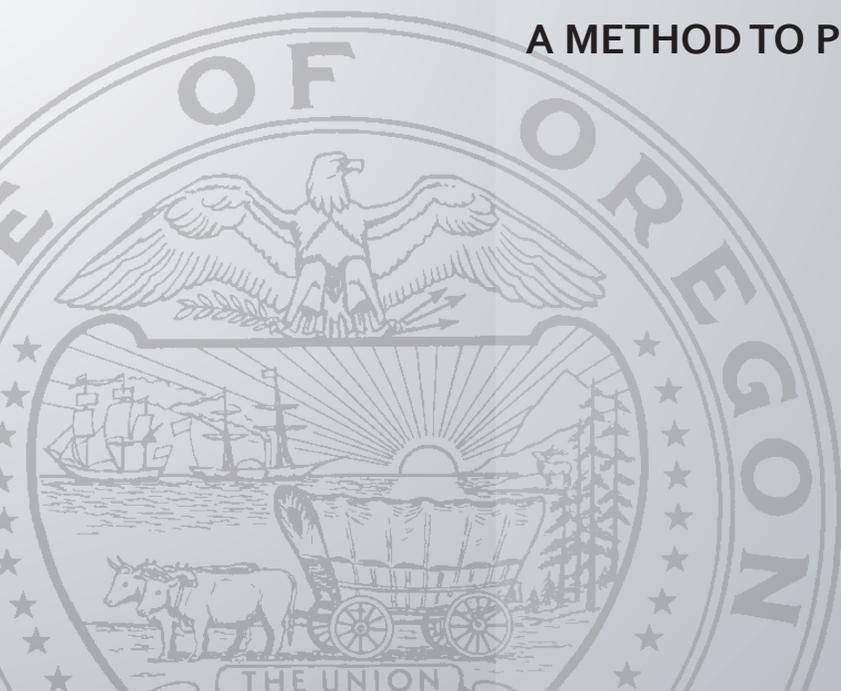




TRAINING OREGONIANS FOR THE RIGHT JOBS

A METHOD TO PRIORITIZE OCCUPATIONAL TRAINING



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September 2014

The Need to Target Training Resources

There are more than 1.6 million jobs in Oregon, spread across more than 700 published occupational categories. On average, we expect to need about 65,000 new workers every year from 2012 to 2022 to fill jobs created by economic growth, the retirements of baby boomers, and several other factors. Everyone involved in Oregon's workforce system – businesses, employees, policy-makers, training entities – wants Oregon's workers to have the right skills for those jobs.

But there's never enough money to pay for all of the training that might be needed. So we need a way to prioritize training. Which occupations represent the best investment of public-sector workforce and training dollars?

This invariably leads to a question that workforce researchers dread: "What's the demand-supply gap for each of Oregon's occupations?" The concept is simple. If we know how many new workers each occupation will need and how many individuals will complete training relevant for each occupation, we can simply subtract one number from the other, and figure out precisely how many additional trained workers are needed (or how much of a surplus of trained workers we're heading towards). Then we put our training resources to the occupation with the biggest "gap."

The problem is, the concept doesn't work in reality, partly because we don't have perfect demand and supply data for all 700 occupations and partly because the premise that there's a one-to-one match between every occupation and a particular program of training is fatally flawed.

So when asked that dreaded question, the appropriate (but unpopular) answer is: "We can't

measure that gap for all of Oregon's occupations, and even if we could, it would, in many cases, be a meaningless number." To some customers, it seems we're taking too much of a "purist" approach: "We don't have perfect data; therefore, we cannot provide anything useful to you."

There's another extreme, too. Perhaps we could call it the, "You want data? We got data!" approach. The idea here is that a group of analysts with decent computers and flexible assumptions can come up with numbers for any question asked. Not necessarily good numbers. But numbers that the customer will quite possibly be delighted with!

We decided to seek a better option, a middle ground. We thought that perhaps we could identify some data items that are solid, strong, and sound for all occupations, and use those data for all occupations. Then we'd add some other data items – perhaps weaker, perhaps not available for all occupations – and use those data only for occupations where they made sense and added value.

And so we established the Oregon Employment Department's Occupational Prioritization for Training model. This model follows four basic steps, each described in more detail below:

1. Start with Oregon's high-demand, high-wage occupations.
2. Analyze six strong data factors available for all occupations.
3. Analyze four weaker data factors useful for only some occupations.
4. Engage businesses and other relevant groups to make final decisions on training priorities.

The Starting Point: High-Demand, High-Wage Occupations

There are many philosophical approaches to allocating public-sector funds to particular types of training. Oregon – in a collaborative process largely driven by the Oregon Workforce Investment Board in 2007 – chose to put most emphasis on high-demand, high-wage occupations.

A high-demand occupation is one that’s projected to have more openings (growth and replacement) in the next 10 years than the median for all occupations. What’s the median? If you sort all the occupations so the one with the most openings is at the top and the one with the least openings at the bottom, the one in the middle is the median ... and all occupations above that one are accepted as being high-demand. (For Oregon statewide, this means that a high-demand occupation is one projected to have at least 29 growth and replacement openings per year.)

A high-wage occupation is one that pays more than the median wage for all occupations. (For Oregon statewide, this means that a high-wage occupation had a 2013 median wage of at least \$17.60 per hour.)

This occupational prioritization focuses most attention on those occupations that are both high-demand and high-wage at the state-

wide level. That’s a pretty high bar to set. It removes from consideration some very large occupations that will have lots of openings ... because they pay low wages. It also removes from consideration some very highly paid occupations ... because they don’t have many openings. We’re not saying those occupations are “bad”; we’re just saying they’re not in the running for scarce public-sector training dollars. (OK, maybe that’s a bit too strong. We do specifically allow for exceptions. And, based on requests from customers, the expanded model introduced in this report ranks all occupations regardless of whether they are high-demand or high-wage. More on that later.)

