



MARCH  
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EXECUTIVE  
SUMMARY

# INTERSTATE BRIDGE REPLACEMENT PROGRAM (IBR)

REGIONAL INFRASTRUCTURE WORKFORCE MARKET STUDY

THE COLUMBIA-WILLAMETTE WORKFORCE COLLABORATIVE  
Working together to develop and support regional talent



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## EXECUTIVE SUMMARY

This in-depth regional infrastructure workforce market study was commissioned to help the Interstate Bridge Replacement program (IBR) team more effectively consider strategies that enhance career opportunities for women and people of color in the construction and professional, technical and engineering (PTE) trades to support equitable growth in the region's economy.

This report is the result of an extensive research study, which included collecting and analyzing existing available construction and PTE workforce supply data, forecasting the local five-year workforce demand, conducting extensive interviews with public agencies, contractors, apprenticeship programs, unions, contractors and pre-apprenticeship workers and foremen in the region. The research sought to uncover the major barriers to achieving equity and increasing diversity in the construction and PTE workforce for the Portland–Vancouver–Hillsboro Metropolitan Statistical Area (Portland MSA). A set of recommendations for success are outlined and described in the report.

The Bipartisan Infrastructure Law (BIL) / Infrastructure Investment and Jobs Act (IIJA) authorizes \$1.2 trillion in transportation infrastructure funding to states. This act focuses on grants as a primary funding mechanism for critical infrastructure projects. While the legislation incorporates labor and workforce standards, the realization of quality jobs and equitable access depends on policy decisions on specific projects. Federal agencies are providing greater guidance and oversight, emphasizing factors such as fair wages, union representation, employment access, workplace safety, training opportunities, and discrimination-free environments. The federal government, through the U.S. Department of Labor (DOL), also plays a vital role in supporting agencies to achieve equity and job quality goals by evaluating applicants' plans and enforcing standards and data collection. The public projects in our region have an incredible opportunity to align with these federal directives locally by expanding innovative and effective workforce equity strategies.

As our region rapidly diversifies, public project owners will dramatically benefit from a concerted effort to effectively respond to the growing industry opportunities and federal and local policy directives. Success for the IBR program can be achieved through recommendations as outlined in this report.

Diversifying the construction and PTE workforce will not only help create a stronger supply of needed workers for the industry; it will also directly address issues of poverty and economic mobility within communities of color and working families in the region.

### Box 1. Construction-related occupations in Portland Metro Region in next ten years (2020–2030)

**134,000** total jobs  
**13,000** new jobs, +10%  
Over **40%** of the workforce is over 45 years old  
**\$33.00** is the median wage per hour

### Box 2. Creating jobs for people of color and women in the Portland Metro Area

If all public projects over \$15M planned for the next five years implemented and met workforce goals of employing 21% people of color and 11% women, there would be:

- **4,700** FTE jobs for workers of color = **\$322.6 million** in earned wages
- **2,500** FTE jobs for women workers = **\$171.6 million** in earned wages

## Findings Overview: Existing Workforce Supply

- Approximately 43,000 people work in nonresidential construction occupations in the greater Portland Metro area (2022).
- Five percent are women.
- Twenty-six percent are workers of color.
- Employment for workers of color is largely driven by workers who identify as Hispanic/Latino. Black and Asian workers are underrepresented in the trades.
- Women and people of color are more likely to work in lower paying trades.

## Findings Overview: Projected Demand (5+ Years, public projects over \$15 million)

- From 2023 through at least 2028, the 107 known large public capital projects identified by this study will require over 22,000 construction workers.
- Some of these projects have stated apprentice and workforce diversity utilization goals, with average goals of 17 percent apprentices, 21 percent people of color, and 11 percent women.
- These average goals, if applied across all 107 projects, puts the 5-year demand at 3,800 apprentices, 4,700 people of color, and 2,500 female construction workers.
- The current 2022 workforce of 43,000 nonresidential construction workers appears to meet the future 5-year demand of 22,000 workers for large capital projects, even when incorporating the goals for apprentice and people of color utilization. However, the region will need an additional 370 female construction workers to meet diversification goals.
- While the workforce as a whole appears largely ready to meet the demand at a sum total level, this conclusion breaks down when looking through an occupational lens at diversification for each major trade.
- When diversification and workforce deficits are added together by trade, this analysis shows that the current supply would fall short by about 270 people of color, 1,050 females, and 1,290 apprentices to fill the needs for all trades in the region over the next 5 years. These deficits more accurately show the deep need for additional outreach to, training and retention of underrepresented groups for skilled trade career opportunities.
- An estimated 5,900 PTE workers will be needed. As with the trades, these positions may be filled by a combination of the existing workforce and new entrants.
- Three PTE occupations account for over half of total PTE demand: office clerks, project management specialists, and civil engineers.

