

Job Trends Report

OCTOBER 2011



Industry Focus – MANUFACTURING

Manufacturing is a vital part of the Seattle-King County economy, essential to local productivity and a supplier of a wide variety of regional jobs. The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

As defined by the North American Industry Classification System:

Establishments in the Manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that transform materials or substances into new products by hand or in the worker's home and those engaged in selling to the general public products made on the same premises from which they are sold, such as bakeries, candy stores, and custom tailors, may also be included in this sector. Manufacturing establishments may process materials or may contract with other establishments to process their materials for them. Both types of establishments are included in manufacturing.¹

Manufacturing currently accounts for 11.5% of the region's employment – over 160,000 jobs in the Seattle area as of September 2011. By comparison, Trade, Transportation

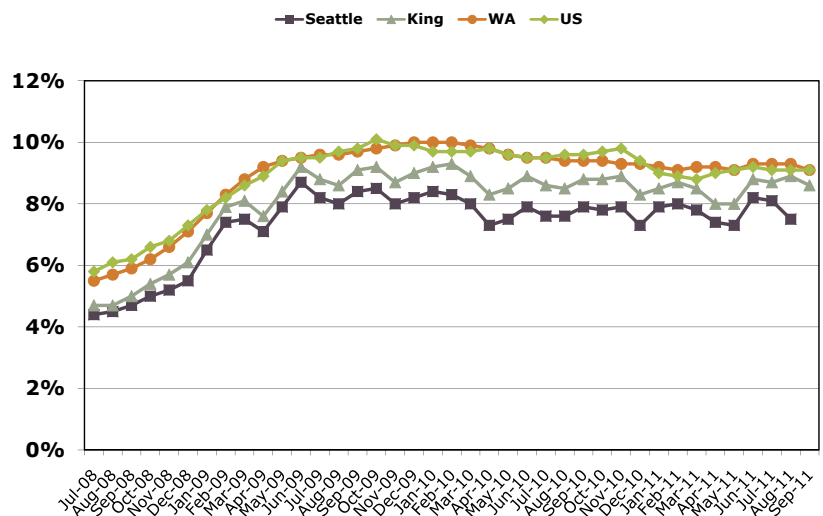
TREND TRACKER: What's going on in the local labor market?

Not much has changed since Seattle Jobs Initiative's last Job Trends Report. The third quarter of 2011 continued to show the hard road the nation and region has traveled following one of the worst recessions in decades and a weak recovery at best. As Chart 1 illustrates, unemployment rates remain high nationally and locally, with September 2011 reports rates hovering around 9% for the US and Washington State. The Seattle-King County area is only slightly lower at 8.6%.

CHART 1

Unemployment Rate -- July 2008 to September 2011

Unemployment rates remain high nationally and locally. Rates are projected to remain high well into 2012.



Source: Washington State Employment Security Department; Bureau of Labor Statistics -- Seattle Estimates are not seasonally adjusted.

Industry employment reveals a similar picture. As Chart 2 on the following page shows, Construction has seen the hardest hits, with employment still 16% lower than where it was at the end of the recession. Bright spots include Professional and Business Services, as well as Education and Health Services. Cuts in government jobs continue to be a drag on overall job numbers. Manufacturing is showing improvements in employment numbers. (See Industry Focus)

¹ <http://www.bls.gov/iag/tgs/iag31-33.htm>

and Utilities make up roughly 18% of the region's total employment; Professional & Business Services represents roughly 15%, Government 14% and Education and Health Services 12% as of September 2011.

Table 1 details the various areas of Manufacturing industry employment. Transportation equipment is the largest subsector, with 88,300 or over 55% of all manufacturing employment in the Seattle area in September 2011. Within this sector, Aerospace Product and Parts Manufacturing, dominated by Boeing and many other essential aerospace suppliers, represents 53% of total manufacturing employment for the region – over 84,000 jobs.