So this first step reduces the number of occupations under consideration from 714 to 214 – a good first step in helping policy-makers target scarce resources to the areas of highest need and highest return. But only a first step.

Solid Data Available for All Occupations Gets the Prioritization Started

We identified six factors for which there are good data available for all occupations and which collectively help identify occupations for which training would be highly valuable for the individual workers, for businesses, and for Oregon as a whole (Table 1).

Table 1

Factor	Rationale
	<i>All other things being equal, we should target training resources to those occupations ...</i>
1. Total projected openings, 2012-2022	... likely to have the most growth and replacement openings.
2. Total projected openings, 2012-2022, as a share current employment	... growing the fastest.
3. Median wage, 2014	... paying the highest wages.
4. Number of vacancies, 2013	... with the most vacancies.
5. Difficult to fill vacancies share of total, 2013	... employers have told us are difficult to fill.
6. Geographic dispersion	... that are important across broad areas of Oregon, not just needed in one or two geographic areas.
<i>The data source for all six factors is the Oregon Employment Department’s Research Division: 10-year employment projections, Occupational Employment Statistics survey, Oregon Vacancy Survey, and high-wage, high-demand job lists by region.</i>	

Of course, all other things are not equal, so none of these factors is a perfect measure on its own. But by putting them all together we can paint a reasonable picture of the occupations that would be Oregon’s highest priorities for training. Occupations topping the list are likely to be adding jobs; growing rapidly; paying good wages; currently having numerous vacancies, many of them difficult to fill; and important in many parts of the state.

How did we combine these very different data items into one prioritization? Simple. For each

one, we sorted the occupations from highest to lowest (e.g., highest wage to lowest wage; largest number of vacancies to smallest number of vacancies). Then, we split the sorted occupations into quintiles. We gave the top 20 percent of occupations a score of 5; the second 20 percent a score of 4; and so on, down to the bottom 20 percent getting a score of 1. Add up these scores for the six factors, and an occupation in the top group for each factor would have a score of 30, while an occupation in the bottom group for all factors would have a score of 6.

Table 2	
Factor	Rationale
Immigration	Workers in some occupations are more likely to cross state and international boundaries in pursuit of work. Since Oregon has historically attracted a large group of such workers, we factor immigration into our model and put a higher priority on occupations less likely to attract migrant workers.
	<i>Data source: American Community Survey 2007-2011 PUMS files, U.S. Census Bureau</i>
Supply Shortages and Surpluses	Some occupations, generally those requiring specialized training, are structured so that we can identify a “demand-supply gap.” If we see a shortage or surplus when comparing graduates of these specialized programs to projected future needs in relevant occupations, we incorporate this into the model.
	<i>Data source: OED Occupational Employment Projections, 2012-2022; education completers from Integrated Postsecondary Education Data System, Oregon Department of Education Private Career Schools Division, Job Corps, BOLI Apprenticeship Division, and other external analyses of particular occupations.</i>
Business Affirmation	Certain businesses are more directly engaged in occupational training. For example, some have partnered with community colleges to design training focused on their specific needs, and have provided funding, training space, and instructors to support training. When we recognize this business affirmation for certain occupations, the model is adjusted accordingly.
	<i>Source: Primarily OED’s surveys of Oregon’s Community College Career and Technical Education Deans and Administrators, and Business Development Officers with Business Oregon.</i>
Links to Key Industries	If the Governor, state and local Workforce Investment Boards, the state economic development agency Business Oregon, or other policy makers decide that certain industries are top priority, we include this in our prioritization.
	<i>Source: Conversations with the Governor’s Office, Workforce Policy Cabinet, Oregon Workforce Investment Board, other documents and public statements.</i>

Other Information Helps Focus the Prioritization

We could have stopped there, but there were a few other factors that seemed worthy of consideration, even though they weren’t necessarily usable for all occupations (Table 2).

Each of these factors started with a numerical value of 1.00. If we felt the information

available suggested we should increase the particular occupation’s standing in the prioritization, we increased the factor up to 1.05, 1.10, or even (in a few cases, in the supply shortages and surpluses factor) as high as 1.30. If we felt the occupation’s priority should be lowered, we decreased the factor to 0.95, 0.90, or even 0.70 (in just a few cases).

These four factors were then applied in a multiplicative manner.

Here's an example: physical therapists – the highest priority occupation – scored 29 out of a possible 30 from the initial six factors. We multiplied that 29 by 1.00 for the immigration factor (physical therapists aren't considerably different from all occupations in their likelihood of migrating); then by 1.30 for the supply shortages and surpluses factor (we're not producing as many physical therapists as we need); then by 1.00 for business affirmation (no business affirmation information, so this factor was held constant); and then by 1.05 for the key industries factor (health care is clearly among the highest stated priorities for the Governor and other elected officials). So physical therapists ended up with a score of 40.

Remember we only use these four more subjective factors when there's good information available and when that information tells us something concrete. As in the example, when both of those conditions are not met, the factors do not affect the final score.

The Prioritization Narrows the Field ... and Leads to Further Conversation

It is very important to realize that this prioritization is not the final word. The prioritization just gives the starting point for discussions with businesses, colleges, policy-makers, and other interested parties.

We envision a scenario where policy-makers use these lists to identify the handful of occupations they're most interested in focusing on; then they'd bring in local businesses and workforce leaders, and discuss questions like:

- ✓ Why is the occupation expected to need additional training?
- ✓ Are certain skills particularly in need?
- ✓ Is the occupational shortage caused by

factors other than the supply of trained workers?

- ✓ Is the occupation impacted by specific training, education, certifications, or skills requirements?
- ✓ Are there barriers to additional training such as lack of equipment, faculty, or internships?
- ✓ Are there opportunities for positive steps that would attract additional workers toward particular occupations, such as scholarships or other incentives?