### Box 3. Supply of workers in the nonresidential construction trades in the Portland Metro area: 2022

Total number of Construction workers: **43,000**

- Total people of color: **11,200**
- Total women: **2,100**

Total number of PTE workers: **12,800**

- Total people of color: **2,900**
- Total women: **7,100**

Completion rate for all registered apprentices: **55%**

- People of color completion rate: **46%**
- Women completion rate: **46%**

### Box 4. Demand for workers in the construction trades and PTE on public projects over \$15M in the Portland Metro area over the next 5+ years

Total number of projects: **107**

Total dollar amount of projects: **\$13.1–\$15.3 billion**

Total number of Construction workers needed: **22,000**

Total number of PTE workers needed: **5,900**

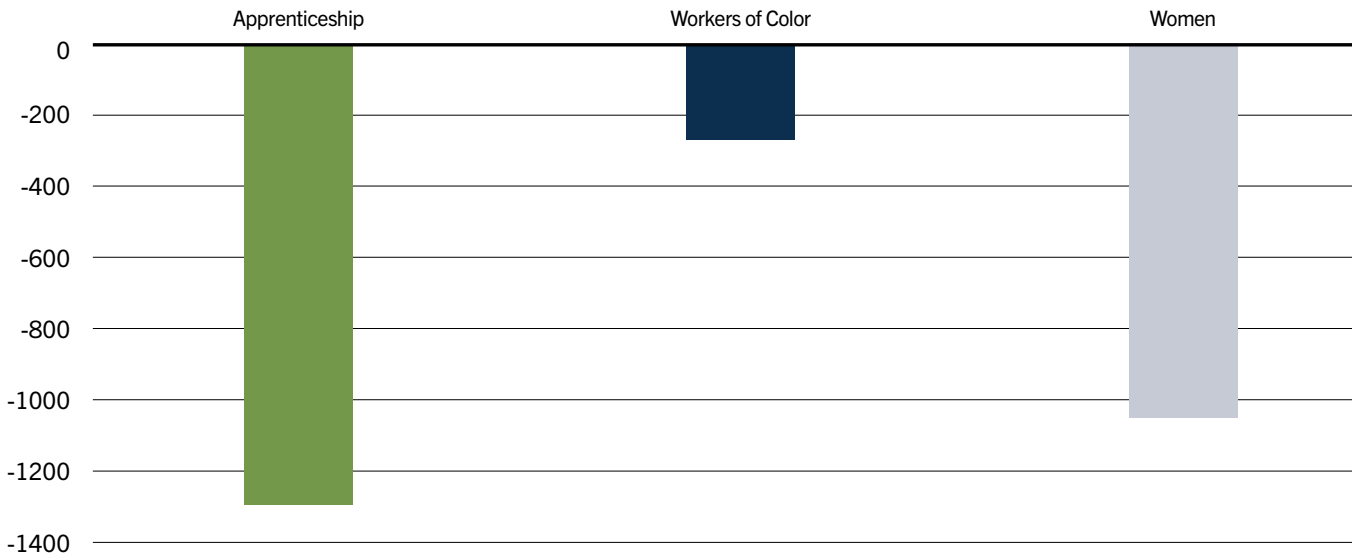
Demand for diverse workers and apprentices for current known workforce goals:

- Apprentices: **1,000**
- People of Color: **900**
- Women: **600**

Demand for diverse workers and apprentices, assuming all public projects have goals of 17% apprentice, 21% people of color, 11% women:

