

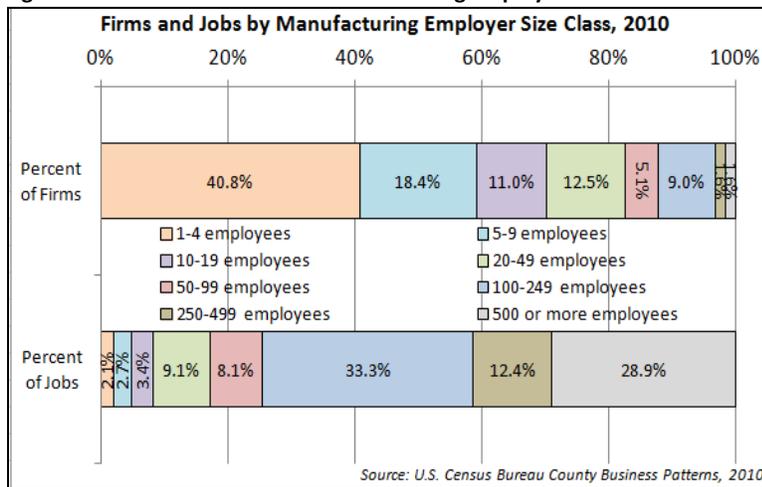
Southwest Minnesota Manufacturing Industry

Because of the region’s high concentration of jobs in the manufacturing industry, the Southwest Minnesota WorkForce Council (SWMNWFC) has decided to study the manufacturing industry in order to better address the economic and workforce development issues. The purpose of this report is to provide information on the current status of manufacturing in the region, as well as recent trends and future projections.

With 12,321 jobs at 257 business establishments, manufacturing is the second largest employing industry sector in Workforce Service Area 6 (WSA 6) – just behind health care and social assistance, which has 12,633 jobs at 435 establishments. The next largest industries in WSA 6 include retail trade (755 establishments and 7,919 jobs), educational services (122 establishments and 6,528 jobs), accommodation and food services (362 establishments and 5,254 jobs), public administration (372 establishments and 4,133 jobs), wholesale trade (350 establishments and 4,069 jobs), and construction (717 establishments and 3,677 jobs).

Manufacturing is comprised of a small number of really large businesses and a large number of small businesses. According to 2010 County Business Patterns data from the U.S. Census Bureau, most of the manufacturing firms in the region are considered small businesses, having fewer than 500 employees. In fact, almost 60 percent of manufacturers have 1-9 employees, though they provide less than 5 percent of total employment. Another 28.6 percent of manufacturers have 10-99 employees, and they about provide 20 percent of total employment. Only 12.2 percent have 100 or more employees, but they provide about 75 percent of jobs. (See Figure 1.)

Figure 1. Southwest Minnesota Manufacturing Employers



The largest manufacturing industry sectors in WSA 6 include food manufacturing (51 establishments and 5,400 jobs) and machinery manufacturing (28 establishments and 2,208 jobs), followed by fabricated metal manufacturing (35 firms and 756 jobs), wood product manufacturing (16 firms and 689 jobs), computer and electronic product manufacturing (6 firms and 661 jobs), and furniture and related product manufacturing (14 firms and 516 jobs).

Manufacturers in the region cut jobs in the last year, losing 100 jobs from the third quarter of 2011 to the third quarter of 2012. The largest job declines occurred in machinery manufacturing (-136 jobs) and food manufacturing (-130 jobs). The transportation equipment manufacturing sector (-67 jobs) and miscellaneous manufacturing sector (-28 jobs) also suffered jobs losses in the last year. In contrast, manufacturers in the region added jobs in wood product manufacturing (+101 jobs), nonmetallic mineral product manufacturing (+37 jobs), and plastics and rubber product manufacturing (+30 jobs). The other manufacturing sectors in the region mostly held steady, either gaining or losing less than 15 jobs, including furniture and related product manufacturing, chemical manufacturing, fabricated metal manufacturing, and computer and electronic product manufacturing. (See Table 1.)