What About the Rest?

Up to this point, we've kept the conversation focused on Oregon's high-wage, high-demand occupations. However, we realize that openings in this subset of occupations represent only about two-fifths of the expected job openings in the next 10 years. When we first introduced this model in 2008, an insightful question emerged from some customer groups: "What about the rest of Oregon's occupations? Where do they fall in the prioritization?"

Certainly, limiting the prioritization analysis to only high-wage, high-demand occupations excluded some occupations with high levels of demand, but low wages. It also ignored the high-wage openings provided by some occupations that didn't meet our criteria for a "high-demand" occupation. An occupation can be quite instrumental in the provision of services (for example, nursing aides), or can be instrumental in producing and transporting the goods that make up the state's export base (for example, fork lift operators), without being a high-wage, high-demand occupation.

The ability to rank these other occupations – along with the high-wage, high-demand subset that is most relevant to prioritizing training needs – adds value to the model, and was incorporated starting with the 2010 iteration. With the expanded analysis, it is now possible

to see how occupations like nursing aides and fork lift operators rank in comparison to high-wage, high-demand occupations. Ranks are now based on where an occupation falls among all 714 published occupations.

The expanded analysis largely validated our original approach. Just one of the occupations that ranked among the top 20 for all occupations was not considered high-wage and high-demand (computer-controlled machine tool operators are in high-demand, but its wages don't make the high-wage cutoff). In the Statewide Tables section of this report, we've included a table showing the top 20 occupations that are high-demand, but low-wage (offering wages below the median that defines the criteria for high-wage occupations), which may be particularly useful to entities providing training for low-wage, but much-needed occupations.

Lower wage occupations tend to require less education. Of the state's high-wage job openings anticipated in the next 10 years, 68 percent required at least postsecondary education and 38 percent required a bachelor's or higher degree. Of the low-wage job openings anticipated, 8 percent required postsecondary education and just over 1 percent required a bachelor's or higher degree.

Exceptions are Allowed

This is another important point. It's our job to provide the best possible information to policy-makers and many others, to help them make great decisions. But we know it's not our role to "mandate" the final decisions. Elected officials and other leaders make decisions based on a number of factors, and this occupational prioritization is just one of them. So of course, we fully recognize that exceptions are allowed.

But ... we hope this prioritization model will form the foundation for the majority of workforce-related training prioritization decisions.

A Methodology for All of Oregon

The statewide prioritization does a good job of reflecting workforce training needs across the whole state. But we know training needs in Prineville may be different from those in Gresham, and we know regional and local policy-makers will want to see prioritized lists targeted specifically for their own communities. We've developed those lists, too: lists for each of Oregon's 15 previous workforce investment regions, and for The Oregon Consortium/Oregon Workforce Alliance. Further updates to the occupational prioritization will reflect Oregon's new, soon-to-be finalized workforce areas.

A Methodology for Many Purposes

This methodology was developed, and the initial prioritization lists published, in the summer and fall of 2008. Initially, the goal was to help inform decision-making relating to workforce priorities for the 2009 Session of the Oregon Legislature. However, as the economy changes it is important to update the model, so we've incorporated an update to the model into each two-year cycle. After each publication of new occupational projections, we will produce new iterations of this model for Oregon and the workforce areas within Oregon.

We also believe the method can be useful for many other purposes, besides informing workforce-related legislative priorities. To that end, we have produced a number of "Top 20" lists: an overall statewide top 20; lists focused on certain industry or occupational groups; and, as mentioned above, lists for each of Oregon's previous workforce investment regions.

Finding the List That's Relevant for You

In the remainder of this report, we share the following specific top 20 lists:

- ✓ Statewide: Overall High-Wage, High-Demand Top 20 list
- ✓ Statewide: Targeted High-Wage, High-Demand Top 20 lists for
 - Manufacturing
 - STEM (Science, Technology, Engineering, and Mathematics) jobs
 - Health care
 - Occupations other than health care
- ✓ Statewide: Overall Low-Wage, High-Demand Top 20 list
- ✓ Regional: Overall High-Wage, High-Demand Top 20 lists for all 15 of Oregon's previous workforce investment regions and The Oregon Consortium/Oregon Workforce Alliance

We have also developed an online tool, at www.QualityInfo.org, where you can find all of the above lists plus many more, and the ability to develop your own customized list.

Contacts and Comments

This report provides a deliberately brief and easy-to-read summary of the methodology. More detailed documents are also available. Please feel free to contact Jessica Nelson or Graham Slater for more information.

Also, as we are continually seeking to improve our products, comments and input are always welcome. Please contact the aforementioned staff if you have input to provide.

Statewide Tables:

**Overall High-Wage,
High-Demand Top 20 list**

**Targeted High-Wage,
High-Demand Top 20 lists for:**

- ✓ **Manufacturing**
- ✓ **STEM (Science, Technology,
Engineering, and Mathematics) jobs**
- ✓ **Health Care**
- ✓ **Occupations Other Than Health Care**

**Overall Low-Wage,
High-Demand Top 20 list**

Overall High-Wage, High-Demand Top 20 List:

