



PORTLAND METRO REGION  
CONSTRUCTION WORKFORCE  
MARKET STUDY

2018



The Portland Metro Workforce Development Board

## 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:

**JM Woolley & Associates (JM Woolley):** Since establishing her consulting firm twenty-six years ago, Ms. Woolley has worked on a variety of multi-disciplined consulting projects that helped produce plans and strategies for a range of public policies, and community development and revitalization initiatives in the metro area. She has extensive experience with a wide range of stakeholders which affords her the unique ability to effectively gather and synthesize meaningful input from a variety of constituencies to inform the planning and development processes for the implementation of public policy, plans and initiatives. She also has demonstrated skills in doing broad public outreach in diverse communities to document the critical concerns of these stakeholders so that they can be effectively integrated into the proposed policy and planning processes, the public and private agency service delivery plans, and the proposed community development initiatives. JM Woolley led on the public agency interviews and helped author the final report.

**National Association of Minority Contractors of Oregon (NAMCO):** Established in 2007, NAMC-Oregon is the local affiliate of the National Association of Minority Contractors (NAMC). The NAMC is a nonprofit trade association founded in 1969 to address the needs and concerns of minority contractors. Though membership is open to people of all races and ethnic backgrounds, the organization's mandate, "Building Bridges—Crossing Barriers," focuses on construction industry issues common to African Americans, Asian Americans, Hispanic Americans, and Native Americans. NAMCO helped organize the foreman focus groups.

**Oregon Employment Department (OED):** OED regional economists are instrumental in production of these products, along with responding to myriad other workforce data requests that come in from the community. OED led on the quantitative labor and gap analysis, as well as helped author the final report.

**Oregon Tradeswomen:** is dedicated to promoting success for women in the skilled trades through training, support, leadership development and good public policies. Founded in 1989 as a small support group led by four tradeswomen, Oregon Tradeswomen was founded on the principles that women deserve and can attain economic independence through careers in the skilled trades. We work with industry partners to ensure that best practices are implemented in recruitment and retention, including equitable access, training and promotion, as well as the implementation of respectful work sites. Tiffany Thompson, Director of Advocacy

Programs and Connie Ashbrook, Emeritus Executive Director, helped convene the worker focus groups, authored the best practices, and helped author the final report.

**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/sociology/maura-kelly](http://www.pdx.edu/sociology/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. PSU facilitated the focus groups, led on all qualitative data analysis, and help author the final report.

**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 jobs. Worksystems led on the overall project management, helped with the quantitative labor data analysis, and led on authoring the final report.

## STUDY FUNDERS

This study was jointly commissioned in January 2017 by Metro and the City of Portland.



Metro



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# EXECUTIVE SUMMARY

This in-depth construction workforce market study was commissioned to help Metro and partners more effectively invest resources toward promotion of equitable growth in the region's economy through the enhancement of career opportunities for women and people of color in the construction trades.

## INTRODUCTION

As the ongoing economic recovery has led to business growth and infrastructure investments, the construction sector has boomed, making it a high-growth industry in the Portland Metro Area (see Box 1). However, the career opportunities generated by this growth are not equitably accessible to everyone in the community. Construction has historically been a male-dominated and racially homogenous industry, and this continues to be the case. At the same time, construction businesses report a severe shortage in skilled talent – a claim that is supported by labor market data.

As our region rapidly diversifies, both businesses and underrepresented communities will dramatically benefit from a concerted effort to connect these communities to the growing industry opportunities. Indeed, contractors and industry have recognized the need to attract more talent and build a workforce that better reflects the community<sup>1</sup>. Success for the region can be achieved by: (1) having a strong pipeline of skilled workers to fill the anticipated shortages; (2) ensuring that jobs created through publicly funded projects are equitably attained by working people from all demographics; (3) having a regional construction workforce that better reflects the demographics of the community.

Diversifying the construction 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.

This report is the result of an extensive research study, which included collecting and analyzing existing available construction workforce supply data, forecasting the local five-year workforce demand, conducting extensive interviews with public agencies, contractors, apprenticeship programs, and pre-apprenticeship programs, and holding focus groups with diverse construction workers and foremen in the region. The research sought to uncover the major barriers to achieving equity and increasing diversity in the construction workforce for the Portland Metro Region. A set of recommendations for success are outlined and described in the report. For a complete and detailed set of all data, please visit: <https://www.oregonmetro.gov/construction-career-pathways-project>.

### BOX 1. CONSTRUCTION-RELATED OCCUPATIONS IN PORTLAND METRO AREA IN NEXT TEN YEARS (2016-2026)

51,000 total jobs  
8,800 new jobs, +18.6%  
17% of the workforce currently is at or near retirement age  
Over one-third of the workforce is over 45 years old  
\$26.16 is the average wage per hour

### BOX 2. CREATING JOBS FOR PEOPLE OF COLOR AND WOMEN IN THE PORTLAND METRO REGION

If all public projects over \$15M planned for the next five years implemented and met workforce goals of employing 25% minorities and 14% women, there would be<sup>2</sup>:

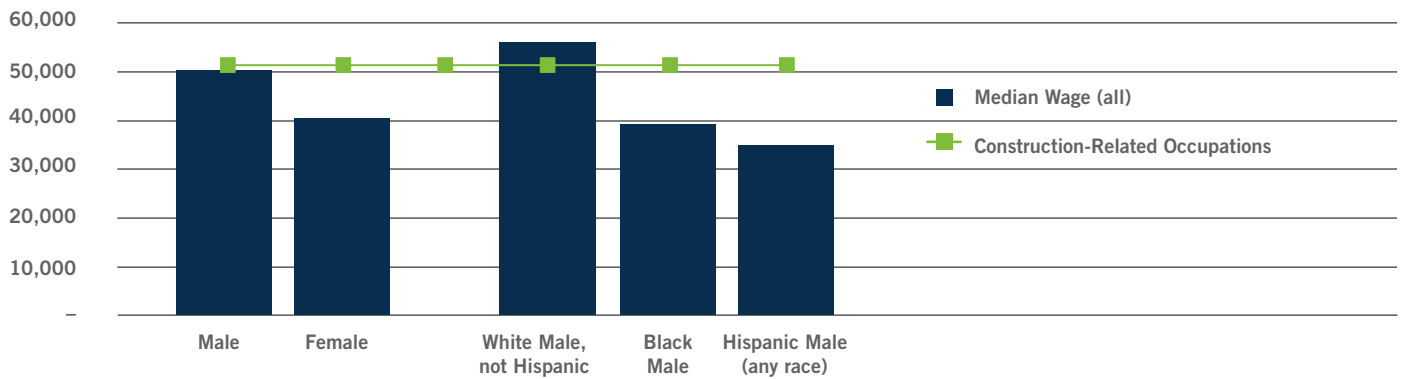
- 3,400 FTE jobs for minority workers = \$185.0 million in earned wages
- 1,900 FTE jobs for women = \$103.4 million in earned wages

1 Many public agencies are focused on diversity goals in contracting, such as increasing their utilization of minority, women and emerging small businesses (MWESBs). This study only focused on workforce equity, and does not include research or strategies on contracting equity.

2 Utilization goal percentages are the share of total hours worked by each category.

## MEDIAN WAGE OF THE WORKING POPULATION VS. MEDIAN WAGE FOR CONSTRUCTION-RELATED OCCUPATIONS, PORTLAND METRO AREA, 2016

Sources: American Community Survey; Bureau of Labor Science



### FINDINGS OVERVIEW: EXISTING WORKFORCE SUPPLY<sup>3</sup>

- Approximately 23,000 people work in nonresidential construction occupations in the greater Portland metropolitan area (2016)<sup>4</sup>.
- Four percent are women.
- Twenty percent are minorities.
- Minority employment is largely driven by Hispanics. Blacks and Asians are underrepresented in the trades.
- Women and minorities are more likely to work in lower paying trades.

#### BOX 3. SUPPLY OF WORKERS IN THE NONRESIDENTIAL CONSTRUCTION TRADES IN THE PORTLAND METRO AREA: 2016

Total number of workers: 23,000

- Total minorities: 3,800
- Total women: 940

Completion rate for all apprentices: 46%

- Minority completion rate: 36%
- Women completion rate: 38%

### FINDINGS OVERVIEW: PROJECTED DEMAND (3-5 YEARS, PUBLIC PROJECTS OVER \$15 MILLION)<sup>5</sup>

- From 2017 through 2021, the 81 known large public capital projects identified by this study will require nearly 14,000 construction workers.
- Some of these projects have stated apprentice and workforce diversity utilization goals, with average goals of 20 percent hours performed by apprentices, 25 percent hours performed by minorities, and 14 percent hours performed by women.
- These average goals, if applied across *all* 81 projects, puts the 5-year demand at 2,700 apprentices, 3,400 minorities, and 1,900 female construction workers.
- While the current 2016 construction workforce on a whole could largely meet the demand for diversification across all 81 public projects, analysis of supply within each major trade group shows that only a small portion of trades have enough supply to meet goals.
- When diversification and workforce deficits are added together by trade, this analysis shows that the 2016 supply would fall short by 1,074 minorities, 1,416 females, and 445 apprentices to fill the needs for all trades in the region over the next five years<sup>7</sup>. These deficits more accurately show the deep need for additional outreach to and training of underrepresented groups for skilled trade career opportunities.

<sup>3</sup> For all data collection and analysis, please visit Current Labor Pool section: <https://www.oregonmetro.gov/construction-career-pathways-project>

<sup>4</sup> Portland MSA data

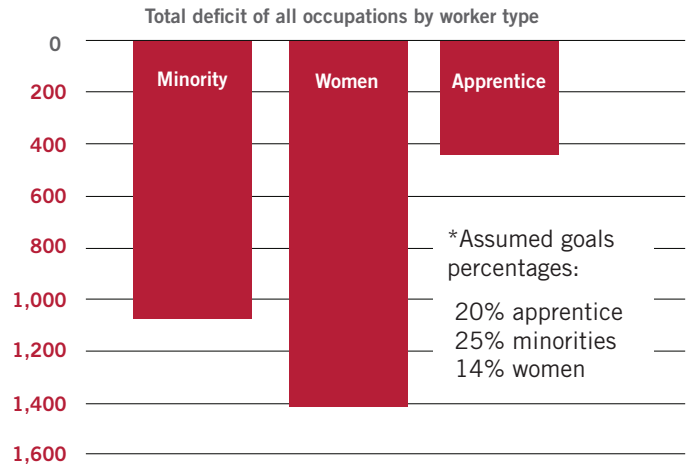
<sup>5</sup> For all data collection and analysis, please visit Public Project Demand Section: <https://www.oregonmetro.gov/construction-career-pathways-project>

<sup>6</sup> It is critical to keep in mind these gaps are only looking at the *current* 2016 workforce supply and assuming no new workers are trained or move to the area and enter the workforce in the next five years. Given that, the estimated gaps should be interpreted with the knowledge that the industry can and will be training more people over the coming years to address the workforce demand of the market.

**BOX 4. DEMAND FOR WORKERS IN THE CONSTRUCTION TRADES ON PUBLIC PROJECTS OVER \$15M IN THE PORTLAND METRO REGION OVER THE NEXT 3-5 YEARS**

Total number of projects: 81	
Total dollar amount of projects: \$7.5 billion	
Demand for diverse workers and apprentices for current workforce goals:	<ul style="list-style-type: none"> <li>• Apprentices: 2,000</li> <li>• Minorities: 1,300</li> <li>• Women: 700</li> </ul>
Demand for diverse workers and apprentices, assuming all public projects have goals of 20% apprentice, 25% minority, 14% women:	<ul style="list-style-type: none"> <li>• Apprentices 2,700</li> <li>• Minorities: 3,400</li> <li>• Women: 2,000</li> </ul>

**SUPPLY AND DEMAND GAP ANALYSIS: DEFICITS BY TRADE ASSUMING GOALS ON ALL PROJECTS<sup>8</sup>**



**FINDINGS OVERVIEW: BARRIERS TO DIVERSIFYING<sup>9</sup>**

The struggle to recruit and retain women and people of color into construction has *many* causes, including:

- 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.
- A lack of social networks for women and communities of color within construction minimizes exposure to the possibility of construction as a career option in the first place.
- 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.