NAICS Industry Title	NAICS Code	Qtr. 3 2012 Data				Q3 2011–Q3 2012		Q3 2007–Q3 2012	
		Number of Firms	Number of Jobs	Quarterly Payroll	Avg. Weekly Wages	Change in Jobs	Percent Change	Change in Jobs	Percent Change
Total, All Industries	0	5,665	71,185	\$575,649,692	\$622	-394	-0.6%	-1,639	-2.3%
Manufacturing	31	257	12,321	\$128,299,366	\$801	-100	-0.8%	-598	-4.6%
Food Manufacturing	311	51	5,400	\$55,407,886	\$789	-130	-2.4%	+140	+2.7%
Textile Product Mills	314	4	45	\$163,760	\$280	-3	-6.3%	ND	ND
Wood Product Manufacturing	321	16	689	\$7,152,510	\$799	+101	+17.2%	-112	-14.0%
Printing & Related Support Activities	323	14	240	\$1,803,363	\$578	+1	+0.4%	-53	-18.1%
Chemical Manufacturing	325	12	375	\$5,096,738	\$1,045	+4	+1.1%	-189	-33.5%
Plastics & Rubber Products Manufacturing	326	9	272	\$2,613,631	\$739	+30	+12.4%	+60	+28.3%
Nonmetallic Mineral Product Manufacturing	327	18	233	\$2,766,160	\$913	+37	+18.9%	ND	ND
Fabricated Metal Product Manufacturing	332	35	756	\$7,396,258	\$753	-2	-0.3%	+34	+4.7%
Machinery Manufacturing	333	28	2,208	\$28,139,943	\$980	-136	-5.8%	-207	-8.6%
Computer & Electronic Product Manufacturing	334	6	661	\$6,024,842	\$701	-5	-0.8%	-68	-9.3%
Transportation Equipment Manufacturing	336	3	67	\$497,261	\$571	-67	-50.0%	-333	-83.3%
Furniture & Related Product Manufacturing	337	14	516	\$3,991,848	\$595	+15	+3.0%	-29	-5.3%
Miscellaneous Manufacturing	339	23	347	\$2,900,052	\$643	-28	-7.5%	+211	+155.1%

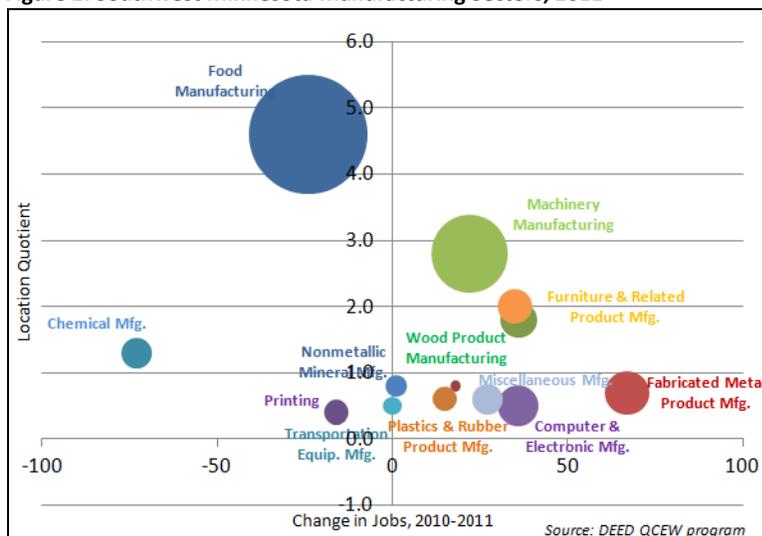
Source: DEED Quarterly Census of Employment & Wages (QCEW) program

In comparison, the state of Minnesota saw a small increase in manufacturing employment over the last year. Statewide, manufacturers added just over 3,600 net new jobs from the third quarter of 2011 to the second quarter of 2012, a 1.2 percent increase. However, the state saw a much more severe decline in manufacturing jobs in the last five years, while Southwest Minnesota saw much smaller job losses. From the third quarter of 2007 to the third quarter of 2012, Minnesota dropped more than 10 percent of its manufacturing jobs; while Southwest Minnesota lost just under 600 jobs, a 4.8 percent decline.

