2022 Oregon Talent Assessment

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Table of Contents

1. INTRODUCTION 1
2. STATE OF THE ECONOMY AND WORKFORCE 2
3. THE POLICY LANDSCAPE 8
4. TRAINING OREGON'S FUTURE WORKFORCE 16
5. EMPLOYER PERSPECTIVES 23
6. CONCLUSION 56
7. REFERENCES 57

APPENDIX A: EMPLOYER PERSPECTIVE INDUSTRY PROFILES

APPENDIX B: 2022 OREGON TALENT ASSESSMENT SURVEY

APPENDIX C: STAKEHOLDER INTERVIEW PROTOCOL

Executive Summary

The last two years have witnessed the greatest disruption to the workforce since World War II. The country transitioned from the longest economic expansion in U.S. history to the shortest recession on record, with unemployment peaking in April 2020 and falling sharply thereafter. Fast forward to early 2022, and Oregon's unemployment rate is low by historic standards, but employment levels have not returned to their pre-pandemic levels.

The state's June 2022 forecast shows total jobs returning to pre-pandemic levels during 2022, but the pace of the recovery varies across industrial sectors. The sector hardest hit by the pandemic—leisure and hospitality—is not projected to return to its 2019 employment level until 2026.

This Talent Assessment, commissioned by the Oregon Higher Education Coordinating Commission (HECC), assesses the current market for skills using quantitative and qualitative approaches that highlight business and industry's input on in-demand occupations, skills, talent, gaps, and trends. The backdrop for the work is the February 2022 passage of Governor Kate Brown's $200 million Future Ready Oregon package. Informed by the work of the Workforce and Talent Development Board's Equitable Prosperity Taskforce and the Governor's Racial Justice Council, as well as input from an array of educators, trainers, and employers, the new package focuses on opportunities for priority populations—people of color, women, people with low incomes, rural residents, veterans, people with disabilities, LGBTQ+ individuals, incarcerated and formerly incarcerated individuals, and others—and expands the reform frontier by:

- Fostering deeper, sustained engagement by employers in identifying and communicating the skills they need
- Helping trainees navigate federal and state wraparound services that support families at career entry and during transitions
- Opening the door for programming backed by rigorous evidence and informed by community input

As Oregon's higher education, labor and industry, and youth development partners administer the various components of Future Ready Oregon, and local workforce, program, and business leaders implement them, the following key findings from this year's Talent Assessment provide context and information worth considering.

Analysis of current conditions

- **The end of strict social distancing requirements and the ongoing effects of robust federal stimulus created a highly unusual labor market.** The labor market is emerging from the influence of the highly unusual times the public health crisis and federal

response created—an intersection of employers rapidly attempting to scale up their operations and prospective workers who, for a variety of reasons, have become more selective about the work they do. Job openings spiked in 2021 while quit rates reached recent highs. Nationally, labor force participation rates were still below pre-pandemic levels in late 2021 as some potential workers cared for family members and others drew on savings that accumulated during the previous two years. As this report is published, Oregon's labor market appears to have nearly recovered from most pandemic-related disruptions. By April 2022, the state's labor force participation rate exceeded pre-pandemic levels and was more than a percentage point above the U.S. rate.

- **Employers have boosted wages to attract and retain workers**. Oregon average wages have increased 17 percent since before the pandemic, but recently inflation has eroded purchasing power—inflation-adjusted wages increased only 5 percent during the past two years. National data show the strongest gains for the lowest paid workers—the lowest 20 percent of earners experienced a 6.4 percent increase during April 2021-2022 compared with an overall increase of 4.7 percent.

- **Conditions that pre-dated the pandemic will contribute to labor shortages going forward.** Oregon and the nation face at least two broad labor market challenges—a sustained period of forthcoming retirements and relatively low labor force participation rates among so-called prime age workers. Economists and demographers have long anticipated the retirement trend, which is tied to the aging of the Baby Boom generation and has different implications across industries. Low U.S. labor force participation rates among 25-54-year-olds is gaining increased attention and has been linked to other public policies, including the nation's high reliance on incarceration in criminal justice and low investment in childcare and other family-based supports.

- **Service occupations, including food preparation occupations and personal care occupations, account for nearly a quarter of total projected job openings**. The outsized total results from a combination of the anticipated rebound in industries such as leisure and hospitality as well as relatively high occupational churn among individuals starting in service occupations.

- **Robust analysis of relationships between skill requirements of occupations can suggest opportunities for displaced workers and for supporting the state's strategic workforce investments.** Skills maps, pipeline analyses, and other tools can be used to uncover high-level patterns, as well as provide detailed information, to inform workforce strategy as the state recovers from the COVID-19 pandemic and beyond. For example, analyses for this assessment confirmed the longstanding constraints in the market for healthcare workers, such as registered nurses and dental assistants, and suggested that credentials awarded in Oregon that are associated with technology occupations appear to far outnumber the anticipated number of openings in the relevant

occupations. These findings suggest the likely need for different approaches to addressing apparent workforce challenges in these two Future Ready industries.

Employer perspectives

Oregon's Talent Assessments give employers an opportunity to weigh in on the most critical component of the state's economy—its workforce. Employers from 11 key industries participated in an online survey (314 responses) and interviews (31 participants). Topics included general and internal workforce conditions, hiring challenges, community conditions, and workforce system engagement. The leisure and hospitality sector had a particularly strong showing among survey respondents.

The responding and interviewed employers report the following:

- **Most employers say their existing workforce has the skills needed to perform their jobs.** Nearly 7-in-10 employer survey respondents view their existing workforce as fully proficient. The 30 percent reporting not-fully-proficient signal a lack of specific occupational skills, soft/interpersonal skills, and work experience.

- **About 84 percent of respondents report difficulties finding qualified applicants for open positions.** Unsurprisingly given the surge in openings and increase in quits, a large majority of employers found it difficult to hire during 2021. Employers were satisfied with applicants' basic skills and degree completion but, as in the 2018 report, they reported a lack of occupation-specific skills, advanced skills, relevant work experience, and soft/interpersonal skills. The difficulty in hiring increased the workloads of existing staff and lowered productivity.

- **Employers aim to diversify their workforce.** Nearly 75 percent of employer respondents are actively trying to diversify their workforce, though sectors experiencing staffing crises may be less focused on diversity during the current period of staffing urgency. Most employers note that hiring racially diverse candidates is more difficult than hiring gender-diverse candidates, though the historically male-dominated fields of construction, advanced manufacturing, and wood products noted greater difficulty hiring for gender diversity.

- **The pandemic has had mixed effects on skill development.** Employers report that the pandemic reduced access to hands-on learning—particularly for career and technical education (CTE) students, college science majors, and healthcare trainees—which has slowed the speed with which employees become fully proficient in the workplace. At the same time, employers report that the pandemic increased the demand for—and growth in—the following: digital skills, due to the pivot to technology-intensive work environments; leadership skills, as managers learned to lead in an unpredictable

environment and care for employees' wellbeing; and soft skills, as employees rallied in a time of crisis and showed empathy for their coworkers and/or essential workers.

- **An aging workforce, employee resignations, and employee mental health are key management concerns for employers.** Most employer respondents anticipate the challenges that come with an aging workforce—almost a quarter of Oregon workers are over age 55 and that's up from about 10 percent in 1990. The pandemic has added new concerns about turnover, mental health, and well-being given increased workloads and health concerns that employees face at home.

- **Oregon's high cost of living, especially housing, is affecting the ability to hire.** Sizable shares of employers say the costs of housing, childcare, and transportation are affecting their ability to hire. The limited housing supply and the high cost of living were the most problematic—76 percent reported a high or moderate impact on hiring.

- **Remote work is increasing across all sectors in Oregon.** Compared to their staff's work-from-home rate prior to the pandemic, many employers report that more of their staff will work remotely after the pandemic, particularly among technology and software development respondents. Employers from multiple sectors noted that the growth in remote and hybrid work opportunities increases competition in the hiring process and increases the need to focus on company culture and collaboration. Interview respondents from sectors not typically considered to have easy remote options, such as leisure and hospitality and food and beverage, noted that the flexibility offered with many remote positions has affected their ability to attract workers to traditional, in-person positions. Overall, this shift in candidate preferences has incentivized employers to think creatively about new ways of working.

Employer perspectives on workforce investments

The Assessment was conducted as the Legislature considered and passed a $200-million workforce investment package advanced by Governor Kate Brown. The investment will provide thousands of postsecondary training opportunities and build new relationships between employers, educators, and prospective workers. Employers look forward to engaging with college and workforce partners in a variety of ways—providing apprenticeships and internships, collaborating with industry partners on need forecasting, developing training curriculum, and more. The interest to collaborate is strong, and the state has the resources to support it during this critical period of economic transition.

1. Introduction

Purpose of the report

This report is the third in a series of Talent Assessments that date to 2018. It provides business and industry's input on in-demand occupations, skills, talent, gaps, and trends. The Assessments provide analysis of Oregon's skills needs and create common data and language that can be shared across employers, educators, and workforce intermediaries. Together with other specialized reports, the Assessments inform state-level strategy, planning, and execution.

The *2022 Assessment* is well timed. The last two years have witnessed the greatest disruption to the workforce since World War II. The country transitioned from the longest expansion in U.S. history to the shortest recession on record. Oregon's unemployment rate peaked at 13 percent in April 2020 and fell sharply thereafter. Robust federal fiscal and monetary support kept economic output close to the pre-recession trend line and accelerated the jobs recovery.

Fast forward to early 2022, and Oregon's unemployment rate is low by historic standards, but employment levels have not returned to their pre-pandemic levels. For a variety of reasons, a sizable number of potential workers remain outside the labor force. Some will return after the virus is better controlled and school and childcare schedules become more reliable. Others, aided by larger savings, may be in search of more-rewarding work.

At this critical juncture, the Oregon Legislature passed Governor Kate Brown's Future Ready Oregon package. The $200 million investment expands funding for existing career-connected training and apprenticeship programs for priority populations, funds competitive grants to demonstrate innovative delivery, and pilots new benefits navigator and industry consortia models. If implemented well, the investment would help the state take a major step toward meeting its adult educational attainment goal.[1]

This once-in-a-generation investment adds additional purpose to this Assessment. The report will convey employers' perspectives on talent and also review productive uses of the new Future Ready Oregon resources.

Organization of the report

The next section of the report describes the current unusual market for labor and challenges that pre-date the pandemic. Following that is a discussion of the workforce policy landscape, established system redesign efforts, and new components expected as a result of Future Ready Oregon. We then turn to an analysis of Oregon's future workforce and talent pipeline. Finally, we present the results of the stakeholder engagement portion of the project—interviews with

[1] https://www.oregon.gov/highered/policy-collaboration/Pages/state-goals.aspx

and a survey of employers in key industries. A concluding section provides a few high-level takeaways for the project and report.

2. State of the Economy and Workforce

A highly unusual market for labor

The U.S. experience

The broad dissemination of vaccines in the first half of 2021 opened one of the most unusual labor market eras in U.S. history. As the vaccination rate for adults climbed toward the Biden Administration's 70 percent goal, Americans expected a gradual return to normalcy. Hiring in the leisure and hospitality sector surged in April 2021 and remained robust through the end of the year and into early 2022. But employers in restaurants, hotels, and other industries couldn't fill all their open positions. The U.S. unemployment rate fell below five percent in September 2021 and below four percent in December 2021, but the overall number of workers was still below the pre-pandemic peak.

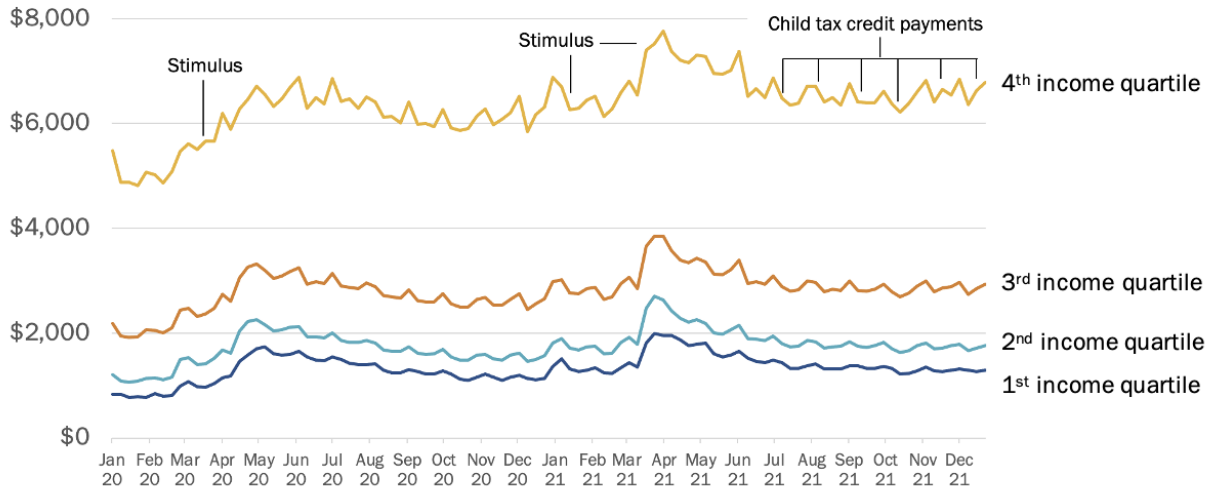
Nationally, a low unemployment rate coupled with an incomplete jobs recovery implied that a sizable number of potential workers remained outside of the labor force. The reasons for slower-than-expected return to work are multiple, and recent analyses and surveys are clarifying the story. Underlying the unusual trends are two key factors: the evolution of the pandemic and elevated household savings.

The second half of 2021 will be remembered for two highly transmissible variants—Delta and Omicron—that spread rapidly among unvaccinated populations and didn't spare the vaccinated from infection. The continuation of the pandemic through the second half of 2021 and into 2022 led to an uneven reopening of schools and childcare centers, a need to care for infected relatives, and, for some potential workers, concerns about working in settings that required social proximity. Simultaneously, the robust federal fiscal response—stimulus payments, enhanced unemployment insurance, child tax credits—helped households boost savings during the pandemic (see Figure 1). Savings also grew because households had constrained spending options for travel, restaurants, and entertainment. Elevated savings have bought job seekers more flexibility in the timing of their return to work.

Together, ongoing pandemic conditions and elevated savings depressed labor force participation. In its March 2022 revenue forecast, Oregon's Office of Economic Analysis (OEA) reported low U.S. employment-to-population levels across most age groups and educational attainment levels.[2]

[2] Oregon Office of Economic Analysis. (March 2022). Oregon Economic and Revenue Forecast. Volume XLII, No. 1. Salem, OR.

Figure 1: Median weekly checking account balances, by income quartile, U.S. households, 2020-2021



Data source: JPMorgan Chase Institute

A recent analysis of the U.S. Current Population Survey, which includes questions about the reasons for non-participation, uncovered two key explanations: accelerated retirements and continued family and home care needs.[3] On the retirement side, estimates show that if the proportion of retired individuals had increased at the pre-pandemic rate during the pandemic, there would have been 2.4 million fewer retirements during 2020-2021—a gap partially explained by an uptick in younger retirements (before age 65). The family/home care response for non-participation shows an increase from the pre-pandemic rate as well.

Labor market observers have also been looking for drivers of job quit rates, which reached 20-year highs last year. A national survey found 19 percent of non-retired adults quit a job during 2021.[4] Respondents reported low pay, no opportunities for advancement, and feeling disrespected at work as top reasons for resigning, followed by childcare issues, work schedule inflexibility, and the absence of good benefits.

Finally, the pandemic also induced an abrupt change to U.S. immigration policy, which has constrained labor availability. The number of immigrants arriving in the country fell sharply during 2020-2021 because of restrictions on travel and immigration processing. According to one estimate, the U.S. has two million fewer working-age immigrants as a result.

Employers have responded to the tight labor market by increasing wages. Nationally, nominal median wages grew 4.7 percent during April 2021-2022—below the rate of inflation. The

[3] Gregory, Victoria and Joel Steinberg. (February 22, 2022). *Why Are Workers Staying Out of the U.S. Labor Force?* Federal Reserve Bank of St. Louis. St. Louis, MO.

[4] Parker, Kim and Juliana Menasce Horowitz. (March 9, 2022). *Majority of workers who quit a job in 2021 cite low pay, no opportunities for advancement, and feeling disrespected.* Pew Research Center. Washington DC.

strongest wage growth has gone to the lowest paid workers: 6.4 percent growth for workers in the bottom one-fifth of the wage distribution.

In short, the U.S. labor market is emerging from the influence of the highly unusual times the public health crisis and federal response created—an intersection of employers rapidly attempting to scale up their operations and prospective workers who, for a variety of reasons, have become more selective about the work they do.

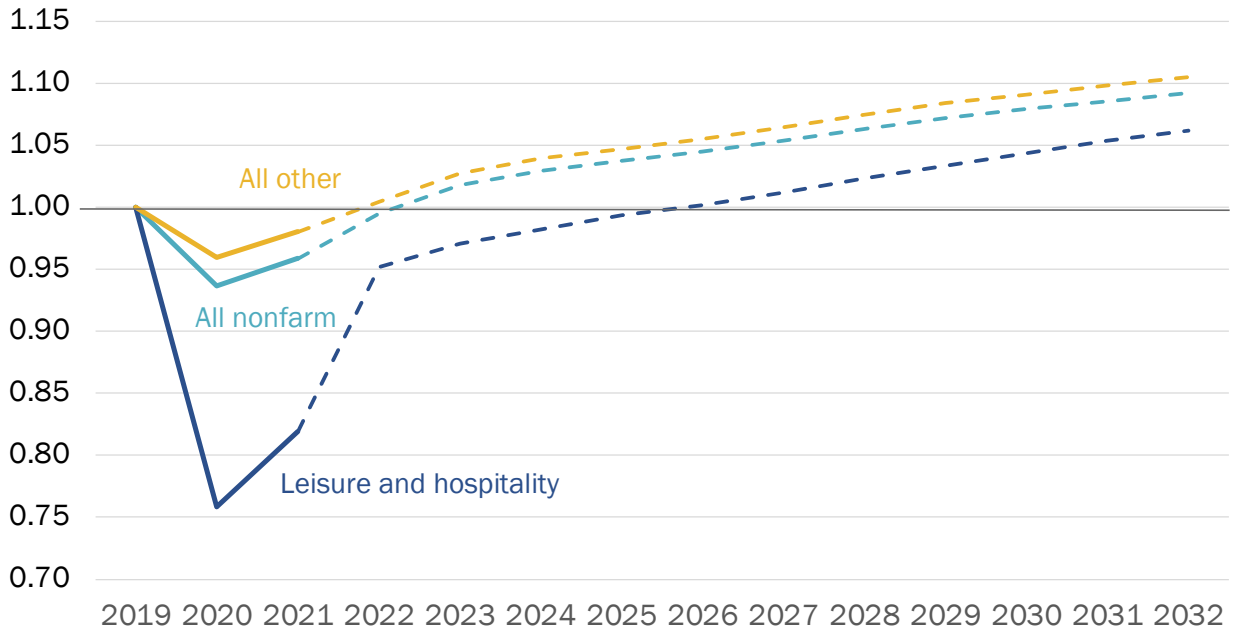
The Oregon experience and outlook

The state's June 2022 forecast declared the labor market recovery nearly complete. As Oregon enters the second half of 2022, the pandemic-related effects on the market—federal stimulus, hybrid schooling, need to care for dependents—have largely faded. Oregon's labor force participation rate reached 63.3 percent in April 2022—1.1 percentage points above the U.S. rate and above pre-pandemic levels. Oregon employers, like those across the country, have increased wages to attract and retain workers. Average wages are up 17 percent from before the pandemic, but inflation has cut into purchasing power. In the past two years, inflation-adjusted average wages increased only 5 percent.[5]

Notably, the pace of the jobs recovery varies across industrial sectors (see Figure 2). The sector hardest hit by the pandemic—leisure and hospitality—is not projected to return to its 2019 employment level until 2026. Several factors underlie the expectation of a slower job recovery for the sector's restaurants, hotels, and entertainment venues. For example, social distancing requirements and, more recently, the inability to hire, led some restauranteurs to invest in automation, including app-based ordering applications or self-service kiosks. Those investments will reduce the reliance on labor going forward. Many hotels have also deployed automation and adapted their services by eliminating daily room cleanings, buffet breakfasts, and other labor-intensive services. Finally, it's unclear whether customers will embrace crowded entertainment venues to the extent they did before the pandemic.

[5] Oregon Office of Economic Analysis. (June 2022). Oregon Economic and Revenue Forecast. Volume XLII, No. 2. Salem, OR, pages 6-9.

Figure 2: Recent and projected nonfarm private employment (indexed to 2019), Oregon, 2019-2032

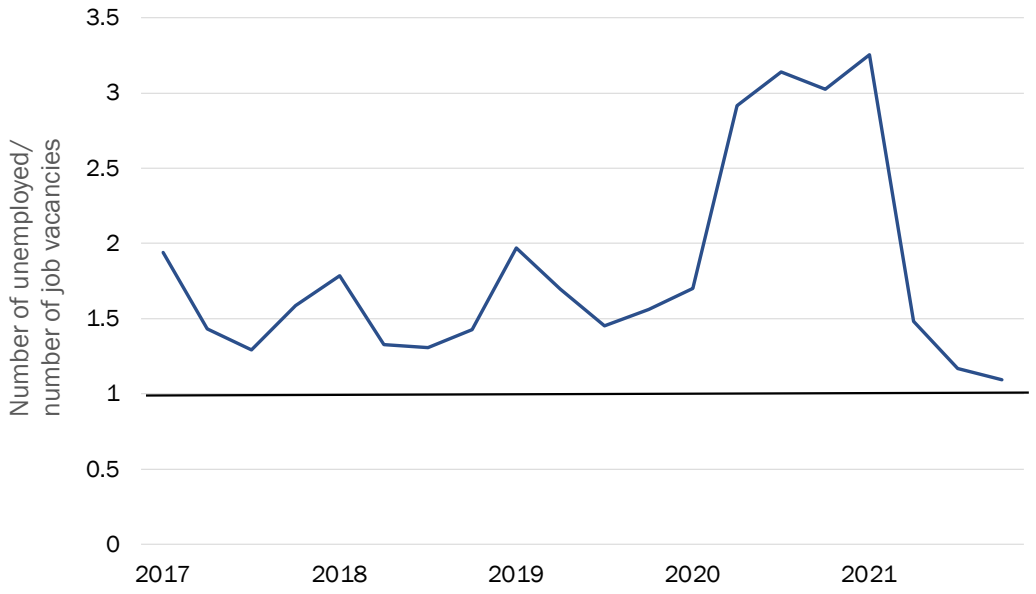


Data source: Oregon Office of Economic Analysis, June 2022 Economic Forecast

As jobs continue to recover, economists anticipate continued upward pressure on wages. The ratio of unemployed people to job openings, which now stands close to 1:1, is a good predictor of forthcoming wage pressure (see Figure 3). In this context, the state economist predicts Oregon's average wages will increase 5.6 percent in 2022 and settle to 3.9 to 4.4 percent annual increases thereafter.[6] All these foregoing rates are above the 3.8 percent annual growth measured in the years immediately preceding the pandemic, although recently, and dramatically, elevated inflation implies a decline in real terms for the recent past and coming quarters.

[6] Oregon OEA, "Other Indicators" spreadsheet, accessed on June 7, 2022 at https://www.oregon.gov/das/OEA/Pages/forecastecorev.aspx

Figure 3: Unemployment/job vacancy ratio, Oregon, 2017-2021



Data sources: Federal Reserve Economic Data, Oregon Employment Department, Oregon Job Vacancy Survey

Workforce challenges that pre-date the pandemic

The drivers of this moment's labor market challenges—high rates of openings and quits, ongoing issues with child and family care—overlay longer standing trends that pre-date the pandemic. Concerns about workforce shortages have been around for at least two decades,[7] and the *2020 Talent Assessment Update* noted that labor scarcity may be a bigger concern than technological disruption.[8]

Two key challenges are:

- **An aging workforce and a forthcoming steady stream of retirements**. The aging of the Baby Boom population, and the implications for the workforce, have been easy to anticipate. The share of Oregon workers aged 55 or above—older than so-called prime-age workers—increased from 10 to 24 percent during 1991-2021 (see Figure 4). Some industries—such as utilities and manufacturing—have shares above 25 percent. The workforce's older age profile has interacted with pandemic-related conditions and led to the previously discussed sharp drop offs in employment rates for older workers. But the workforce challenges associated with an older population will not end with the

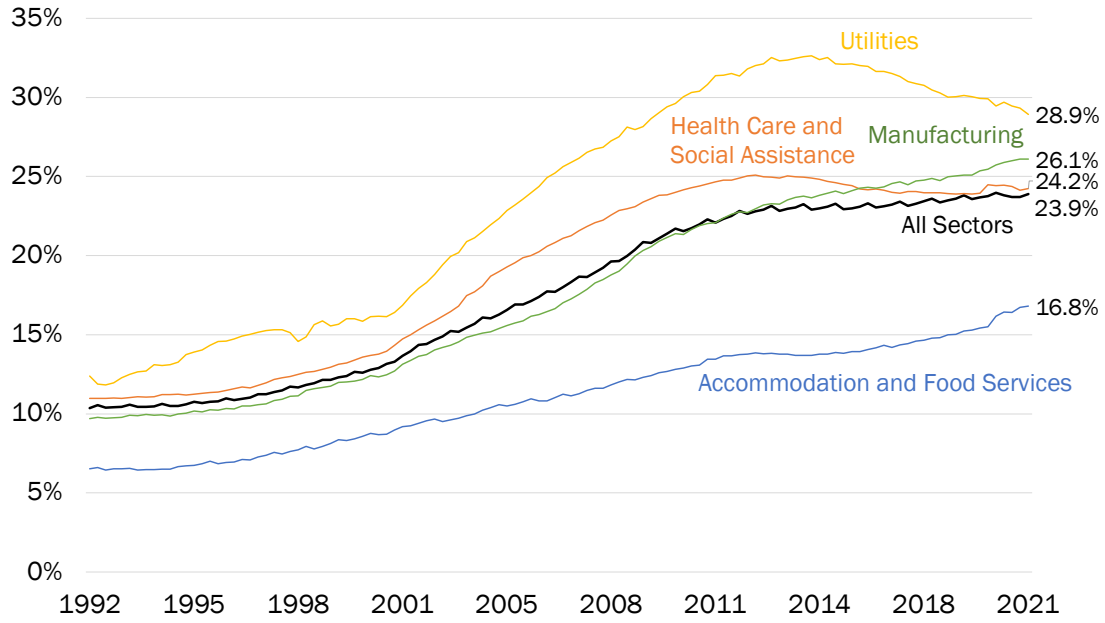
[7] Conway, Maureen and David Ellwood. (February 2002). *Grow Faster Together or Grow Slow Apart.* The Aspen Institute Domestic Strategy Group. The Aspen Institute. Washington DC.

[8] ECONorthwest. (2020). *Oregon Talent Assessment: 2020 Update.* Prepared for the Oregon Workforce and Talent Development Board. ECONorthwest. Portland, OR.

pandemic. The state projects elevated retirement rates for the rest of this decade and into the next.[9]

Business and elected leaders could mitigate this challenge with intentional policy and actions focused on older workers. Businesses have become aware of the need to create more-inclusive work environments. Efforts toward racial, ethnic, and gender inclusivity could be extended to age-related workplace issues.[10]

Figure 4: Percent of workers aged 55 and older, Oregon, 1991-2021



Data source: Quarterly Workforce Indicators, U.S. Census Bureau

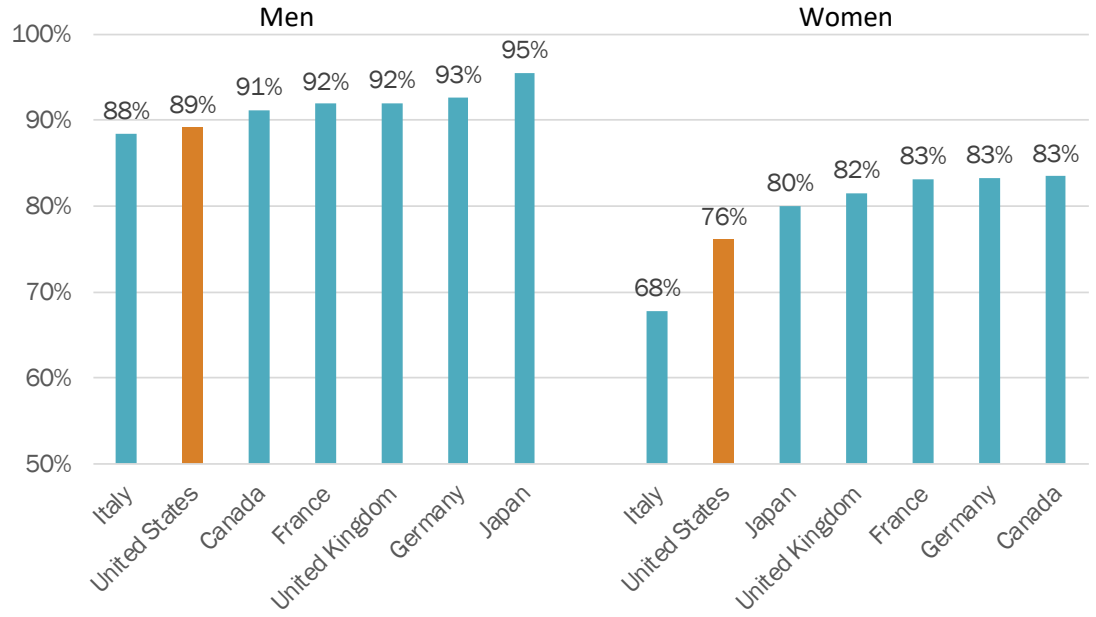
- **Low labor force participation rates for prime-working-age women and men.** The nation and Oregon face a second structural workforce challenge: low labor force participation rates for the prime-age population (ages 25-54) relative to those in other advanced economies (see Figure 5). Participation rates for U.S. women rose steadily during the 1960s though 1990s, peaked around 2000, and then plateaued. Participation rates for 25-54-year-old U.S. men have steadily declined since the 1960s. The rising rates for women through the 1990s explained some of the declines for men during that period. Since 2000, reasons for subpar U.S. participation include the high cost or unavailability of childcare, an underinvestment in assistance for individuals negatively affected by the effects of globalization, weak job prospects for a sizable formerly incarcerated population, opioid use, and a social safety net that may not be sufficient to help

[9] https://oregoneconomicanalysis.com/2021/05/12/older-workers-and-retirements/

[10] https://www.oecd.org/els/promoting-an-age-inclusive-workforce-59752153-en.htm

individuals return to work following adverse health events.[11] The bottom line: some of the answers to employers' hiring challenges, in Oregon and elsewhere, lie outside the domains of education and training. If Oregon and the nation aspire to higher levels of labor force participation, policymakers will have to also address social, criminal justice, and other policies.

Figure 5: Labor force participation, age 25-54, Group of 7 (G7) countries, 2019



Data source: OECD.Stat

3. The Policy Landscape

The call for investment and redesign

The U.S. labor market has undergone significant changes during the past 20 years: technology eliminated routine tasks, globalization moved a share of entry-level jobs overseas, new jobs are demanding more-technical skills, workers have aged. Meanwhile, federal workforce spending as a percent of GDP has declined, states have disinvested in community colleges, employers have cut their training budgets, and unions—once a common place for training—have lost membership. In short, America's decentralized and under-resourced workforce system has become even more so during an era when demand for its services was growing.

[11] See U.S. Congressional Budget Office. (February 2018). *Factors Affecting the Labor Force Participation of People Ages 25 to 54.* Congress of the United States. Washington, DC. and Krueger, Alan. (Fall 2017). *Where Have All the Workers Gone? An Inquiry into the Decline of the U.S. Labor Force Participation Rate.* Brookings Institution. Washington, DC, including Comment by Matthew J. Notowidigdo.

Given these trends, the calls for reform have grown in recent years.[12] Problem statements, and critiques of the current system, share several common themes: the overall investment is too low; information about skills needs and job opportunities is siloed and poorly shared across employers, educators, and jobseekers; educational content is outdated; methods to document and report skills are underdeveloped; and the federal tax code incents capital investments and automation more than it incents job training.

Prescriptions for reformed workforce development vary in scope and perspective. Some reformers focus on the federal level and call for expanding existing training programs funded through the Higher Education Act; allowing Pell Grant resources to fund non-degree programming; imposing a modest federal displacement tax on employers, with funds used to subsidize employer retraining; and making Obama-era trade adjustment grants permanent. Other reformers are much more expansive in their prescriptions and step through systemic and programmatic changes by a range of actors starting with the federal government but extending recommended changes to states, community colleges, K12 schools, workforce intermediaries, and employers (see Figure 6).

The bottom line: a comprehensive overhaul of the workforce development system requires actions from a wide array of actors. And while the details of suggested reforms vary, several common recommendations emerge: improved information exchanges across employers, educators, and job seekers; better job posting consistency to emphasize precise skills; the creation and funding of high-quality, short-duration credentials; expanded "earn and learn" models such as apprenticeships; a variety of changes that support lifelong learning; and improved use of data to inform investments and evaluate performance.

[12] This section draws on Bonvillian and Sarma (2021), Holzer (2021), and Zaber (2019).

Figure 6: Recommended reforms to the workforce development system, by actor and source

	Workforce Education, A New Roadmap	*Reimagining the Workforce Development and Employment System for the 21st Century and Beyond*	*After COVID-19: Building a More Coherent and Effective Workforce Development System in the United States*
Federal	Adequately fund WIOA, TIAA, and the Perkins Act	Standardize language on skills and positions	Expand eligibility for Pell Grants for short, for-credit programs
	Restructure WIOA, TIAA, and Perkins to upskill incumbent workers	Facilitate remote work through broadband investments	Expand funding for high-quality, high-return certificates
	Support student aid pilot projects supporting quality non-degree work	Subsidize job-based relocations	Increase funding for apprenticeships
	Consolidate budgeting for and evaluation of workforce development	Support a learning agenda for systems redesign	Strengthen accountability for for-profit schools
	Increase funding for apprenticeships and career and technical education		Enact a modest displacement tax on employers to fund retraining
	Modernize workforce information systems		Strengthen early warning systems for large-scale layoffs
	Expand NSF's Advanced Technological Education (ATE) program		Fund permanent trade adjustment grants for community colleges
	Develop new advanced manufacturing curricula		
States	Extend training to incumbent workers and high school students	Support rapid exchange of timely/accurate information	Explore outcome-based funding models, with federal support
	Create youth apprenticeships	Build flexible programming that adjusts to changing conditions	Create lifelong learning accounts, with federal support
	Reorganize remedial education	Deploy innovative, incentives-aligned financing mechanisms	
	Create short technical-training programs	Improve use of data and evidence-based policymaking	
	Revive CTE in secondary schools	Support tighter industry-educator collaborations	
	Create lifelong learning programs in higher education	Provide timely information on training costs and ROI	
	Require stronger career advising in higher education	Improve institutional performance scorecards	
	Unify state, labor, education, and economic development programs	Build robust connections between employers/educators	
	Bring education in advanced technologies to the workforce	Develop electronic education and training records	
		Expand availability of portable benefits for gig workers	

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Universities	Organize new delivery frameworks for higher-end skills	
	Develop online delivery systems and new technologies	
	Prepare content and delivery for higher-end workforce skills	
	Develop lifelong learning curricula for higher-end skills	
Community Colleges	Increase completion rates	Provide "just-in-time" training to incumbent workers
	Expand mentoring and career advising	Accelerate development of quality noncredit programming
	Connect with high schools on youth apprenticeships	Build out digital microcredentials
	Implement short skill programs	Foster flexible and large educator pipelines
	Reach incumbent workers to better support employers	
	Link to universities and NSF's ATE program	
P-12	Bring workforce development into high schools	Develop literate, engaged citizens
	Create new technical high schools in collaboration with colleges/employers	Engrain lifelong learning skills
		Teach basic skills that support lifetime work
		Provide robust foundation of technology skills
		Expose students to careers through CTE
Employers	Co-develop apprenticeships and internships	Expand earn-and-learn models
	Break the pattern of one-off, nonreplicable programs	Improve job posting consistency and emphasize precise skills
	Develop skill and certification programs through associations	Improve skill needs forecasting
	Support new labor information systems	Build retention clauses into tuition-reimbursement offers

Sources: Bonvillian, William and Sanjay Sarma. (2021). *Workforce education: a new roadmap*. MIT Press.
Zaber, Melanie, Lynn Karoly, and Katie Whipkey. (2019). *Reimagining the Workforce Development and Employment System for the 21st Century and Beyond*. RAND Corporation. Santa Monica, CA.
Holzer, Harry. (February 2021). *After COVID-19: Building a More Coherent and Effective Workforce Development System in the United States*. The Hamilton Project, Brookings Institution. Washington, DC.

