jobs are being added in industries like health care and construction, employment in manufacturing and information have yet to recover the losses experienced eight years ago. Automation in many manufacturing plants, and a shift in telecommunications from wired technology to wireless have contributed to employment decline in these areas, even as these technological advances provide improvements to our overall living standards.

Currently, unemployment largely represents a desirable reallocation of our workforce from areas that have a shrinking need for workers to areas that have a growing need. This reallocation doesn't happen instantaneously. Moving from one industry to another might require time for workers to seek the right opportunity or accumulate the right skill set through training or education. Similarly, moving from a region

that has experienced a plant shutdown to another region with suitable opportunities for the affected workers requires time for relocation.

Unemployment during full employment also arises as new entrants search for their first jobs. Job searches take time. Think of that newly minted college graduate now embarking on his or her first job. Research strongly supports the crucial influence that a first job can have on a person's lifelong earnings trajectory, so taking time at the outset can result in a better allocation of labor resources further down the road.

Unemployment that arises when workers require time to find jobs is called "frictional" unemployment because it arises through the inability to instantly move between jobs. It is a manifestation of an efficient reallocation of our workforce in a dynamic and ever-changing

economy. That is not to say that a laid-off production worker or a miner who needs to re-skill or relocate does not experience hardship. While there are numerous programs administered by DEED and other entities to mitigate these hardships, this reallocation is a necessary and continual process in a dynamic economy.

Getting back to the current state of our economy, there are strong indications that 2016 moved us into or near full employment. For example, during the fourth quarter of 2016, our Job Vacancy Survey revealed that there were 1.1 unemployed Minnesotans for every job vacancy in the state, a rate that has been essentially stable for the past two years. In other words, there are as many openings as there are people vying to fill them, although they may not necessarily be in the same place or have the right skill set. This is evidence that our current unemployment is largely



frictional in nature, as opposed to the significant “cyclical” unemployment we faced eight years ago when there were 8.2 unemployed people for every vacancy.

Another persuasive sign of full employment has been recent increases in the average wage rate across many sectors of our economy. As of April, average wages of private sector workers are up 7.5 percent over a year ago, with many industries contributing to this strong wage growth, including professional and business services (7.3 percent), manufacturing (6.8 percent), financial activities (7.4 percent), education and health care (6.8 percent), and leisure and hospitality (8.6 percent).

Considering that a year ago private sector annual wage growth was 3.5 percent and a year before that it was 0.5 percent, we are certainly seeing tight labor markets yield long-awaited wage gains.

A final statistic that supports the claim that full employment has been realized is the unemployment rate itself. Our official unemployment rate fell from a recessionary peak of 8.1 percent in June 2009 to 4 percent in July 2014, remaining at or slightly below that level ever since, most recently standing at 3.8 percent in April 2017. Correspondingly, the number of

unemployed Minnesotans has consistently been in the 110,000 to 120,000 range throughout the last four years. The persistence of this number during a period when we have added about 125,000 jobs is consistent with this being a normal level of frictional unemployment.

Before concluding that all those unemployed Minnesotans can be characterized as “frictional,” it is important to note that Minnesota continues to experience a disparity in unemployment across racial lines. As of April 2017, the average unemployment rate over the previous 12 months for all black Minnesotans stood at 8.1 percent. That rate is well down from its recessionary peak of 23.3 percent but still much higher than the comparable rate of 3.1 percent for white Minnesotans.

Whether or not black unemployment is frictional in nature, it is the case that hiring 7,600 currently unemployed black Minnesotans would lower their unemployment rate to 3.1 percent. In other words, even if the racial disparities are indeed driven by factors unrelated to frictions in worker reallocations, their share of overall unemployment is fairly small.

This is important to note as we move into a prolonged period of much slower labor force growth.

Racial disparities are a significant socio-economic problem that needs to be addressed. But as important as they are to correct, doing so will not substantially offset the worker shortages that will exist in the years ahead.

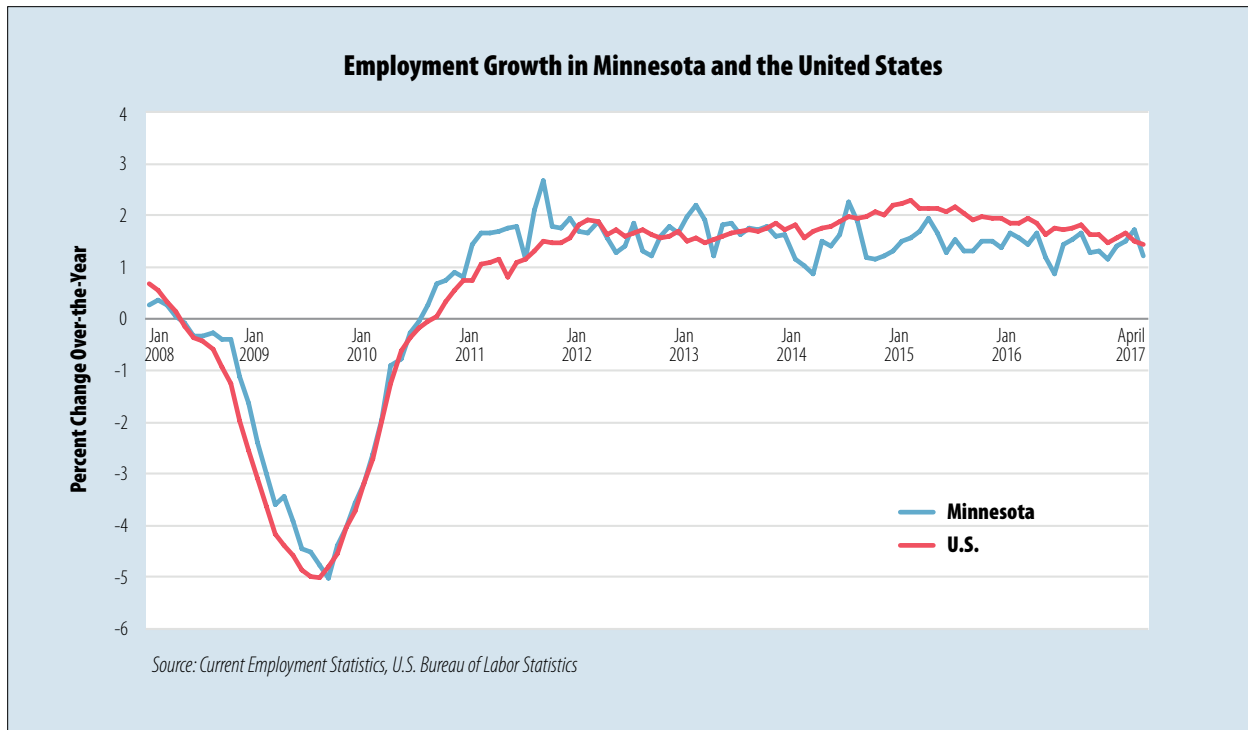
Job growth, therefore, will be constrained by the slower growth in available workers, which will in turn depend largely on whether foreign immigration continues to be a strong source of workers and whether older people can be enticed to work beyond traditional retirement age.

While the impact of these factors is not clear, one thing is certain: An economy at full employment will prolong recent wage gains and further reduce our persistent racial disparities through 2017 and hopefully beyond.

## Employment

Minnesota employment grew 1.4 percent in 2016, the same rate as 2014 and slightly less than the growth rate of 1.5 percent in 2015. This rate of expansion seems to be the new normal – at least for the time being – as both Minnesota and the United States have generally averaged between 1 and 2 percent annual employment growth in recent years, a decrease from more rapid growth right after the Great Recession.

FIGURE 1



While a leveling off is common, current rates are still well below recent historical averages. For comparison, average annual growth rates over 2 percent and sometimes 3 percent were common in the 1980s and '90s. This lower rate of job growth mirrors the stagnation that's occurring across the broader economy.

For April, the most recent month for which we have data, preliminary estimates peg the over-the-year growth rate at 1.2 percent, although there is a significant amount of fluctuation in single-month estimates (March had 1.7 percent annual growth). The state added 32,920 jobs in calendar year 2016 and 34,715 jobs in the 12 months

that began in April 2016.

In the months immediately before and after the recession, Minnesota job growth performed well compared with the national average. While the job markets bottomed out at similar levels, job losses came slightly later here than nationally and our rebound was stronger in the initial recovery from 2010 to 2011. Minnesota employment returned to its pre-recession peak by August 2013, while it took the U.S. until May 2014 to reach the same benchmark (see Figure 1).

By late 2013 and early 2014, however, Minnesota job growth began to level off. At the same time, U.S. job growth sped up. As a result, our growth rate fell

well behind the national pace, with annual growth rates at 1.4 and 1.5 percent in 2014 and 2015, respectively, compared with national rates of 1.9 and 2.1 percent. Over the past 1-1/2 years, that gap began to close: Minnesota's 2016 average growth rate of 1.4 percent compares more favorably to the national average of 1.7 percent. By March 2017, over-the-year growth in Minnesota (1.7 percent) outperformed the national rate of 1.5 percent for the first time since mid-2014.

Employment growth has not occurred uniformly across industries. In the 12 months leading up to April 2017, Minnesota added 34,715 jobs (see Table 1). More than half of

**TABLE 1 Employment in Minnesota and the United States, April 2017**

Industry	Minnesota Employment	Minnesota OTY Change	U.S. Employment	U.S. OTY Change
Total Nonfarm	34,715	1.2	145,979,000	1.4
Total Private	32,030	1.3	123,256,000	1.6
Mining and Logging	787	13.7	693,000	3.6
Construction	3,021	2.7	6,769,000	2.4
Manufacturing	391	0.1	12,333,000	0.3
Trade, Transportation and Utilities	1,899	0.4	27,142,000	0.7
Information	1,107	2.2	2,729,000	-2.0
Financial Activities	2,263	1.3	8,383,000	2.1
Professional and Business Services	2,858	0.8	20,556,000	2.9
Educational and Health Services	18,929	3.6	23,176,000	2.2
Leisure and Hospitality	-2,437	-0.9	15,745,000	1.8
Other Services	3,212	2.8	5,730,000	1.0
Government	2,685	0.6	22,723,000	0.6

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics

that gain (18,929 jobs) was in the educational and health services supersector, but it accounted for just 18.6 percent of all jobs in the state in April. The health care portion of that supersector is by far the bigger of the two, accounting for 16 percent of all Minnesota jobs. The 3.6 percent over-the-year (OTY) growth in the supersector far exceeded the U.S. rate of 2.2 percent.

Minnesota also greatly outperformed the country in the information supersector in April. That follows many years in which Minnesota shed jobs while the U.S. added jobs in information. Minnesota's strong over-the-year

growth does not make up for previous weakness.

Minnesota's employment growth has significantly underperformed the national rate in some industries. As of April 2017, professional and business services accounted for over 14 percent of nonfarm jobs nationally and 12.8 percent in Minnesota. Nationally, over the last three years the supersector's OTY growth averaged 3 percent in 2014 and 2015, 2.6 in 2016, and 2.9 percent in April 2017. Minnesota's OTY growth in professional and business services, on the other hand, averaged only 1.6 percent in

2014 and 2015, 1.5 percent in 2016, and 0.8 percent in April.

Employment services, a component sector within professional and business services that includes temporary help employees, is often seen as a leading labor market indicator. It has been shedding jobs in Minnesota since 2015 and was down 2.5 percent OTY in April. In contrast, the industry grew steadily nationally, up 3.2 percent OTY in April, though average growth has decreased nationally every year since 2010. It is possible that the decline in temp help employment in Minnesota is a result of the tightening labor market.

Leisure and hospitality, the only supersector to lose jobs in April, was off by 0.9 percent, compared with the country's 1.8 percent increase. Leisure and hospitality employment has been declining in Minnesota since late 2016, while nationwide it hasn't seen a month of OTY job loss since 2010, although growth rates have been slowing in recent months.

## Measures of Unemployment

Overall unemployment has remained stable for the past three years, and this is true from the most narrow to the broadest definition of unemployment. 2015 opened with a seasonally adjusted



January U-3 unemployment rate (the official unemployment rate, which counts only those who are actively looking for work) of 3.8 percent. The rate ended in December at 3.9 percent, with minimal movement in the interim.

2016 likewise started at 3.9 percent and ended at 4 percent. In the most recent two months for which we have estimates, March and April 2017, rates again ticked down, to 3.8 percent. The state unemployment rate seems to have found its level, staying firmly between 3.7 and 4 percent since June 2014. Meanwhile, the national

unemployment rate continues to close the gap. It has been steadily declining since 2010, sitting at 4.4 percent as of April preliminary estimates, after starting 2016 at 4.9 percent.

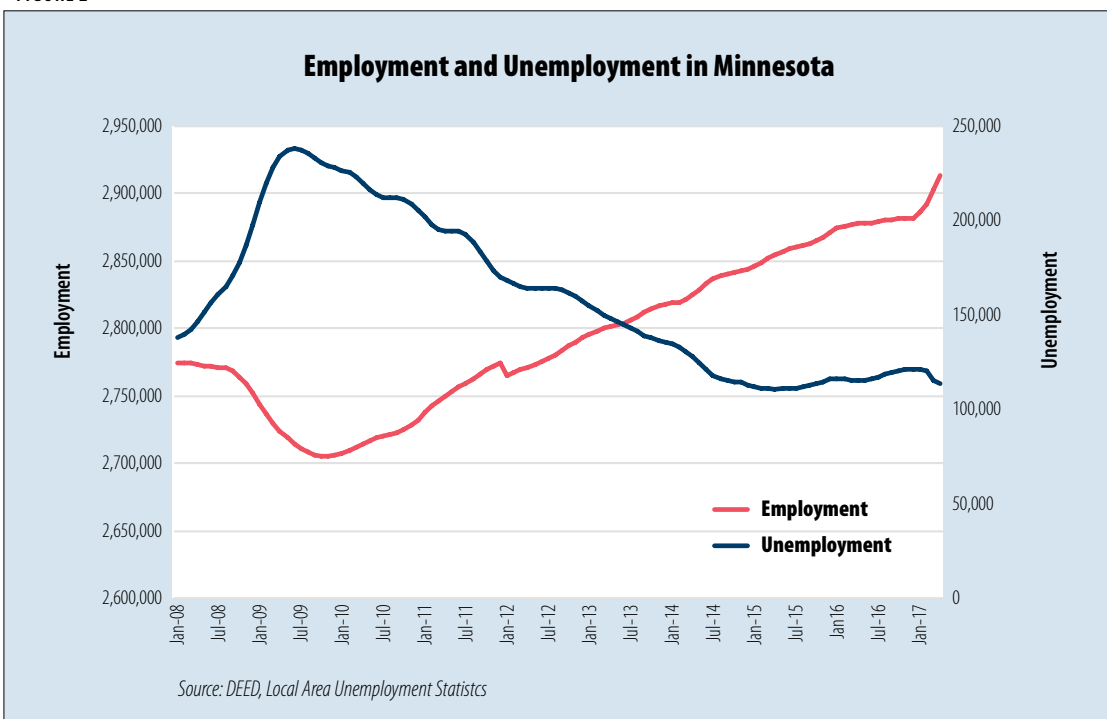
The 2016 average annual labor force in Minnesota was 2,996,712, an increase of 25,771 from 2015 estimates. The labor force participation rate was unchanged at 69.5 percent, and the employment-to-population ratio ticked down from 66.9 percent to 66.8 percent. While employment growth was minimal in 2016, and the total number of unemployed actually inched up slightly over the

year, early 2017 has seen more significant improvements in both measures (see Figure 2).

Minnesota's official unemployment rate tells us a lot about the share of people in the labor force who have untapped potential. But it doesn't tell the whole story. We can learn more by looking beyond the traditional unemployment rate at alternative definitions of the unemployed and by examining unemployment rates by age, gender and race (see Table 2).<sup>1</sup>

When we break out unemployment rates by race, we find that some groups

FIGURE 2



<sup>1</sup>It should be noted that the rates presented in this section are averages over the previous 12 months and thus may differ slightly from other figures presented in this article. They are also based on relatively small sample sizes and are more prone to measurement errors. This is especially true for the rates broken out by race and for teenagers.

face greater challenges than others. White and Hispanic unemployment increased slightly over the year, while black unemployment fell. White unemployment rose to 3.1 percent in April 2017 from 2.9 percent a year ago, while Hispanic unemployment rose from 5 percent to 5.4 percent. Black unemployment fell substantially from 12 percent to 8.1 percent, though still remains at more than double the white rate. Although it appears that the fall in black unemployment is real and sustained, it is difficult to gauge the true magnitude because of the large degree of sampling error for this group arising from small sample sizes.

Overall, the broad U-6 employment rate (counting anyone who looked for work in the past year, as well as anyone working part time but wanting to work full time) fell from 8 percent to 7.7 percent. Taken together, these trends imply a substantial reduction in the number of involuntary part-time workers, which fell nearly 10 percent from 102,000 to 92,000.