Over time, Southwest Minnesota has seen job gains in food manufacturing (+140 jobs), plastics and rubber product manufacturing (+60 jobs), fabricated metal manufacturing (+34 jobs), and miscellaneous manufacturing (+211 jobs), a huge 155 percent increase. In contrast, the region suffered big declines since 2007 in transportation equipment manufacturing (-333 jobs), machinery manufacturing (-207 jobs), chemical manufacturing (-189 jobs), and wood product manufacturing (-112 jobs), as well as smaller declines in computer & electronic product manufacturing (-68 jobs), printing (-53 jobs), and furniture and related product manufacturing (-29 jobs).

Even with employment changes, the vast majority of manufacturing employment in the region is either in food manufacturing or machinery manufacturing. (See Figure 2.)

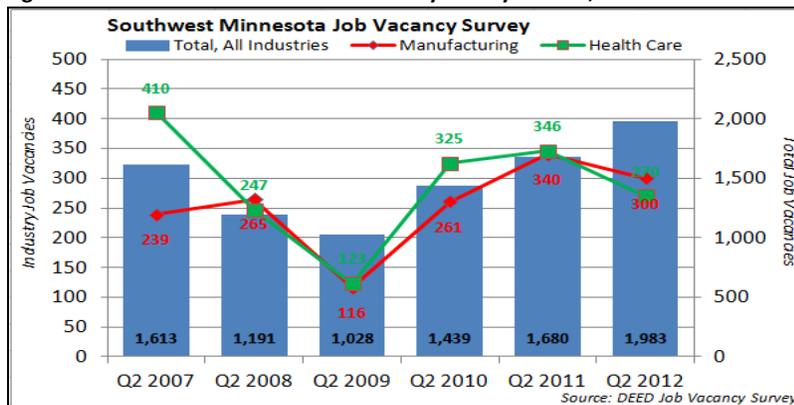
Figure 2. Southwest Minnesota Manufacturing Sectors, 2011



In addition to being one of the largest employing industries, manufacturing is one of the higher paying industries in the region. The highest paying manufacturing sector was chemical manufacturing (\$1,045 average weekly wages), which was one of the highest paying subsectors overall. The next highest paying sectors include machinery manufacturing (\$980 average weekly wages), nonmetallic mineral product manufacturing (\$913), wood product manufacturing (\$799), and food manufacturing (\$789). In contrast, only four of the region’s manufacturing sectors were relatively low-paying, including textile product mills (\$280 average weekly wages), transportation equipment manufacturing (\$571), printing (\$578), and furniture and related product manufacturing (\$595).

After suffering declines during the recession, manufacturing saw a big jump in job vacancies (269 mfg. vacancies) in the last year, and is now pretty much back to pre-recession levels. Manufacturing actually had a higher number of job vacancies than health care and social assistance during the second quarter of 2012. Many manufacturing jobs are in high demand right now, including truck drivers; welders; industrial machinery mechanics; CNC machine tool operators; industrial engineers; slaughterers & meat packers; packaging & filling machine operators; and cleaners of vehicles & equipment. (See Figure 3.)

Figure 3. Southwest Minnesota Job Vacancy Survey Results, 2007-2012



Due to recent gains, manufacturing is expected to see a 7.1 percent increase in jobs in Southwest Minnesota from 2010-2020, according to DEED’s Employment Outlook tool. The region is expected to enjoy big employment jumps in machinery manufacturing (+25.0%), chemical manufacturing (+24.7%), wood product manufacturing (+31.7%), fabricated metal manufacturing (+21.2%), and furniture and related product manufacturing (+17.5%). In contrast, the region is expected to suffer small declines in food manufacturing (-0.1%) and computer and electronic product manufacturing (-17.1%). (See Table 2.)