Oregon's progress on redesign, and a major new investment

Oregon has the nation's most ambitious postsecondary attainment goals: 40-40-20 for young adults and a call for 300,000 additional credentials for working adults during the 2020s.[13] Policymakers knew from the outset that the linear high school-associate-bachelor's degree model could never deliver the full number, or kinds, of credentials needed by 21st Century workers. So, state agencies, community colleges, workforce intermediaries, and employers went to work redesigning various aspects of the system. Oregon's work has drawn expertise and funding from national think tanks and foundations, and now key components of these redesign efforts are set to receive new investments from Governor Kate Brown's Future Ready Oregon. Key, established redesign activities include:

- **Building guided pathways in community colleges**: Fifteen Oregon community colleges are collaborating with the Community College Research Center (CCRC) and the American Association of Community Colleges (AACC) to boost achievement and completion rates by implementing integrated, institution-wide pathways.[14] The redesign work, which will receive a $17 million investment through Future Ready Oregon, seeks to clarify student goals; help students choose, enter, and stay on a pathway; and ensure students are learning along the way. Participating colleges are also strengthening personal and technology-aided advising and expanding the use of group projects, internships, and other applied learning opportunities.

  A critical aspect of pathways work involves identifying the credentials, and related paths, that lead to living-wage jobs. In 2020, HECC and WTDB staff collaborated with the National Skills Council (NSC) to identify quality non-degree credentials (NDCs), under a pilot analysis called Credentials that Work. The exercise reviewed all certificate programs and applied associate degree programs in the state and defined "quality" credentials using four criteria: 1) substantial job opportunities for the credential holder, 2) transparent evidence of competencies mastered by the credential holders, 3) evidence of employment and earnings outcomes for the credential holder, and 4) "stackability" to additional training. The pilot uncovered a range of challenges, from basic data assembly to the methods used to make credential-occupation matches. In addition, the exercise involves a subjective and consequential weighting of the individual quality criteria. The state should anticipate evolution in the method for identifying quality NDCs. Data quality will improve, and the HECC will be able to draw valuable lessons from its own work and that of others.

- **Awarding credit for prior learning (CPL).** Passed in 2012, HB 4059 sought to increase the number and types of CPL as well as the number of students individuals earning those credits. National observers point to HB 4059 as a model for launching a transparent CPL platform. Eight years after the passage of the bill, only nine community

[13] https://www.oregon.gov/highered/policy-collaboration/Pages/state-goals.aspx

[14] https://occa17.com/oregon-student-success-center/oregon-pathways-project/

colleges reported CPL outcomes and, among the reporters, data quality was mixed at best. But the approach continues to be viewed as important in recognizing work-relevant, non-academic experience. A $10 million investment from Future Ready Oregon will support the development of new Prior Learning Assessments, provide professional development to faculty, organize institutional reporting systems, and accelerate Oregon's progress in the area.

- **Expanding the apprenticeship model**. The U.S. Department of Labor reported 10,281 individuals in active apprenticeships in Oregon in fiscal year 2020-21.[15] That represents nearly a doubling of apprenticeships from the 2011 level of 5,261. Oregon's 2020 participation rate (0.5% of the labor force) is higher than most states, is concentrated in about 27 occupations in the construction and manufacturing sectors (e.g., carpenters, electricians, machinists, plumbers, roofers), and is well below rates in countries with robust systems (2.5-3%).[16] The Urban Institute's Robert Lerman recommended six steps to scale apprenticeships in a 2020 report to Oregon's WTDB, including the development of standardized occupational-skill frameworks that employers and unions could adopt to accelerate the creation of new programming.[17] Expansion opportunities get a boost in the Future Ready Oregon package, which provides $19 million to develop, expand, and implement new apprenticeship and pre-apprenticeship programming in the healthcare, manufacturing, and construction sectors.

New opportunities opened by Future Ready Oregon

While Governor Brown's package made investments in established redesign efforts, it also broke new ground. Informed by the work of the WTDB's Equitable Prosperity Taskforce and the Governor's Racial Justice Council, as well as input from an array of educators, trainers, and employers, the new package expands the redesign frontier by:

- **Fostering deeper, sustained engagement by employers in identifying and communicating the skills they need.** Employer disengagement is a leading critique of the U.S. workforce system. Rather than maintaining sustained collaborations with educators, employers hire larger numbers of candidates, provide on-the-job training, have mixed success, and routinely report skills gaps.[18]

  Future Ready Oregon seeks to improve the information exchange between employers and educators by facilitating new employer-educator consortia in the manufacturing,

[15] https://www.dol.gov/agencies/eta/apprenticeship/about/statistics/2020

[16] Lerman, Robert. (2020). *Stimulating Apprenticeship in Oregon Now and For the Future.* The Urban Institute, Washington, DC.

[17] Ibid.

[18] Fuller, Joseph B., Jennifer Burrowes, Manjari Raman, Dan Restuccia, and Alexis Young. (November 2014). "Bridge the Gap: Rebuilding America's Middle Skills." Report, U.S. Competitiveness Project, Harvard Business School. Report authored jointly by Accenture, Burning Glass Technologies, and Harvard Business School.

healthcare, and technology sectors. The work will need to be tailored to regional labor markets and industrial subsectors, as solutions in Bend won't automatically translate to Medford and needs of the forest products sector will differ from those of transportation equipment manufacturing.

Oregon's stakeholders can jumpstart efforts through collaborations with Next Generation Sector Partnerships[19] or the U.S. Chamber of Commerce Foundation's Talent Pipeline Management (TPM) Academy.[20] Both initiatives offer frameworks to connect students, employers, and careers and develop talent pipelines with long-term strategies for upskilling, gap filling, career pathway development, and succession planning. Each approach is demand-driven and employer-led and aims to close skills gaps and build talent supply chains aligned to dynamic business needs. Employers play an expanded leadership role as "end-customers" of the education and training systems.

Implemented well, the consortia would get employers to anticipate and articulate labor needs in the same ways they anticipate and articulate needs for other materials and supplies they use as inputs to production. Successful collaborations would spell the end of the "spot market" for labor that is characterized by a poor signaling of need, inefficient hiring practices, skill shortages, and too much employee turnover.

- **Helping trainees navigate federal and state wraparound services that support families at career entry and during transitions**. A modern workforce development system needs to provide training throughout a lifetime as technology and global economic conditions change the nature of work. The need and desire for training often comes at times families can least afford it—early in careers, during a move, or after an unexpected job loss. While education and training agencies attempt to keep the direct cost of training affordable, most trainees still have to cover foregone wages during the training hours, as well as childcare, food, and transportation costs. Too often household budgets don't balance, and trainees either incur debt or exit a program early.

  Ensuring that trainees are aware of, and participate in, federal, state, and local wraparound programs is an important, first step to strengthening training access and completion. To support that aim, HB 2835, enacted in 2021, allocated $5 million to Oregon's public universities and community colleges to hire "benefits navigators." Future Ready Oregon extends the concept to the state's workforce intermediaries (i.e., one-stop centers and community-based organizations). "Workforce benefits navigators" will have comprehensive knowledge of workforce programs and associated wraparound supports, will be aware of cultural and linguistic differences of people accessing the system, and will be trained in trauma-informed practices.

[19] https://www.nextgensectorpartnerships.com/

[20] https://tpmacademy.uschamberfoundation.org/

The creation of the navigator positions begins to put the user, rather than the organization, at the center of the workforce system.

- **Opening the door for programming backed by rigorous evidence and informed by community input**. In addition to creating 10,000 training slots through workforce development boards, Future Ready Oregon seeks to break new ground through its funding of workforce ready grants. The competitive grants offer applicants the opportunity to deepen local collaborations, better understand the needs of their communities, and survey the nation for evidence-based programming and partnerships.

  One place to look for a proven framework is San Antonio's Project QUEST, which marries employer-education collaboration with funding for wraparound services.[21] Project QUEST offers training in healthcare, trades and advanced manufacturing, and information technology and cybersecurity. It has 8,200 participants over its 29-year history and boasts a 91 percent placement rate for program participants. Randomized controlled trials (RCTs), the gold standard in evaluation, found that 11 years after random assignment, the program increased participants' average annual earnings by 15 percent compared to the control group.[22]

  Evaluators have also found sizable earnings impacts for Per Scholas[23] (trains workers for information technology jobs), Year-Up[24] (focuses on pathways into financial, business, sales, and software development jobs), and a Nevada reemployment program that has helped thousands of unemployed workers find jobs faster and at lower cost to the employment department.[25] Each of these programs has drawn philanthropic and private sector investment, in part due to strong results.

  Grant applicants should also explore the rapidly changing education technology space. Education technologists are reimagining the duration of lessons, the delivery of lectures and tutoring, means of providing feedback, and more. And as technology disseminates, methods to measure and document skills will mature.

  Any change to current systems and practices should be deeply informed by the local community. Pulling in practices or innovations from elsewhere, however well-performing, are likely to fail absent local buy-in and participation in design.

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[21] https://questsa.org/

[22] Roder, Anne and Mark Elliott. (September 2021). *Eleven Year Gains: Project QUEST's Investment Continues to Pay Dividends*. Economic Mobility Corporation.

[23] https://perscholas.org/

[24] https://www.yearup.org/

[25] https://www.arnoldventures.org/stories/nevadas-secret-to-a-better-unemployment-system-invest-in-workers

4. Training Oregon's Future Workforce

In November 2021, the Oregon Employment Department (OED) released employment projections for the period 2020 to 2030. OED's projections, published each year, characterize employment in Oregon by industry and occupation over a ten-year period. Based on long-term economic and demographic forecasts, qualitative assessments (e.g., to account for anticipated technological innovations), and other inputs, they describe a plausible scenario for the skills Oregon employers will need from their employees over the coming decade.

The new projections indicate employment growth of about 16 percent between 2020 and 2030 (but only 11 percent between 2019 and 2030). Because the projections are anchored in 2020, the first year of the COVID-19 pandemic, the expected growth to 2030 reflects a relatively rapid post-COVID recovery in employment and somewhat slower employment growth for most of the decade. Total non-farm employment in 2021 was already up 2.4 percent from 2020, more than one seventh the anticipated gains to 2030, with continued acceleration expected for 2022. OED currently forecasts employment growth of less than one percent annually from 2025 onward.

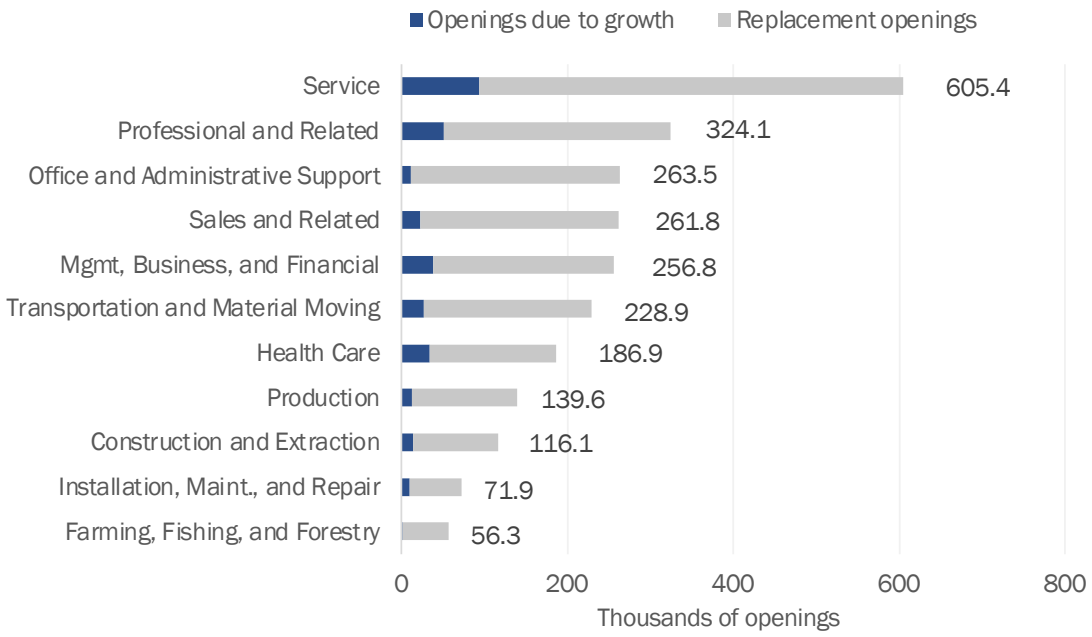
While the projections are not intended to precisely predict occupational employment, the rapidly evolving post-pandemic economy warrants more care in interpreting the projections than in more-normal times. As illustrated by Figure 2, the recovery, now well underway, has proceeded at different rates across industries and therefore also across occupations. For example, the leisure and hospitality industry accounts for nearly a quarter of the anticipated employment growth to 2030 of 317,600 (see Figure 7). The sector has, however, already reached approximately the midpoint between 2020 employment and anticipated 2030 employment. Jobs in this sector are predominantly low-wage and require relatively little formal education; not recognizing the importance of pandemic-related trends such as the rapid recent growth in leisure and hospitality could lead to misperceptions about future job prospects in a given occupation or industry.

From a workforce pipeline perspective, the absolute number of jobs in any industry or occupation is less important than the number of openings—the number of appropriately trained individuals employers are expected to need over the decade to 2030. The OED projections estimate both openings due to growth and replacement openings due to retirements, major occupational transitions, and other factors. Figure 8 shows the distribution of these openings across major occupational groups. Service occupations, including food preparation occupations and personal care occupations, account for nearly a quarter of total projected openings, by far the largest share across occupation groups. The outsized total results from a combination of the anticipated rebound in industries such as leisure and hospitality as well as relatively high occupational churn among individuals starting in service occupations. Both factors should be considered in evaluating proposals to strengthen Oregon's talent pipeline.

Figure 7: Projected job growth by industry, 2020 to 2030

Data source: Oregon Employment Department

Figure 8: Projected job openings by major occupation group, 2020 to 2030

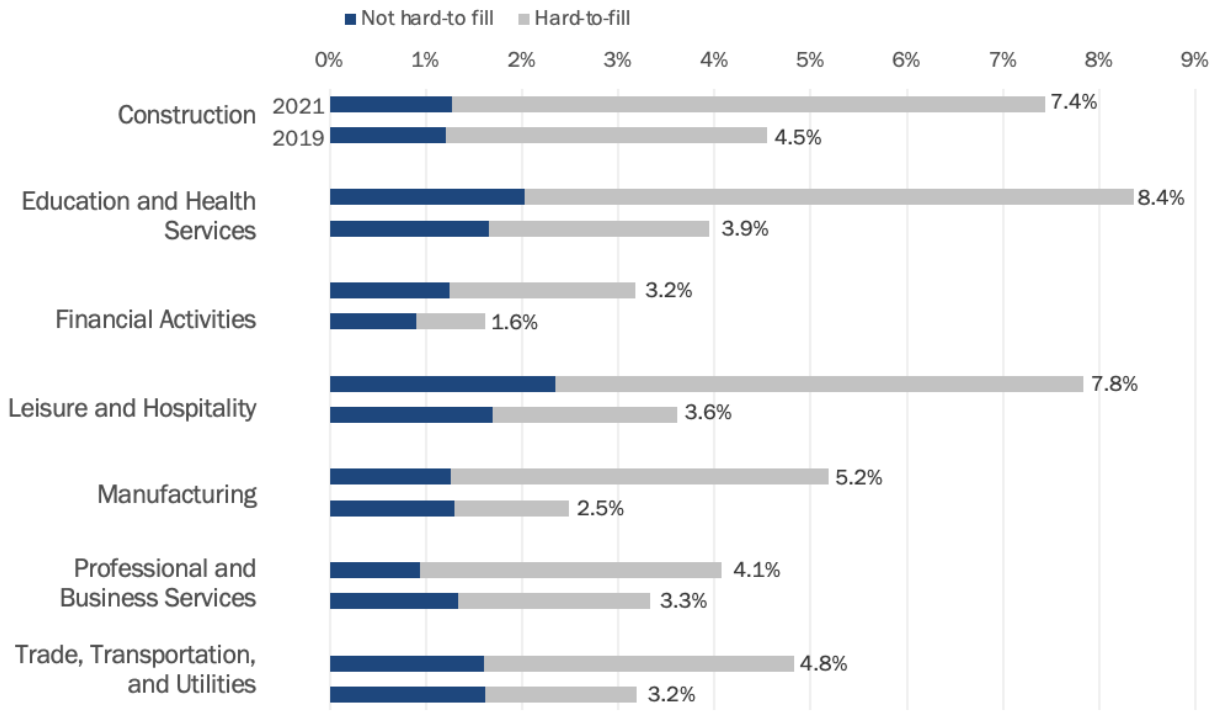


Data source: Oregon Employment Department

Current constraints

In the short term, employers across the economy have to contend with a historically high number of vacancies, many of which are reported as hard to fill (HTF) (see Figure 9). The share of vacancies reported as HTF, at 72 percent of all vacancies, is much higher than it was in 2019 (57%). In addition, vacancies expressed as a share of employment has generally increased across industries, underscoring the labor market challenges faced by a large share of Oregon employers.

Figure 9: Oregon job vacancies as a share of employment, selected industries



Data source: Oregon Employment Department

While the apparent labor shortage is expected to ease over time, acute shortages in Future Ready industries suggest the potential need for significant investments along the talent pipeline, with healthcare a prime example. Figure 10 shows selected labor force and vacancy data points for the five most common occupations in this industry. Notably, the number of vacancies for nursing assistant positions in 2021 amounted to one fifth of employment in this occupation.

Figure 10: Employment and vacancies for selected healthcare occupations, Oregon, 2021

	Employment	Vacancies as a share of employment	HTF vacancies as a share of employment
Registered Nurses	37,780	6%	4%
Medical Secretaries	15,000	0%	0%
Medical Assistants	11,300	5%	4%
Nursing Assistants	12,460	20%	18%
Dental Assistants	5,480	9%	7%
Dental Hygienists	3,740	5%	4%

Data source: Oregon Employment Department. Note: Employment from May 2021 Occupational Employment Statistics.

Assessing skill needs

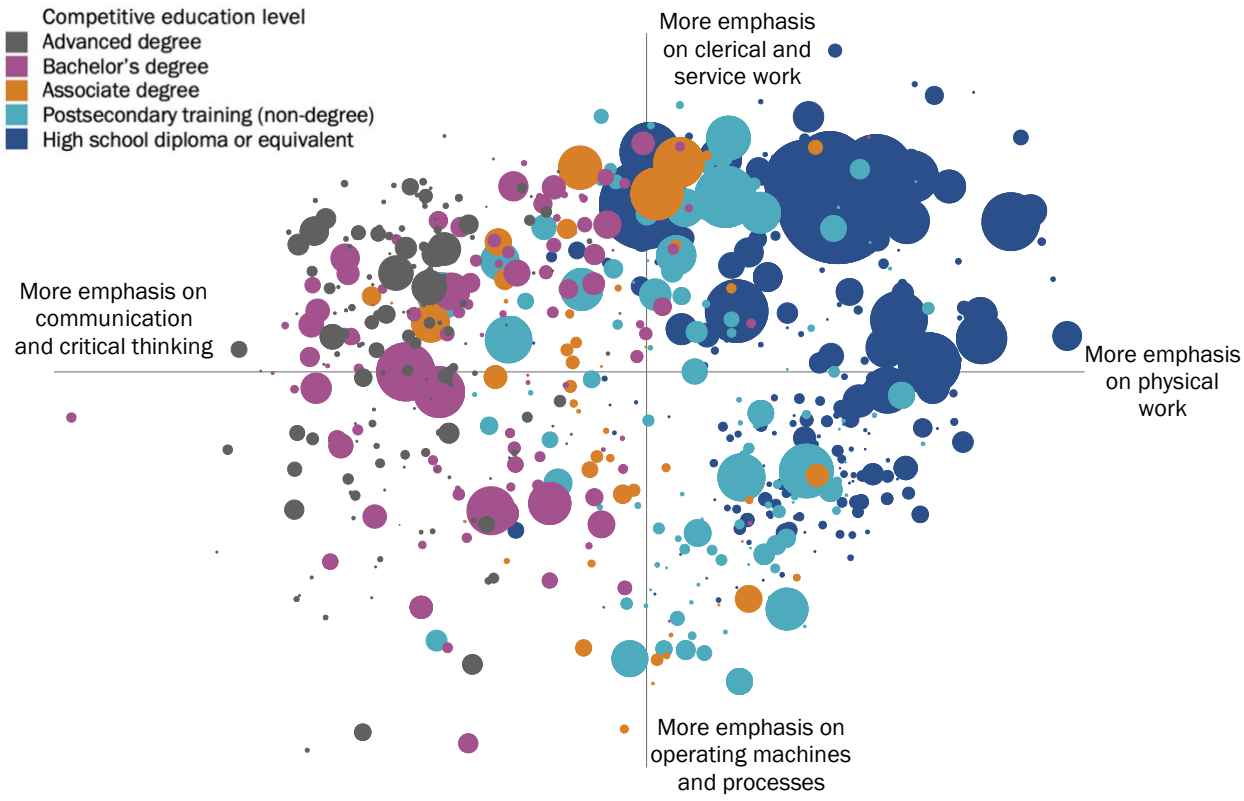
As in prior Talent Assessments, we analyzed the skill requirements associated with each occupation and display findings visually to illustrate the relationships among occupations with similar skill requirements. The data visualization co-locates occupations that draw from similar skill sets (e.g., bookkeepers with insurance claim agents, computer operators with sound engineer technicians, architectural drafters with interior designers). This information can be useful for identifying opportunities for displaced workers and workers in declining industries in growing industries or industries targeted by policymakers.

Specifically, we rearrange the occupational openings projected by OED to illustrate combinations of four broad skill competencies that will underlie new jobs:

1. Clerical and service work
2. Physical work
3. Operating machines and processes
4. Communication and critical thinking

For example, financial activities combine critical thinking with service work while computer programming sits at the intersection of critical thinking and operating processes. Figure 11 displays occupations arrayed in this way, further distinguishing occupations by the competitive education levels defined by OED. The size of the bubbles in Figure 11 represents the number of job openings from 2020-2030 based on OED's ten-year projections. Many openings sit in the upper right quadrant, at the intersection of clerical, service, and physical work. Occupations combining clerical/service and communications / critical thinking (upper left quadrant) are also projected to have a large number of openings. The figure illustrates the fact that the largest number of openings will be in physical and service occupations (upper-right quadrant) that typically require less formal education than do other occupations.

Figure 11: Oregon occupations by number of projected openings in 2020-2030 (size of bubbles), skills characterization, and competitive education level

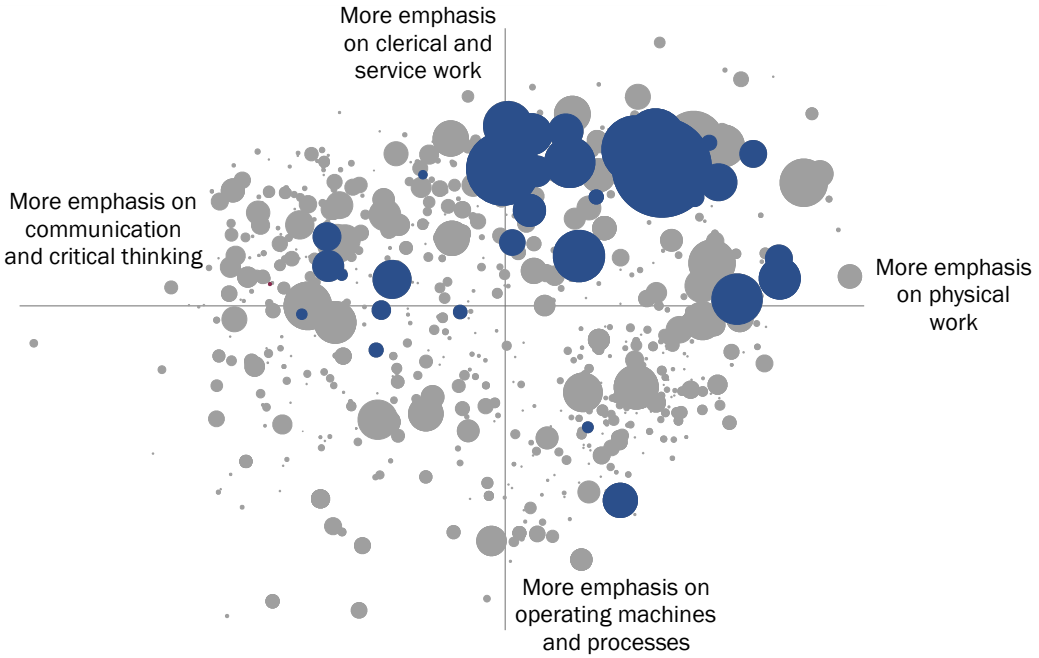


Data sources: O*NET, Bureau of Labor Statistics, Oregon Employment Department

The intersection of education requirements and occupational demand across industries can provide a high-level understanding of the potential role for segments of postsecondary education (i.e., community colleges, universities) in supporting the talent pipeline of target industries, such as those identified in Future Ready Oregon.

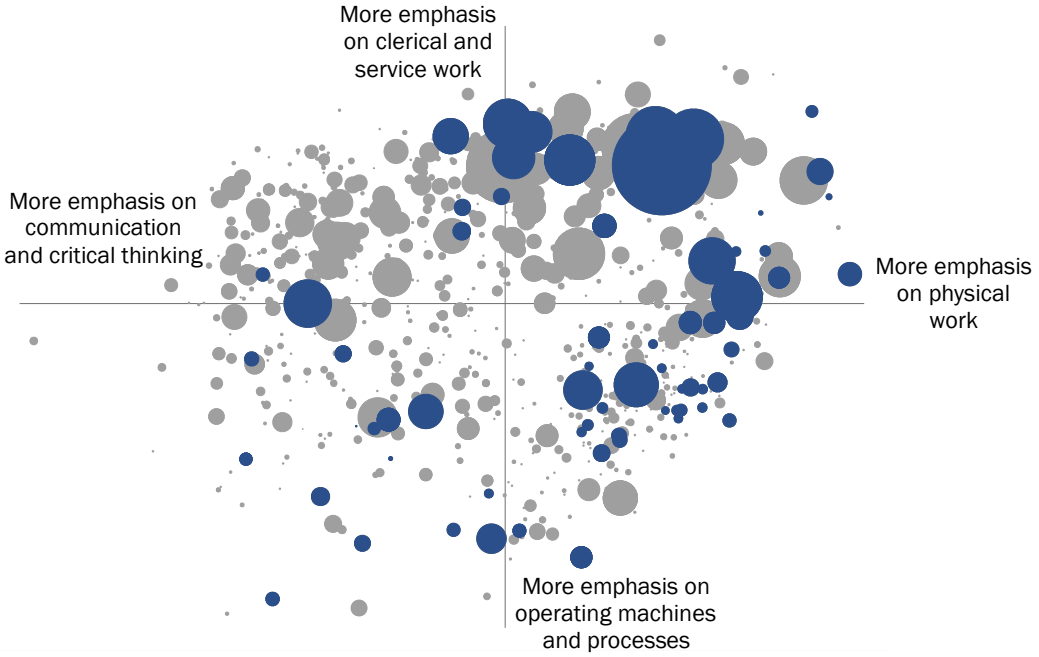
Figure 12 and Figure 13 provide an illustrative example of how policymakers could use this type of visual analysis, and the more detailed underlying data, to guide talent development efforts. The figures highlight, respectively, the most common occupations in the leisure and hospitality industry and the most common occupations in manufacturing. Leisure and hospitality will not recover 2019 employment levels for several years and turnover is high throughout the typical business cycle; manufacturing is a focus of Future Ready Oregon and has a large number of unfilled positions now. The similarity in the figures suggest opportunities for manufacturing employers to recruit displaced or dissatisfied leisure and hospitality workers. For some occupations, required skillsets would be very similar. For others, individuals exiting leisure and hospitality might have a relatively easy time obtaining needed skills or credentials, given the existing skill overlap.

Figure 12: Oregon occupations by number of projected openings in 2020-2030 (size of bubbles), skills characterization; common leisure and hospitality occupations are highlighted in blue



Data source: Data sources: O*NET, Bureau of Labor Statistics, Oregon Employment Department. Note: Highlighted occupations are all among the 25 largest occupations in each of two leisure and hospitality subsectors: accommodations and arts, recreation and entertainment. Not all such occupations are shown due to missing data.

Figure 13: Oregon occupations by number of projected openings in 2020-2030 (size of bubbles), skills characterization; common manufacturing occupations are highlighted in blue



Data source: Data sources: O*NET, Bureau of Labor Statistics, Oregon Employment Department. Note: Highlighted occupations are all among the 25 largest occupations in each of five manufacturing subsectors: food and beverage, high tech, metals, wood products, and all other manufacturing. Not all such occupations are shown due to missing data.

Evaluating the pipeline

Occupational projections provide information about employers' anticipated need for both general and specific skills in their future employees. Recent wage trends and vacancy information help to characterize the extent of near-term skills gaps and shortages. Data about training and credentialing of Oregonians can and should be used to evaluate the ability of Oregon's existing education and training infrastructure to resolve short-term workforce constraints and meet longer-term challenges. This evaluation is more complicated than simply comparing credentials awarded to the requirements of anticipated future job openings: students do not necessarily seek or find employment where trained and employers compete for talent in an increasingly global labor market, particularly for jobs requiring degrees; although progress is being made in the field, comprehensive data about some types of training (e.g., for industry-recognized certifications) is often not readily available; and crosswalks between programs and occupations inevitably fail to capture reasonable connections between a credential and a career for many occupations. At the same time, employers frequently hire individuals with more, less, or different training than suggested by formal occupational classifications.

Despite these issues, administrative data on credentials awarded can provide useful information to policymakers allocating training and education resources across program areas. For this report we identified educational programs associated with the most important occupations, as measured by number of anticipated openings, in the Future Ready industries and compared the number of credentials awarded in Oregon in 2019 for programs associated with each occupation to the average annual openings anticipated through 2030. This comparison provides a benchmark to assess the pre-pandemic talent pipeline associated with Oregon's postsecondary institutions relative to anticipated demand for trained workers.

In closing this section, we present a few highlights from this analysis as examples of the insights potentially gained from a more-involved analysis than was possible for this assessment:

- Occupations in the technology industry, defined here as computer occupations (SOC 15-1200), have competitive education levels of bachelor's degree. These dozen or so occupations map to about five times as many instructional programs. Collectively, Oregon postsecondary institutions awarded more than 3,700 associated credentials, compared to fewer than 2,500 anticipated openings. This suggests Oregon institutions could meet future workforce need for these occupations, although as suggested above, place of award is a less useful indicator of pipeline adequacy because of completer mobility, and other factors.
- Oregon institutions awarded fewer than 1,200 degrees in instructional programs associated with registered nurse positions, much smaller than the anticipated average annual openings of more than 2,500. Credentials associated with dental assistant careers were also awarded at about half the rate of anticipated openings (about 300 credentials and more than 600 openings).
- We found similar differences for several occupations important to manufacturing: awarded credentials associated with machinist careers amounted to less than half of

anticipated openings; for computer numerically controlled tool operators they amounted to less than one third of openings. Welding credentials awarded amounted to just over 80 percent of anticipated annual openings.

Due to the factors identified above, not all apparent over- or under-supplies of credentials warrant a change in state investments. They can, however, provide information critical to identifying emerging issues, addressing existing employer concerns, and implementing statewide strategies like Future Ready Oregon.

5. Employer Perspectives

This section summarizes key themes and lessons from employer stakeholder engagement conducted through a statewide survey and key informant interviews. The purpose of this engagement was to understand current Oregon employer perspectives on key workforce-related issues, including hiring and retention, workforce diversity, workforce skills, and workforce management concerns. In addition to these perspectives, the stakeholder engagement process surfaced employer recommendations for workforce system improvements, as well as assessed employer interest in collaboration and engagement related to talent pipeline development opportunities offered by Future Ready Oregon.

Nearly half of the survey respondents indicated being from either the leisure and hospitality or food and beverage sectors, making the All sectors category heavily weighted toward those industries' responses. Findings are not representative of nor generalizable to employers in all sectors, nor to all employers in Oregon.

Key findings

Hiring and retention

Hiring and retention are significant challenges for the responding sectors. While more employers think a shortage of qualified candidates is driving their hiring challenges than community contextual conditions that are unrelated to candidate skills, both factors are having a substantial impact on employers' ability to hire and retain workers. Key workforce factors include employees seeking higher wages and better job quality; limited talent pipelines or local labor pools; and a steady stream of retirements not being backfilled by new entrants to the fields most impacted. A key contextual factor affecting hiring across all sectors is Oregon's high cost of living, including lack of affordable housing and costly (or unavailable) childcare. Leisure and hospitality and food and beverage employers reported the strongest effects of contextual conditions on hiring.

Workforce diversity

Employers aim to diversify their workforce. Nearly 75 percent of employer respondents are actively trying to diversify their workforce, though sectors experiencing staffing crises may be less focused on diversity during the current period of staffing urgency. Most employers note that hiring racially diverse candidates is more difficult than hiring gender-diverse candidates, though the historically male-dominated fields of construction, advanced manufacturing, and wood products noted greater difficulty hiring for gender diversity.

Workforce skills assessment

Most employers say their existing workforce has the skills needed to perform their jobs. Nearly 7-in-10 employer survey respondents view their existing workforce as fully proficient. The 30 percent reporting not-fully-proficient signal a lack of specific occupational skills, soft/interpersonal skills, and work experience.

About 84 percent of respondents report difficulties finding qualified applicants for open positions. Advanced skills, relevant work experience, occupational skills, and soft/interpersonal skills are the types of skills most lacking among applicants, while education level and basic skills were not an issue for most employers.

The pandemic has had mixed effects on skill development. Employers report that the pandemic reduced access to hands-on learning—particularly for career and technical education (CTE) students, college science majors, and healthcare trainees—which has slowed the speed with which employees become fully proficient in the workplace. At the same time, employers report that the pandemic increased the demand for—and growth in—the following: digital skills, due to the pivot to technology-intensive work environments; leadership skills, as managers learned to lead in an unpredictable environment and care for employees' wellbeing; and soft skills, as employees rallied in a time of crisis and showed empathy for their coworkers and/or essential workers.

The difficulty of finding qualified applicants has negatively affected firms and businesses. While the extremely tight labor market certainly contributes to hiring challenges, employers report that the applicants they do have often lack the necessary skills and qualifications for the job. The most frequently cited impact of this challenge on businesses is the significant increased workload it places on existing staff and the consequent risk of burnout. The lack of qualified applicants has also precluded many firms from taking advantage of new opportunities and the growth potential those opportunities afford. Finally, many employers report lowered overall productivity and reduced production output or sales.

Workforce management

An aging workforce, employee resignations, and employee mental health are key management concerns for the responding sectors. Most employer respondents predict an aging workforce to have a greater impact on the workforce than automation. Concerns about

employee resignations and turnover compound the aging demographic dilemma. Supporting employee mental health and well-being was a chief interest among all sectors, with healthcare respondents noting particular concern.

Remote work is increasing across all sectors in Oregon. Compared to their staff's work-from-home rate prior to the pandemic, many employers report that more of their staff will work remotely after the pandemic, particularly among technology and software development respondents. Employers from multiple sectors noted that the growth in remote and hybrid work opportunities increases competition in the hiring process and increases the need to focus on company culture and collaboration. Interview respondents from sectors not typically considered to have easy remote options, such as leisure and hospitality and food and beverage, noted that the flexibility offered with many remote positions has affected their ability to attract workers to traditional, in-person positions. Overall, this shift in candidate preferences has incentivized employers to think creatively about new ways of working.