- A history of overt racist and sexist policies within the trades has led to jobsite cultures that are not inclusive (which affects retention of underrepresented workers who begin careers).
- Retention of diverse workers is also adversely affected by the lower-quality training these workers often receive on the jobsite from supervising journeymen, which means that these apprentices will be less skilled in the trades and will struggle to excel and advance.
- The lack of steady work in the construction industry particularly impacts female and minority workers. Studies in Oregon<sup>10</sup> have shown that these workers work far fewer hours annually than their white male counterparts.

7 This only includes demand for public projects over \$15M over the next five years, which represents a portion of the overall demand for construction workers in the region. It does not include private projects or any projects that were not disclosed during study interviews.

8 It is critical to keep in mind these gaps are only looking at the current 2016 workforce supply and assuming no new workers are trained or move to the area and enter the workforce in the next five years. Given that, the estimated gaps should be interpreted with the knowledge that the industry can and will be training more people over the coming years to address the workforce demand of the market.

9 For all data collection and analysis, please refer to Summaries of Interviews: <https://www.oregonmetro.gov/construction-career-pathways-project>

10 For all data collection and analysis, please refer to Summaries of Interviews: <https://www.oregonmetro.gov/construction-career-pathways-project>

- Women and people of color are less likely to have opportunities for advancement within the industry such as becoming foremen, superintendents, or company owners.
- Real-life financial hardships or other challenging 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.
- Lastly, the majority of public projects in the Portland Metro region 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 WORKFORCE<sup>11</sup>

Given all these conditions, successful solutions need to be multi-pronged. Additionally, and most importantly, all of these recommendations need to be considered at a regional level. Workers in the industry typically work at different jobsites, work alongside different trades, and can work for multiple contractors throughout their careers. This means that the barriers to create a more diverse workforce impact everyone working in the region across all trades, jobsites, and agencies. Having a regional approach can better address the issues as they occur and result in more substantial impact. Any adopted strategies need to be implemented in concert with each other, as they are interlinked and will not be as successful if implemented separately.

The following recommendations are discussed at length in the full report (**top priorities in bold**):

### INCREASE RECRUITMENT OF DIVERSE WORKERS

- **Ensure steady funding stream to increase capacity of pre-apprenticeship programs**
- Increase direct entry from pre-apprenticeship into apprenticeship programs
- Promote recruitment of diverse workers through referrals
- Coordinate additional outreach efforts across the region through partnerships with trusted community organizations and community leaders
- Establish stronger collaboration and alignment across regional and state systems such as K-12, WorkSource, etc.

### INCREASE RETENTION OF DIVERSE WORKERS

- **Address construction job site culture through respectful workplace trainings with proven results**
- Increase monitoring of on the job training of apprentices by well-trained experts
- Formalize mentorship resources for diverse workers
- **Invest in ongoing supportive services for apprentices**

### DEVELOP MORE ROBUST EQUITY POLICIES AND PRACTICES

- **Enforce contract goals, with consequences for non-compliance**
- **Improve oversight to achieve workforce goals on public projects**
- Create contractor incentives in bidding process for past equity performance and compliance
- Improve and ensure a transparent system for reporting and monitoring of workforce goals
- Create consistent opportunities for connections across sectors to collectively problem solve
- **Adopt shared policies and processes across agencies**
- **Sustain a regional investment in the construction workforce pipeline**

Advancing workforce diversity and equity in construction will take focus, investment, and concerted collaboration. No one party can do it alone. Everyone in the industry: public agencies, contractors, training providers, apprenticeship programs, and the workers on the jobsites, all have a role to play in the success of achieving workforce equity and diversity for the Portland metro region.

<sup>11</sup> For all data collection and analysis, please refer to Summaries of Interviews: <https://www.oregonmetro.gov/construction-career-pathways-project>

# FINAL REPORT

In this report, we address three central topics:

- Re-definition of what will be required to achieve success in construction workforce equity and diversity for the Portland metro region:
  - » **Goal 1:** Increase Recruitment of Diverse Workers
  - » **Goal 2:** Increase Retention of Diverse Workers
  - » **Goal 3:** Develop More Robust Equity Policies and Practices

- Identification of the key barriers to this success, e.g. what are the major factors that prevent the successful maturation of a diverse construction workforce in our region.
- Recommendations for improving the effectiveness and capacity of the existing trades' training supply pipeline based on quantitative and qualitative data, stakeholder feedback, and research on best practices.

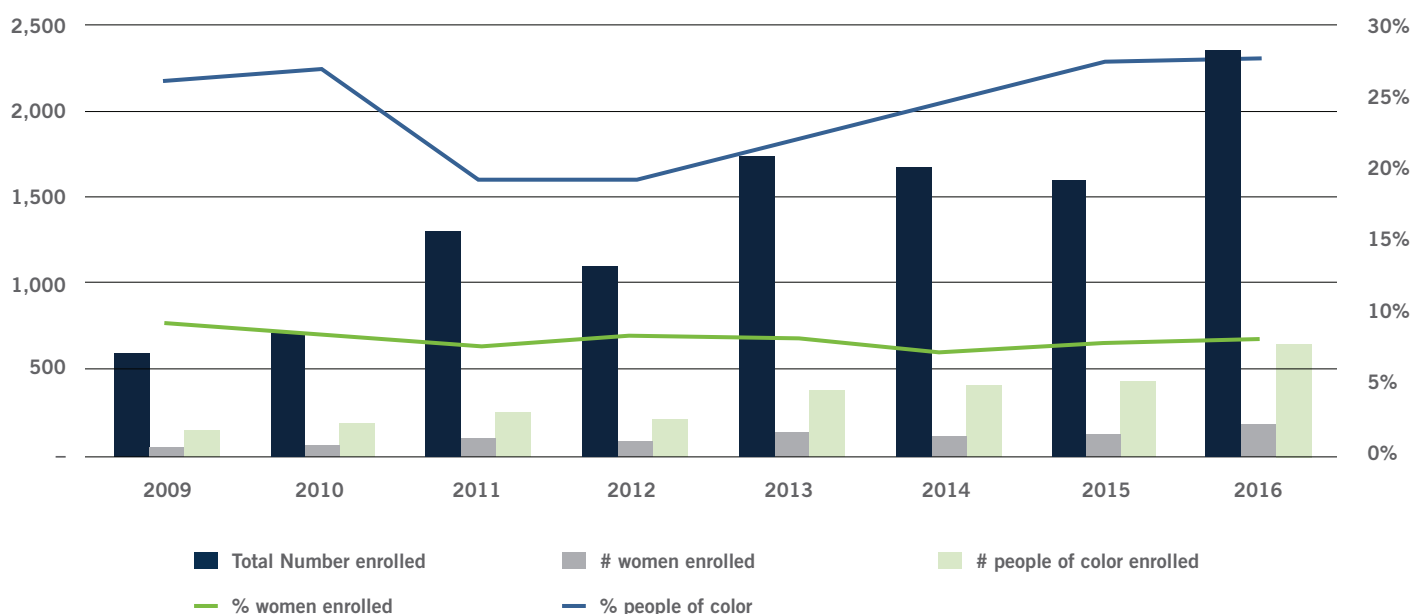
## GOAL 1: INCREASE RECRUITMENT OF DIVERSE WORKERS

The construction industry struggles with recruitment into the trades. The combination of growing demand and increased capital projects, coupled with an aging workforce that is soon to retire, all contribute to a need for better recruitment into construction career fields. In order to fully meet the growing demand, it is critical that the industry finds and/or builds mechanisms to tap previously excluded demographics.

Data collected on State-registered Apprenticeship programs show that recruitment of women and people of color has not improved much since 2009:

**FIGURE 1. SHARE OF WOMEN AND PEOPLE OF COLOR IN CONSTRUCTION STATE-REGISTERED APPRENTICESHIP**

**NEW STATE-REGISTERED APPRENTICESHIP ENROLLMENT BY YEAR: PORTLAND REGION**





The growing enrollment of registered apprentices in the Portland metropolitan area reflects the surge in construction workforce demand. Since 2009, annual apprenticeship enrollments in the Portland metropolitan area have nearly tripled, from less than 600 to 2,350 (in 2016). As a result, the number of registered apprentices has increased from 5,150 in 2014 to 6,555 in 2016, a 27 percent rise. Despite the substantial gain, the demographic makeup of registered apprentices has seen limited change. For example, in the 2009 enrollment cohort, women represented 9 percent of apprenticeships, minorities 26 percent, and combined women and minorities 31 percent. Meanwhile, in 2016 these percentages were 8 percent, 24 percent, and 29 percent, respectively. Trends in new enrollments are important to note if the industry is interested in increasing racial and gender diversity in the trades: enrollment must be more diverse than the current apprentice pool to have the total makeup shift over time.

### RECRUITMENT: BARRIERS TO SUCCESS

Overall, recruitment is an issue for the whole industry. Information about how to get into the trades is not available to the general public, with applications for apprenticeship being particularly elusive. Many in the trades attribute this to a lack of effective strategies for exposing construction careers to youth early on. The shift to mostly a college-track focus in K-12 means that most young people don't know

that construction is a viable and promising career path that includes tangible skill development, good wages and benefits, as well as a training and education model that is low- to no-cost and leads to nationally-recognized credentials. Many stakeholders interviewed mentioned how they want to see better early exposure of construction as a career path for young people.

*“I think schools is where it has to happen. The counselors and the teachers have to be educated to know the options available and what it takes to get into those programs. Then they can identify those individuals and direct them accordingly based off their interests.”*

*Apprenticeship coordinator*

But more specifically, the struggle to recruit women and people of color into construction has many causes, including a history of overt racist and sexist policies within the trades that created exclusionary practices and prevented women and people of color from entering these occupations. There have been reverberating effects that are still at play today, including a jobsite culture that is not inclusive, as well as a lack of social networks for women and communities of color within construction, which minimizes the ability for these groups to be exposed to the possibility of construction as a viable career option.

## TIARA MOXLEY

*Electrician Apprentice*

Tiara Moxley is the first one in her family to become an electrician. It was never something she imagined herself doing, and she loves it. She takes pride in knowing that after she's completed a job, the electricity will keep working and be used by people who come after her: “You're doing it for other people,” she says. After 1.5 years into her apprenticeship, she's worked on a large car manufacturing building, public train shelters, crosswalk streets, and a park. There's little that she doesn't like about her job, and she shared a bit of wisdom if you want to get into this work: “You can't be afraid of heights, and you have to expect the unexpected, always.”



# CASE STUDY: SEATTLE

## REGIONAL SCALE

The City of Seattle has been engaged in efforts to increase workforce diversity since the late 60s. Most recently the Construction Jobs Equity Coalition and Seattle worked together on a 2012 pilot Community Workforce Agreement (CWA). The successful pilot led to the passing of a Priority Hire Ordinance (SMC 20.37) in 2015 which implements priority hire on public work projects over \$5 million. The City of Seattle has also worked to develop a master CWA.

A key component in Seattle has been their success in scaling their efforts through a regional approach. In 2015, the City Purchasing and Contracting Service, the Port of Seattle, King County, the Washington State Department of Transportation, and the City of Tacoma collaborated to create a shared vision and plan. This group has aligned their resources, openly share best practices, and are creating standard reporting. They have created a strong, ongoing financial commitment to invest in a diverse pipeline of workers into construction. Additionally, the Regional Pre-Apprenticeship Collaborative focuses on building the quality, capacity, strength and sustainability of pre-apprenticeship training.