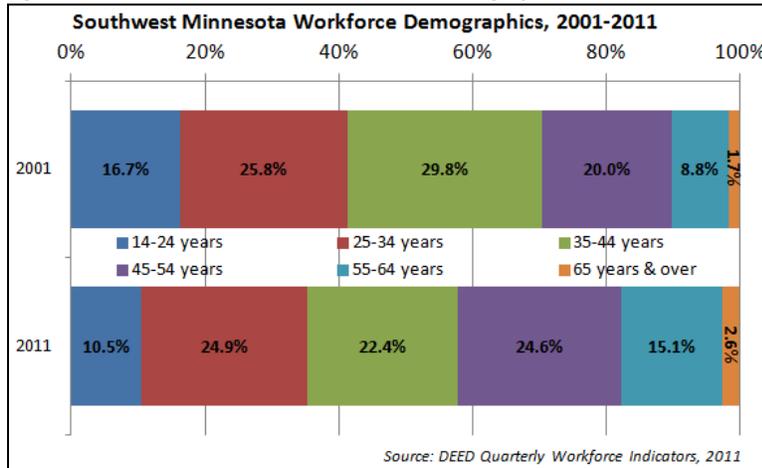
Table 2. Southwest Minnesota Manufacturing Projections, 2010 to 2020

Southwest Minnesota Industry Employment Projections, 2010 to 2020				
	Estimated Employment 2010	Projected Employment 2020	Percent Change 2010-2020	Numeric Change 2010-2020
Total All Industries	206,343	227,713	10.4%	21,370
Manufacturing	30,433	32,585	7.1%	2,152
Food Manufacturing	10,452	10,446	-0.1%	-6
Wood Product Manufacturing	821	1,081	31.7%	260
Printing & Related Support Activities	4,087	4,110	0.6%	23
Chemical Manufacturing	857	1,069	24.7%	212
Plastics & Rubber Product Mfg.	929	1,045	12.5%	116
Nonmetallic Mineral Product Mfg.	1,011	1,218	20.5%	207
Primary Metal Manufacturing	534	830	55.4%	296
Fabricated Metal Product Mfg.	1,707	2,069	21.2%	362
Machinery Manufacturing	3,529	4,413	25.0%	884
Computer & Electronic Product Mfg.	2,166	1,795	-17.1%	-371
Electrical Equip. & Appliance Mfg.	1,792	1,720	-4.0%	-72
Transportation Equipment Mfg.	842	967	14.8%	125
Furniture & Related Product Mfg.	544	639	17.5%	95
Miscellaneous Manufacturing	774	767	-0.9%	-7

Source: DEED 2010-2020 Employment Outlook tool

The manufacturing workforce has aged in the last decade, but still compares favorably to the state of Minnesota as a whole. In 2011, about 10.5 percent of manufacturing workers are 14-24 years, as compared to 16.2% in all industries and 6.7% in the state. The largest number of workers is 35 to 54 years of age – about 47.0 percent are 35-54 years, as compared to 41.3 percent in all industries. Though aging, a smaller percentage of the manufacturing workforce is 55 years and over as compared to the total of all industries - 17.7 percent are 55 years & over, as compared to 22.4% in all industries, and 20.0 percent in the state. (See Figure 4.)

Figure 4. Southwest Minnesota Workforce Demographics

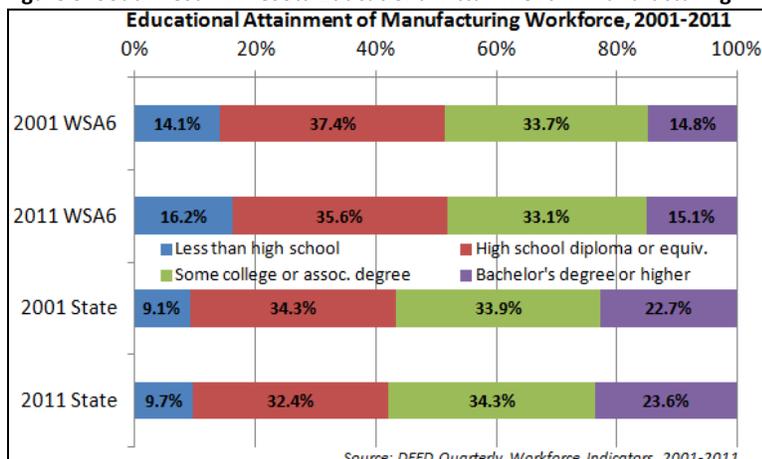


As noted above, the workforce has been aging in the last decade, with the number of younger workers (14-24 years) falling from 16.7 percent of the workforce to just 10.5 percent; and the number of 35 to 44 year olds dropping from 29.8 percent to 22.4 percent. In comparison, the percent of 45 to 54 year olds increased from 20.0 percent in 2001 to 24.6 percent in 2011; and the percent of workers aged 55 years and over jumped from 10.5 percent to 17.7 percent.

