Improving the Effectiveness of Project Labor Agreements

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PRODUCED BY ESTOLANO ADVISORS FOR THE SAN FRANCISCO FOUNDATION


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EXECUTIVE SUMMARY

A Project Labor Agreement (PLA) is a comprehensive, legally binding document negotiated between a public agency or developer, general contractor, and labor unions. PLAs include a set of terms that will govern the given project, ranging from working conditions to schedules, safety rules, communication between stakeholders, etc. They can also contain hiring goals targeting local or disadvantaged workers. Most PLAs in the East Bay leverage their economic purchasing power by including local or targeted goals to incentivize contractors to hire locally. While some PLAs have met or exceeded set hire goals, some have fallen short. When thoughtfully crafted, regularly monitored, and supported by a robust workforce development ecosystem, these agreements have the potential to drive better outcomes for diverse workers.

San Francisco Foundation convened an advisory committee comprised of representatives from public agencies, the Alameda County Building Trades, and local community-based organizations to discuss strategies for diversifying the construction workforce through PLAs. San Francisco Foundation engaged Estolano Advisors (EA), with support from Julian Gross (Partner, Renne Public Law Group) and Ari Fenn (Labor Economist, University of Utah) to produce a report to better understand the challenges and opportunities to diversify the East Bay union construction industry and develop recommendations to improve the performance of local PLAs. EA was tasked with gathering qualitative and quantitative data on the state of the union construction industry in the East Bay.

PLA / CBA Scan

EA performed a scan of PLAs and Community Benefits Agreements (CBAs) nationally. EA reviewed agreements to identify best practices in socially responsible goals, compliance and enforcement, training, and pipeline support, impacts on disadvantaged populations, and challenges/successes. We found that socially responsible goals identify characteristics of disadvantage that can be easily verified by a contractor or third-party service providers, such as receiving public assistance, or lacking a GED or high school diploma. Effective PLAs employ clear enforcement mechanisms to ensure contractors meet local and/or targeted hire requirements. Incentives such as credits are widely used to incentivize contractors to meet and exceed goals. Several PLAs establish direct entry or preferred entry partnerships with local training programs to ensure a pipeline of diverse workers. In terms of impact, we found that few PLAs regularly publish data on their outcomes. Publishing data in a simple format can help build broad understanding and support of PLAs in the future.

Barriers and Opportunities to Diversifying the Construction Workforce

EA interviewed five current and former trade workers across California to better understand the lived experiences of BIPOC and women in the field, and to learn about potential strategies to increase the hiring, retention, and advancement of diverse workers in the industry. Interviewees described a variety of personal difficulties when entering the trades, including navigating difficult dynamics with coworkers and learning "soft skills" such as arriving to work on time, anger management, etc. Workers also described instances of harassment due to their race, gender, or sexual preference. Several affirmed that such behaviors are common to construction worksites, and supervisors prefer to relocate aggrieved employees rather than addressing the problem at the source. All interviewees spoke to the importance of culturally competent mentorship, support systems, and diversifying the worksite at ***all*** levels (for apprentices to owners) to not only achieve diversity, but inclusion.

Construction Labor Demand and Supply Analysis

EA was charged with collecting and analyzing quantitative data from a variety of sources. Apprenticeship data was readily available through the State of California's Division of Apprenticeship Standards. Similarly, we were able to gather information on PLA outcomes through public agency payroll data. We designed a survey tool to gather information on the demographics of the Alameda County Building Trades members. A similar tool was designed for pre-apprenticeship training programs. In both cases, we asked for whole numbers, and in the absence of numbers, an estimate. Lastly, we used the data available on planned construction projects

BUILDING TRADES DATA

Based on our findings, current data from the trade affiliates does not fully capture the landscape of the local construction workforce because the trades do not collect data consistently and are not mandated to collect and report data. Standardizing data collection and establishing an annual reporting system of the data is highly recommended to analyze the current workforce trends, as well as track those who have graduated from apprentice programs to determine the effectiveness of local PLAs and apprenticeship programs.

PRE-APPRENTICESHIP PROGRAMS

Pre-Apprenticeship Programs are a critical component of the construction trade training pipeline. There are currently nine program providers serving Alameda County. These programs have a great track record in terms of completion rates, placing participants in union apprenticeship programs, and recruiting BIPOC and women. These programs also provide supportive services alongside training to ensure the participants success and obtain employment upon program completion.

APPRENTICESHIP PROGRAMS

An apprenticeship training program is a pathway for individuals to participate in public works construction projects. We analyzed historical statewide data, which serves as a good indicator for projecting the pipeline of journeyworkers. Our findings show that Latinx apprentices made up the largest proportion of the incoming apprentices, followed by white, Black, and Asian apprentices. Most of these incoming apprentices were enrolled in carpentry, laborers, and roofers.

While Latinx and Black apprentices made up of up a higher proportion of the incoming cohort, they experienced a lower graduation rate compared to white and Asian apprentices. Female apprentices experienced lower graduation rates compared to male apprentices. Factors affecting Latinx, Black, and female apprentices from completing the programs may include lack of childcare, discrimination, harassment, level of education, experience, and other. It is crucial for apprenticeship programs and public agencies to connect apprentices with social services to support them in completing the program.

About 58% of the total active apprentices in Alameda County were Latinx, followed by 22% white and 12% Black. Females make about 4% of active apprentices. Latinx apprentices, followed by white apprentices, of both genders represent the highest proportion of all apprentices across the county, region, and statewide. Based on our research regression analysis, it expected that 414 apprentices will graduate by 2024 in Alameda County.

PUBLIC AGENCIES CERTIFIED PAYROLL DATA

Local agencies can use certified payroll data to track the compliance and measure the effectiveness of their PLA goals both during and after the project is completed, as well as analyze the demographics of the data. Agencies in Alameda County can adopt a similar process, such as publishing quarterly or annual reports, or establish a participation scorecard system based on the analysis of certified payroll data to measure the project's performance on the PLA goals.

CONSTRUCTION DEMAND FORECASTS

Based on our historical and analysis of planned construction projects of seven public agencies in Alameda County, a total of 4.4 million hours of work hours or 2,248 full-time equivalent (FTE) workers will be demanded in 2025. It is expected that public construction projects will demand most of the work by laborers, followed by electricians, and carpenters, which are also consistent with the top five crafts of both incoming and graduating apprentices in Alameda County.

Based on a moderate growth scenario, it is expected that public construction projects will demand 9.9 million of work hours or about 4,951 FTEs in 2030. Most of the work in the long-term will also be demanded by laborers, followed by carpenters and electricians. These crafts also align with the top crafts of incoming and graduating apprentices in Alameda County. Local pre-apprenticeship programs and public agencies should focus on recruiting apprentices, particularly BIPOC and women, in these top crafts demanded in both short-and-long term projections**,** as well as improve the work environment on site to ensure the retention of current apprentices and journeyworkers needed to meet this future demand.

Recommendations

The final section of the report contains detailed actions that public agencies, unions, contractors, educational institutions, and other partners can take to create a diverse and sustainable pipeline of union construction workers. These actions refer to either: "demand-side" recommendations that can drive demand for diverse workers through contracting and procurement language and policies, or "supply-side" recommendations that refer to the scaling up of recruitment, hiring, training, and retention of diverse workers to meet the needs of the region. Our recommendations include the following:

SET DATA-DRIVEN WORKFORCE GOALS

We recommend setting workforce goals to low-income zip codes to direct economic opportunity to the areas that need it most. Similarly, agencies may wish to set a simple list of categories for "disadvantaged workers." The number and type of categories should be short and easily verifiable so as not to dilute the intent of the program. Setting goals by trade is also a strategy to ensure all segments of the industry are addressed and goals are not achieved merely by placing diverse workers in lower paid crafts.

ESTABLISH CLEAR RESPONSIBILITIES FOR ACHIEVING WORKFORCE GOALS

We recommend setting clear language to describe workforce requirements and means of achieving them. We recommend using clear language laying out the steps contractors are expected to make. Such steps must not be inconsistent with industry practices. Public agencies should pay attention to the role of union hiring halls in dispatching diverse workers. Further, contractors should be required to sponsor apprentices where opportunities are available.

COLLECT DATA TO TRACK PROGRESS ON WORKFORCE GOALS

Regular data collection is crucial to gathering an accurate picture of the construction workforce. However, this data is difficult to access and inconsistent at best. We recommend a series of data metrics for public agencies, trades, apprenticeship programs, and pre apprenticeship training programs to collect to get a sense of the region's performance. We also recommend displaying this data collectively, as a dashboard, to communicate PLA outcomes to a broader audience.

ENFORCE TO ENSURE PROGRESS ON WORKFORCE GOALS

Enforcing workforce goals is a longstanding challenge. We recommend tackling this problem early on by requiring an operational plan at the onset of any agreement. Such a plan can describe clear roles and responsibilities for all parties in the monitoring and enforcement of a contract. Furthermore, including workforce goals and contractor requirements on all prime contracts, whether the project is covered by a PLA, sends a signal that these are as important to the public agency as all other requirements – and should not be ignored.

SUPPORT THE RETENTION AND ADVANCEMENT OF DIVERSE WORKERS

Harassment and discrimination impacts worker safety, productivity, and retention. We recommend that the region explore the adoption of a worksite harassment prevention program that provides all employees with concrete tools to step up and intervene when harassment and discrimination occurs on a jobsite.

COORDINATE ONGOING SUPPORT FOR DIVERSE WORKERS

Public agencies should coordinate funding on recruitment, training, retention, and other support services to ensure the region is directly responsive to projected demand and the needs of BIPOC and women workers.

COLLABORATE ON A REGIONAL LEVEL TO CREATE A DIVERSE WORKFORCE

Increasing economic opportunity for BIPOC and women is a regional challenge. As such, the advisory committee should continue meeting, and continue to collaborate and coordinate in the implementation of the recommendations of this report.

Image Credit: Building and Construction Trades Council of Alameda County


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INTRODUCTION

Purpose of the Study

The **Improving the Effectiveness of Project Labor Agreements** project aims to create collaboration between public agencies, unions, community-based organizations, and other community partners to create a strategic action plan to build a diverse and sustainable pipeline of construction workers in the East Bay. San Francisco Foundation convened an advisory committee comprised of representatives from public agencies throughout the East Bay, the Alameda County Building Trades Council, and community-based organizations, to discuss strategies for diversifying the construction workforce through Project Labor Agreements (PLAs).

Historical Context

Many Black, Indigenous, and people of color (BIPOC) still experience the impacts of discrimination and segregation that are deeply rooted in the history of systemic racism. These impacts created barriers for BIPOC to secure stable and good paying jobs compared to their white counterparts. As shown in the table below, BIPOC in Alameda County experienced higher unemployment rates—exceeded the countywide unemployment rate—compared to the white population.