Oregon Statewide Occupational Prioritization for Training Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	1,244	1
29-2011	Medical and Clinical Laboratory Technologists	657	2
11-9111	Medical and Health Services Managers	1,470	3
49-9041	Industrial Machinery Mechanics	2,298	4
47-2031	Carpenters	4,094	5
11-2022	Sales Managers	1,489	5
17-2112	Industrial Engineers	1,393	5
17-2061	Computer Hardware Engineers	1,291	5
11-2021	Marketing Managers	1,271	5
51-4041	Machinists	1,514	10
13-2011	Accountants and Auditors	5,418	11
11-9021	Construction Managers	1,207	11
19-3051	Urban and Regional Planners	600	11
29-2012	Medical and Clinical Laboratory Technicians	566	11
29-1131	Veterinarians	562	11
11-1021	General and Operations Managers	7,496	16
29-1060	Physicians and Surgeons	3,726	16
15-1121	Computer Systems Analysts	2,069	16
13-1051	Cost Estimators	1,781	16
51-4121	Welders, Cutters, Solderers, and Brazers	1,710	16
15-1199	Computer Occupations, All Other	1,694	16
29-1051	Pharmacists	1,475	16
33-2011	Firefighters	1,374	16
47-2073	Operating Engineers and Other Construction Equipment Operators	1,323	16
25-4021	Librarians	597	16

Note: Ranks reflect where an occupation's final score falls in the overall list of 714 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the statewide median wage (\$17.60 per hour). To qualify as high demand, the projected number of job openings for the occupation had to be greater than the median number of job openings (286).

Targeted High-Wage, High-Demand Top 20 Lists :

Oregon Statewide Occupational Prioritization for Training Top 20 High-Wage, High-Demand Manufacturing Occupations

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
49-9041	Industrial Machinery Mechanics	2,298	4
17-2112	Industrial Engineers	1,393	5
17-2061	Computer Hardware Engineers	1,291	5
51-4041	Machinists	1,514	10
51-4121	Welders, Cutters, Solderers, and Brazers	1,710	16
51-2041	Structural Metal Fabricators and Fitters	934	27
51-1011	Supervisors and Managers of Production and Operating Workers	1,776	45
11-9041	Architectural and Engineering Managers	1,081	45
11-3051	Industrial Production Managers	676	45
43-5061	Production, Planning, and Expediting Clerks	1,260	64
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	936	64
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	330	64
17-2199	Engineers, All Other	702	103
53-7199	Material Moving Workers, All Other	398	103
17-2141	Mechanical Engineers	1,287	131
17-3023	Electrical and Electronics Engineering Technicians	787	131
17-3029	Engineering Technicians, Except Drafters, All Other	463	131
41-9031	Sales Engineers	338	131
15-1133	Software Developers, Systems Software	989	161
17-2071	Electrical Engineers	515	161

Note: Ranks reflect where an occupation's final score falls in the overall list of 714 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. Manufacturing occupations are defined here as those with greater than 25 percent of their occupational employment in a manufacturing NAICS. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the statewide median wage (\$17.60 per hour). To qualify as high demand, the projected number of job openings for the occupation had to be greater than the median number of job openings (286).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand STEM Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	1,244	1
29-2011	Medical and Clinical Laboratory Technologists	657	2
17-2112	Industrial Engineers	1,393	5
17-2061	Computer Hardware Engineers	1,291	5
29-2012	Medical and Clinical Laboratory Technicians	566	11
29-1131	Veterinarians	562	11
29-1060	Physicians and Surgeons	3,726	16
15-1121	Computer Systems Analysts	2,069	16
15-1199	Computer Occupations, All Other	1,694	16
29-1051	Pharmacists	1,475	16
29-1141	Registered Nurses	10,907	27
15-1142	Network and Computer Systems Administrators	1,538	27
29-1071	Physician Assistants	527	27
15-1151	Computer User Support Specialists	3,090	45
29-2021	Dental Hygienists	1,478	45
11-9041	Architectural and Engineering Managers	1,081	45
29-1171	Nurse Practitioners	443	45
29-1122	Occupational Therapists	399	45
15-1132	Software Developers, Applications	3,017	64
11-3021	Computer and Information Systems Managers	1,338	64

Note: Ranks reflect where an occupation's final score falls in the overall list of 714 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. STEM occupations are defined by the Commission on Professionals in Science and Technology and supported by the Bureau of Labor Statistics. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the statewide median wage (\$17.60 per hour). To qualify as high demand, the projected number of job openings for the occupation had to be greater than the median number of job openings (286).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Health Care Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	1,244	1
29-2011	Medical and Clinical Laboratory Technologists	657	2
11-9111	Medical and Health Services Managers	1,470	3
29-2012	Medical and Clinical Laboratory Technicians	566	11
29-1060	Physicians and Surgeons	3,726	16
29-1051	Pharmacists	1,475	16
29-1141	Registered Nurses	10,907	27
29-1071	Physician Assistants	527	27
29-2021	Dental Hygienists	1,478	45
29-1171	Nurse Practitioners	443	45
29-1122	Occupational Therapists	399	45
21-1014	Mental Health Counselors	773	64
21-1011	Substance Abuse and Behavioral Disorder Counselors	660	64
21-1023	Mental Health and Substance Abuse Social Workers	843	83
21-1022	Healthcare Social Workers	512	83
29-9011	Occupational Health and Safety Specialists	368	83
31-2021	Physical Therapist Assistants	315	83
49-9062	Medical Equipment Repairers	380	103
29-2099	Health Technologists and Technicians, All Other	480	131
29-1127	Speech-Language Pathologists	325	131