In addition, the manufacturing workforce is primarily male, with 69.1 percent of workers being male, as compared to 46.7 percent in total of all industries.

Despite complaints about a shortage of skilled workers, the manufacturing workforce in Southwest Minnesota got less educated than 10 years ago. In fact, slightly more workers had a high school diploma or less in 2011 than in 2001, while there was only a small increase in the percentage of workers with bachelor's degrees or higher, and a slight decrease in percentage of workers with some college or associate's degrees. (See Figure 5.)

Figure 5. Southwest Minnesota Educational Attainment in Manufacturing



Enterprise Minnesota: The State of Manufacturing

Enterprise Minnesota is focused on manufacturing success in the state of Minnesota. Each year they survey manufacturers across the state and publish the results in a comprehensive report. Bob Kill, the CEO of Enterprise Minnesota, shared some highlights with WSA 6.

Among many trends, he noted that manufacturers have really focused on increasing technology and automation during the recession. Some manufacturers are starting to see a trend toward “re-shoring” or “home-sourcing”, and a regional supply chain is becoming more important. Most manufacturers have moved past recycling, and are now focusing on reusing (or eliminating waste), and there has been a dramatic change in focus on removing waste to reduce recycling costs.

Canada is the most likely export destination for Minnesota manufacturers, but China has the most potential; and many of the major exporters are going to China, Latin America, and Europe. The sectors doing the most exporting include agriculture machinery manufacturing and food packaging machinery manufacturing, both of which are concentrated in Southwest Minnesota.

Many executives are confident about themselves and their own company’s prospects; but are much less confident about other businesses or (especially) the government. That being said, many businesses still have apprehension about making permanent hires, and are relying either on staffing agencies or short-term hires. At the time of the survey, there were at least 4,900 manufacturing jobs open in the state, but large numbers of unemployed workers. That led to perceptions of a skills gap, though Enterprise Minnesota noted that it was a geographic mismatch, as well as a skills mismatch. However, most MnSCU programs are full right now, so students are starting to come out.

Concerns about finding qualified workers have doubled over the past few years, especially in rural areas. Due to investments in technology, qualifications and skills have become more important due to investments in technology, with 6 out of 10 executives saying it is a challenge to recruit workers. Strangely, larger firms have more difficulty, probably because they spent more on technology.

Manufacturers say that wages have gone up, but the data is not clear about that. In fact, DEED’s Job Vacancy Survey data show that wages for production occupations have stagnated – and actually lost value compared to inflation. Typically wages rise when workers are in demand; that is not the case right now.

In addition to wages, the cost of health care coverage is a major concern for employers. Regulations and taxes are also concerns, but health care coverage is the biggest issue. Health care benefits are one of the most important recruitment factors for skilled workers, with CEOs agreeing that “You can’t have a less-than-attractive benefits package and get good talent.”

Succession planning has become more important as the manufacturing workforce – and ownership – in the region has gotten older. One of the manufacturing representatives from WSA 6 agreed, and said that the struggle to find talent, especially in rural areas, is actually understated. Employers really need workers with critical thinking skills, which many workers seem to lack. Manufacturers need to create visibility for manufacturing careers nationally, but the best way to do that may be by making changes locally. However, the media tends to share negative news, so we need to focus on sharing the positive success stories.

Southwest Minnesota Manufacturing Panel

Representatives from manufacturers in Southwest Minnesota participated on a panel at the WorkForce Council meeting, providing insight into their experiences in finding, keeping, and promoting talent in the region.