	CWA Projects	Non-CWA Projects	Past Performance (Prior to CWA)*
<b>Economically Distressed ZIP Codes</b>	21%	16%	12%
<b>All Women</b>	12%	3%	5%
<b>All People of Color</b>	26%	22%	25%
<b>All Apprentices</b>	15%	13%	13%
<b>All Seattle Residents</b>	12%	6%	5%
<b>Journey Women</b>	8%	3%	4%
<b>Journey Workers of Color</b>	22%	22%	25%
<b>Apprentice Women</b>	32%	5%	9%
<b>Apprentices of Color</b>	47%	24%	32%

\*Past performance if based on hours from a sample of projects from 2009-2013.

Data Source: City of Seattle, 2016.

Word-of-mouth outreach is rarely targeted specifically toward marginalized communities, meaning that they do not see themselves in these careers. As the interviews revealed, most recruitment still occurs through personal networks and word-of-mouth.

“I know that this industry in itself, probably ninety percent of all the apprentices we get are through word of mouth. So we have a very large number, regardless of the money we spend on advertising or outreach, it makes no difference. Still, the majority are through word of mouth.”

*Apprenticeship coordinator*

“There’s a lack of awareness among women and people of color... I’d say largely lack of awareness, lack of role models in the industry.”

*Apprenticeship coordinator*

The fact that most enrollments into construction occupations still occur through personal referrals, which women and people of color are less likely to experience, is one major reason that Pre-Apprenticeship programs exist. Pre-Apprenticeship programs are state-certified programs that expose historically underrepresented populations to the trades, screen them for job readiness, and help to cultivate a pipeline of diverse jobseekers. Stakeholder interviews revealed that these programs are the other major source of diverse workers entering into Apprenticeship.

“In this industry, it’s who you know. It’s quite hard. You know, we do have to go through programs like OTI [to get into an apprenticeship]. Whereas the men don’t have to go through anything. They just walk in, and they interview, and most likely they get it. Which is super sad. But, you know, the more programs we can get all over the U.S., the more women we can get in the trades.”

*Apprentice*

For the most part, these programs are tuition-free and rely solely on grant funding, which can be severely volatile, preventing these programs from growing significantly over time. The Oregon Bureau of Labor and Industries (BOLI) certify them, and the list has not grown much over the last several years.<sup>12</sup> Additionally, the programs that do exist have not grown their cohorts to any more than four per year, with no more than 30 students per class. With uncertain and multiple funding streams, these programs experience what many nonprofits do: the hesitation to grow too much for fear of sustainability over time, as well as reporting overload, where they spend a lot of time and energy reporting to their multiple funders. Not having a more sustained funding model for Pre-Apprenticeship programs is a barrier for better and increased recruitment of women and people of color into construction.

## RECRUITMENT: RECOMMENDATIONS

Successful recruitment solutions need to be multi-faceted. The recruitment of women and people of color into construction needs to include increased marketing targeted to these populations. “You can’t **be** it if you can’t **see** it.”

These marketing efforts should showcase real stories of diverse tradespeople and their experiences, in a way that resonates for women and people of color. Additionally, marketing should occur in partnership with trusted groups and organizations. Because there is not typically an established network of tradespeople for females and communities of color to tap into, a dedicated effort will be required to create that network. The research showed that most apprentices came to the trades because they learned about the opportunities through familial or community connections. Absent those for women and people of color, there is a need to increase intentional outreach and exposure about these career opportunities.

Traditional informational marketing efforts will not be able to replicate a scenario where, for example, someone hears about and enters into an electrician apprenticeship because their uncle was an electrician. These kinds of real exposure scenarios are simply uncommon for women and people of color with regard to construction, framing the need for a trustworthy and genuine marketing approach that includes success stories of real tradespeople, as well as tangible next steps that make this career option truly accessible for the intended audience.

FIGURE 2. OREGON TRADESWOMEN TRIMET AD



Although broad marketing can play a role, the interviews in this study showed that most tangible enrollments into the trades through a Registered Apprenticeship program for all populations are primarily due to personal referrals or through direct entry from a certified Pre-Apprenticeship program. So, new strategies for increasing recruitment of women and people of color into careers in construction should focus on cultivating and increasing personal referrals within these populations and increasing the number of people trained and graduating from certified Pre-Apprenticeship programs.

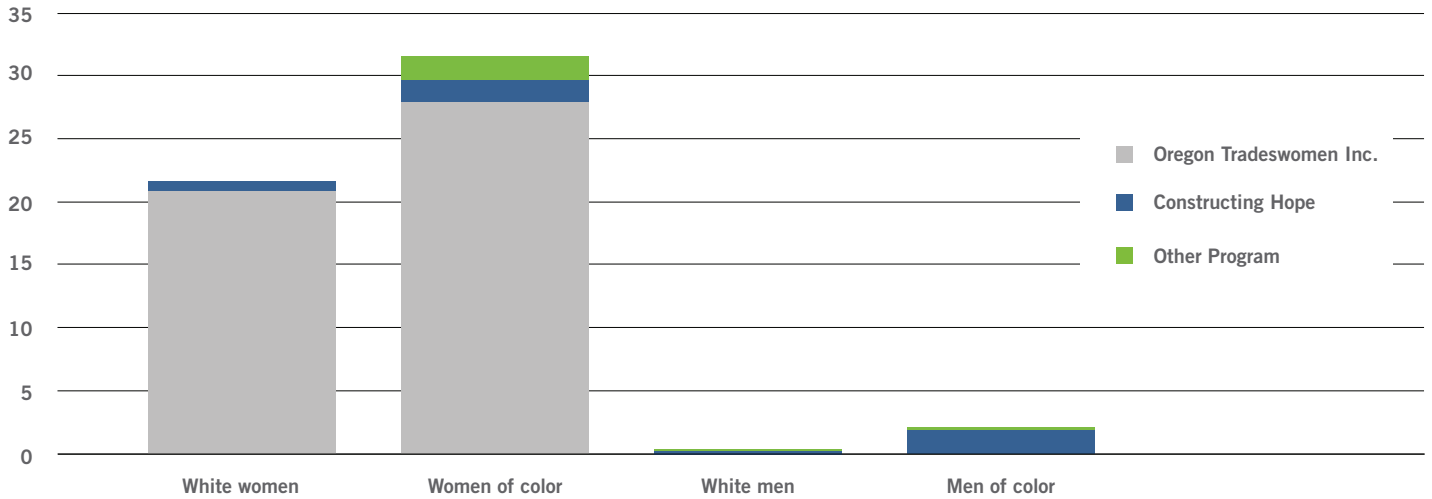
Referrals: With the absence of a sufficient number of tradespeople within diverse communities, there is a need to develop relationships with trusted community based organizations and community members. Empowering on-the-ground organizations and leaders with the right information that can be used to help coach interested people toward careers in the trades will be critical to making successful connections that will increase personal referrals.

“Retention and leadership development are critical in providing role models for new workers, in particular women, who continue to experience isolation on jobsites. When more women are available to serve in leadership roles and as role models, their unions/employers/apprenticeship programs should utilize them to serve in those capacities to attract more women to the industry.”

*Pre-apprenticeship staff*

<sup>12</sup> [http://www.oregon.gov/BOLI/ATD/pages/a\\_ag\\_partners.aspx](http://www.oregon.gov/BOLI/ATD/pages/a_ag_partners.aspx)

**FIGURE 3. PERCENTAGE OF 14-15 ACTIVE APPRENTICES WHO CAME FROM A PRE-APPRENTICEHIP, BY GENDER AND RACE/ETHNICITY**



Kelly, Maura and Lindsey Wilkinson. 2017. "Evaluation of Pre-Apprenticeship and Retention Services in the Trades." Final report submitted to Oregon Tradeswomen, Inc and Constructing Hope. Available at: <http://www.pdx.edu/sociology/maura-kelly>

Certified Pre-apprenticeship programs are excellent interventions for addressing gaps in the provision of early exposure to the trades for women and people of color. Previous research found that pre-apprenticeship programs significantly impact the diversity of the construction trades in Oregon, particularly for women (see Figure 3). Because these populations are less likely to have previous experience and exposure to the construction industry, they are in turn less likely to consider it a career option, and are less likely to be competitive when applying for a Registered Apprenticeship program. A pre-apprenticeship program addresses these gaps through training that includes industry-informed curriculum, job site tours, career coaching and supportive services that address the common barriers to entry into the trades for women and people of color. Public agencies and others interested in increasing recruitment of women and people of color into the trades should work together to develop growing and sustained funding for Pre-Apprenticeship programs in the region in order to increase the number of women and people of color trained in the region. If this funding stream were larger and more stable, existing programs could grow and more programs could be created<sup>13</sup>.

Other recommendations to increase recruitment of women and people of color into construction include expanding direct entry agreements<sup>14</sup> for pre-apprenticeship graduates, which has been shown to better support the hand-off into a Registered Apprenticeship program. Many Apprenticeship programs have these agreements in place, but not all trades. More of these programs should adopt such agreements.

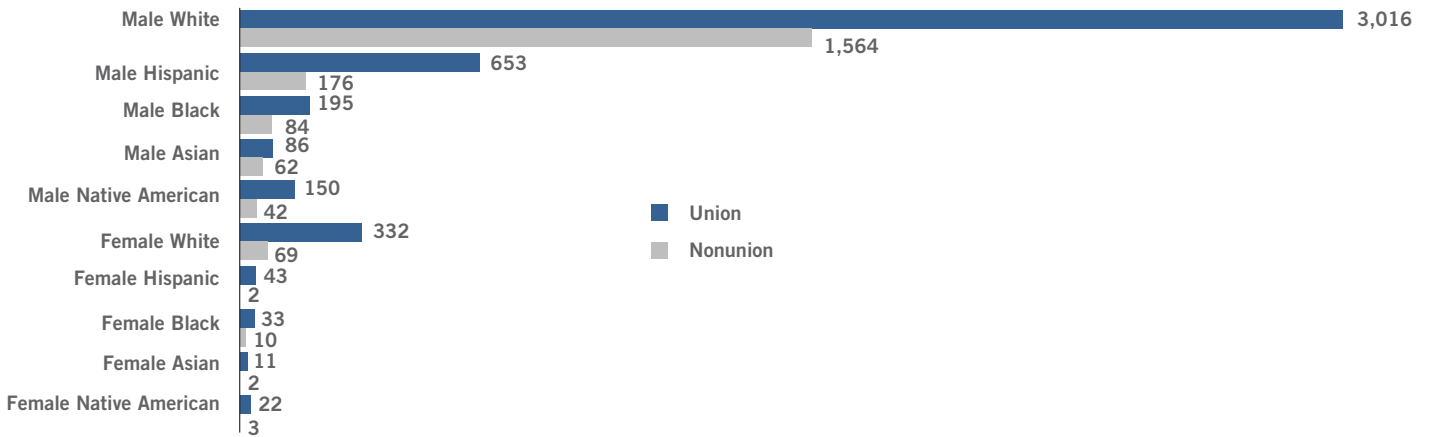
"I think all of the apprenticeship programs need to have standard language that allows direct entry from the pre-apprenticeship programs into the apprenticeship programs, and that the employer can then access those individuals immediately, especially since, you know, if the contractor's reaching out to the pre-apprenticeship program and finding workers. The process needs to be easier to get those individuals into the program. I think part of it would have to involve BOLI. I mean, in terms of a regional approach, I think BOLI has to be involved in that approach."

*Public agency staff*

<sup>13</sup> See Table 5 on page 25 for more details on this recommendation.

<sup>14</sup> Direct Entry provides individuals who successfully complete an apprenticeship preparation program or other prerequisites, and who meet the minimum requirements of a registered program, with the direct opportunity for an interview with the committee for an apprenticeship. See definitions page for further information.

**FIGURE 4. STATE REGISTERED APPRENTICES IN PORTLAND METRO REGION: 2016**



Additionally, better coordination of regional outreach and marketing efforts and investments across the trades would increase the consistency and the level of exposure to these opportunities, as well as increase the efficiency of these efforts. Suggestions for better coordination include tracking the impact of career fairs and outreach events, ensuring that diverse men and women are represented at these events, shared effective marketing materials, and educational workshops about apprenticeship for the educational system

as well as adult service providers. For example, collaboration with the Department of Education could lead to the creation of credits for continuing education for educators and guidance counselors when they learn about apprenticeship. Other collaboration could include a funded scholarship program, gender equity language in school to work or apprenticeship agreements, engaging more youth organizations in advisory roles, or aligning apprenticeship program openings with academic years.