Note: Ranks reflect where an occupation's final score falls in the overall list of 714 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. Health care occupations are those determined to be necessary for the delivery of health care services in the 2006 Oregon Health Care Workforce Needs Assessment. This determination was made in partnership with industry. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the statewide median wage (\$17.60 per hour). To qualify as high demand, the projected number of job openings for the occupation had to be greater than the median number of job openings (286).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations (Excluding Health Care)**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
49-9041	Industrial Machinery Mechanics	2,298	4
47-2031	Carpenters	4,094	5
11-2022	Sales Managers	1,489	5
17-2112	Industrial Engineers	1,393	5
17-2061	Computer Hardware Engineers	1,291	5
11-2021	Marketing Managers	1,271	5
51-4041	Machinists	1,514	10
13-2011	Accountants and Auditors	5,418	11
11-9021	Construction Managers	1,207	11
19-3051	Urban and Regional Planners	600	11
29-1131	Veterinarians	562	11
11-1021	General and Operations Managers	7,496	16
15-1121	Computer Systems Analysts	2,069	16
13-1051	Cost Estimators	1,781	16
51-4121	Welders, Cutters, Solderers, and Brazers	1,710	16
15-1199	Computer Occupations, All Other	1,694	16
33-2011	Firefighters	1,374	16
47-2073	Operating Engineers and Other Construction Equipment Operators	1,323	16
25-4021	Librarians	597	16
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	5,515	27
41-3099	Sales Representatives, Services, All Other	2,769	27
13-1071	Human Resources Specialists	1,924	27
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	1,863	27
47-1011	Supervisors and Managers of Construction Trades and Extraction Workers	1,614	27
15-1142	Network and Computer Systems Administrators	1,538	27
13-2072	Loan Officers	1,277	27
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,155	27
13-1151	Training and Development Specialists	1,144	27
13-1111	Management Analysts	1,121	27
11-9141	Property, Real Estate, and Community Association Managers	1,053	27
51-2041	Structural Metal Fabricators and Fitters	934	27
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	803	27

Note: Ranks reflect where an occupation's final score falls in the overall list of 714 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. This list excludes health care occupations, but includes all other occupations. Health care occupations are those determined to be necessary for the delivery of health care services in the 2006 Oregon Health Care Workforce Needs Assessment. This determination was made in partnership with industry. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the statewide median wage (\$17.60 per hour). To qualify as high demand, the projected number of job openings for the occupation had to be greater than the median number of job openings (286).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 Low-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012 - 2022	Final Rank
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	1,252	16
31-1011	Home Health Aides	3,752	27
47-2181	Roofers	1,186	27
25-4031	Library Technicians	1,105	27
47-2061	Construction Laborers	4,042	64
43-3011	Bill and Account Collectors	1,929	64
43-3031	Bookkeeping, Accounting, and Auditing Clerks	6,645	83
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	1,925	83
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	716	83
31-1014	Nursing Assistants	5,338	103
35-3011	Bartenders	4,465	103
43-5071	Shipping, Receiving, and Traffic Clerks	2,875	103
21-1093	Social and Human Service Assistants	2,722	103
43-3021	Billing and Posting Clerks	2,173	103
53-3022	Bus Drivers, School or Special Client	1,885	103
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	395	103
43-4051	Customer Service Representatives	10,049	131
41-1011	Supervisors and Managers of Retail Sales Workers	5,274	131
39-9021	Personal Care Aides	4,279	131
25-2011	Preschool Teachers, Except Special Education	2,513	131
43-4081	Hotel, Motel, and Resort Desk Clerks	2,179	131
53-3031	Driver/Sales Workers	1,828	131
27-2022	Coaches and Scouts	1,747	131
39-9031	Fitness Trainers and Aerobics Instructors	928	131
49-3093	Tire Repairers and Changers	693	131
45-4011	Forest and Conservation Workers	669	131
51-3021	Butchers and Meat Cutters	592	131
53-6099	Transportation Workers, All Other	349	131
19-4011	Agricultural and Food Science Technicians	324	131

Note: Ranks reflect where an occupation's final score falls in the overall list of 714 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the statewide median wage (\$17.60 per hour). To qualify as high demand, the projected number of job openings for the occupation had to be greater than the median number of job openings (286).

Regional Tables:

**Overall High-Wage, High-Demand Top 20 lists
for all 15 Oregon Workforce Regions and
The Oregon Consortium/Oregon
Workforce Alliance**

**Clatsop, Columbia, and Tillamook Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	23	1
11-9111	Medical and Health Services Managers	29	2
29-2011	Medical and Clinical Laboratory Technologists	8	2
51-4041	Machinists	28	4
29-1051	Pharmacists	23	5
51-2041	Structural Metal Fabricators and Fitters	10	5
17-2112	Industrial Engineers	6	5
29-1141	Registered Nurses	142	9
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	40	9
15-1199	Computer Occupations, All Other	7	9
49-9044	Millwrights	6	9
13-2011	Accountants and Auditors	51	17
51-4121	Welders, Cutters, Solderers, and Brazers	42	17
29-1060	Physicians and Surgeons	35	17
47-1011	Supervisors and Managers of Construction Trades and Extraction Workers	22	17
11-9151	Social and Community Service Managers	20	17
15-1132	Software Developers, Applications	6	17
29-1122	Occupational Therapists	6	17
53-3032	Truck Drivers, Heavy and Tractor-Trailer	208	27
11-1021	General and Operations Managers	108	27
29-2021	Dental Hygienists	39	27
51-1011	Supervisors and Managers of Production and Operating Workers	39	27
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	35	27
13-1071	Human Resources Specialists	22	27
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	20	27
11-9199	Managers, All Other	17	27
21-1014	Mental Health Counselors	17	27
47-2071	Paving, Surfacing, and Tamping Equipment Operators	17	27
13-1041	Compliance Officers, Except Agriculture, Construction, and Health and Safety	15	27
21-1023	Mental Health and Substance Abuse Social Workers	8	27

**Multnomah and Washington Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	550	1
17-2061	Computer Hardware Engineers	1,183	2
49-9041	Industrial Machinery Mechanics	833	3
11-9111	Medical and Health Services Managers	614	3
29-2011	Medical and Clinical Laboratory Technologists	314	3
47-2031	Carpenters	1,710	7
17-2112	Industrial Engineers	1,144	7
11-2022	Sales Managers	888	7
11-2021	Marketing Managers	862	7
11-2011	Advertising and Promotions Managers	189	7
15-1199	Computer Occupations, All Other	1,110	12
19-3051	Urban and Regional Planners	271	12
11-1021	General and Operations Managers	3,540	14
13-2011	Accountants and Auditors	2,752	14
15-1121	Computer Systems Analysts	1,597	14
13-1051	Cost Estimators	897	14
11-9041	Architectural and Engineering Managers	872	14
13-1111	Management Analysts	651	14
51-4041	Machinists	635	14
11-9021	Construction Managers	608	14
13-1151	Training and Development Specialists	546	14
47-2073	Operating Engineers and Other Construction Equipment Operators	338	14
29-1071	Physician Assistants	201	14
29-1131	Veterinarians	200	14

Note: Ranks reflect where an occupation's final score falls in the overall list of 704 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$19.37 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (116).

