

Metals Manufacturing: 'Old Economy' Still Producing Job Opportunities

by [Eric Moore](#)

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When people think of Oregon's economy, they may think of trees or the wide array of farm products produced in the state. Although Oregon historically relied on wood products and agriculture, and more recently saw rapid job growth tied to the Silicon Forest, the metals industry has been an important part of the state's economy since shortly after settlers hit the Oregon Trail. Many of today's metal manufacturers were associated with the state's wood and paper products industries, providing saw blades and associated machinery. Later, the metals industry supported the state's ship-building and repair industry. Oregon's metals manufacturers now produce a wide range of products that include rebar, computer components, jet engines, and multipurpose tools.

Oregon's metals manufacturing industry employs a little more than 25,000 workers, with 17,000 in fabricated metals industries and 8,000 in primary metals. Although employment levels have declined from their recent peak in the late 1990s, the industry continues to provide many workers with stable high-wage jobs with benefits. Table 1 lists some of the state's largest metals employers.

Despite recent net job losses, considerable hiring has taken place in metals manufacturing. Because the industry has a relatively large fraction of older workers, according to data from the U.S. Census Bureau's Local Employment Dynamics (LED) program, employers will soon lose many skilled workers as baby boomers retire. These retirements will create further job opportunities for workers with the appropriate skills.

The Metals Industry Consortium (MIC) addresses such issues as workforce recruitment and training. Eileen Drake, PCC Structurals Inc. vice president of administrative and legal affairs, co-chairs the group. She said many MIC members have workforces with an average age in the 40s.

"Today's existing workforce isn't going to be adequate to meet the needs," Drake said.

Hiring Continues in Declining Industry

Employers in the state's metals manufacturing industries hired an average of more than 2,100 workers per quarter since 2001 (Graph 1). Most of the hiring has been in fabricated metals, which averaged 1,700 new hires per quarter over this period. Metals hiring was affected by the recession, with hiring generally lower in 2002 and early 2003, but increasing in recent quarters.

The primary and fabricated metals manufacturing industries provide jobs that pay more than the average wage for all private industries (Graph 2). Primary metals had an average wage of more than \$4,200 per month while jobs in fabricated metals paid a little more than \$3,200 per month during the first quarter of 2004. The comparable wage for all private employers in Oregon was roughly \$3,000 per month.

Wages for new hires in metals manufacturing were also higher than for all private-sector new hires. The average monthly wage of the 320 new hires in primary metals manufacturing during the first quarter of 2004 was more than \$2,800 compared with nearly \$2,400 in fabricated metals, which had more than 1,800 new hires. The average monthly wage for new hires in all private-sector industries was \$1,900.

Labor Shortage in the Making?

The age class structure of the metals industry suggests there will be more openings in coming years as baby boomers exit the workforce. Graph 3 shows there is a relatively large fraction of workers in metals manufacturing between the ages of 35 and 64. Last year, more than half of all jobs in primary metals, and 43 percent of jobs in fabricated metals, were held by workers 45 and older compared with 37 percent of all private-sector jobs.

The vast majority of Oregon's metals-industry jobs are in metro regions (Graph 4). Only one in 10 metals jobs were outside the Portland and Willamette Valley areas compared with about one in four jobs for all private industries. Obviously, metals industry jobs are harder to find in rural Oregon.

What Jobs Will Be Available?

Table 2 lists the occupations that employ the most metals industry workers. All of these occupations fall in the production workers occupational category.

The 2004-14 industry employment forecasts suggest the state's metals industry will see modest job increases between 2004 and 2014, adding about 1,800 jobs and growing by roughly 8 percent. The industry is not expected to add many jobs due to growth, but there will be many replacement openings in each occupation. For every opening due to growth, the occupational forecasts suggest there will be more than three metals industry job openings due to replacement, or about 5,700 replacement openings. The industry's aging workforce and subsequent retirement will account for many of these replacement openings.

"One of the key elements to continuing to do business in Oregon is having an adequate workforce both in terms of numbers of available workers and skills of available workers," Drake said. "We no longer believe that will happen by itself and we think that industry – particularly the metals industry – has to be much more proactive in promoting our businesses as good places to work with a wide range of career opportunities for people. Everything from production positions to high-level management positions will be needed and available in the future."

Most Pressing Needs

A workforce assessment for the Portland area's metals industry by Worksystems Inc. found a need for skilled and experienced workers. Among the occupations most difficult to fill were welder, fabricator, machinist, and computer numeric control (CNC) operator. Although the industry provides high-wage job opportunities, it has a poor image in schools and colleges and is considered to be an "old-economy" rather than high-tech industry. While the industry does have its roots in the old economy, it has changed considerably over time. As the industry has adopted new technologies, many occupations now require strong computer and analytical skills. Although skill sets for metals occupations have changed over time, many in the industry have noted a shortage of workers with adequate basic skills or work ethic. Industry leaders say they hope to meet future workforce needs by developing and implementing training in high-demand occupations and improving awareness of job opportunities.