The number and share of long-term unemployed (six months or more) continued their downward trends since peaking in 2011, and both are now the lowest they have been since 2002. The number fell to 12,900 in April 2017, down from 16,600 in April 2016, while the share of

long-term unemployed among all unemployed fell from 14.8 percent to 11.2 percent. The continued decline in long-term unemployment shows that the labor market continues to tighten even as the overall unemployment rate appears to have bottomed out.

Teenage unemployment increased sharply in the past year, starting in mid-2016. The teen unemployment rate was 7.8 percent in April 2016, and rose to 11.4 by April 2017. This rise coincided with the minimum wage increase which took effect in August of 2016. This raised minimum wages to \$7.75/hr for those under age 18, and \$9.50/hr for everyone else, and is notable

because minimum wage rules tend to apply disproportionately to teen workers. However, the teenage labor force participation rate also increased substantially during this period, from 49.9 to 52.6 percent. Increases in labor force participation also tend to increase the unemployment rate. The number of teenagers in the labor force increased by nearly 14,000 from April 2016 to April 2017. While nearly 7,000 of these entrants became unemployed, an even larger number, just over 7,000, became employed. Because of this increase in labor force participation, it is difficult to say what effect, if any, the minimum wage increase had on teenage unemployment.

TABLE 2 Measures of Unemployment

Measures of Unemployment Type	Unemployment Rate (%) April 2016	Unemployment Rate (%) April 2017	Percent Change
U3 (Official)	3.7	3.9	0.2
U6	8.0	7.7	-0.3
Long-term (over 6 months) share of unemployed	14.8	11.2	-3.6
Age 16-19	7.8	11.4	3.6
Female	3.0	3.3	0.3
Male	4.3	4.4	0.1
Black	12.0	8.1	-3.9
White	2.9	3.1	0.2
Hispanic	5.0	5.4	0.4

Source: DEED, Labor Market Information Office

The unemployment rate for all men has stayed in a narrow band between 4.1 and 4.5 percent since November 2014, most recently registering at 4.4 percent in April 2017. The unemployment rate for all women may have hit the bottom of a long downward trend in summer of 2016, when it reached a low of 2.7 percent, from a summer 2011 high of 6.3 percent. After a five-month rise following summer, the unemployment rate among women registered at 3.3 percent in April.

### Job Vacancies

In 2016, job vacancies reached their highest level since DEED's Job Vacancy Survey (JVS) was launched 16 years ago, indicating a healthy labor market (see Figure 3). DEED reported about 98,000 job openings in the second quarter of 2016, similar to the number of jobs reported in second quarter 2015. In fourth quarter 2016, 97,400 vacancies were reported, up 1.3 percent from a year earlier, and representing the most job openings in any fourth quarter since the JVS started in the state. The job vacancy rate remained steady in 2016 at 3.6 (number of vacancies per 100 jobs). The number of unemployed per vacancy has remained steady over the last two years, ranging from



“The number of unemployed per vacancy has remained steady over the last two years, ranging from 1 to 1.2 statewide. These are the lowest consecutive readings on record.”

1 to 1.2 statewide. These are the lowest consecutive readings on record.

Figure 3 also shows year-over-year wage growth, as well as the movement of wage offers in real dollars (using the consumer price index for all urban consumers). Real wages take inflation into account, so any increase in real wage offers indicates they are rising faster than inflation.

Trends in real wage offers over the last 16 years occurred in three phases. The first phase covers the period from 2001 to 2007, when wage offers grew in real dollars. The second phase

covered 2008 to 2011, the Great Recession, when wage offers lost ground in real dollars. The last phase started in 2012 and reflects a leveling off in real wage offers with little growth.

In fact, growth in wage offers since 2012 has been, in part, driven by small increases in the two largest occupations: sales and related, and food preparation and serving. Median wage offers in food prep and serving increased from \$7.58 to \$10.94 between fourth quarter 2012 and fourth quarter 2016. Over the same period, median wage offers in retail trade increased from \$9.71 to \$11.43. These increases

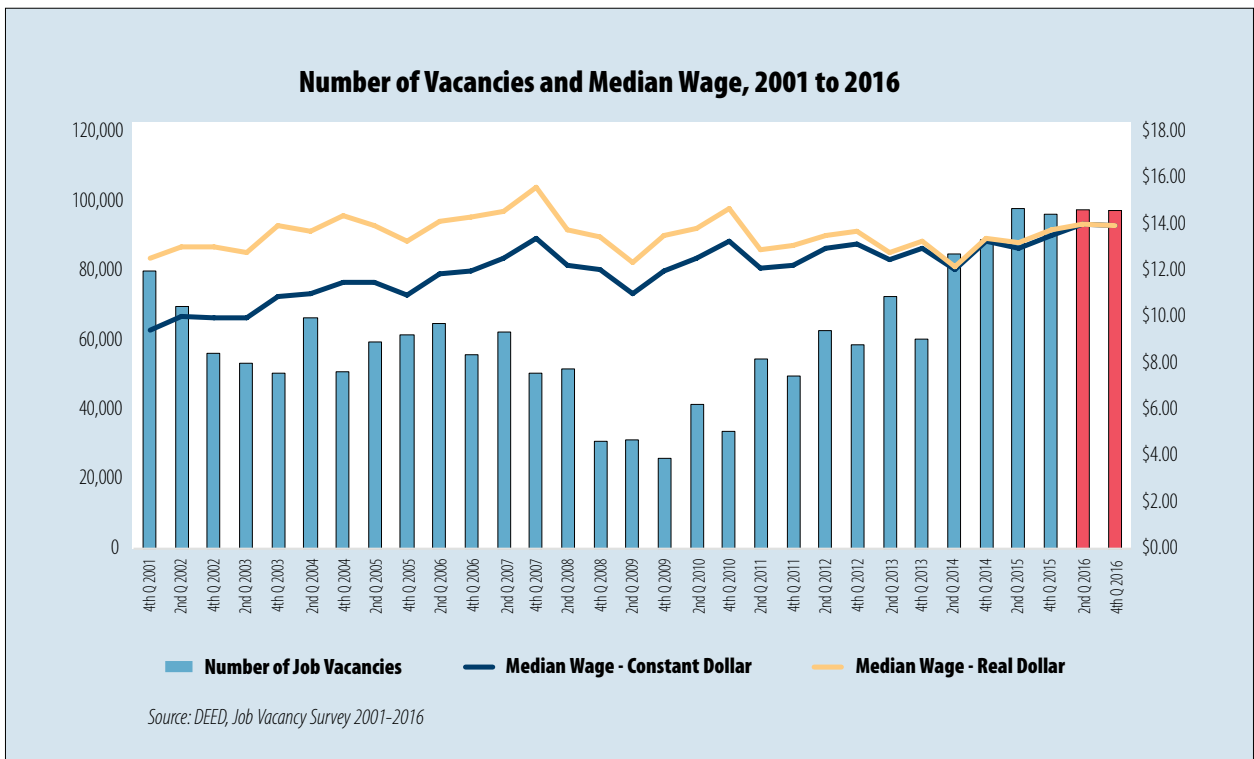
were likely driven in part by the step increases in Minnesota's minimum wage, which rose from \$7.25 at the beginning of 2014 to \$9.50 by August 2016, pushing up wages in the lowest-wage occupations.

Although small increases in median wage offers indicate recovery for the Minnesota economy and labor market, real wage offers have not reached their pre-recession levels.

### Job Vacancies by Occupational Group

More than half (52 percent) of all reported vacancies during

FIGURE 3





fourth quarter 2016 were concentrated in five occupational groups: sales and related occupations (15.2 percent of all vacancies), food preparation and serving (13.3 percent), personal care and service (8.5 percent), office and administrative support

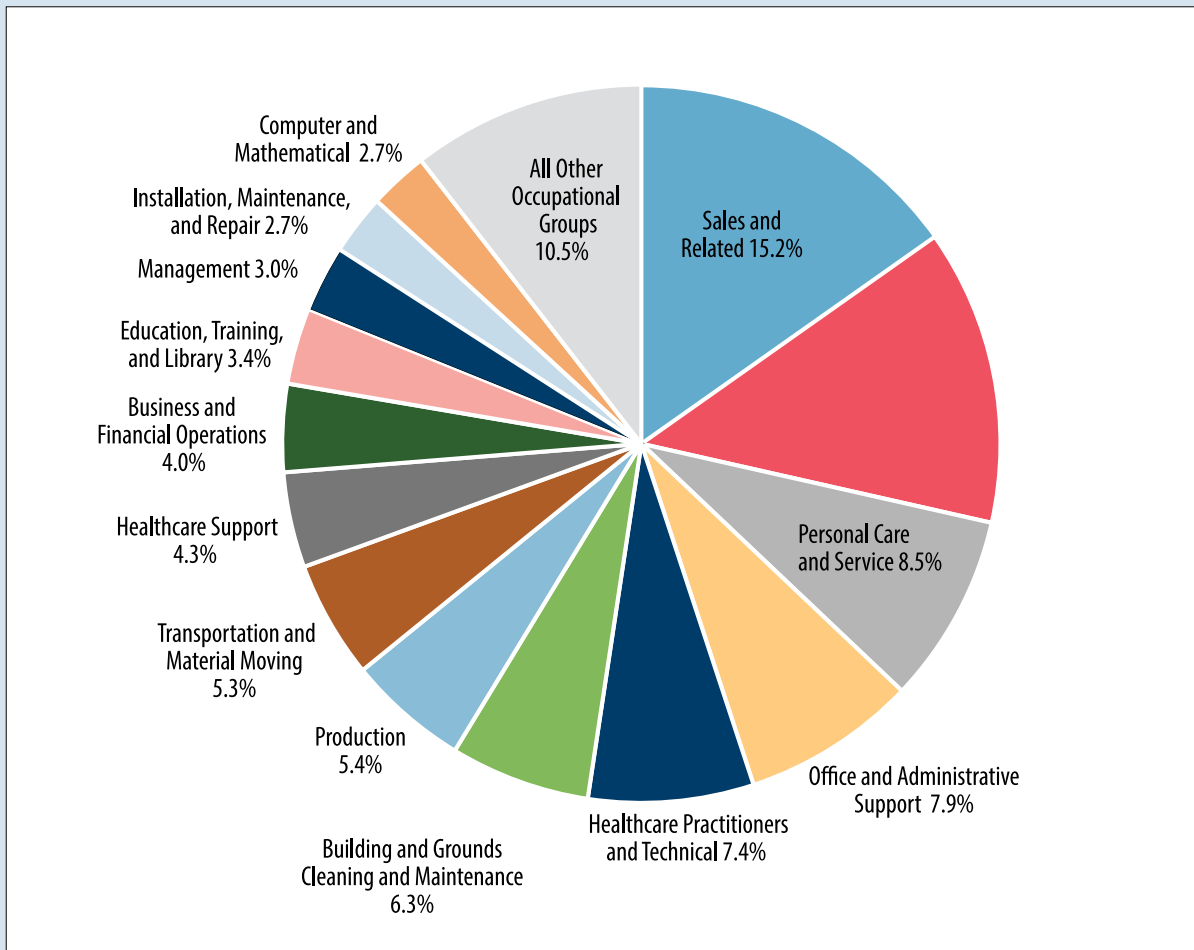
(7.9 percent) and health care practitioners and technical occupations (7.4 percent) (see Figure 4).

About 55 percent of jobs in these five groups were part time — defined for the survey as fewer

than 35 hours a week. Most were not seasonal or temporary. In general, part-time jobs are less likely to offer health insurance benefits. In fact, only 48 percent of the vacancies in these five occupational groups offered health insurance benefits.

FIGURE 4

### 4th Quarter 2016 Vacancies by Occupational Group



Source: DEED Job Vacancy Survey



### Job Growth Forecast

Minnesota's job growth is off to another solid start in 2017, averaging 1.5 percent higher than a year ago through the first three months. That is above the 1.2 percent increase expected for all of 2017. Slower labor force growth will likely slow job growth in 2017.

The unemployment rate – after increasing in 2016 – dropped to 3.8 percent in March, the lowest rate in over a year. The jobless rate is likely to continue to edge down, with employment growth remaining solid through the rest of the year. The 1.2 percent forecasted annual average employment growth for 2017 will be the lowest since jobs started to rebound in 2011.

Annual job growth averaged 1.6 percent between 2011 and 2016, including the 1.4 percent increase recorded last year. That is the best six-year average since 1996 to 2001, when employment expanded on average by 2 percent annually. Labor force growth climbed 1.5 percent annually during the 1996 to 2011 period, but has expanded by only 0.9 percent since 2011. Slower annual labor force growth is expected in 2017, which will curb job growth below last year's pace. Overall, the Minnesota economy is forecast to generate 35,000 wage and salary jobs in 2017, down modestly from the 40,000 added last year.

Labor market indicators were positive during the first few

months in 2017, suggesting that job growth will remain on track this year. Job vacancies remain at post-recession highs, as employers search for new hires from a shrinking pool of unemployed. Manufacturing hours are slowly climbing after having slipped over the last two years. Homebuilding permits have reached levels not seen since 2006. Initial claims for unemployment remain at record-low levels as employers hang onto their workforces in a tight job market. Those indicators point toward another year of steady employment expansion in the state.

The 1.2 percent job growth expected in 2017 will be widespread, with most of Minnesota's industries adding workers. Payroll numbers are expected to decline in only three industries – natural resources and mining, state government higher education, and utilities. Ambulatory health care services, social assistance, and food services and drinking places are anticipated to add the most jobs. Manufacturing and construction employment, having partially rebounded from steep cutbacks during the recession, are expected to experience minimal hiring for the second year in a row.

The pace of hiring is also expected to slow compared with

TABLE 3

## Minnesota Industry Forecast to 2018

Industries	2011	2017	2018	Average Percent Change 2011 - 2017	Percent Change 2017 - 2018
Total All Industries	2,612,045	2,869,298	2,904,481	1.6	1.2
<b>Goods Producing</b>	<b>372,576</b>	<b>422,503</b>	<b>425,284</b>	<b>2.1</b>	<b>0.7</b>
Natural Resources and Mining	6,085	6,334	6,274	0.7	-0.9
Construction	73,805	102,386	104,538	5.6	2.1
Manufacturing	292,685	313,783	314,472	1.2	0.2
<b>Service Providing</b>	<b>2,239,470</b>	<b>2,446,795</b>	<b>2,479,197</b>	<b>1.5</b>	<b>1.3</b>
Utilities	12,752	12,276	12,201	-0.6	-0.6
Wholesale Trade	122,410	130,056	130,574	1.0	0.4
Retail Trade	270,003	296,547	299,155	1.6	0.9
Transportation and Warehousing	77,464	88,737	90,055	2.3	1.5
Information	53,361	50,608	50,670	-0.9	0.1
Finance and Insurance	129,635	143,127	146,007	1.7	2.0
Real Estate and Rental and Leasing	32,417	33,285	33,471	0.4	0.6
Professional, Scientific, and Technical Services	132,088	157,353	160,185	3.0	1.8
Management of Companies and Enterprises	71,847	78,656	79,778	1.5	1.4
Administrative and Support and Waste Management and Remediation Services	119,218	128,224	128,603	1.2	0.3
Educational Services	66,209	72,128	73,243	1.4	1.5
Ambulatory Health Care Services	126,325	152,488	157,287	3.2	3.1
Hospitals	98,716	107,672	109,176	1.5	1.4
Nursing and Residential Care Facilities	100,610	108,334	110,101	1.2	1.6
Social Assistance	73,057	93,458	97,665	4.2	4.5
Arts, Entertainment, and Recreation	32,385	36,366	37,217	2.0	2.3
Accommodation, including Hotels and Motels	23,630	23,021	23,293	-0.4	1.2
Food Services and Drinking Places	165,649	188,458	191,560	2.2	1.6
Other Services (except Government)	113,091	117,122	118,537	0.6	1.2
<b>Government</b>	<b>418,604</b>	<b>428,879</b>	<b>430,419</b>	<b>0.4</b>	<b>0.4</b>
Federal Government	32,529	32,039	32,084	-0.3	0.1
State Government, Excluding Education	37,155	38,885	39,117	0.8	0.6
State Government Higher Education	64,953	61,990	61,422	-0.8	-0.9
Local Government, Excluding Education	141,356	143,654	144,577	0.3	0.6
Local Government Education	142,610	152,311	153,219	1.1	0.6

Source: Minnesota Department of Employment and Economic Development

All forecast periods are for the first quarter and are Current Employment Statistic jobs (non-farm wage and salary employment).