High rents in the Bay Area are also displacing longtime residents, which demands local policy changes to provide access to good paying jobs and advancement in employment opportunities for them to remain in the community. Racial disparities also exist in the criminal justice system as it disproportionately incarcerates more BIPOC than their white peers.[1] The construction industry provides economic opportunities, particularly for the reentry population struggling to obtain employment after being released from prison. As shown in the previous table, most of the construction workers in Alameda County are Latinx or white. Only 2% of the construction workers in Alameda County were women. More could be done to diversify the construction workforce in Alameda County.

[1] Palta, R. (March 2014). Why For-Profit Prisons House More Inmates Of Color. National Public Radio.

Table 1: Alameda County Employment Data (2006-2010)

Race/ Ethnicity	Unemployed Rate	Constructive and Extractive Craft Workers		
		Total	% of Total	% of Female
American Indian and Alaskan Native	17.7%	220	1%	0%
Asian	6.6%	3,195	8%	3%
Black	17.3%	2,230	6%	4%
Hispanic or Latino	10.3%	20,395	54%	1%
Native Hawaiian and Other Pacific Islander	13.9%	280	1%	0%
Other	10.9%	475	1%	0%
White	6.5%	11,090	29%	3%
Total	8.8%	37,885	100%	2%

Source: U.S. Census (5-year ACS Data)

Project Labor Agreements (PLAs) as a Tool to Diversify Workforce and Stabilize the Local Economy

The HOPE SF Racial Equity and Reparations Resource Guide (2020) identifies economic reparations as a strategy to "compensate for the lost wealth accumulation among ancestors or families".[2] Local PLAs are one of the many tools that can be used as a form of reparations to atone for the harm done by historical systemic racism, as well as create policies that would benefit and uplift BIPOC communities in terms of employment. As the housing prices in the Bay Area continue to rise, proactive investments in the local economy in the way of local/targeted hire; supporting workforce training providers, etc., can go a long way in creating the jobs and pathways to jobs that pay family-supporting wages that will allow workers to thrive in place.

Despite efforts to diversify the construction workforce through PLAs (by instituting community workforce provisions targeting local and/or disadvantaged residents), some PLAs fall short of their stated goals. However, if thoughtfully crafted, regularly monitored, enforced, and complemented by a robust and responsive workforce development ecosystem, these agreements do have the potential to drive better outcomes for diverse workers.

BIPOC and women face countless challenges to entering the construction industry. They lack access to the personal referrals or established networks that are the cornerstone to entering apprenticeship programs. Pre-apprenticeship programs offer supportive services and training that can increase a job seekers likelihood of success in the industry – but are inconsistently funded. In addition, sexist and racist practices and policies have led to hostile jobsite cultures, which undermines the long-term retention and growth of BIPOC and women in the construction industry.

In order to better understand the challenges and opportunities of diversifying entry into the East Bay construction industry, San Francisco Foundation engaged a team led by Estolano Advisors (EA), with support from Julian Gross (Partner, Renee Public Law Group), and Ari Fenn (Labor Economist and Researcher, University of Utah) to develop a report that analyzes the East Bay's labor current and near-future labor supply, near-future project demand, and offers recommendations for the advisory committee take to diversify the construction workforce.

This report is comprised of the following sections:

1. **Project Labor Agreement / Community Benefits Agreement (CBA) Scan:** This section contains a nationwide scan of PLAs and CBAs to identify best practices, and potential language that public agencies may wish to consider when updating their own agreements.
2. **Barriers and Opportunities to Diversifying the Construction Workforce:** This section contains a summary of interviews with construction workers. Workers were asked to share about their personal experiences on the jobsite and discuss their recommendations for making the workplace a safer, more productive environment for BIPOC and/or women.
3. **Construction Labor Supply and Demand Analysis:** This section provides demographic information on the East Bay's current and near future labor supply, based on information provided by the Construction Trades, Division of Apprenticeship Standards (DAS), and local pre-apprenticeship programs. It also contains a 10-year forecast of public sector construction projects, and related job opportunities by craft.
4. **Recommendations:** This section offers recommendations for actions that public agencies, unions, contractors, and other partners can take to build a diverse and sustainable pipeline of construction workers.

[2] Khare, Amy T., Mark L. Joseph and Theodore B. Miller, Jr. (2020), HOPE SF: Racial Equity and Reparations Resource Guide, San Francisco, CA. The Partnership for HOPE SF.

Image Credit: International Brotherhood of Electrical Workers Local 595

PROJECT LABOR AGREEMENT/COMMUNITY BENEFITS AGREEMENT SCAN

Project Labor Agreements (PLAs) are comprehensive, legally binding documents that are negotiated and signed by the developer or project owner, the general contractor, and labor unions. A PLA sets forth the terms for a project: working conditions, schedules, hiring requirements, pay rates, safety rules, communication among key stakeholders, and a process for dispute resolution.[3] A PLA ensures that a project will be delivered on time and on budget. They can apply to all projects over a certain size within a public agency or be negotiated by project. [4] Occasionally, PLAs are negotiated with targeted hiring requirements, which identify key populations (e.g. local residents, low income residents, people with barriers to employment) and a defined percentage of all worker hours to be performed by those workers.[5]

Community Benefits Agreements (CBAs) are agreements between developers and coalitions of community organizations that "allow community groups to press for community benefits that are tailored to their particular needs."[6] The benefits can address a range of issues such as affordable housing, community amenities, funding for job training, opportunities for hiring of BIPOC contractors, etc. In some cases, CBAs have included PLA-type provisions such as local and targeted hire.

[3] Partnership for Working Families (2013). The Construction Careers Handbook: How to Build Coalitions and Win Agreements That Create Career Pathways for Low Income People and Lift Up Construction Industry Jobs. Partnership for Working Families.

[4] UCLA Labor Center. (March 2014). Exploring Targeted Hire: An Assessment of Best Practices in the Construction Industry. UCLA Labor Center.

[5] Ibid.

[6] Gross, J., LeRoy, G., and Janis-Aparicio, M. (2005). Community Benefits Agreements: Making Development Projects Accountable. Good Jobs First and the California Partnership for Working Families.

Methodology

EA conducted a nation-wide scan to identify best practices to inform PLAs in the East Bay. EA identified six PLAs and four CBAs, as well as three additional relevant projects, [7] to highlight for this study.

The documents are summarized in **Table 2**.

The advisory committee identified five focus areas and to structure the scan with the goal of identifying replicable and innovative practices and language:

1. **Socially Responsible Goals**
   How do the agreements focus on goals that address quality of life concerns?

2. **Compliance and enforcement**
   How do the agreements ask contractors to prove compliance with procedures and goals? What remedies do the agreements prescribe should a contractor/developer fall short of meeting standards?

3. **Training and pipeline support for disadvantaged residents**
   What supports are mentioned in the agreements to support a pipeline of diverse workers? This could include actions like committing funds, directing contractors to work with workforce organizations, etc.

4. **Impacts on disadvantaged populations**
   How, and to what extent do the agreements track figures around disadvantaged persons hired, or any other metrics to demonstrate tangible benefits?

5. **Challenges and successes**
   Are there any documented outcomes related to the implementation of the agreements? This may be from the PLA itself, or from reports developed by government, community-based, or another partner's website.

[7] Includes the Hayward Unified School District PLA, Prosper Portland, and San Francisco's Local Hiring Policy for Construction

Table 2: PLAs/CBAs Reviewed for Study [8]

Type	Name	Scale
PLA	City of Chicago Multi- Project Labor Agreement	City-wide
PLA	City of Philadelphia Public Works Project Labor Agreement	City-wide
PLA	City of Seattle Community Workforce Agreement	City-wide
PLA	Community Redevelopment Agency of Los Angeles (CRA/LA) Project Labor Agreement	Agency-wide
PLA	*Hayward Unified School District Project Labor Agreement	Agency-wide
PLA	Multnomah County Central Courthouse Project Labor Agreement	Project-specific
PLA	New York City Project Labor Agreement New Construction on City-Owned Buildings Project Labor Agreement	Agency-wide
CBA	Cincinnati Major League Soccer Community Benefits Agreement	Project-specific
CBA	Los Angeles Staples Center Community Benefits Agreement.	Project-specific
CBA	Nashville Community Benefits Agreement	Project-specific
CBA	Pittsburgh Arena Hotel Community Benefits Agreement	Project-specific
CBA	*Prosper Portland	Project-specific
Policy	*San Francisco Local Hiring Policy for Construction	City-wide

Findings

SOCIALLY RESPONSIBLE GOALS

Neighborhood Amenities: Exemplary CBAs offer a wide range of benefits that are tailored to the needs of the impacted communities. For example, the Staples Center CBA in Los Angeles required the developer to fund "at least $1,000,000 for the creation of parks and recreation facilities," [9] and the Pittsburgh Hotel CBA required a commitment of "up to $1,000,000 for a grocery store or alternative economic anchor." [10]

Targeted Hiring: Though BIPOC communities are often the key constituencies when crafting targeted hire policies, California state law prohibits explicit targeting based on race and gender.[11] Jurisdictions have developed other criteria to identify populations in need of additional assistance. Namely, the Community Redevelopment Agency of Los Angeles (CRA/LA) used the term "disadvantaged worker" to refer to individuals that reside within Los Angeles who:

a. "have a **household income** of less than 50% of the AMI, or

b. faces at least one of the following **barriers to employment**:

   i. being homeless;

   ii. being a custodial single parent;

   iii. receiving public assistance;

   iv. lacking a GED or high school diploma;

   v. having a criminal record;

   vi. suffering from chronic unemployment." [12]

Ramp-Up Periods: PLAs often include provisions requiring a percentage of all hours worked on a project be completed by local or targeted residents. To ensure contractors are able to meet

[8] Documents with an asterisk (*) include relevant policies with workforce provisions to supplement the original scan.

[9] Staples Center CBA. (2001).

[10] Pittsburgh Arena Hotel CBA. (August 2008). pg. 8

[11] Due to prohibitions enacted by Proposition 209 in 1996, and upheld by the defeat of Proposition 16 in 2020.