- Apprentices: **3,800**
- People of Color: **4,700**
- Women: **2,500**

## SUPPLY AND DEMAND GAP ANALYSIS: Deficits by Trade Assuming Goals on All Projects



### Findings Overview: Barriers to Diversifying

- Retention of diverse workers is adversely affected by the lower-quality training these workers often receive on the jobsite from supervising journeypersons, which means that these apprentices are less included in the trades and struggle to excel and advance.
- Harassment remains a significant issue on jobsites. This includes harassment based on gender, race, and other identities; harassment of apprentices; and disrespect often experienced by all workers. Workers also experience isolation and exclusion. This impacts the industry's ability to retain current workers and recruit future workers. The industry has not yet widely adopted policies and practices that effectively address jobsite harassment and discrimination incidents.
- Women and people of color are less likely to have opportunities for advancement within the industry such as becoming forepersons, superintendents, or company owners. Additional support is needed related to the transition from apprentice to journey-level.
- Real-life financial hardships or unexpected life situations often arise (i.e. family care needs, transportation issues, etc.), especially for early term apprentices who may have limited or no savings, which can be enough to prevent them from continuing with their careers. Additionally, the lack of steady work in the construction industry particularly impacts female workers and workers of color. Studies have shown that these workers work far fewer hours annually than their white male counterparts.
- Both the cost of childcare and access to childcare (especially for non-standard shifts) are a barrier to success for parents in the industry.
- Requirements for long shifts, changing schedules, and non-standard work hours without options for flexibility in work hours pose challenges for workers, especially those with caregiving needs.
- Most connections into apprenticeship still occur through personal referrals, which women and people of color are less likely to experience, and outreach that is done by word of mouth is rarely targeted specifically toward marginalized communities. Outreach and marketing efforts are not well coordinated across the region, frequently do not reach a diverse audience, and the impact of this outreach is unknown.
- State-certified pre-apprenticeship programs expose historically underrepresented populations to the trades, screen them for job readiness, and help to cultivate a pipeline of diverse jobseekers. However, these programs have limited capacity due to funding sustainability concerns and reporting fatigue for their numerous existing funders. Not having a more sustained and/or streamlined funding model for pre-apprenticeship programs is a barrier for better and increased recruitment of women and people of color into construction.
- Lastly, the majority of public projects in the Portland Metro area do not have workforce participation goals. Those that do have goals struggle with monitoring and enforcing them. Agencies reported that staff, time, and cost could be barriers to implementing and upholding goals.

## Recommended Regional Actions for Diversifying the Construction and PTE Workforce

Meeting the increasing demand for a skilled workforce necessitates coordinated efforts on a regional scale, addressing retention barriers and entry faced by workers often marginalized in the sector. Successful strategies involve participating in regional collaborations to establish diverse worker and apprentice goals, collectively investing in recruitment and retention initiatives, identifying, and implementing culturally specific strategies tailored to the unique needs of workers, especially women and people of color, and addressing the challenge of affordable childcare. With leadership from the federal government and locally, the region has an historic opportunity to incorporate these promising practices into workforce equity strategy and community benefit outcomes.

The following recommendations are discussed at length in the full report:

### 1. Grow a diverse regional construction workforce through multi-jurisdictional collaboration, coordination, and targeted investments.

Make the intentional choice to build up the regional workforce by joining forces with existing successful regional efforts to eliminate barriers for women, people of color and justice-involved<sup>1</sup> individuals accessing and staying in quality construction careers.

- Adopt the Construction Career Pathways Framework (CCPF).
- Join multi-jurisdictional coordination tables and Funder Collaborative to scale up regional workforce planning and investments. CCPF's Regional Collaborative Committee and the CCPF Funder Collaborative.
- Embed equity goals into all workforce agreements. The Regional Workforce Equity Agreement (RWEA) can be a model.

### 2. Improve retention through addressing jobsite culture and other challenges.

- Mandate contractors commit to actively improve jobsite culture by establishment of zero-tolerance policies, robust reporting mechanisms, and consistent implementation of proven positive work environment training.
- Invest in project-level retention support to keep skilled workers.
- Provide flexibility in work hours to address workers' caregiving and health needs.

### 3. Knock down the barriers that women and workers of color face to grow a skilled workforce.

- Fund and grow comprehensive support services programs that can help a new generation of workers advance in their careers.
- Make affordable, accessible, reliable, and high-quality childcare a signature workforce and community benefit.
- Allocate resources to fund and grow programs that remove barriers to entry for diverse workers.

### 4. Implement Effective Project Administration and Procurement Strategies.

- Effectively plan for and resource successful implementation of workforce equity policies within a public jurisdiction.
- Establish oversight committees and sustained labor management community committees to address challenges and share best practices.
- Use procurement processes to ensure contractor compliance on respectful workplaces, inclusion, and anti-harassment initiatives.

### 5. Increase Communication and Education for Project Managers and Contractors.

- Enhance Project Communication and Expectations between public administrators and contractors.
- Allocate resources for training opportunities and internal support tailored to project managers, focusing on advancing equity in construction projects.

### 6. Continue to explore and address Professional, Technical and Engineering (PTE) equity opportunities.

- Work with local and state educational institutions, students, and employers to identify the key barriers and solutions to more diversity in PTE jobs.
- Fund and grow comprehensive support services programs that can help a new generation of diverse workers grow in the PTE sectors. ■

<sup>1</sup> Justice-involved: refers to anyone who has had interaction with the criminal justice system as a defendant.