TABLE 4

## Minnesota Occupational Forecast to 2018

Occupations	2011	2017	2018	Average Percent Change 2011 - 2017	Percent Change 2017 - 2018
<b>Total</b>	<b>2,612,045</b>	<b>2,869,298</b>	<b>2,904,481</b>	<b>1.6</b>	<b>1.2</b>
Management	135,129	172,317	174,505	4.1	1.3
Business and Financial Operations	152,945	171,329	173,849	1.9	1.5
Computer and Mathematical	83,809	94,096	95,433	1.9	1.4
Architecture and Engineering	45,603	53,207	53,506	2.6	0.6
Life, Physical, and Social Science	29,155	25,350	25,624	-2.3	1.1
Community and Social Service	69,819	57,249	58,341	-3.3	1.9
Legal	17,555	19,006	19,184	1.3	0.9
Education, Training, and Library	197,117	217,087	218,526	1.6	0.7
Arts, Design, Entertainment, Sports, and Media	36,936	36,416	36,713	-0.2	0.8
Healthcare Practitioners and Technical	156,686	174,882	178,273	1.8	1.9
Healthcare Support	98,364	92,995	94,869	-0.9	2.0
Protective Service	45,746	50,023	50,699	1.5	1.4
Food Preparation and Serving Related	205,541	230,543	234,104	1.9	1.5
Building and Grounds Cleaning and Maintenance	77,289	71,856	72,980	-1.2	1.6
Personal Care and Service	91,132	139,880	144,057	7.4	3.0
Sales and Related	250,774	275,750	278,363	1.6	0.9
Office and Administrative Support	410,031	411,469	415,199	0.1	0.9
Farming, Fishing, and Forestry	4,186	2,707	2,701	-7.0	-0.2
Construction and Extraction	66,791	89,558	91,234	5.0	1.9
Installation, Maintenance, and Repair	85,083	92,719	93,855	1.4	1.2
Production	200,686	215,534	215,339	1.2	-0.1
Transportation and Material Moving	151,668	175,325	177,127	2.4	1.0

Source: Minnesota Department of Employment and Economic Development

All forecast periods are for the first quarter and are Current Employment Statistic jobs (non-farm wage and salary employment).



the previous six years in the retail and the professional, scientific and technical industries. Industries expected to add employment faster this year than between 2001 and 2016 include accommodations, information and other private services. Table 3 compares the average annual change in employment across industries between 2011 and 2016 to the forecasted change in 2017.

Table 4 compares the same percent changes but from the occupational side of employment. Production and the farming, forestry and fishing occupations are the only major groups anticipated to

lose employment in 2017. Job cutbacks will be minimal in these two fields. The groups expected to add the most jobs in 2017 are personal care and service, office and administrative support, and food preparation and serving related.

Jobs in community and social service; life, physical and social science; and health care support occupations are anticipated to increase faster in 2017 than in the previous six years. Job growth in management, construction and extraction, and personal care and service are forecast to slip below the pace set between 2011 and 2016.

Expected job growth this year represents only 1.2 percent of the 2.9 million jobs that will exist by the end of 2017 in Minnesota. Openings from employment growth represent a small percentage of all job openings that will occur this year as workers retire or move on to other occupations. Construction companies and manufacturing firms will have plenty of openings in 2017, even though their workforce numbers will be up only slightly from 2016 [T](#)

*The following writers contributed to this article: Matthew Bombyk, Nicholas Dobbins, Steve Hine, Mohamed Mourssi and Dave Senf.*



# Minnesota's Untapped Workforce

*Blind, DeafBlind and low-vision Minnesotans can help the state address its growing labor challenges.*

Minnesota needs more workers to fill a growing number of jobs. Typical recruiting methods and data sources, however, may overlook an untapped source of labor – blind, DeafBlind and low-vision Minnesotans.

Although common strategies may help the general population, they frequently exclude people with disabilities by neglecting accessibility needs.

State Services for the Blind (SSB), a division of DEED, helps Minnesotans with visual impairments meet career demands by providing vocational rehabilitation (VR) services. The Workforce Innovation and Opportunity Act (WIOA) underscores the value of people with disabilities and their contribution to society by promoting competitive integrated employment goals for state VR customers and earmarking funds to prepare youth ages 14 to 21 for careers.

This article highlights the capacity of blind, DeafBlind, and low-vision Minnesotans to be productive employees. National survey and SSB administrative data are used, as well as staff and customer stories, to demonstrate successes and describe challenges that many SSB customers still face in the labor market.

## Data Challenges

Many researchers rely exclusively on national surveys, such as the American Community Survey (ACS), because the data are readily available and their accuracy is widely recognized. Extra care must be taken, however, when using these data to describe small populations. Administrative data can add depth and specificity to analyses of small populations, and specifically people with disabilities.

Several recent articles illustrate the problem of relying exclusively on ACS data to

describe Minnesotans with disabilities. A recent Trends article<sup>1</sup> using 2014 ACS data suggests that those with vision disabilities have lower unemployment rates than those with no disabilities. Moreover, a recent Minnesota State Demographic Center report<sup>2</sup> using 2015 ACS data indicates that those with vision disabilities have the second-highest labor force participation rate among those with disabilities.

In contrast, a 2017 study based on national VR administrative data concluded that those with vision disabilities face the lowest odds of achieving competitive integrated employment.<sup>3</sup>

One reason for the inconsistencies between these three studies rests with the different definitions used for disability and employment. While the ACS relies on individuals to self-report the level of difficulty they experience hearing or seeing in order to

<sup>1</sup>Mourssi-Alfash, Mohamed, "The Disability Employment Gap, by Type of Disability," Trends, December 2016.

<sup>2</sup>Egbert, Andi, "Minnesotans With Disabilities: Demographic and Economic Characteristics," March 2017, Minnesota State Demographic Center.

<sup>3</sup>O'Neill, John; Kaczetow, Walter; Pfaller, Joseph; and Verkuilen, Jay, "Impairment, Demographics, and Competitive Employment in Vocational Rehabilitation," Journal of Vocational Rehabilitation, 46 (2017): 149-158. Doi: 10.3233/JVR-160851.

identify people with hearing and vision disabilities, people who participate in state VR programs must typically meet specific medical criteria to be eligible. Thus, the ACS may capture a broader range of disability levels compared with VR participants.

WIOA and government-funded VR programs do not recognize employment below minimum wage or in segregated settings, commonly referred to as “sheltered workshops,” as successful outcomes. The ACS does not make this distinction.

Few people realize that laws permit employers with special certificates to pay people with disabilities below minimum wage to perform piece-rate work.<sup>4</sup>

Another factor is that the first two articles rely on one-year ACS sample data. Small ACS sample sizes can result in very few observations of that population in any one year (see second column in Table 1).

Furthermore, accessibility barriers, such as needing braille, further decrease the odds that

people with disabilities will complete mail or phone surveys. Overall, small sample sizes create huge variability across years and high standard errors in the resulting estimates as shown in the fifth column of Table 1. One easy way to correct this problem is to use five-year estimates as are shown in Table 2.<sup>5</sup>

Programs serving specific subpopulations, like those with visual impairments, are able to collect more detailed data from more people within that group through contact with customers.

**TABLE 1 2014 ACS One-Year Estimates for Minnesotans with Vision Impairment**

	Sample Size	Estimated Population	Estimate	Standard Error	Lower	Upper
Prevalence	396	44,018	1.4%	0. %	1.3%	1.5%
Labor Force Participants	195	22,482	51.1%	3.9%	47.1%	55.0%
Unemployed	6	834	3.7%	1.8%	1.9%	5. %
Annual Income	189	21,648	\$39,941	\$4,526	\$30,831	\$49,050

Source: American Community Survey, one-year data, 2014

**TABLE 2 2011 - 2015 ACS Five-Year Estimates for Minnesotans with Visual Impairment**

	Sample Size	Estimated Population	Estimate	Standard Error	Lower	Upper
Prevalence	1,852	38,963	1.2%	0.0%	1.2%	1.3%
Labor Force Participants	960	21,435	55.0%	1.9%	53.2%	56.9%
Unemployed	77	1,867	8.7%	1.3%	7.4%	10.0%
Annual Income	883	19,568	\$36,420	\$1,860	\$32,761	\$40,079

Source: American Community Survey, five-year data, 2011 to 2015

<sup>4</sup>Piece-rate work means that workers are paid for what they produce rather than their time.

<sup>5</sup>“The Disability Employment Gap, by Type of Disability” in the December 2016 issue of Trends used one-year ACS estimates. In looking at the other four years of estimates for the visually impaired we discovered huge variability in the unemployment estimate for this group. It is clear from this that five-year estimates are more reliable for this (and other) small populations and should be used in future articles on Minnesotans with disabilities.



This makes administrative data a rich source for describing specific populations. SSB administrative data, as shown in Table 3, allow for a more detailed report of the prevalence of specific vision impairments among customers who are all actively seeking to stay in or enter the labor force. It also shows more specificity in terms of outcomes. Moreover, whereas the ACS relies on customers to self-report their income, SSB verifies the income of customers as they exit programs.

### What Does SSB Do?

SSB serves thousands of visually impaired people through its Workforce Development Unit (WDU), Communication Center and Senior Services

Unit (SSU). This article focuses on the work of SSB's WDU, which serves more than 1,000 customers each year seeking to obtain, maintain or advance their employment.

All WDU customers must demonstrate eligibility with a verified medical diagnosis of a significant visual impairment. WDU customers must also seek an approved employment goal, which they develop with their VR counselor. After a customer is confirmed eligible, he or she is assigned to one of SSB's 15 VR counselors located at 13 offices across the state. The counselor, along with other SSB staff, guides the customer through an array of vocational assessments to gauge interests, abilities and needs.

Customers have access to other SSB staff, including job placement and assistive technology specialists. Job placement specialists conduct labor market analyses to gauge the opportunities available for different career paths, help customers write cover letters and resumes, prep for interviews, and line up work experience and jobs.

Assistive technology specialists help customers get the software and devices that best meet their needs, depending on their level of vision and the type of work they hope to do. Staff members

outline the technology and services that will aid customers in reaching their goals.

SSB customers come from a range of life circumstances and have varying needs and abilities. Some people come to SSB after a recent vision loss due to an accident or illness, while others may have lived their entire lives with little to no vision.

Those who recently lost their vision often go through a challenging adjustment period, during which many attend adjustment to blindness (ATB) training to learn the skills needed to adapt to life without sight. During ATB training, they learn a range of independent living skills including: mobility and travel skills such as how to get around with a white cane and use public transportation; home and personal management such as how to cook or manage money and medications; communication skills including reading and writing braille; and technology skills to use computers, accessible software and other electronic devices.<sup>6</sup>

People who have lived without vision for a longer period or are already living independently may not need ATB training. Instead, they may only need to learn a specific skill set to keep their current job or take their career further, such as learning a new

<sup>6</sup> ATB training is not covered by medical insurance, except very limited amounts in specific circumstances. Thus customers are left to pay out-of-pocket without SSB to help.



software program or obtaining a new credential.

All customers may choose to further their education or pursue specific vocational training. Depending on their career goals and prior education, some customers only need to take a couple of courses, while others enroll in full-time certificate or degree programs, ranging from occupational training to master's degrees. About 35 percent of customers from 2012 to 2016 left SSB with more education than when they arrived, with nearly 60 percent having completed at least some postsecondary education.

When training is complete, the customer is ready to enter the job market or take the next career step. At this point, the job placement team, or other contracted providers, offer additional support to customers who do not already have a job or are just learning to navigate the application process. In addition to finding employment opportunities for customers, job placement specialists can identify and coordinate accommodations on-site.

“When we work with our customers, we explain that they must be able to do everything that their sighted peers can do, although they may use different tools to do it,” says Dave Smith, job placement specialist.

With the right tools, people with vision impairments can perform many of the same duties as those with full sight. Extra lighting or larger monitors are examples of simple accommodations that can make a big difference. Accessible software, such as JAWS, enables people to navigate a computer with keyboard and audible controls. Special headsets permit employees to simultaneously answer phones and listen to computer commands.

Technological advancements have led to more sophisticated equipment, such as desktop CCTVs that enlarge print materials, braille displays that allow people to read their computer screens, and braille note takers for students or employees to keep up in meetings.

## Youth

Students as young as 14 can enroll and begin developing a foundation for career success. In fact, just over 35 percent of WDU customers from 2012 to 2016 were under 30 when they enrolled, with nearly 25 percent between the ages of 14 and 21.

During their time with SSB, youth work with specialized staff to explore career options, connect with mentors, develop their skills and gain work experience. Many students receive ATB training to learn the skills necessary to succeed in both their academic and professional careers. Students also can participate in summer enrichment programs that are geared to help build confidence and develop “soft skills” through networking and

**TABLE 3 Administrative Data on the Visually Impaired in Minnesota**

	2014 SSB		2012-2016 SSB	
	Sample		Sample	
Total Customers Served*	1,087	100.00%	1,991	100.00%
Blind	661	60.81%	1,178	59.17%
DeafBlind	70	6.44%	121	6.08%
Low Vision	314	28.89%	624	31.34%
Successful Closures	117	40.48%	586	41.12%
Unsuccessful Closures	172	59.52%	839	58.88%
Annual Income**	113	\$26,240.85	556	\$26,162.67

\*Includes those who started an application and the eligibility process, but may have closed before reporting their vision condition.

\*\*Prior to WIOA, customers who accepted unpaid positions, such as an unpaid family worker, were considered successful closures. Only those with income above \$0 were included in the average.

Source: DEED, State Services for the Blind (SSB)

socializing, practicing travel techniques to get around on public transportation, and visiting postsecondary schools.

Following the passage of WIOA and its youth funding mandate, SSB began revamping its youth programming in 2015. In addition to the services listed above, the new transition team focuses on designing specialized

services for students 14 to 21 years old through targeted outreach and collaborative efforts with partner organizations, including schools. SSB staff members are now more involved in students' education planning, helping to improve the transition to college and work.

New year-round afterschool programs allow youth to enhance social and life skills. Improved coordination with employers helps youth gain work experience and build resumes. The annual Career Expo connects youth with adult mentors in their fields of interest, while the Blind and Socially Savvy program helps boost confidence and self-esteem. Parents have reported watching their children transform, as their sense of independence flourishes after participating in these programs.

A key component of youth programming is self-advocacy, teaching kids at a young age how to talk about their disability, their needs, and how they are able to get the job done. When youth begin by talking to their teachers about their disability and necessary accommodations, they are more prepared to directly respond to employers when the time arises. SSB's philosophy is to hold young customers to high standards and teach them that they are capable of achieving their goals.

## Successes and Challenges

SSB staff members strive to help all customers realize their full potential and become competitive job candidates who are as qualified as their sighted peers. WIOA regulations define a successful closure as a case that is closed because a customer obtains employment in a competitive integrated setting, and unsuccessful when closed for any other reason.

An unsuccessful closure does not mean that all effort was lost. Customers may be forced to stop participating due to unforeseen life circumstances, such as illness or relocation. They may decide to work with another agency or organization, or they may not be ready to make the life changes required to complete their program and begin working. Sometimes the hard work a customer puts in pays off months or years later when they find a job on their own, or they return to SSB to finish their work.

From 2012 to 2016, 41 percent of SSB customers closed their cases successfully. Of those cases, about 44 percent found full-time work, earning an average wage of \$20.36 per hour, while 56 percent found part-time work earning an average of \$14.05 per hour. Table 4 shows the top 10 industries where SSB customers found jobs and their average wages by industry.



The benefits of employment are far-reaching, extending beyond the customer. Many can become fully self-sufficient, getting off government assistance and living independently. Moreover, society experiences a return on investment. Employers benefit from their work, and their tax contributions are reinvested in schools and infrastructure.

As previously mentioned, some people come to SSB to retain their current job. In these cases, customers often only need help finding the right tools or refining skills.

SSB specialist Dacia VanAlstine recalls one customer on the brink of losing his retail job because he took too long to complete inventory. After assessing the situation, SSB staff provided him with a Ruby, a handheld video magnifier, and recommended that his manager use larger print for the inventory sheets. After making those simple adjustments, he cut his inventory time in half and kept his job.

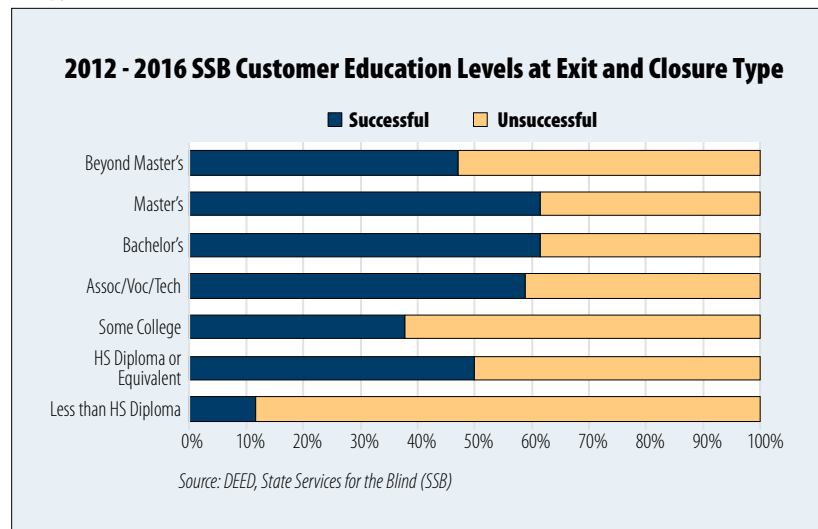
Despite the help they receive from SSB, many customers still face challenges when seeking employment. As Figure 1 shows, customers who complete a postsecondary degree are more likely to get a job, but there is still a substantial portion of SSB customers who complete degrees and do not find jobs. Some customers who struggle to find

**TABLE 4 Top 10 Industries for SSB Customers**

Industry	Percent	Wage
Office and Administrative Support	18.3	\$12.81
Sales and Related Occupations	9.0	\$12.12
Education, Training and Library	7.7	\$23.83
Community and Social Services	6.3	\$17.50
Business and Financial Operations	6.0	\$23.04
Food Prep. and Serving	5.3	\$10.15
Health Care Support	5.3	\$15.14
Management	5.3	\$30.48
Personal Care and Service	5.1	\$12.05
Computer and Mathematical	3.9	\$23.39

*Source: DEED, State Services for the Blind (SSB)*

**FIGURE 1**



work and face repeated rejections begin to feel helpless, give up and become what economists call “discouraged workers,” leaving the workforce altogether.