[12] Community Redevelopment Agency of Los Angeles Project Labor Agreement, pg. 5

these goals, some PLAs have included "ramp-up" periods that set the local/targeted hire goal slightly below the intended target, and gradually increase over time to allow time for contractors to reach the goal. Such a system allows for learning and adaptation within the ramp-up process and allows stakeholders to course-correct as needed. The ramp-up period also allows for alignment with the availability of labor supply. For example, the City of San Francisco's local hire ramp-up period is aligned with the San Francisco Unified School District's workforce pipeline initiative. Though the City amended its ordinance in 2018 to pause the ramp-up at 30% journey level workers, the ramp-up goals encouraged partners to scale up and coordinate to meet the demand for workers. The initial push was fruitful in the end; San Francisco residents worked 38% of job hours in 2014 compared to 20% in 2010.[13]

Table 3: San Francisco Local Hiring Policy Ramp-Up Policy [14]

Years after effective date that contract is advertised for bids	Mandatory participation level for project work hours
0-1	25%
1-2	30%
2-3	35%
Periodic review	Periodic review
3-4	40%
4-5	45%
5-6	50%
Periodic review	Periodic review
6-7	50%

COMPLIANCE AND ENFORCEMENT

Monitoring via Advisory Bodies: PLAs often include the establishment of a Joint Administrative Committee (JAC) to generally oversee the project, and to help resolve problems. In addition, all PLAs have grievance and arbitration provisions that parties to the PLA can utilize in cases of noncompliance. Public entities can enforce hiring goals either through the PLA, or through prime contracts that incorporate the goals. Philadelphia's city-wide PLA is unique in that it is governed both by a public advisory commission on construction industry diversity at-large, and a mayoral committee charged with the review, evaluation, and modification of performing contracts. This two-pronged approach tackles both project-specific and systemic challenges in construction hiring: the mayoral committee uses its political capital to bring stakeholders to the table to troubleshoot performance on the PLA, and the advisory commission provides a public platform to address broader issues of construction equity and diversity.

Enforcement Measures: Effective PLAs employ enforcement mechanisms with clear penalties to ensure contractors meet local and/or targeted hire requirements. First, agencies can withhold payments to contractors if goals are not met. For example, the Multnomah County Central Courthouse (MCCC) PLA allows the public agency to "withhold all or part of any progress payment" to a contractor that does not perform." [15] This mechanism's cause and effect are simple: if the contractor does not deliver on the PLA's provisions, they are not paid until their goals are met (although contractors may still avoid penalties through "good faith" efforts, or the declaration that they attempted every method available to reach targets. Further, the MCCC states that a contractor will "pay up to the sum of $250 per day" in liquidated damages "for each day of missed apprenticeship hours." [16] While a progress payment withheld can be recovered once an issue is remedied, any liquidated damages are forfeited if apprenticeship hour goals are not met; contractors that do not perform are not only at risk of delayed income, but also having to pay additional costs. Lastly, the CRA/LA PLA deemed contractors who consistently violated the PLA as "non-responsible," and such parties were "debarred from future CRA/

[13] Emerald Cities. (March 2015). San Francisco's 5-year-old local hire policy a huge success.

[14] San Francisco Local Hiring Policy for Construction. (April 2017). pg. 21, section 4.a.i.

[15] Multnomah County Central Courthouse Project Labor Agreement. (February 2017). Article XV, section 15.2 a

[16] Ibid. Article XV, section 15.2 b

LA contracts for a period of time." [17] These approaches offer tangible consequences to non-performing contractors, which, if enforced, may lead to increased contractor compliance.

Incentive Measures: Enforcement of financial penalties may not adequately motivate contractors to meet and surpass goals, but the addition of incentive measures may increase PLA effectiveness. The Hayward Unified School District offers a contract bonus of 2% of the construction amount to firms if they: 1) successfully complete their projects at least one week ahead of the original date, and; 2) exceed 40% local resident work hours. [18] In addition, public entities can creatively incentivize certain types of hiring within a program: the City of Seattle's Community Workforce Agreement offers assistance in compliance determinations in certain cases, including "a credit of up to 10% of the hours performed by priority workers" if "prime contractors hire from priority zip codes and ensure these workers perform nonmanual duties" for the duration of the project. [19] Similarly,the Hayward Unified School District (HUSD) PLA offers a retention credit for 50% of hours worked toward the 30% local hire goal if a contractor employs a Hayward resident six months prior to the start of the project.

TRAINING AND PIPELINE SUPPORT FOR DISADVANTAGED RESIDENTS

Pipeline Programs: Effective PLAs set forth partnerships with local training programs to ensure a pipeline of diverse workers. For example, the Chicago PLA created a school-to-construction pipeline where:

"at least 25% of apprenticeships, interns, or other construction-related work opportunities will be comprised of persons who graduated from the Chicago Public Schools (CPS). In order to meet such goals, each and every Union will promptly examine its processes, including, but not limited to, its application and testing procedures and locations, in order to facilitate availability to apprenticeship programs by CPS graduates." [20]

Mandating at least one fourth of the total workforce to be graduates of CPS requires contractors and unions to develop intentional partnerships with the local education system. Chicago unions are encouraged to "establish a teacher-in-service" program in which they "instruct CPS teachers on how students may be accepted" into apprenticeships. [21] Such intentional partnerships raise awareness of the trades as a career option, and they fortify the local labor supply by ensuring entry points into the field.

The City of Seattle established a Preferred Entry Program to quicken processes that "identify [disadvantaged] individuals... who meet entry standards for apprenticeships" for admission into such programs. [22]

Direct Financial Investment: Direct investment in workforce training is key in creating a supply of diverse workers. Financial investments are foundational in sustaining a training program's operations through salaries, materials, and services. For example, the Los Angeles Staples Center CBA required the primary developer to provide "$100,000 in funding to staff to operate [a] First Source Referral System," and the Pittsburg Arena Hotel CBA required public entities to provide "$150,000 per year for a minimum of two years for employment outreach, counseling, and training." [23]

IMPACTS ON DISADVANTAGED POPULATIONS

The PLA and CBA scan also sought to identify positive impacts on disadvantaged populations. By and large, PLA/CBA administrators tend to not post data on the progress on their goals. The Multnomah County PLA is a notable exception.

[17] Community Redevelopment Agency of Los Angeles Project Labor Agreement. pg. 76

[18] Hayward Unified School District Construction Project Stabilization Agreement. (June 2009). pg. 27

[19] City of Seattle Community Workforce Agreement. pg. 17

[20] City of Chicago Multi-Project Labor Agreement. (February 2011). pg. 32

[21] Ibid.

[22] City of Seattle Community Workforce Agreement pg. 18-19

[23] Pittsburgh Arena Hotel CBA. (August 2008). pg. 10

The PLA achieved and surpassed its contracting and hiring goals. The PLA set a goal of 20% of all contracts to be awarded to BIPOC and women-owned firms (verified by the Certification Office for Business Inclusion and Diversity, or COBID), and they surpassed this goal by 12% for a total of 32%. Multnomah County has also developed a public-facing dashboard, [24] updated monthly, to help promote transparency and accountability between stakeholders.

Table 4: Multnomah County PLA Contracting and Hiring Outcomes [25]

Metric	Goal	Current Status
COBID certified firm subcontracting utilization rate	Minimum 20 percent	32 percent
Male minority apprentice level workers by trade	Minimum 20 percent	27.4 percent
Female apprentice level workers by trade	Minimum 25 percent	20.8 percent
Male minority journey level workers by trade	Minimum 20 percent	27.3 percent
Female journey level workers by trade	Minimum 6 percent	6.5 percent

LA Metro's Female Participation Score Card, [26] highlights contractors "who meet and exceed the... female participation goal of 6.9% on Metro construction projects." Though most contractors received grades of C or lower, transparency is essential to benchmarking performance and making the case additional investment. Metro updates their scorecard quarterly and displays the information in a simple and engaging format. Effective visualizations are essential to communicating the value of these agreements to a variety of audiences.

CHALLENGES AND SUCCESSES

Worksite training programs can help improve on-site experiences for all workers. One such program is Green Dot, which offers a workplace training curriculum that "focuses on building capacity in relationships, connection, knowledge, and skills." The Multnomah County PLA requires the implementation of Green Dot, "or equivalent Workplace Training Program" on their Courthouse project. [27]A description of the Green Dot program is included as an Attachment to the PLA. Green Dot's success has encouraged other local agencies to "investigate how they can implement the program on their next project to create a jobsite culture intolerant of violence and harassment." [28]

[24] Multnomah County Construction Small Business Performance Dashboard. (May 2019).

[25] Multnomah County (2020). *Following through on a commitment to diversity and equity*.

[26] LA Metro Female Participation Scorecard (December 2019).

[27] Multnomah County Central Courthouse Project Labor Agreement. (February 2017). Attachment C.

[28] Multnomah County (2020). *Following through on a commitment to diversity and equity*.

Image Credit: Building and Construction Trades Council of Alameda County

BARRIERS AND OPPORTUNITIES TO DIVERSIFYING THE CONSTRUCTION WORKFORCE

The union construction industry offers family supporting wages, improved labor conditions and benefits that can help reduce the economic disparities for BIPOC and women in the East Bay. However, data shows that the construction industry still has a long way to go in diversifying their ranks. Though Latinx males have benefitted and have seen higher participation numbers, disparities between BIPOC and women and their white, male counterparts still exist. EA conducted in-depth interviews with current and former trade workers across California to better understand the lived experiences of BIPOC and women in the field, and to learn about potential strategies to increase the hiring, retention, and advancement of diverse workers in the industry.

Interview Methodology

EA conducted five one hour-long interviews via Zoom with individuals in the construction field. Advisory committee members referred potential interviewees. The interviewees were comprised of the following:

- Three men; two women
- Three Black; one Caucasian; one mixed-race
- One lesbian

The interviewees also represented the following affiliations: [29]

- Shawn, foreman, electrician, volunteer job readiness program facilitator
- Jean, business manager, electrician
- Frederick, affinity group leader, former utility worker ***(retired)***
- George, pre-apprenticeship/job training center director
- Alice, construction project manager

EA developed and distributed interview protocol (Appendix VII.A) in advance of each interview to allow the participants time to prepare responses. The interviews sought to better understand how and why interviewees became involved in the construction industry, how their identities as BIPOC and/or women have influenced their experiences in the trades, and which workplace supports would have contributed to their success early in their careers.

EA organized findings from the interviews into the following categories:

- Barriers can include lived experiences that hinder an individual's ability to enter, retain, and advance in a job (individual), or policies, practices, and other norms that favor a group(s) while disadvantaging others;
- Opportunities can include tailored, culturally competent interventions that can enhance a worker's likelihood of success (individual), or; are policies, practices, and other norms that proactively address disadvantages faced by certain group(s) (structural).

Barriers

Individual barriers refer to experiences that hinder a worker's ability to enter, retain, and advance in a job. Participants identified several challenges to entering the trades and navigating mostly white, male worksites.

ENTERING THE TRADES

Individuals seeking a job in construction must demonstrate a mix of soft and hard skills to be considered for employment. While "hard" skills are teachable abilities, such as how to operate machinery, etc., "soft" skills are subjective and can include things such as interpersonal awareness, communication, teamwork, etc. Interviewees generally agreed that personal experience or a lack of familiarity with a mostly white, male environment may inhibit one's ability to fit in and succeed in the workplace. [30]

[29] Participants were assigned fictitious names to preserve anonymity.