"We see no signs of a natural increase in interest in the metals manufacturing business coming from the schools," Drake said. "In fact, we've seen a decline in programs at the high school level that would encourage students to look at manufacturing. And yet we know there are substantial numbers of high school students who don't finish school – let alone go on to get a postsecondary degree."

For those students particularly, the metals industry may offer attractive career paths. "The message we're trying to give to high school kids is, 'If you're not interested in a two- or four-year degree, there are jobs you can have, there are things you can do that will provide good living wages with benefits where you can put your skills and talents to use,'" Drake said.

Many opportunities will include jobs with more technical aspects, including running computer-operated machinery, according to Drake. "There's a whole wide range of opportunity within the manufacturing world and, increasingly, they're skilled, not unskilled, jobs."

She emphasized the importance of a basic education as a foundation for a career. "You're not going to get there unless you have mastered the same kind of math and reading and language skills that you'd need to go into a community college program."

Summary

The metals manufacturing industry has a long history in Oregon, but it has seen employment decline modestly from prerecession employment peaks. Despite net job losses in recent years, the industry has continued to hire an average of more than 2,100 workers per quarter since 2001. The industry pays relatively high average wages to its existing workforce and new hires. Metals manufacturing also has a relatively large number of older workers. As these workers retire, they will provide many job openings for workers with the right skills. However, few younger workers are obtaining the necessary skills for positions in these industries, leaving a potential shortage of skilled workers. As a result, metals manufacturing will provide ample opportunities for workers seeking high-wage jobs in Oregon.

Sidebar

Employers, Educators Join to Meet Workforce Challenges

The Metals Industry Consortium (MIC) was formed in 2004. The alliance includes more than 30 employers, public high school and post-secondary educators, and public economic and workforce development professionals.

The mission of the MIC, based in Portland, is to create and sustain job opportunities in the metals manufacturing sector. The organization is pursuing nonprofit status, which would expand its scope in the Pacific Northwest.

The consortium is working to build a pipeline of workers for the future to replace an aging workforce. It's teamed with Portland Public Schools and other districts to improve understanding of the industry by offering a wide range of learning opportunities to teachers, counselors, and students. The group sponsored a Metals Industry Expo in May to present career opportunity information to high school students. The first event attracted more than 2,000 students from Oregon and Southwest Washington. The MIC expects to host the expo annually.

"We see the Expo as a great opportunity for industry to interact with students in our community," said Drew Park, president of Portland's Columbia Wire & Iron Works. "Waiting for them to come to us just doesn't make sense so we need to make ourselves accessible to the students and the Expo is our way of doing just that."

The 2006 Expo is tentatively scheduled for May 11, and will again showcase career and student learning opportunities in the metals and construction industries.

For more information on the MIC or the 2006 Career Expo, contact Michele Hicks of Madden Industrial Craftsmen at mhicks@mici.com.

Table 1
Top Oregon Metals Industry Employers

Firm	Products	Location
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Cascade Rolling Mills	Steel mill products	McMinnville
Columbia Steel Casting	Steel foundry	Portland
Consolidated Metco	Aluminum foundry	Clackamas
ESCO	Steel parts for machinery	Portland
Gerber Legendary Blades	Cutlery	Tigard
Leatherman Tool	Cutlery, tools	Portland
Northwest Pipe Co.	Steel pipes and tubes	Portland
Oregon Cutting Systems	Chain saws	Portland
Oregon Steel Mills	Steel plate & pipe	Portland
Precision Castparts	Titanium castings	Portland, Milwaukie
Sapa Anodizing	Aluminum metalworking	Portland
Wah Chang	Primary metals products	Albany

Source: Portland Metropolitan Chamber of Commerce, Largest Employers of the Portland-Vancouver Metropolitan Area and InfoUSA employer database.

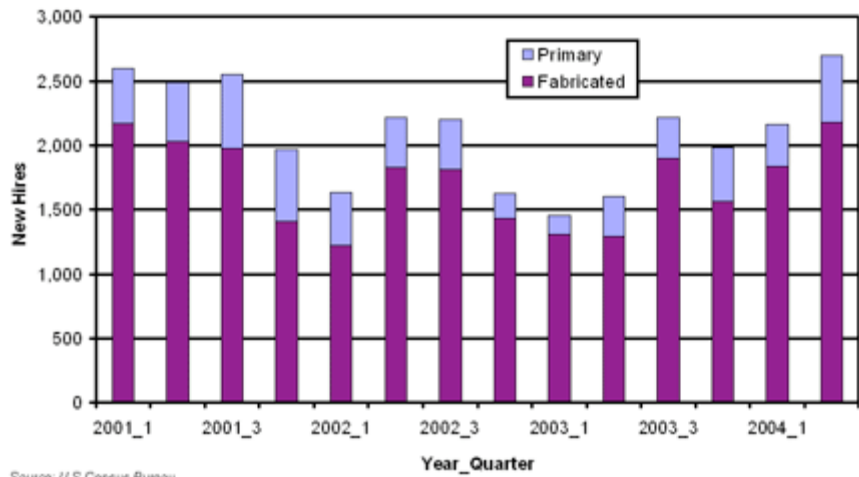
Table 2
Oregon: Metals Industry Forecast for Largest Occupations, 2004-2014