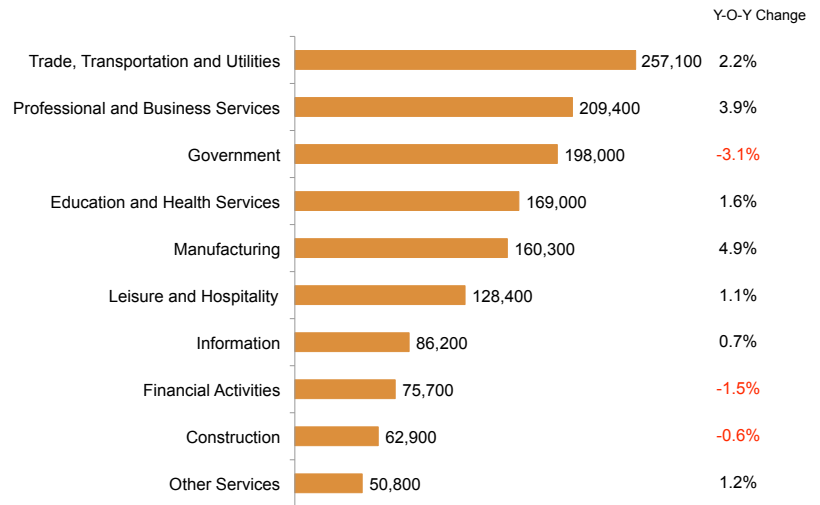
TABLE 1. MANUFACTURING SUBSECTOR EMPLOYMENT FOR SEATTLE MSA, SEPTEMBER 2011

Manufacturing	160,300	
Durable Goods Mfg	133,900	83.5%
Fabricated Metal Product Manufacturing	9,200	5.7%
Computer and Electronic Product Manufacturing	13,000	8.1%
Navigational, Measuring, Electromedical and Control	7,500	4.7%
Transportation Equipment Manufacturing	88,300	55.1%
Aerospace Product and Parts Manufacturing	84,700	52.8%
Nondurable Goods Mfg	26,400	16.5%
Food Manufacturing	13,600	8.5%

Source: Washington State Employment Security Department, LMEA

CHART 2
September 2011 – Employment by Industry – Seattle MSA

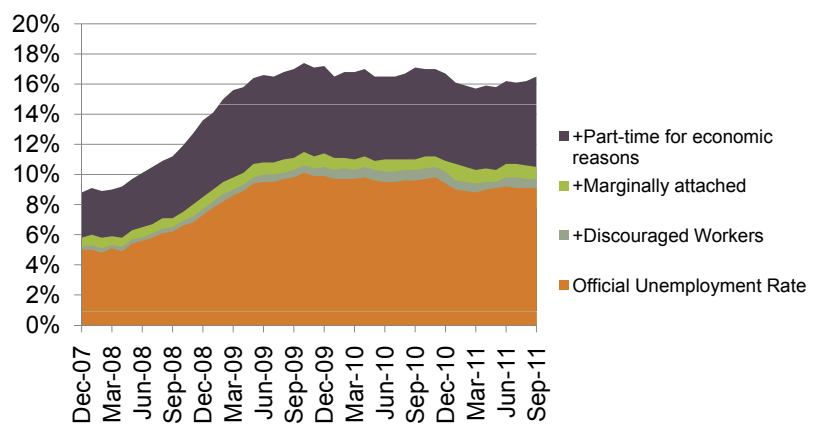
Some signs of growth in particular sectors locally.



Source: Washington State Employment Security Department; Bureau of Labor Statistics -- Seattle estimates are not seasonally adjusted.