[30] Gray, A. (June 2019). The Bias of 'Professionalism' Standards. Stanford Social Innovation Review. https://ssir.org/articles/entry/the_bias_of_professionalism_standards#

Shawn, a foreman and job readiness program facilitator, states, "while [BIPOC] workers pick up 'hard' skills quickly they may struggle with navigating interpersonal dynamics," such as addressing misunderstandings with colleagues. [31]

Shawn's program provides BIPOC construction workers with the soft skills needed to be successful in the workplace: arriving to work on time, anger management, communicating with supervisors, and living drug-free. As a formerly incarcerated individual, Shawn vividly described the need to support at-risk workers in, "healing from unresolved trauma" and "teach them how to respond, not just react" to situations on the job. [32]

Disparities in social networks directly impact a job seeker's ability to enter the construction industry. Jean, a business manager and former electrician, shared that familial and social networks in construction give certain job seekers a leg up in the interview process, be it through personal referrals or sharing the types questions typically asked during interviews. [33] Shawn further noted that while his job readiness program participants are generally able to pass written exams, they struggle with oral interviews due to differences in social capital, language, or a lack of familiarity with the interview process and protocol. [34]

NAVIGATING WORKSITES

Once employed, BIPOC and women often face additional challenges as they navigate predominantly white, male worksites. Frederick, a Black affinity group leader and former utility worker, shared his feelings of isolation and at his worksite. Frederick reported being one of 20 Black linemen at a 5,000-person company. [35] Feelings of isolation at a worksite can lead to decreased productivity and can drastically reduce a worker's performance and tenure at a job. [36]

Workers also experience jobsite harassment based on gender. Jean stated that "sexual harassment is a part of construction culture." [37] According to a report on the Health and Safety of Women in Construction (HASWIC), 88% of women in construction reported experiencing sexual harassment at work. [38] Jean continued by describing the unequal power dynamics women have in the workplace,

"if you are in the room, but you are not like everyone else, you still don't have a say. When you are in the environment, you go along with what is normal. You don't know how it's supposed to be." [39]

Jean shared that "lewd comments or jokes" are a common occurrence on worksites. She also shared an instance where she reported a harassment issue to her supervisor. Rather than "fixing the 'cultural problem,'" Jean said, "the contractor moved me to another worksite." [40] Other interviewees confirmed echoed Jean's experience. In their experience, employers opt to relocate aggrieved workers rather than addressing deeper issues within the company's processes or culture.

As regards LGBTIQ+ (lesbian, gay, bisexual, transgender, intersex and queer) colleagues, Jean shared that many choose to not share about their personal lives at work. "A lot of people don't

[31] Interview A (June 2020). Interviewed by Estolano Advisors.

[32] Ibid.

[33] Interview B. (July 2020). Interviewed by Estolano Advisors.

[34] Interview A.

[35] Interview C. (July 2020). Interviewed by Estolano Advisors.

[36] Dainty, A., Cheng, M., and Moore, D. (January 2005). Competency-Based Model for Predicting Construction Project Manager's Performance. Journal of Management in Engineering.

[37] Interview B.

[38] Health and Safety of Women in Construction Workgroup. (1999). Women in the Construction Workplace: Providing Equitable Safety and Health Protection. Occupational Safety and Health Administration. http://www.osha.gov/doc/accsh/haswicformal.html.

[39] Ibid.

[40] Ibid.

feel comfortable coming out on the job. You just can't be your full self." [41] Jean identifies as a lesbian and spent several years of her career not disclosing her identity for fear of repercussion from her male colleagues. In fact, research supports that closeted employees are less likely to be productive on the jobsite, which can lead to a lack of job satisfaction, and contribute to leaving a workplace entirely. [42]

RACIAL AND GENDER DIVERSITY

All interviewees noted being in the minority at their companies. Jean is one of 32 women in a 1,400-member union. Jean noted that until recent women's event, most of the female members had never met one another, though most had been withthe union for years. [43] With minimal connection to other women, Jean shares that it is impossible to "know what is considered appropriate behavior or a normal experience."[44]

When asked how to achieve more diversity in leadership, four of the five interviewees expressed that increasing the number of BIPOC and women is a crucial first step. [45] Interviewees agreed that proactive steps must be taken to promote BIPOC and women into leadership positions. Shawn posited that when leadership "reflects a more diverse workforce, it is more likely that decisions will be made inclusively." [46] Alice, a construction project manager, echoed the belief that greater diversity will lead to more welcoming worksites. She suggested that "more women on the jobsite will draw more attention," and that "higher numbers of women will require everyone to be more attentive to the needs of women." [47] These comments show the need for effective pipeline programs that increase access for BIPOC and women workers. Shawn effectively described the nuanced difference between diversity and inclusion in the context of the trades:

"Diversity is: am I in the room? Inclusion is: Can I be myself in the room?" [48]

The difference between the two is essential in creating a workplace where all employees can be seen, heard, and feel welcome.

TRAINING CHALLENGES

Structural barriers also impact access to and the effectiveness of training programs that prepare workers for careers in the trades. Many pre-apprenticeship training programs offer little or no pay over the duration of the training. [49] For example, George runs a pre-apprenticeship training center and noted that while they "do not currently provide stipends, they do pay when they are able" and that the "state can provide some reimbursement" if a trainee applies for it." [50] For trainees with significant financial obligations, such as the heads of households, participation in such programs becomes impossible without financial assistance from outside entities, and paperwork for reimbursements that are often delayed could further exacerbate barriers.

Shawn, the foreman and job readiness program facilitator, mentioned that his program had "never received a major workforce grant from [their] city," and described ongoing challenges in attaining major grants. [51] Smaller, volunteer-run programs like Shawn's lack the capacity to pursue development opportunities and are less likely to successfully acquire funding. Shawn continued by describing the challenges they face in operations:

"We don't have a building. We don't have a place to call home. We would love to have an office and offer longer hours of service." [52]

Lastly, training center locations pose access challenges for program participants if they are far from places of residence. Frederick mentioned

[41] Interview B.

[42] Hewlett, S., Sumberg, K., and Leader-Chivee, L. (October 2010). What don't ask don't tell really costs. Harvard Business Review. https://hbr.org/2010/10/what-dont-ask-dont-tell-really

[43] Ibid.

[44] Ibid.

[45] Interviews A, B, C, and E.

[46] Interview C.

[47] Interview E.

[48] Interview A.

[49] Interview D. (July 2020). Interviewed by Estolano Advisors.

[50] Interview D.

[51] Interview A.

[52] Interview A.

that his organization's training center was located far from the East Bay, in a suburban, mostly white community. [53] Traveling long distances for a training program means less time spent with families, which can prove difficult to sustain long-term. Frederick added that isolated training location may make BIPOC workers uncomfortable. Frederick stated that a centrally located training center, like in Oakland, run by culturally competent training providers, may offer a more welcoming option for BIPOC workers.

AWARENESS OF/INTEREST IN THE TRADES

Several interviewees spoke to the lack of exposure to the construction industry in public schools as a primary factor for a lack of general interest or awareness in the trades. Interestingly, both Jean and Alice have parents in the trades who provided exposure early on in their lives. In fact, Alice's parents encouraged her to pursue construction not via an apprenticeship program, but rather through a polytechnic university – which focused on applied skills training. A combination of her training, and background allowed her to become one of the few female construction managers in her company. Without a familial or social network to broaden exposure, students have historically relied on the education system for an introduction to construction. Frederick pointed to the decline in woodshop, automotive, or metal shop courses in K-12 as a major contributor to the decline in awareness of the trades. It is difficult to gauge the extent to which youth have an interest in the trades as a career if they are not exposed to the field early on. A lack of exposure to and awareness of the trades not only reduces the number of incoming workers, but also makes it challenging to increase diversity representation in the field.

[53] Interview C.

Opportunities

Opportunities for individual success are tailored, culturally competent interventions that can enhance an individual's likelihood of success on the job. The interviews highlighted culturally competent mentorship, affinity group spaces, and life skills training and supports as key interventions that support diverse workers in the trades.

CULTURALLY COMPETENT MENTORSHIP

Mentors that can provide guidance and support to junior employees play an integral role in a worker's success. Culturally competent mentorship includes an understanding of and sensitivity to the experiences, cultures, belief systems of BIPOC. The presence of a mentor opens opportunities for mentorship and camaraderie. [54] Several interviewees pointed to mentors who provided support that kept them in the field. After being denied the formal opportunity to rotate tasks as an apprentice, Frederick met an "old timer" mentor who taught him how to use a tool that allowed him to move into ironworking. [55] Another interviewee referenced a time when they almost quit the trades due to harassment, but a mentor in the same union offered support that ultimately changed their decision to stay. [56]

AFFINITY GROUPS

Affinity spaces such as women's groups allow for camaraderie, transparency, and trust building that might not otherwise occur. Interviewees appreciated these groups as they create a less formal environment to discuss topics relevant to their experiences on the job. For example, Jean organized the first-ever women's dinner at her union. The event allowed for female union members to meet – some for the first time – and discussed experiences around skill building, harassment, and how to navigate the workplace. They event spent an evening reviewing the unions Code of Conduct, which allowed attendees to understand what type of behavior is acceptable – and not acceptable – in the workplace. [57] These dinners are now regular events at her union. According to Jean, "we learn best when we can be who we are." [58] With greater social connectivity "jobs are completed quicker, workers are happier, and they stay around longer." [59]

ENSURE EXPOSURE TO DIFFERENT CRAFTS FOR APPRENTICES

Creating a holistic experience for apprentices ensures that each worker is exposed to basic knowledge and skills. As mentioned, interviewees reported examples of employers denying a worker the opportunity to gain exposure to new skills, hindering their ability to progress in their careers. [60] In order to avoid this, a holistic training that develops an employee's understanding of how one task fits into the larger project leads to increased situational awareness, and by extension, a safer workplace. Frederick, an affinity group leader, suggests that public agencies create a position for a "coordinator/monitor to check on the apprentices, ensure they are moving around, and aren't getting pigeon-holed into one task." [61] Standardized apprenticeship experiences also allow for contractors to have greater confidence that the workers they hire hold the skills necessary to complete a job satisfactorily.

[54] Mondisa, Joy-Lynn. (2020). The Role of Social Capital in African-American STEM Mentoring Relationships. Journal of Women and Minorities in Science and Engineering. Volume 26, Issue 2, p. 125-153.

[55] Ibid.

[56] Interview B.

[57] Ibid.

[58] Ibid.

[59] Ibid.

[60] Interview C.

[61] Ibid.

Image Credit: International Brotherhood of Electrical Workers Local 595

CONSTRUCTION LABOR SUPPLY AND DEMAND ANALYSIS

To ensure a diverse workforce and develop key actions to achieve this goal, we analyzed data to determine the existing and future pipeline of workers to meet construction demand within the next ten years. In this section, we explore and analyze data from various sources to identify areas for improvement through key strategies in our recommendations including standardizing data collection among agencies and organizations, targeting recruitment in highly demanded crafts, and encouraging agencies to use data to monitor the effectiveness of its PLAs in meeting local and/or targeted hire goals.