Persistence can pay off, however, as Nichoel Schlender’s story exemplifies. Schlender was born

blind due to a congenital illness. Although she earned an associate degree and had computer skills, she was unemployed when she arrived at SSB.

Schlender enrolled in additional vocational training and worked with technology specialists to

become more proficient on computers. But she still could not find work and landed in a sheltered workshop earning less than minimum wage. SSB staff helped her pursue more challenging work and eventually broke through to an employer, insisting that her braille proficiency made her perfect for a job.

Schlender has worked full time as a customer service representative at Ecolab for nearly 1½ years now. She receives benefits, earns a living wage and has received awards for both quality and attendance. She is grateful for her job at Ecolab, which allowed her to move out of low-income housing into a market-rate apartment that she loves and to socialize more with her new co-workers.

SSB customers face many of the same challenges that their sighted peers face when seeking employment, but their struggle is frequently exacerbated by accessibility issues and employer attitudes. Job postings often list seemingly unrelated minimum requirements that discourage qualified workers from applying, such as needing a valid driver's license or being able to see and hear. Pre-employment tests are often administered by employment agencies that do not provide accessible computers, and physical spaces can be difficult to navigate.

Unfortunately, society still has many misconceptions about what blind people can and cannot do. Employers and hiring managers who are unaware of the available tools and the abilities of blind people are not only missing out on competent employees, but may be excluding them.

Schlender encountered numerous employers who were resistant to letting SSB staff perform technology assessments and test software compatibility.

An understanding hiring manager can be a key factor, says SSB specialist Dave Smith. "It all comes down to the individual. If he or she previously encountered someone with a disability, then they are more likely to understand."

## Conclusion

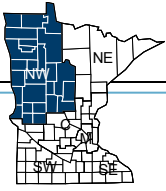
While much progress has been made to integrate people with disabilities into society and the workplace, much work needs to be done. Programs like SSB help people overcome personal barriers, but the data show that self-determination and training aren't enough. Policymakers and employers must help open doors for visually impaired people by making policy decisions and implementing practices based on data that are most appropriate for the population and context.

Large-scale, generalized data sets like the ACS can misrepresent the employment landscape for specific subgroups, like blind, DeafBlind and low vision Minnesotans. Agencies like SSB are excellent sources of information in such cases. Not only can SSB provide data and statistics on Minnesota's visually impaired population, but staff can help educate policymakers and employers on the employment barriers of visually impaired people and how organizations can become more accessible.

DEED and SSB encourage businesses to implement thoughtful recruiting strategies and invest in technology that creates a more accessible work environment. Removing barriers, such as unnecessary minimum requirements and inaccessible pre-tests, serves everyone better, as employers gain access to a larger pool of employees and provide access to those who did not previously have it. Technology investments pay off when positions are filled with efficient and effective employees. **T**







# Record Job Openings, Abundant Opportunities

*With employers struggling to fill more openings, wage offers have increased in almost every occupational group in the region.*

Job vacancies have tripled in Northwest Minnesota since 2010, increasing by more than 6,000 jobs. Regional businesses reported more openings in the second half of 2016 than in any fourth quarter on record, according to DEED's Job Vacancy Survey. With nearly 9,000 vacancies, job demand in the region continues to grow overall, but the mix of vacancies has changed.

As employers look to fill openings on a level not seen for over a decade, data show they are making adjustments to job requirements and wage levels. Vacancies have increased in every job category since 2010, but the same cannot be said for the past year.

Despite an overall increase of 731 job vacancies between the fourth quarters of 2015 and 2016, there were over 50 fewer vacancies in education, training and library occupations; health care support; food preparation and serving; construction and



extraction; and installation, maintenance and repair.

On the positive side, the fourth quarter 2016 survey showed over 100 more openings for health care practitioners; building and grounds cleaning workers; personal care and service occupations; and sales jobs (see Table 1).

## Job Shifts

With employers struggling to fill more openings, wage offers have increased in almost

every occupational group. In some cases, the makeup of job openings in a specific occupational group has also shifted, creating changes in wage offers and education and work experience requirements.

Health care practitioners and technical occupations are a good example. While the number of these vacancies increased between 2015 and 2016, the majority of new vacancies were in lower-paying technical jobs, such as licensed practical nurses, EMTs and paramedics, leading

to a declining median wage offer overall.

Wage offers, however, actually went up in the last year for both technicians and higher-earning health care practitioners such as registered nurses and physical therapists. But the surge in technician openings brought the median wage offer down overall.

In the last year the largest increase in median wage offers was for protective service jobs, but that was entirely due to the addition of higher-paying vacancies for correctional officers and jailers. Wage offers declined for other protective service workers such as security guards.

Conversely, wage offers for

transportation and material moving occupations increased significantly. Wage offers for motor vehicle operators rose \$9 from the year before, with wage offers climbing above \$20 per hour for heavy and tractor-trailer truck drivers in the region.

In addition to changing wage offers, some businesses have

**TABLE 1 Northwest Minnesota Job Vacancy Survey Results, Qtr. 4 2010 – Qtr. 4 2016**

	Number of Job Vacancies Q4 2016	Median Wage Offer Q4 2016	Change in Vacancies Q4 2010 – Q4 2016	Change in Wage Offer Q4 2010 – Q4 2016	Change in Vacancies Q4 2015 – Q4 2016	Change in Wage Offer Q4 2015 – Q4 2016
<b>Total, All Occupations</b>	<b>8,982</b>	<b>\$12.87</b>	<b>6,039</b>	<b>\$2.23</b>	<b>731</b>	<b>\$0.68</b>
Sales and Related	1,383	\$11.64	823	\$3.27	572	\$1.48
Personal Care and Service	1,252	\$10.65	1,131	\$2.78	550	\$0.84
Food Preparation and Serving Related	1,147	\$9.98	892	-\$1.02	-223	\$0.64
Health Care Practitioners and Technical	882	\$21.81	616	-\$1.77	265	-\$1.20
Production Occupations	674	\$13.85	513	\$2.58	33	\$0.70
Transportation and Material Moving	620	\$15.68	473	\$2.76	-12	\$4.34
Office and Admin. Support	541	\$12.83	201	\$2.60	-68	\$0.86
Health Care Support	464	\$13.59	55	\$2.70	-156	\$1.65
Building, Grounds Cleaning and Maintenance	434	\$11.10	354	\$2.57	171	-\$0.02
Education, Training and Library	294	\$15.47	206	\$3.05	-58	\$1.05
Construction and Extraction	250	\$16.68	233	\$6.42	-158	-\$0.59
Installation, Maintenance and Repair	210	\$14.68	122	-\$4.36	-105	-\$4.77
Community and Social Service	198	\$17.54	146	\$7.60	-2	\$1.30
Business and Financial Operations	168	\$22.25	102	\$9.76	18	\$3.25
Management Occupations	106	\$27.35	56	-\$1.71	14	-\$0.41
Arts, Design, Entertainment and Media	99	\$15.71	22	\$4.62	5	\$2.02
Protective Service	93	\$15.38	79	\$5.02	26	\$6.38
Architecture and Engineering	73	\$24.61	42	-\$3.63	-37	\$0.11
Life, Physical and Social Science	41	\$18.02	8	\$3.73	-26	-\$1.83
Computer and Mathematical	33	\$23.47	8	\$3.50	-26	-\$5.30

Source: DEED Job Vacancy Survey 2010-2016

adjusted their job requirements to help attract applicants. For example, employers hiring for life, physical and social science occupations required a bachelor's degree or higher less often in 2016 than the year before, turning to applicants with no more than a high school degree more often. Management vacancies have followed the same trend, requiring a bachelor's degree or higher less often today than in 2010.

In contrast, employers looking for personal care and service workers began looking for applicants with vocational training much more often in 2016.

### Current Education Requirements and Attainment

Current jobs in Northwest Minnesota require a wide mix of educational attainment for entry, ranging from no formal education to graduate degrees. Most prevalent are jobs that require a high school diploma or less, accounting for about 67 percent of jobs.

About 19 percent of jobs require a bachelor's degree or higher, with another 10.5 percent requiring vocational training or an associate degree (see Figure 1).

This varies slightly from the

educational requirements in the statewide job mix, where approximately 22 percent require a bachelor's degree or more and 64 percent a high school diploma or less.

Northwest Minnesota's higher reliance on jobs requiring vocational training and associate degrees indicates an emphasis on technical know-how in the region. In fact, Quarterly Workforce Indicators data show that in 2015 over 30 percent of workers 25 and older in Northwest Minnesota had some college or an associate degree, while just 37.5 percent had a high school diploma or less (see Table 2).

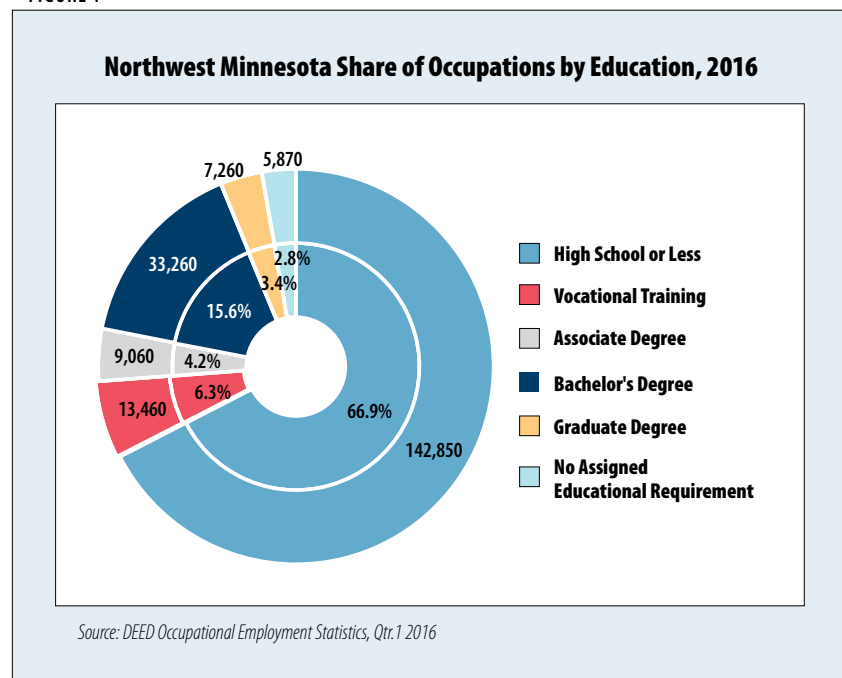
The apparent surplus in technical educational attainment versus

regional job requirements suggests that many workers in Northwest Minnesota are underemployed. Another 33,945 employees in the region, however, were 18 to 24 years old, and jobs that require just a high school education provide ample opportunity for young workers to start by learning on the job. Either way, employers certainly benefit from a highly-skilled workforce.

### Non-Postsecondary Career Tracks

The abundance of jobs in Northwest Minnesota without postsecondary educational requirements does not necessarily translate to lower wages for workers. Although postsecondary education typically leads to

FIGURE 1



higher lifetime earnings, there are nearly 35,000 jobs in the region that require no more than a high school education but still have a median wage of over \$35,000 per year.

For example, the top 10 jobs in this category employed over 15,000 workers in Northwest Minnesota, including

transportation, construction and production occupations (see Table 3).

Furthermore, there are opportunities for workers without postsecondary education to advance. Over 5,000 of these jobs are in management and supervisory positions, ranging from office and administrative

support managers and first-line supervisors of production workers to supervisors of correctional officers and managers of farming, fishing and hunting workers. This shows that Northwest Minnesota provides people without postsecondary training the opportunities to move up the career ladder and improve their wages over time. **T**

**TABLE 2 Northwest Minnesota Workforce Educational Attainment, 2015 Annual Average**

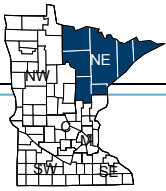
	Less than high school	High school or equivalent	Some college or associate degree	Bachelor's degree or higher	Educational attainment not available (workers aged 24 or younger)
Employees	19,170	64,299	67,477	37,531	33,945
Percent of Total	8.6%	28.9%	30.3%	16.9%	15.3%

Source: U.S. Census Bureau LEHD, Quarterly Workforce Indicators

**TABLE 3 Largest Occupations Requiring a High School Diploma or Less Earning Over \$35,000 in Northwest Minnesota**

Occupation	Number of Jobs	Annual Wage Percentiles		
		25th	Median	75th
Truck Drivers, Heavy and Tractor-Trailer	3,120	\$31,655	\$37,007	\$45,361
Carpenters	1,980	\$32,955	\$38,676	\$45,482
Maintenance and Repair Workers, General	1,850	\$28,138	\$35,283	\$43,450
First-Line Supervisors/Managers of Office and Admin. Support Workers	1,680	\$36,802	\$45,305	\$55,786
Sales Representatives, Wholesale and Manufacturing	1,660	\$36,420	\$50,545	\$64,958
First-Line Supervisors/Managers of Production and Operating Workers	1,170	\$43,057	\$51,403	\$62,523
Cutting, Punching and Press Machine Setters, Operators and Tenders	1,140	\$30,613	\$35,948	\$42,164
Operating Engineers and Other Construction Equipment Operators	1,060	\$35,425	\$42,101	\$48,668
Highway Maintenance Workers	990	\$38,880	\$45,512	\$48,267
Welders, Cutters, Solderers and Brazers	950	\$33,114	\$37,609	\$44,161

Source: DEED Occupational Employment Statistics, Qtr. 1 2016



# Part-Time Recovery

*Fifty-six percent of the region's job openings last year were for part-time positions.*

After finally regaining all the jobs lost during the Great Recession, Northeast Minnesota took a step back last year. Employment in the region fell below 2008 levels, with employers reporting fewer than 144,000 jobs in the third quarter of 2016. That was about 750 fewer jobs than in the third quarter of 2008 and about 1,400 fewer jobs than in 2015.

Nonetheless, hiring demand in the region remains high. Local businesses have reported steadily increasing vacancies over the past three years, averaging more than 6,000 openings each quarter and hitting a record peak of 8,410 vacancies in the fourth quarter of 2014 and 8,055 vacancies last summer (see Figure 1).

## Rising and Falling

Despite rising demand, the median wage offer across all job vacancies in Northeast Minnesota fell to \$12.47 in the fourth quarter of 2016. That was the second-lowest among the state's six regions. Wages had been increasing, but the recent drop was due to a shift in the type of vacancies posted.

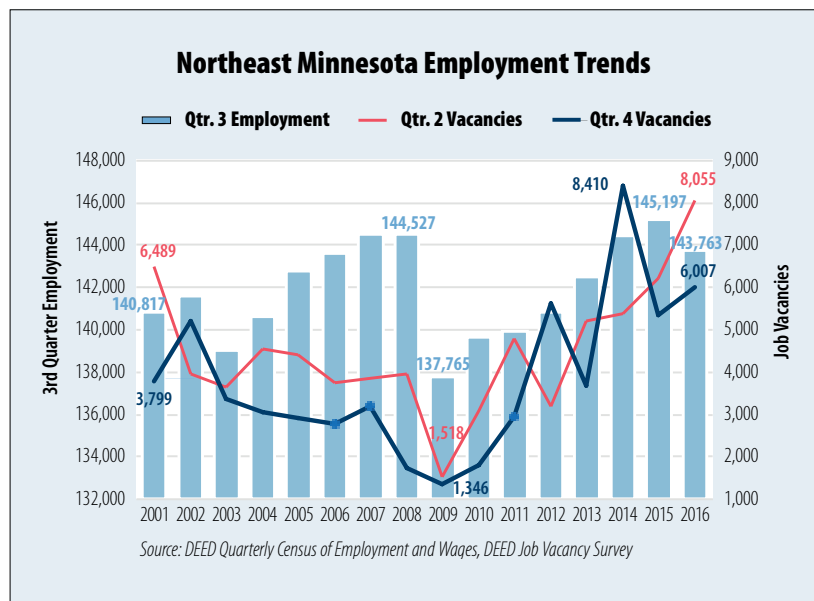
The share of openings that were part time jumped from 36 percent in 2015 to 56 percent in 2016, while the share of vacancies that required postsecondary education dropped from 43 percent to 33 percent. Employers placed the same premium on prior work experience, with about one-third of openings requiring at least one year of experience in both 2015 and 2016.