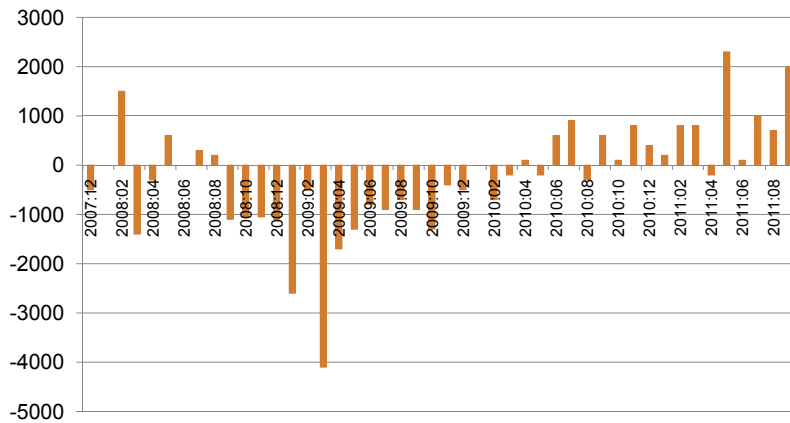
It's important to note that the unemployment rate only represents part of the out-of-work population struggling in today's rough economic landscape. The official unemployment rate does not capture those individuals who have been displaced from the workforce – those individuals who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work sometime in the past 12 months. Chart 3 maps rates for unemployment and underemployment for the U.S. since the beginning of the recession in December of 2007. As of September 2011, unemployment was at 9.1% for the nation. However, when those discouraged and marginally attached workers are added, the rate goes up to 10.5%. Add on those individuals who have currently settled for part-time work due to economic reasons, and the underemployment rate rises to 16.5% - a more complete measure of the effects this recession and the weak recovery have played on a larger portion of the workforce.

CHART 3
U.S. Underemployment – More than just unemployment.



Source: Bureau of Labor Statistics

CHART 4 Manufacturing Employment – Seattle MSA

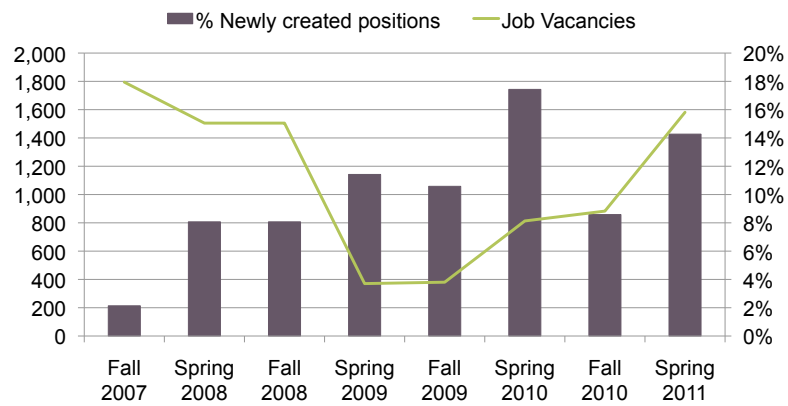


Source: Washington State Employment Security Department, LMEA. (Value for Oct 2008 average of preceding and following month due to strike numbers.)

Chart 4 illustrates total industry employment growth since the beginning of the recession. The recent historical high for the industry was in February of 2008, with 171,100 in total employment for Seattle-King County. This peak roughly coincides with the beginning of the regions' fall into recession, with current employment numbers almost 13,000 lower than the high. The sector has seen an increase overall since the end of the recession in June 2009.

CHART 5 Seattle-King County Manufacturing Job Vacancies

Employers are reporting opportunities, with growing numbers of new positions.



Source: Washington State Employment Security Department; Bureau of Labor Statistics -- Seattle estimates are not seasonally adjusted.

While job growth has been slow for the sector, opportunities exist to find employment in both overall job vacancies and specifically newly created positions. Chart 5 details information garnered from a survey of King County employers, and shows that for manufacturing, there has been a steady increase in job vacancies since the Spring of 2009. As of Spring 2011, employers indicate that roughly 14% of vacancies are newly created positions.