The key sources of data to analyze are local building trade affiliates to determine the existing apprentices and journeyworkers membership in the region. Based on our findings, we determined that the trade affiliates do not collect data consistently and are not mandated to collect and report it. We then analyzed data from pre-apprenticeship programs and the Division of Apprenticeship Standards on statewide apprenticeship programs, which provide current data on the landscape of current and upcoming pipeline of apprentices on their way to journeyworker status. We analyzed past certified payroll data for the City of Oakland in meeting local and/or targeted hire goals to demonstrate that this data source as an approach to track the effectiveness of local PLAs. Lastly, we used these data sources to determine the future construction demand between 2021 and 2030 by craft in terms of work hours and full-time equivalent workers.

Building Trade Affiliates Data

The Building and Construction Trades Council of Alameda County (BCTCA) partners with 27 trade affiliates across the County (refer to Appendix VI.B). For this study, we worked with BCTCA to obtain data from these affiliates by distributing a survey to 19 local trades to identify the type of data that are currently being collected by the trades. The survey period occurred between July 13 and July 31, 2020, and we received a total of ten responses from the trade affiliates.[62] The survey questionnaire included the following (refer to Appendix VI.C for the survey questionnaire):

- Geographic area
- Building trade or craft
- Active membership (including apprentices and journeypersons)
- Projected number of Journeypersons expected to require
- Demographic information including gender, race/ethnicity, and sexual orientation
- Where members reside

The trade affiliates were consistent in providing data information on the total of number of members, including the breakdown by gender, apprentices, and journeypersons. The trade affiliates also did not have any information or collect data on the members' sexual orientation. Overall, the small sample data obtained from the survey does not provide an accurate depiction of the demographic and other key information about union workers in the region. The survey also asked respondents to describe some of the challenges in gathering and/or collecting membership demographic data within their organization. Here are the responses:

- "Race being a protected class, makes it tough when folks choose Decline to State, which we have a lot of. DAS data can be helpful for you in this regard."

[62] Survey responses included Bricklayers, Tilesetters and Allied Craftworkers Local 3; Heat & Frost Insulators, Local 16; International Brotherhood of Electrical Workers Local Union 595; Northern California Elevator Industry Joint Apprenticeship and Training Committee; Painters & Drywall Finishers LU3; Plasterers' Local 66; Plumbers & Steamfitters Local Union 342; Sheet Metal Workers' Local 104; Teamsters Local 853; and UA Sprinkler Fitters Local 483

- "Two challenges we face are: the existing member data is being updated and new members don't always specify their ethnicity or race."
- Based on the data sample provided by the ten trade affiliates that responded to our survey in July 2020:
- Journeyworkers represented 79% of the current members in the data sample, whereas 21% represented Apprentices.
- 98% of the current members in the data sample are male.
- 25% of the members live in Alameda County, followed by 14% in Contra Costa County, and 8% in Solano County.
- Members in the data sample represented 54% white, followed by 35% Hispanic/Latinx, 5% Black, 3% Asian, and 4% listed as other or unknown.

This survey experiment confirms that current data from the trade affiliates does not fully capture the landscape of the local construction workforce because trade affiliates do not collect data consistently and are not mandated to collect and report it. Standardizing data collection and establishing a reporting system is highly recommended to analyze the current workforce trends, as well as track those who have graduated from apprentice programs to determine the effectiveness of local PLAs and apprenticeship programs.

Pre-Apprenticeship Programs and Data

Pre-apprenticeship programs are a critical component of the construction trade training pipeline. These programs are typically run by community-based organizations or situated within high schools. The programs specialize in targeting individuals that belong to more than one target population including those that are low-income, unemployed, BIPOC, non-English speakers, formerly incarcerated, veterans, or recent immigrants. These programs offer exposure to a range of construction trades through work experiences and visits from people working in that trade. Pre-apprenticeship programs use a certified Multi-Craft Core Curriculum (MC3), which is a comprehensive pre-apprenticeship curriculum developed and approved by the Building Trades National Apprenticeship and Training Committee. The Construction Trades Workforce Initiative nonprofit partner of the Building & Construction Trades Councils of Alameda (CTWI-BCTCA) provides pathways into union construction careers.

EXISTING MC3 PROGRAMS

CTWI-BCTCA currently partners with nine program providers in the region. The four main MC3 programs are listed in **Table 5** on the following page. According to an interview with the CWTI-BCTCA Executive Director, approximately 90% of the participants from these programs (Cypress Mandela, Future Build, RichmondBUILD, and Rising Sun Opportunity Center) have graduated from the program. Roughly 70% of the participants end up being placed in union apprenticeship programs, and 95% of the participants are BIPOC.

Detailed information on each program, based on data provided by Construction Trades Workforce Initiative (CTWI), is below:

1. **Future Build**
    - Graduated 16 cohorts equaling over 290 graduates since 2011.
    - Enrollee demographics since 2011 were 61% Black, 21% Hispanic, 13% white, and 2% Asian/Pacific Islander and 3% listed as "other".
    - Since 2012, 100% of Future Build enrollees have been low-income, 86% BIPOC, and 24% women. Roughly 20% of the trainees were ex-offenders.
    - The cumulative job placement rate is over 85% for program graduates, which increased to 95% in the last two years.
2. **RichmondBUILD**
    - Trained over 1,300 Richmond residents since 2007.
    - Enrollee demographics since 2007 were 60% Black, 20% Hispanic, 10% Asian,

and 10% listed as "other". Ex-offenders represented 40% of the enrollees.

- 80% of the individuals that enrolled in the program had incomes below the federal poverty level.

3. **Rising Sun Opportunity Center**

   - Between 2018 and 2020, the program enrolled 183 participants.
     - 101 (95%) of the participants were female.
   - Since 2018, 86% of these participants graduated from the program
     - 43 (or 27% of the total graduates) applied to apprenticeship programs upon program completion.
     - 43 (or 27% of the total graduates) found union construction employment upon program completion
     - 39 (or 24 % of the total graduates) found non-union construction employment upon program completion
   - The average age of the participants was 32 years old.
   - Enrollee demographics since 2018 were 61% Black, 17% Hispanic, 12% white, 3% Asian, and 7% listed as "other."

RECENTLY LAUNCHED MC3 PROGRAMS

Five new pre-apprenticeship programs were recently launched in Alameda and Contra Costa Counties. Placement data is not yet available since the programs are just beginning. These new programs target youth and currently incarcerated individuals. Programs are detailed in **Table 6** on the following page.

Table 5: Multi-Craft Core Curriculum (MC3) Program Providers in Alameda and Contra Costa Counties

Program	Location	Target Audience	Description
Cypress Mandela	Oakland	Bay Area men and women ages 18+	This organization provides both hands-on and in the classroom training to prepare students for skilled trades jobs that are relevant to today's construction industry. https://www.cypressmandela.org/
Future Build	Pittsburg	Low-income men and women ages 18+	Established in 2011, this 16-week program provides pre-apprenticeship job training for low-income East Contra Costa County Residents in the building trades, solar theory and installation, construction, and hazardous waste. http://futurebuildec.com/
RichmondBUILD Academy	Richmond	Men and women ages 18+	The RichmondBUILD program was established in 2007 as a violence reduction strategy for the City of Richmond. This organization offers a pre-apprenticeship job training program. https://www.ci.richmond.ca.us/1243/RichmondBUILD
Rising Sun Opportunity Center	Oakland	Men and women ages 18+	This organization offers pre-apprenticeship job training programs for adults interested in construction or solar, or entering a union apprenticeship. The organization also offers the Women Building the Bay Construction Apprenticeship Readiness Program, which emphasizes a pre-apprenticeship certification and entry into the building trades for females. https://risingsunopp.org/

Table 6: New MC3 Program Providers in the Alameda and Contra Costa Region

Program	Location	Target Audience	Description
Camp Sweeney Juvenile Detention Center	San Leandro	Adolescent male detainees, ages 15-19	Offers a 12-week pre-apprenticeship job training program for adolescent males, ages 15-19, detained in Alameda County's Juvenile Justice Center, a compulsory minimum-security residential program.
Contra Costa Office of Education	Various	Adult male and female detainees	Program offers a 10-week pre-apprenticeship job training program for adult males and females detained in three Contra Costa County Jails, including West County Detention Facility (male and female), Marsh Creek Detention Facility (male), and Martinez Detention Facility (male and female).
Santa Rita County Jail	Dublin	Adult male and female detainees	Program offers people with records the opportunity to learn about union construction trades through their four-month MC3 certified pre-apprenticeship program.
Oakland Unified School District	Oakland	High School Students	Highschool partners offer a comprehensive 3-year construction pre-apprenticeship program at Skyline High School and Fremont High School.
San Leandro Unified School District	San Leandro	High School Students	These high school partners offer a comprehensive 1-year construction pre-apprenticeship program.

Image Credit: San Francisco Foundation

Apprenticeship Programs and Data

An apprenticeship training program is an industry-driven career pathway where individuals can obtain paid work experience, classroom instruction, and a nationally recognized industry credential.[63] The state's robust apprenticeship system includes recruitment and training pipelines for workers on construction projects throughout California. Apprentices are registered with state-certified apprenticeship programs that are regulated by the State Department of Industrial Relations Division of Apprenticeship Standards (DAS). The California Department of Industrial Relations (DIR) is required to collect and manage data on all apprentices registered in a state apprenticeship program. This study analyzes 24 years of statewide data between 1995 and 2019 and is a strong indicator for projecting the pipeline of journeyworkers from graduated apprentices.

HISTORICAL APPRENTICESHIP DATA

Incoming Apprentices

We analyzed cohort enrollment to gauge when apprentices start their programs since programs differ in completion time, ranging from 2 to 5 years depending on the craft (**Table 6**).

Table 6: Estimated Timeline for Apprentices to Complete Apprenticeship Program

Trade	# of Hours On-the-Job Training	# of Hours of Other Training[64]	# of Years of Training
Plumber and Pipefitter	9,000	1,080	5
Sheet Metal	8,000	1,000	5
Electrician	8,000	800	5
Surveyors	8,000	576	5
Operating Engineer	6,200	900	4
Plasterer	6,000	576	4
Iron Worker	6,000	480	4
Inspector	6,000	144	4
Bricklayer and Tile Setter	6,000	N/A	4
Elevator Constructor [65]	6,000	N/A	4
Carpenter	4,800	612	4
Painter	4,800	160	4
Cement Masons	4,200	432	3
Roofer	4,200	N/A	3
Teamster/Driver	4,200	N/A	3
Laborer	3,000	N/A	2
Source: California Apprenticeship Coordinators Association and California Department of Industrial Relations			

[63] Discover Apprenticeship: Skilled Trades: https://www.apprenticeship.gov/sites/default/files/Skilled_Trades_Industry_Fact_Sheet.pdf

[64] Other hours of training include orientation, classroom, and/or supplemental related training.