There was also a noticeable drop in the percentage of vacancies

that provided health care benefits. Just 41 percent offered health care in the fourth quarter of 2016, compared with 59 percent of openings in the fourth quarter of 2015.

Three industries offered health care benefits for almost all of their openings: mining, information, and finance and insurance. Combined, however, they accounted for only 155 of the region's total vacancies. Public administration and manufacturing both offered

FIGURE 1





health care benefits in about 80 percent of their job postings, but they also had relatively few vacancies.

In contrast, the health care and social assistance, retail trade, and accommodation and food services industries provided over two-thirds of the region's hiring demand in 2016. But only about one-third of the jobs posted in these industries offered health care benefits, and over 60 percent of the openings were part time. Ninety-five percent of the

job postings in administrative support and waste management services, including temporary staffing agencies, were part time, and only 3 percent offered health care benefits.

Job seekers looking for higher compensation will want to focus on industries that offer higher wages and health care benefits. The industries listed above, as well as professional and technical services, other services, health care and social assistance, and transportation and warehousing,

might have an easier time attracting candidates because of the combination of better wages and benefits (see Table 1).

### Occupations by Education

Of existing jobs in the region, two-thirds do not require any education past high school (see Figure 2). In fact, 20 of the 25 largest occupations in the region can be gained with a high school education.

TABLE 1 **Northeast Minnesota Job Vacancy Survey Results, Qtr. 4 2016**

Industry	Number of Job Vacancies	Percent Part-Time	Requiring Post-Secondary Education	Median Wage Offer	Health Care Benefits
<b>Total, All Industries</b>	<b>6,007</b>	<b>56%</b>	<b>33%</b>	<b>\$12.47</b>	<b>41%</b>
Health Care and Social Assistance	2,155	62%	46%	\$13.24	40%
Retail Trade	1,536	60%	7%	\$10.69	38%
Accommodation and Food Services	436	60%	2%	\$10.58	18%
Educational Services	366	68%	52%	\$13.88	34%
Other Services	337	18%	60%	\$14.39	54%
Admin. Support and Waste Mgmt. Services	229	95%	53%	\$13.60	3%
Arts, Entertainment and Recreation	206	46%	3%	\$10.31	39%
Public Administration	181	49%	37%	\$14.46	81%
Transportation and Warehousing	167	53%	50%	\$16.88	50%
Manufacturing	142	2%	39%	\$14.89	78%
Finance and Insurance	103	3%	52%	\$22.27	97%
Professional and Technical Services	41	0%	86%	\$21.49	71%
Mining	38	0%	87%	\$18.59	100%
Real Estate and Rental and Leasing	18	34%	4%	\$13.09	17%
Information	14	0%	0%	\$16.21	100%
Utilities	13	N/A	N/A	\$31.75	N/A

Source: DEED Job Vacancy Survey

Many of these low-skill occupations – retail salespeople, personal and home care aides, cashiers, and food prep and serving workers – pay relatively low wages, compared with higher wages offered to higher-skill occupations that do require postsecondary training, such as registered nurses, general and operations managers, school teachers and licensed practical nurses.

Despite low wages in some of the largest occupations, workers in more than 135 occupations requiring a high school diploma or less were earning median wages above \$35,000 per year in Northeast Minnesota, including heavy and tractor-trailer truck drivers, secretaries, office managers, carpenters, construction equipment operators and sales representatives. This represents nearly 24,000 jobs in Northeast Minnesota (see Table 2).

Likewise, more than 6,000 jobs requiring vocational training paid more than \$35,000 per year at the median, showing that there are high-paying jobs found in every educational category.

Though jobs requiring a high school diploma or less are expected to account for about two-thirds of total employment in the region by 2024, they are projected to be the slowest-

FIGURE 2

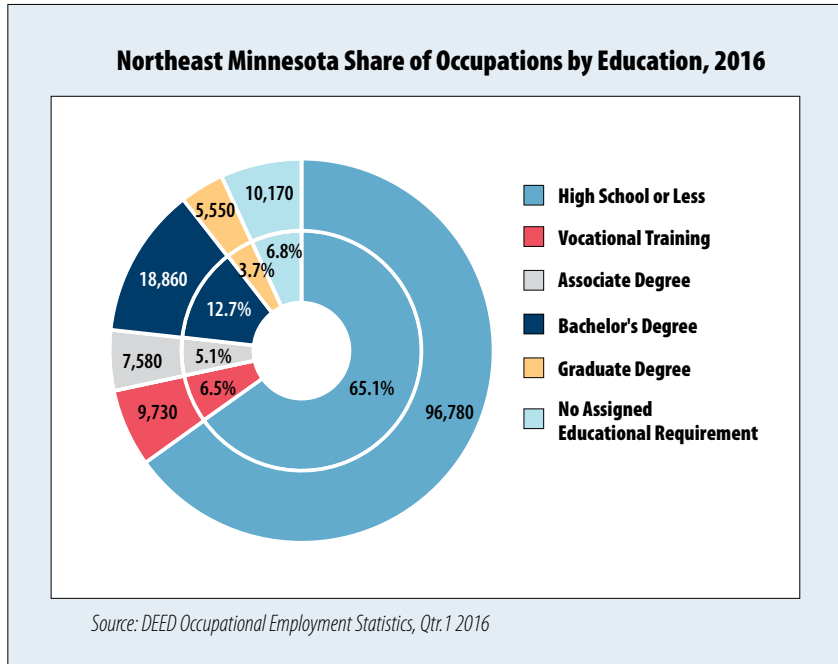


TABLE 2 **Top 20 Occupations Requiring High School or Less Earning Over \$35,000 in Northeast Minnesota**

Occupational Title	Estimated Regional Employment	Median Annual Wage	Projected Job Growth 2014-2024	Total Openings 2014-2024
Truck Drivers, Heavy and Tractor-Trailer	2,060	\$38,251	-1.5%	370
Secretaries and Admin. Assistants	1,510	\$36,035	-3.4%	180
First-Line Supervisors of Office and Admin. Workers	1,000	\$51,162	1.5%	170
Carpenters	950	\$47,139	0.9%	160
Construction Equipment Operators	930	\$59,785	1.2%	200
Sales Representatives, Wholesale and Manufacturing	870	\$51,794	0.4%	190
Construction Laborers	870	\$43,284	3.8%	260
Medical Secretaries	700	\$35,676	5.2%	100
Truck Drivers, Light or Delivery Services	690	\$36,315	-0.6%	130
First-Line Supervisors of Production Workers	530	\$56,678	-2.9%	90
Welders, Cutters, Solderers and Brazers	520	\$42,365	3.4%	220
Executive Secretaries and Admin. Assistants	470	\$44,638	-4.1%	60
First-Line Supervisors of Mechanics and Installers	430	\$62,336	-2.0%	90
Highway Maintenance Workers	390	\$48,254	-1.2%	100
Postal Service Mail Carriers	380	\$57,190	-32.7%	70
Plumbers, Pipefitters and Steamfitters	380	\$63,836	0.2%	50
Industrial Truck and Tractor Operators	360	\$38,527	-8.4%	100
Correctional Officers and Jailers	340	\$47,332	-3.1%	80
First-Line Supervisors of Construction Workers	340	\$70,746	0.2%	30
Furnace, Kiln, Oven, Drier and Kettle Operators	320	\$44,526	N/A	N/A
<b>Total, All Occupations</b>	<b>142,870</b>	<b>\$34,561</b>	<b>2.0%</b>	<b>44,660</b>

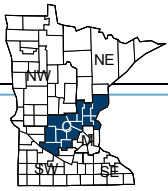
Source: DEED Occupational Employment Statistics, 2014-2024 Employment Outlook

growing group of jobs by education level, according to DEED's Employment Outlook tool. Those jobs are projected to grow 1.2 percent from 2014 to 2024, but they will account for over 40 percent of the new jobs created in the region.

The fastest growth is projected for jobs requiring vocational training or associate degrees, which are both expected to expand by more than 5 percent and account for about 30 percent of new job growth. Jobs requiring bachelor's and advanced degrees were projected to grow 2.5 and

3.8 percent, respectively.

With a tightening labor market, employers will likely continue to struggle to fill job vacancies. Job seekers, meanwhile, will find a variety of opportunities at every education and wage level. **T**



# Tight Labor Market Tests Employers

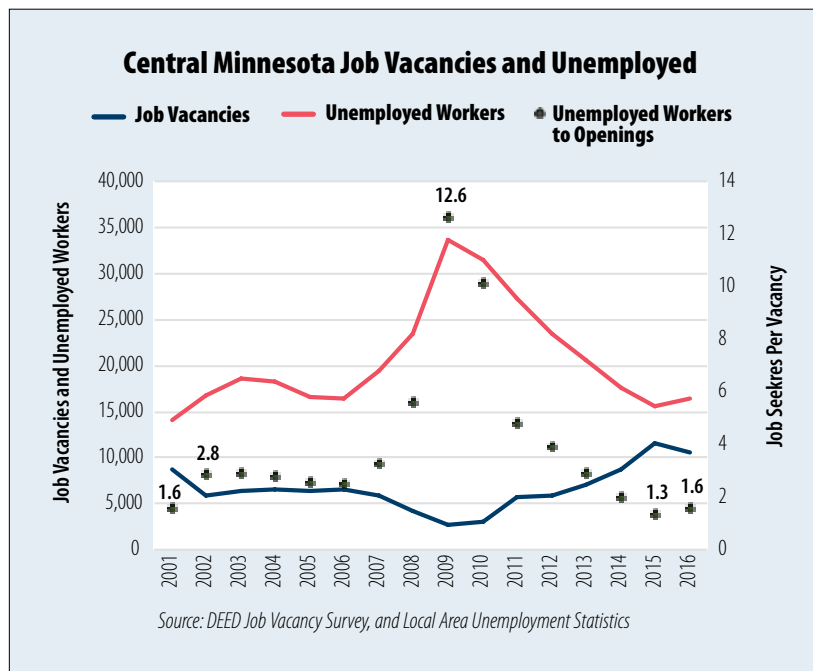
*Job vacancies in Central Minnesota were nearly 60 percent higher than average last year.*

Central Minnesota businesses are searching for workers, which is good news for job seekers but creates challenges for employers. With just under 273,000 jobs reported in both the second and third quarters of 2016, Central Minnesota reached a new employment peak this year. The region has the most jobs of any region in Greater Minnesota.

Employment, however, slowed from 1.8 percent growth through the first three quarters of 2015 to just 0.8 percent growth in 2016 – and it’s not clear why. One plausible explanation is employers are finding it increasingly difficult to fill job vacancies.

Job vacancy data seem to support this explanation, with employers posting about 10,000 job openings in the fourth quarter of 2016, the fifth-largest number dating back to 2001. In fact, four of the five highest vacancy counts have been posted in the past two years, with last year’s count nearly 60 percent higher

FIGURE 1



than the average over the past 16 years.

Even more telling is the ratio of unemployed job seekers to available job vacancies. Prior to the recession, Central Minnesota had nearly three unemployed workers for every job opening. But as the recession took hold, layoffs coupled with decreasing job vacancies increased the ratio to nearly 13 job seekers per

vacancy. By last year, however, job seekers per job opening had dropped to just 1.6 in the region (see Figure 1).

## Plenty of Options

For job seekers, the tight labor market allows greater job mobility and leverage to negotiate compensation packages. The openings require a variety of education levels, so

job seekers have a good mix of options.

Overall, just 26 percent of openings in Central Minnesota required postsecondary education in the fourth quarter of 2016, while another 25 percent required a certificate or license. Like elsewhere in Minnesota, the occupations with the most openings were

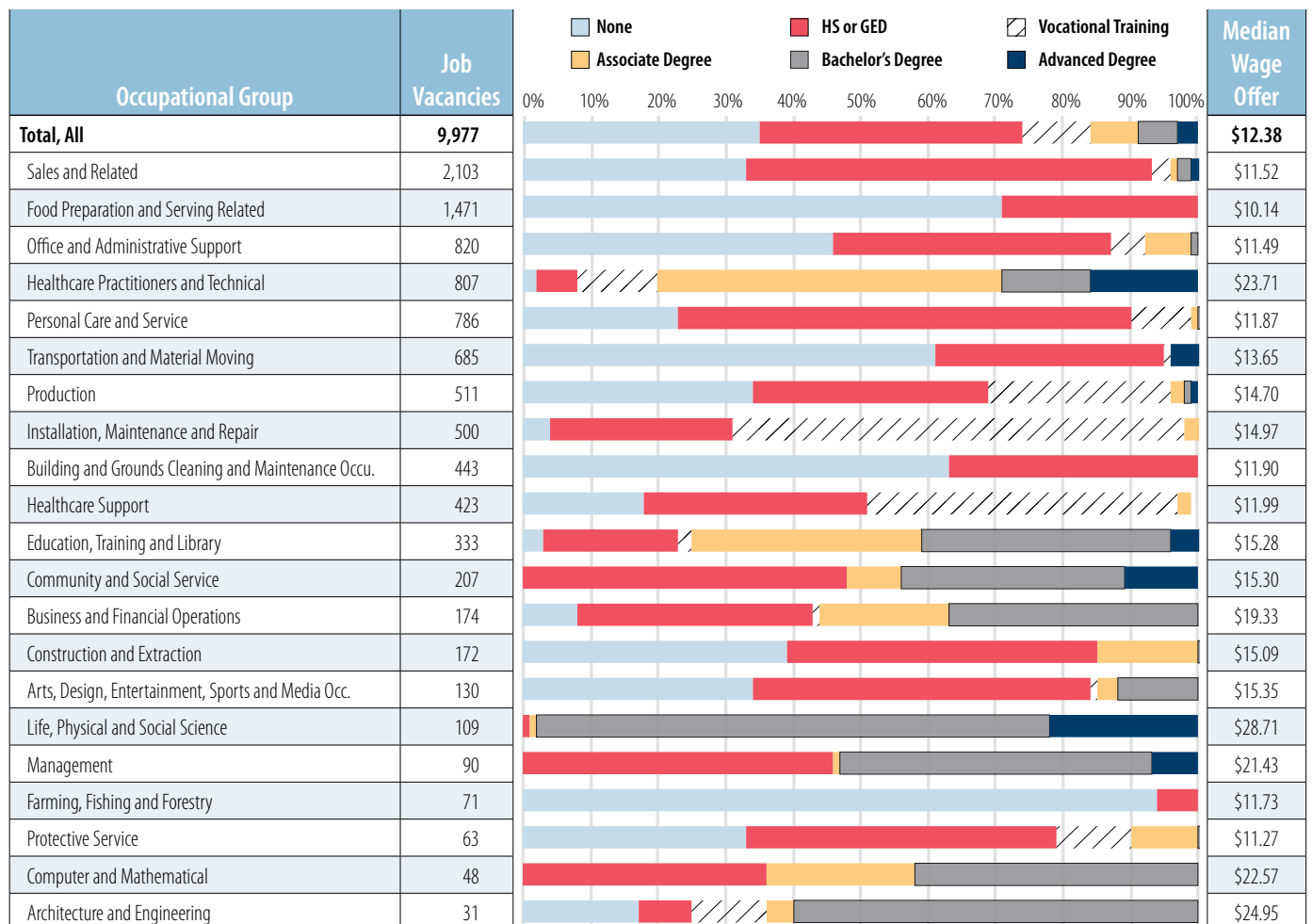
primarily low-wage retail sales jobs and food and beverage positions. Combined, those two occupations accounted for 23.5 percent of all openings in the region, higher than the 17.1 percent statewide.

Despite the large number of jobs in those two occupations, not all openings are for low-wage jobs. In fact, Central Minnesota had

1,400 openings in occupations that had median wage offers of \$16 per hour or more. The majority of occupations with high starting wages require postsecondary education. Many of them were licensed health care positions. There were a number of occupations, however, with lower educational requirements that have median starting wages above \$16 per hour.

TABLE 1

Central Minnesota Job Opening Details, 4th Qtr. 2016



Source: DEED Job Vacancy Survey



## Educational Requirements

Education is similar to other job requirements, in the sense that it is highly dependent on the specific type of occupation. Table 1 illustrates the different educational requirements for jobs. For instance, 92 percent of health care practitioner openings require postsecondary education, while no openings for occupations in food preparation and serving, building and grounds cleaning and maintenance, and farming require higher education.

Occupational groups that typically have a high share of openings requiring a bachelor's degree still have opportunities for high school graduates. For instance, 43 percent of business and financial operations job vacancies required no more than a high school diploma, as well as 36 percent of computer and mathematical vacancies. With 74 percent of job openings requiring nothing more than a high school diploma, nearly every type of occupational category has openings with low educational barriers.