Recommendations from interviews

Employers identified several opportunities to address key workforce challenges, stating that they would like to see:

- **Earlier career exposure,** to introduce students to diverse careers at an earlier age to both contextualize learning and spark interest
- **Stronger skills education**, to intentionally build critical thinking, communication, and other key workplace skills in the future workforce
- **Stronger career pathways**, to revitalize career and technical education pipelines that have weakened over time
- **Greater business engagement**, to identify skill needs and partner on development of training curriculum, while at the same time expecting a reciprocal and responsive relationship with education and training providers
- **Increased collaboration among workforce and community partners**, including community-based organizations (to expand workplace diversity and wraparound services), business (to provide input on skill needs and opportunities for internships and placements), and government (to unlock funding, direct resources, and convene leaders)
- **Streamlined processes and funding distribution**, to encourage greater employer engagement

Introduction

The *2022 Talent Assessment* included diverse data collection and analysis tasks, with a focus on 11 key industries identified by HECC prior to the study:

- Advanced manufacturing
- Bioscience

- Construction
- Energy
- Food and beverage
- Healthcare
- Leisure and hospitality
- Maritime
- Outdoor gear and apparel
- Technology and software development
- Wood products

In addition to a review of statewide employment and economic indicators, the research team collected descriptive data through individual stakeholder interviews and an online stakeholder survey. This section describes stakeholder input across all qualitative and descriptive data sources. In total, 31 interviews and 314 survey responses are incorporated into this summary. The descriptive data and associated analysis provide targeted, explanatory input to supplement broader talent development trends and support crafting of workforce system responses.

Methodology

The research team used diverse outreach methods to solicit industry participation in engagement opportunities. Stakeholder engagement methods, including the online survey, were not intended to collect a representative or generalizable sample of industry contacts, but instead to provide broader descriptive stakeholder feedback on key research questions.[26] The research team consulted with several statewide business and industry associations for initial key contacts in each of the focus industries and for help in distributing the survey to network channels. These contacts provided additional references to individuals or associations for further interview or survey dissemination.

The research team conducted interviews with three employers or industry representatives in each sector, except for food and beverage (4), wood products (2), and outdoor gear and apparel (1).

In addition to interviews, the research team engaged stakeholders through an online survey collecting information on general workforce conditions, internal workforce status, workforce management concerns, hiring experience, and workforce system engagement. Stakeholders that participated in interviews were asked to complete the survey and share the link broadly with their industry networks for greater stakeholder engagement. The research effort also benefited from Oregon Business Council support in distributing the survey to sector representatives, associations, and industry clusters. Finally, the survey was publicized at the 2022 Talent

[26] The survey instrument and stakeholder interview protocol are included in the appendix.

Summit to facilitate additional participation. In total, 314 individuals completed the stakeholder survey. Among those, 81 survey respondents identified their sector as "Other."[27]

Figure 14 below illustrates survey participation among the 11 industries of focus in the *Assessment* analysis.

EMPLOYER SURVEY PARTICIPATION VARIES BY SECTOR

Figure 14: Number and percent of employer survey respondents by sector

Sector	Number of survey respondents	Percent of survey respondents
Advanced manufacturing	21	7%
Bioscience	2	1%
Construction	12	4%
Energy	4	1%
Food and beverage	65	21%
Maritime	0	0%
Healthcare	21	7%
Leisure and hospitality	81	26%
Outdoor gear and apparel	2	1%
Technology and software development	17	5%
Wood products	8	3%
Other	81	26%

Note: Total sums to more than 100% due to rounding.
Source: Oregon Talent Assessment Employer Survey, 2022

Due to low or no responses to the survey, four of the 11 industry sectors are not broken out in the charts in this report section: bioscience, energy, maritime, and outdoor gear and apparel. The category "other" is also not presented in the section's charts; however, the "All sectors" category in the charts includes responses from all industries that participated in the survey, including those categorized as "other."

With the exception of outdoor gear and apparel, the appendix provides industry-specific profiles with additional detail on survey and interview findings for each industry. The low survey response (2) and interview response (1) from outdoor gear and apparel employers

[27] Post-coding analysis of "Other" survey responses identified four main sector categories: Education/non-profit (23); Professional services (legal, finance, marketing, accounting, consulting) (34); Government (10); and Other (14).

precluded the research team's ability to discern generalizable themes; therefore, a profile is not provided for this industry.

Hiring and Retention

Key themes

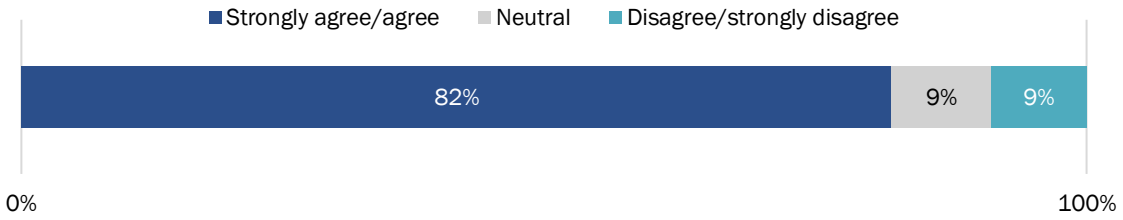
- Attracting, hiring, and retaining employees has been difficult for most employers in the 12 months prior to being surveyed in March/April 2022.
- Employees are seeking higher wages and better job quality, which is challenging for all key industries, but particularly for advanced manufacturing, leisure and hospitality, food and beverage, healthcare, wood products, and construction.
- Remote work has accelerated competition and wage inflation, particularly for the technology-associated industries, like biotech, software, and energy.
- Most employers interviewed viewed the recent hiring experience to be worse than before the pandemic.

Employers were asked for their thoughts on hiring and retention in the last 12 months and whether hiring and retention challenges were due to a shortage of qualified candidates or due to conditions unrelated to candidate skills (e.g., increased workloads, lack of affordable housing or childcare, concerns about the coronavirus).

Hiring and retention has been a significant challenge. While not unanimous, a preponderance of survey respondents agreed that attracting, hiring, and retaining employees has been a significant challenge for their firm over the past 12 months. As shown in Figure 15, about 82 percent of all respondents reported significant challenges with hiring and retention, with 56 percent strongly agreeing and another 25 percent agreeing. Interviewees corroborate the survey findings; however, most reported difficulty with hiring and somewhat fewer reported struggling with retention.

8-IN-10 EMPLOYERS FACED HIRING AND RETENTION CHALLENGES

Figure 15: Employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=255)



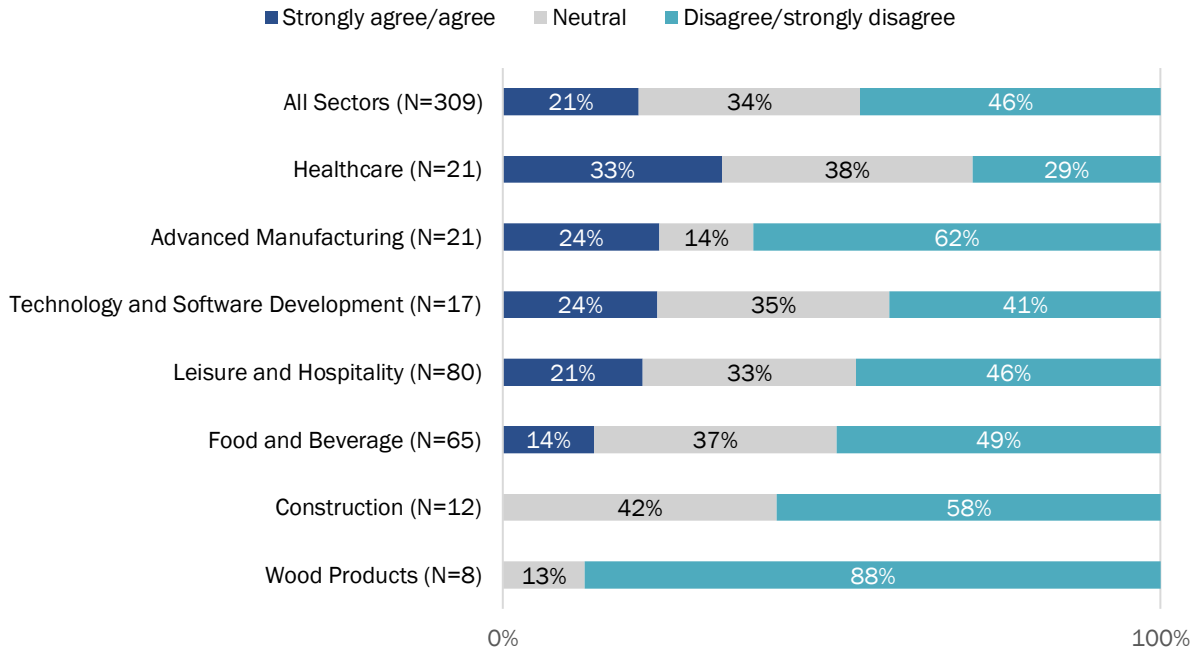
Source: Oregon Talent Assessment Employer Survey, 2022

Most sectors reported challenges, with only modest variation among them. Industries that reported the greatest difficulty with hiring and retention were wood products (100% strongly agreeing or agreeing), healthcare (90%), and food and beverage (89%). Construction reported the lowest level of difficulty but was still high at 75 percent. Interviewees from advanced manufacturing, construction, healthcare, and leisure and hospitality all agreed that hiring and retention has been difficult over the past 12 months. Where feedback was mixed, interviewees tended to refer to issues with hiring, particularly for entry-level positions, although employers in construction and healthcare reported struggling to hire skilled professionals as well.

Workforce attraction/retention is not necessarily a competitive advantage for Oregon employers. Given the difficulties with hiring noted above, it is not surprising that most Oregon employers surveyed do not agree that attracting, hiring, and retaining skilled workers is a key competitive advantage for Oregon. As shown in Figure 16, when asked whether one of Oregon's key competitive advantages is its employers' ability to attract, hire, and retain skilled workers, only 21 percent of survey respondents agreed. Nearly half (46%) did not think the ability to attract, hire, and retain workers was a key competitive advantage of Oregon employers, and another 34 percent were neutral, neither agreeing nor disagreeing. There was some variation by sector, but no sector exceeded 33 percent agreeing that this is a competitive advantage for Oregon employers. As noted below in the section on contextual factors, several employers believe that Oregon has an image problem that may be affecting employers' ability to attract employees from out of state.

FEW AGREE THAT HIRING AND RETENTION IS A COMPETITIVE ADVANTAGE FOR OREGON

Figure 16: Employer response to "One of Oregon's key competitive advantages is its employers' ability to attract, hire, and retain skilled workers."



Source: Oregon Talent Assessment Employer Survey, 2022

Key factors that influence the hiring experience

A shortage of qualified candidates is a bigger driver of hiring challenges than are conditions unrelated to skills. Both survey respondents and interviewees were asked to reflect on the key factors influencing their hiring and retention challenges. To help frame the factors, survey respondents were asked to choose which of two potential key drivers of their hiring challenges was more significant:

- a shortage of candidates with the necessary skills (i.e., workforce factors); or
- conditions that are unrelated to skills, such as increased workloads, lack of housing or childcare, or concerns about COVID-19 (i.e., community contextual factors).

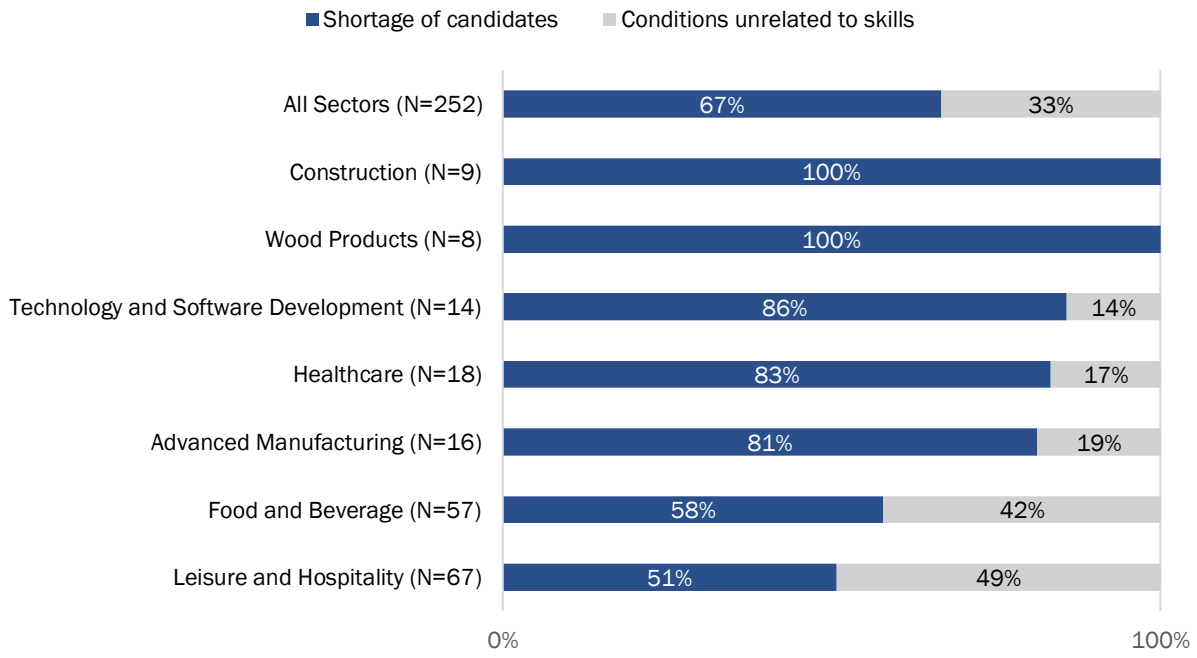
As shown in Figure 17, most employers (67%) indicated that a shortage of candidates was closer to their view of what was driving their workforce challenges, compared to 33 percent who felt that contextual conditions were the key drivers. However, there was substantial variation by sector:

- Construction and wood products employers unanimously agreed that a shortage of candidates with necessary skills was more of a driver than contextual conditions

- Technology and software and healthcare employers were nearly unanimous in agreement over a shortage of candidates being the key driver (86% and 83%, respectively)
- Leisure and hospitality employers were nearly evenly split, with 51 percent citing a shortage of candidates as the primary driver and 49 percent citing contextual conditions
- Food and beverage employers were similarly split at 58 percent citing a shortage of candidates and 42 percent citing contextual conditions.

SHORTAGE OF QUALIFIED CANDIDATES IS KEY DRIVER OF HIRING CHALLENGES FOR MOST

Figure 17: Employer perspective on whether hiring and retention challenges were due to a shortage of qualified candidates or due to conditions unrelated to candidate skills, such as increased workloads, lack of affordable housing or childcare, or concerns about the coronavirus



Source: Oregon Talent Assessment Employer Survey, 2022

The following sections provide interviewee insights into both the workforce and contextual factors influencing hiring and retention for Oregon employers.

Workforce factors

"Workforce factors" includes education and training, employee skills, and other characteristics of the workforce or workforce development system. The following themes emerged related to the key workforce factors influencing Oregon employers:

- **Employees are seeking higher wages and better job quality.** Many interviewees said that job seekers, as well as existing employees taking part in the "Great Resignation," are seeking higher wages and better job quality, which is increasing competition between industries. For some employees, this means a desire for remote work and more flexible schedules. This trend has benefitted some industries and disadvantaged others. Interviewees from advanced manufacturing, construction, healthcare, and leisure and hospitality universally found themselves on the losing edge of this trend – particularly for jobs in their industries at the lower end of the pay scale and that are physically demanding, less flexible, or emotionally taxing. For example, healthcare sector interviewees report unprecedented levels of stress on the job, which is triggering early retirements or people leaving bedside care. One advanced manufacturing interviewee mused that the industry may suffer from an outmoded, hierarchical organizational culture that some employees perceive as creating a less inclusive work environment. To incentivize hiring and retention, employers across sectors reported offering higher wages and some are offering bonuses for employees who stay in the job for a set amount of time or for successful employee referrals. Employers are also focusing on improving job quality when possible.

"The trickle-down effect [of retirements] is why starting salaries for college grads is up so high; they are basically being hired for jobs they aren't ready for."

- **The virtual work environment has pros and cons for hiring and retention.** Several employers appreciated the expanded recruitment possibilities afforded by the transition to remote work, citing a larger pool of management-level and skilled professionals in Oregon, nationwide, and internationally. At the same time, this contributes to churn and makes it harder for smaller companies to compete and pay wages that are competitive with more expensive urban areas, such as the Bay Area. This is particularly an issue for technology- and knowledge-driven industries.
- **Limited talent pipelines or local talent pool.** At least one employer interviewed from each industry cited struggles with having a small local talent pool and limited talent pipelines. In technology and software, employers are seeing young college graduates leaving for tech centers. In growth fields, including solar and marine energy or software development and cybersecurity, demand for workers far outpaces supply. In construction, an insufficient quantity of apprenticeships is creating a logjam in the pipeline. And in healthcare, stakeholders are concerned about the pipeline, with fewer applications to nursing schools than in the past. As discussed in more detail in the Workforce Skills Assessment section, these conditions drive employers in many industries, most notably in technology-related fields, to look outside of Oregon to meet their workforce needs.

"Youth are not getting engaged early, plus people are aging out and retiring early. We are losing at both ends."

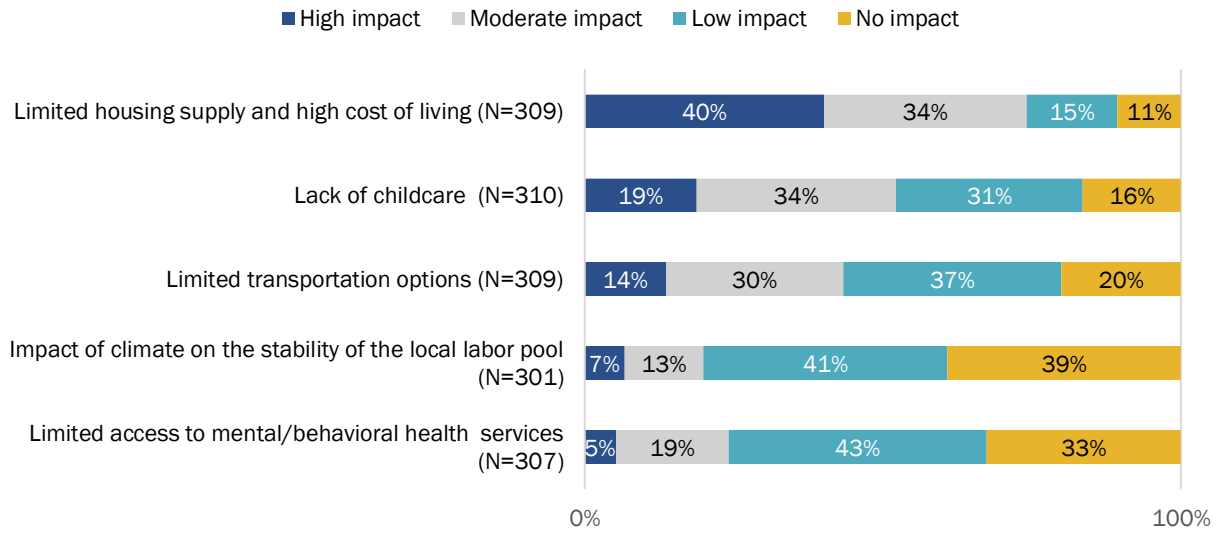
- **Retirements with limited backfill among younger generation.** Related to limited talent pipelines, several interviewees reported that retirements simultaneous with few new entrants to the field is negatively affecting their industry, particularly in construction, wood products, healthcare, and leisure and hospitality. Among many of these sectors, interviewees suggested that a combination of limited exposure to the field at a young age and the perception that job quality is poor contributes to fewer entrants into these industries.[28]

Contextual factors

In addition to workforce factors affecting the ability to hire and retain employees, a key theme among employers was the impact of community contextual factors, which although secondary to a shortage of candidates, still affected employers' hiring experience, as summarized below. Figure 18 displays employer perspectives on the impact of various community contextual factors. The most frequently cited factor affecting hiring was Oregon's limited housing supply and high cost of living, although there was variation among sectors, which is shown in Figure 19.

OREGON'S LIMITED HOUSING SUPPLY AND HIGH COST OF LIVING HAS AN IMPACT ON HIRING

Figure 18: Employer perspective on the impact of certain community conditions on their ability to hire



Source: Oregon Talent Assessment Employer Survey, 2022

High cost of living is having a significant impact on employers' ability to attract and hire. Among the community contextual factors employers were asked to assess, lack of available

[28] See Figure 27 for employer perspectives on the relative impact on their industry of anticipated changes in automation vs. an aging workforce.

housing and the high cost of living was cited most frequently as having an impact on employers' ability to hire employees. About 74 percent of employers said this contextual factor had a high impact (40%) or moderate impact (34%). Only 11 percent said it had no impact on hiring and retention. Interviewees suggested that the rising wages seen across industries, particularly in entry-level positions, may still not be sufficient to afford market rate housing.

"Housing is a monster...both the inventory and demand for the housing. Wages have gone up but haven't gone up to the point where you can afford market rate."

As shown in Figure 19, healthcare sector employers were most likely to cite housing and cost of living as having a high (71%) or moderate (19%) impact on hiring, followed by leisure and hospitality and food and beverage. While fewer construction industry respondents viewed this factor as having a high impact (18%), it is notable that 64 percent felt it was a moderate impact and no construction respondents felt it had no impact. Hospitality industry interviewees acknowledged a need for developing housing specific for their industry, especially given the issue of seasonality and the difficulty of finding a lease for under a year.

More than half of employers surveyed in each sector felt housing and cost of living had a high or moderate impact, but wood products and technology were at the lower end of this scale. Rural communities, where wood products employers are typically located, tend to have lower cost of living. Despite this, wood products interviewees indicated that it is not out of the question to provide short-term housing assistance or pay for house hunting trips for prospective employees. For some tech employers, housing may be somewhat less of an issue in a market where jobs are virtual and employees can live anywhere.

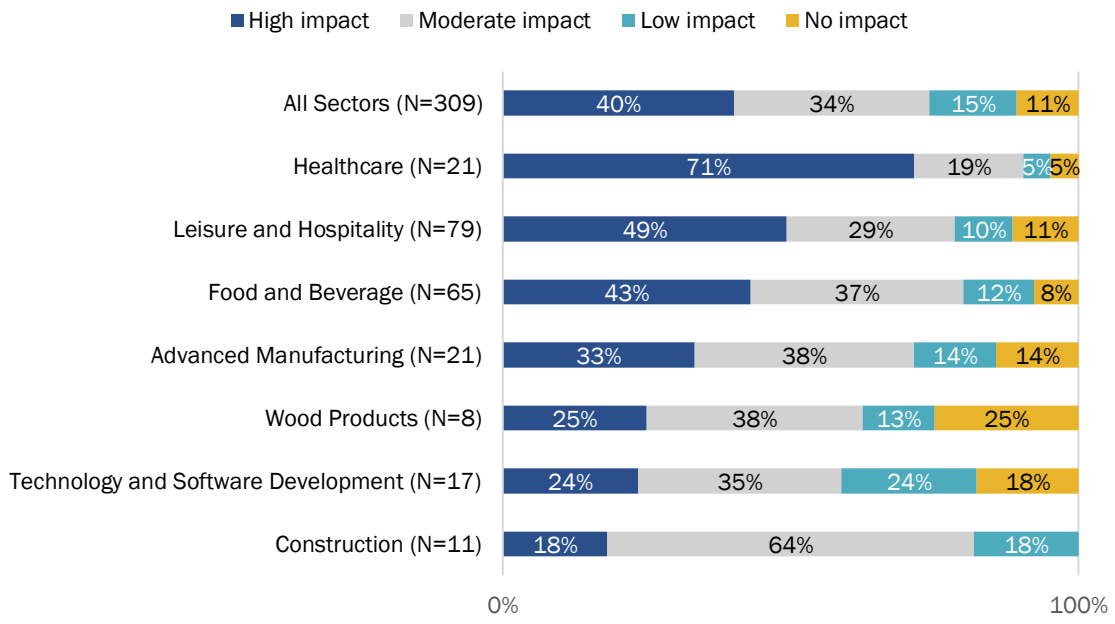
Childcare is costly and hard to find. Most employers indicated that childcare availability had some level of impact on their employees, with more than half reporting a high (19%) or moderate impact (34%), and nearly one-third (31%) acknowledging a low impact. Several interviewed employers suggested it is one of the lingering reasons behind many remaining on the sidelines of the labor force, particularly women. Several in traditionally male sectors, such as construction and wood products, acknowledged that beyond the cost and availability of childcare, the fact that childcare is traditionally viewed as a women's issue combined with the lack of gender diversity in their workforce contributes to childcare not factoring as centrally as it could among these employers. This, in turn, impacts their ability to attract women to the workforce.

The impact of access to transportation to/from the job was mixed. Overall, 44 percent of employers indicated that lack of transportation to or from the job had a high (14%) or moderate (30%) impact on hiring, but there was variation across sectors. Wood products employers were the mostly likely to cite the issue as high impact (38%), owing to the challenge of getting to jobsites in the forest, according to interviewees. Approximately half of employers from food and beverage, healthcare, and leisure and hospitality agreed that limited transportation options had a high or moderate impact on their ability to hire. Tech and construction employers were least

likely to cite transportation as a barrier, with 12 and 27 percent, respectively, citing high or moderate impact.

HEALTHCARE, HOSPITALITY, AND FOOD/BEVERAGE SECTORS MOST IMPACTED BY HOUSING

Figure 19: Sector detail on the impact of a limited housing supply and high cost of living for employees on employers' ability to hire



Source: Oregon Talent Assessment Employer Survey, 2022

Employers interviewed highlighted several other contextual factors limiting their ability to attract, hire, or retain employees:

- **Oregon's external image may no longer be a competitive advantage.** While Oregon's natural beauty may still draw prospective employees, it has been harder for employers to tout Oregon's high quality of life. Many interviewees expressed that Oregon's image has been tarnished by perceptions of homelessness, crime in downtowns, and a high cost of living. This image is conspiring against employers seeking to recruit from out of state.
- **Workplace culture may not be welcoming to diverse applicants.** As described in more detail in the Workforce Diversity section, several employers expressed that they are actively trying to change workplace culture to be more welcoming to women and racial/ethnic minorities, but there is still a ways to go.

"One trend that benefited Oregon is that Oregon was seen as an attractive place to work, but with the rise of remote work and issues around the State of Oregon, such as the perception of public safety, homelessness, and dysfunction, it's been hard to recruit. [...] We have challenges that are bigger than workforce development and education."

Impact of the pandemic on hiring and retention

Interviewees were asked to compare their hiring experience of the last 12 months to hiring before the pandemic.

Most employers rate their recent hiring experience worse than before the pandemic. Of the 31 interviewees, most (18) considered the past 12 months worse than before the pandemic, while 10 considered the hiring experience similar, and two were not sure. Interviewees from advanced manufacturing, healthcare, wood products, technology and software, and leisure and hospitality were more likely than other industries to feel their recent hiring experience has been worse than before the pandemic. For some employers, the pandemic was the cause of the hiring challenges; for others, the general labor shortage seemed to be the key driver.

Pandemic-related impacts, such as financial supports and ongoing health concerns, had less of an impact. While less of an issue than other contextual factors cited in the section above, lingering COVID-related fears and, earlier in the pandemic, the stimulus payments and unemployment insurance extensions, contributed to interviewees' hiring challenges.

The pandemic prompted reflection in the hard-hit leisure and hospitality industry. According to a leisure and hospitality interviewee, the pandemic exposed that the industry was taking advantage of the workforce, offering low wages for demanding positions. The interviewee pointed out that, with the industry shutdown, employees realized that other industries, including technology and healthcare, offered better job quality and pay. To combat the exodus, leisure and hospitality salaries have increased dramatically. However, as interviews confirm, leisure and hospitality is not the only industry to increase wages to entice workers back to the workplace.

Workforce diversity

Key themes

- Nearly 75 percent of employer respondents are actively trying to diversify their workforce.
- Sectors experiencing staffing crises may be less focused on diversity during this period of staffing urgency.
- Most employers note greater challenges in hiring racially diverse candidates compared to gender diverse candidates.
- Historically male-dominated fields of construction, advanced manufacturing, and wood products noted greater difficulty hiring for gender diversity compared to other sectors.
- Employers identified numerous strategies to increase the diversity of candidates and support advancement of diverse employees.

Interviewees and respondents were asked whether their firms/industries are actively working to diversify their workforce, in what ways, and what kinds of strategies industry associations, workforce development providers, and education providers could employ to help reach diversity goals.

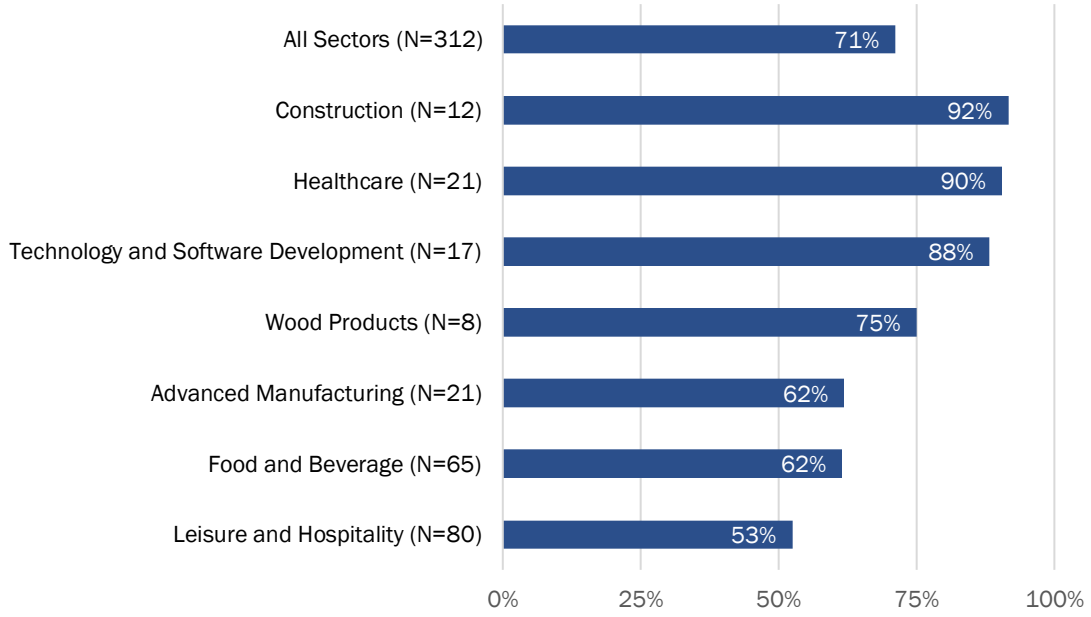
Employers aim to diversify their workforce. As shown in Figure 20, nearly three-quarters (71%) of employer survey respondents across sectors were actively trying to diversify their workforces. The percentage of employers reporting efforts to diversify was highest in construction (92%), healthcare (90%), and technology and software (88%). Among respondents who were trying to diversify their workforce, 68 percent were trying to diversify by gender and 89 percent were trying to diversity by race/ethnicity. Multiple employers, including those from healthcare, noted the importance of diverse staff in promoting positive outcomes (e.g., for patients or customers) or responsive products.

Employers are thinking about diversity broadly. Survey respondents noted additional ways they were trying to diversify their workforce, including sexual orientation and gender identity, educational experience, prior learning, and those with criminal or drug histories. However, respondents from some sectors, particularly those experiencing extreme staffing shortages, noted that the crisis in filling positions has trumped some of their diversity efforts: with difficulty filling any role, they have focused less immediately on expanding diversity.

"We're so starved for talent, that we're not focused on diversity because we don't have the opportunity."

EMPLOYERS ACROSS SECTORS CITE INTEREST IN DIVERSIFYING THEIR WORKFORCE

Figure 20: Employer survey respondents who responded "Yes" to "Is your firm actively trying to diversify its workforce (e.g., by gender, race/ethnicity, or other characteristic)?"



Source: Oregon Talent Assessment Employer Survey, 2022

Most employers note greater challenge in hiring racially diverse candidates compared to gender diverse candidates. Employer respondents across all sectors noted more difficulty filling positions with diverse applicants by race (68% of employers) than by gender (45%), though this varied somewhat by sector, as shown in Figure 21. The percentage of employers reporting difficulty filling positions with diverse applicants by gender was highest in construction (80%), advanced manufacturing (77%), and wood products (50%). The percentage reporting difficulty filling open positions with diverse candidates by race/ethnicity ranged from 50 percent to 80 percent by sector, with the highest in construction (80%), technology and software development (79%), healthcare (76%), and food and beverage (73%).

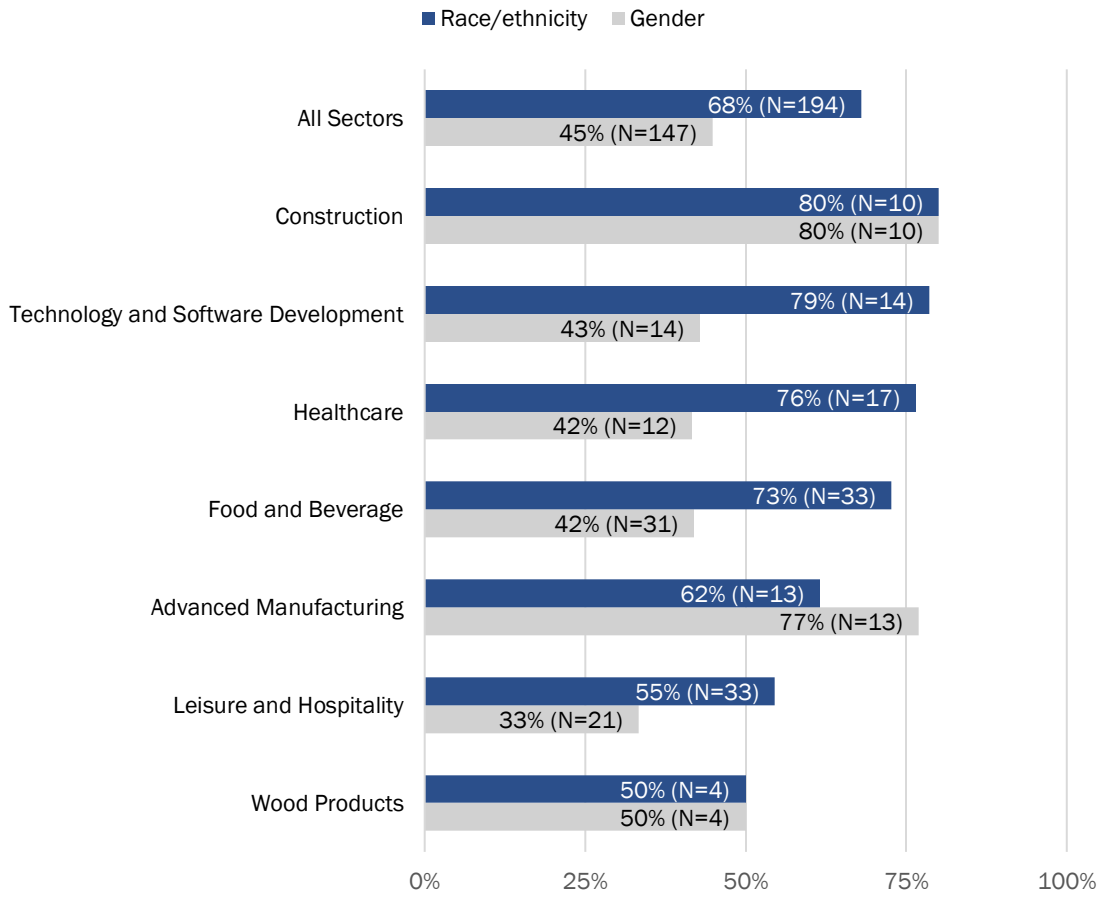
"There are nurses and others in healthcare committed to DEI in the workforce because they know it provides better outcomes when users can be treated by people who look like them."

In several industries, employers said the lack of a diverse pipeline leading into their industry's jobs affected their ability to hire diverse candidates, despite a desire to do so. Interviewees cited various factors that are contributing to the pipeline issues. For example, construction and wood products interviewees noted that, despite efforts to combat these factors, their ability to recruit women is hampered by persistent cultural norms around what are considered traditional male

or female jobs, girls' lack of exposure to the trades in school, and a male-dominated jobsite culture. Construction interviewees also stated that expanding diversity in the construction workforce is hampered by the image of unions as white-male dominated and unwelcoming to people of color or women.