[65] Hours estimated based on the required number of years or months of training.

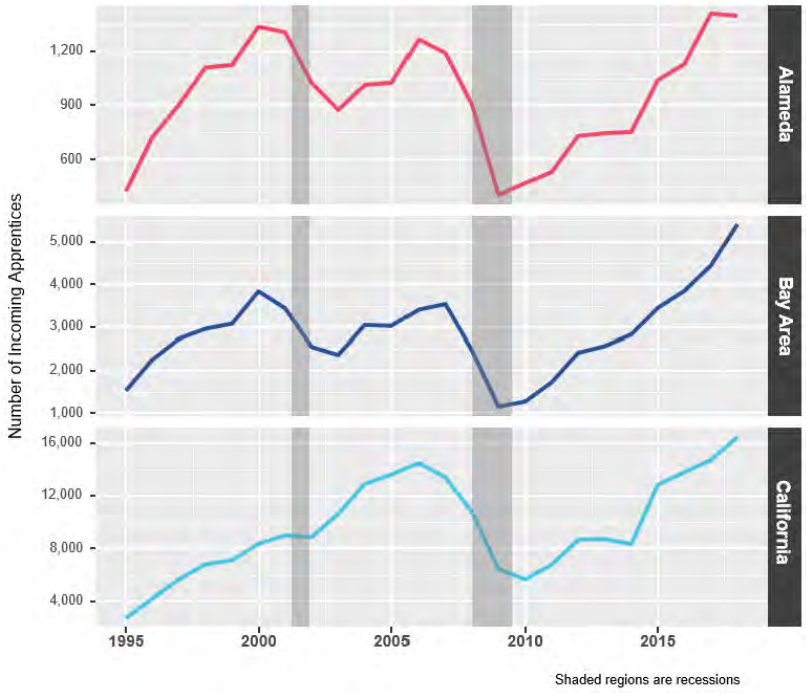

Figure 1: Incoming Cohort Size in State Apprenticeship Programs (1995-2019)

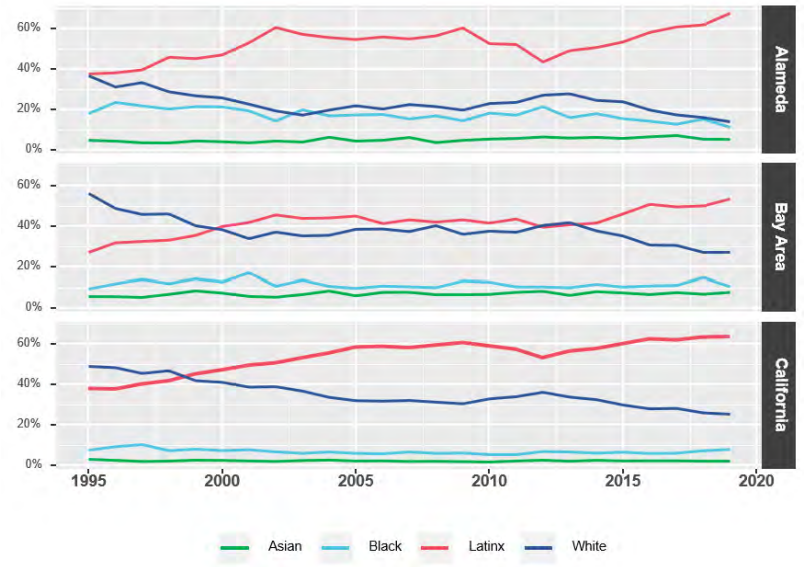

Figure 2: Incoming Cohort Size by Ethnicity for Each Start Year (1995 – 2019)

Figure 1 shows the incoming cohort size in Alameda County compared to the Bay Area and California between 1995 and 2019. Based on the trends from the DAS data, economic recessions had a large impact on the number of new entering apprentices in Alameda County and Bay Area as shown the chart in 2001 and 2008. It took roughly a decade for the number of new apprentices to return to pre-Great Recession levels.

Figure 2 depicts historical data of incoming cohort size by ethnicity for each start year between 1994 and 2019. The figure shows that Latinx apprentices made up the largest proportion of the cohort, followed by white, Black, and Asian apprentices. Black apprentices made up a larger proportion of the cohort in Alameda compared to Bay Area and statewide. It is important to note that a significant

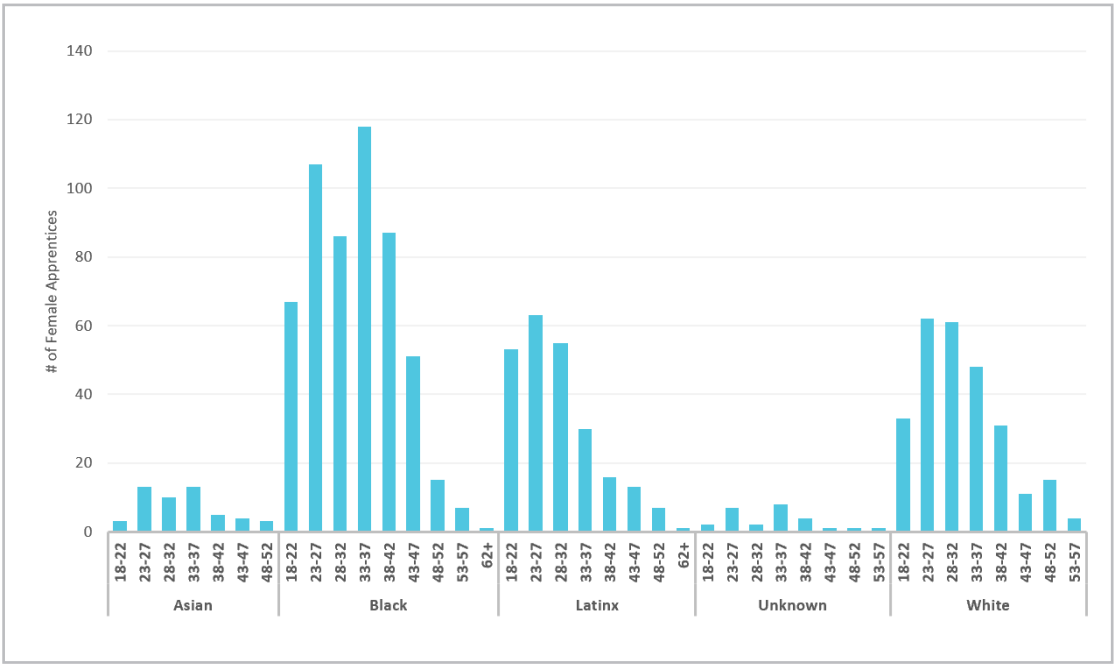

Figure 3: Incoming Female Apprentices by Age (1995 – 2019)

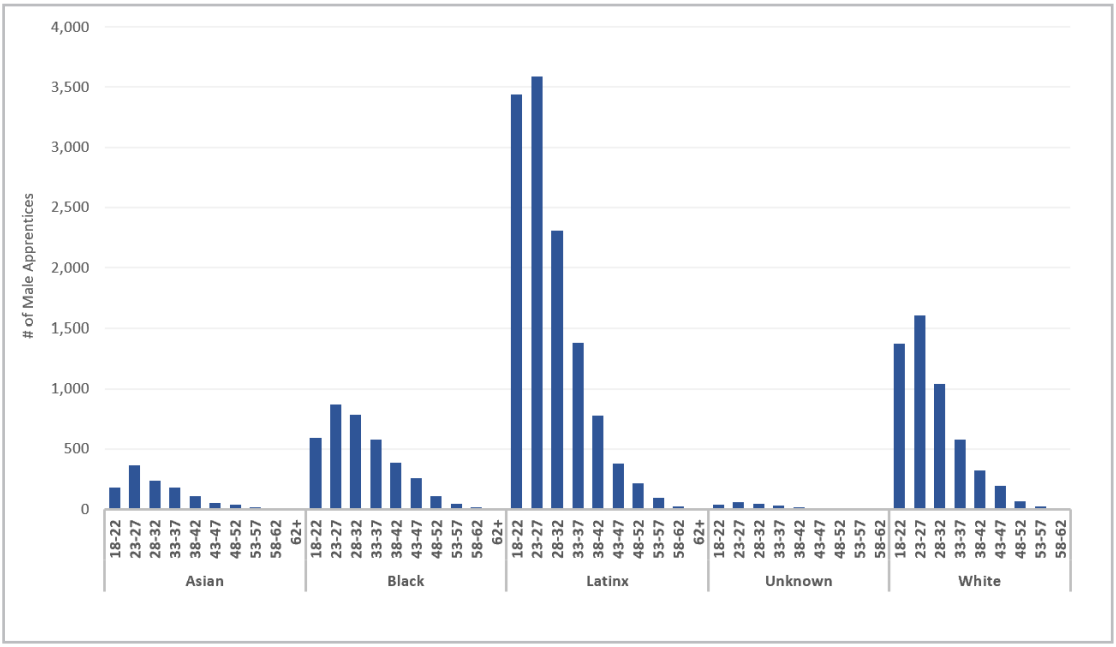

Figure 4: Incoming Male Apprentices by Age (1995 – 2019)

number of Asian workers are employed in non-unionized sectors. Language barriers and the lack of knowledge about apprenticeship programs are factors that prohibit Asian construction workers from entering unionized construction industry.

Figures 3 and **Figure 4** show the age of incoming apprentices by gender between 1994 and 2019. Incoming Latinx and white female apprentices tend to enter programs in their early to mid-career age, whereas the age range of Black female apprentices are distributed more evenly between early, mid, and later in their careers. Incoming Latinx and white male apprentices enter the programs in their early to mid-career age, similar to female apprentices; whereas, the age range of Black male apprentices are distributed more evenly between early, mid, and later in their careers, similar to female apprentices.