Occupations & Wages

Table 2 outlines the Top 20 Occupations in terms of overall job numbers for 2011 for Seattle. A variety of occupations supporting the range of manufacturing subsectors surface, from machinists to bakers, team assemblers to carpenters. Team assemblers represent the largest number of positions for the area, with over 1,853 positions.

Table 2. Top 20 Production Occupations – Seattle, 2011

Production Occupations (SOC 51-0000)	2011 Employment	2011 Median Wage
Team assemblers	1,853	\$15.23
First-line supervisors/managers of production and operating workers	1,466	\$29.83
Meat, poultry, and fish cutters and trimmers	984	\$11.18
Sewing machine operators	976	\$11.76
Inspectors, testers, sorters, samplers, and weighers	976	\$23.97
Assemblers and fabricators, all other	836	\$14.52
Bakers	811	\$15.78
Production workers, all other	801	\$14.09
Welders, cutters, solderers, and brazers	743	\$22.59
Packaging and filling machine operators and tenders	727	\$14.44
Laundry and dry-cleaning workers	701	\$10.75
Helpers--Production workers	585	\$12.76
Printing machine operators	562	\$19.61
Electrical and electronic equipment assemblers	525	\$13.79
Tailors, dressmakers, and custom sewers	523	\$17.07
Machinists	421	\$22.54
Upholsterers	404	\$17.26
Cabinetmakers and bench carpenters	404	\$14.70
Jewelers and precious stone and metal workers	375	\$16.70
Prepress technicians and workers	339	\$20.76

Source: EMSI, 2011.

PROJECTIONS: SUPPLY & DEMAND

Manufacturing's presence in the region is sizable. Table 3 provides comparison of the Seattle MSA to other Washington regions. The Seattle MSA currently represents almost 60% of Washington State's total manufacturing employment.

TABLE 3. MANUFACTURING EMPLOYMENT BY WASHINGTON MSA REGIONS – AUGUST 2011

	TOTAL EMPLOYMENT	MANUFACTURING EMPLOYMENT	% OF TOTAL EMPLOYMENT
Washington State	2,831,400	271,100	9.6%
Seattle MSA	1,410,000	158,400	11.2%
Tacoma MSA	268,000	16,500	6.2%
Spokane MSA	202,400	15,100	7.5%
Kennewick MSA	100,300	6,800	6.8%
Olympia MSA	98,200	3,100	3.2%
Bremerton MSA	82,300	1,900	2.3%
Bellingham MSA	79,300	8,100	10.2%
Yakima MSA	74,600	7,600	10.2%
Mt. Vernon MSA	44,400	4,900	11.0%
Wenatchee MSA	38,900	2,300	5.9%
Longview MSA	35,800	6,000	16.8%

Source: Washington State Employment Security Department, LMEA

Despite its large presence in regional and overall state employment, long term growth is slated to be positive but slow. A recent study released by the Seattle-King County Workforce Development Council (WDC) performed by Community Attributes presents some key findings about King County's manufacturing sector. The Seattle-King County Talent Pipeline Study is a demand and supply analysis that aims to calculate the supply of workers by industry sector and occupation and compare it to demand projections to determine the gaps that may persist without changes in workforce preparation efforts. The findings from this work indicate some key facts about the future of the manufacturing industry and its employment opportunities:

- 1) Manufacturing growth between 2014 and 2019 will be slower than King County employment as a whole – 0.8% compared to 1.4% respectively.
- 2) Much of the job openings slated for this time period will be the result of retirements and separations, rather than new jobs.
- 3) Occupations in demand will include Shipping, Receiving and Traffic Clerks, Team Assemblers, Purchasing Agents, and Logisticians, and Assemblers and Fabricators.
- 4) On the supply side, supply will outweigh demand for many of the entry- and mid-level occupations. Conversely, demand will outweigh supply for some key technical occupations in manufacturing: Logisticians, Mechanical Engineers, and Industrial Engineers. These highly-skilled positions, however, require at least a 4 year degree and/or experienced individuals with on-the-job training.