Occupational Title	Employment		Openings			2005 Average Annual Wage (all industries)
	2004	2014	Growth	Replacement	Total	
Welders, Cutters, Solderers, and Brazers	1,281	1,405	124	384	508	\$33,100
Machinists	1,252	1,397	145	313	458	\$39,672
Supervisors and Managers of Production and Operating Workers	1,110	1,196	86	250	336	\$48,544
Cutting, Punching, and Press Machine*	992	1,097	105	247	352	\$26,327
Computer-Controlled Machine Tool Operators, Metal and Plastic	823	909	86	152	238	\$34,022
Structural Metal Fabricators and Fitters	705	802	97	179	276	\$32,723
Grinding, Lapping, Polishing, and Buffing Machine*	665	689	24	132	156	\$31,743
Production Worker's Helpers	625	664	39	176	215	\$22,964
Molding, Coremaking, and Casting Machine*	607	596	-11	155	144	\$29,716
Assemblers, Multi-task or Team	601	680	79	166	245	\$25,180
Inspectors, Testers, Sorters, Samplers, and Weighers	538	568	30	126	156	\$30,527
Laborers and Freight, Stock, and Material Movers, Hand	499	540	41	159	200	\$23,845
Sheet Metal Workers	496	568	72	128	200	\$40,415

*Occupation includes setters, operators, and tenders, metal and plastic.

Graph 1

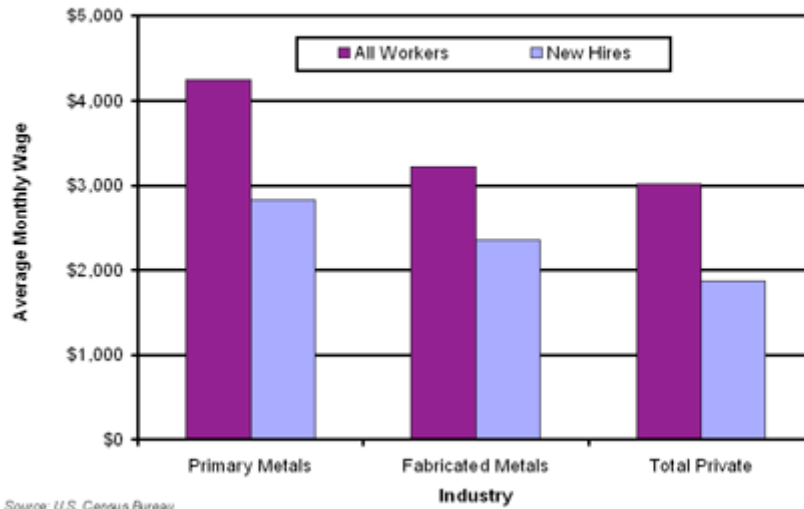
**Oregon: New Hires in Metals Manufacturing
First Quarter 2001 - Second Quarter 2004**



Source: U.S. Census Bureau

Graph 2

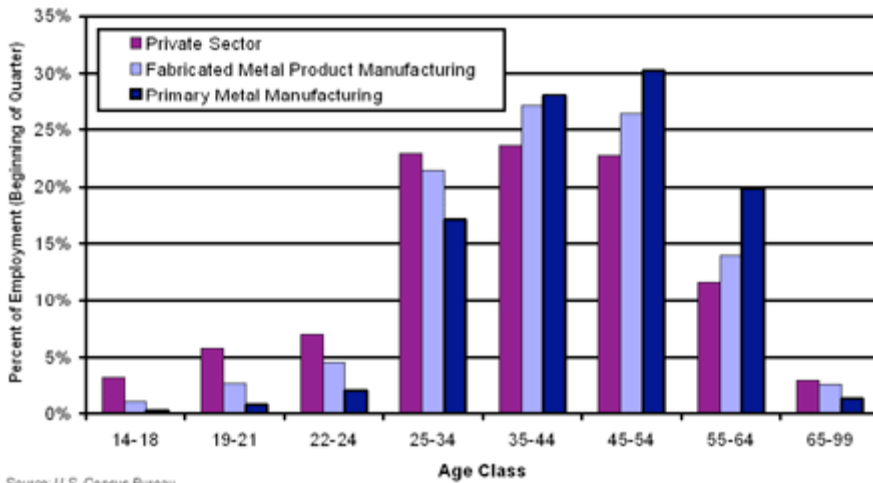
**Oregon: Average Monthly Wage by Industry
First Quarter 2004**



Source: U.S. Census Bureau

Graph 3

**Oregon: Employment by Industry and Age Class
First Quarter 2004**



Graph 4

Oregon: Fraction of Employment by Region, 2004