**TABLE 1. SUMMARY RECOMMENDATIONS FOR INCREASING RECRUITMENT OF A DIVERSE WORKFORCE**

Goal	Barriers	Recommendations
Increase recruitment of diverse workers	<ul style="list-style-type: none"> <li>Funding for pre-apprenticeship programs is insufficient, inconsistent and from a variety of sources</li> <li>Low recruitment rate of pre-apprenticeship graduates into apprenticeship programs</li> </ul>	<ul style="list-style-type: none"> <li>Ensure steady funding stream to increase capacity of pre-apprenticeship programs</li> <li>Increase direct entry from pre-apprenticeship into apprenticeship programs</li> </ul>
	<ul style="list-style-type: none"> <li>Recruitment of all apprentices is primarily through referrals, which largely reproduces a white male workforce</li> </ul>	<ul style="list-style-type: none"> <li>Promote recruitment of diverse workers through referrals</li> </ul>
	<ul style="list-style-type: none"> <li>Entry process into apprenticeship and other opportunities in the trades are not known or accessible to the general public, including a lack of connection with K-12</li> <li>Outreach and marketing efforts are largely not targeted for marginalized communities</li> <li>Current K-12 and community outreach efforts are not well coordinated across the region and the impact is unknown</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate additional outreach efforts across the region through partnerships with trusted community organizations and community leaders</li> <li>Establish stronger collaboration and alignment across regional and state systems such as K-12, WorkSource, etc.</li> </ul>

## GOAL 2: IMPROVE RETENTION OF DIVERSE WORKERS

The apprenticeship completion rates for women and people of color into journey level positions is lower than it is for their white male counterparts (see Box 1). This has been an ongoing issue for the trades. That, coupled with diverse journey level workers leaving over time, has contributed to an overall lack of diverse workers in the industry. Increasing retention rates for women and people of color is critical for improving construction workforce equity and diversity in the Portland metro region.

### BOX 1. COMPLETION RATES FROM APPRENTICES TO JOURNEY IN 2016

White men: 50% (484)	White women: 36% (29)
Men of color: 35% (82)	Women of color: 47% (9)

### RETENTION: BARRIERS TO SUCCESS

A major factor that prevents the retention of women and people of color in the trades is the negative jobsite work environment that is still common today (see Figure 5).

Many interviewees highlighted the negative impacts of hostility and a lack of inclusiveness on jobsites.

“You’re expected to go above and beyond, always. And if you do, [it is assumed it is because] you’re exceptional for a woman. And if you don’t, it’s [assumed it is] because you’re a woman.”

*Apprentice*

“I think workplace culture [is a challenge for apprentices], although it has improved, I think there’s still bullying, harassment that happens on the job sites that can lead to just a decrease in morale and kind of make people question whether or not they want to work in that kind of environment for the next thirty years. So, retention-wise I think that that’s probably one of the biggest factors. [For women and minorities the challenges are] largely, you know, the bullying and harassment component, the mentality that women or people of color don’t belong on the jobsite or can’t do the work. And some of it may be ill intentioned directly, or some of it may be indirectly.”

*Apprenticeship coordinator*

“And so to me, that’s the biggest challenge is we’ve kind of operated under a certain kind of culture for many, many years. And now, you know, thankfully that culture is changing.”

*Apprenticeship coordinator*

“As a minority, particularly being a minority in a lead role, I know some of the things that I deal with. I like to put it like this: [I’m] being [perceived as] incompetent and [I have] to prove I’m competent.”

*Foreman*

Related to this issue is the difference in quality of on-the-job training that women and people of color may receive compared to other apprentices. Construction skills in the commercial sector are primarily learned on the job directly from the apprentice’s supervising journey person. If that person does not teach an apprentice what they need to learn, that apprentice will be less skilled in the trades and will struggle to excel and advance.

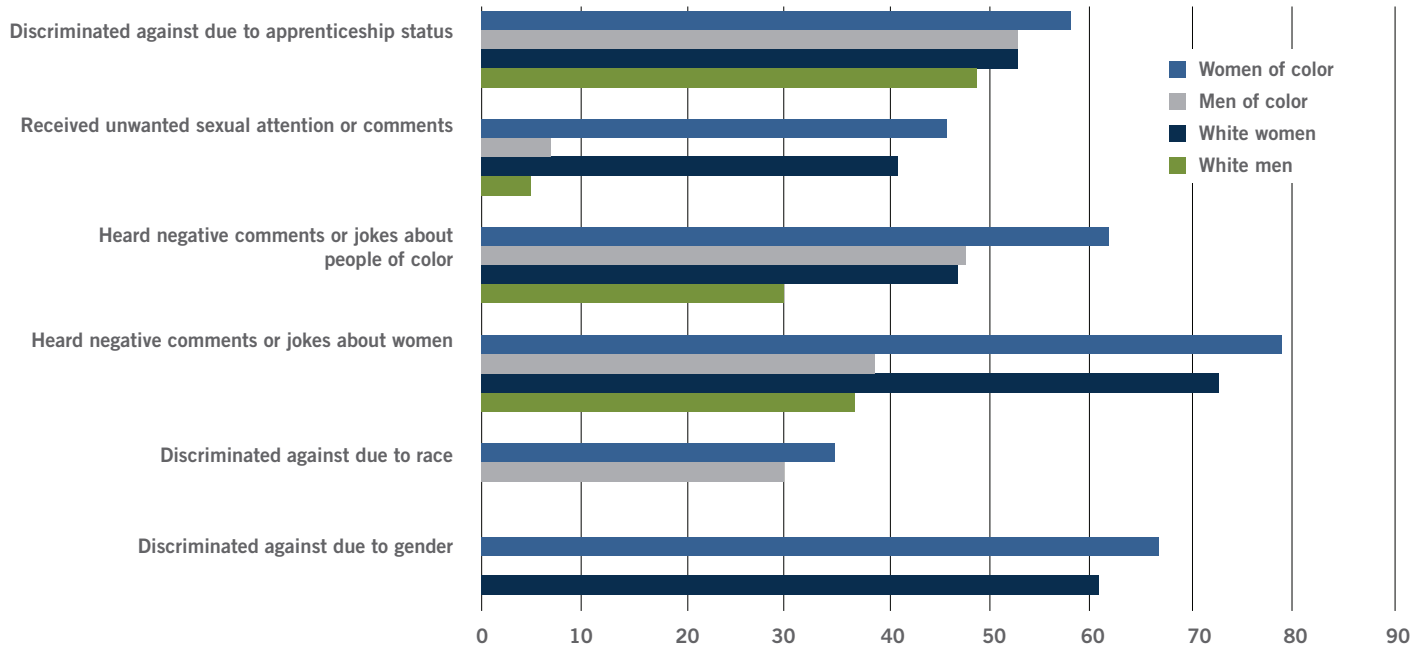
“It’s hard to be a woman on the job site because they don’t want women there.”

*Apprentice*

“They always have me doing the bitch work. I’m like, you know, I can do more than that... You’ve got to fight for your place.”

*Apprentice*

**FIGURE 5. PERCENTAGE OF OREGON APPRENTICES WITNESSING OR EXPERIENCING HARASSMENT AND DISCRIMINATION, BY RACE AND GENDER (2014-2015)**



Wilkinson, Lindsey and Maura Kelly. 2016. (Still) Building A More Diverse Workforce in the Highway Trades: 2016 Evaluation of the ODOT/BOLI Highway Construction Workforce Development Program. Available at: <http://www.pdx.edu/sociology/maura-kelly>

“My first job, back in my twenties, the guys didn’t talk to me for literally three months, except to just grunt and point. And I am the first woman in the thirty years history of the contractor to work for that company. But, again [like other women have said], I worked three times as hard as the guy next to me. And I garnered their respect.”

*Apprentice*

While some male workers may believe they are helping female apprentices by offering to do tasks for them, they are actually inhibiting these apprentices’ ability to gain the necessary skills for their trade. As one apprenticeship coordinator said: “You know, it could be a man just trying to be a gentleman and, you know, maybe taking over tasks for a woman because he thinks that that’s the right thing to do. Which leads to a decrease in learning opportunity for that woman.”

## KADENCE JIMENEZ

*Journeyman Interior/Exterior Specialist*

Kadence Jimenez is a mother of three and a Journeyman Interior/Exterior Specialist. Before getting into the trades she had been working at a dead-end kitchen job at an assisted living facility making minimum wage for five years.

She took the pre-apprenticeship program at Oregon Tradeswomen Inc. for free, and built a gazebo. The work really appealed to her. When she toured different trades through the program, she remembers wanting to do carpentry because the guy that was giving the presentation said, “...women can’t do drywall,” and that motivated Kadence even more. “The fact that he would say that to a group of women that were trying to get into the trades—I wanted to prove him wrong.”



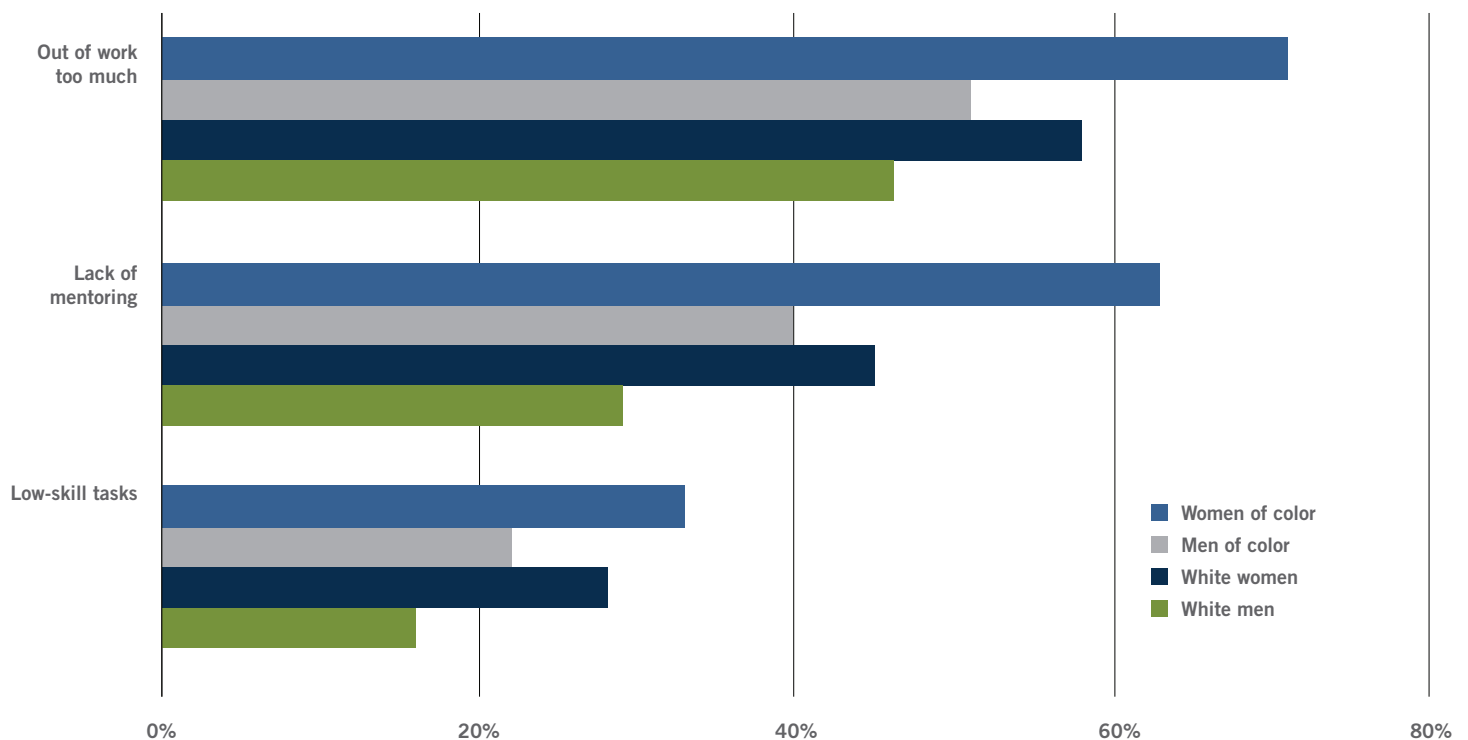
The cyclical nature of construction can also be a barrier for retention. Depending on the trade, people can be out of work for anywhere from 3-6 months per year. If a person is not prepared for that time being laid off, they will be unable to continue in the industry in a sustained way and will look elsewhere for gainful employment. This lack of steady work particularly impacts female and minority workers. Studies in Oregon have shown that these workers work far fewer hours annually than their white male counterparts (see Figure 6). Being included in core crews (moving with a contractor from project to project), would create more sustainable careers for marginalized workers. Additionally, marginalized workers are less likely to have opportunities for advancement within the industry such as becoming foremen, superintendents, or company owners. These issues create challenges for those diverse workers who do complete apprenticeship to thrive as journey workers and establish long-term careers.