SKILLS GAP

While the industry is important to regional productivity, it is not the job creation machine that it once was decades ago. Productivity improvements and globalization have moved many positions offshore. In addition, the sector has become more competitive. Increases in labor productivity have translated into needing one-eighth fewer worker hours to produce the same amount of output as compared to three years ago.² The jobs that remain require increasingly technical skills.

"During the recession, domestic manufacturers appear to have accelerated the long-term move toward greater automation, laying off more of their lowest-skilled workers and replacing them with cheaper labor abroad. Now they are looking to hire people who can operate sophisticated computerized machinery, follow complex blueprints and demonstrate higher math proficiency than was previously required of the typical assembly line worker."³

Manufacturing needs a workforce equipped with the appropriate technical skills to drive innovation, global competitiveness and continued productivity for the region. Industry experts say finding workers who combine sharp technical skills with the ability to think creatively and strategically is becoming increasingly difficult. These skills include an

understanding of advanced mathematics, logic and programming. For those who already have high-skill talent in manufacturing, opportunities will continue to grow. For those looking for employment in the smaller supply of entry-level positions, key skills may make the difference.

Manufacturing employers both small and large indicate that a valuable set of skills are requisite for entry-level employment across all areas of manufacturing employment: teach-ability, learning new skills and processes quickly, proactive inquiry, dependability, and being able to generally fit in with the company culture.

2 April Jobs Report: The Impact of Education and Age on Manufacturing Employment. Economic and Statistics Administration. www.esa.doc.gov

3 <http://www.nytimes.com/2010/07/02/business/economy/02manufacturing.html?adxnnl=1&src=busln&pagewanted=1&adxnnlx=1317150068-cHKof2GsvmcLqWFwwY7BDg>

EMPLOYER PERSPECTIVE

In order to get a full picture of what's taking place in the Manufacturing industry in the Seattle & King County area, Seattle Jobs Initiative went to the field directly to hear what employers, educators and staffers are experiencing in light of the trends described above.

RECENT LABOR MARKET DATA SHOW THAT MANUFACTURING EMPLOYMENT HAS STARTED TO SHOW SOME POSITIVE SIGNS. WHAT ARE YOU EXPERIENCING THAT WOULD INDICATE JOB GROWTH IN THIS KEY INDUSTRY FOR THE REGION?

Across the board, employers large and small are reporting good signs for job growth in the manufacturing industry. As **Tom McLaughlin**, Executive Director of the Center for Advanced Manufacturing Puget Sound (CAMPS) notes, employment in the industry has been picking up on a gradual basis for over a year. Boeing in particular is ramping up its hiring, and with that comes a need for many semi-skilled, skilled and professional positions to be filled to meet the needs of its growing product obligations. In addition, **Rick Amero**, Operations Manager for Madden Industrial Craftsmen Inc., a regional staffing agency for the manufacturing industry, reports that the increase in the number of businesses coming to his firm looking for help in filling positions includes many opportunities for entry-level work.

WHAT DO THE NEXT 3-5 YEARS HOLD FOR MANUFACTURING AND ITS JOB MARKET IN SEATTLE/KING COUNTY?

The long-term prospects are good for the regional manufacturing industry. **Dave Weber**, instructor for the Welding Fabrication Program at South Seattle Community College notes the large variety of projects in the works around the region that will require a strong workforce equipped with key manufacturing skills to ensure timely delivery. Many of these projects include important infrastructure work – the 99 Tunnel, 520 bridge, Light Rail,

and others – that will depend heavily on metal fabrication skills and provide many entry-level opportunities.

WHAT KIND OF REQUIREMENTS DO EMPLOYERS HAVE FOR ENTRY-LEVEL WORKERS? HOW HAVE THESE REQUIREMENTS CHANGED BASED ON THE CURRENT ECONOMIC SITUATION?