CHALLENGES ACROSS SECTORS TO FILL POSITIONS WITH DIVERSE CANDIDATES

Figure 21: Employer survey respondents who responded "Yes" to "Are you having difficulty filling open positions with diverse applicants by [gender] or [race/ethnicity]?"



Source: Oregon Talent Assessment Employer Survey, 2022

Employer recommendations to improve workforce diversity

Employers identified numerous strategies industry associations, workforce development providers, and education providers could employ to increase candidate diversity and support advancement of diverse employees.

- **Improve messaging.** In multiple sectors, including advanced manufacturing, construction, and wood products, stakeholders recommended de-stigmatizing careers that do not require college degrees or that are traditionally viewed as gender specific.

Employers cited the need to promote messaging to students, families, and prospective workers around the family-sustaining wages and comprehensive benefits typical to these sectors.

- **Strengthen CTE pathways.** Respondents across varied sectors, from advanced manufacturing to leisure and hospitality, noted the opportunity to strengthen CTE pathways in high school and increase student exposure to, and preliminary training for, broad career options. Employers also called for stronger bridges between training programs and employers.
- **Facilitate connections across partners.** Respondents suggested facilitating stronger networks across employers, workforce development providers, and community-based programs to help employers reach priority populations. Interview respondents cited the key role that nonprofits can play in providing trusted access and engagement with targeted communities.
- **Subsidize entry-level work.** Stakeholders also encouraged increased funds for on-the-job training to subsidize wages, enabling them to target and recruit more diverse candidates for entry-level positions rather than relying primarily on candidates who already have the relevant skills or the means to obtain skills through more formal training programs.
- **Start early.** Respondents from multiple sectors, especially those involving STEM skills, noted the need to invest in public early education to ensure consistent development of baseline competencies, maintain underrepresented student interest over time, and build the pipelines for prospective bioscience, technology, and STEM-based careers.
- **Address barriers to training and employment.** Employers recommended leveraging workforce development and community-based organization expertise to provide wraparound supports, such as childcare and transportation, that facilitate diverse candidates' ability to initiate and sustain work. They also suggested incentives to employers to facilitate direct support to employers to address barriers.
- **Refine internal workforce guidelines.** Employers described revising internal practices, including diversifying hiring panels, reconsidering hiring parameters, providing supplemental training, establishing affinity groups, and developing longer onboarding periods to broaden the candidate pool and optimize existing diversity in the talent pipeline.
- **Establish hiring targets.** Employers suggested diversity requirements for public projects and internal hiring benchmarks to increase candidate diversity.

"Diversifying an organization is often put on the shoulders of HR staff; we've started enlisting others in the organization, including leadership, to be more of a part of hiring, including examining our practices around making sure we're focused on capabilities and not just experience."

Workforce skills assessment

Key themes

- Most employers (69%) considered their existing staff fully proficient; among employers who did not consider their workforce fully proficient, occupational skills and soft skills were the most frequently cited deficiencies.
- About 84 percent of employers had difficulty finding applicants with the necessary skill sets or qualifications for their open positions. Occupational skills, work experience, and advanced skills like critical thinking and problem-solving were identified as the skill categories most lacking in new hires. Most employers interviewed cited soft/interpersonal skills as the most frequently missing job skill.
- The pandemic reduced access to hands-on learning, which impacts the ability for new hires to onboard quickly and reach job proficiency. Conversely, employers report that the pandemic helped employees develop digital skills, leadership skills, and soft skills.
- Employers report that the biggest impact on their firm of the difficulty in finding qualified applicants is the increased workload placed on existing staff.

Proficiency of existing staff

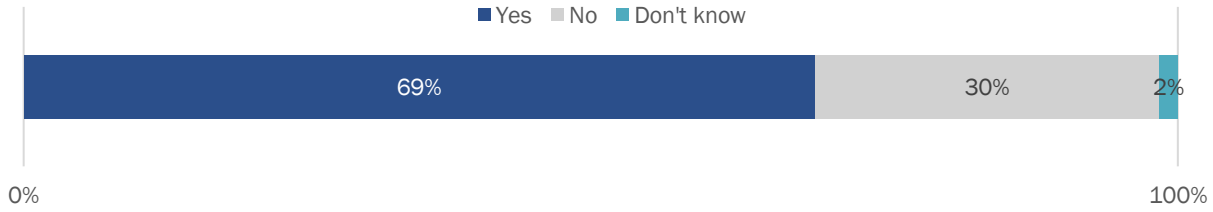
Employers responding to the survey were asked to assess the proficiency of their existing staff.

Nearly 7-in-10 employers surveyed considered their current staff fully proficient. As shown in Figure 22, 69 percent of employers indicated that their existing staff was fully proficient at their jobs. Technology and software development employers were most likely to report that their existing workforce was fully proficient (82%), while wood products employers were the least likely (50%). While employers would clearly prefer to have a staff that is ready to perform the full requirements of a job on day one, many interviewees said they will teach applicants the skills they need for the job, especially in this job market. However, interviewee input suggests that employers may struggle with this approach when employees lack transferrable employability skills integral to achieving full proficiency. The 30 percent of employers reporting that their current workforce is not fully proficient are signaling a lack of these employability skills, as well as specific occupational skills.

"Employers have taken it upon themselves to do a lot of the training, but we also need to build that into the educational process. You need to be in the high schools to be really effective."

MOST EMPLOYERS CONSIDER THEIR EXISTING STAFF FULLY PROFICIENT

Figure 22: Employer survey response to, "Is your existing staff fully proficient at their jobs?" (N=309)



Source: Oregon Talent Assessment Employer Survey, 2022

Factors that underlie lack of proficiency

Employers who indicated that their existing staff are not fully proficient were asked a follow-up question about the skills they perceived were the most lacking. Their responses are presented in Figure 23 and summarized below.

Occupational skills were among the skills most lacking in existing staff. Two-thirds (66%) of employers who did not find their existing staff fully proficient at their jobs indicated that their staff are lacking occupational skills, which is defined as technical skills that apply directly to the job. The sectors that were most likely to cite a lack of occupational skills in their existing staff were construction, healthcare, advanced manufacturing, and wood products.

Soft or interpersonal skills were also among the skills most lacking in existing staff. Similar to occupational skills, 66 percent of employers who did not consider their existing staff fully proficient felt that their staff lacked soft or interpersonal skills. There was not extensive variation across sectors, with 64 percent or more of employers across all sectors citing this as an area of deficiency, except for healthcare, where less than half of employers saw this as a lacking skill category in their existing staff.

Work experience was lacking in the existing workforce. As noted by 52 percent of interviewees across sectors, the tight labor

Types of skills and experiences

The following skill categories and examples were used in the survey and interviews during the employer engagement process.

Education level: for example, high school, certificate, associate degree

Soft or interpersonal skills: skills associated with an individual's habits, personality, and management abilities, such as dependability, empathy, leadership, adaptability, motivation, teamwork

Basic skills: basic literacy and numeracy, basic digital/computer skills

Occupational skills: technical and know-how skills that apply directly to the job

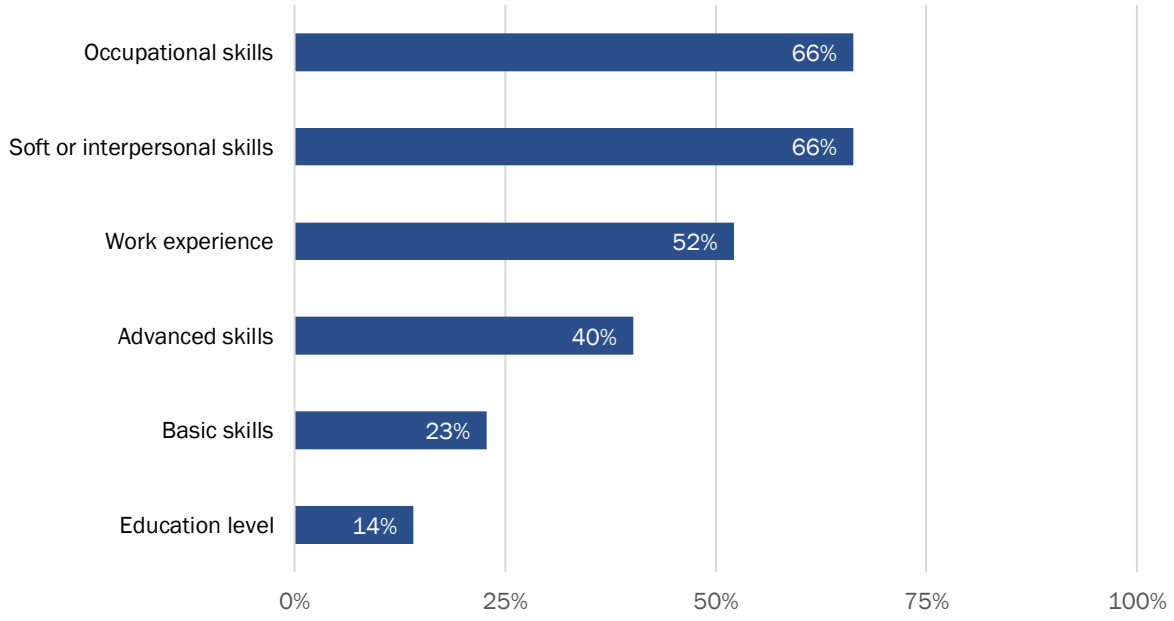
Advanced skills: advanced literacy and writing, complex information processing, creativity, critical thinking

market is pressing employers into hiring more junior applicants than they would otherwise choose.

Education level and basic skills were not an issue for most employers. Only 14 percent of employers indicated their existing workforce lacked the appropriate education for the job, while only 23 percent felt their existing staff lacked basic skills, such as basic literacy and numeracy skills and basic digital or computer skills.

OCCUPATIONAL AND SOFT/INTERPERSONAL SKILLS MOST LACKING IN EXISTING STAFF

Figure 23: Response to, "What skill sets or qualifications were most lacking in your existing staff? Select all that apply." among employers who did not consider their existing staff fully proficient (N=92)



Source: Oregon Talent Assessment Employer Survey, 2022

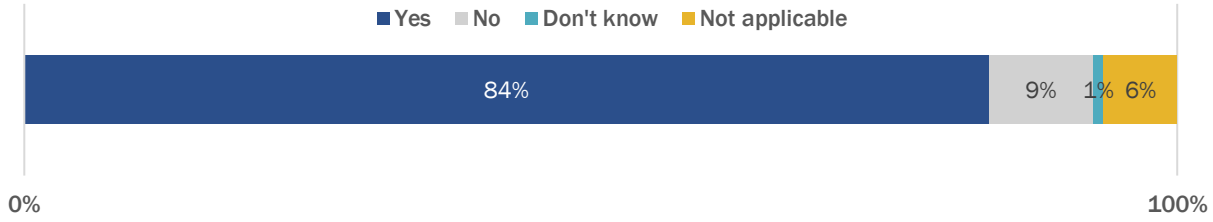
Skill proficiency among applicants

Employers were asked to assess the qualifications of the applicants they receive for jobs they are trying to fill, as shown in Figure 24. A follow-up question asked respondents to rate applicants according to a set of skills or characteristics, as shown in Figure 25. Interviewees were asked a similar question; their responses provide context for the survey findings.

Employers report widespread difficulties finding qualified applicants. As shown in Figure 24, about 84 percent of employers surveyed had trouble finding qualified applicants. The variation across sectors was modest, ranging from 75 percent of wood products employers to 95 percent of food and beverage employers.

VAST MAJORITY OF EMPLOYERS HAD DIFFICULTIES FINDING QUALIFIED APPLICANTS

Figure 24: Employer survey response to, "In the last 12 months, did your firm have difficulty finding qualified applicants for any of the jobs you were trying to fill?" (N=262)



Source: Oregon Talent Assessment Employer Survey, 2022

Employers report difficulty finding applicants with advanced and occupational skills, as well as relevant work experience. As shown in Figure 25, employers were least likely to agree that applicants had the advanced skills, work experience, and occupational skills needed for their open positions. This finding was largely corroborated by interviewees, particularly among tech-related employers, who consistently reported challenges attracting applicants with the necessary occupational skills. Employers interviewed reported several factors contributing to this reality, which varied across industries, ranging from a lack of exposure to career pathways in high school to insufficient secondary and post-secondary internship and apprenticeship opportunities to not enough local graduates in high-demand fields, including cybersecurity, dev-ops, engineering, and industrial technology. Survey respondents who indicated that advanced skills were lacking reported that critical thinking and decision-making skills were most lacking.

"In addition to technical skills, we put a lot of emphasis on human skills: emotional IQ, compassion, motivation, human connection. These are very hard to evaluate, but also hard to develop beyond a certain age. We need to start developing these skills in our PreK-12 system. Training programs should focus not just on technical skills but on the human skills."

Whether applicants had the necessary soft/interpersonal skills was mixed among survey respondents, but it was the most frequently noted lacking skill category among interviewees. Among survey respondents, 38 percent did not agree that their applicants had the required soft/interpersonal skills, while 38 percent agreed, and another 23 percent were neutral. In contrast, among the 31 interviews conducted, more than two-thirds cited soft/interpersonal skills lacking among applicants. The industry interviewees most likely to cite a lack of soft/interpersonal skills were from food and beverage, construction, and advanced manufacturing, although it was a barrier cited across all sectors. Among employers surveyed who said soft/interpersonal skills were lacking, the top missing soft/interpersonal skills were dependability, self-motivation, communication skills, and time management.

"Our industry is a pretty felony-friendly employer, but employees can't be under the influence because you can get hurt."

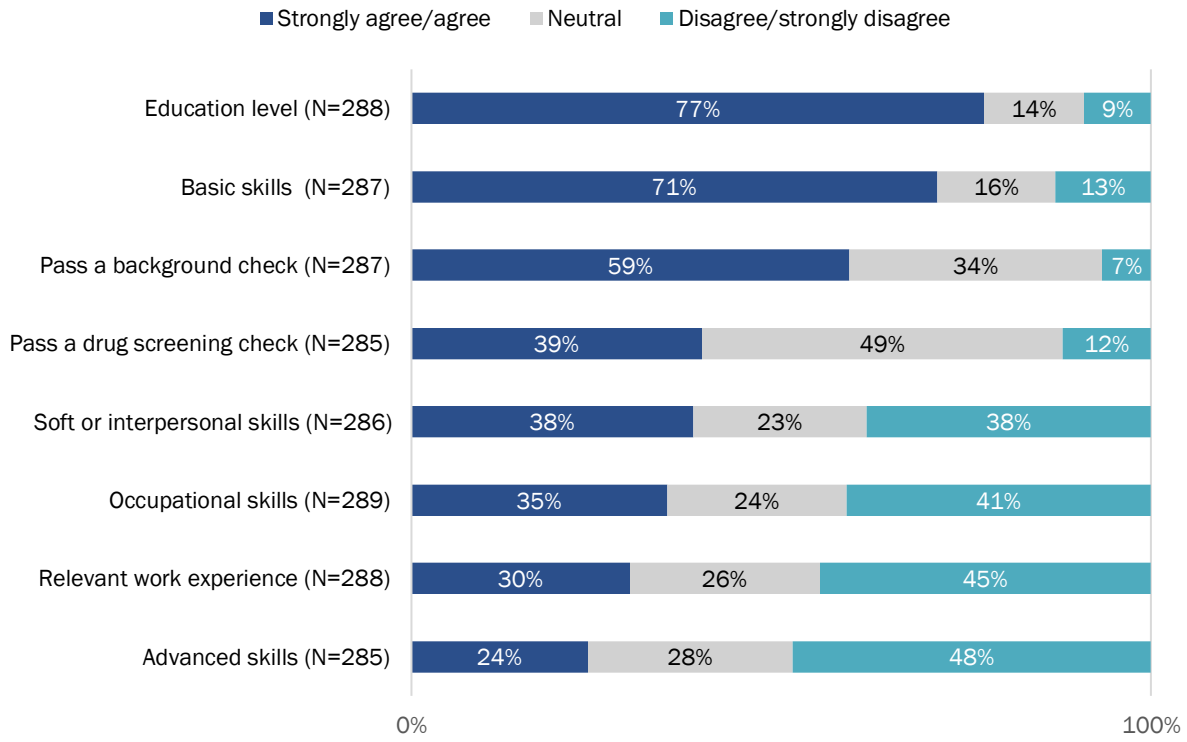
Passing background checks or drug screenings were not significant barriers for employers, although there was variation among sectors. Overall, only seven percent of employers indicated that failure to pass a background check was an issue among their applicant pool, and just 12 percent indicated that drug screening was an issue. Regarding background checks, the issue may be moot for many employers; several interviewees indicated that they are second-chance employers, providing job opportunities for formerly incarcerated individuals. The industries having the greatest difficulty with applicants passing drug screens were wood products, construction, and leisure and hospitality, although the high proportion of neutral responses suggests that, like background checks, many jobs do not require this. For those that do, employers reported that many applicants do not understand that while marijuana is legal in Oregon, it is still illegal federally, which is relevant for employers with federal contracts. Other employers indicated that they have stopped screening for marijuana for fear of eliminating too many applicants.

Education level and basic skills are not an issue for most employers looking to fill positions. Mirroring the assessment of existing staff, employers considered most new applicants to have the education level and basic skills needed for the job opening. Approximately three-quarters of employers considered their job applicants to have the appropriate level of education (77%) and basic skills (71%) for their job openings. However, among employers indicating that education level was lacking, the most frequent lack was in career-technical education and certification. Among basic skills, basic literacy was most lacking. While not included within the definition of basic skills, some interviewees also noted that physical skills, such as the ability to lift heavy objects and work with their hands, was lacking in prospective employees.

"Basic competency and soft skills are the big hurdles that every businessperson in today's marketplace struggles with."

MOST APPLICANTS LACK THE ADVANCED SKILLS AND WORK EXPERIENCE NEEDED FOR OPEN JOBS

Figure 25: Employer level of agreement that applicants had the stated skills or characteristics required for open positions



Source: Oregon Talent Assessment Employer Survey, 2022

Impact of the pandemic on skill proficiency

Interviewees were asked whether the pandemic affected the supply or demand for skills and, if so, which skills were most affected. The following summarizes their input.

"The pandemic has changed how we think about work, our employees, how we focus on well-being and mental health when we never used to."

Remote education during the pandemic meant reduced hands-on experience. Several interviewees reported that the pandemic further eroded student's access to hands-on learning through CTE, which already has yet to reach the level of access that students had prior to the historic divestment in CTE. Interviewees noted that college students in the sciences missed out on critical in-lab experiences, and healthcare trainees were put in simulated training environments vs. real-world clinical settings. These impacts have slowed the process of new hires on-boarding and reaching proficiency.

Growth in digital, leadership, and soft/interpersonal skills. Interviewees observed that the pandemic increased the demand for, as well as the acquisition of the following:

- Digital skills (e.g., the ability to work remotely, use a computer, use communication software)
- Leadership skills (e.g., the ability to lead in an environment of unknowns, to increasingly care for the well-being and mental health of employees)
- Soft/interpersonal skills (e.g., caring for fellow employees, empathy for patients and frontline workers)

Impact of the difficulty in finding qualified applicants on business and industry

Difficulty in finding qualified applicants has had far-reaching impacts on firms. Employer survey respondents and interviewees most frequently reported the following impacts.

Increased workload on existing staff and risk of burnout. As shown in Figure 26, about 87 percent of employer survey respondents indicated that the increased workload on other staff was a result of the difficulty in finding qualified applicants. Several interviewees cited this as a primary impact, including interviewees from healthcare and wood products who said that the increased workload contributes to employee burnout and is a significant retention challenge. To combat this, employer interviewees from leisure and hospitality and food and beverage said that they take the opportunity to cross-train employees, grow their skills sets, and increase their prospects for career growth.

"[The difficulty finding qualified workers] impacts our ability to grow our business. If you have open positions and you have budget and funding for that and you can't fill them, you have a pile of work that is not getting done."

Lowered overall productivity. Half (50%) of employers cited lowered overall productivity as an impact of difficulty finding qualified applicants, and 47 percent cited reduced production output or sales. However, among interviewees, fewer cited reduced productivity as an impact, citing some reliance on existing staff to pick up the slack. As one advanced manufacturing employer stated, "The work still needs to get done." At the same time, an interviewee said that the leisure and hospitality industry is bracing for the increased demand for services as summer approaches. The industry is concerned they will not be able to meet the demand, especially as some operators and restaurants have had to shut down or reduce hours due to lack of staffing, which will have consequent effects on service quality and user experience.

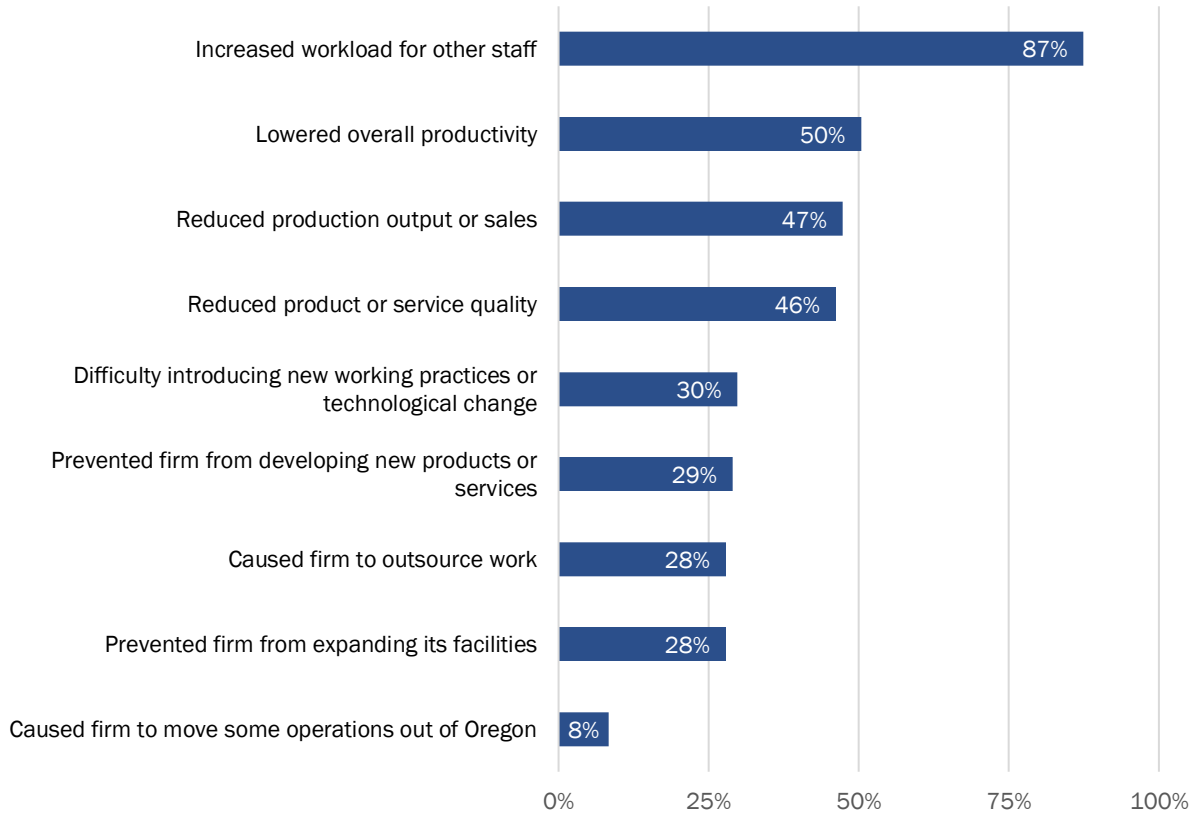
Inability to take advantage of new opportunities. The most frequently described negative impact of difficulty finding qualified applicants was the inability to take advantage of new opportunities and grow the business. This impact was less pronounced among survey respondents, with 29 percent indicating that lack of qualified applicants prevented them from developing new products or services, or from expanding their facilities (28%).

Other impacts stemming from difficulty finding qualified applicants include the following:

- Employee demand for higher wages and the potential of financial stress this places on businesses to stay profitable (wood products, advanced manufacturing, construction, and technology and software development)
- Projects or operations are taking longer (construction, food and beverage)

INCREASED WORKLOAD FOR STAFF IS MOST FREQUENTLY CITED IMPACT OF DIFFICULTY FINDING QUALIFIED APPLICANTS

Figure 26: Employer survey respondents indicating a given result was an impact of difficulty finding qualified applicants (N=262)



Source: Oregon Talent Assessment Employer Survey, 2022

Additional workforce management issues

Key themes

- With the exception of technology and food and beverage employers, most employer respondents predict an aging demographic to have a greater impact on the workforce than automation.
- Remote work is increasing across all sectors in Oregon, and employers are concerned about maintaining company culture in a remote or hybrid environment.
- The percent of employers estimating at least half of employees working remotely after the pandemic grew the most among technology and software development respondents.
- Employee resignations or turnover and supporting employee mental health and well-being are primary concerns among employers across sectors.

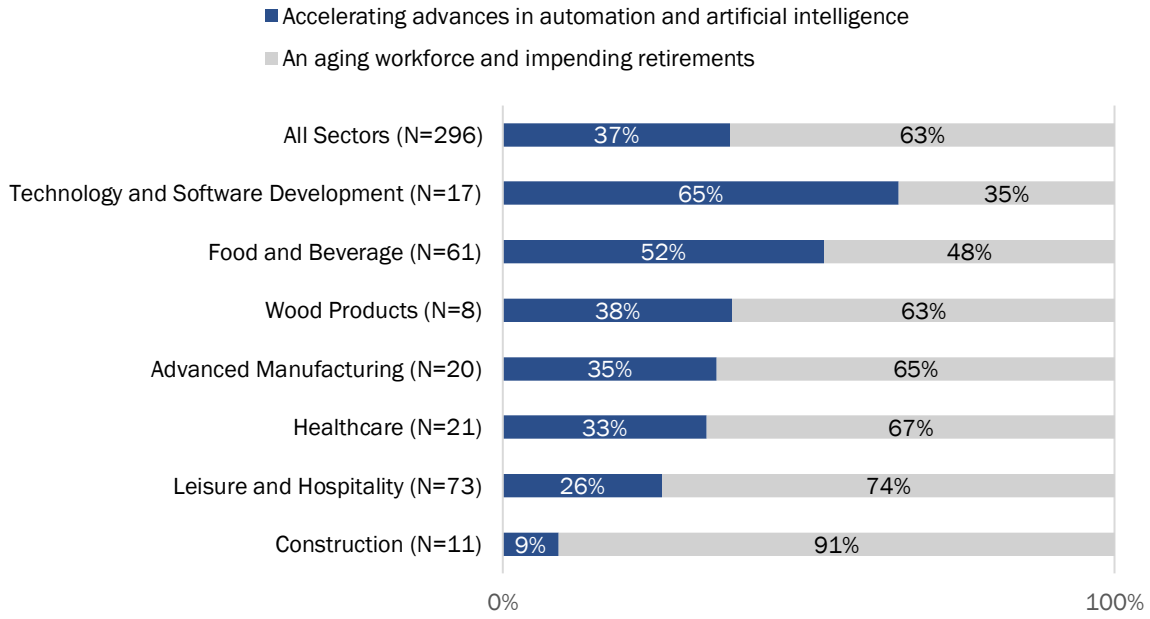
Employer survey and interview respondents were asked to consider what broader factors and conditions are likely to influence workforce issues.

An aging workforce is a key employer concern. Most employer survey respondents (63%) considered an aging workforce and impending retirements to have a larger effect on employers over the coming decade compared to accelerating advances in automation and artificial intelligence (37%).

As shown in Figure 27, all sectors predicted an aging workforce to have a larger effect than automation over the coming decade except for technology and software development employers and food and beverage employers. The percentage of employers identifying an aging workforce as having a larger effect was highest among construction (91%) and leisure and hospitality employers (74%). Across sectors, multiple employers from advanced manufacturing, construction, wood products, and leisure and hospitality noted an aging demographic and reduced entrants to the market that will pressure their traditional talent pipeline and availability. Technology and software development employers noted the challenge for training programs and curriculum to keep pace with rapidly changing industry norms, resulting in difficulty finding new applicants with immediately needed skills sets. One food and beverage interviewee noted that due to the pandemic as well as due to ongoing difficulties attracting talent, they took the opportunity to increase automation.

EMPLOYER RESPONDENTS PREDICT AN AGING DEMOGRAPHIC TO HAVE A GREATER EFFECT ON WORKFORCE COMPARED TO ACCELERATED AUTOMATION

Figure 27. Employer survey respondent responses to "Automation and demographic changes are likely to have large effects on employers and the workforce over the coming decade. Which of the two do you think will have a larger effect on your industry during the next decade?"



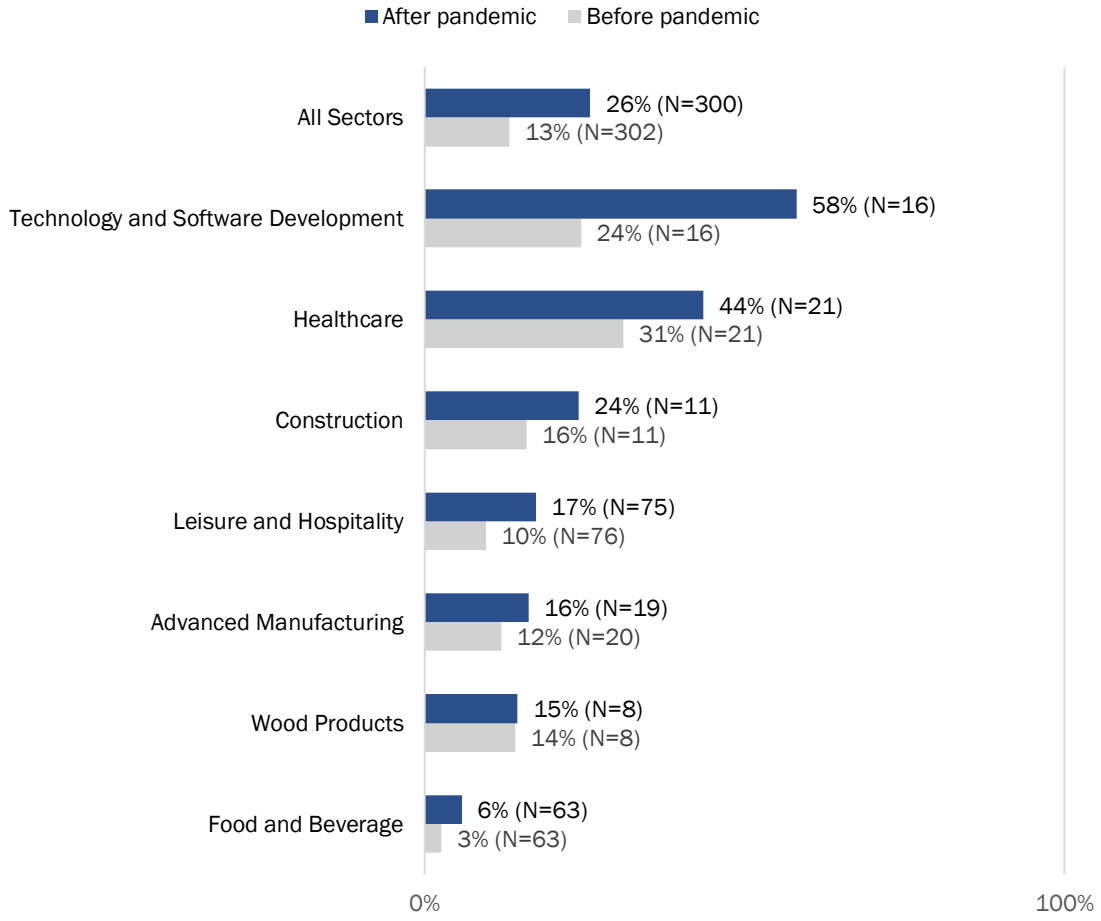
Source: Oregon Talent Assessment Employer Survey, 2022

Remote work is increasing in Oregon. Before the pandemic, across all sectors, just 11 percent of employer respondents noted that half or more of their employees worked a significant amount of their time remotely, whereas 28 percent of employers across all sectors estimated that half or more of their employees will work a significant amount of their time remotely after the pandemic.

A greater share of employer respondents from wood products, food and beverage, and leisure and hospitality estimated that none of their employees worked remotely either before or after the pandemic, although even these sectors noted a slight trend towards more remote work post-pandemic, as seen in Figure 28. The percentage of employers who estimated that half or more of their workforce would work a significant amount of time remotely after the pandemic compared to before the pandemic grew across all sectors. More technology employer respondents, in particular, estimated that at least half of their workforce would work remotely after the pandemic (58%) compared to before the pandemic (24%).

EMPLOYER RESPONSES SUGGEST REMOTE WORK IS INCREASING OREGON

Figure 28: Employer survey respondent responses to what share of their firm's employees worked a significant amount of their time remotely before/after the pandemic



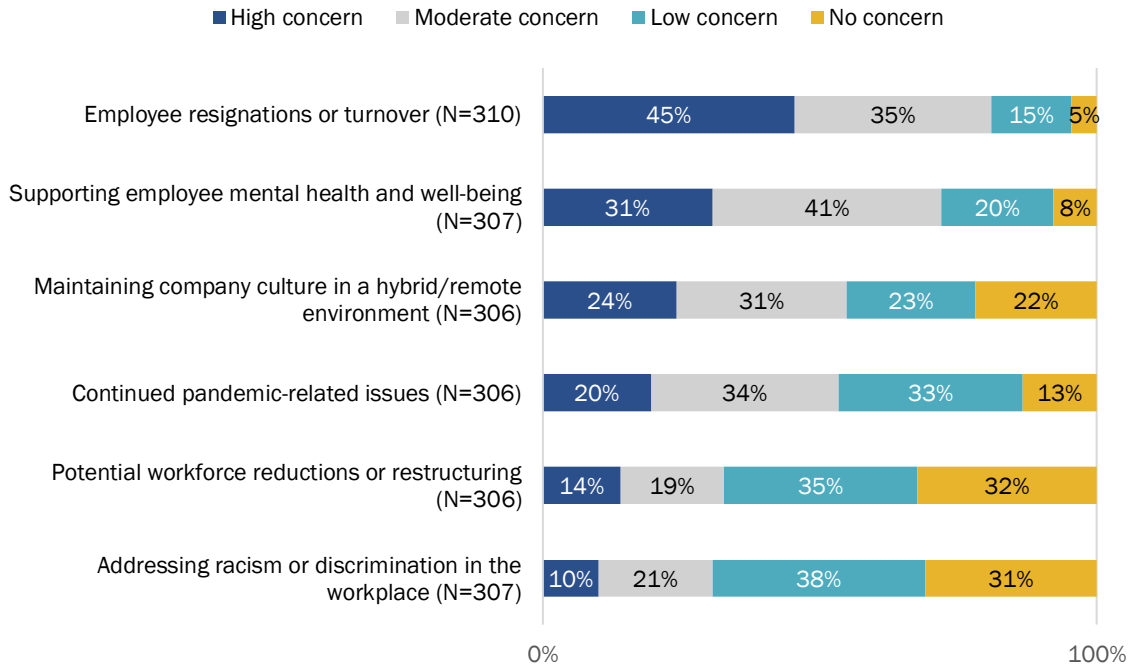
Source: Oregon Talent Assessment Employer Survey, 2022

Employee turnover is a top issue. In the current context of a tight labor market across sectors, hints of a pandemic-associated "great resignation" in select industries, and concerns over an aging workforce, 80 percent of employer respondents considered employee resignations or turnover to be moderate or high concern from a workforce management perspective, as shown in Figure 29.

Employee mental health is a top concern, particularly among healthcare employers. Nearly three-quarters of respondents (72%) identified supporting employee mental health and well-being to be a moderate or high concern. Looking at industry-level detail (not shown in a figure), variation was modest across sectors except for healthcare employers; more than half (55%) of healthcare employers noted the need to support employee mental health as a high concern—the highest proportion among sectors. Healthcare employer interviewees suggest that healthcare organizations are increasingly having to focus on mental health support for their employees to address a stressful work environment and demands.

EMPLOYEE TURNOVER AND RESIGNATION ARE KEY EMPLOYER CONCERNS

Figure 29. Employer survey respondent responses to the question "Over the next six months, how much of a concern do the following issues pose for your organization, from a workforce management perspective?"