Overall, just 10 percent of all openings required vocational training. Associate degrees were required for 7 percent of the openings in Central Minnesota in the fourth quarter of 2016, but over half (51 percent) of health

care practitioner and technical occupation vacancies required an associate degree. Many of these postings were for registered nurses and medical technicians.

While many job seekers set their sights on attaining a bachelor's degree, just 6 percent of openings in Central Minnesota required a bachelor's in 2016. Another 3 percent of openings required an advanced degree. Vacancies with a high likelihood of requiring a bachelor's degree were focused in life, physical and social science (76 percent), architecture and engineering (60 percent) and management (46 percent).

Interestingly, the share of job vacancies in Central Minnesota requiring higher education has remained mostly constant since at least 2002. If anything, the

trend appears to be toward an increasing share of vacancies that require a high school diploma or less (see Figure 2).

In fact, a higher proportion of vacancies required a high school diploma or less in the last three years of the survey than in the first three years (from 2002 to 2004). An important nuance is that even though the share of jobs requiring a bachelor's degree or more has declined slightly, the actual number of jobs requiring a bachelor's degree or more has increased in recent years. Since job vacancies are at record levels, the number requiring a high school diploma or less also has increased.

Another important nuance is that median wage offers tend to increase for occupations with

FIGURE 2

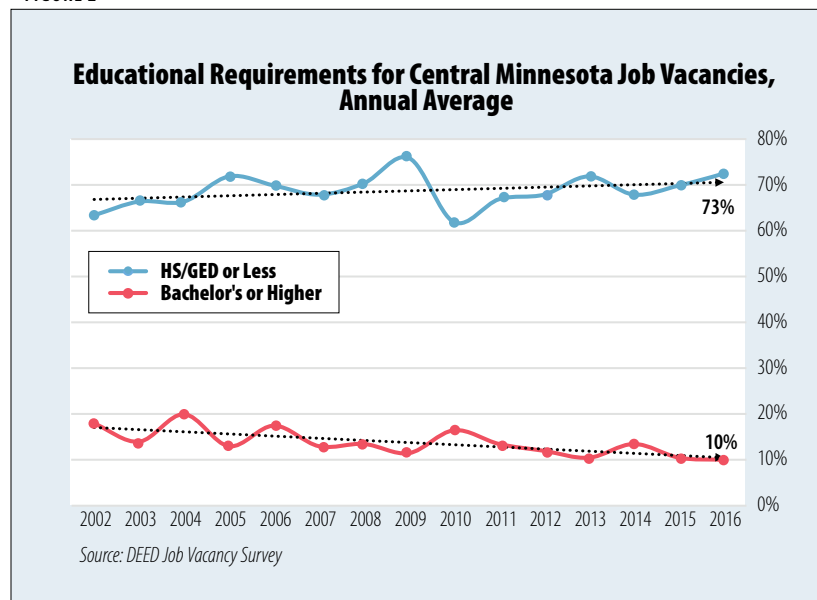
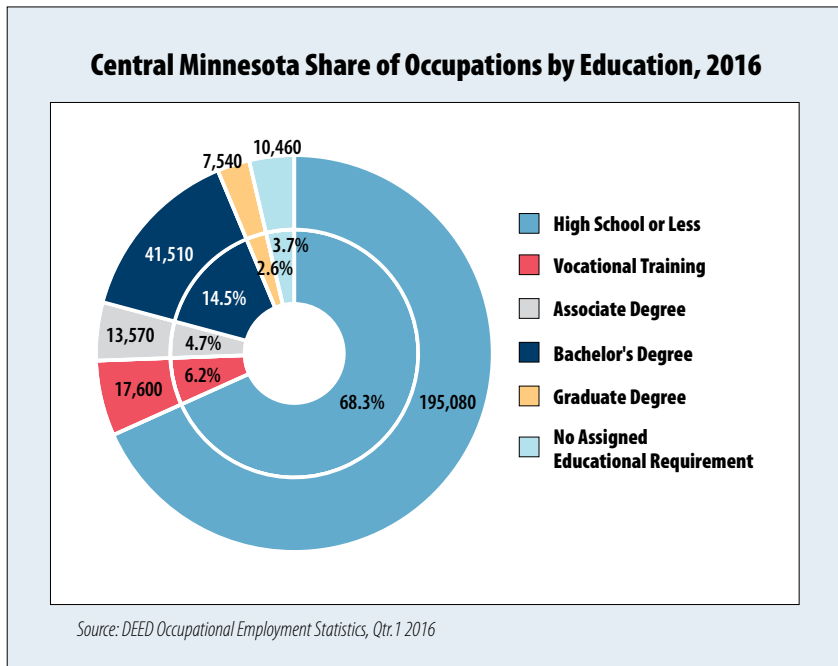




FIGURE 3



higher educational requirements and for jobs requiring prior work experience. Although it is difficult to measure the value of experience over education, many job postings require a certain level of education or equivalent experience.

### Breaking Down the Data

Occupations requiring vocational training or an associate degree accounted for 10.9 percent of total employment (31,170 jobs) in the region last year. Just over 17 percent of jobs required a bachelor's or graduate degree (49,050 jobs). Another 3.7 percent (10,460 jobs) had no consistent educational requirement (see Figure 3).

These educational requirements can be instructive for Central Minnesota institutions that are training people for jobs.

Occupations requiring a high school diploma often require basic skills such as communication, accountability, teamwork and problem-solving. Occupations that require vocational training or an associate degree often depend on technical and community colleges or apprenticeship programs to provide the skills necessary, in addition to what is learned in high school. Occupations with the highest educational requirements depend

on universities to offer relevant programs of study.

Each type of educational institution is important for Central Minnesota's economy to thrive and grow. In the grand scheme, learning isn't complete after graduating from high school or college. Rather, continual learning on the job is necessary to achieve success.

There are opportunities for workers of every educational background in the region to find good-paying jobs. Limited educational attainment doesn't necessarily limit income potential.

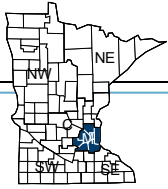
Understanding the quantity and quality of occupations by the amount of education needed can help guide the way

the region addresses its already tight labor market. Educational and workforce data can guide resources, advise policy and inform a new generation of workers about opportunities in Central Minnesota (see Table 2). **T**

**TABLE 2 Highest Paying Occupations in Central Minnesota With Significant Employment by Educational Requirement, 2016**

Educational Requirement	Occupation	Estimated Employment	Median Wage	Educational Requirement	Occupation	Estimated Employment	Median Wage
High School Diploma or Less	Electrical Power-Line Installers and Repairers	730	\$81,682	Bachelor's Degree	Chief Executives	750	\$139,518
	Supervisors/Managers of Construction Workers	660	\$68,039		Medical and Health Services Managers	670	\$93,295
	Loan Officers	710	\$63,614		Financial Managers	870	\$90,690
	Supervisors/Managers of Mechanics, Installers and Repairers	990	\$63,243		Sales Managers	950	\$88,330
	Sales Reps, Wholesale and Manufacturing, Except Technical/Scientific Products	3,090	\$58,147		Administrative Services Managers	520	\$87,811
Vocational Training	Electricians	1,180	\$54,386	Graduate Degree	Pharmacists	560	\$133,197
	Industrial Machinery Mechanics	760	\$48,419		Education Administrators, Elementary and Secondary School	480	\$104,650
	Machinists	1,720	\$47,749		Physical Therapists	450	\$81,338
	Licensed Practical and Licensed Vocational Nurses	2,870	\$41,215		Lawyers	510	\$69,360
	Automotive Service Technicians and Mechanics	1,770	\$35,572		Child, Family and School Social Workers	730	\$53,372
Associate Degree	Registered Nurses	7,120	\$75,522	No Clear Educational Requirement	Managers, All Other	780	\$91,639
	Radiologic Technologists and Technicians	440	\$61,719		Business Operations Specialists, All Other	1,260	\$54,289
	Police and Sheriff's Patrol Officers	1,210	\$53,586		Sales Representatives, Services, All Other	1,360	\$48,528
	Medical and Clinical Laboratory Technicians	440	\$44,938		Education, Training and Library Workers, All Other	420	\$39,729
	Computer User Support Specialists	950	\$42,282		Community and Social Service Specialists, All Other	500	\$39,699

Source: DEED Occupational Employment Statistics and Educational Requirements



# Employers Get Creative

*With the labor market tightening up, businesses are increasing wages, offering sign-on bonuses, reimbursing tuition and lowering hiring requirements to attract workers.*

The Twin Cities Metro is a driving force for growth in Minnesota, accounting for more than 60 percent of the jobs in the state. In fact, the Metro accounted for two-thirds of the state's employment growth between 2009 and 2016, equal to nearly 180,000 jobs.<sup>1</sup>

The Metro shed nearly 96,000 jobs during the Great Recession between 2007 and 2009. From 2009 to 2010, the region was still finding its feet, adding just

over 11,000 jobs. Since 2010, however, employment has grown like clockwork, averaging over 28,000 jobs annually.

Geographically, employment growth within the Metro has been uneven. In a tale of two counties, Hennepin has led the charge, accounting for 60 percent of the region's new jobs between 2009 and 2016. That isn't surprising, since Hennepin makes up over half of the region's total employment.

Ramsey County, at one-fifth of the region's total employment, accounted for only 7 percent of employment growth between 2009 and 2016. Why might this be the case? Watch for future Trends and Employment Review articles to find out.

The fastest job expansion has occurred in Scott and Washington counties, particularly in the last year (see Table 1).

Employment growth by industry sector also has been uneven in the region. Far and away, health care and social assistance has been the largest-growing sector since 2009, gaining over 44,700 jobs. Professional, scientific and technical services comes in a solid second, gaining nearly 29,400 jobs during that time. In a virtual tie for third place, the accommodation and food services sector and construction each gained about 16,000 jobs.

Out of 20 major industry sectors, those four sectors accounted for 60 percent of employment growth between 2009 and 2016.

**TABLE 1 Twin Cities Metro Employment Trends, Q3 2009 – Q3 2016**

Area	Number of Establishments	Number of Jobs	2015-2016 Employment Change		2015-2016 Employment Change	
			Numeric	Percent	Numeric	Percent
Minnesota	162,359	2,835,325	43,705	1.6%	272,869	10.6%
Twin Cities Metro	75,969	1,709,539	28,934	1.7%	179,346	11.7%
Hennepin County	36,648	903,772	17,987	2.0%	107,107	13.4%
Ramsey County	12,705	328,628	278	0.1%	12,788	4.0%
Dakota County	9,448	186,986	3,242	1.8%	18,387	10.9%
Anoka County	6,765	120,228	2,217	1.9%	13,358	12.5%
Washington County	5,238	82,585	2,391	3.0%	13,055	18.8%
Scott County	2,917	49,507	2,860	6.1%	8,663	21.2%
Carver County	2,248	37,831	-40	-0.1%	5,988	18.8%

Source: DEED Quarterly Census of Employment and Wages

<sup>1</sup>All Quarterly Census of Employment and Wages data within this article refer to the third quarter of that respective year.

Transforming industries, or those witnessing employment losses between 2009 and 2016, include information; real estate, rental and leasing; and agriculture, forestry, fishing and hunting.

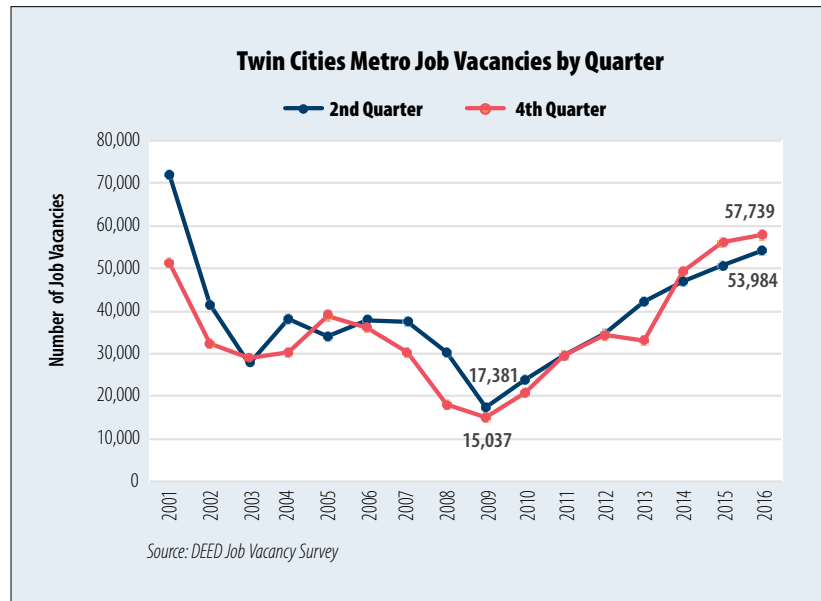
### Supply and Demand

As employment has grown in the Metro, demand for workers has increased. This has led to very low unemployment rates across the region. Unemployment in the Twin Cities sat at 3.5 percent in 2016, representing approximately 57,300 people. To get some perspective, unemployment spiked at 7.4 percent in 2009, which represented approximately 119,200 people. Essentially, the available supply of workers in the region has been halved within seven years.

At the same time, the Metro population is becoming older. According to the U.S. Census Bureau’s American Community Survey, the region’s population increased by 12 percent between 2005 and 2015, or about 323,800 people. During that same period, however, those 65 and older grew by 49.5 percent, or about 126,200 people. As the population ages, more people will retire, opening up even more jobs in the region.

Like many other regions in Minnesota, steady economic growth, low unemployment and an aging population have

FIGURE 1



combined to create a tight labor market in the Metro. As of fourth quarter 2016, there were only 0.9 unemployed persons for each job vacancy in the region. What’s more, the 57,739 vacancies reported during the quarter were the second highest on record (see Figure 1).

See Table 2 to get a sense of which fields have the most demand in the Metro.

### Education and Training Requirements

With an ever-tightening labor market, Metro employers are becoming more creative with hiring. Beyond increasing wages and benefits, offering sign-on bonuses and tuition reimbursement, and targeting non-traditional labor market

sources, many employers are starting to adjust hiring requirements. These shifts are beginning to reveal themselves in the data.

DEED’s most recent Job Vacancy Survey showed that only 36 percent of vacancies required postsecondary education. During the height of the Great Recession in 2009, 53 percent of vacancies required postsecondary education.

As labor market conditions tighten, the percentage of vacancies requiring postsecondary education may continue to fall, with more employers turning to on-the-job-training, apprenticeships, and closer relationships with K-12 institutions to find and retain workers.



The trick for job seekers in the Metro is knowing which occupations require postsecondary education and whether that means an associate degree, bachelor's degree or advanced degree. Vocational training and certificates are also important to consider, especially in sectors such as manufacturing and construction.

Recently, data from DEED's Occupational Employment Statistics program has been combined with the state's new educational requirements for occupations. Analyzing these data can provide a better idea of what educational routes job seekers should consider when setting their sights on particular occupations.

Overall, 60.5 percent of all jobs in the Metro require a high school diploma or less. This is equivalent to over 1 million jobs, largely in such fields as retail trade, accommodation and food services, construction, and transportation and warehousing. Altogether, these industries account for one-third of total vacancies in the region, with the vast majority requiring only a

TABLE 2

**Twin Cities Metro Job Vacancy Survey Results, Qtr. 4 2016**

Industry	Number of Job Vacancies	Percent of Job Vacancies	Percent Part-Time	Requiring Post-Secondary Education	Requiring 1+ Years Experience	Median Wage Offer	Change in Vacancies Q4 2011 – Q4 2016
<b>Total, All Industries</b>	<b>57,739</b>	<b>100.0%</b>	<b>41%</b>	<b>36%</b>	<b>50%</b>	<b>\$15.00</b>	<b>95%</b>
Health Care and Social Assistance	11,249	19.5%	53%	47%	41%	\$14.40	152%
Retail Trade	8,262	14.3%	67%	6%	18%	\$11.31	81%
Accommodation and Food Services	8,143	14.1%	61%	0%	34%	\$11.71	201%
Manufacturing	4,782	8.3%	18%	37%	71%	\$15.87	91%
Administrative and Support Services	4,741	8.2%	41%	36%	44%	\$14.98	333%
Finance and Insurance	3,131	5.4%	5%	47%	80%	\$24.22	26%
Professional and Technical Services	2,706	4.7%	4%	91%	84%	\$29.67	44%
Educational Services	2,562	4.4%	51%	59%	51%	\$18.14	34%
Wholesale Trade	1,751	3.0%	4%	42%	75%	\$18.53	92%
Management of Companies	1,678	2.9%	22%	68%	87%	\$25.44	4%
Construction	1,621	2.8%	9%	23%	49%	\$19.46	170%
Transportation and Warehousing	1,588	2.8%	40%	15%	40%	\$15.42	100%
Real Estate, Rental and Leasing	1,537	2.7%	0%	61%	100%	\$29.84	*4,558%
Public Administration	1,352	2.3%	36%	53%	68%	\$22.30	138%
Arts, Entertainment and Recreation	1,060	1.8%	73%	20%	65%	\$14.81	62%
Other Services	1,043	1.8%	34%	40%	26%	\$11.97	-42%
Information	452	0.8%	1%	84%	91%	\$29.60	-53%
Utilities	40	0.1%	0%	75%	96%	\$28.72	-5%
Agriculture	36	0.1%	66%	10%	33%	\$11.43	6%

\*Real Estate vacancies were uncharacteristically low during 4th quarter 2011, while reaching a near-record high in 2016.  
Source: DEED Job Vacancy Survey

high school diploma or less (see Figure 2).