Employers are really looking for individuals that have an understanding of the manufacturing environment. As McLaughlin notes, while experience in the field is ideal, an individual without it can still be successful if they understand the very process-driven nature of the work associated with the industry. Still, basic math skills, technical drawing skills, and use of instruments are all central to hitting the ground running in this field. Amero notes the key to employment in entry-level positions in manufacturing requires individuals to be mechanically inclined, with technical hands-on skills, but that one of the stumbling blocks can often be English language proficiency and communication skills. Given the same technical skillsets, individuals who can understand and communicate effectively in English will enjoy more success than those who do not.

Finally, in addition to the hard skills, employers note that there is a strong value to many soft skills. **Rosemary Brester**, President and CEO of Hobart Machined Products, Inc. notes that, for many, successful employment in small firms relies heavily on an individual's fit – this includes an individual's confidence in their own skills, ability to take feedback, and being a team player.

DO EMPLOYERS FIND GAPS IN SKILLS OF CURRENT AND PROSPECTIVE EMPLOYEES? HOW ARE EMPLOYERS RESPONDING TO THIS?

Even with an increase in opportunities available for individuals interested in pursuing employment in manufacturing, employers are continually finding it difficult to recruit people with the right skills for the job. McLaughlin notes that employers are finding ways to work around this problem, but that they are not fixes that are sustainable. These include running overtime and farming out orders to other companies. Brester notes, larger Tier 1 employers who can't find the skills they need in their applicant pool are ultimately mining employees from smaller companies like hers, leaving suppliers with the challenge to retrain the workforce they currently have.

HOW IS THE CURRENT WORKFORCE AND EDUCATION TRAINING SYSTEM MEETING YOUR NEEDS FOR A SKILLED AND READY MANUFACTURING WORKFORCE? WHAT SUGGESTIONS DO YOU HAVE FOR FURTHER IMPROVEMENT?

The pressure is on. As employment picks up in the industry, the issue of a ready and skilled workforce becomes ever more apparent. McLaughlin is candid about his concerns, noting that if the system does not provide companies with the workforce it needs, there is strong potential for these jobs to leave the region.

Many strong programs that exist at the community colleges (see next section) have been developed to address the need for skill-based training in manufacturing, creating a stream of people with the skills that employers desire. As Weber notes, continued contact with industry employers has helped these programs tailor their curriculum and skills training to immediate workforce needs.

MANY THANKS TO THE FOLLOWING INDIVIDUALS FOR THEIR INPUT:

Tom McLaughlin – Executive Director, CAMPS

Rosemary Brester – President & CEO, Hobart Machined Products, Inc.

Rick Amero – Operations Manager, Madden Industrial Craftsmen Inc.

Dave Weber – Instructor, Welding Fabrication Program, South Seattle Community College

TRAINING

Given the existing mismatch between the kind of skilled workers needed and the ranks of the unemployed, opportunities for training and upskilling are essential. One essential resource for training lies in the local community college system. Table 4 outlines some available certificate and degree programs locally in key manufacturing areas.

In addition, partnerships between the community colleges and other workforce organizations are providing opportunities for disadvantaged populations – namely troubled youth, veterans, and low-income adults – to connect to training programs that arm them with the skills manufacturing employers desire.

Table 4. Manufacturing Certificate and Degree Programs, King County 2011

SHORELINE COMMUNITY COLLEGE	MACHINING	Basic Manufacturing Certificate	21	
		Machinist Certificate of Proficiency	61	
		CNC Technology AAAS Degree	110-112	
RENTON TECHNICAL COLLEGE		Basic Machining Certificate	83	
		Precisions Machining Certificate	144	
		Precisions Machining AAS Degree	164	
		WELDING	Basic Welding Certificate	36
			Welding Certificate	87
			Welding AAS Degree	107
Welding Certificate	20			
Level One Welding Certificate	16			
Level Two Welding Certificate	19			
Level Three Welding Certificate	18			
One-Year Welding Certificate	72			
Two-Year Welding Certificate	104			
SOUTH SEATTLE COMMUNITY COLLEGE	Technology for Professional Careers Certificate	117		
	Welding Fabrication Technology AAS-T Degree	129		

SODO Inc.