Another factor that impacts retention is the real-life financial hardships or unexpected life situations that inevitably arise for some, and particularly for early-term apprentices who may have limited or no savings. Financial and life factors can be enough to prevent apprentices from continuing with their careers, including child care challenges when working an early morning or night shift, issues finding affordable housing, or transportation barriers when needing to travel to a jobsite.

“I think that a lot of women that come to us don’t have that support system, and men as well. A lot of people come to us with a lot of baggage. So you give them a good job. You give them the opportunity. But if they don’t have the support, they’re going to fail. And it just kills me when I see that because where do I turn, you know? We don’t have the system set up to support that. I think it would be huge and could make a big difference.”

*Apprenticeship coordinator*

**FIGURE 6. APPRENTICES REPORTING CHALLENGES AS A MAJOR OR MINOR PROBLEM IN OREGON, BY GENDER AND RACE (2014-2015)**



Wilkinson, Lindsey and Maura Kelly. 2016. (Still) Building A More Diverse Workforce in the Highway Trades: 2016 Evaluation of the ODOT/BOLI Highway Construction Workforce Development Program. Available at: <http://www.pdx.edu/sociology/maura-kelly>



## RETENTION: RECOMMENDATIONS

Many in the industry recognize the need to address jobsite culture because of how it negatively impacts diversity efforts, and also how it can impact safety, productivity and profitability. Leaders in this arena include:

- The Pacific NW Carpenters Institute, who have just finished developing a positive jobsite culture training for their apprentices, foremen and signatory companies;
- Multnomah County and Hoffman, who are requiring Green Dot Training<sup>15</sup> on the Multnomah County Courthouse project, and;
- BOLI, who recently worked on and finalized a standardized and no-cost respectful workplace curriculum they hope to expand throughout the industry.

Similar to how the safety culture in construction has transformed in the last three decades, a hostile jobsite needs to become completely unacceptable, and a positive jobsite needs to become normalized. Addressing this issue will be most effective with a comprehensive and collaborative approach that recognizes the need for training at all levels of the industry, from co-workers to superintendents to union stewards. No other policy

or training efforts to increase diversity will be successful if people do not feel welcome, comfortable or safe when they go to work every day. Working regionally to develop a standardized intervention approach – one that includes jobsite tools like Green Dot – should be top priority.

Relatedly, qualified and trained oversight partners should conduct jobsite visits to interview apprentices about their training, and review the progress they're making in the acquisition of skills. BOLI is the oversight body for the Apprenticeship programs, but may not have the capacity to do onsite visits, so Apprenticeship programs should work in concert with BOLI to develop a check and balance system that will help verify whether proper training is occurring. This would support an improved training experience for apprentices and likely contribute to increased retention rates. Some parts of the country have utilized a community-based model, where they deputize volunteers to conduct interviews with workers on behalf of agencies and report their findings.<sup>16</sup>

Another key to improving retention rates: strengthening collaboration across agencies and across the region. By partnering with community and socially-focused organizations, for example, the effectiveness of supportive services could be increased (for instance, if childcare providers were more intentionally involved in developing

<sup>15</sup> For more information on the Green Dot program, see <https://alteristic.org/>

<sup>16</sup> <http://www.laschools.org/new-site/labor-compliance/work-preservation>

## NITO TAUFUI

*Superintendent*

Nito Taufui is from the Polynesian islands. Nito started out as a Laborer pouring concrete. He's worked for Skanska for 20 years, and because of his hard work, he was promoted to be a Foreman, and has been their Superintendent for the last 12 years. He schedules, manages, and oversees entire projects. He makes a very good wage, and receives a 10% bonus every year, a company truck, and five weeks of vacation. This job has given him everything and more: "It provides for my family. It gave me the life I never thought I would have. It has allowed me to buy a house. Financially, I make more than I ever thought. My two kids get to do whatever they want to do."

On top of supporting his immediate family, he's also able to send money back to his extended family in Polynesia. In reflecting about his career and life, he said, "I'm lucky, is all I can say."



## CASE STUDY: LOS ANGELES

The City of Los Angeles was one of the first cities to negotiate a Community Workforce Agreement (CWA) in 2001. Following this was the creation of the Construction Careers Policy (CCP) which was adopted by five agencies in L.A. and was created in partnership with labor, veterans, workforce development, social justice organizations, community developers, faith communities, youth organizations and many others. A CCP is a combination of a Project Labor Agreement and a Targeted Hiring Policy.

The use of a job coordinator on each project has played a critical role in the CCP in L.A. Each project requires that a job coordinator be hired to assist in meeting workforce goals. The job coordinators act as a liaison between the community, workforce programs, and the construction projects. They provide knowledge about job openings to the community and then connect diverse workers with opportunities on each project. Additionally, the agreement provides guidance on hiring job coordinators, requiring that they meet nine demonstrable experience criteria to qualify for the position.

Current City of Los Angeles data, from a March 2017 report, shows that they are achieving 39% local hire (goal of 30%), 62% local apprentice hire (goal of 50%), and 21% disadvantaged/transitional hire (goal of 10%). The agencies participating in CCP will cover 56,700 workers through 2017:

- 7,000 disadvantaged workers; 20,000 targeted hire workers
- Estimated additional \$129 million re-invested in the local economy based on additional wages to disadvantaged workers alone
- Economic benefits passing \$749 million from economic activity of construction workers from targeted communities.

solutions for the childcare needs of apprentices). Other examples could include ensuring better representation on the State Apprenticeship Council from marginalized communities, enhancing funding with higher education through Pell and Perkins, or bolstering coordination between apprenticeship representatives and local workforce development boards.

Additionally, the formation of a robust mentoring network would ensure further support for women and people of color. Existing sources of support include the Carpenters' "Sisters in the Brotherhood" group, as well as in-person meetings and social media groups run by pre-apprenticeship programs Oregon Tradeswomen and Constructing Hope. Mentorship was identified strongly in the research as a strategy that could be greatly strengthened and scaled to help women and people of color with more support.

*"I think definitely having some kind of formal mentorship program would be a really good help. I think a resource and support system from everything to childcare to counseling to...I think mentorship is the biggest one, to be honest. Just having someone to talk to that's been there and has dealt with the specific situation, it really helps."*

*Apprenticeship coordinator*

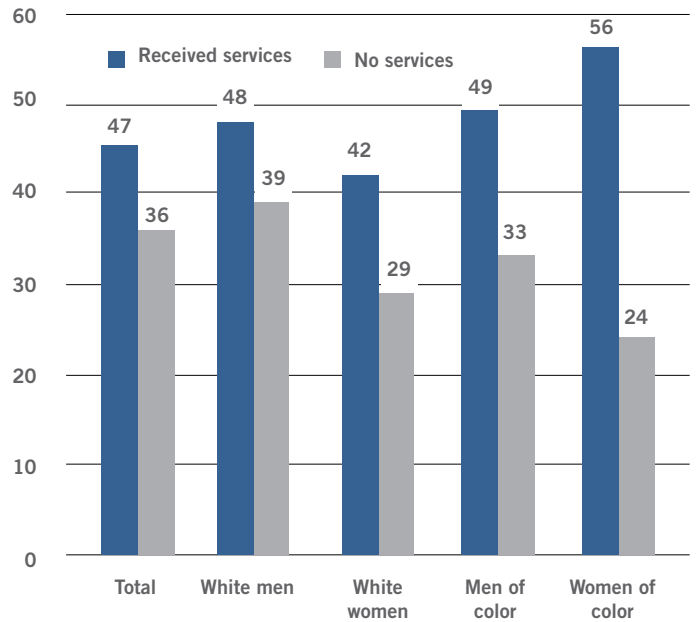
Beyond mentorship, interviewees identified better support services for early term apprentices as a tangible solution that would increase retention for women and people of color. This includes, most commonly, reliable transportation

mechanisms for travel to jobsites (having a driver's license, a reliable car, clean driving record, etc.), access to childcare services (including financial subsidies and with hours that fit the early or late shifts of the industry), and provision of equipment and gear (tools, boots, rain gear, etc.). The Oregon Department of Transportation (ODOT) & BOLI provide support services for the highway trades, and this program has proven results<sup>17</sup>: apprentices receiving support services are more likely to complete their apprenticeship program (see Figure 7).<sup>18</sup> Apprentices and industry players interviewed for this study showed an awareness of the ODOT-BOLI program, and wanted to see those kinds of support services expanded. As one participant noted, there are currently support services available, but not for all trades.

“Support services, certainly. We definitely need more of those. There’s a lot of support services for the highway trades. But there aren’t really any for some of the other trades.”

*Apprenticeship coordinator*

**FIGURE 7. APPRENTICESHIP COMPLETION RATES BY RECEIPT OF SERVICES, BY RACE AND GENDER (2014-2015).**



*Wilkinson, Lindsey and Maura Kelly. 2016. (Still) Building A More Diverse Workforce in the Highway Trades: 2016 Evaluation of the ODOT/BOLI Highway Construction Workforce Development Program. Available at: <http://www.pdx.edu/sociology/maura-kelly>*

The following table represents an estimate of annual costs, if apprentices in all trades were able to access support services at the level that the current ODOT-BOLI program is accessed, with a column also estimating the cost for just women and people of color. This information should prove useful for agencies interested in better supporting a proven method to increase the retention of women and people of color in the trades.

**TABLE 2. EXAMPLE COST ESTIMATE FOR SUPPORTIVE SERVICES NEEDS**

Types of support services	Average annual cost per apprentice <sup>19</sup>	% historical utilization <sup>20</sup>	Number female/minority apprentices <sup>21</sup>	Estimated annual costs	Number all apprentices <sup>22</sup>	Estimated annual costs
Hardship Assistance	\$500	0.20%	4	\$1,975.00	12	\$6,179.00
Job Readiness Assistance (tools, work boots, rain gear)	\$296	22%	435	\$128,612.00	1359	\$402,376.48
Fuel assistance	\$401	5.90%	117	\$46,726.53	365	\$146,188.96
Lodging/per diem	\$681	3%	59	\$40,349.25	185	\$126,236.97
Child Care	\$2,465	5.50%	109	\$267,760.63	340	\$837,717.93
			<b>TOTAL</b>	<b>\$485,423.40</b>	<b>TOTAL</b>	<b>\$1,518,699.34</b>

17 ODOT BOLI Heavy Highway Workforce Development Program: <http://akana.us/projects/odot-boli-workforce/>

18 Wilkinson, Lindsey and Maura Kelly. 2016. (Still) Building A More Diverse Workforce in the Highway Trades: 2016 Evaluation of the ODOT/BOLI Highway Construction Workforce Development Program. Available at: <http://www.pdx.edu/sociology/maura-kelly>

19 Based on existing ODOT-BOLI Support Services Program Data that serves highway trades.

20 Based on existing ODOT-BOLI Support Services Program Data that serves highway trades.

21 Based on Total BOLI State Registered Apprentices for 2016 in PDX Region who identify as female and/or minority: 1,975

22 Total BOLI State Registered Apprentices for 2016 in PDX Region: 6,555. 376 already received ODOT-BOLI resources. Total Gap: 6,179.