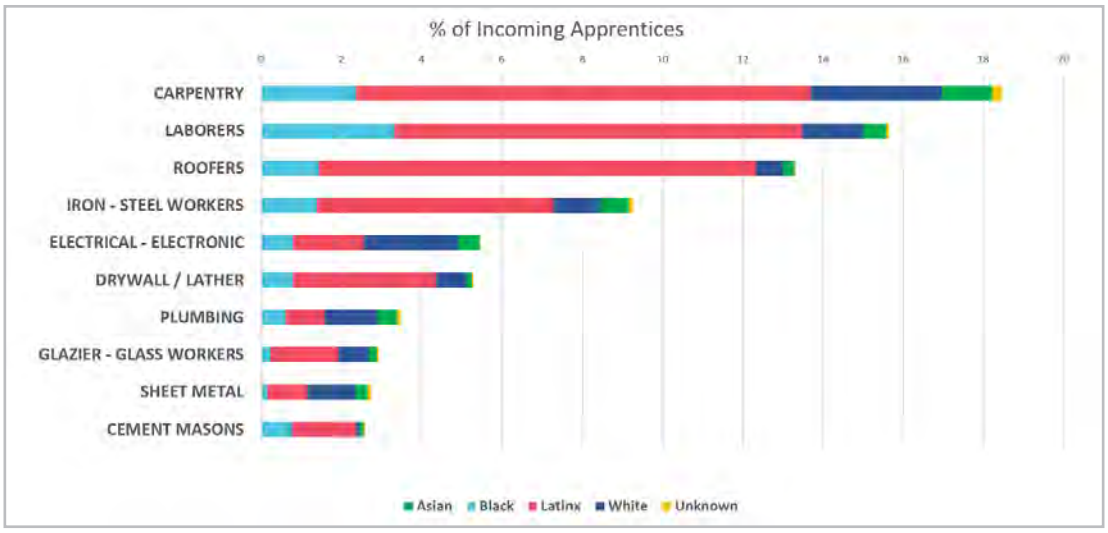

Figure 5: Incoming Apprentices by Top 10 Crafts (2012 – 2019)

The figures also show that most incoming apprentices start programs in their mid-20s. This offers an opportunity to introduce the trades in high school to raise awareness of the field and start recruitment immediately after graduation.

Of the 29 crafts identified in the DAS data, **Figure 5** above shows the top 10 crafts enrolled by incoming apprentices between 2012 and 2019 by ethnicity. Most incoming apprentices were carpenters, laborers, and roofers.

HISTORICAL APPRENTICESHIP GRADUATION RATES

Figure 6, on the following page, shows the graduation rates of apprenticeship cohorts that started and completed the program between 1994 and 2004 by ethnicity and gender. While Latinx and Black apprentices made up a higher proportion of the incoming cohort, they experienced a lower graduation rate compared to white and Asian apprentices. (Note: Missing, unanswered, or blank data under ethnicity is depicted as "unknown" in the following figures.) Female apprentices experienced lower graduation rates compared to male apprentices. Factors affecting Latinx, Black, and female apprentices from completing the programs may include lack of childcare, discrimination, harassment, level of education, experience, and other. It is crucial that apprenticeship programs and public agencies connect apprentices with social services to support them in completing the program.

Of the 29 crafts identified in the DAS data, **Figure 7** (following page) shows the top 10 crafts with the highest graduated apprentices as a proportion of all graduated apprentices between 2012 and 2019. Laborer apprentices made up the largest of the total apprenticeship graduates with 20% followed by electrical-electronic, and carpentry. These top 10 crafts are consistent with the top 10 crafts of incoming apprentices, except for fire sprinkler fitter, sound communication, and engineer.

Figure 8 (following page) shows the crafts with the highest graduation rates ranging between 50% and 75%. Most of the apprentices entering in the lineman apprenticeship program tend to graduate from the program, followed by elevator and electrical-electronic.

Figure 9 (following page) show the crafts with low graduation rates. Roofer, pile driver, cement mason apprentices have the lowest graduation rates. Local MC3 and apprenticeship programs should identify contributing factors that are causing participants to drop out of apprenticeship programs in these trades and focus on retention efforts. Over half of the trades shown in the figure are considered lower wage tier crafts that pay between $55 and $70 an hour.

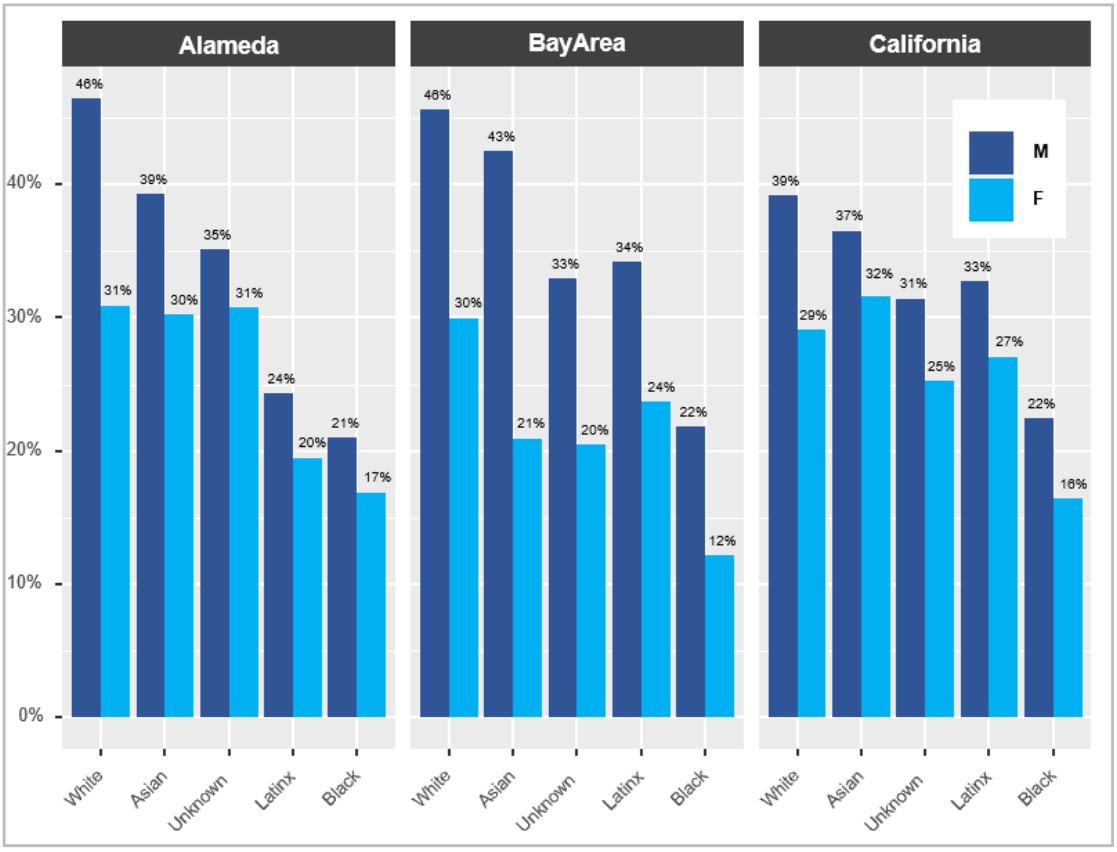

Figure 6: Graduation Rate by Ethnicity and Gender (Apprentices in Cohorts Between 1995 – 2004)

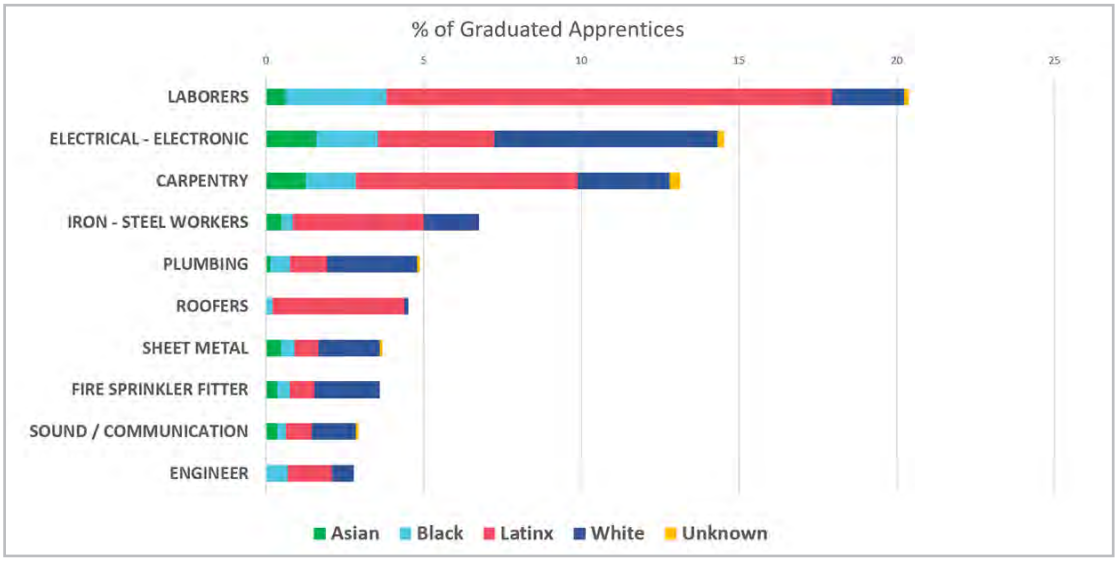

Figure 7: Graduated Apprentices by Top 10 Crafts and Ethnicity (2012 – 2019)

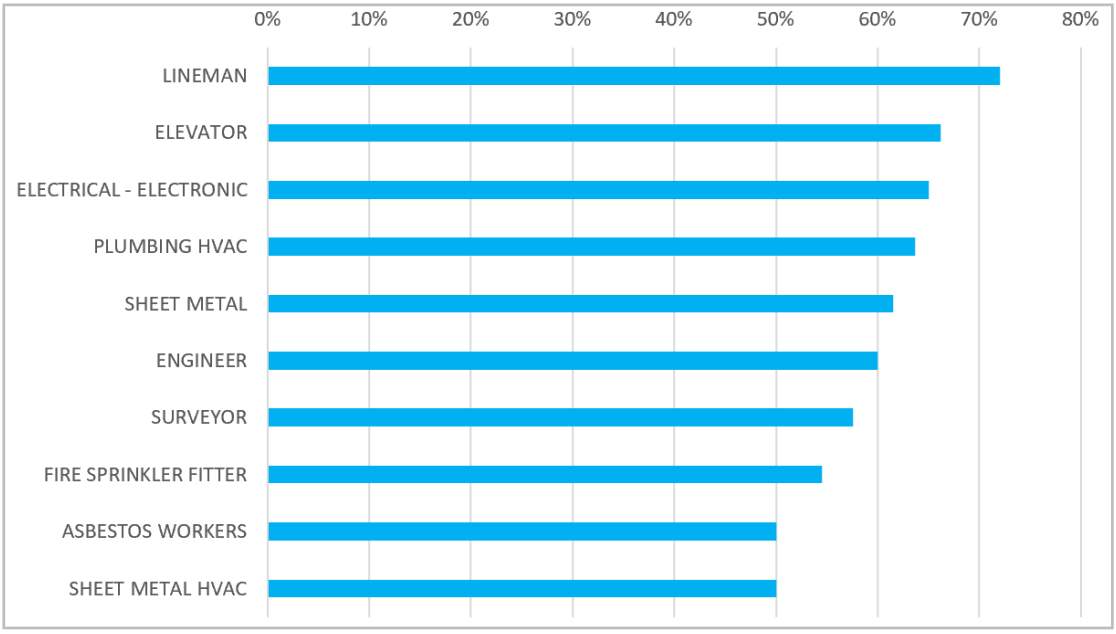

Figure 8: Top 10 Crafts by Graduation Rates (2012 – 2019)