The Metro, however, is distinct from the rest of the state in terms of vacancies requiring postsecondary education. For example, over 92 percent of statewide real estate, rental and leasing vacancies are located in the Metro. The majority of these vacancies require higher education and offer higher median hourly wages. Similarly, over 87 percent of the state's management of companies vacancies are in the Metro. They also require more postsecondary education.

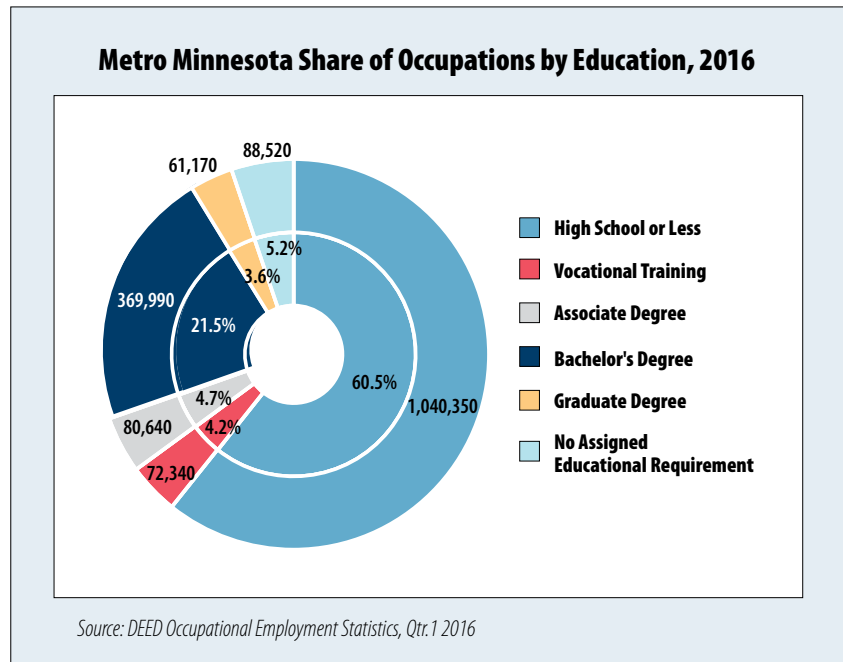
Vacancies within finance and insurance and in professional, scientific and technical services are also highly concentrated in the Metro, making up about 85 percent and 83 percent of their respective state vacancy totals. A higher percentage of vacancies within these industries also require postsecondary education, with median hourly wage offers reaching near \$30.

To get a sense of educational requirements for specific occupations in the Metro, see Table 3. It should be noted that while higher education correlates strongly with increased wages, numerous occupations buck this trend at lower educational levels. For instance, electricians, an occupation that typically requires vocational training, make a median hourly wage of \$32.19 in the Metro.

People looking for jobs in the Metro should keep an open mind about occupations at all educational levels and within all industries. Employers hoping to hire and retain workers should keep in mind the tightening labor supply and be creative.

And as the Metro continues to grow, check back with DEED labor market information for more up-to-date data, trends and projections (see Table 4). **T**

FIGURE 2



**TABLE 3 Largest Occupations by Educational Requirements in the Twin Cities Metro**

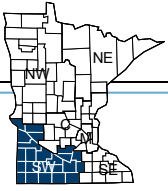
Top 5 Occupations Requiring High School or Less	Estimated Employment	Median Wage	Top 5 Occupations With No Clear Educational Requirements	Estimated Employment	Median Wage
Retail Salespersons	55,850	\$10.36	Business Operation Specialists, All Other	22,410	\$31.21
Personal and Home Care Aides	40,480	\$11.32	Sales Reps., Services, All Other	15,890	\$26.61
Customer Service Representatives	39,340	\$18.54	Managers, All Other	10,640	\$56.42
Food Prep and Serving Workers	32,960	\$9.12	Computer Occupations, All Other	6,380	\$36.90
Office Clerks, General	32,210	\$16.79	Office Support Workers, All Other	4,790	\$16.20
Top 5 Occupations Requiring Vocational Training	Estimated Employment	Median Wage	Top 5 Occupations Requiring Associate Degree	Estimated Employment	Median Wage
Nursing Assistants	15,030	\$14.75	Registered Nurses	33,160	\$37.69
Licensed Practical Nurses	8,280	\$21.73	Computer User Support Specialists	10,950	\$25.74
Hairdressers and Cosmetologists	6,970	\$11.87	Police and Sheriff's Patrol Officers	4,550	\$33.63
Machinists	6,830	\$23.45	Paralegals and Legal Assistants	4,190	\$26.88
Electricians	6,230	\$32.19	Dental Hygienists	3,010	\$35.56
Top 5 Occupations Requiring Bachelor's Degree	Estimated Employment	Median Wage	Top 5 Occupations Requiring Graduate Degree	Estimated Employment	Median Wage
General and Operations Managers	24,430	\$48.23	Lawyers	8,860	\$57.28
Accountants and Auditors	20,970	\$32.25	Child/Family/School Social Workers	3,530	\$29.36
Elementary School Teachers	14,630	\$64,360	Pharmacists	3,150	\$60.89
Computer Systems Analysts	13,340	\$43.62	Postsecondary Health Specialties Teachers	3,040	\$81,621
Financial Managers	11,490	\$61.37	Physicians and Surgeons, All Other	2,690	>\$100.00

Source: DEED Occupational Employment Statistics, Qtr. 1 2016

**TABLE 4 Twin Cities Metro Employment Projections by Educational Requirements**

	2014 Employment Estimates		2024 Employment Projections		Projected Job Change, 2014-2024		
	Number of Jobs	Percent of Jobs	Number of Jobs	Percent of Jobs	New Jobs	Percent Growth	Total Openings
<b>Total, All Occupations</b>	<b>1,809,309</b>	<b>100.0%</b>	<b>1,889,240</b>	<b>100.0%</b>	<b>79,931</b>	<b>4.4%</b>	<b>517,536</b>
High School or Less	1,110,102	61.4%	1,147,031	60.7%	36,929	3.3%	322,619
Vocational Training	75,920	4.2%	81,959	4.3%	6,039	8.0%	23,855
Associate Degree	79,151	4.4%	86,442	4.6%	7,291	9.2%	24,622
Bachelor's Degree	386,536	21.4%	406,112	21.5%	19,576	5.1%	106,136
Graduate Degrees	61,947	3.4%	67,426	3.6%	5,479	8.8%	18,865
No Clear Education Requirements	95,653	5.3%	100,270	5.3%	4,617	4.8%	21,439

Source: DEED Employment Outlook, Educational Requirements for Occupations



# Job Seekers in the Driver's Seat

*With thousands of jobs unfilled, the region might be the canary in the coal mine of what other Minnesota regions could experience in the coming years.*

The last three years in Southwest Minnesota have seen a favorable market for job seekers as employers posted record job vacancies. In 2016, employers reported an average of nearly 6,500 job vacancies in the second and fourth quarters. That is well above the 16-year average of 4,583 openings.

Through the first three quarters of 2016, the region averaged more than 176,000 jobs, after adding 1,145 jobs over the previous year. The region's annual rate of job creation, however, was just 0.65 percent, compared with 1.4 percent statewide.

A weak economy is probably not the culprit. Instead, stubbornly slow job growth in Southwest Minnesota can be partially blamed on a labor force that has remained stagnant over the last decade, even declining some years.

Given the thousands of unfilled jobs, historically low unemployment rates and

employer pleas for more workers, Southwest Minnesota might be a canary in the coal mine of what other regions across the state could experience in the coming years.

Projected job growth for Minnesota from 2014 to 2024 is 4.3 percent, or an average increase of 0.43 percent per year – slower than Southwest Minnesota's growth rate from 2015 to 2016.

## **Evolving Economy**

Employers might be struggling, but job seekers are finding a favorable environment. In 2016, there were just 1.4 unemployed workers for every job vacancy, down significantly from 7.2 job seekers per vacancy during 2009. Fewer unemployed job seekers competing for a larger number of openings has dramatically changed the job market since the not-so-distant Great Recession.

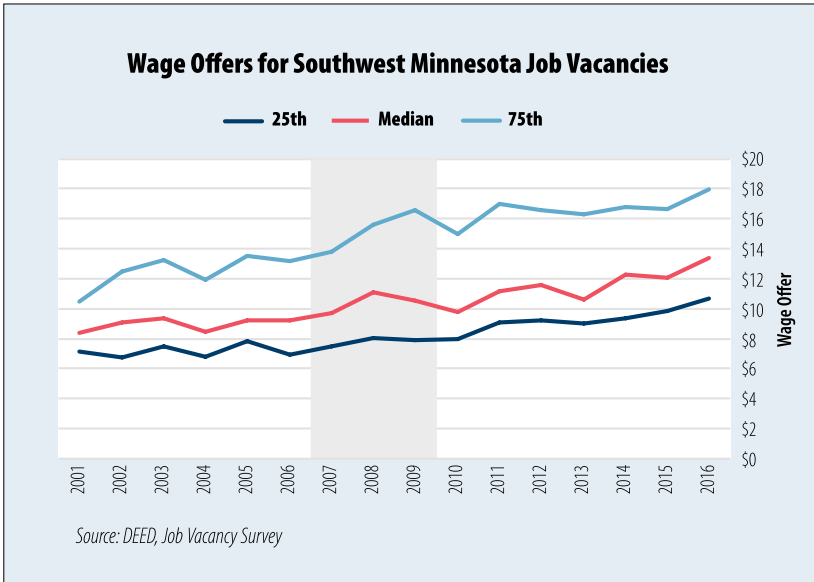
Strong economic conditions and a historically tight labor market

have ignited a race for workers in the region, with starting wage offers on the rise. In the last five years, from 2011 to 2016, median wage offers for job vacancies have risen by \$2.26 per hour, growing faster in Southwest Minnesota (up 20.3 percent) than statewide (up 14.8 percent).

The median wage offer for all openings was \$13.41 per hour in 2016, although a quarter of openings had wage offers of \$17.97 per hour or more, and another quarter had median wage offers of \$10.66 per hour or less (see Figure 1).

For a typical family with one child and two adults, each parent would need to earn \$14.03 per hour in order to meet basic needs in Southwest Minnesota, according to DEED's Cost of Living tool. Although the median wage offer for job vacancies in the region is just barely under the cost of living wage for a family of three, a single person with no children could meet basic needs with

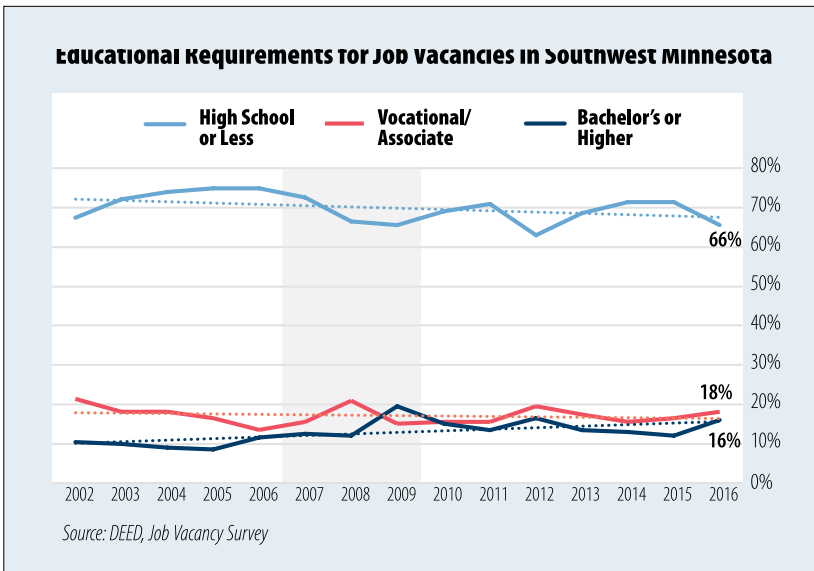
FIGURE 1



only 5 percent of current vacancies require four or more years of experience, compared with 26 percent in 2009.

The growth in median wage offers probably is not related to increasing educational requirements either. Roughly two-thirds of job openings in Southwest Minnesota require a high school diploma or less, identical to the statewide ratio in 2016. Moreover, less than 1-in-6 job openings require a bachelor's degree or more, while 18 percent require vocational training or an associate degree.

FIGURE 2



Educational requirements for job vacancies posted by employers in the region have changed little since DEED began tracking them. The trend in educational requirements appears to be a slight decline in the share of jobs requiring a high school diploma or less, while jobs requiring vocational training are near constant. The share requiring a bachelor's degree or more has increased slightly (see Figure 2).

just \$12.23 per hour, making Southwest Minnesota the most affordable region in Minnesota.

### Market Demands

The growth in starting wage offers appears to be driven more by tight labor market conditions

than increasing job requirements, considering the amount of experience required for job openings in the region is actually declining. Almost two-thirds (64 percent) of job vacancies required less than one year of experience, compared with 38 percent of vacancies in 2009. Furthermore,

The most visible and pronounced trend in educational requirements is the impact of business cycles. Figure 2 illustrates how educational requirements increased during the recession (shaded in gray), but then relaxed as the economy improved and the number of job seekers declined. For instance, 74 percent of management



openings in the fourth quarter of 2016 required postsecondary education, while almost 100 percent had that requirement in 2009.

### Share of Jobs by Education

In 2016, just over 68 percent of jobs in the region (120,600 jobs) required a high school diploma/GED or less. In contrast, only 17.9 percent required a bachelor's degree or more, and 10.8 percent required vocational training or an associate degree. A relatively small number of jobs (3 percent) had no clear educational requirement, falling into catch-all categories with a wide range of skills.

This means that high school students and recent graduates have few educational barriers in the way of employment. Young people ages 14 to 18, however, have been less likely to hold jobs in the region since at least the mid-1990s (Figure 3).

### No Degree, Not Destitute

Although many jobs with low educational requirements also have low wages, that isn't always the case. Workers can find good paying jobs at every education level in the region and statewide. The wages for nearly all occupations are driven by economic demand. Wages

typically will increase until the incentive attracts enough workers to fill openings. A few of the highest-paying occupations in Southwest Minnesota that require no more than a high school diploma are highlighted in Table 1.

People often think low educational requirements mean low skills, but these are not

FIGURE 3

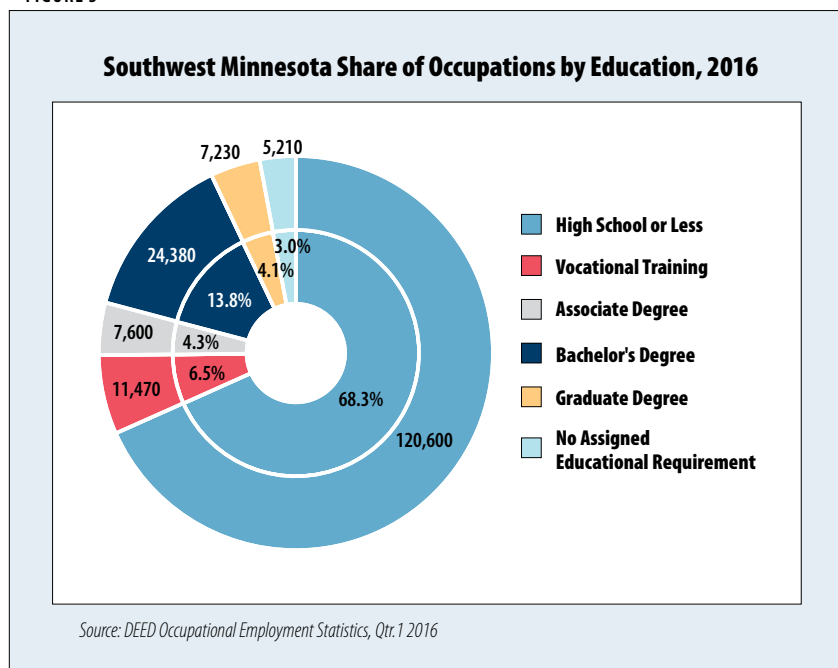
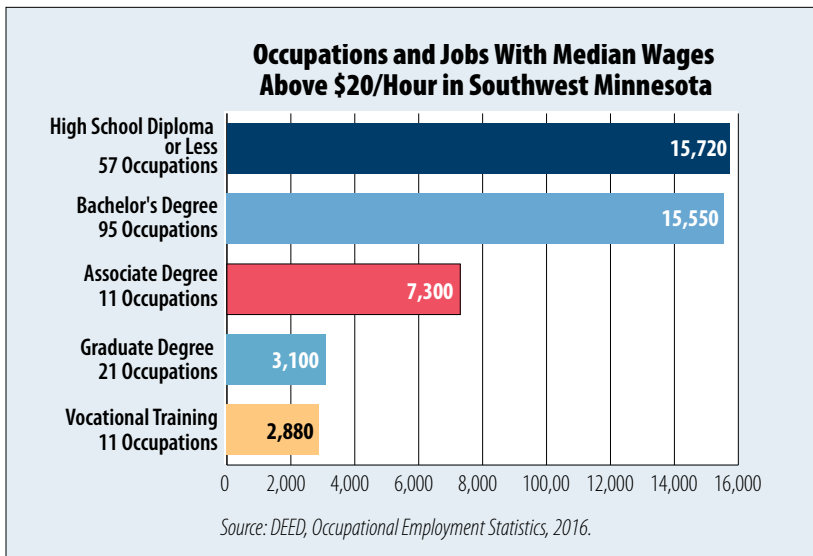


TABLE 1 High Wage Jobs in Southwest Minnesota Requiring a High School Diploma

Occupation	Jobs	Half Pay Between	
Electrical Power-Line Installers and Repairers	250	\$28.92	\$39.74
Brickmasons and Blockmasons	100	\$27.25	\$35.24
Loan Officers	550	\$22.88	\$43.26
First-Line Supervisors/Managers of Non-Retail Sales Workers	130	\$25.60	\$37.61
First-Line Supervisors/Managers of Mechanics, Installers and Repairers	520	\$23.14	\$36.58

Source: DEED Occupational Employment Statistics, 2016

FIGURE 4



enough employment to have a continual stream of openings.