Source: Oregon Talent Assessment Employer Survey, 2022

Employers are concerned about maintaining company culture in a shifting workplace environment. Maintaining company culture, collaboration, and employee loyalty in a hybrid work environment was cited as a concern by 55 percent of employers across all sectors. Interview respondents from sectors with few easy remote options, such as food and beverage and leisure and hospitality, noted the increasing demand for remote or hybrid positions and the need to think creatively about new ways of working. Employers from multiple sectors noted that the growth in remote and hybrid opportunities increases competition in the hiring process and increases the need to focus on company culture and collaboration over time. They also noted that the flexibility and autonomy in many remote environments are particularly attractive to certain personalities, and when developed successfully, can facilitate strong company loyalty and retention.

Pandemic-related concerns remain. Fifty-four percent of employer respondents across all sectors identified continued pandemic-related issues as an ongoing concern. Leisure and hospitality employers, in particular, noted a pandemic-related double hit: first, a huge exodus of the talent pool during the height of pandemic restrictions and modifications to typical business operations; and second, a resurgence of demand for services as pandemic restrictions loosened that could not be met with the remaining workforce.

Workforce system recommendations

Key themes

- Employers seek more opportunities for input, better collaboration across partners, earlier career exposure for students, and reinvigorated CTE pathways.
- Employers noted likelihood to engage in a variety of activities to increase access to workforce development activities and training for Future Ready priority populations.

Employer respondents were asked to describe how they view the roles and responsibilities of different workforce stakeholders, such as industry, educators, and government, in developing needed skills. Employers seek more opportunities for input, better collaboration across partners, earlier career exposure for students, and reinvigorated CTE pathways. More specifically, employers noted the following opportunities for improving the workforce system for all customers.

"Educators haven't kept up with the training that they need. We need a public/private partnership for teachers to go to industry to get more training, or company staff to go to community colleges to teach."

Greater business engagement. Employers acknowledge the need to more proactively engage with education and training providers to define their needed skills sets and contribute to curriculum development. At the same time, they note the need for education providers to more rapidly incorporate feedback and adjust training to keep pace with industry demands. Facilitating this dynamic could encourage more employers to seek workforce partners rather than continually developing training in-house.

Earlier career exposure for students. Employer respondents across sectors noted the need to increase students' exposure to careers. They describe the need to introduce students to diverse careers at an earlier age to both contextualize learning and maintain interest, and to spark inspiration and motivation. Additionally, employers noted the need for stronger STEM and critical thinking skill development in early education to provide sufficient foundation for more advanced learning.

Increased collaboration among partners. Employers described duplication of services, competing programs, and overall lack of coordination across workforce partners. They noted the opportunity for collaborative efforts to optimize partner strengths: industry input on skill needs, projections, and opportunities for internship and placement; community partners' engagement and focus on comprehensive social outcomes; and government's ability to unlock funding, direct resources, and convene leaders.

Streamlined processes and funding distribution. Employers described siloed funding systems, onerous application processes, and complicated funding distribution. They advocated for streamlined processes to encourage greater employer engagement.

Stronger career pathways. Employers across all sectors advocated for stronger development of intentional career pathways and revitalization of career and technical education pipelines that have weakened over time. They also commented on the need for post-secondary education partners, including 2- to 4-year institutions, to accelerate pacing for curriculum development to be effective. As one employer interviewee stated, "It just can't take 3-4 years to develop new courses."

Future Ready engagement

Employers were asked to identify their likelihood of engaging in various activities related to Future Ready implementation and workforce development improvement. Most employer respondents are likely to engage in activities to increase access and training for Future Ready priority populations. As shown in Figure 30, the greatest share of employers noted likelihood to offer internships, job shadowing, or paid work experience (65%), followed by providing job placements for participants out of training (57%), and collaborating in a statewide industry consortium on talent development issues (54%).

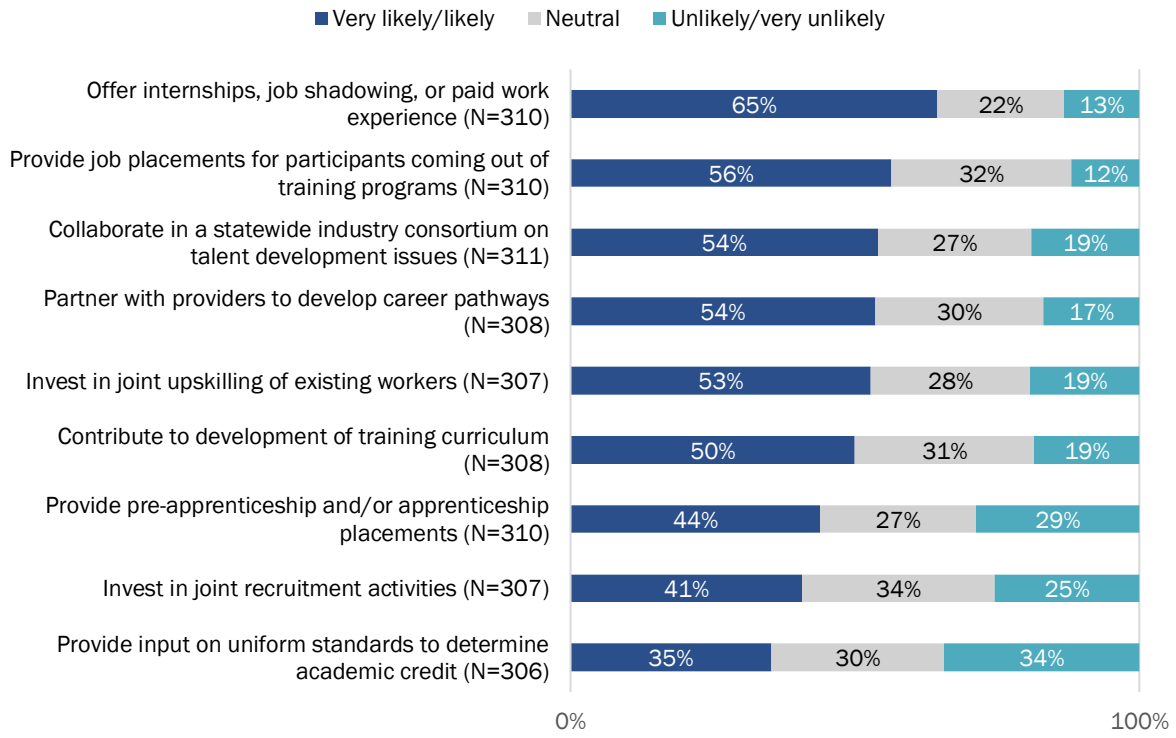
Employer survey responses varied somewhat by sector (not displayed in figures):

- High percentages of construction (83%), technology (82%), healthcare (67%), and wood product (63%) employer respondents were likely to participate in statewide consortiums.
- Two-thirds of construction employers noted likelihood of investing in joint recruitment activities.
- All sectors (ranging from 50% to 88%) were interested in offering internships, job shadowing, or paid work experiences.
- High percentages of healthcare (71%), advanced manufacturing (67%), technology (65%) and construction (64%) employers noted likelihood to invest in joint upskilling of existing workers, suggesting continued opportunities to reach incumbent workers.
- High rates of construction (67%), technology (65%), and healthcare (60%) employers expressed likelihood of contributing to the development of training curriculum to help programs better respond to employer needs and keep pace with changing skill demands.
- More than 70 percent of construction, technology, and wood products employers were likely to partner with providers to develop career pathways, with noted partnership opportunities through secondary career and technical education and two- and four-year college programs.
- Most respondents across all sectors with the exception of technology (41%) noted likelihood of providing job placement for program graduates.

- Roughly two-thirds or more of construction (75%), healthcare (67%) and wood products (63%) noted likelihood to provide pre-apprenticeship or apprenticeship placements, a key focus of Future Ready.

EMPLOYERS ARE LIKELY TO PROVIDE INTERNSHIPS, JOB SHADOWING, WORK EXPERIENCE

Figure 30: Employer survey respondent responses to the question "What is the likelihood your firm would engage in the following activities to increase access to training and workforce development for these priority populations?"



Source: Oregon Talent Assessment Employer Survey, 2022

"I have never seen a better opportunity for Oregon specifically to advance contextual learning in K-14 and have industry participate. There is an openness on the institution side and fear on the industry side regarding where they are going to get their employees."

6. Conclusion

This assessment of Oregon's talent was conducted at one of the most unusual times in U.S. labor market history. Some of the issues raised in this report will be short-lived and have less currency once the market returns to a post-pandemic cadence. Hopefully, Oregonians will not have to live through stay-at-home orders and stop-and-start re-openings again anytime soon. Severe hiring challenges, fueled by a spike in openings and the lingering effects of stimulus, will eventually fade. That said, employers and their workers will be dealing with the aftermath of today's stressful conditions for some time to come.

In the context of the extraordinary times, it is also notable how some of the employers' responses did not change from the pre-pandemic Assessment. As in 2018, most employers reported that applicants are showing up with the appropriate level of basic skills in reading and math and with the educational attainment that they expect. So, in the terminology of the 2018 report, we find no broad skills *gap*. Rather employers report a *shortage* of skills that are specific to occupations, as well as a lack of interpersonal/essential/soft skills. Both sets of skills can be developed through project- or work-based training. From middle school through college, more education centered around projects and teams would deliver applicants better prepared for work.

This Assessment also coincided with the enactment of a $200-million workforce investment aimed at providing thousands of postsecondary training opportunities and building new relationships between employers, educators, and prospective workers. Perhaps this report's best news is that employers are eager to engage with college and workforce partners in a variety of ways—providing apprenticeships and internships, collaborating with industry partners on need forecasting, developing training curriculum, and more. The interest to collaborate is strong, and the state has the resources to support it during this critical period of economic transition.

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Appendix A: Employer Perspective Industry Profiles

Employer Perspective Industry Profiles

This appendix provides industry-specific profiles for the following key sectors, in the following order:

Advanced manufacturing 2
Bioscience 8
Construction 10
Energy 16
Food and beverage 18
Healthcare 23
Leisure and hospitality 29
Maritime 34
Technology and software development 37
Wood products 42

The industry profiles summarize employer perspectives gathered through two sources in spring of 2022: the *2022 Oregon Talent Assessment Employer Survey* and key stakeholder interviews. The first page of each industry's profile identifies the number of survey respondents and interviewees participating for that sector. For sectors with fewer than eight (8) survey responses – bioscience, energy, and maritime – charts of survey results are not provided in the profiles; however, survey findings are discussed in the narrative along with interviewee input. Due to the few survey (2) and interview (1) responses from employers in the outdoor gear and apparel sector, one of the 11 focus sectors identified by HECC for the *2022 Oregon Talent Assessment*, it was not possible to create an industry-specific profile for this sector.

Advanced manufacturing

Key themes

- 81 percent of employers surveyed reported hiring and retention challenges
- Limited housing and high cost of living is having an impact on employers' ability to hire in the advanced manufacturing sector
- 62 percent of employers surveyed reported they are trying to diversify their workforce by race/ethnicity and gender
- 71 percent of respondents feel their current staff are proficient at their jobs
- Most applicants had the education and basic skills necessary for the job, but were more likely to lack advanced, occupational, and soft/interpersonal skills, according to survey respondents
- Nearly all advanced manufacturing employers surveyed agreed that the lack of qualified staff is increasing the workload on existing staff, which likely contributes to employers' greatest workforce management concern going forward: employee retention
- Most employers were open to providing job placements for trainees coming out of training, as well as internships and paid work experience; just over half were interested in participating in an industry consortium

Advanced Manufacturing Industry Participation in the Assessment

21 survey respondents
3 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader advanced manufacturing industry in Oregon.

Hiring and retention

Eighty-one percent of advanced manufacturing survey respondents agreed (33%) or strongly agreed (48%) that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and 91 percent agreed that they had difficulty finding qualified applicants to fill open positions. Most advanced manufacturing survey respondents (81%) who experienced workforce challenges felt that the challenges were driven by a shortage of candidates with the needed skills versus conditions unrelated to skills, such as housing, childcare, or coronavirus concerns. However, the three industry employers interviewed cited cost of living as a key barrier. Advanced manufacturing survey respondents were also more likely to consider an aging workforce to have a larger effect on the workforce (65%) compared to accelerating advances in automation (35%). More than other industry sector interviewees, advanced manufacturing interviewees felt that their industry faces competition from other industries because job seekers are looking for higher wages and better job quality in this market.

8-IN-10 ADVANCED MANUFACTURING EMPLOYERS FACED HIRING AND RETENTION CHALLENGES

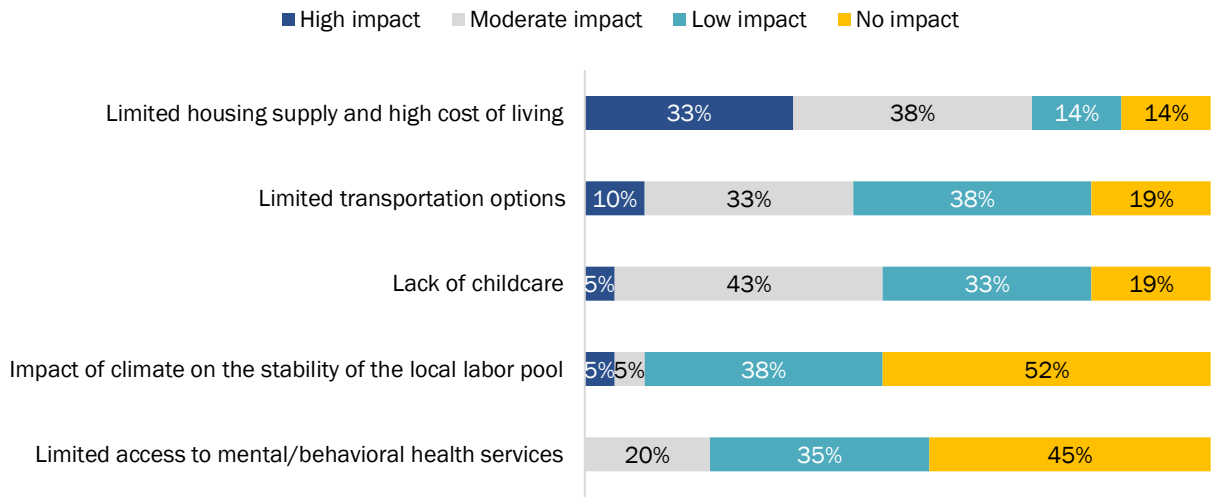
Figure 1. Advanced manufacturing employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=21)

Source: Oregon Talent Assessment Employer Survey, 2022

Seventy-one percent of advanced manufacturing survey respondents identified limited housing supply and high cost of living as having a moderate or high impact on their ability to hire. Almost half of respondents (48% and 43%, respectively) also identified lack of childcare and limited transportation options as moderate or high impacts on hiring.

LACK OF AFFORDABLE HOUSING AFFECTING EMPLOYERS' ABILITY TO HIRE

Figure 2. Advanced manufacturing employer response to: "How much of an impact do the following conditions have on your ability to hire?" (N=21)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce diversity

Nearly two-thirds (62%) of advanced manufacturing survey respondents indicated that they were trying to diversify their workforce, including by gender and by race/ethnicity, but were having difficulty filling open positions with diverse applicants, particularly by gender. Interviewees corroborated these findings. Although several interview respondents acknowledged that many corporations may focus on diversity from a compliance or staff count perspective, they indicated the importance of engaging diverse thinkers to solve problems and provide new solutions versus just providing new bodies on the floor. Advanced manufacturing interview respondents noted the impact of the lack of a pipeline in preparing diverse candidates for careers in manufacturing. They also cited the lack of examples in the field and limited mentorship as barriers to recruitment and advancement. Furthermore, one interviewee described the importance of embedded leadership and soft/interpersonal skills training into entry-level development in preparing more diverse workers to advance to leadership and management positions.

Employer recommendations to improve workforce diversity

Advanced manufacturing respondents provided three primary suggestions for strategies to help employers meet their diversity goals:

- **Improve messaging.** Stakeholders recommended de-stigmatizing production and manufacturing occupations and promoting messaging to students, families, and prospective workers around the family wage and comprehensive benefits typical to advanced manufacturing positions. Interview respondents indicated that the CTE pathway for manufacturing in Oregon has broken down, greatly limiting opportunities to expose students, especially non-traditional students, to manufacturing.
- **Facilitate connections across partners.** They also suggested facilitating networks across workforce development providers and diversity programs including Goodwill, corrections agencies, and clean and sober living organizations to help employers reach potential target populations. Interview respondents cited the key role that nonprofits can play in providing trusted access and engagement with targeted communities.
- **Subsidize entry-level work.** Stakeholders also encouraged increased funds for on-the-job training to subsidize wages, enabling them to target and recruit more diverse candidates for entry-level positions rather than relying on candidates who already have the relevant skills or the means to obtain skills through trade programs or community colleges.

Workforce skills assessment

Existing staff

Almost three-quarters (71%) of advanced manufacturing respondents considered their existing staff fully proficient at their jobs, with soft/interpersonal and occupational skills cited as areas most lacking in existing staff. Among respondents who did not feel that their existing staff were fully proficient at their jobs, 83 percent considered their inability to recruit staff with the required skills as a primary factor underlying the lack of skill proficiency, followed by existing staff lacking motivation (67%).

"Problem-solving and life learning are skills that business really needs. If you are used to problem-solving you can handle almost anything you encounter in manufacturing."

Applicants and new hires

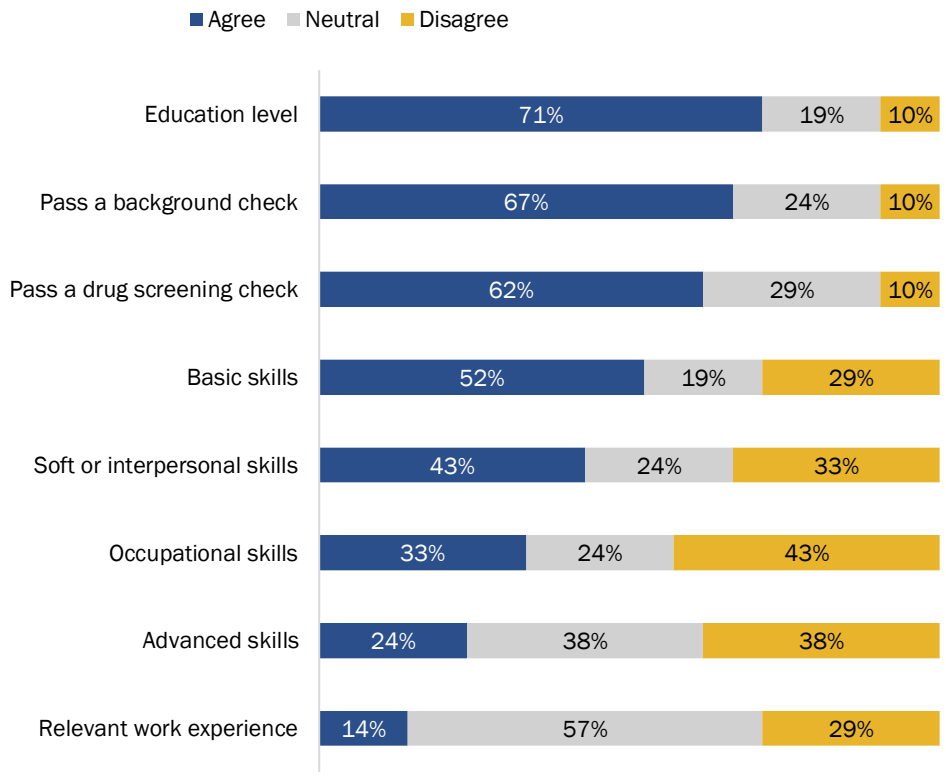
Employers were more likely to agree that job applicants had the appropriate education level (71%) and basic skills (52%) needed for the job. Fewer employers felt that applicants had the needed advanced skills (24%), occupational skills (33%), or soft/interpersonal skills (43%). Interview respondents from the advanced manufacturing sector universally cited the need for strong soft/interpersonal skills, as well as specific occupational skills, applied math, and problem-solving.

Only 14 percent of advanced manufacturing employers felt that applicants typically had the relevant work experience, yet 58 percent of respondents were neutral on this question, pointing to the ability of the sector to train staff on the specific occupational skills needed for the job. Indeed, one advanced manufacturing interview respondent noted that this ability to train internally suggests the value of focusing on strong basic, soft/interpersonal, and advanced skills in the workforce to prepare workers for diverse and varied positions. Moreover, one interview respondent noted the importance of soft skills for leadership, and the difficulty of advancing without these skills. They suggested embedding greater soft/interpersonal skills focus in entry-level training to equip staff with

interpersonal skills that will support their ability to pursue career trajectories and leadership positions.

OCCUPATIONAL, ADVANCED, AND SOFT/INTERPERSONAL SKILLS MOST LACKING IN APPLICANTS

Figure 3. Advanced manufacturing employer level of agreement that applicants have the education, skills, work experience, or record required for vacant positions (N=21)



Source: Oregon Talent Assessment Employer Survey, 2022

Among employers indicating that soft/interpersonal skills were lacking in job applicants, the following specific soft skills were cited as most lacking:

- Communication skills
- Dependability
- Self-motivation
- Time management

Among employers citing advanced skills as lacking, the greatest share identified the following as the hardest to find in candidates:

- Critical thinking and decision-making
- Quantitative and analysis skills
- Project management

Impact of difficulty in finding qualified applicants

Difficulty in finding qualified workers can impact employers in multiple ways. Ninety-five percent of advanced manufacturing respondents noted a resulting increase in workload for other staff, and 63 percent each identified lowered overall productivity and reduced production output or sales.

Looking forward

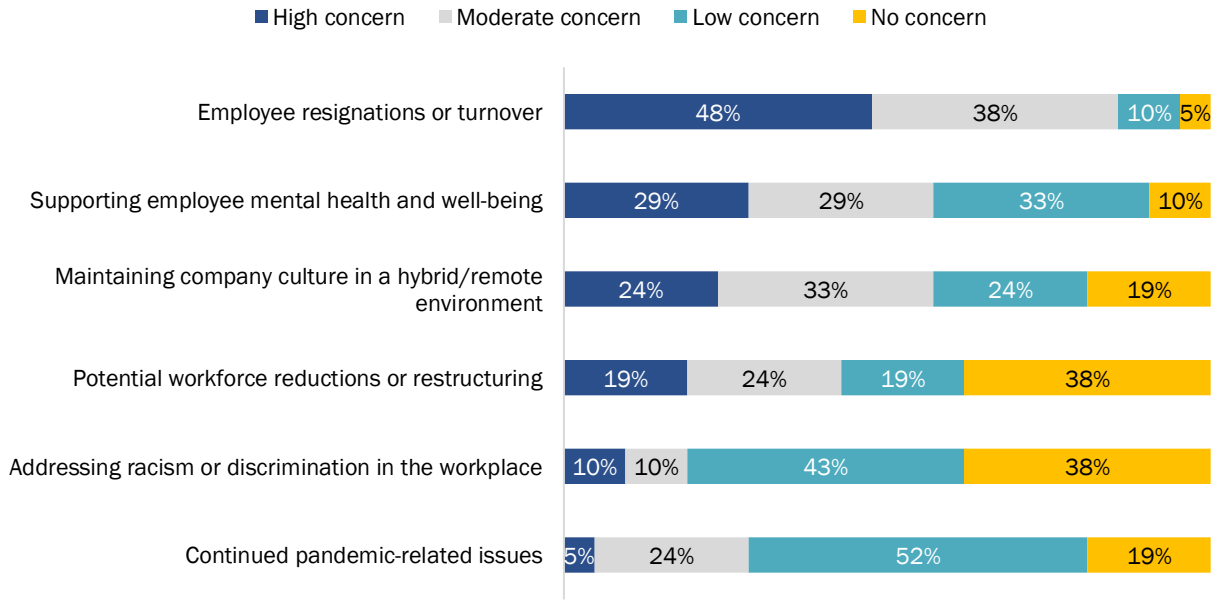
Workforce management issues

Survey respondents were asked to identify the level of concern they expect different workforce management issues to pose over the next six months. Eighty-six percent considered employee resignation or turnover a moderate or high concern, while 57 percent each considered maintaining company culture and collaboration in a hybrid environment and supporting employee mental health and well-being to be moderate or high concerns. Even in advanced manufacturing, which is typically considered to have less work-location flexibility than other sectors, survey respondents expect a shift in the share of employees working a significant amount of their time remotely. Prior to the pandemic, 40 percent of advanced manufacturing survey respondents estimated that none of their employees worked a significant amount of time remotely, compared to only 26 percent estimating that none will work remotely after the pandemic.

"When you have the Googles and startups of the world, where it's fast-paced and people have more autonomy, the top-down bureaucracy [in the industry] can be hard. The younger generation is looking for something a little more dynamic."

EMPLOYERS ARE CONCERNED ABOUT TURNOVER, MENTAL HEALTH, AND HYBRID WORKING

Figure 4. Advanced manufacturing employer level of concern expressed over various workforce management issues (N=21)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce system participation interest

Survey respondents were asked to identify their likelihood of engaging in activities to increase access to training and workforce development for priority Oregon populations. Seventy-one percent of advanced manufacturing respondents cited likelihood in providing job placements for participants coming out of training programs, and two-thirds expressed a likelihood to offer internships or paid work experience or invest in joint upskilling of existing workers. Just over half of advanced manufacturing respondents said they would be likely to collaborate in a statewide industry consortium or provide pre-apprenticeship or apprenticeship placements.

"Industry has the responsibility of defining what the needs of industry are, what the growth trajectory is, and how that ties back to the product or service they are promoting. Also, I think that industry has the responsibility of advocating for the policies and processes that ultimately get them what they need."

Bioscience

Key themes

- Respondents indicated challenges in attracting and hiring employees, especially among mid and upper-level staff
- Cost of living is affecting employers' ability to hire, especially in an increasingly remote work environment in the sector
- Employers describe a weak STEM pipeline for development of diverse bioscience talent
- Remote schooling in the pandemic has limited students' work experience and applied-lab skills

Bioscience Industry Participation in the Assessment

2 survey respondents
3 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader bioscience industry in Oregon.

Two individuals from the bioscience sector completed the Talent Survey; an additional three individuals were engaged through interviews. This section describes the feedback across survey and interview respondents qualitatively and provides non-representative input on bioscience workforce issues.

Hiring and retention

"We're finding a lot of employees have decided to leave and choose a different lifestyle, in part because of family care needs."

Three of the bioscience respondents suggested that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and two indicated mixed hiring experience. Some bioscience companies are fully remote, enabling them to recruit globally. Respondents from bioscience firms unable to offer remote positions describe much greater difficulty hiring and retaining staff since the pandemic disruption to the place-based work environment. Interview respondents also noted less difficulty in hiring for entry level positions, and more difficulty hiring for mid-range positions that require more specific skills and may require out of state recruitment, which can be challenging depending on the attractiveness of company location, cost of living, and pay differential compared to other areas.

Bioscience stakeholders were more likely to consider workforce challenges to be driven by a shortage of candidates with the needed skills versus conditions unrelated to skills, such as housing, childcare, or coronavirus concerns. The two bioscience survey respondents were also more likely to consider an aging workforce to have a larger effect on the workforce compared to accelerated advances in automation.

Bioscience respondents indicated that cost of living is affecting their ability to recruit talent—especially for remote positions that can be done anywhere, or in comparison to firms in areas with similar pay and reduced cost of living. More broadly, general work-life balance issues including cost of living and family care demands have been contributing to hiring challenges. Firms in the bioscience sector with experience hiring and working remotely had advantages in their capacity to provide flexibility and creativity in hiring and managing remote workers through a combination of support and autonomy. Stakeholders suggest that some individuals may self-select into a remote environment with autonomy and have incentive to stay for long tenures in the right fit.

Difficulty in hiring and retaining needed talent led two bioscience respondents to lower their overall productivity, and another to forgo rebuilding after downsizing several years earlier in response to an FDA decision that affected their product.

Workforce diversity

Bioscience industry stakeholders are trying to diversify their workforce, especially by race and ethnicity. They cited lack of strong STEM and bioscience pipelines as a key challenge in attracting more diverse candidates to the field.

Employer recommendations to improve workforce diversity

Respondents suggested increased outreach to K-12 schools in diverse communities to spark student interest in life sciences at a young age. Stakeholders also noted increased organization-wide efforts to define diversity and devise strategy to broaden their net to reach more diverse populations from entry-level to C-Suite positions.

Workforce skills assessment

Bioscience stakeholders identified challenges finding candidates with appropriate soft/interpersonal skills, work experience, and advanced skills. Work experience or exposure has been especially difficult over the past two years due to students' remote schooling. Attention to detail, management skills, communication, and self-motivation are critical in the lab. One stakeholder noted new proactive steps in the hiring process, such as working interviews to demonstrate lab skills, to better assess these skills prior to hire. Stakeholders also noted challenges in finding candidates with specialized technical skills, and the increased competition from other firms for these unique positions.

"If we hire a new graduate scientist, they haven't had any bench experience because their classes have been remote for the past two years."

Looking forward

Workforce management issues

The increasing remote and hybrid opportunities in bioscience and transferable sectors both increase competition in the hiring process and increase the need to focus on maintaining company culture and collaboration in a remote environment. Developing more robust professional development opportunities in smaller bioscience companies to compete with offerings at larger firms was also an identified short-term workforce management issue.

Construction

Key themes

- 75 percent of survey respondents reported challenges attracting, hiring, and/or retaining employees
- 82 percent of employers surveyed reported that housing and cost of living negatively affect their ability to hire
- 90 percent of survey respondents are actively trying to diversify their workforce
- Nearly all construction employers surveyed agreed that the lack of qualified workers is increasing the workload on existing staff, which likely contributes to employers' greatest workforce management concern going forward: employee retention
- Survey respondents are generally supportive of engaging in statewide collaboration to work on talent development issues and opportunities; however, interviewees were more tentative

Construction Industry Participation in the Assessment

12 survey respondents
3 interviewees

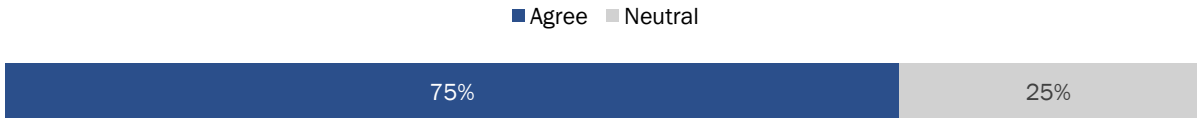
Note: Findings are not necessarily representative of or generalizable to the broader construction industry in Oregon.

Hiring and retention

Seventy-five percent of survey respondents from the construction sector strongly agreed (58%) or agreed (17%) that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and 83 percent suggested that they had difficulty finding qualified applicants to fill open positions.

3-IN-4 CONSTRUCTION EMPLOYERS FACED HIRING & RETENTION CHALLENGES

Figure 5. Construction employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=12)

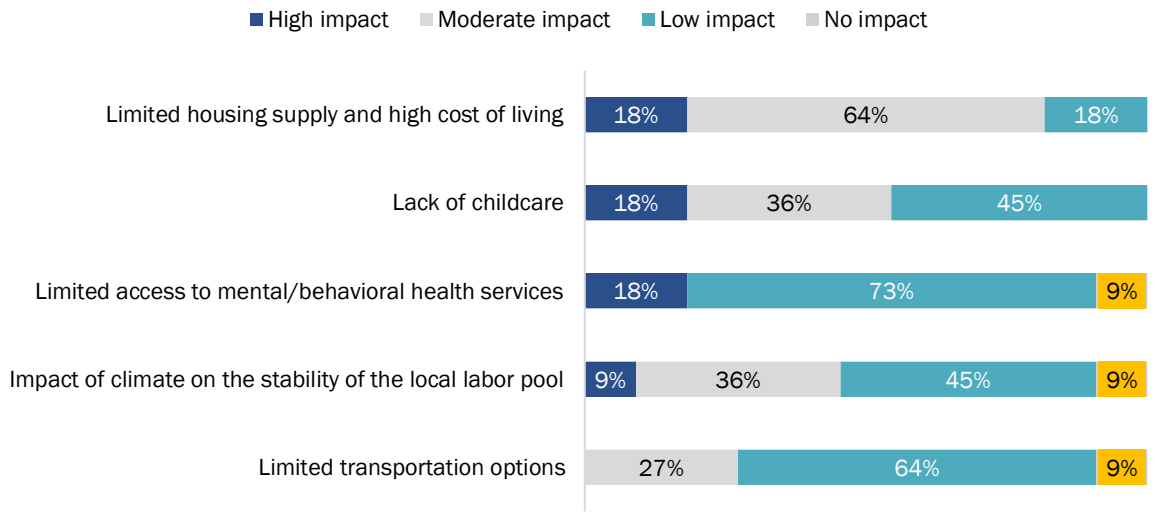


Source: Oregon Talent Assessment Employer Survey, 2022

When asked to choose between two drivers of hiring challenges – a shortage of candidates with the needed skills versus conditions unrelated to skills, such as housing, childcare, or coronavirus concerns – most construction survey respondents (75%) who experienced workforce challenges felt that the challenges were driven by a shortage of candidates with the needed skills. However, in a separate question, 82 percent of construction survey respondents identified limited housing supply and high cost of living as having a moderate or high impact on their ability to hire. Just over half of respondents (54%) also identified lack of childcare as having a moderate or high impact on hiring.

LACK OF AFFORDABLE HOUSING IS AFFECTING EMPLOYERS' ABILITY TO HIRE

Figure 6. Construction employer response to: "How much of an impact do the following conditions have on your ability to hire?" (N=11)



Source: Oregon Talent Assessment Employer Survey, 2022

Construction interview respondents elaborated on several trends affecting the hiring challenge in construction:

- Retirements are exceeding new entrants to the sector
- Image problems
- Lack of exposure or apprenticeship opportunities for youth
- New trainees lack requisite skill and experience to replace skilled retirees departing
- Limited apprenticeship slots restrict the ability to meet demand for workers
- Continuing challenges in creating a welcome environment for diverse workers

"Our biggest issue – especially in the trades – is that the training didn't start early enough."

Workforce diversity

Over 90 percent of construction survey respondents indicated that they were trying to diversify their workforce, including by gender, race/ethnicity, and age. Several employers noted one challenge in recruiting workers of color is that BIPOC communities may feel unwelcome by unions based on a historical overt practice of exclusion and lingering perception of unions as a white male organization. Additionally, due to existing cultural norms, women may not feel supported or socialized to pursue construction jobs. Further, despite efforts by employers to enact zero-tolerance for harassment and to otherwise make the job site more welcoming to women, interviewees concede that the culture may be slow to change.

Employer recommendations to improve workforce diversity

To increase recruitment of diverse candidates, employers suggested the following strategies, which may support workforce supply challenges more generally.

- **Market the living-wage jobs** in the sector that are available without needing a college degree, as well as the opportunity for career growth in construction.
- **Develop lower-cost trade school programs and/or scholarships** for vocational training or construction management programs.
- **Increase ratios for apprentices to journeymen**, e.g., from 1:2 to 2:1.
- **Expand apprenticeships and pre-apprenticeships in growth or under-supplied fields**, such as renewable energy, light rail transit, and electrical.
- **Feature diverse employees in advertising.**
- **Initiate an internal referral program for diverse individuals.**
- **Increase anti-harassment training to make the workplace a safe place for all;** one interviewee cited the Safe from Hate Jobsite Culture Pledge and the Culture of Care initiative.
- **Build workforce capacity collaboratively** through, for example, a statewide collaborative of construction employers, workforce providers, educators, and community-based organizations (Associated General Contractors Workforce Coalition). Part of this statewide collaborative's efforts includes a focus on leveraging community-based organization expertise to provide wraparound supports, such as childcare and transportation, that facilitate diverse candidates' ability to initiate and sustain work in the construction sector. This collaborative is also supporting mentorship programs, opportunity youth initiatives, and re-entry programs, such as Constructing Hope.

Workforce skills assessment

Existing staff

Sixty-three percent of construction respondents considered their existing staff fully proficient at their jobs, with occupational skills cited as the area most lacking in existing staff, followed by soft/interpersonal skills, work experience, and newness on the job. Factors employers considered underlying the lack of skill proficiency among existing staff include staff's newness to the role, employer inability to recruit staff with required skills, and problems retaining staff.