**Marion, Polk, and Yamhill Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	104	1
11-9111	Medical and Health Services Managers	140	2
29-2011	Medical and Clinical Laboratory Technologists	54	3
47-1011	Supervisors and Managers of Construction Trades and Extraction Workers	193	4
29-2012	Medical and Clinical Laboratory Technicians	41	4
17-2112	Industrial Engineers	38	4
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	155	8
29-1051	Pharmacists	115	8
51-4041	Machinists	112	8
51-2041	Structural Metal Fabricators and Fitters	111	8
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	91	8
29-1060	Physicians and Surgeons	325	13
11-9151	Social and Community Service Managers	115	13
11-2021	Marketing Managers	61	13
29-1141	Registered Nurses	1,118	19
11-1021	General and Operations Managers	703	19
13-2011	Accountants and Auditors	567	19
13-1111	Management Analysts	214	19
15-1199	Computer Occupations, All Other	177	19
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	127	19
15-1121	Computer Systems Analysts	105	19
11-2022	Sales Managers	88	19
11-1011	Chief Executives	57	19
37-2021	Pest Control Workers	57	19

Note: Ranks reflect where an occupation's final score falls in the overall list of 687 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$16.99 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (24).

**Benton, Lincoln, and Linn Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	47	1
11-9111	Medical and Health Services Managers	77	2
29-2011	Medical and Clinical Laboratory Technologists	36	3
51-4041	Machinists	108	4
17-2112	Industrial Engineers	41	4
47-1011	Supervisors and Managers of Construction Trades and Extraction Workers	79	6
15-1132	Software Developers, Applications	103	8
29-1051	Pharmacists	100	8
51-2041	Structural Metal Fabricators and Fitters	51	8
49-9044	Millwrights	36	8
11-2021	Marketing Managers	33	8
19-4011	Agricultural and Food Science Technicians	106	16
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	103	16
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	16	16
29-1141	Registered Nurses	493	21
11-1021	General and Operations Managers	352	21
13-2011	Accountants and Auditors	240	21
51-4121	Welders, Cutters, Solderers, and Brazers	87	21
13-1071	Human Resources Specialists	85	21
11-9199	Managers, All Other	84	21
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	74	21
11-9151	Social and Community Service Managers	61	21
11-2022	Sales Managers	44	21
13-1151	Training and Development Specialists	36	21

Note: Ranks reflect where an occupation's final score falls in the overall list of 664 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$16.45 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (15).

**Lane County
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	117	1
11-9111	Medical and Health Services Managers	134	2
29-2011	Medical and Clinical Laboratory Technologists	67	2
51-4041	Machinists	137	4
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	142	5
29-2012	Medical and Clinical Laboratory Technicians	59	5
17-2112	Industrial Engineers	23	5
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	153	9
29-1051	Pharmacists	126	9
47-1011	Supervisors and Managers of Construction Trades and Extraction Workers	97	9
51-2041	Structural Metal Fabricators and Fitters	67	9
15-1132	Software Developers, Applications	119	13
11-9151	Social and Community Service Managers	109	13
11-2022	Sales Managers	98	13
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	98	13
15-1134	Web Developers	41	13
29-1141	Registered Nurses	953	19
11-1021	General and Operations Managers	610	19
13-2011	Accountants and Auditors	409	19
29-1060	Physicians and Surgeons	339	19
11-9199	Managers, All Other	177	19
51-4121	Welders, Cutters, Solderers, and Brazers	176	19
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	115	19
19-4061	Social Science Research Assistants	113	19
15-1199	Computer Occupations, All Other	110	19
13-1071	Human Resources Specialists	104	19
47-2181	Roofers	82	19
15-1121	Computer Systems Analysts	81	19
13-1111	Management Analysts	69	19
11-2021	Marketing Managers	48	19
37-2021	Pest Control Workers	46	19
11-1011	Chief Executives	40	19

Note: Ranks reflect where an occupation's final score falls in the overall list of 674 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$16.50 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (22).

**Douglas County
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	14	1
49-9041	Industrial Machinery Mechanics	167	2
45-4022	Logging Equipment Operators	147	4
11-9111	Medical and Health Services Managers	19	4
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	88	6
33-2011	Firefighters	63	6
51-4121	Welders, Cutters, Solderers, and Brazers	38	6
51-1011	Supervisors and Managers of Production and Operating Workers	35	6
25-4021	Librarians	10	6
49-9044	Millwrights	8	6
11-1021	General and Operations Managers	133	12
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	62	12
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	45	12
13-2011	Accountants and Auditors	44	12
51-4194	Tool Grinders, Filers, and Sharpeners	21	12
11-2022	Sales Managers	17	12
49-9096	Riggers	9	12
53-7051	Fork Lift, Industrial Truck and Tractor Operators	111	22
29-1060	Physicians and Surgeons	55	22
51-4041	Machinists	32	22
53-1021	Supervisors and Managers of Transportation Helpers, Laborers, and Material Movers, Hand	14	22
25-2052	Special Education Teachers, Kindergarten and Elementary School	13	22
29-2011	Medical and Clinical Laboratory Technologists	12	22
31-2021	Physical Therapist Assistants	7	22

Note: Ranks reflect where an occupation's final score falls in the overall list of 571 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$15.19 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (6).