The manufacturers agreed that attracting people to Southwest Minnesota is difficult. Unfortunately, it is difficult to recruit to a small town and a cold climate. In general, employers have more success with people who are from the area, because they have a local tie-in. However, Monogram filled a procurement position with a person from Sioux Falls, and Schwan has both internal and external recruiters to help bring workers in. Their strategy is to focus on a rural background – try to find workers who have some ties to a rural area and would be more likely to be satisfied in a rural area.

Still, Schwan said they struggle to find qualified workers for some \$35,000 to \$50,000 jobs. Schwan also struggles to find workers for the 2nd and 3rd shifts. They offer a \$0.50 to \$1.00 per hour shift differential, but still struggle with higher turnover. It is understandable, as a lot of people don't want to work evenings and overnights, especially if they have families.

Likewise, BH Electronics struggles finding electronic technicians – there used to be programs locally, but those programs have gone away. Highland Homes has used headhunters in the past – it did work, but it was pretty expensive. They also use the radio for advertising production jobs. They recruit locally for supervisory positions. They also rely on word-of-mouth – sometimes with parents telling their kids about openings – to advertise jobs.

RVI needs engineers and office staff, and they often work with Ridgewater College for applicants. RVI typically gets 25 to 30 applicants for their manufacturing openings. Highland Homes gets about 50 applicants for their office and administrative positions, as well as accounting. At SpecSys (part of RVI), all applicants take a pre-employment assessment; but only about 1 out of every 25 applicants can pass. Highland Homes said they would be happy if the employees just came to work reliably. They have hired 150 people this year, and 50 of them are already gone.

Highland Homes says they spend a lot of time in the interview process to set expectations, making sure that employees know they need to work 5 days a week, how much vacation they get, etc. Safety is a big part of training – very focused on safety.

Monogram uses temporary staffing services, and uses them to weed out the employees who won't work. Highland Homes has also used them, but the temp hires didn't work out long-term. BH Electronics & RVI don't use temp services. Schwan has used them, but has gotten a mixed bag – they can be useful to give employees a “test drive” and can also do training; but the employees don't always work out.

Schwan needs people with reading comprehension, critical thinking skills, communication skills, and personal accountability. Schwan also believes that STEM is very important for their workforce, and communication and leadership skills are important. Highland Homes says that if the applicants possess soft skills, they can train them for other skills.

The manufacturers all believe that the perception of manufacturing has declined – it used to be a path to a long-term, high-paying job; now it is viewed as a last resort. They know that people want stability, and turnover rates are lowering recently, but that long-term stability is hard to offer in manufacturing without skills. Schwan and Monogram both offer training during work time, while BH Electronics and RVI use SkillPath for employees.

At BH Electronics and Highland Homes, there are challenges to hiring senior workers. The products at BH Electronics are tiny, and the jobs require good eyesight. At Highland Homes, the work is physically demanding. However, Highland does have some long-term employees who have stayed on after retiring, working shorter shifts counting inventory, for example. In contrast, the manufacturers feel that millennials have a feeling of entitlement, and can be harder to recruit and retain.

RVI struggles with finding suitable employment for spouses. Robyn took a spouse from place to place within the region, and helped provide housing information. Highland Homes says their workers struggle with a tight housing and rental market in Worthington. Temporary housing is a concern, so knowing realtors is a huge plus.

All in all, Southwest Minnesota is a great place to live, so sometimes the most effective advertising for them is word-of-mouth. Rick Fey suggested that maybe their companies or the WorkForce Council could do interviews with people who really like their jobs, and then share those videos with High School students. The WorkForce Council needs to share the message with high school students that they can come back to the region for a career.

The manufacturers suggested that the WorkForce Center can continue doing the training in critical positions, such as industrial maintenance. The WorkForce Center could accumulate forms and pre-applications from the employers, and show jobseekers how to fill out an application. They could also help jobseekers understand the manufacturers' expectations for work. There would be value in being more closely aligned with the businesses, perhaps meeting annually or bi-annually to make sure we are aware of their workforce issues and needs.