"There are amazing programs, like Apprenticeship 101 at Lane Community College. They graduate 100 grads with a hard hat and toolbox ready to go, but even with that, they don't have the certifications to be placed in a job. Once they go from there, they can apply to an apprenticeship, but there is a wait sometimes and either people can't wait that long, or they lose the skills over the period."

Applicants and new hires

Employers were more likely to agree that job applicants had the appropriate education level (100%) and basic skills (73%) needed for the job. Fewer employers felt that applicants had the needed advanced skills (18%), soft/interpersonal skills (18%), or occupational skills (9%).

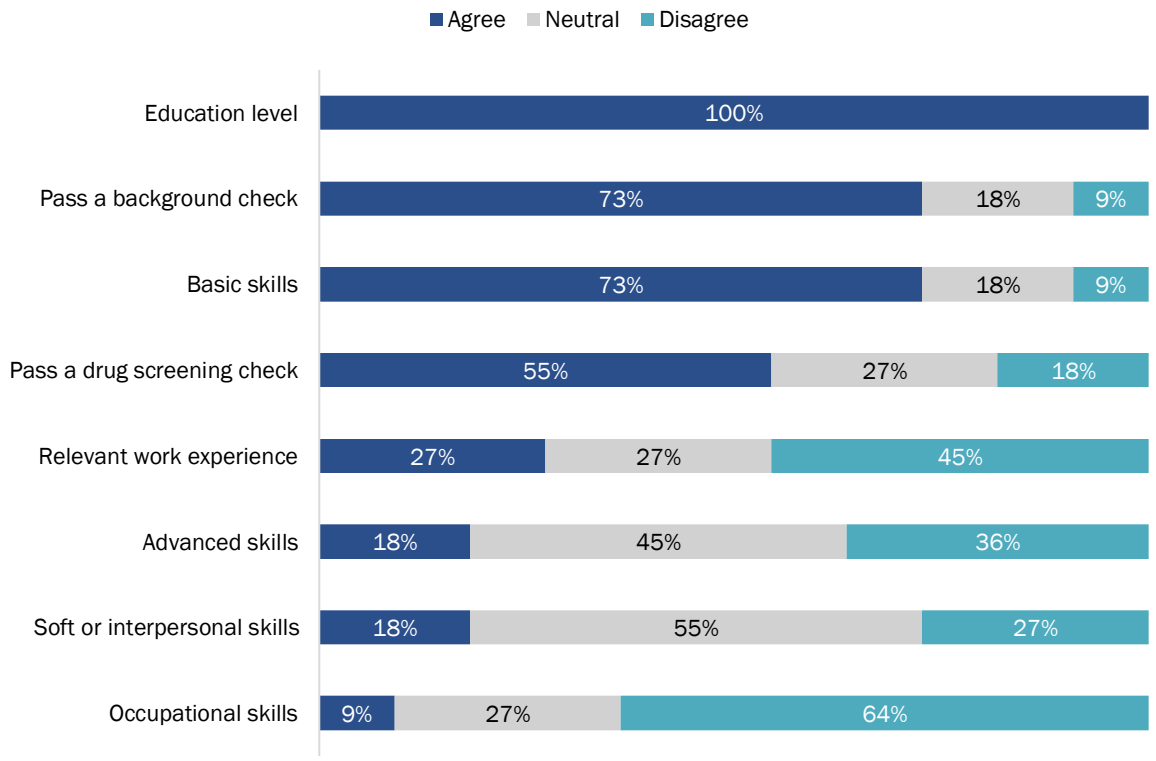
The construction sector relies heavily on skills learned on the job. Of the survey respondents who said job applicants lacked occupational skills, 85 percent cited industry- or discipline-specific skills not generalizable to other tasks to be a key skill shortage. To a certain degree, development of needed occupational skills just takes time on the job, but employers encouraged continued support of career and technical education and trade school models to transfer skills.

Survey respondents also noted an increasing gap in standard employability skills, such as punctuality, communication, and collaboration. Among survey respondents, dependability, self-

motivation, and time management were noted soft/interpersonal skill gaps in prospective workers. One construction employer noted a statewide push by the workforce board to adopt employability skills to better assess and develop these attributes. Critical thinking, decision-making, and project management were advanced skills that employers identified as lacking in job applicants.

OCCUPATIONAL SKILLS AND WORK EXPERIENCE ARE MOST LACKING IN APPLICANTS

Figure 7. Construction employer level of agreement that applicants have the education, skills, work experience, or record required for vacant positions (N=12)



Source: Oregon Talent Assessment Employer Survey, 2022

Impact of difficulty in finding qualified applicants

Most construction employer survey respondents (90%) noted increased workload for other staff and reduced production output or sales (80%) as impacts of their hiring challenges. Interviewees stated that pandemic-induced supply chain problems affected contractors' ability to take on or complete work, but that the labor shortage is the key barrier affecting the timeline for jobs. Interviewees also report increasing wage pressure; some employers are paying apprentices journeyman wages.

Looking forward

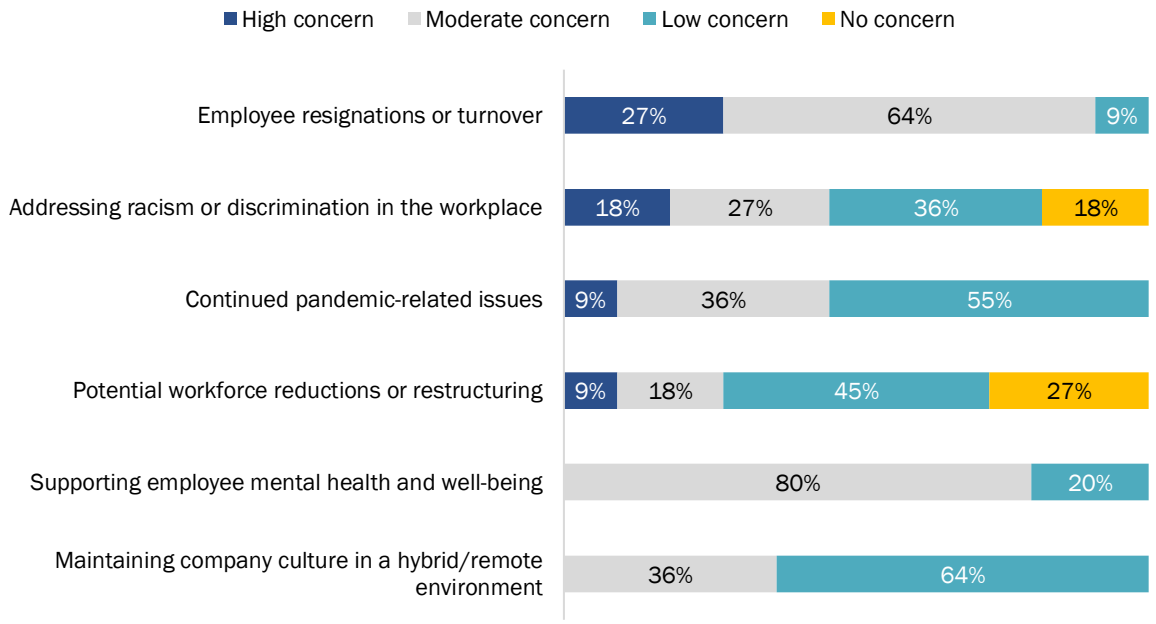
Workforce management issues

Survey respondents were asked to identify the level of concern they expect different workforce management issues to pose over the next six months. Over 90 percent of construction employer survey respondents noted employee resignation or turnover as a moderate or high concern, and 80 percent identified a need to support employee mental health and well-being. Shifting demographics and reduced entrants to the construction field are primary pain points for the sector. When given the

choice between two factors potentially affecting the construction workforce, 90 percent of construction employer respondents expected an aging workforce and impending retirements to have a bigger impact on the construction workforce than accelerating advances in automation and artificial intelligence.

EMPLOYERS ARE CONCERNED ABOUT TURNOVER AND EMPLOYEE MENTAL HEALTH

Figure 8. Construction employer level of concern expressed over various workforce management issues (N=11)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce system participation interest

Survey respondents were asked to identify their likelihood of engaging in activities to increase access to training and workforce development for priority Oregon populations. Eighty-three percent of construction respondents indicated they would be likely to participate in a statewide industry consortium, and the same percentage indicated they would be likely to offer internships, job shadowing, or paid work experience. Three-quarters of survey respondents were also likely to partner with educators to develop career pathways and provide pre-apprenticeship or apprenticeship placements. Engagement in joint recruitment activities, curriculum development, and job placement were also cited by two-thirds of respondents.

"We've all seen these come and go. Employers might hang back at first. Past experience may have burned them; they got involved in a training program, but then the employee left, so it was a waste of time. There will be early adopters and wait and seers."

Some interviewees were more tentative about participation than survey respondents, citing that there may be some hesitation among employers for a variety of reasons, including pacing (employers have immediate staffing needs while education moves more

slowly), perceived benefit (interns may not stay), and past experience with government-sponsored programs.

"I know government and education is always trying to help the employer. I think the employers are confused by that help and how it is being done. They don't see a lot of results, so they come in with the assumption that nothing is being done about it, so they do it themselves."

Energy

Key themes

- Respondents indicated challenges in attracting and hiring employees
- Cost of living is affecting employers' ability to hire, especially when factoring in lower energy salaries than competing sectors like technology can offer
- Employers describe a weak STEM pipeline for development of diverse energy talent, but identified multiple ways the sector has been supporting increased diversity in the field
- Employers expect to focus on maintaining company culture in an increasingly remote work environment

Energy Industry Participation in the Assessment

4 survey respondents
3 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader energy industry in Oregon.

Four individuals from the energy sector completed the Talent Survey. An additional three individuals were engaged through interviews. This section describes the feedback across survey and interview respondents qualitatively and provides non-representative input on energy workforce issues.

Hiring and retention

Energy employer respondents described their hiring experience over the past year as mixed. Stakeholders noted less of an issue with retaining staff once they are employed, and more of an issue with attracting them to the position. The industry competes with other sectors, especially the tech sector, for talent. Although energy provides robust wages, they may not be as high as tech firms can offer. Additionally, stakeholders noted that cost of living is increasingly an issue of discussion during the hiring process. However, although they may lose some candidates to lower cost of living areas like Idaho, the cost of living in Oregon remains more attractive than San Francisco or Seattle.

Incongruent apprenticeship guidelines between Washington and Oregon also hinder energy employers' ability to hire. Employer respondents noted that state regulations limiting the ratio of electricians to apprentices in Oregon is more restrictive than in Washington, preventing the state from training talent at the rate required to keep up with demand.

Workforce diversity

Energy industry stakeholders are trying to diversify their workforce, especially by gender and race/ethnicity. Several stakeholders cited lack of exposure to job and training opportunities in the energy sector as a primary barrier, as well as lack of consistency in public education's ability to develop the needed baseline skills and experience. Employer respondents also noted that women and apprentices of color have described lack of access to hands-on installation experience during their apprenticeships, limiting their growth in the field.

Employer recommendations to improve workforce diversity

Employers identified several recommendations to increase workforce diversity.

- Enhance sector strategies and coordination between industry, workforce, and education systems to remove barriers to participation, raise awareness of job opportunities, and provide pathways to training among diverse communities.
- Increase investment in job training programs to better support communities of color.
- Enlist staff outside human resources to examine practices around diversity; diversify hiring panels.
- Establish training pipelines across the career trajectory, including line workers, college interns, and BIPOC and female leadership initiatives.
- Reconsider hiring parameters and develop adjustments, such as longer onboarding times, to leverage existing diversity in the talent pipeline.
- Invest in public education to ensure consistent development of baseline skills.
- Establish diversity workforce targets for public projects to encourage strategies to grow the talent pipeline among diverse, qualified workers.

"Diversifying an organization is often put on the shoulders of HR staff; we've started enlisting others in the organization, including leadership, to be more of a part of hiring, including examining our practices around making sure we're focused on capabilities and not just experience."

Workforce skills assessment

Energy employer stakeholders described hiring challenges that varied by role. The industry is somewhat niche, and multiple employer respondents pointed to very specific combinations of education and experience needed for sector positions. They described the talent pool as relatively small; finding the needed skillset can be challenging. One employer noted the importance of building purposeful talent pipelines to ensure that the roles are filled.

Looking forward

Workforce management issues

Energy employers suggested an increasing number of employees will work 50 percent or more of their time remotely after the pandemic. They identified maintaining company culture in increasingly hybrid environments and employee resignations and turnovers as key workforce challenges in the near future.

Workforce system participation interest

Energy employers expressed interest in engaging in activities to increase access to workforce and training opportunities for Future Ready priority populations. They described likelihood of participating in statewide industry consortiums; providing job placement for training program graduates; sponsoring pre-apprenticeship or apprenticeship placements; and providing input on standards to determine academic credit for prior learning.

Food and beverage

Key themes

- 89 percent of respondents agreed that attracting, hiring, and/or retaining employees has been a significant challenge over the last year
- 62 percent of food and beverage employer respondents are trying to diversify their workforce
- Compared to other skills, more employers identified a lack of soft/interpersonal skills, work experience, and advanced skills among applicants
- 88 percent of employer respondents consider employee resignations or turnover a high concern
- 80 percent of respondents consider limited housing supply and high cost of living a high or moderate impact on their ability to hire

Food and Beverage Participation in the Assessment

65 survey respondents
4 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader food and beverage industry in Oregon. Also note that food and beverage employer respondents may include both food processing/manufacturing and food and beverage service.

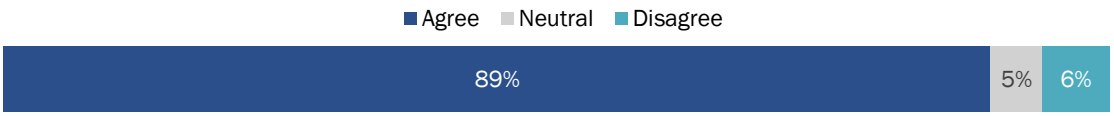
Hiring and retention

Almost 90 percent of food and beverage employer respondents agreed (20%) or strongly agreed (69%) that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and 95 percent suggested that they had difficulty finding qualified applicants to fill open positions. Fifty-eight percent of food and beverage survey respondents who experienced workforce challenges felt that the challenges were driven by a shortage of candidates with the needed skills, while 42 percent considered conditions unrelated to skills, such as housing, childcare, or coronavirus concerns to be driving workforce challenges. Interview respondents described a growing need to increase wages and focus on job quality to attract workers, and that internal talent development is increasingly emerging as a retention strategy.

"We need to be better at letting people who have no idea we're here learn about our opportunities – stable work that is recession resistant. We are not the sexy place to go to work, but we are the steady place to work."

ALMOST 9-IN-10 FOOD/BEVERAGE EMPLOYERS FACED HIRING/RETENTION CHALLENGES

Figure 9. Food and beverage employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=65)



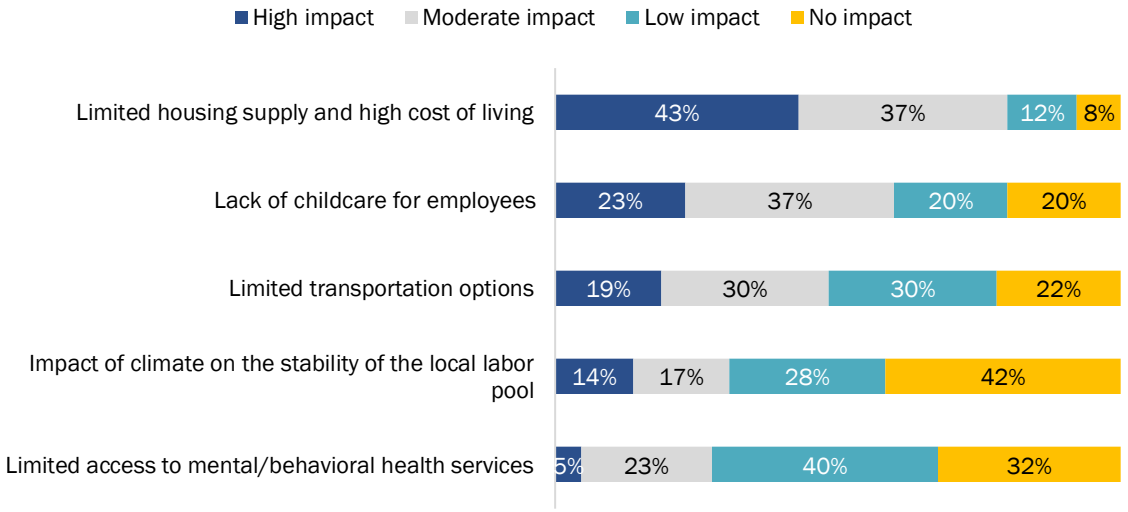
Source: Oregon Talent Assessment Employer Survey, 2022

Food and beverage respondents were split on whether an aging workforce (48%) or accelerated advances in automation (53%) would have a greater impact on the workforce. Most food and beverage employer respondents (87%) noted increased workload for other staff and reduced production output or sales (63%) as impacts of their hiring challenges. Over half also noted reduced product or service and lowered overall productivity as workforce impacts. One respondent also noted having to increase prices to help cover the increased cost of hiring.

Eighty percent of food and beverage employer respondents identified limited housing supply and high cost of living as having a moderate or high impact on their ability to hire. Sixty percent also identified lack of childcare as having a moderate or high impact on hiring. One employer interviewee described company-sponsored in-house childcare and advocacy for a county-sponsored hourly transportation loop to address some of the barriers to employment and retention.

LIMITED HOUSING SUPPLY AND LACK OF CHILDCARE AFFECTING ABILITY TO HIRE

Figure 10. Food and beverage employer response to: "How much of an impact do the following conditions have on your ability to hire?" (N=65)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce diversity

Almost two-thirds of survey respondents from the food and beverage sector indicated that they are trying to diversify their workforce, especially by race and ethnicity. Several food and beverage interviewees noted that food production is well positioned to attract diverse candidates, such as new immigrants, and companies can pursue diverse recruitment channels to tap into different communities. However, other respondents noted that the crisis in filling positions has trumped some of their diversity efforts: with difficulty filling any role, they have focused less on expanding diversity. One noted the need to engage with workforce development organizations around fundamental talent development first, before prioritizing diversity goals.

"We're so starved for talent, that we're not focused on diversity because we don't have the opportunity. But we could try to grow diverse talent within our own company, or it's possible we're not looking in the right places."

Employer recommendations to improve workforce diversity

Respondents noted several strategies needed to increase effectiveness of outreach and inclusion of diverse populations:

- Reduce obstacles for getting people to work, including transportation, childcare, and early technical training
- Increase affordable housing options to combat the increasing cost of living
- Improve the real and perceived safety of Oregon cities to attract new workers
- Increase cross-cultural training to make sure all employees are heard and seen

Workforce skills assessment

Existing staff

Two-thirds of food and beverage respondents considered their existing staff fully proficient at their jobs, with occupational skills, soft/interpersonal skills, and work experience comprising the biggest shortages. Factors employers considered underlying the lack of skill proficiency among existing staff include staff's newness to the role, employer inability to recruit staff with required skills, and problems retaining staff.

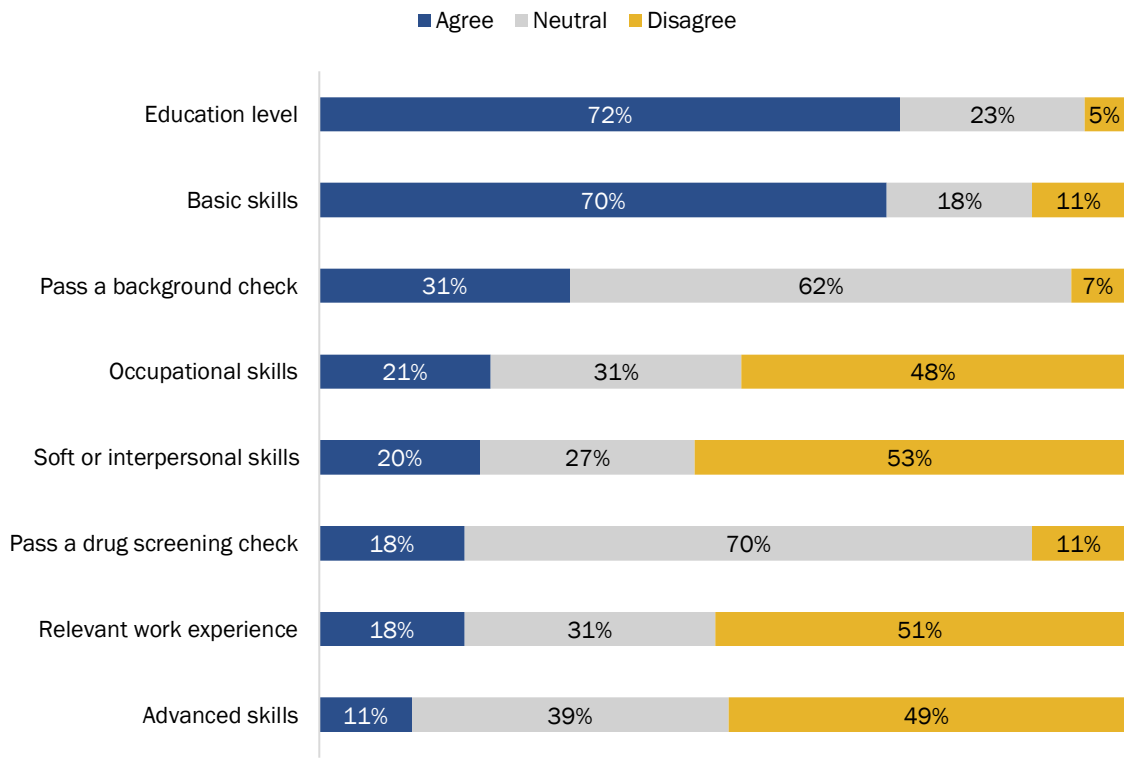
"You won't always learn everything you need to know outside the job; we put a focus on upskilling so employees can meet the demands of the business."

Applicants and new hires

Most employers agreed that job applicants had the appropriate education level (72%) and basic skills (71%) needed for the job. Fewer employers felt that applicants had the needed soft/interpersonal skills (20%), work experience (18%), or advanced skills (12%). Employer respondents noted gaps across all soft/interpersonal skills, with particular emphasis on dependability, self-motivation, customer service, and communication. Critical thinking / decision-making and project management were advanced skills that employers identified as lacking in job applicants.

SOFT/INTERPERSONAL SKILLS, WORK EXPERIENCE, AND ADVANCED SKILLS MOST LACKING IN APPLICANTS

Figure 11. Food and beverage employer level of agreement that applicants have the education, skills, work experience, or record required for vacant positions (N=61)



Source: Oregon Talent Assessment Employer Survey, 2022

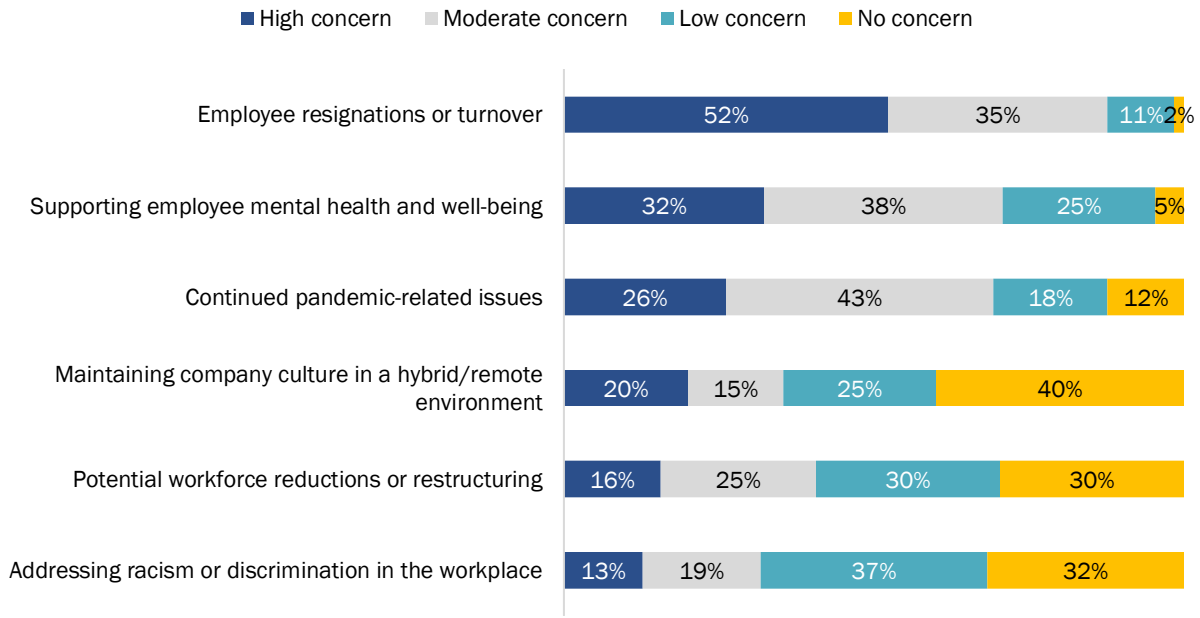
Looking forward

Workforce management issues

Survey respondents were asked to identify the level of concern they expect different workforce management issues to pose over the next six months. Eighty-eight percent of food and beverage employer respondents noted employee resignation or turnover as a moderate or high concern, and 70 percent each identified supporting employee mental health and well-being and continued pandemic-related issues as ongoing workforce challenges.

CONCERN ABOUT RESIGNATIONS, EMPLOYEE MENTAL HEALTH, AND PANDEMIC ISSUES

Figure 12. Food and beverage employer level of concern expressed over various workforce management issues (N=65)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce system participation interest

Survey respondents were asked to identify their likelihood of engaging in activities to increase access to training and workforce development for priority Oregon populations. Sixty-six percent of employer respondents were likely to provide job placements for participants coming out of training programs, and 62 percent were likely to offer internships, job shadowing, or paid work experience.

Healthcare

Key themes

- 90 percent of respondents agreed that attracting, hiring, and/or retaining employees has been a significant challenge over the last year
- 90 percent of healthcare employer respondents are trying to diversify their workforce
- More employers identified skill shortages related to relevant work experience, advanced skills, and occupational skills compared to other skills and competencies
- 90 percent of employer respondents consider employee resignations or turnover a high concern
- 90 percent of respondents consider limited housing supply and high cost of living a high or moderate impact on their ability to hire

Healthcare Industry Participation in the Assessment

21 survey respondents
3 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader healthcare industry in Oregon.

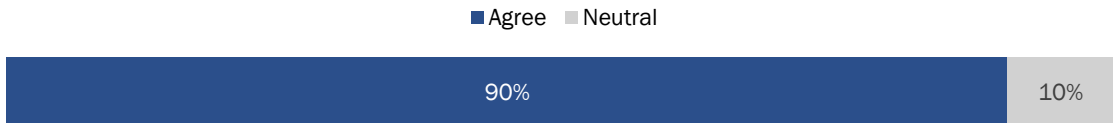
Hiring and retention

Ninety percent of healthcare employer respondents agreed (33%) or strongly agreed (57%) that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and 81 percent suggested that they had difficulty finding qualified applicants to fill open positions. Most healthcare survey respondents (83%) who experienced workforce challenges felt that the challenges were driven by a shortage of candidates with the needed skills versus conditions unrelated to skills, such as housing, childcare, or coronavirus concerns. Two-thirds of healthcare respondents considered an aging workforce to have a larger effect on the workforce, when asked to choose between either changing demographics or accelerated advances in automation having a bigger effect on the industry and workforce in coming years. Ninety-four percent of healthcare respondents identified increased workload for other staff as an impact of hiring challenges.

"We've put the burden and risk for the future workforce on our future workforce. They have to bear the cost of education and maybe get a job with an adequate wage and benefits."

OVER 9-IN-10 HEALTHCARE EMPLOYERS FACED HIRING AND RETENTION CHALLENGES

Figure 13. Healthcare employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=21)



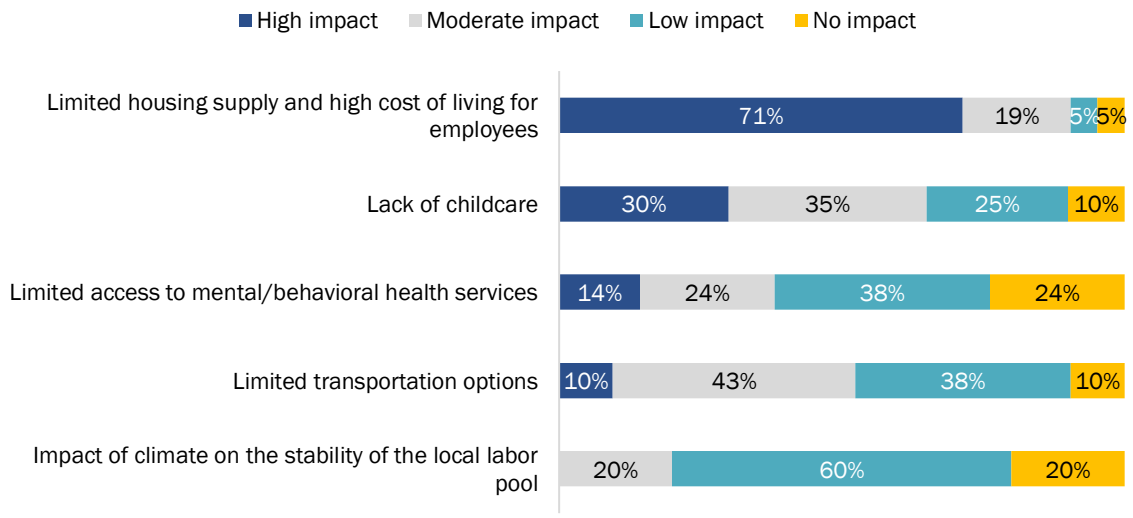
Source: Oregon Talent Assessment Employer Survey, 2022

Healthcare interview respondents noted several trends affecting the hiring challenge in the sector, including historically high voluntary quit rates and fewer applicants entering the system for certain positions. Stakeholders suggest that some of this trend is a result of pandemic-related factors, such as hostile clientele, public health skepticism, and vaccine mandates. However, others note that some of this churn is not yet understood and may reflect more within-sector mobility or transitions than out-sector exits. Additionally, one healthcare employer interviewee appreciated the Future Ready focus on increasing the medical assistant (MA) and certified nursing assistant (CNA) workforce but expressed the need to commensurately ensure sufficient registered nurse (RN) or physician's assistant (PA) positions to provide the statutory oversight for the growing MA and CNA positions.

Ninety percent of healthcare employer respondents also identified limited housing supply and high cost of living as having a moderate or high impact on their ability to hire. Lack of childcare (65%) and limited transportation options (52%) were also noted as moderate or high impacts on hiring. Additionally, employer interviewees suggested that quality of life and perceived safety in Oregon cities is hindering talent attraction from out of state and contributing to a health care worker exodus.

LACK OF AFFORDABLE HOUSING AFFECTING EMPLOYERS' ABILITY TO HIRE

Figure 14. Healthcare employer response to: "How much of an impact do the following conditions have on your ability to hire?" (N=21)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce diversity

Over 90 percent of healthcare employer respondents indicated that they were trying to diversify their workforce, particularly by race and ethnicity. Among healthcare survey respondents indicating attempts to diversify their workforce, three-quarters noted difficulty filling open positions with racially diverse candidates, compared to 42 percent noting difficulty filling positions with diverse applicants by gender. Healthcare interviewees described research connecting diversity in healthcare workers with improved outcomes for diverse patient populations; a diverse healthcare workforce is critical to eliminating healthcare disparities by race. Although several respondents noted substantial diversity among frontline workers, one healthcare stakeholder noted a particular challenge in increasing diversity at the leadership level. Stakeholders also noted the challenge of increasing diversity through internal talent pipelines in a predominantly White state. Diverse entrants to the field are limited in number due to training and education requirements, so healthcare organizations include recruiting from out of state to increase diversity of the workforce within Oregon.

"There are nurses and others in healthcare committed to DEI in the workforce because they know it provides better outcomes when users can be treated by people who look like them."

Employer recommendations to improve workforce diversity

Healthcare stakeholders noted several efforts to increase diversity within the workforce:

- Establishing requirements for the number of BIPOC candidates required in the final round of the hiring process
- Creating positions, such as a Chief Diversity Officer, focused on growing the internal pipeline of diverse leaders
- Establishing stronger links between training programs and healthcare providers
- Building bridges between prospective workers-in-training and employers
- Providing scholarship stipends for those in CNA training to break the cycle of individuals unable to forgo income in order to access training
- Creating affinity groups and other leadership series to support internal advancement
- Providing subsidies to address barriers to employment and retention, including childcare, transportation, and computers

Workforce skills assessment

Existing staff

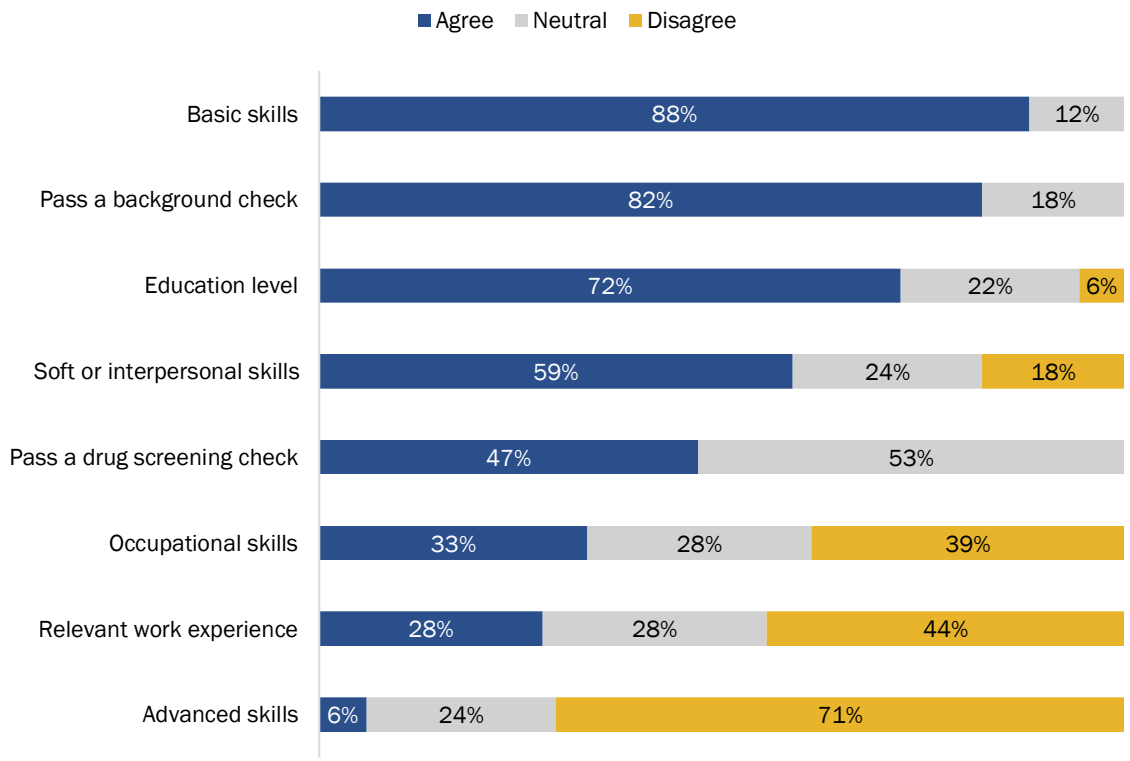
Two-thirds of healthcare respondents considered their existing staff fully proficient at their jobs, with newness to the positions, occupational skills, and work experience the areas most lacking in existing staff. Factors employers considered underlying lack of skill proficiency among existing staff include staff's newness to the role, employer inability to recruit staff with required skills, and problems retaining staff.

Applicants and new hires

Employers were more likely to agree that job applicants had the required basic skills (88%) and education level (72%) needed for the job. Fewer employers felt that applicants had the needed occupational skills (33%), work experience (28%), or advanced skills (6%) needed for positions.

ADVANCED AND OCCUPATIONAL SKILLS AND WORK EXPERIENCE MOST LACKING

Figure 15. Healthcare employer level of agreement that applicants have the education, skills, work experience, or record required for vacant positions (N=21)



Source: Oregon Talent Assessment Employer Survey, 2022

Eighty-six percent of healthcare employer respondents noting a lack of occupational skills in job applicants cited industry or discipline-specific skills not generalizable to other tasks to be a key skill shortage. Critical thinking and decision-making, and quantitative and analysis skills, were advanced skills that healthcare employers noted difficulty finding in prospective workers.