Nearly 16,000 jobs in 57 different occupations have a median hourly wage of \$20 and require a high school diploma or less. This means that there are more jobs in Southwest Minnesota that require a high school diploma with median wages above \$20 per hour than those that require a bachelor's degree. There is a greater variety of occupations, however, that pay above \$20 per hour that require a bachelor's degree (see Figure 4).

synonymous. On the contrary, many workers who earn top wages have advanced their skills through on-the-job training instead of – or in addition to – formal postsecondary education programs. Gaining skills through work experience can boost wage potential and increase job mobility. In effect, learning doesn't stop after completing high school or college.

Even today it's still possible to earn a good income with no more than a high school diploma, but it takes some research to find the right fit and opportunities. Considering the relatively small share of jobs requiring a bachelor's degree and the expense of college, new entrants to the labor force might consider exploring other paths to success.

This does not mean that a college degree doesn't have value. In fact, the highest-paying occupations in Southwest Minnesota require postsecondary education. But again, wage ranges for occupations that require college vary, based on the economic demand for the skills gained through formal education.

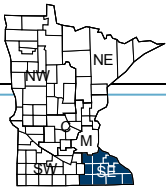
### Economic Success

Possibly the most important use of these data is to promote and support opportunities that pay well.

Some occupations have a desirable salary but few job openings, thus restricting the opportunity to gain employment. True opportunity exists when there is both high demand and

Opportunities for success can be discovered by weighing multiple factors, including personal aptitude and passion, educational requirements, employment and job openings, and earnings potential.

Using these data for guidance, economic and community development organizations should work with all levels of educational institutions, nonprofits and policymakers to help Southwest Minnesota's most precious resource, its people, make smart career choices. **T**



# Healthy Demand for Workers

*Southeast Minnesota had 8,350 job vacancies in the fourth quarter last year, returning to a level last seen in the early 2000s.*

Southeast Minnesota's economy is expanding at a steady pace, with employers reporting just over 242,000 jobs through the third quarter of 2016. The 11-county region added nearly 3,000 jobs in the past year and more than 15,500 jobs since the bottom of the recession in 2009.

Covered employment in the region has increased by about 6.3 percent during the past 15 years, leading to record employment levels in 2016.

The labor force in Southeast Minnesota rose 5.6 percent from 2001 to 2016. At the same time, the number of unemployed workers in the region dropped below 10,000 in 2015 and 2016, less than half as many as in 2009 and the lowest since 2001, when there were just 9,125 unemployed workers.

This has created an extremely tight labor market in Southeast Minnesota, with just over one job seeker for every vacancy in the region. Local employers reported nearly 8,350 job vacancies in the fourth quarter of

2016, the fourth-highest number ever recorded in the region.

Current demand has returned to levels last reached in the early 2000s, creating the same kind of constraints for employers who wanted to add jobs but couldn't find enough available workers to fill them (see Figure 1).

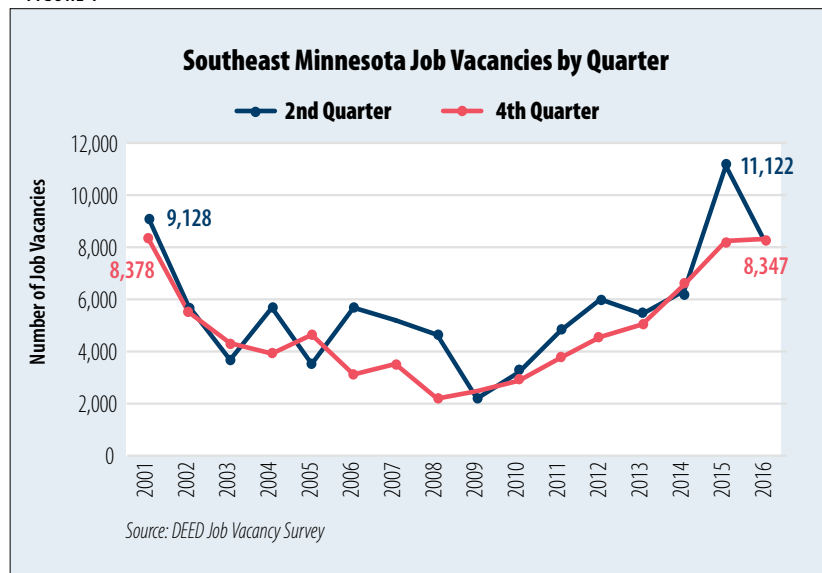
## A Healthy Number of Job Vacancies

Not surprisingly, health care and social assistance had the most vacancies in Southeast

Minnesota. In fact, the industry accounted for over 25 percent of openings in 2016 and closer to one-third of all openings in the previous four years, demonstrating its critical importance to the regional economy.

The next largest number of vacancies was in accommodation and food services and in retail trade, which combined to offer about one-third of current job postings in the region. Well over half of these vacancies were part time, with median wage offers

FIGURE 1



below \$11 in both industries. While accommodation and food services added openings, retail trade saw a slight retreat in hiring activity in 2016.

The construction, manufacturing, information, and transportation and warehousing industries also reported fewer openings in 2016 than the previous year, while employers in the administrative support and waste management services and finance and

insurance industries saw the biggest year-over-year gains in hiring demand.

Looking back further, just two industries – information and utilities – have fewer openings now than five years ago, while most doubled or tripled their number of vacancies compared with the fourth quarter of 2011, when the recovery was just taking hold (see Table 1).

## Education and Training Requirements

Over the past five years, only one-third of the job vacancies in Southeast Minnesota have required postsecondary education. Openings requiring that level of education fell to a low of just 27 percent in the fourth quarter of 2016.

Much of the drop was due to the region's industry mix. While over half of the job postings in

TABLE 1 Southeast Minnesota Job Vacancy Survey Results, Qtr. 4 2016

Industry	Number of Job Vacancies	Percent of Job Vacancies	Percent Part-Time	Requiring Post-Secondary Education	Requiring 1+ Years Experience	Median Wage Offer	Change in Vacancies Q4 2011 – Q4 2016
<b>Total, All Industries</b>	<b>8,347</b>	<b>100.0%</b>	<b>48%</b>	<b>27%</b>	<b>34%</b>	<b>\$12.70</b>	<b>120.7%</b>
Health Care and Social Assistance	2,332	27.9%	49%	53%	46%	\$16.20	149.4%
Accommodation and Food Services	1,896	22.7%	54%	2%	13%	\$10.31	467.7%
Retail Trade	1,063	12.7%	89%	2%	12%	\$10.97	71.2%
Admin Support and Waste Mgmt. Services	614	7.4%	2%	25%	31%	\$12.49	323.4%
Manufacturing	568	6.8%	2%	36%	47%	\$15.75	81.5%
Educational Services	391	4.7%	53%	65%	46%	\$15.21	8.3%
Other Services	273	3.3%	78%	19%	5%	\$9.80	42.9%
Construction	219	2.6%	2%	35%	100%	\$22.45	112.6%
Finance and Insurance	202	2.4%	84%	5%	91%	\$14.12	137.6%
Public Administration	172	2.1%	54%	36%	31%	\$12.36	160.6%
Wholesale Trade	163	2.0%	10%	10%	55%	\$12.00	10.1%
Transportation and Warehousing	139	1.7%	36%	13%	34%	\$16.96	321.2%
Management of Companies	118	1.4%	42%	57%	39%	\$17.58	168.2%
Agriculture and Related	107	1.3%	49%	0%	49%	\$12.02	78.3%
Information	45	0.5%	0%	67%	100%	\$16.97	-74.9%
Utilities	3	0.0%	N/A	N/A	N/A	\$28.47	-75.0%

Source: DEED Job Vacancy Survey

health care and social assistance required postsecondary training, only 2 percent of the openings in accommodation and food services and in retail trade did.

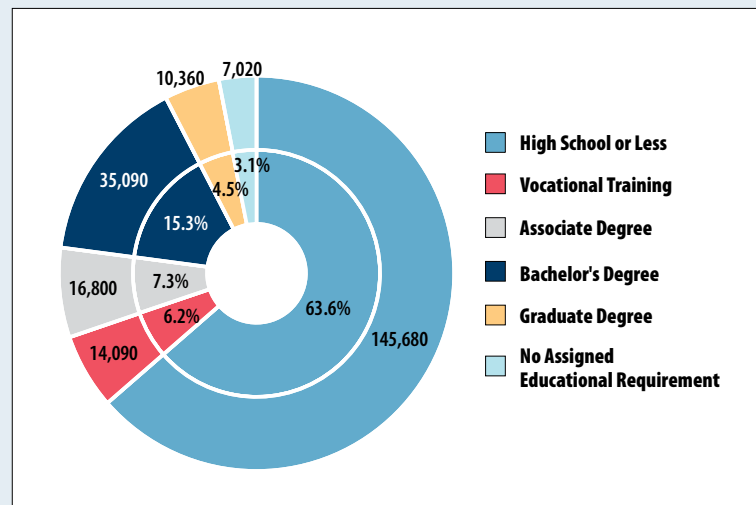
Educational requirements were also consistently low in administrative support and waste management services (which includes personnel staffing agencies), construction, transportation and warehousing, and arts, entertainment and recreation. Other industries tended to have higher educational requirements, especially public administration, educational services, management of companies, utilities and information, where over half of all openings required postsecondary training.

Educational requirements and wage offers depended more on the occupation than the industry. For example, while both are in the same industry (health care and social assistance), the median wage offer for health care support occupations was \$12.60 per hour, compared with a median wage offer of \$25.82 for health care practitioners and technical occupations.

Likewise, wage offers for heavy and tractor-trailer truck drivers rose above \$25 per hour in 2016, while wage offers for light truck and delivery services drivers dropped to \$9.30 per hour.

FIGURE 2

### Southeast Minnesota Share of Occupations by Education, 2016



Source: DEED Occupational Employment Statistics, Qtr. 1 2016



### Strength in Numbers

Almost two-thirds of occupations in the region can be gained with a high school diploma or less and some amount of on-the-job-training. Based on data from DEED's Occupational Employment

Statistics program and the state's new educational requirements for occupations table, 13.5 percent of jobs in Southeast Minnesota required vocational training or an associate degree. About 20 percent needed a bachelor's degree or higher (see Figure 2).



TABLE 2 Largest Occupations by Educational Requirements in Southeast Minnesota

Top 5 Occupations Requiring High School or Less	Estimated Employment	Median Wage	Top 5 Occupations With No Clear Educational Requirements	Estimated Employment	Median Wage
Retail Salespersons	6,530	\$10.45	Business Operations Specialists, All Other	1,130	\$25.94
Food Prep and Serving Workers	4,960	\$9.07	Sales Reps., Services, All Other	730	\$27.62
Cashiers	4,870	\$9.50	Managers, All Other	570	\$45.42
Office Clerks, General	4,090	\$14.74	Office and Administration Workers, All Other	450	\$12.83
Customer Service Representatives	3,780	\$14.91	Social Services Specialists, All Other	320	\$19.20
Top 5 Occupations Requiring Vocational Training	Estimated Employment	Median Wage	Top 5 Occupations Requiring Associate Degree	Estimated Employment	Median Wage
Nursing Assistants	3,820	\$12.37	Registered Nurses	9,990	\$29.26
Licensed Practical Nurses	2,000	\$20.38	Computer User Support Specialists	870	\$22.92
Machinists	1,150	\$20.00	Police and Sheriff's Patrol Officers	850	\$26.14
Electricians	1,040	\$29.51	Radiologic (X-Ray) Technologists	770	\$32.44
EMTs and Paramedics	820	\$16.70	Medical and Clinical Lab Technicians	540	\$21.34
Top 5 Occupations Requiring Bachelor's Degree	Estimated Employment	Median Wage	Top 5 Occupations Requiring Graduate Degree	Estimated Employment	Median Wage
Elementary School Teachers	2,550	\$51,654	Nurse Practitioners	1,020	\$51.12
General and Operations Managers	2,480	\$35.41	Pharmacists	780	\$63.37
Secondary School Teachers	1,950	\$58,531	Child/Family/School Social Workers	610	\$27.58
Medical and Clinical Lab Technologists	1,280	\$32.30	Physicians and Surgeons, All Other	430	>\$100
Accountants and Auditors	1,240	\$27.59	Lawyers	400	\$36.56

Source: DEED Occupational Employment Statistics, Qtr. 1 2016

In fact, high school students would be qualified for four of the top five largest occupations in the region, with only registered nurses requiring postsecondary training.

Although many of these low-skill occupations, and some of the largest ones, pay relatively low wages compared with higher-skill occupations (see Table 2), more than 80 occupations requiring a high

school diploma or less paid median wages above \$20 per hour. This represents more than 22,300 jobs in Southeast Minnesota. Likewise, nearly 8,300 jobs that required only short-term vocational training paid more than \$20 per hour at the median. This shows there are high-paying jobs found in every educational category.

As employers in Southeast Minnesota continue to expand

and look to fill their jobs with qualified applicants, data show that students and job seekers will find strong demand for occupations at every education level, ranging from a high school diploma or less to graduate degrees. Data and analysis of occupations and vacancies can help better align the regional workforce with employer demands. **T**

# Meet THE WRITERS



## CHET BODIN

Bodin is DEED's regional labor market analyst in northwestern Minnesota. He has a bachelor's degree from the University of St. Thomas in St. Paul and a master's degree in public policy from the Humphrey School of Public Affairs at the University of Minnesota.



## CAMERON MACHT

Macht is the regional analyst and outreach manager at DEED. He has a bachelor's degree in organizational management and marketing from the University of Minnesota-Duluth. Before joining DEED, he worked for a corporate training company and a market research consulting firm, both in the Twin Cities.



## LUKE GREINER

Greiner is DEED's regional analyst for central and southwestern Minnesota. He has a bachelor's degree in management from Park University in Parkville, Mo.



## TIM O'NEILL

O'Neill is DEED's regional analyst for the seven-county Twin Cities region. He has a bachelor's degree in history and political science from St. Olaf College in Northfield and a master's degree in public policy from the Humphrey School of Public Affairs at the University of Minnesota.



## CARLY LYKES FROSTMAN

Lykes Frostman is a business and program management analyst at State Services for the Blind. She is responsible for report development and production, data analysis, and integration of performance management programs. She holds a master's of public policy degree from the University of Minnesota's Humphrey School of Public Affairs.

## MINNESOTA ECONOMIC TRENDS

MINNESOTA ECONOMIC TRENDS is published by the Labor Market Information (LMI) Office of the Minnesota Department of Employment and Economic Development (DEED).

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DEED COMMISSIONER **Shawntera Hardy**; LABOR MARKET INFORMATION DIRECTOR **Steve Hine**; ASSISTANT DIRECTOR AND CONTENT MANAGER **Oriane Casale**; EDITOR **Monte Hanson**; GRAPHICS/LAYOUT AND WEBPAGE PREPARATION **Mary Moe**; DISTRIBUTION **Debbie Morrison**.

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1st National Bank Building  
332 Minnesota Street, Suite E200  
St. Paul, MN 55101-1351

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