**TABLE 3. RECOMMENDATIONS FOR INCREASING RETENTION OF A DIVERSE WORKFORCE**

Goal	Barriers	Recommendations
<b>Increase retention of diverse workers</b>	<ul style="list-style-type: none"> <li>• Construction culture is often hostile: proving yourself, harassment and isolation, overt discrimination</li> </ul>	<ul style="list-style-type: none"> <li>• Address construction job site culture through respectful workplaces trainings with proven results</li> </ul>
	<ul style="list-style-type: none"> <li>• Quality of on the job training can be disparate for diverse apprentices: ability to attain needed skills</li> </ul>	<ul style="list-style-type: none"> <li>• Increase monitoring of on the job training of apprentices by well-trained experts</li> </ul>
	<ul style="list-style-type: none"> <li>• Diverse workers have limited support for mentorship</li> <li>• Transitioning from apprentice to journeyworker challenges: skills and confidence, recognition and respect, finding work</li> </ul>	<ul style="list-style-type: none"> <li>• Formalize mentorship resources for diverse workers</li> </ul>
	<ul style="list-style-type: none"> <li>• Financial challenges (lower pay early in apprenticeship, being out of work)</li> <li>• Work/family conflict, affordability and access to childcare</li> <li>• Marginalized workers are less likely to have stable or consistent employment</li> </ul>	<ul style="list-style-type: none"> <li>• Increase ongoing supportive services for apprentices</li> </ul>

### GOAL 3: DEVELOP MORE ROBUST EQUITY POLICIES AND PRACTICES

The demand for a more diverse workforce in construction has developed through growing equity and diversity policies by public agencies, and practices by major parties in the industry. Policies with utilization requirements for apprentices, women and people of color on public capital projects allow public funds to better contribute to local workforce development and economic opportunity efforts. Overall, these policies work to combat the real and lasting effects of historically exclusionary practices from industry and through public procurement processes. In order to achieve greater success in construction workforce equity for the Portland metro region, such policies should be more widely adopted and should be subject to better monitoring and enforcement.

Some public agencies, both locally and nationally, have adopted workforce participation goals and programs for public capital projects. Goals generally focus on apprenticeship utilization percentages and hours performed by women and people of color. The level of detail, both for requirements and monitoring, can vary. In most cases, goals are accumulative: a lump sum of female or minority hours not disaggregated by trade, racial category, or apprentice/ journey level.

“I always think, you know, this is taxpayer money. We’re investing in our youth and our community and giving people good jobs. That money is going to come right back into our community, right? I mean, why do we accept the low bid from an out-of-State contractor that brings in their own workforce and takes it all out?”

*Apprenticeship coordinator*

Apprenticeship programs themselves are held to their own standards, tied to EEO requirements, by BOLI. The Equal Opportunity in Apprenticeship rule of the US Department of Labor, Office of Apprenticeship was updated in 2016 for the first time since 1978. It has considerably more provisions, requirements, and guidance toward equal opportunity in apprenticeship and will influence current BOLI requirements.<sup>23</sup>

Some contractor companies and labor associations have also become leaders in the industry and developed diversity and equity efforts within their organizations.

<sup>23</sup> <https://www.doleta.gov/oa/eo/>

## EQUITY POLICIES AND PRACTICES: BARRIERS TO SUCCESS

“I think that most importantly we work really, really hard here internally with our staff. And you know, the goal is, is that the staff that we have here at [our organization] is a representation of what’s happening in the community. So we have three pretty much full-time females that work for us as instructors and get involved in recruitment and outreach. And I think that really, really helps us attract and also retain women into the field.”

*Apprenticeship coordinator*

“Something happened. I don’t know the details there. I know the next day, he had everybody, the whole company, at the office at like 6:00 am. And that was like the topic of conversation before work even started. Because I mean, we just zero tolerate when it comes to stuff like that. But, yeah. So that’s an example of something that we do. I mean, it’s in our policies and everything else. So I mean he literally shut the thing down. The guy ended up getting fired. He did get fired.”

*Foreman*

Specific examples include the Electrical Workers Minority Caucus<sup>24</sup>, the Carpenters’ Sisters in the Brotherhood<sup>25</sup>, and contractors like Mortenson, Howard S. Wright and Hoffman specifically hiring equity and diversity managers to uplift these efforts within their firms.

Currently, the majority of public projects in the Portland metro region do not have workforce participation goals. Representatives from public agencies as well as contractors perceive that the challenge in meeting goals (where they exist) is largely due to a lack of supply of workers. Agencies that don’t tie in workforce participation goals reported that staff, time, and cost are barriers to implementing goals. Across stakeholder groups, there was consensus that in order for goals to be effective, accurate workforce participation data must be reported and monitored, and goals must be enforced.

“One of the things I can say is having the goals doesn’t work if there’s no penalty, no responsibility. There’s contractors that are going to do it because it’s the right thing. But they’re few and far between. There’s contractors that are going to do it the wrong way just because it saves them a dollar, and cover it up and hide it. So there has to be some reward for the people that are doing it correctly and something to inhibit people from not following it.”

*Apprenticeship coordinator*

24 <http://www.ibew-ewmc.com/>

25 <https://www.carpenters.org/sib-join-us/>

## ERIN WEST

*Plumbing apprentice*

Erin West is a 36-year-old mother, worker’s rights activist, and plumbing apprentice. She grew up in a military family and subsequently moved around quite a bit as a child. She graduated high school in Idaho, where she was first introduced to trades work through a welding class she took and loved.

Once she completes her apprenticeship and journeys out, Erin has dreams of opening or co-owning her own service company where she has the ability to provide sliding scale services and can offer her expertise to community members that may feel more comfortable with a woman in their home. She is also interested in potentially becoming an inspector some day.



Some in the industry are against these goals, which can make them more challenging to enforce. Racial and gender stereotypes – particularly the stereotype that diverse workers don’t want to work in construction – are still pervasive in the industry, and are often provided as rationale for why a given contractor or apprenticeship program cannot meet project goals. In particular, non-union Apprenticeship programs felt opposed to contract goals, saying that they have not been included in these policies to date, and that it limits individual choice.

“...we have freedoms in the Country that we live in. So you have a freedom to own a business and run it the way that you want to run it. And to have this kind of oversight squishes the freedom out... if you’re a woman and you want to work construction because you have skill and you...you visualize how to make something...I mean, that’s an individual gifting and design of a person. I think it’s in your DNA. And if construction fits that, then you go for it, you know. Same thing if you’re a minority of any kind. I think it’s people, their own individual what they want to that’s either going to propel them forward into the career of construction or not, you know...And I still feel like a lot of this is targeted.”

*Apprenticeship program representative*

Interviewees from public agencies indicated that one of the major challenges for implementing and monitoring construction workforce diversity goals in their organizations was the staff time to do what they viewed as additional work, as well as the perceived cost and the perceived limitations of low-bid contracting methods. The challenge of monitoring workforce data was specifically noted as a barrier.

In the private market, although there are emerging leaders on issues of equity and diversity, they are still the exception. Many general contractors commented on the incredible challenge of monitoring their subcontractor compliance, who are often the companies that perform most of the work and do the most hiring on projects.

Additionally, there are still trades that are reluctant to adopt diversity and equity policies.

“Because my committee doesn’t feel that it’s right [direct entry]. They wanted to draw the line on direct entry into the program, because it’s not fair to the other guys on the list.”

*Apprenticeship coordinator*

Even with policy changes, it will take time before the construction industry achieves transformation similar to the change related to robust safety standards, which are now normalized. The overall culture on the jobsite is still reluctant to embrace workforce equity.

“I would say with the contractor buy-in [for contract goals], you also need like rank and file union membership buy-in. Because a lot of bitterness is generated. I just heard an apprentice yesterday ask me, ‘well, minorities get the advantage because, you know, there’s these jobs that require people to hire them on these jobs.’ And there’s a lot of bitterness about that. And he was saying how he hears journeymen all the time complaining about it. And so I think that that harms the atmosphere on the job site and could potentially lead to resentment that these people are going to feel. I felt the brunt of it when I was working out in the field.”

*Apprenticeship coordinator*

## EQUITY POLICIES AND PRACTICES: RECOMMENDATIONS

Monitoring and enforcing workforce participation goals on public capital projects is critical for success: this was identified as the only way for these types of efforts by public agencies to be effective. Any goals that exist but are not enforced or monitored are more harmful than no goals at all, because they lead to potentially fraudulent activities in the industry and overall frustrations for all parties involved. Public agencies need to invest in sufficient staff and systems to achieve meaningful and effective oversight. The City of Seattle and the City of Boston are examples of jurisdictions whose systems are robust and transparent.<sup>26</sup> Locally, Prosper Portland has just launched a website where they publicly publish their workforce and contracting data by project.<sup>27</sup>

<sup>26</sup> <https://www.boston.gov/departments/economic-development/boston-residents-jobs-policy-construction-projects#forms-and-statistics>  
<https://www.seattle.gov/city-purchasing-and-contracting/labor-equity/cwa-projects>

<sup>27</sup> <http://prosperportland.us/business-and-workforce-equity-in-construction/>

# CASE STUDY: BOSTON

## DATA ACCESSIBILITY

In 1983, Boston approved an ordinance establishing the Boston Residents Jobs Policy setting employment standards for Boston residents, people of color, and women construction workers. This ordinance was extended in 1985 and amended in 2017 to increase compliance with stronger enforcement mechanisms. This ordinance also made the Boston Employment Commission to develop recommendations for enforcement of the ordinance. They meet monthly to review reports on public works projects.

One success for Boston has been the transparent, public availability of data. They publish extensive disaggregated information on the City of Boston website. This data is disaggregated by contractor, trade, ethnicity, statue, and other data. Data transparency provides for additional community input and oversight. However, they do not provide regular totals or analysis which would make the data even more accessible.

Boston has also established the Jobs Bank. This connects residents within the City of Boston to contractors, unions, and community groups to find openings for jobs, apprenticeship, and training programs. Matching to unions and contractors is based upon skills of residents who are enrolled. The Jobs Bank also supports making connections through calls and providing contact information for companies to residents interested in applying for openings.

In order to enforce workforce participation goals, public agencies must be clear about penalties, including what penalties exist, when they will be incurred, and how they can be avoided. Public agencies need to ensure that contractors who habitually do not meet workforce utilization goals face a period of disbarment, so that they do not continue to receive public contracts despite a lack of performance.

Workforce goals and corresponding project data monitoring should be frequent, consistent and detailed. Because a subcontractor can complete their scope within a 90-day period, it is critical that oversight and monitoring occur no less than monthly for most projects to be able to address any issues promptly, should they arise.<sup>28</sup> Workforce data should be detailed and disaggregated by racial category, gender, trade, and apprentice vs. journey level. The following page includes an example of a workforce data compliance spreadsheet that shows all the pertinent data points needed to ensure detailed data collection.

The data collected and analyzed should be regularly shared with a regional oversight body that is made up of all relevant parties, such as pre-apprenticeship and community partners, labor, worker dispatch coordinators, and the owner and general contractor on a project. This ensures responsive and collective problem solving, as articulated by a study participant.

“...there should be a management oversight committee to identify deficiencies and course correct. That’s the whole purpose of labor management committees...So a community labor management committee...have someone from the pre-apprenticeship world on the committee, someone from labor, for sure, on the committee. Somebody from contracting world, the providers themselves would have to be on there. Whether it’s a minority contractor or whether it’s a contractor association could be either one or both. Definitely you want the public contracting agency to have representation at the table as well, as well as a general contractor, probably the general contractor for each one of the projects that are selected should have a representative. If you are requiring this on just one project that that project’s general contractor, but if you have several projects, I think you need to bring each one of them in.”