Stakeholders note that although many healthcare skills are learned on the job, employers seek workers with critical reasoning and judgement skills, which are less easy to teach contextually. Additionally, several employer interviewees noted that due to the loss of in-person externships and labs during the pandemic, many new workers are lacking clinical exposure. Employers described establishing pop-up residencies or other strategies to help transfer technical clinical skills that are typically developed during training.

Looking forward

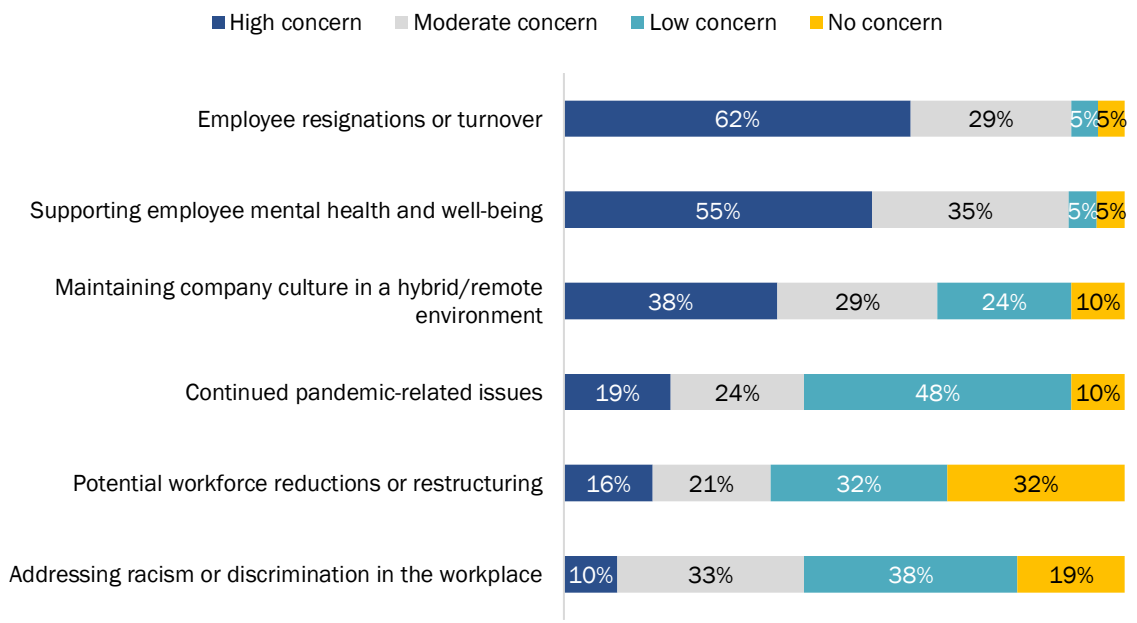
Workforce management issues

Survey respondents were also asked to identify the level of concern they expect different workforce management issues to pose over the next six months. Over ninety percent of healthcare employer survey respondents each noted employee resignation or turnover (91%) and supporting employee mental health and well-being (90%) a moderate or high concern to the workforce. Although fewer healthcare employers noted gaps in soft/interpersonal skills among their workers, they expressed the continued importance of these skills, not only in interacting with patients, but in responding to their own and colleagues' mental health in a stressful work environment. Employer interviewees suggest that healthcare organizations are increasingly having to focus on mental health support for their employees to a new degree.

"Nursing is inherently a tough job. What we've seen is an increase in the difficulty of the job. The number of people coming in for healthcare needs has increased, and the increased workload has been exacerbated by a population that is really angry and stressed. It puts real pressure on the nursing workforce."

EMPLOYERS ARE CONCERNED ABOUT RESIGNATIONS AND MENTAL HEALTH

Figure 16. Healthcare employer level of concern expressed over various workforce management issues (N=21)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce system participation interest

Survey respondents were asked to identify their likelihood of engaging in activities to increase access to training and workforce development for priority Oregon populations. Healthcare

respondents noted broad willingness to participate in diverse strategies. Three quarters of healthcare respondents noted likelihood to provide job placement for participants enrolled in training programs, and over 70 percent were likely to offer internship, job shadowing, or paid work experience and invest in joint upskilling of existing workers.

Leisure and hospitality

Key themes

- 85 percent of respondents agreed that attracting, hiring, and/or retaining employees has been a significant challenge over the last year
- 52 percent of leisure and hospitality employer respondents are trying to diversify their workforce
- More employers identified skill gaps and shortages related to relevant work experience, soft or interpersonal skills, and advanced skills compared to other skills
- 51 percent of employer respondents consider employee resignations or turnover a high concern
- 78 percent of respondents consider limited housing supply and high cost of living a high or moderate impact on their ability to hire

Leisure and Hospitality Industry Participation in the Assessment

81 survey respondents
3 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader leisure and hospitality industry in Oregon.

Hiring and retention

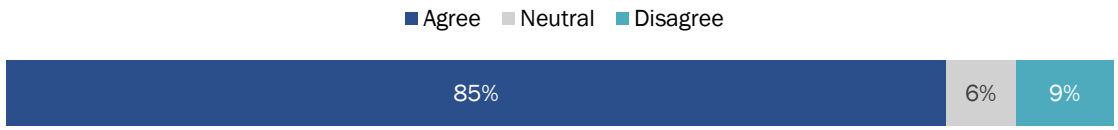
The pandemic disrupted leisure and hospitality's demand for and supply of labor more than perhaps any other sector. Unpredictable pandemic restrictions on the sector led to inconsistent demand for labor. Employers also suggested growing applicant demand for higher wages and benefits. Additionally, leisure and hospitality stakeholders noted several emerging trends affecting the workforce, including the following:

- Prevailing perspective that the industry does not provide livable wages or family supporting jobs
- Increased competition for labor within and beyond the sector
- Challenges in organizing around workforce issues in a sector comprising many small firms rather than a few large players
- Housing costs and overall cost of living for workers
- Historically low wages and perceived poor job quality
- Balancing increases in wages with corresponding increases in the cost of goods, services, and living
- Desire for flexible schedules and seasonal or part-time work

Eighty-five percent of leisure and hospitality employer respondents agreed (20%) or strongly agreed (65%) that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and 79 percent suggested that they had difficulty finding qualified applicants to fill open positions.

8-IN-10 LEISURE AND HOSPITALITY EMPLOYERS FACED HIRING/RETENTION CHALLENGES

Figure 17. Leisure and hospitality employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=81)



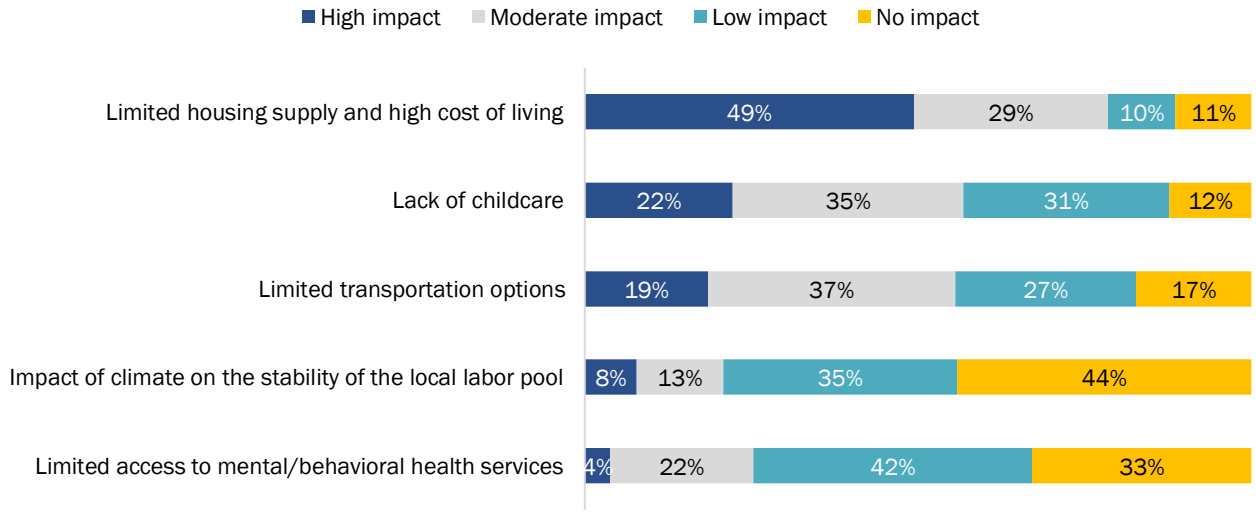
Source: Oregon Talent Assessment Employer Survey, 2022

Leisure and hospitality sector respondents who experienced workforce challenges were split on whether the challenges were driven by a shortage of candidates with the needed skills (51%) or conditions unrelated to skills, such as housing, childcare, or coronavirus concerns (49%). Interview respondents described a growing need to increase wages and focus on job quality to attract workers. A large majority of survey respondents (91%) noted increased workload for other staff and reduced product or service quality (64%) as impacts of their hiring challenges, and over half also noted reduced product output or sales. More survey respondents felt that an aging workforce (74%) would have a greater impact on the workforce compared to accelerated advances in automation (26%).

Nearly 80 percent of survey respondents also identified limited housing supply and high cost of living as having a moderate or high impact on their ability to hire. Over half each also identified lack of childcare and limited transportation options as a moderate or high impact on hiring.

LACK OF AFFORDABLE HOUSING AFFECTING EMPLOYERS' ABILITY TO HIRE

Figure 18. Leisure and hospitality employer response to: "How much of an impact do the following conditions have on your ability to hire?" (N=81)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce diversity

About half of leisure and hospitality employer respondents indicated that they are trying to diversify their workforce. Respondents note that the hospitality sector has typically been more diverse than other industries, and especially in the current workforce crisis, considers itself to be open and welcome to individuals from all backgrounds. One respondent noted an overrepresentation in hospitality of BIPOC, immigrant, and gender-fluid workers compared to the overall population. Additionally, stakeholders note that the industry supports small business and entrepreneurial development by immigrant and BIPOC communities at a greater clip than other sectors. However, employer interviewees noted the need to develop strategies, such as language classes and uniform acquisition programs, to retain and advance diverse workers beyond entry-level positions. Stakeholders note that hiring and supporting diverse employees can be challenging in less diverse regions of the state, and that engaging diverse recruiters to appeal to more diverse applicants can facilitate connection with target communities.

"At the lower level the hardest jobs to fill are the entry level jobs—line cook, server, housekeeper. Not a high level of education level that you need. They can show up with no background and they will train them…It's more about those people deciding to go into the industry."

Employer recommendations to improve workforce diversity

Several leisure and hospitality interviewees noted that the sector is well positioned to attract diverse candidates, such as new immigrants, and can pursue diverse recruitment channels to tap into different communities. However, industry respondents also noted that the crisis in filling positions has trumped some of their diversity efforts: with difficulty filling any role, they have focused less on expanding diversity and more on getting any workers in the door. Respondents described several strategies needed to increase effectiveness of outreach and inclusion of diverse populations:

- Reduce obstacles for getting people to work, including lack of transportation, childcare, and early technical training
- Programs that support businesses to provide living wages, benefits, and schedule accommodations to aid in retention and advancement
- Enhanced high school CTE programs with hospitality focus
- Multilingual job application and postings and removal of pronouns in postings
- Coordination with local BIPOC community organizations to expand outreach and recruitment

Workforce skills assessment

Existing staff

Three-quarters of leisure and hospitality respondents considered their existing staff fully proficient at their jobs, with soft/interpersonal skills, work experience, and occupational skills comprising the biggest skill gaps and shortages. Factors employers considered underlying the lack of skill proficiency among existing staff include staff's newness to the role, challenges in recruiting and retaining staff, and staff lack of motivation.

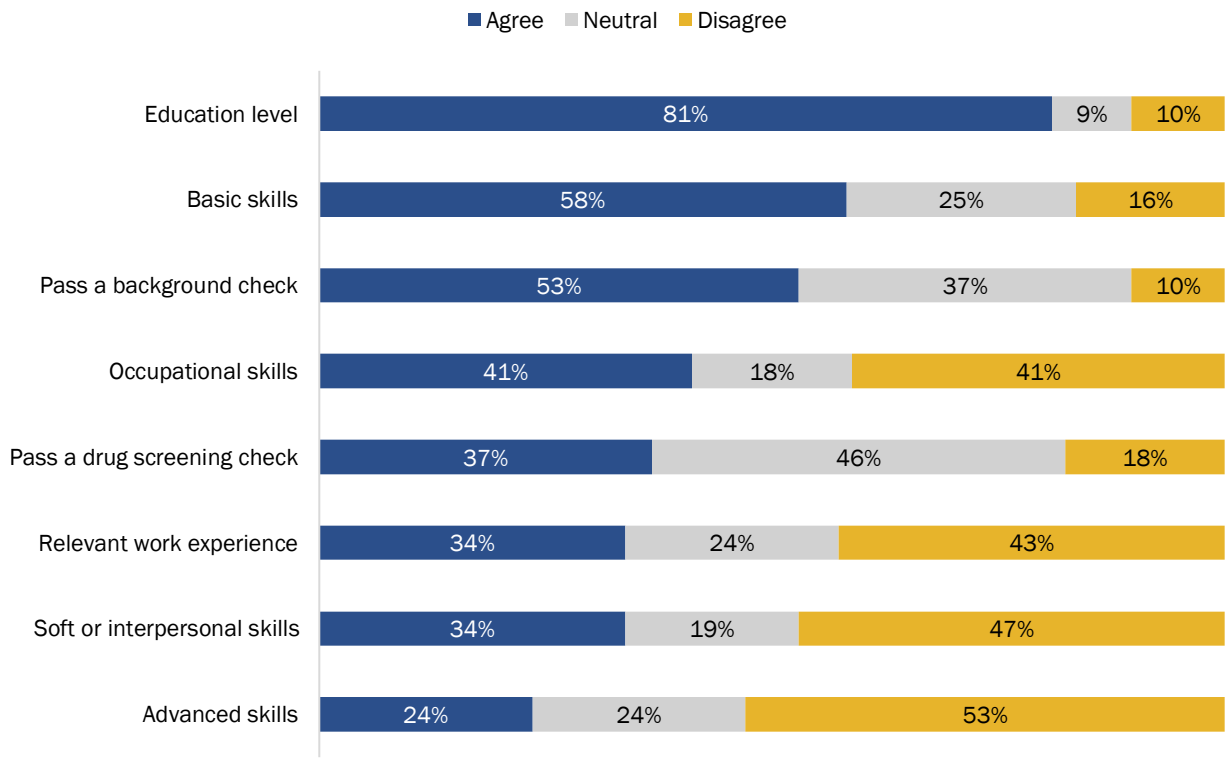
Applicants and new hires

More employers agreed that job applicants had the appropriate education level (81%) and basic skills (58%) needed for the job. Fewer employers felt that applicants had the needed

soft/interpersonal skills (34%), work experience (34%) or advanced skills (24%). Employer respondents noted gaps across all soft/interpersonal skills, with particular emphasis on dependability, time management, and self-motivation. Almost 70 percent of leisure and hospitality employer respondents who noted shortages in advanced skills identified critical thinking and decision-making as lacking in job applicants.

ADVANCED SKILLS AND SOFT/INTERPERSONAL SKILLS MOST LACKING IN APPLICANTS

Figure 19. Leisure and hospitality employer level of agreement that applicants have the education, skills, work experience, or record required for vacant positions (N=68)



Source: Oregon Talent Assessment Employer Survey, 2022

Looking forward

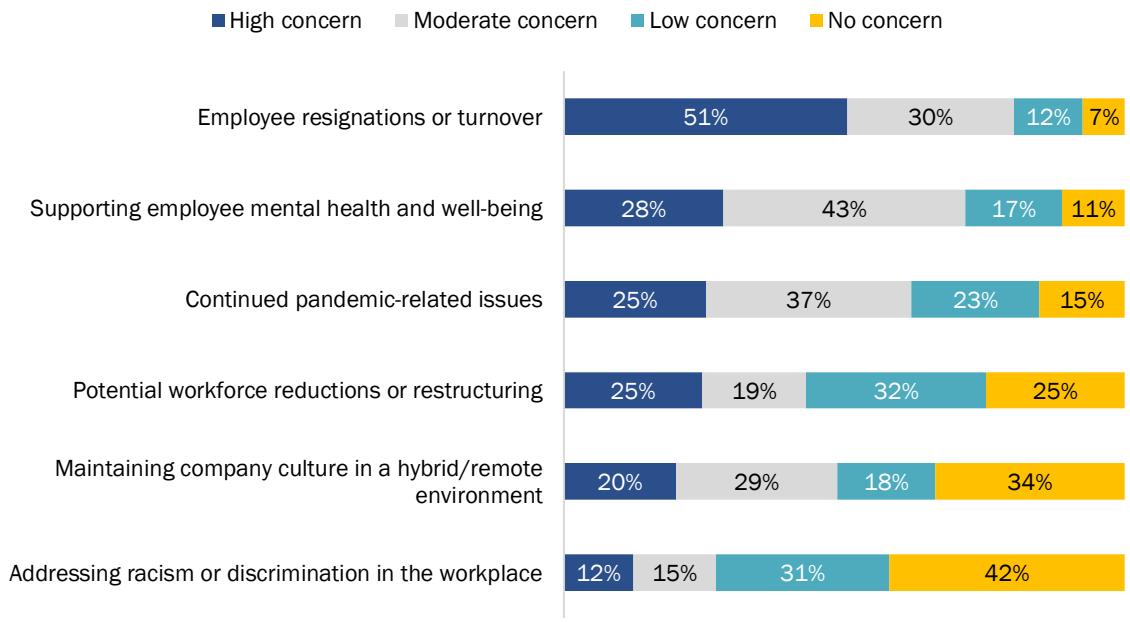
Workforce management issues

Survey respondents were asked to identify the level of concern they expect different workforce management issues to pose over the next six months. Eighty percent of leisure and hospitality employer respondents noted employee resignation or turnover as a moderate or high concern, and 72 percent identified supporting employee mental health and well-being as an ongoing workforce challenge. Nearly two-thirds identified continued pandemic-related issues such as vaccine mandates, federal regulations, or workforce fluctuations as a moderate or high concern.

"If Future Ready creates a pipeline of workers, they might be ready to be more involved."

EMPLOYERS ARE CONCERNED ABOUT RESIGNATIONS AND MENTAL HEALTH

Figure 20. Leisure and hospitality employer level of concern expressed over various workforce management issues (N=81)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce system participation interest

Survey respondents were asked to identify their likelihood of engaging in activities to increase access to training and workforce development for priority Oregon populations. Over half of leisure and hospitality respondents indicated likelihood to offer internships, job shadowing, or paid work experience (59%), partner with education and training providers to develop career pathways (54%), and provide job placements for participants coming out of training (53%).

Maritime

Key themes

Employers report hiring challenges that predate the pandemic but were exacerbated by it. Key drivers of the hiring challenges include:

- Insufficient training pipeline for advanced positions
- Challenging job conditions
- High cost of living in coastal towns
- Wage pressure

Maritime interviewees universally support collaboration with workforce development stakeholders to help meet the industry's workforce needs, but they report that employers feel frustrated by the bureaucracy often accompanying subsidized internship and training opportunities. To be effective, accessing these opportunities must be easy for employers.

Maritime Industry Participation in the Assessment

0 survey respondents
3 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader maritime industry in Oregon. Since no individuals from the maritime sector participated in the survey, this section describes interview respondent feedback only.

Hiring and retention

Maritime interview respondents noted few applicants for recent positions, and occupational roles that require specific skills or expertise. Stakeholders most frequently noted the following drivers of their hiring challenges.

- **Insufficient training pipeline for advanced positions.** Maritime employers report difficulty finding experienced engineers and marine diesel mechanics. Ships and maritime equipment are complex and require specific maritime engineering training, yet there is currently nowhere in Oregon to get this education. One stakeholder noted success in developing internship programs in partnership with select Oregon two-and-four-year colleges. This program has developed a track record of growing interns into employees, but the field needs a larger pipeline to meet labor demand. The continued skills shortages put more stress on current employees and increases their burnout risk.
- **Nature of the job.** Traditional off-shore maritime positions involve challenging workplace dynamics — claustrophobic living environments, physically demanding working conditions, and separation from families for extended periods of time.
- **Cost of living.** The cost of housing in seaports is also often a challenge, and finding jobs for spouses in these areas can be difficult. To attract maritime workers, one stakeholder described a goal of creating a "Home Port Oregon" initiative, where coastal cities provide affordable housing and access to vibrant communities where families can thrive while crew members are at sea.
- **Wage pressure.** The shortage of workers is also increasing wage pressure. Starting salaries for less-experienced hires has grown faster than is feasible to adjust existing worker salaries. Although other maritime firms still rely on traditional hiring processes, one respondent in innovative maritime technology no longer relies on job descriptions to hire for a specific position, but instead hires a person with the right mix of skills and attitude and shapes the position to fit the person.

One stakeholder noted that innovation in the blue economy has slowed in the United States due to the tie between one's job and access to benefits such as health care and retirement funds. This tie discourages workers from leaving jobs with those benefits to try a new or innovative career in a start-up.

Workforce diversity

Like other industries facing tight labor markets, stakeholders noted that overall challenges in hiring make a focus on diversity feel like a luxury. They noted the need to start early in education to diversify STEM pipelines. They also noted the benefit of partnering with community colleges that have trusted relationships with underserved communities to develop strategic and tactical programs to better reach and engage diverse students. They suggested stronger partnerships between the workforce development system and the military to recognize transferable skillsets (such as diesel mechanics), to provide credit for prior learning, and to ease transition to civilian life and employment.

"If we don't embrace tech and science in education, we are never going to be able to differentiate ourselves from other states."

Workforce skills assessment

Skills that stakeholders identified as most in demand included essential and soft/interpersonal skills, such as punctuality and communication. They also cited a need for advanced critical thinking and decision-making skills, digital literacy, and more-advanced occupational skills, such as marine engineering and diesel mechanics.

Looking forward

Workforce development priorities

Supplying the coastal economy with the workforce needed in the growing blue economy is the paramount concern of maritime stakeholders. A task force studying the workforce needs of the industry – the Maritime Workforce Education Investment Initiative – developed recommendations in 2019 around the training and education needed to support the maritime industry, but the recommendations were never funded.

"Take a place like Coos Bay. It's a hub for offshore wind in south coast Oregon. That place will be a very different place in 15 years. Lots of investment going there. There will be 1,000 more people working in offshore wind, building platforms, diving, electricians, ecologists – a whole suite of jobs. Where is [that talent] going to come from? It really requires a level of engagement from the industry to ensure that the future is secure and not hampered."

Workforce system participation interest

Maritime stakeholder interviewees universally noted the need for industry to better communicate and collaborate with education and training partners to build programs that will meet their skills needs. However, in collaborating with workforce development partners, stakeholders noted ongoing red tape that limits maritime employer access to on-the-job training funds, and cumbersome funding guidelines that prevent maritime employers from seeking workforce development funding. One stakeholder noted, “With funding comes enthusiasm,” but only if those funds are easily accessible. If participation were made easy, the interviewed stakeholders generally felt employers in the industry would participate in subsidized internships, certification and training, and job shadowing.

"The question is how does [Future Ready Oregon] get implemented? Who is leading on it? Who is making the decision? How is money coming down? And how able is industry to respond and participate?"

Technology and software development

Key themes

- 82 percent of respondents agreed that attracting, hiring, and/or retaining employees has been a significant challenge over the last year
- 80 percent of technology employer respondents are trying to diversify their workforce
- More employers identified skill gaps and shortages related to soft/interpersonal skills and advanced skills
- 44 percent of employer respondents are highly concerned about employee resignations or turnover
- 59 percent of respondents consider limited housing supply and high cost of living to have a high or moderate impact on their ability to hire

Technology and Software Development Participation in the Assessment

17 survey respondents
3 interviewees

Note: Findings are not necessarily representative of or generalizable to the broader technology and software development industry in Oregon.

Hiring and retention

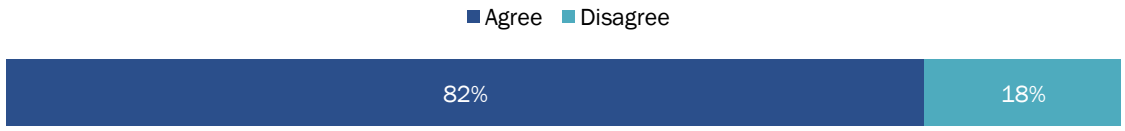
Technology stakeholders identified several emerging trends affecting the workforce, including the following:

- The virtual work environment is increasing competition for technology talent.
- Oregon colleges do not produce the talent needed in the industry. Employers suggest the state's technology curriculum does not keep pace with the field and should be revisited every two to three years to ensure relevance. Additionally, employers note that Oregon teachers need continuous exposure to new technology so they can teach it in the classroom.
- Interpersonal skills are important across roles. There is a need for increased focused on soft/interpersonal skills at an earlier age during formative development.

Eighty-two percent of technology sector survey respondents agreed (41%) or strongly agreed (41%) that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and 82 percent suggested that they had difficulty finding qualified applicants to fill open positions.

8-IN-10 TECH EMPLOYERS FACED HIRING AND RETENTION CHALLENGES

Figure 21. Technology and software employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=17)



Source: Oregon Talent Assessment Employer Survey, 2022

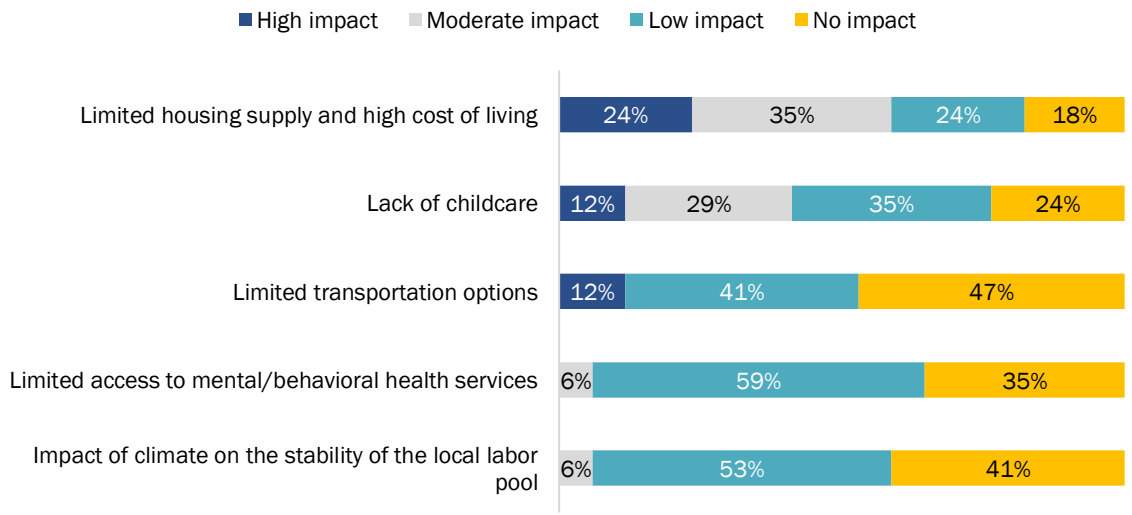
"In addition to technical skills, we put a lot of emphasis on human skills. Very hard to evaluate, but also hard to develop beyond a certain age. We need to start developing these skills in our P-12 system."

More technology sector respondents who experienced workforce challenges indicated that the challenges were driven by a shortage of candidates with the needed skills (86%) than by conditions unrelated to skills, such as housing, childcare, or coronavirus concerns (14%). Unlike all other surveyed sectors, more technology respondents felt that accelerated advances in automation (65%) would have a greater impact on their industry and its workforce compared to an aging workforce (35%). Technology respondents also noted a greater shift toward remote work than identified in other sectors. Nineteen percent of technology respondents estimated that half or more of their employees worked a significant amount of their time remotely before the pandemic, compared to 63 percent estimating that half or more will work a significant amount of time remotely after the pandemic. Most technology employer survey respondents (71%) noted increased workload for other staff, reduced overall productivity (57%), and delays in developing new products or services (57%) as impacts of their hiring challenges.

Although industry respondents identified skill shortages as driving workforce challenges, nearly 60 percent of technology survey respondents also identified limited housing supply and high cost of living as having a moderate or high impact on their ability to hire. Forty percent also cited lack of childcare as having a moderate or high impact on hiring.

LACK OF AFFORDABLE HOUSING AND COST OF LIVING AFFECTING ABILITY TO HIRE

Figure 22. Technology and software development employer response to: "How much of an impact do the following conditions have on your ability to hire?" (N=17)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce diversity

Eighty-eight percent of technology employer respondents indicated that they are trying to diversify their workforce, especially by gender and race/ethnicity. Employer interviewees noted that many firms are developing diversity benchmarks to identify deficiencies and focus efforts. Respondents

noted challenges in recruiting diverse candidates in Oregon, like other sectors, citing a relative lack of underlying diversity across the state. However, with an increasing shift toward remote work during the pandemic, some technology respondents noted that they can diversify at a faster clip by hiring globally. Although this does not necessarily grow the diversity of the Oregon talent base, employers note that it increases the diversity of the Oregon companies, which is still an overall gain.

Employer recommendations to improve workforce diversity

Technology employer respondents also noted several measures, such as supplemental training or support, to facilitate more diverse hires and broaden the applicant pool. Respondents mentioned the lack of female and BIPOC representation in the underlying STEM pipeline and the need to change cultural norms and primary education strategies to combat this vacuum.

Workforce skills assessment

Existing staff

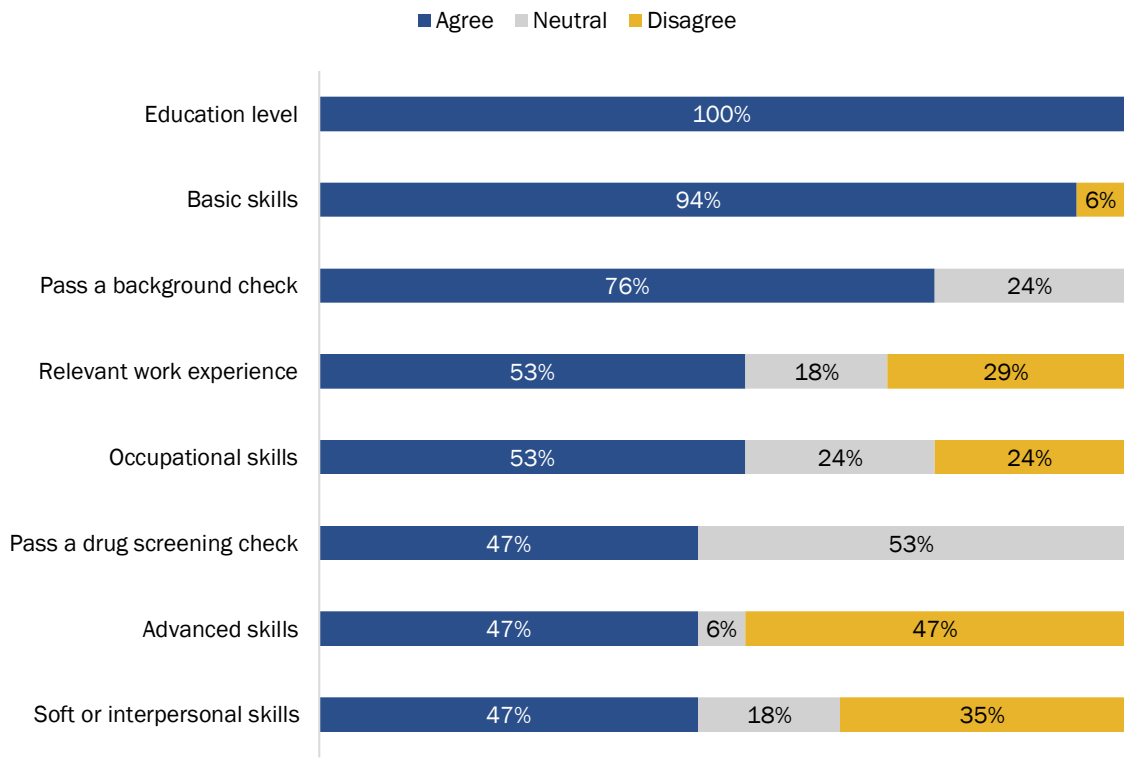
Eighty-two percent of technology respondents considered their existing staff fully proficient at their jobs, with soft/interpersonal skills, work experience, advanced skills, and occupational skills comprising the biggest gaps and shortages for respondents noting lack of proficiency. Factors considered underlying lack of skill proficiency among existing staff include staff's newness to the role, challenges in recruiting staff with required skills, and partial completion of staff training. Compared to other sectors, fewer technology respondents were likely to identify skill gaps or shortages in applicants.

Applicants and new hires

More employers agreed that job applicants had the appropriate education level (100%), basic skills (94%), and occupational skills and relevant work experience (53% each) needed for the job. Interview respondents noted gaps and shortages in targeted technical skills, such as networking or cybersecurity, soft/interpersonal skills, and the ability to apply academic knowledge to the workplace.

SOFT/INTERPERSONAL SKILLS AND ADVANCED SKILLS MOST LACKING IN APPLICANTS

Figure 23. Technology and software development employer level of agreement that applicants have the education, skills, work experience, or record required for vacant positions (N=17)



Source: Oregon Talent Assessment Employer Survey, 2022

Looking forward

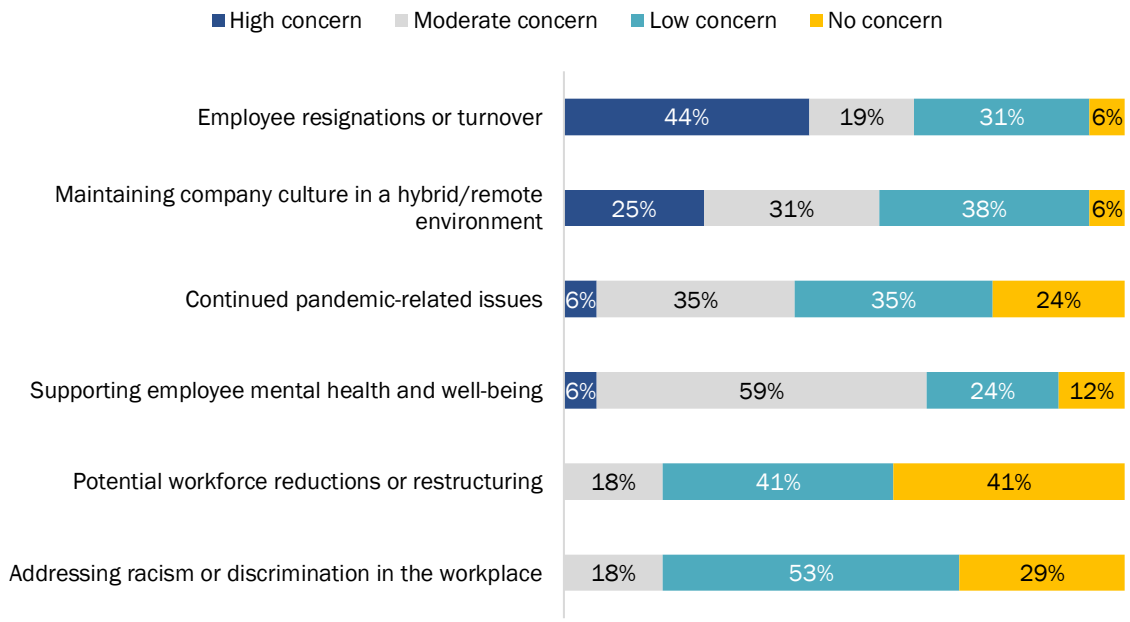
Workforce management issues

Survey respondents were asked to identify the level of concern they expect different workforce management issues to pose over the next six months. Sixty-five percent of technology respondents considered supporting employee mental health and wellbeing to be a moderate or high concern, 63 percent identified employee resignation or turnover, and 56 percent cited maintaining company culture, collaboration and employee loyalty in a hybrid environment.

"One trend that benefited Oregon is that Oregon was seen as an attractive place to work, but with the rise of remote work and issues around the State of Oregon, such as the perception of public safety, homelessness, and dysfunction, it's been hard to recruit.