**Coos and Curry Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	10	1
11-9111	Medical and Health Services Managers	29	2
49-9041	Industrial Machinery Mechanics	27	4
25-4021	Librarians	9	4
33-2011	Firefighters	20	6
29-2011	Medical and Clinical Laboratory Technologists	16	6
13-2011	Accountants and Auditors	41	9
51-4121	Welders, Cutters, Solderers, and Brazers	18	9
29-1171	Nurse Practitioners	16	9
45-4022	Logging Equipment Operators	71	12
29-1060	Physicians and Surgeons	23	12
53-7199	Material Moving Workers, All Other	22	12
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	19	12
11-2022	Sales Managers	8	12
49-9096	Riggers	5	12
29-1141	Registered Nurses	212	20
11-1021	General and Operations Managers	68	20
53-7051	Fork Lift, Industrial Truck and Tractor Operators	38	20
51-1011	Supervisors and Managers of Production and Operating Workers	16	20
33-9099	Protective Service Workers, All Other	13	20
31-2021	Physical Therapist Assistants	5	20

Note: Ranks reflect where an occupation's final score falls in the overall list of 559 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$14.43 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (4).

**Jackson and Josephine Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	100	1
49-9041	Industrial Machinery Mechanics	97	2
11-9111	Medical and Health Services Managers	86	2
25-4031	Library Technicians	40	4
33-2011	Firefighters	132	5
13-2011	Accountants and Auditors	230	6
11-2022	Sales Managers	62	6
29-1171	Nurse Practitioners	49	6
29-1071	Physician Assistants	47	6
29-2011	Medical and Clinical Laboratory Technologists	45	6
11-2021	Marketing Managers	40	6
25-4021	Librarians	18	6
11-1021	General and Operations Managers	399	14
29-1060	Physicians and Surgeons	214	14
51-4121	Welders, Cutters, Solderers, and Brazers	94	14
11-9151	Social and Community Service Managers	63	14
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	62	14
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	47	14
49-9044	Millwrights	19	14
51-1011	Supervisors and Managers of Production and Operating Workers	103	23
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	96	23
37-3013	Tree Trimmers and Pruners	64	23
49-9062	Medical Equipment Repairers	34	23
29-2012	Medical and Clinical Laboratory Technicians	29	23
31-2021	Physical Therapist Assistants	23	23
49-2098	Security and Fire Alarm Systems Installers	22	23

Note: Ranks reflect where an occupation's final score falls in the overall list of 654 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$15.63 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (15).

**Gilliam, Hood River, Sherman, Wasco, and Wheeler Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	19	1
11-9111	Medical and Health Services Managers	21	2
29-2011	Medical and Clinical Laboratory Technologists	7	3
11-2021	Marketing Managers	7	4
13-2011	Accountants and Auditors	57	6
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	57	6
51-4121	Welders, Cutters, Solderers, and Brazers	15	6
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	15	9
11-2022	Sales Managers	12	9
15-1134	Web Developers	8	9
53-3032	Truck Drivers, Heavy and Tractor-Trailer	104	13
29-1060	Physicians and Surgeons	34	13
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	21	13
11-9021	Construction Managers	12	13
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	11	13
29-1141	Registered Nurses	146	24
11-1021	General and Operations Managers	88	24
43-3031	Bookkeeping, Accounting, and Auditing Clerks	79	24
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	24	24
15-1132	Software Developers, Applications	16	24
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	12	24
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm	7	24
11-9121	Natural Sciences Managers	6	24

Note: Ranks reflect where an occupation's final score falls in the overall list of 551 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$14.57 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (4).

**Crook, Deschutes, and Jefferson Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	104	1
11-9111	Medical and Health Services Managers	60	2
29-2011	Medical and Clinical Laboratory Technologists	34	3
11-2022	Sales Managers	80	4
11-2021	Marketing Managers	35	4
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	190	6
13-2011	Accountants and Auditors	179	6
51-4121	Welders, Cutters, Solderers, and Brazers	48	6
29-1122	Occupational Therapists	29	6
29-1171	Nurse Practitioners	24	6
29-1060	Physicians and Surgeons	174	11
15-1132	Software Developers, Applications	116	11
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	41	11
11-9121	Natural Sciences Managers	24	11
11-1021	General and Operations Managers	351	17
53-3032	Truck Drivers, Heavy and Tractor-Trailer	340	17
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	64	17
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	50	17
11-9021	Construction Managers	46	17
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	24	17

Note: Ranks reflect where an occupation's final score falls in the overall list of 641 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$16.05 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (14).

**Klamath and Lake Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	12	1
11-9111	Medical and Health Services Managers	21	2
29-2011	Medical and Clinical Laboratory Technologists	9	3
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	31	4
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	65	5
13-2011	Accountants and Auditors	55	5
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	34	5
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	29	5
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	23	5
51-4121	Welders, Cutters, Solderers, and Brazers	12	5
29-1171	Nurse Practitioners	5	5
51-1011	Supervisors and Managers of Production and Operating Workers	28	13
53-3032	Truck Drivers, Heavy and Tractor-Trailer	99	17
11-1021	General and Operations Managers	73	17
29-1060	Physicians and Surgeons	26	17
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	23	17
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	12	17
11-2022	Sales Managers	9	17
29-1141	Registered Nurses	144	27
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	19	27
11-9121	Natural Sciences Managers	7	27

Note: Ranks reflect where an occupation's final score falls in the overall list of 571 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$15.02 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (4).