*Trade Association representative*

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<sup>28</sup> Some projects may have periods of inactivity depending on the construction calendar, so this frequency of oversight may shift, but, as a default, monthly should be the starting point.

**TABLE 4. CONSTRUCTION WORKFORCE UTILIZATION REPORT TEMPLATE**

Company	Exempt	Total Hours	Apprentice Hours	Apprentice Percentage	AA (African American)	HIS/LAT (Hispanic/Latinx)	AS/PI (Asian/Pacific Islander)	AM I/AN (American Indian/Alaska Native)	Total Male Minority Hours	Male Minority Percentage	AA	HIS/LAT	AS/PI	AM I/AN	Total Female Hours	Female Percentage
<b>Company Name/ Gross Contract Value</b>																
Carpenters																
Laborer																
Operator																
<b>Company TOTALS</b>																
<b>Company Name/ Gross Contract Value</b>																
<b>Total Contract Percentage Complete</b>																
Electricians																
Laborer																
Operator																
<b>Company TOTALS</b>																
<b>Company Name/ Gross Contract Value</b>																
<b>Total Contract Percentage Complete</b>																
Plumbers																
Laborer																
Operator																
<b>Company Totals</b>																



There are many examples of this critical oversight component as a best practice. Locally, both the City of Portland (on two Water Bureau Projects<sup>29</sup>) and Multnomah County<sup>30</sup> (on the Central Courthouse and Health Headquarters projects) created and implemented a Labor Management Community Oversight Committee (LMCOC) to regularly meet and review workforce data. The City of Seattle also has a regional Oversight Committee which regularly reviews multiple projects in the region.<sup>31</sup> This model accomplishes oversight in a scaled fashion for their region's workforce equity efforts.

Additionally, as early as in the bidding process for new contracts, public agencies could inquire about the diversity of core crews and reward contractors who maintain diverse crews. Also, incorporating a community liaison on each job site could assist in meeting overall workforce goals by: helping to locate qualified targeted workers, maintaining records of applications received, regular reporting of workforce composition, EEO compliance training, regular site walks, and participation in weekly construction progress meetings. Liaisons like this have been used effectively in Los Angeles to meet project goals and increase collaboration with the community.

During interviews, both public agencies and contractors highlighted the need for higher level opportunities to engage with all stakeholders in a regional effort on policy development that brings all relevant parties together, including private actors like contractors and trade associations. This regional policy development could be done through a regional government entity, such as Metro. Construction Apprenticeship and Workforce Solutions (CAWS)<sup>32</sup> was cited multiple times by interviewees as one example of this type of engagement.

“[CAWS] really was hatched to do exactly what some of the things you're talking about: look at supply and demand in the same paragraph as opposed to just the demand side. At the time, fifteen years ago or whenever CAWS started, it kind of whipped your head back. Because everybody was always just saying, well, “we'll demand this.” And let supply take care of itself. So we're active with the Construction Apprenticeship Workers Solutions.”

*Public Agency representative*

29 <https://www.cbanw.com/projects/portland-cba-pilot-projects/>

30 <https://www.worksystems.org/sites/default/files/Resource%20Document%20-%20Project%20Labor%20Agreement%20Multnomah%20Cnty%20Central%20Courthouse.pdf>

31 <https://www.seattle.gov/city-purchasing-and-contracting/labor-equity/joint-administrative-committee>

32 <http://www.caws-pdx.org/>

## LISA DAVIS

*Sheet Metal Worker*

Lisa Davis applied for a Sheet Metal Apprenticeship but had to wait almost 2 years to be accepted due to the scarcity of jobs during the Great Recession. Three months after her acceptance into the apprenticeship, she found a place with General Sheet Metal and primarily worked on architectural sheet metal, HVAC duct installation, and shop fabrication for her first couple years. Around this time General Sheet Metal decided to start their own service department and tapped Lisa's shoulder to apply for their new Service Apprenticeship.

Nowadays, she is providing guidance and mentorship to more than 200 new apprentices a year. Due in part to her enthusiasm for the role of women in the sheet metal industry, 7% of her students are women. This figure is higher than many other trades, though still has room for improvement. She is also teaching and doing some consulting work for the International Training Institute (ITI) and is participating in an exciting task force to write a book regarding the important work of the sheet metal industry. Not only does Lisa love her job but it PAYS! She makes about \$43.75/hour which is just about 4 times greater than her highest pre-trades wage of \$12.50/hour.



# CASE STUDY: PORTLAND

## COMMUNITY BENEFITS AGREEMENT

The City of Portland started the Workforce Training and Hiring Program in 1993 to increase the numbers of women and minorities in the construction trades through apprenticeship opportunities on public projects. In 2012, Resolution No. 3695 passed and created a model Community Benefits Agreement (CBA) for City-owned construction projects. The CBA was created through the Metropolitan Alliance for Workforce Equity (MAWE), a coalition of community, labor, business, and equity partners. The CBA model was formally adopted for all alternative procurement projects over \$25 Million in 2017.

The CBA provides a legal framework to overcome the historical underrepresentation of minorities and women in the construction industry, both at the worker and contractor levels. This agreement includes shared community oversight and accountability, fair labor standards, and goals and resources to increase contracting and workforce opportunities for minorities and women. The role of shared

oversight and accountability is critical to the success of the model which created a governance structure with a Labor-Management- Community Oversight committee and a Compliance Subcommittee. This structure provides a forum for direct communication between CBA partners, dispatch halls, unions, and contractors while helping partners deepen their understanding of the workforce pipeline and CBA intervention.

Goals of the CBA were 20% apprenticeship utilization, 18% minority participation, and 9 % female participation. The model projects exceeded all goals except for female journey worker participation which indicated the need to continue to recruit and retain female workers as it takes 3-5 years to become a journey worker. It also had a 22% aspirational goal for Disadvantaged, Minority Owned, Woman Owned and Emerging Small Businesses(D/M/WBEs and ESBs) with a 12% subgoal focused on DMWBEs.

	Kelly Butte	Interstate
<b>Total Apprenticeship (23% Goal)</b>	23%	21%
<b>Minority Apprenticeship (18% Goal)</b>	50%	38%
<b>Female Apprenticeship (9% Goal)</b>	28%	34%
<b>Minority Journey (18% Goal)</b>	29%	21%
<b>Female Journey (9% Goal)</b>	6%	3%

Contractor Utilization:

- 26% D/M/WBE Contractor utilization: \$23,997,463 revenue earned
- 2% ESB Contractor utilization: \$1,581,023 revenue earned

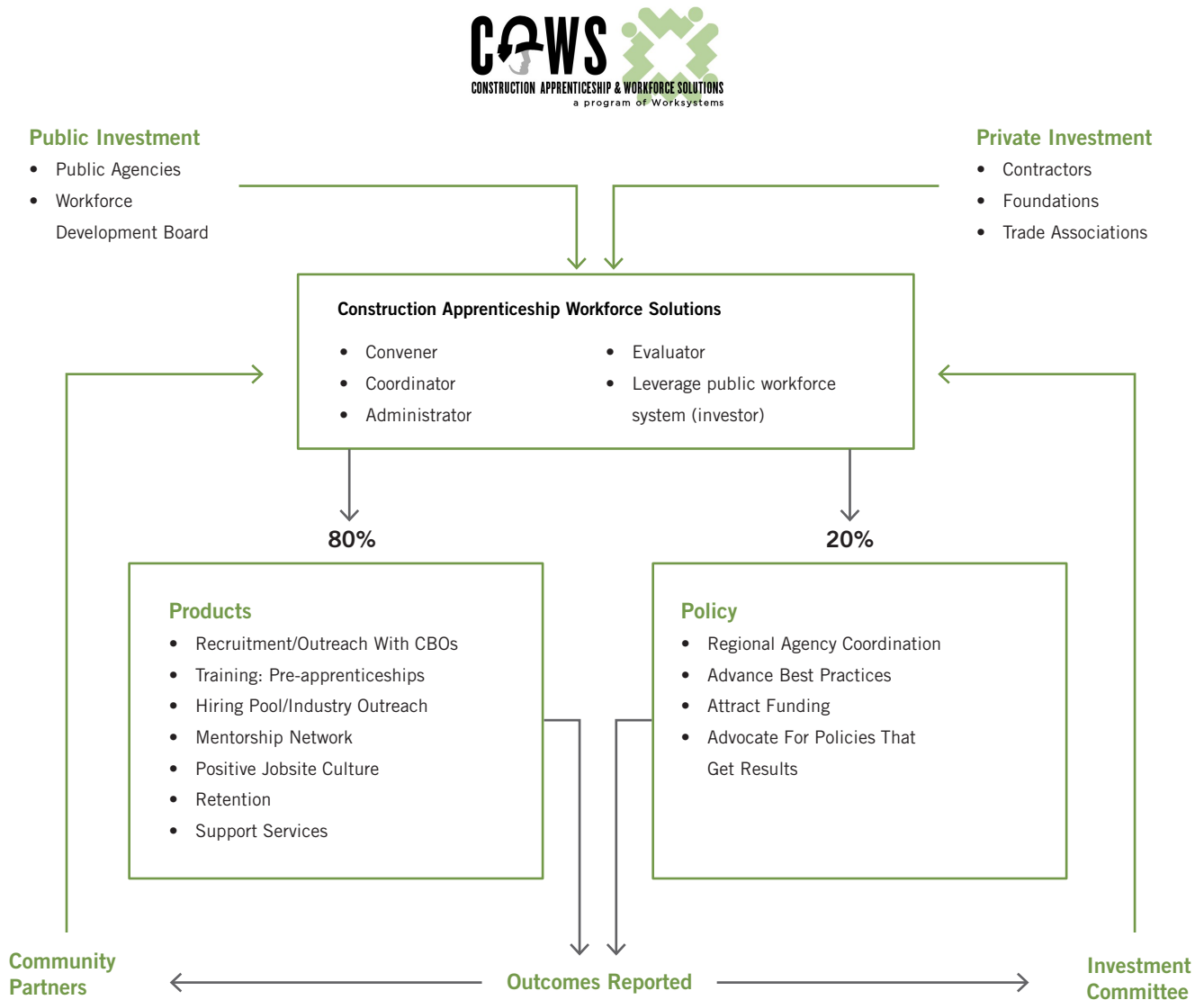
A regional entity of some kind could support public agencies in the vetting and adoption of shared policies and processes (including shared workforce goals).

Collaboration on the regional level should include other compliance agencies such as the Equal Employment Opportunity Commission, the Office of Federal Contract Compliance who can assist with developing ongoing best practices. As mentioned previously, the region could also bring in additional partners who have not traditionally been a part of the conversation. Examples of this might be working with the Department of Corrections to find qualified workers or the Oregon Department of Motor Vehicles to advise on getting marginalized workers a driver's license. Making large systemic changes in construction will require broad collaboration to comprehensively address barriers.

“I would love to see some conformity of goals and ways to achieve their goals. There are a lot of public contracting agencies that set very lofty goals, but they're window dressing. They're nothing more than window dressing when they have no structure to accomplish their goals. No mechanics built into any kind of rules around their procurement.”

*Trade Association representative*

**FIGURE 8. CAWS CONCEPT FLOW CHART**



The concept of a regional entity like CAWS was also mentioned as a vehicle to manage broader regional financial investment in efforts to better recruit, train, support and retain women and people of color in construction.

“If we had a consistent funding mechanism which then could be focused on education and outreach to women and minorities or other underrepresented populations.”