EMPLOYERS ARE CONCERNED ABOUT RESIGNATIONS, EMPLOYEE MENTAL HEALTH, AND MAINTAINING COMPANY CULTURE IN A HYBRID ENVIRONMENT

Figure 24. Technology and software development employer level of concern expressed over various workforce management issues (N=17)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce system participation interest

Technology and software development survey respondents were asked to identify their likelihood of engaging in activities to increase access to training and workforce development for priority Oregon populations. Most technology respondents cited their likelihood to offer internships, job shadowing, or paid work experience (88%), and, perhaps in response to their identification of a need to improve college curriculum and outcomes, collaborate in a statewide industry consortium (82%) and partner with educators and training providers to develop career pathways in the industry (71%).

Wood products

Key themes

- 100 percent of wood product industry survey respondents agreed that attracting, hiring, and/or retaining employees has been a significant challenge
- Contextual factors, such as high housing costs, lack of childcare, and limited transportation options to/from the worksite, are key challenges to hiring
- Diversifying the workforce is a priority for 75 percent of wood products employers, particularly regarding expanding the number of women and Latino/a workers in the industry
- Soft/interpersonal and occupational skills are most lacking in the existing workforce, and this was reflected in job applicants as well, who also tend to lack relevant work experience
- There was general employer support for partnering with workforce development stakeholders to develop career pathways in the wood products industry

Wood Products Industry Participation in the Assessment

8 survey respondents
2 interviewees

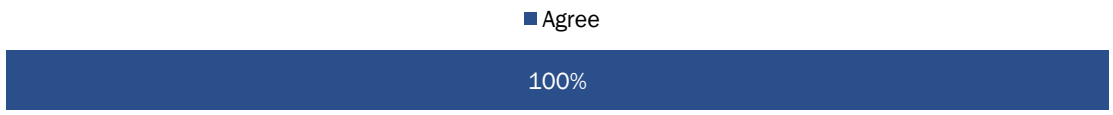
Note: Findings are not necessarily representative of or generalizable to the broader wood products industry in Oregon.

Hiring and retention

All wood product survey respondents agreed that attracting, hiring, and/or retaining employees has been a significant challenge over the past 12 months, and 75 percent suggested that they had difficulty finding qualified applicants to fill open positions.

ALL WOOD PRODUCTS EMPLOYERS SURVEYED FACED HIRING/RETENTION CHALLENGES

Figure 25. Wood products employer response to "Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." (N=8)

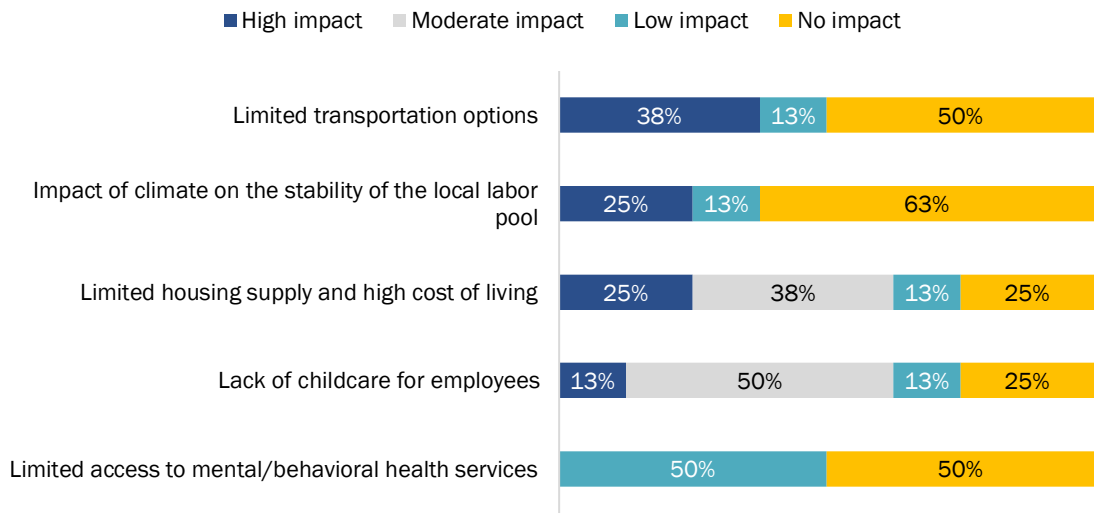


Source: Oregon Talent Assessment Employer Survey, 2022

When asked to choose between two drivers of their workforce challenges -- a shortage of candidates with the needed skills versus conditions unrelated to skills, such as housing, childcare, or coronavirus concerns – all wood products survey respondents felt that the challenges were driven by a shortage of candidates. However, when asked a separate question about the impact of various community contextual factors on their ability to hire, employers stated the following factors had a high or moderate impact: limited housing supply, lack of childcare for employees, and limited transportation options to/from the job site. The impact of climate on the stability of the local labor pool was also an issue cited as a high concern for 25 percent of respondents.

LACK OF HOUSING, CHILDCARE, AND TRANSPORTATION AFFECT ABILITY TO HIRE

Figure 26. Wood products employer response to: "How much of an impact do the following conditions have on your ability to hire?" (N=8)



Source: Oregon Talent Assessment Employer Survey, 2022

When asked to choose which would have a greater impact on their industry and workforce – the aging workforce or increasing automation – wood products employer respondents were more likely to consider an aging workforce to have a larger effect (63%) compared to accelerated advancement in automation (38%). Indeed, interviewees noted that retirements are exceeding new entrants to the field.

"Re-fund art and CTE areas of study. The demolition of those programs was hard for our industry and all industries. If kids don't feel like they can excel in the core curriculum, they need alternatives. If you can't engage them, they will be gone and your ability to connect to with them will be way more difficult."

In addition, wood products interviewees and survey respondents noted several themes affecting workforce issues:

- A perception that federal benefits during the pandemic contributed to the Great Resignation and increased workers shortages
- The impact of strenuous, physical work on applicant interest and retention
- A historical lack of diversity hinders recruitment of nontraditional talent
- The importance of understanding the dynamics of an intergenerational workforce and the motivations and expectations of different generations
- Cost of living and labor shortages have affected wages and led employers to offer generous hiring, retention, and referral bonuses

Workforce diversity

Three quarters of wood products respondents indicated that they were trying to diversify their workforce, including by gender and by race/ethnicity.

Employer recommendations to improve workforce diversity

Interview respondents overwhelmingly suggested strengthening trades education and providing more career exposure in schools, improving communication to high school and community college students about the well-paying jobs in the sector, and destigmatizing professions that don't require a college degree. They also noted that an intentional focus on diversifying is mixed within the sector, in part due to the lack of underlying race and ethnicity diversity in many wood products communities. Additionally, stakeholders noted the importance of language acquisition skills and managers that can speak the language of the workers to maintain safety protocols and reduce accidents.

Workforce skills assessment

Existing staff

Half of wood products respondents considered their existing staff fully proficient at their jobs, with soft/interpersonal skills and occupational skills cited as the skill areas most lacking. Among respondents who noted lack of proficiency in existing staff, three-quarters considered their inability to recruit staff with the required skills as contributing to an underlying lack of skill proficiency among existing staff. The same percentage (75%) also felt lack of staff motivation was a factor.

"Incent middle and high schoolers to want to learn about manufacturing and similar blue collar jobs."

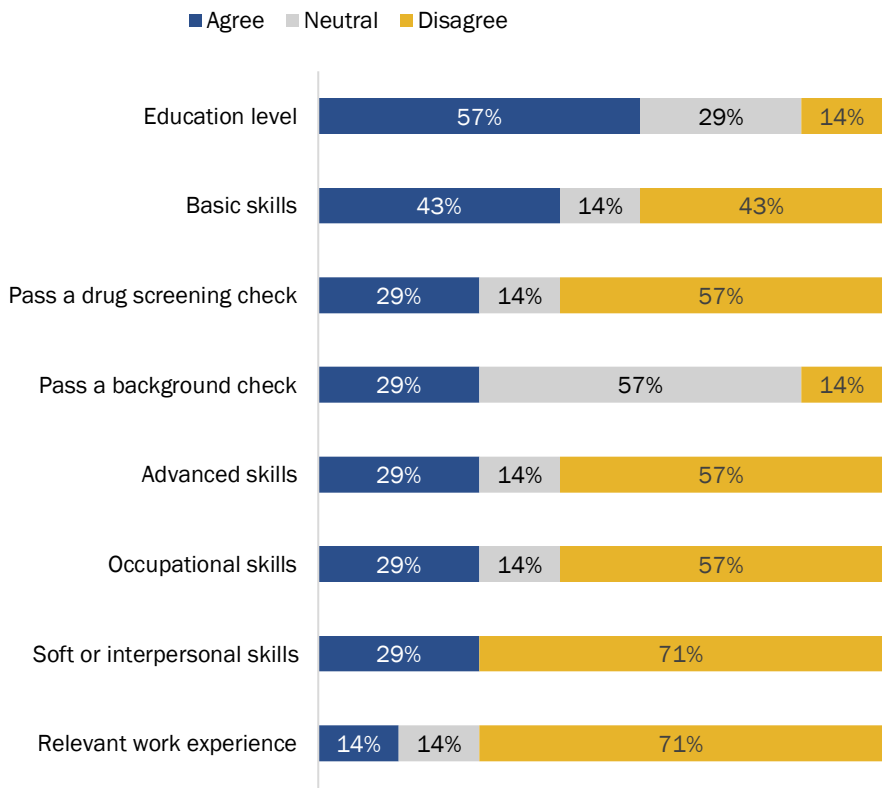
Applicants and new hires

Employers surveyed were more likely to agree that job applicants had the appropriate education level (57%) and basic skills (43%) needed for the job, and less likely to agree that applicants were had relevant work experience and soft/interpersonal skills. More than half of employers (57%) indicated drug screen passing as a challenge as well as a lack of advanced or occupational skills among in applicants.

"It is not the industry of 20 years ago. There is a huge disconnect between what the jobs are and what people think they are. You still have to get out to the woods, but if you can pique their interest and change the narrative in schools, the industry has a lot of interesting, challenging jobs."

WORK EXPERIENCE AND SOFT/INTERPERSONAL SKILLS MOST LACKING IN WOOD PRODUCTS APPLICANTS

Figure 27. Wood products employer level of agreement that applicants have the education, skills, work experience, or record required for vacant positions (N=7)



Source: Oregon Talent Assessment Employer Survey, 2022

"Drug use and apathy are probably the biggest concerns. If people showed up to work every day, we can work with that and train them. When they don't, you've got nothing."

In the area of soft/interpersonal skills, self-motivation and teamwork were the most frequently cited soft skills gaps in prospective workers, as well as a lack of communication skills, dependability, and time management. Regarding advanced skill shortages, employers identified limited proficiency in critical thinking and decision-making skills. Key needed occupational skills cited as lacking by wood product stakeholders include physical/manual skills and industry-specific skills, such as machine operation.

Impact of difficulty in finding qualified applicants

The hiring challenges employers have experienced have most frequently (cited by two-thirds of respondents) had the impact of increasing the workload for other staff, lowering overall productivity, and preventing the expansion of facilities.

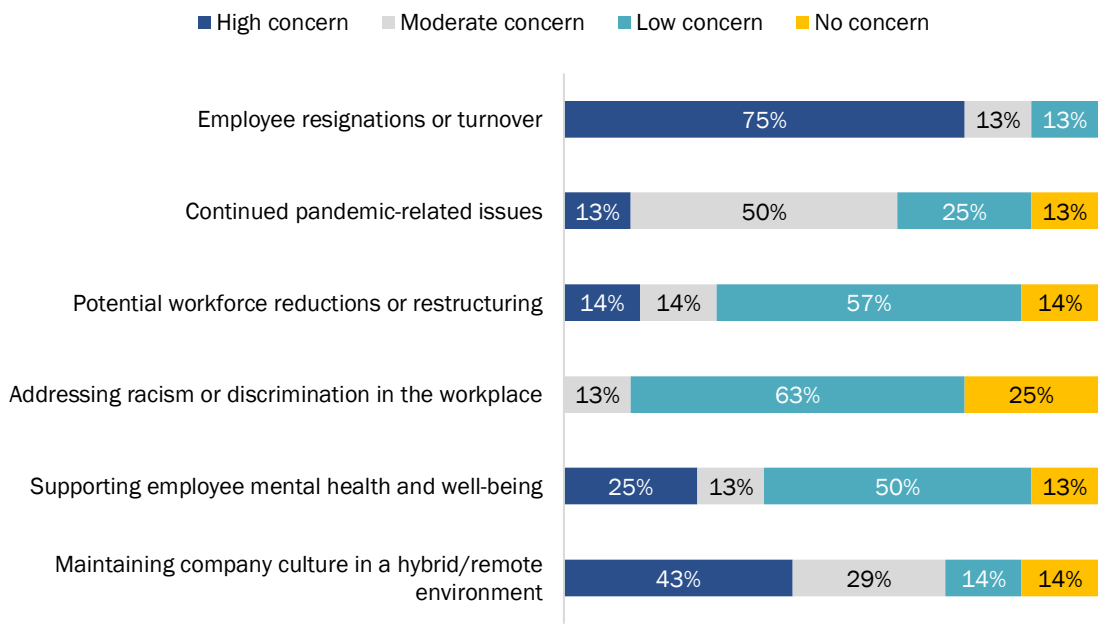
Looking forward

Workforce management issues

Wood products employer respondents were asked to identify the level of concern they expect different workforce management issues to pose over the next six months. Eighty-seven percent of wood products employer respondents noted employee resignation or turnover was a moderate or high concern, and 72 percent identified challenges around maintaining company culture in a hybrid environment, perhaps in response to pandemic-related restrictions given the limited remote work in the sector. Most respondents (75%) estimated that none of their staff worked remotely before the pandemic, and most (63%) estimate that this will not change substantially after the pandemic resolves.

EMPLOYERS ARE CONCERNED ABOUT TURNOVER AND HYBRID WORKING

Figure 28. Wood products employer level of concern expressed over various workforce management issues (N=8)



Source: Oregon Talent Assessment Employer Survey, 2022

Workforce system participation interest

Survey respondents were asked to identify their likelihood of engaging in activities to increase access to training and workforce development for priority Oregon populations. Three-quarters of respondents cited likelihood to partner with education and training providers to develop career pathways. Two-thirds expressed they were likely or very likely to participate in a statewide industry consortium, and similar percentages indicated they were likely or very likely to provide job placements for training participants and provide pre-apprenticeship and apprenticeship placements.

There was some concern expressed by wood products stakeholders that Future Ready Oregon would be too urban-focused and not responsive to the needs of rural industries. Interviewees stressed the importance of better and more frequent communication between the wood products industry and workforce development stakeholders so that workforce development is kept abreast of changes in

the industry and wood products stakeholders know how to get involved. For example, one interviewee commented that they provide all training in-house and the most effective delivery of state support would be reimbursement for their training.

Stakeholders also stressed the importance of teaching critical thinking and problem-solving skills in youth so that the future workforce is adaptable to a changing economy and job market. At the same time, interviewees stressed that youth need to be exposed to opportunities in the wood products industry and to career-technical education more broadly. Internships were viewed as a key vehicle for facilitating this exposure.

"There is a disconnect between the speed of industry and the speed of education, and the speed of industry and the speed of technology. How do you prepare for the careers of tomorrow if you don't know what they are? It's the responsibility of education to teach them how to think creatively and how things can change."

Appendix B: 2022 Oregon Talent Assessment Survey

Oregon Talent Assessment Survey 2022

Introduction

ID: 2

In partnership with the Oregon Workforce and Talent Development Board, Oregon's Higher Education Coordinating Commission (HECC) is conducting a Talent Assessment to gather industry input on key workforce development issues. Your responses provide critical business and industry perspective on the workforce landscape and opportunities for improvement.

In addition to this survey, HECC is hosting a statewide Talent Summit on Tuesday, April 12 in Portland. Click here to register for the event.

Survey questions are asked as they relate to your firm; by firm we mean your company or organization. All responses will be confidential, and all questions are optional. We expect the survey to take less than 10 minutes, and you can chart your progress by the bar on the bottom of the page.

Thank you in advance for your important contribution to the Oregon Talent Assessment.

Background Information

Logic: Show/hide trigger exists.

ID: 3

1) What is your firm's industry?

( ) Advanced manufacturing

( ) Bioscience

( ) Construction

( ) Energy

( ) Food and beverage

( ) Healthcare

( ) Leisure and Hospitality

( ) Maritime

( ) Outdoor gear and apparel

( ) Technology and software development

( ) Wood products

( ) Other - Write In: _____

Logic: Hidden unless: #1 Question "What is your firm's industry?" is one of the following answers ("Advanced manufacturing","Technology and software development")
ID: 76

2) Do you consider your firm or organization to be part of the semiconductor industry?

( ) Yes

( ) No

( ) Don't know

Validation: Min = 0 Must be numeric Max character count = 6
ID: 4

3) How many employees work at your firm? Please enter numerically.

_____

Validation: Must be numeric Max character count = 6
ID: 5

4) How many of your employees are located in Oregon? Please enter numerically.

_____

ID: 6

5) In which county or counties do you have offices or locations? Please select all that apply.

[ ] Baker
[ ] Benton
[ ] Clackamas
[ ] Clatsop
[ ] Columbia
[ ] Coos
[ ] Crook
[ ] Curry
[ ] Deschutes
[ ] Douglas
[ ] Gilliam
[ ] Grant
[ ] Harney
[ ] Hood River
[ ] Jackson
[ ] Jefferson
[ ] Josephine
[ ] Klamath
[ ] Lake
[ ] Lane
[ ] Lincoln
[ ] Linn
[ ] Malheur
[ ] Marion

[ ] Morrow

[ ] Multnomah

[ ] Polk

[ ] Sherman

[ ] Tillamook

[ ] Umatilla

[ ] Union

[ ] Wallowa

[ ] Wasco

[ ] Washington

[ ] Wheeler

[ ] Yamhill

General Workforce Conditions

Logic: Show/hide trigger exists.

ID: 7

6) Please indicate your level of agreement with the following statement: Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months.

( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Logic: Hidden unless: #6 Question "Please indicate your level of agreement with the following statement: Attracting, hiring, and/or retaining employees has been a significant challenge for my firm during the past 12 months." is one of the following answers ("Agree","Strongly agree")

ID: 8

7) Which statement is closest to your view?

( ) My firm's workforce challenges are primarily driven by a shortage of candidates with the technical, practical, and personal skills my firm needs.

( ) My firm's workforce challenges are primarily driven by conditions unrelated to skills, such as increased workloads, the lack of available childcare, the lack of housing, and workers' ongoing concerns about the coronavirus.

ID: 9

8) Automation and demographic changes are likely to have large effects on employers and the workforce over the coming decade. Which of the two do you think will have a larger effect on your industry during the next decade?

( ) Accelerating advances in automation and artificial intelligence

( ) An aging workforce and impending retirements

ID: 10

9) Taking a step back from your direct experience and thinking broadly about Oregon's position relative to other states seeking to attract and retain a skilled workforce, please indicate your level of agreement with the following statement: One of Oregon's key competitive advantages is its employers' ability to attract, hire, and retain skilled workers.

( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Logic: Show/hide trigger exists.

ID: 11

10) An increasing number of firms are interested in hiring and retaining employees from diverse backgrounds. Is your firm actively trying to diversify its workforce (e.g., by gender, race/ethnicity, or other characteristic)?

( ) Yes

( ) No

( ) Don't Know

Logic: Show/hide trigger exists. Hidden unless: #10 Question "An increasing number of firms are interested in hiring and retaining employees from diverse backgrounds. Is your firm actively trying to diversify its workforce (e.g., by gender, race/ethnicity, or other characteristic)?" is one of the following answers ("Yes")

ID: 12

11) Please select the ways you are trying to diversify your workforce. Select all that apply.

[ ] By gender

[ ] By race/ethncity

[ ] Other - Write In: _____

Logic: Hidden unless: #11 Question "Please select the ways you are trying to diversify your workforce. Select all that apply. " is one of the following answers ("By gender")

ID: 13

12) Are you having difficulty filling open positions with diverse applicants by gender?

( ) Yes

( ) No

( ) Don't Know

Logic: Hidden unless: #11 Question "Please select the ways you are trying to diversify your workforce. Select all that apply. " is one of the following answers ("By race/ethncity")

ID: 14

13) Are you having difficulty filling open positions with diverse applicants by race/ethnicity?

( ) Yes

( ) No

( ) Don't Know

Logic: Hidden unless: #11 Question "Please select the ways you are trying to diversify your workforce. Select all that apply. " is one of the following answers ("Other - Write In")

ID: 15

14) Are you having difficulty filling open positions with diverse applicants by the other characteristic(s) you described?

( ) Yes

( ) No

( ) Don't Know

Logic: Hidden unless: #10 Question "An increasing number of firms are interested in hiring and retaining employees from diverse backgrounds. Is your firm actively trying to diversify its workforce (e.g., by gender, race/ethnicity, or other characteristic)?" is one of the following answers ("Yes","Don't Know")

ID: 16

15) What kinds of strategies could industry associations, workforce development providers, and education providers employ to help you meet your diversity goals?

_____

_____

_____

_____

Internal Workforce Assessment

Logic: Show/hide trigger exists.

ID: 17

16) Is your existing staff fully proficient at their jobs?

( ) Yes

( ) No

( ) Don't Know

Logic: Hidden unless: #16 Question "Is your existing staff fully proficient at their jobs? " is one of the following answers ("No")

ID: 18

17) What skill sets or qualifications are most lacking in your existing staff? Select all that apply.

[ ] Education Level

[ ] Soft or Interpersonal Skills (skills associated with an individual's habits, personality, and management abilities)

[ ] Basic Skills (basic literacy and numeracy; basic digital /computer skills)

[ ] Occupational Skills (technical and know-how skills that apply directly to the job)

[ ] Advanced Skills (advanced literacy and writing; complex information processing; creativity; critical thinking)

[ ] Work Experience

Logic: Hidden unless: #16 Question "Is your existing staff fully proficient at their jobs? " is one of the following answers ("No")

ID: 19

18) What factors underlie the lack of skill proficiency within your existing staff? Select all that apply.

[ ] Staff are new to the role

[ ] Staff training is currently only partially completed

[ ] Staff lack motivation

[ ] Staff have been in training but their performance has not improved sufficiently

[ ] Unable to recruit staff with the required skills

[ ] Problems retaining staff

[ ] The introduction of new working practices

[ ] Staff have not received the appropriate training

[ ] The introduction of new technology

[ ] The development of new products and services

[ ] Other - Write In: _____

ID: 20

19) Over the next six months, how much of a concern do the following issues pose for your organization, from a workforce management perspective?

	No concern	**Low concern**	**Moderate concern**	**High concern**
Maintaining company culture, collaboration, and employee loyalty in a hybrid/remote work environment	( )	( )	( )	( )
Supporting employee mental health and well-being	( )	( )	( )	( )
Addressing racism or discrimination in the workplace	( )	( )	( )	( )
Potential workforce reductions or restructuring	( )	( )	( )	( )

Continued pandemic-related issues such as company vaccine mandates, state or federal regulations, or workforce fluctuations	( )	( )	( )	( )
Employee resignations or turnover	( )	( )	( )	( )

Validation: Min = 0 Max = 100 Must be percentage

ID: 29

20) Many employers have experienced shifts in remote versus in-person working over the past two years. Approximately what share of your firm's employees:

worked a significant amount of their time remotely before the pandemic? (Enter percentage from 0%-100%.): _____

do you anticipate will work a significant amount of their time remotely after the pandemic (after all restrictions are lifted)? (Enter percentage from 0%-100%.):

_____

Hiring

Logic: Show/hide trigger exists.

ID: 30

21) In the last 12 months, did your firm have difficulty finding qualified applicants for any of the jobs you were trying to fill?

( ) Yes

( ) No

( ) Don't Know

( ) Not Applicable (didn't try to fill any positions)

Logic: Hidden unless: #21 Question "In the last 12 months, did your firm have difficulty finding qualified applicants for any of the jobs you were trying to fill? " is one of the following answers ("Yes","No","Don't Know")

ID: 31

22) Please rate the following from Strongly disagree to Strongly agree regarding the applications your firm received in the last 12 months.

	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
Applicants generally have the **education level** (high school, associates, etc.) required for vacant positions	( )	( )	( )	( )	( )
Applicants have the **soft or interpersonal skills** (skills associated with an individual's habits, personality, and	( )	( )	( )	( )	( )

management abilities, such as dependability, empathy, leadership, adaptability, motivation, teamwork) required for vacant positions					
Applicants have the **basic skills** (basic literacy and numeracy; basic digital/computer skills) required for vacant positions	( )	( )	( )	( )	( )
Applicants have the **occupational skills** (technical and know-how skills that apply directly to the job) required for vacant positions	( )	( )	( )	( )	( )
Applicants have the **advanced skills** (advanced literacy and writing; complex information processing; creativity; critical thinking) required for vacant positions	( )	( )	( )	( )	( )
Applicants typically have the relevant	( )	( )	( )	( )	( )

work experience we seek					
Applicants typically pass a **background check** for needed positions	( )	( )	( )	( )	( )
Applicants typically pass a **drug screening** check	( )	( )	( )	( )	( )

Logic: Hidden unless: Question "Applicants generally have the education level (high school, associates, etc.) required for vacant positions" is one of the following answers ("Strongly disagree","Disagree")

ID: 42

23) Which applicant education levels are hard to find? (Select all that apply)

[ ] High school diploma or GED

[ ] Some college course work

[ ] Career and technical education (CTE) diploma or certificate

[ ] CTE associate (AAS) degree

[ ] Academic associate (AA or AS) degree

[ ] Baccalaureate (BA or BS) degree

[ ] Master's (MA or MS) degree

[ ] Doctoral (PhD) or professional degree

[ ] Other - Write In: _____

Logic: Hidden unless: Question "Applicants have the soft or interpersonal skills (skills associated with an individual's habits, personality, and management abilities, such as dependability, empathy, leadership, adaptability, motivation, teamwork) required for vacant positions" is one of the following answers ("Strongly disagree","Disagree")

ID: 43

24) Which applicant soft or interpersonal skills are hard to find? (Select all that apply)

[ ] Communication skills

[ ] Dependability

[ ] Empathy

[ ] Leadership

[ ] Adaptability

[ ] Self-motivation

[ ] Teamwork

[ ] Time management

[ ] Customer service skills

[ ] Managing own feelings / handling those of others

[ ] Managing or motivating other staff

[ ] Other - Write In: _____

Logic: Hidden unless: Question "Applicants have the basic skills (basic literacy and numeracy; basic digital/computer skills) required for vacant positions" is one of the following answers ("Strongly disagree","Disagree")

ID: 44

25) Which applicant basic skills are hard to find? (Select all that apply)

[ ] Basic data input and processing

[ ] Basic literacy and numeracy

[ ] Basic digital/computer skills

[ ] Other - Write In: _____

Logic: Hidden unless: Question "Applicants have the occupational skills (technical and know-how skills that apply directly to the job) required for vacant positions" is one of the following answers ("Strongly disagree","Disagree")

ID: 45

26) Which applicant occupational skills are hard to find? (Select all that apply)

[ ] Industry or discipline-specific skills not generalizable to other tasks (for example, machine operation, health care skills, construction skills)

[ ] Bookkeeping

[ ] Sales, promotion, marketing

[ ] Facilities and equipment management

[ ] Human resources management

[ ] Business management

[ ] Information technology

[ ] Other - Write In: _____

Logic: Hidden unless: Question "Applicants have the advanced skills (advanced literacy and writing; complex information processing; creativity; critical thinking) required for vacant positions" is one of the following answers ("Strongly disagree","Disagree")

ID: 46

27) Which applicant advanced skills are hard to find? (Select all that apply)

[ ] Advanced literacy and writing

[ ] Complex information processing and interpretation

[ ] Creativity

[ ] Critical thinking and decision-making

[ ] Quantitative and analysis skills

[ ] Project management

[ ] Other - Write In: _____

Logic: Hidden unless: #21 Question "In the last 12 months, did your firm have difficulty finding qualified applicants for any of the jobs you were trying to fill? " is one of the following answers ("Yes")

ID: 47

28) Which of the following has resulted from your firm's difficulty in finding qualified applicants? (Select all that apply)

[ ] Lowered overall productivity

[ ] Increased workload for other staff

[ ] Reduced product or service quality

[ ] Reduced production output or sales

[ ] Prevented firm from expanding its facilities

[ ] Prevented firm from developing new products or services

[ ] Caused firm to outsource work

[ ] Caused firm to move some operations out of Oregon

[ ] Difficulty introducing new working practices or technological change

[ ] Other - Write In: _____

Community Context

ID: 48

29) Recent Oregon data suggests that lack of applicants, unfavorable working conditions, and lack of qualified candidates are primary factors limiting firms' ability to hire. Community conditions also create challenges in hiring. How much of an impact do the following conditions have on your ability to hire?

	No impact	**Low impact**	**Moderate impact**	**High impact**
Limited housing supply and high cost of living for employees	( )	( )	( )	( )
Limited transportation options to/from job location	( )	( )	( )	( )

Impact of climate on the stability of the local labor pool (e.g., extreme heat, fires, and/or drought)	( )	( )	( )	( )
Lack of childcare for employees	( )	( )	( )	( )
Limited access to mental/behavioral health and substance use services	( )	( )	( )	( )

Workforce System Engagement

ID: 49

30) Oregon lawmakers are considering legislation that would strengthen employer ties within their industries and with community colleges and training providers, with the goal of increasing access for priority populations to training opportunities and workforce development services and benefits. What is the likelihood your firm would engage in the following activities to increase access to training and workforce development for these priority populations?

Who are the Priority Populations?

	Very unlikely	**Unlikely**	**Maybe**	**Likely**	**Very likely**
Collaborate in a statewide industry consortium with	( )	( )	( )	( )	( )

other firms in my industry, higher education, and workforce development stakeholders on talent development issues					
Invest in joint recruitment activities	( )	( )	( )	( )	( )
Offer internships, job shadowing, or paid work experience	( )	( )	( )	( )	( )
Invest in joint upskilling of existing workers	( )	( )	( )	( )	( )
Contribute to development of training curriculum	( )	( )	( )	( )	( )
Partner with educators and training providers to develop career pathways in your industry *What are Career Pathways?*Career pathways are the skills, classes, certificates, degrees, and/or work experience needed at different points	( )	( )	( )	( )	( )

along a career trajectory.					
Provide job placements for participants coming out of training programs, including on-the-job training opportunities, or permanent placement	( )	( )	( )	( )	( )
Provide pre-apprenticeship and/or apprenticeship placements	( )	( )	( )	( )	( )
Provide input on uniform standards to determine academic credit received for skills learned outside a traditional higher education institution	( )	( )	( )	( )	( )

Conclusion

ID: 61

31) What one thing would you recommend Oregon businesses, educators, and/or workforce development providers do to develop talent in your industry in Oregon?

_____

_____

_____

_____

ID: 62

32) Would you like to provide any additional input related to Oregon's workforce context, skill availability, or training resources?

_____

_____

_____

_____

Thank You!

ID: 1

Thank you for providing your input to the Oregon Talent Assessment. This process will help inform statewide workforce development practices and strategy. Please forward the survey link to your network and encourage others to participate. Industry input is critical to a responsive workforce system.

http://s.alchemer.com/s3/Oregon-Talent-2022

Appendix C: Stakeholder Interview Protocol

OREGON TALENT ASSESSMENT

KEY STAKEHOLDER INTERVIEW PROTOCOL

Hello, my name is [ENTER INTERVIEWER'S NAME]. I am working with Program and Policy Insight and ECONorthwest to develop the Oregon Talent Assessment for Oregon's Higher Education Coordinating Commission. I would like to ask you some questions about the current workforce context in Oregon, your perceptions of industry access to skilled labor, demand for skilled occupations, and your thoughts on employer engagement. We will also discuss the pandemic and how that has influenced workforce issues.

This interview should take approximately 30 minutes. Your participation is voluntary, and your responses will be kept confidential. Do you have any questions about the interview process or the talent assessment? Do you agree to participate in the interview?

Contact Name/Affiliation:

Phone:

Email:

INTRODUCTION

First, I want to learn a little bit about you, your industry, and your company.

1. In what industry do you work?
2. How many employees does your company have? [skip question #2 for industry association interviewees]
3. What is your role at your company?
4. Where do you have offices or operations in Oregon?

GENERAL WORKFORCE CONDITIONS

Next, I'd like to talk about the skills you need in your industry, and whether and how you have experienced gaps, shortages, or mismatches in skills in the workforce. We'll also consider the pandemic's influence on these issues.

1. Can you describe what it's been like to retain, attract, or hire new employees over the last 12 months? [For industry association interviewees, phrase as "What has it been like for businesses in your industry to retain, attract…etc."]
    a. What factors influence this (e.g., turnover, growth).
    b. How does this compare to your hiring experience prior to the pandemic?

c. What do you think are the key drivers of your hiring challenges? (*Prompt: shortage of candidates with needed skills, or conditions unrelated to skills, such as housing cost, childcare availability, etc.*)

2. An increasing number of firms are interested in diversifying their workforce and retaining diverse employees.

   a. Is your firm [or firms in your industry] actively trying to diversify its workforce? If so, in what ways? *Prompt: For example, by race/ethnicity, gender, or other demographic.*
   b. Are you having difficulty filling open positions with diverse applicants? How? *Prompt for each of the categories they describe above.*
   c. What kinds of strategies could industry associations, workforce development providers, and education providers employ to help you meet your diversity goals?

WORKFORCE ASSESSMENT

3. What are the in-demand skills that are hardest to fill in prospective or current employees? Does the level of skill proficiency vary between your existing and prospective workers? *Prompt, as needed:*
   a. Education level
   b. Soft or interpersonal skills (skills associated with an individual's habits, personality and management abilities, such as dependability, empathy, leadership, adaptability, self-motivation, teamwork, customer service, managing and motivating others, and communication skills)
   c. Basic skills (basic literacy and numeracy; basic computer skills)
   d. Occupational skills (technical and know-how skills that apply directly to the job)
   e. Advanced skills (advanced literacy and writing; complex information processing; creativity; critical thinking)
   f. Work experience
   g. Clear criminal record
   h. Clear drug screening
4. How would you say the pandemic has most affected talent demand and supply in your industry? *Prompt: are there new or different skills shortages? Is it harder or easier to find workers? How have you had to adjust to meet these challenges?*
5. What kinds of impact has the difficulty in finding qualified workers had on your firm? (*Prompt, as needed: lowered productivity, increased workload for other staff, reduced quality, prevented you from implementing new practices or developing new products*)
6. Outside of hiring and retention, what are the key workforce issues that you think you [or businesses in your industry] will be focused on over the next six months? *Prompt: For instance, maintaining company*

culture in a hybrid work environment, continued pandemic-related issues, supporting employee health and well-being, or workforce restructuring?

WORKFORCE PLANNING AND COORDINATION

1. How do you perceive roles and responsibilities of workforce stakeholders (e.g., industry/business, educators, government) in developing the needed skills in your industry workforce?
2. Oregon lawmakers are considering legislation that would strengthen employer ties within their industries and community colleges and training providers with the purpose of increasing access for priority populations to training opportunities.
    a. *(Note to interviewer if asked about priority populations: Priority populations of focus include: communities of color, women, low-income communities, rural communities, veterans, persons with disabilities, incarcerated or formerly incarcerated individuals, members of Oregon's recognized Indian tribes, and individuals who experience discrimination based on age.)*
    b. What kinds of activities would you be interested in participating in?
        i. *Prompt: offer internships, paid work experience, and job placement, collaborate on occupational needs projections, collaborate on training curriculum, develop skill standards and certification systems, develop career pathways, etc.*
        ii. I'd like to drill down a little bit more on your capacity to offer internships, paid work experience, and job placement.
            1. *(If not discussed above)* Is this something that your firm would have the capacity to do in general?
            2. Is this something your firm would have the capacity to do for Future Ready priority populations, such as communities of color, women, low-income communities, rural communities, veterans and participants in offender reentry programs?
3. What one thing would you recommend Oregon businesses, educators and workforce development providers do to develop talent in your industry in Oregon?

CLOSING/THANK YOU

Thank you for your time and input into this assessment. We're hoping to have preliminary information ready to share at the upcoming annual Talent Summit on April 12.

We are also collecting information from employers through a survey. We would appreciate your help in maximizing participation in the survey to ensure we hear from as many voices as possible. Can I share the link with you to share with your industry or business network?