**Morrow and Umatilla Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	15	1
29-2011	Medical and Clinical Laboratory Technologists	24	2
11-9111	Medical and Health Services Managers	25	3
45-4022	Logging Equipment Operators	22	4
29-1051	Pharmacists	19	4
43-3031	Bookkeeping, Accounting, and Auditing Clerks	96	6
13-2011	Accountants and Auditors	43	6
51-4121	Welders, Cutters, Solderers, and Brazers	36	6
43-5032	Dispatchers, Except Police, Fire, and Ambulance	23	6
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	18	6
11-1011	Chief Executives	7	6
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	55	15
53-3032	Truck Drivers, Heavy and Tractor-Trailer	294	18
47-2061	Construction Laborers	70	18
49-9071	Maintenance and Repair Workers, General	66	18
19-4011	Agricultural and Food Science Technicians	20	18
13-2072	Loan Officers	12	18
11-3051	Industrial Production Managers	11	18
51-4041	Machinists	10	18
11-9041	Architectural and Engineering Managers	8	18

Note: Ranks reflect where an occupation's final score falls in the overall list of 576 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$15.21 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (6).

**Baker, Union, and Wallowa Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	19	1
11-9111	Medical and Health Services Managers	16	2
45-4022	Logging Equipment Operators	34	3
29-1051	Pharmacists	17	3
51-4121	Welders, Cutters, Solderers, and Brazers	35	5
29-2011	Medical and Clinical Laboratory Technologists	8	5
43-3031	Bookkeeping, Accounting, and Auditing Clerks	65	8
13-2011	Accountants and Auditors	37	8
51-4041	Machinists	17	8
49-9071	Maintenance and Repair Workers, General	34	14
29-1060	Physicians and Surgeons	32	14
51-1011	Supervisors and Managers of Production and Operating Workers	23	14
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	13	14
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	13	14
29-1141	Registered Nurses	87	25
53-3032	Truck Drivers, Heavy and Tractor-Trailer	75	25
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	60	25
29-1171	Nurse Practitioners	5	25
49-9041	Industrial Machinery Mechanics	24	33
47-2073	Operating Engineers and Other Construction Equipment Operators	16	33
53-7032	Excavating and Loading Machine and Dragline Operators	8	33

Note: Ranks reflect where an occupation's final score falls in the overall list of 510 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$14.57 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (4).

**Grant, Harney, and Malheur Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	10	1
11-9111	Medical and Health Services Managers	11	2
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	19	3
13-2011	Accountants and Auditors	13	3
29-1051	Pharmacists	13	3
45-4022	Logging Equipment Operators	7	3
51-4121	Welders, Cutters, Solderers, and Brazers	25	8
43-5032	Dispatchers, Except Police, Fire, and Ambulance	7	8
51-9111	Packaging and Filling Machine Operators and Tenders	107	14
53-3032	Truck Drivers, Heavy and Tractor-Trailer	102	14
49-9071	Maintenance and Repair Workers, General	53	14
51-1011	Supervisors and Managers of Production and Operating Workers	18	14
29-1141	Registered Nurses	93	25
47-2061	Construction Laborers	37	25
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	11	25
47-2073	Operating Engineers and Other Construction Equipment Operators	50	29
49-9041	Industrial Machinery Mechanics	26	29
29-1060	Physicians and Surgeons	16	29
13-2072	Loan Officers	11	29
43-4051	Customer Service Representatives	18	39
21-1014	Mental Health Counselors	8	39
11-3031	Financial Managers	7	39
25-4021	Librarians	6	39
43-6011	Executive Secretaries and Executive Administrative Assistants	6	39

Note: Ranks reflect where an occupation's final score falls in the overall list of 469 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$14.83 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (4).

**Clackamas County
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	155	1
49-9041	Industrial Machinery Mechanics	132	2
11-2022	Sales Managers	153	3
47-2073	Operating Engineers and Other Construction Equipment Operators	118	3
11-9111	Medical and Health Services Managers	103	3
13-2011	Accountants and Auditors	527	6
11-2021	Marketing Managers	140	6
17-2112	Industrial Engineers	94	6
29-1131	Veterinarians	66	6
17-2131	Materials Engineers	52	6
19-3051	Urban and Regional Planners	38	6
11-1021	General and Operations Managers	686	16
13-1051	Cost Estimators	274	16
13-2072	Loan Officers	259	16
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	196	16
11-9021	Construction Managers	187	16
15-1121	Computer Systems Analysts	122	16
13-2051	Financial Analysts	105	16
15-1199	Computer Occupations, All Other	105	16
13-1151	Training and Development Specialists	97	16

Note: Ranks reflect where an occupation's final score falls in the overall list of 663 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$18.66 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (22).

TOC/OWA
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2012-2022	Final Rank
29-1123	Physical Therapists	226	1
11-9111	Medical and Health Services Managers	231	2
29-2011	Medical and Clinical Laboratory Technologists	121	3
49-9041	Industrial Machinery Mechanics	598	5
51-4041	Machinists	172	6
15-1132	Software Developers, Applications	168	6
25-4021	Librarians	87	6
13-2011	Accountants and Auditors	520	10
45-4022	Logging Equipment Operators	520	10
33-2011	Firefighters	423	10
51-4121	Welders, Cutters, Solderers, and Brazers	269	10
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	255	10
29-1051	Pharmacists	188	10
51-2041	Structural Metal Fabricators and Fitters	91	10
11-2021	Marketing Managers	64	10
29-2012	Medical and Clinical Laboratory Technicians	49	10
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	374	20
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	208	20
11-9151	Social and Community Service Managers	167	20
11-2022	Sales Managers	148	20
15-1121	Computer Systems Analysts	102	20
29-1171	Nurse Practitioners	75	20

Note: Ranks reflect where an occupation's final score falls in the overall list of 700 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2013 had to be greater than the region's median wage (\$15.20 per hour). To qualify as high demand, the projected number of job openings in the region for the occupation had to be greater than the median number of job openings in the region (39).