## ACKNOWLEDGMENTS

### Study Team

This study was collectively conducted by a group of nonprofits and one private consultant, all of which have extensive background in workforce equity policy and research:

**Clackamas Workforce Partnership:** Clackamas Workforce Partnership is the nonprofit workforce development board serving Clackamas County since 2001 and is an affiliate of the state public workforce system, WorkSource Oregon, and the federal American Jobs Center Network. CWP’s mission is to create a more diverse, equitable, and inclusive workforce through collaboration and investments in people and businesses of Clackamas County. CWP is focused on building an inclusive workforce system that promotes innovation, responsiveness, and transparency, and meets the needs of the people and communities of Clackamas County. CWP works across the nonprofit, public, and private sectors to identify and address critical issues impacting the local workforce system, including barriers to employment faced by historically marginalized communities. CWP facilitates collaborative relationships among stakeholders from a variety of backgrounds, industries, and roles, which help inform the development of programs and services that remove barriers to socio-economic stability; help meet the needs of local employers; and promote equitable economic development.

**Estolano Advisors (EA):** EA celebrates this unprecedented investment in high-road and inclusive strategies and is eager to capitalize on the opportunity it presents to build a more equitable economy. As urban planners and public policy consultants, our expertise is in addressing precisely those challenging, multifaceted, and knotty issues—jobs, transportation, housing, infrastructure, and the integration of all four—whose untangling leads to a more just, equitable, and climate-resilient future. Since our founding in 2011, we’ve partnered with governments, communities, unions, and employers to pioneer these sorts of inclusive approaches to economic development. With local governments around the country struggling to access new funding programs—often for lack of technical experience—EA can help train our partners and allies on the exact tools and strategies to unlock federal funds. In several cases, we literally wrote the book on these very approaches. Our principled focus on equity, proven success as cross-sector advisors, and penchant for finding pragmatic solutions for achieving shared objectives, constitute our firm’s distinguished skillsets. Estolano Advisors is led by recognized thought leaders supported by a team of diverse technical experts. Cecilia V. Estolano, Richard France, Cynthia Guzmán, Tulsí Patel, Winnie Fong, Ginny Browne, and Raahi Reddy comprise the leadership team.

**Oregon Employment Department (OED):** The OED Workforce and Economic Research Division is instrumental in the production of accurate, reliable, and timely labor market data through surveys and analyses. Information is disseminated through publications, presentations, media contacts, and responses to customer requests. Workforce development policy makers, businesses and business associations, and educational entities are key Research customer groups.

**Portland State University (PSU):** Starting in 2011, Dr. Maura Kelly has conducted several research projects on workforce diversity in the construction workforce in Oregon. These projects have included assessing recruitment and retention of a diverse workforce in the construction trades as well as conducting formal evaluations of programs aimed to increase workforce diversity in the construction trades. Findings of this research have been published in research reports for funders (see [www.pdx.edu/profile/maura-kelly](http://www.pdx.edu/profile/maura-kelly)) as well as in a peer-reviewed journal. Dr. Kelly has experience with a variety of evidence-based research methods in the construction trades context, including interviews and focus groups, which were the primary methods for the PSU researchers’ component of this project.

**Workforce Southwest Washington (WSW):** WSW, a 501c3 nonprofit, leads the regional workforce development system as the Local Workforce Development Board for Clark, Cowlitz, and Wahkiakum counties. WSW invests in programs and services that equip youth and adults for employment, career advancement, and self-sufficiency. WSW aids in business growth by funding and collaborating with companies to foster recruitment, training, and retention of employees. WSW uses its partnerships with labor market analysts, economic development agencies, industry, and “real-time” labor information tools such as JobsEQ to forecast changes in the area, analyze worker supply and employer demand, and support regional workforce investments. This data-driven, employer-focused approach informs planning, service delivery, implementation and continuous improvement.

**Worksystems Inc. (lead):** Worksystems, since it formed as an agency in 1999, has worked intentionally to use labor market information from local, state and federal agencies alongside first-hand workforce intelligence gathered from local employers to design workforce development programming that maximally benefits job seekers and employers in the community. The approach requires intensive workforce supply and demand data analysis. Resulting Sector Strategies are industry-driven, data-based plans to improve the quality of the local workforce in high-growth industries. All sector strategies have specific goals related to ensuring underrepresented populations gain access to career exposure, training and quality jobs.

### Study Funders

This study was commissioned in May 2023 by the Oregon Department of Transportation and Washington State Department of Transportation for the Interstate I-5 Bridge Replacement program (IBR). ■



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