King County Work Training YouthSource, South Seattle Community College and the Puget Sound Industrial Excellence Center have partnered with the Manufacturing Industrial Council to operate a job training and exposure program called "SODO Inc" (Seeking Opportunities, Developing Occupations).

The program is aimed at young people ages 18-24 who have had previous involvement with the justice system. In place of secure detention, the program works with these young people to provide job training and certification applicable to a range of manufacturing jobs. In addition, the program provides industry tours and internships as valuable exposure to the expectations of work in the field. Case management and job placement assistance are also provided. Funding and additional support is provided by the Workforce Development Council of Seattle-King County.

Green Light

South Seattle Community College and the Puget Sound Industrial Excellence Center have partnered with the Manufacturing Industrial Council to operate a job training and exposure program funded by the Seattle-King County Workforce Council through US Department of Labor Green Light sources.

The program trains adults and veterans that are disadvantaged with no or low income in need of updated training related to Green Manufacturing.

The program is designed to give the students industry-specific training, certifications and internship experience in Green Manufacturing. The training incorporates industrial safety certification, proper hand tool and PPE usage, as well as introduction to a range of specific skills from spray painting to welding techniques integrated into a 360-hour Manufacturing Basics program. The training is followed by placement in an internship at an industrial work site for hands-on experience.

Training to Placement to Advancement (TPA) Program

Training to Placement to Advancement (TPA) is a training program seeking to provide a connection between Washington state unemployed and underemployed workers and the manufacturing industry. CAMPS developed the program in partnership with Burst for Prosperity, Cares of Washington, the Workforce Development Council of Seattle-King County, and Green River Community College.

TPA seeks to help participants secure jobs that can lead to family wage jobs, linking individuals to advancement and success in the manufacturing sector while providing a pre-screened workforce pool for CAMPS members. The training spans 4 weeks at the Green River Community College Kent campus, including 30 hours of classroom instruction on key topic areas, applied skills, shop safety, processes and methodologies in the manufacturing sector. In addition, work readiness and life skills support are provided through Cares of Washington.

SJI Welding Training Program

Seattle Jobs Initiative (SJI) has been training low-income Seattle residents in welding trades since 1997. SJI's program is a full-time training program which runs Monday through Friday, 11:30 AM – 5 PM. Individuals participate in training at South Seattle Community College for one quarter, earning 17 credits in 11 weeks. Minimum requirements for participation in the training include CASAS scores of 220 in both reading and math. Students typically start with between 5th and 8th grade level math and reading skills.

Training includes introduction to the manufacturing/welding sector, with topical instruction in shop safety, fundamentals of applied math, blueprint reading, and technical welding skills. Many key technical and mathematical skills are incorporated into the training, contextualized to applications essential for success in the trade. A significant focus throughout the training is on those success skills identified by employers to be essential to employment in entry-level manufacturing jobs. They include showing up on time, giving and receiving feedback, team work, and individual initiative. In addition to key sector skills training, individuals are supported by SJI through community based organizations with case management, job readiness training, job placement services and retention services.

Since its start, over 800 low-income Seattle residents have enrolled in the program, with almost three quarters of them completing training, earning on average at least \$13/hr, equal to almost \$9,000 a year more than before they started with SJI. Several graduates of the program have also chosen to continue their education in the field, pursuing 1-yr certificate and 2-yr degree programs in manufacturing.

Support for the **Seattle Jobs Initiative Job Trends Report** series is provided by the City of Seattle Office of Economic Development.