*Public Agency participant*

And streamlined investment is necessary given the scope of the work that needs to be done: the data show that the overall gap of diverse construction workers over the next five years for large public capital projects could be nearly 2,500<sup>33</sup>. Workforce goals on most public projects indicate

a 20% apprentice utilization rate (and therefore an 80% journey level rate). Data also show that the current overall placement rates for the existing pre-apprenticeship programs is 85%, however, the placement into a state-registered Apprenticeship is about 50%. Additionally, BOLI data on apprenticeship programs shows the current average completion rate for female and minority apprentices is about 38% and 35%, respectfully. Using these recruitment and completion rates, the region would need to train 996 pre-apprentice graduates to gain 498 apprentices, plus another 5,435 apprentices to gain 1,992 journey level women and people of color over the next five years. That would equal training a total of 11,868 pre-apprentices. The total 5-year cost for this investment is about \$109 Million, or roughly 1.44% of the total \$7.58 Billion cost for all public capital projects<sup>34</sup> included in the study. The table below illustrates this analysis:

**TABLE 5. EXAMPLE COST ESTIMATE FOR DIVERSE CONSTRUCTION WORKFORCE DEMAND NEEDS**

5-year cost estimate to fund needed supply of diverse workers to meet public projects demand in Portland Metro Area				
5-year workforce gap (public projects over \$15 MM)	# Minority	# Female	TOTAL	
Apprentices (20%)	215	283	498	
Journey (80%)	859	1,133	1,992	
<b>Total gap (all trades)</b>	<b>1,074</b>	<b>1,416</b>	<b>2,490</b>	
Pre-apprentices needed: apprenticeship (50% entry rate)	429	566	996	
Pre-apprentices needed: journey (35/38% completion rate)	4,909	5,963	10,872	
<b>TOTAL pre-apprentices needed</b>	<b>5,338</b>	<b>6,530</b>	<b>11,868</b>	<b>Per year</b>
<b>Total Cost</b>	<b>\$49,109,557</b>	<b>\$60,072,501</b>	<b>\$109,182,058</b>	<b>\$21,836,412</b>

Average cost per pre-apprentice student	\$9,200
Pre-apprentices apprenticeship entry rate	50%
Minority apprentice completion rate	35%
Female apprentice completion rate	38%

It is important to note that if recruitment and retention rates are improved, these upfront investment costs are reduced. For example, if 80% of pre-apprentices were able to be placed into apprenticeship, costs decrease by roughly \$8 million annually. If retention rates also increased for women and people of color to what they are for white males (50%), the annual cost decreases by more than half, or by \$11.5 million.

33 See Gap Analysis: <https://www.oregonmetro.gov/construction-career-pathways-project>. The potential workforce gap for women and people of color in construction in the region is actually much larger when factoring in projects that were not included in the study, including all private work, as well as public projects below \$15 million. Gap also only looks at 2016 workforce supply.

34 See Gap Analysis: <https://www.oregonmetro.gov/construction-career-pathways-project>. Total public capital projects over \$15 Million derived from interviews in study equal \$7.58 Billion over the next five years.

**TABLE 6: RECOMMENDATIONS FOR DEVELOPING MORE ROBUST EQUITY POLICIES AND PRACTICES TO SUPPORT THE RECRUITMENT AND RETENTION OF A DIVERSE WORKFORCE**

Goal	Barriers	Recommendations
<b>Develop more robust equity policies and practices to promote the recruitment and retention of a diverse workforce</b>	<ul style="list-style-type: none"> <li>• The majority of public projects have no workforce goals</li> <li>• Where goals exist, lack of transparent and accessible data reports, monitoring, and enforcement of goals</li> <li>• Lack of investment and commitment to goal monitoring, reporting, and enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Enforce contract goals, with consequences for non-compliance</li> <li>• Improve oversight to achieve workforce goals on public projects</li> <li>• Create contractor incentives in bidding process for past equity performance and compliance</li> </ul>
	<ul style="list-style-type: none"> <li>• Lack of regionally coordinated approach to implementing workforce goals and policies</li> <li>• Lack of private market uptake of diversity/equity policies and practices</li> </ul>	<ul style="list-style-type: none"> <li>• Improve and ensure a transparent system for reporting and monitoring of workforce goals</li> <li>• Create consistent opportunities for connections across sectors to collectively problem solve</li> <li>• Adopt shared policies and processes across agencies</li> </ul>
	<ul style="list-style-type: none"> <li>• Challenges meeting goals perceived as due to a lack of supply of diverse workers</li> </ul>	<ul style="list-style-type: none"> <li>• Sustain a regional investment in the construction workforce pipeline</li> </ul>

## CONCLUSION

Advancing workforce diversity and equity in construction will take focus, investment, and concerted collaboration. No one party can do it alone. Everyone in the industry: public agencies, contractors, training providers, apprenticeship programs, and the workers on the jobsites, all have a role to play in the success of achieving workforce equity and diversity for the Portland metro region. Real success will include transparent and enforced workforce goals on public projects, increased and sustained recruitment and retention of women and people of color into the trades, a positive shift in jobsite culture that is more inclusive and safe, and an overall shift in industry practices, for everyone, that better supports and uplifts more women and people of color to be leaders in construction.

Strategies for success need to be implemented together; they are interlinked and will not be as successful if implemented separately. This work will need to be done together and with real commitment. The final table in the report outlines everyone’s respective responsibilities to this commitment. If all parties can work together and do their part, construction workforce equity and diversity for the Portland metro region is possible.

## VANESSA ENOS

*Journeyman Laborer*

Vanessa Enos grew up on the Umatilla Indian Reservation in NE Oregon and went to high school there. Today, three years after finishing the Oregon Tradeswomen program, Vanessa is a Journeyman Laborer with a soft spot for concrete. She candidly explains, “not many females do it (concrete work), but I love it!” She’s worked as a Vibrator Hand making \$28.77 an hour. When you ask Vanessa about her goals for the future she excitedly answers, “the sky’s the limit!” She would like to work her way through the ranks to become a foreman, noting that her union has a lot of plans for her and the leadership she has the aptitude to grow into. She would also like to work as a recruiter to get more women into the trades; especially focusing on outreach to Native American women on reservations.



**TABLE 7. ROLES AND RESPONSIBILITIES FOR ACHIEVING REGIONAL CONSTRUCTION WORKFORCE EQUITY**

Study recommendations	Responsible Stakeholders (bold indicates lead)									
	Community-based organizations	General Contractors	Trade Associations (Unions, AGC, etc)	Public agencies/ Owners	Pre-apprenticeship programs	State Apprenticeship programs	Subcontractors	Workforce partners (BOLI, WIBs, WorkSource, etc.)		
<b>SUPPLY</b>										
<b>Recruitment</b>										
Ensure steady funding stream to increase capacity of pre-apprenticeship programs		X	X	<b>X</b>						X
Increase direct entry from pre-apprenticeship into apprenticeship programs			X			<b>X</b>				
Promote recruitment of diverse workers through referrals	X	X	<b>X</b>			X	X			
Coordinate additional outreach efforts across the region through partnerships with trusted community organizations and community leaders.				X	X	X				<b>X</b>
Establish stronger collaboration and alignment across regional and state systems such as K-12, Worksource, DHS, etc.	X		X	X	X	X				<b>X</b>
Review BOLI apprenticeship data annually for gaps to target efforts				X	X	<b>X</b>				X
<b>Retention</b>										
Address construction job site culture through respectful workplaces trainings with proven results	X	X	X	<b>X</b>	X	X	X	X	X	X
Increase monitoring of on the job training of apprentices by well-trained experts			X	X	X	X				<b>X</b>
Formalize mentorship resources for diverse workers	X	X	<b>X</b>	X	X	X	X	X	X	X
Increase ongoing supportive services for apprentices	X	X	X	<b>X</b>	X	X	X	X	X	X
<b>DEMAND</b>										
<b>Diversity/equity policies and practices</b>										
Enforce contract goals, with consequences for non-compliance		X	X	<b>X</b>						X
Improve oversight to achieve workforce goals on public projects		X	X	<b>X</b>					X	X
Create contractor incentives in bidding process for past equity performance and compliance		X		<b>X</b>						
Improve and ensure a transparent system for reporting and monitoring of workforce goals		X		<b>X</b>					X	
Create consistent opportunities for connections across sectors to collectively problem solve	X	X	X	X	X				X	<b>X</b>
Adopt shared policies and processes across agencies		X	X	<b>X</b>					X	X
Sustain a regional investment in the construction workforce pipeline		X	X	<b>X</b>					X	X

# DEFINITIONS OF COMMON CONSTRUCTION WORKFORCE TERMS<sup>1</sup>

**Direct Entry:** Direct Entry may be used by apprenticeship committees as an alternate way to bring apprentices into their programs. It is a tool to help committees reach underrepresented populations and to meet their EEO goals. Direct entry doesn't mean guaranteed entry. It allows apprenticeship candidates to be accepted outside of the regular application period of an apprenticeship program if they meet certain requirements, but it is not a waiver of the eligibility requirements. Direct Entry provides individuals who successfully complete an apprenticeship preparation program or other prerequisites, and who meet the minimum requirements of a registered program, with the direct opportunity for an interview with the committee for an apprenticeship. Direct entry is commonly granted to graduates of pre-apprenticeship programs or other preparation and training programs that have been recognized by the State Apprenticeship Council and the apprenticeship committee as adequately preparing applicants for entry into apprenticeship. The treatment of direct entry applicants is largely up to the discretion of the apprenticeship committee.

**Joint Apprenticeship Training Committee (JATC):** The JATC is the apprenticeship program's "managing" committee. JATCs are comprised of an equal number of employee and employer representatives. The committees are the heart of the apprenticeship program. They actually operate the program and decide on the many facets that make up the program. The committees are responsible for assuring that applicants have an equal opportunity to be selected for a program and that apprentices have every reasonable opportunity to succeed in the program. Most committees hire an administrator or coordinator who is responsible for the day to day operation and the record keeping.

**Journey Worker:** A person who has completed their apprenticeship training or can document at least four years of experience in a trade or occupation. Journey level credentials are nationally recognized.

**Pre-Apprenticeship:** Pre-apprenticeship services and programs are designed to prepare individuals to enter and succeed in Registered Apprenticeship programs. These programs have a documented partnership with at least one Registered Apprenticeship program sponsor and together, they expand the participant's career pathway opportunities with industry-based training coupled with classroom instruction. In Oregon, these programs are certified through the Bureau of Labor and Industries (BOLI).

**Registered Apprenticeship:** Apprenticeship is occupational training that combines supervised on-the-job training experience with classroom instruction. Apprentices usually begin at half the salary of journey workers - those who have completed their training and have industry certification. Apprentices receive pay increases as they learn to perform more complex tasks. When they become journey workers, they increase their chances of finding a well-paying job in industry and may become supervisors or go into business for themselves. Apprenticeship committees, made up of employee and employer representatives from the specific industries, operate apprenticeship programs. Both state and federal government have a role in regulating apprenticeship programs.

**Training Agent:** Training agents are the employers who hire Registered Apprentices. Training agents must make a commitment to provide on-the-job training according to approved industry standards, supervise the apprentice according to the ratio approved in the industry standards and adhere to policies established by the state or the committee. Training agents should encourage apprentices to fully participate in the related training classes and make sure that they do not set up barriers to full participation. For example, a training agent should not schedule an apprentice to work out of town when a related training class is scheduled. The training agent must fairly evaluate the apprentices' progress and make recommendations to the apprenticeship committee regarding the advancement of the apprentice. The training agent must pay the apprentice according to the standards and participate in the committee's annual journey wage rate survey. Training agents must treat apprentices fairly and follow the requirements of the industry standards and policies of the committee.

<sup>1</sup> Oregon Bureau of Labor and Industries: Apprenticeship and Training Division: <http://www.oregon.gov/boli/ATD/docs/Information%20and%20Outreach%20PageATDMagazine.pdf>  
[http://www.oregon.gov/boli/atd/pages/a\\_ag\\_faq.aspx#prepare](http://www.oregon.gov/boli/atd/pages/a_ag_faq.aspx#prepare)  
<http://www.oregon.gov/ODOT/Business/OCR/Documents/Training%20Agent%20Information%20Sheet.pdf>



The Portland Metro Workforce Development Board