Southwest Minnesota Education Panel

Representatives from Minnesota West Community & Technical College in Southwest Minnesota also participated on a panel at the WorkForce Council meeting, providing insight into their experiences in recruiting students, responding to business needs, and preparing workers for the region.

Minnesota West is seeing constant demand for welders from employers right now. Minnesota West has a mobile welding lab that accommodates 12 people, but also requires access to a classroom. Most of the welding classes are 120 to 160 hours right now, which prepares the students for entry-level welding jobs. Extended sessions can get the students ready for their AWS (American Welding Society) certification.

Minnesota West is also seeing high demand for "mechatronics," or industrial maintenance workers. Many existing mechanics are nearing or reaching retirement age. Minnesota West offers a 260-hour course that includes training for welding, boiler operation, electronics, and more, which prepares the students for entry-level mechanic jobs.

Minnesota West still offers a machine tool program, but only through Customized Training because they no longer have the 2-year program. This is a 160-hour certificate program that includes blueprint reading, math, and hands-on training on the machines. Customized training also offers courses on industrial refrigeration, OSHA safety, Six Sigma, quality, and lean manufacturing; as well as courses on workplace soft skills including customer service, teamwork, problem solving, and more.

Through connections with the Southwest/West Central Service Cooperative, Minnesota West works with local high schools to get students interested in careers in fluid power technology. High schools cannot do the training because the machinery is very expensive. Right now, Minnesota West has 38 pneumatic instructors and 10 hydraulic instructors who go to high schools to do the training. Typically they offer a 3-week curriculum that includes a section on careers and job prospects. These high school students get the same training as workers at 3M or other major companies. Unfortunately, there is a lot of turnover in the high school teachers they work with, as state budget cuts have hurt these programs. For example, there have been 4 or 5 different teachers at Marshall in the last 8 to 10 years.

In the fluid power program, Minnesota West keeps a job posting board available based on direct contact with companies and job listings from MinnesotaWorks.net. Right now, they have more than 300 job listings for the 10 students that are in the fluid power program. They had 11 graduates last year and a 100% placement rate.

A couple decades ago, most manufacturing programs at Minnesota West had 2 sections of 30 to 40 students, now they find it is hard to get 1 section filled. Some of the careers will pay \$100,000 per year, but the manufacturing firms are not as well known anymore. The perception is that many students (and their parents) don't know what is happening inside the manufacturing buildings.

Duane Carrow said that the energy sector is about manufacturing. He came in with ethanol when it was hot, but now ethanol has reached a plateau. After that, wind energy got hot, but it is currently stalled as well. Two years ago, Minnesota West had 51 students in the wind technician program, this year it has just 7 students. Beyond renewable energy, there are going to be big needs in traditional energy generating plants (such as coal-fired power plants) because nearly 50% of the workforce is within 5 years of retirement. One of the challenges in training people for these jobs is to allow “stacking credentials” from customized training into the degree programs.

At several of the MnSCU workforce assessment sessions, employers complained about the lack of math skills and communication skills of applicants and workers. Carrow believes that there is strong momentum building right now for a private-public collaboration on workforce skills. They understand they need to keep the pipeline full for local employers, while employers could wage a public relations campaign to show that there are good jobs available. However, it seems that students would rather work on computers than in manufacturing. The farther removed from agriculture and manufacturing these kids are, the less interested they are in it. There are negative connotations of manufacturing that are hard to overcome. In contrast, Minnesota West instructors say there is no age discrimination in the manufacturing industry – instead, many employers look at older workers as more stable.

Minnesota West believes that the WorkForce Council should continue supporting the FastTRAC programs, especially the Industrial Maintenance program – because it has been a success. They have done 11 programs so far, and have a 62% placement rate, with an average wage of \$13.50 to \$14.00 at placement. However, some of the students need to continue building their skills.

The WorkForce Council suggested going to local schools and school boards to see if they value manufacturing education, and if so, if they are willing to invest in it. It would likely be an investment in people who stay here in the region. We also need to encourage parents to talk with their kids about these careers – parents are the number 1 influence on students choosing careers. We need to look at and build off the resources that already exist (i.e. Schwan, JBS, videos, etc.).