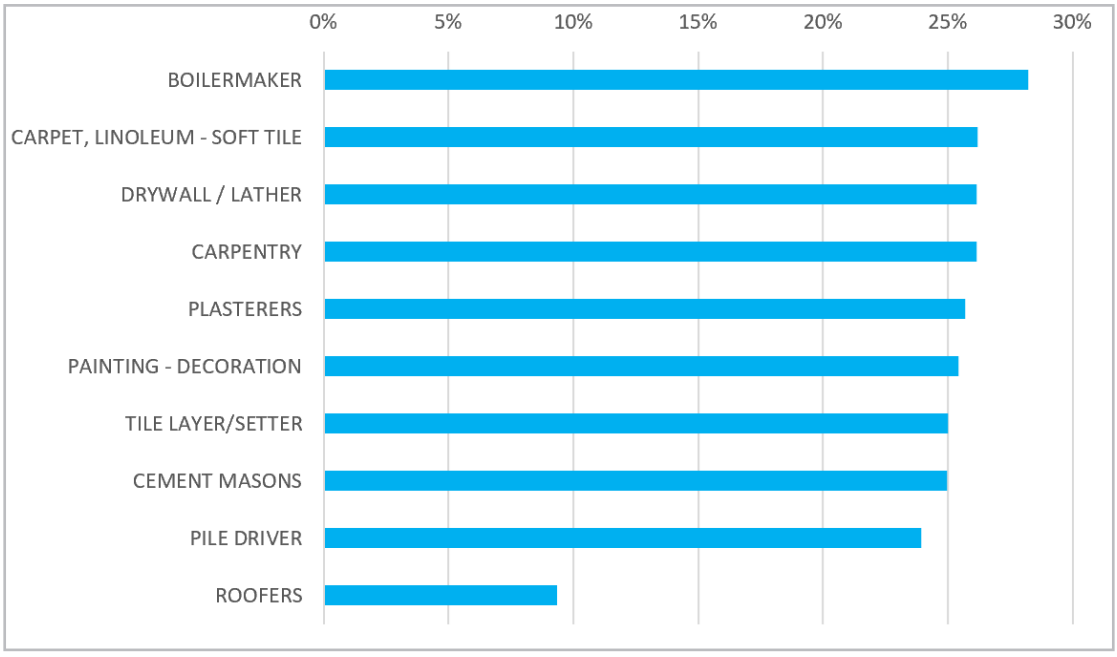

Figure 9: Bottom 10 Crafts by Graduation Rates (2012 – 2019)

Table 7: Crafts by Journeyworker Wage Levels

Low-Range Tier ($55-$70/hr)	Mid-Range Tier ($71-$77/hr)	High-Range Tier ($78-$100/hr)
Laborers	Plasterers	Drywall Lathers
Roofers	Inspectors/Testers	Millwrights
Sound/Communication	Iron/Steel Workers	Boilermakers
Cement Masons	Surveyors	Asbestos Worker
Plumber HVAC	Linemen	Electrical
Sheet Metal HVAC	Carpet/Linoleum/Soft Tile	Fire Sprinkler Fitter
Painters	Drywall Finishers	Plumbing
Tile Layers	Engineers	Sheet Metal
Brick Layers	Carpenters	Elevator
	Pile Drivers	

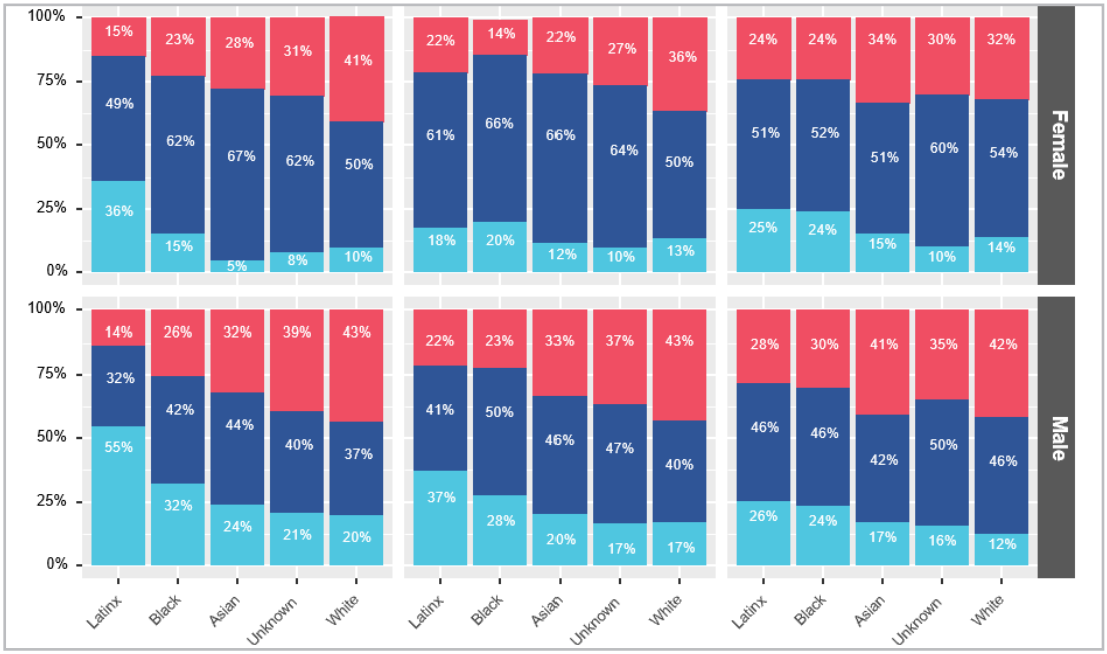

Figure 10: Ethnicity by Wage Tier Crafts of Non-Apprentices (1995 – 2014)

CRAFTS BY WAGE LEVEL TIERS

We analyzed the crafts from the DAS data based on the wage levels a person is expected to earn as a journeyworker to determine the trends of apprenticeship enrollment by craft. To determine the wage levels, we examined prevailing wage data for each craft from the State's Department of Industrial Relations. The following crafts by wage levels are based on the straight-time total hourly rate, which includes wages, health and welfare, pension, vacation/holiday, training, and other payment. Depending on the craft, journeyworkers earn between $55 - $100 per hour. The breakdown of crafts by the following journey-level wage tiers are:

- "Low" Range Tier: $55/hr - $70/hr
- "Mid" Range Tier: $71/hr - $77/hr
- "High" Range Tier: $78/hr - $100/hr and above

Table 7 breaks down the crafts by the three journey-level wage tiers.

Figure 10 shows the crafts of non-active apprentices between 1995 and 2014 in Alameda County. Black and Latinx apprentices have received training in more "low" and "mid" wage tier crafts. Alameda County should focus efforts on directing Black and Latinx apprentices into "high" wage tier crafts. Females were more likely to be in a "mid" range tier craft compared to their male counterparts. Alameda County experienced a lower proportion of Latinx male apprentices in "high" wage crafts at 14% compared to the Bay Area and California, which were above 20%. Alameda also experienced a higher proportion of Black female apprentices in "high" wage crafts at 23% compared to the Bay Area at 14%.

POINT-IN-TIME AND PROJECTED APPRENTICESHIP DATA

The following section analyzes current and projected apprenticeship data.

Table 8: Active Apprentices in Alameda County (2019)

Ethnicity	Female	Male	Total	% of Total
Latinx	47	1,869	1,916	58%
White	40	689	729	22%
Black	41	356	397	12%
Asian	9	212	221	7%
Unknown	2	25	27	1%
Total	139	3,151	3,290	100%

Active Apprentices

As shown in the above table (**Table 8**), there are currently over 3,000 apprentices in Alameda County as of 2019. About 58% of the total active apprentices in Alameda County were Latinx, followed by 22% white and 12% Black. Females make about 4% of active apprentices, indicating that there are roughly 22 male apprentices for every one female apprentice who are actively enrolled in the programs.

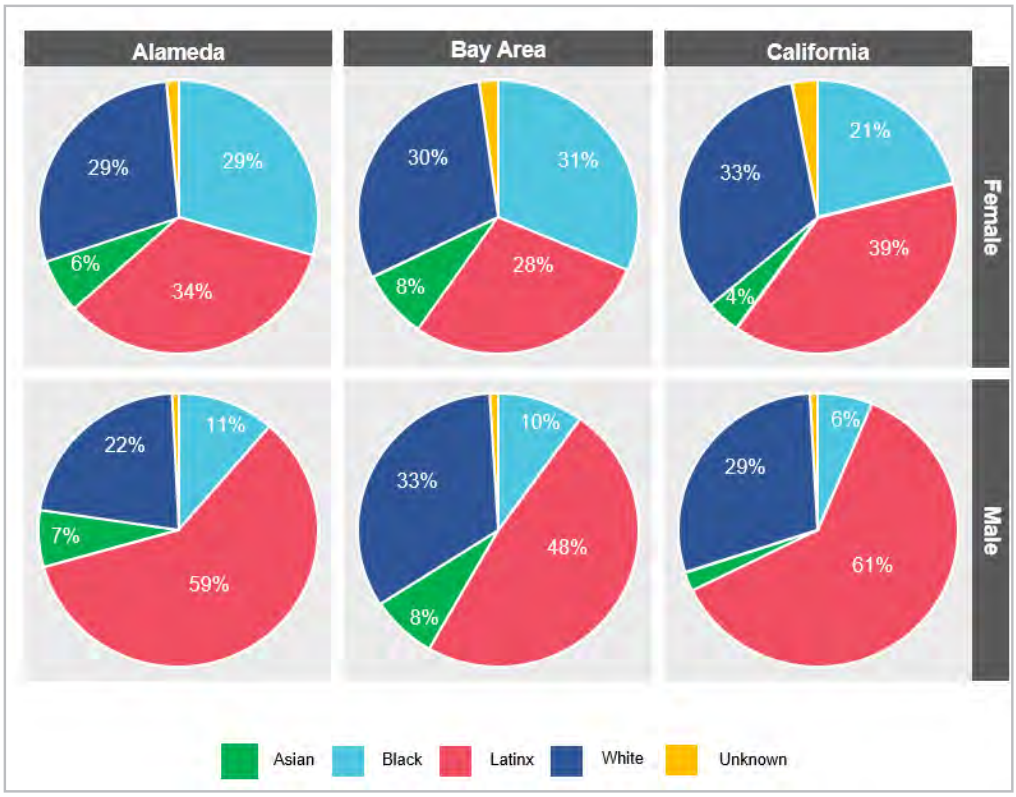

Figure 11: Demographics of Active Apprentices (2019)

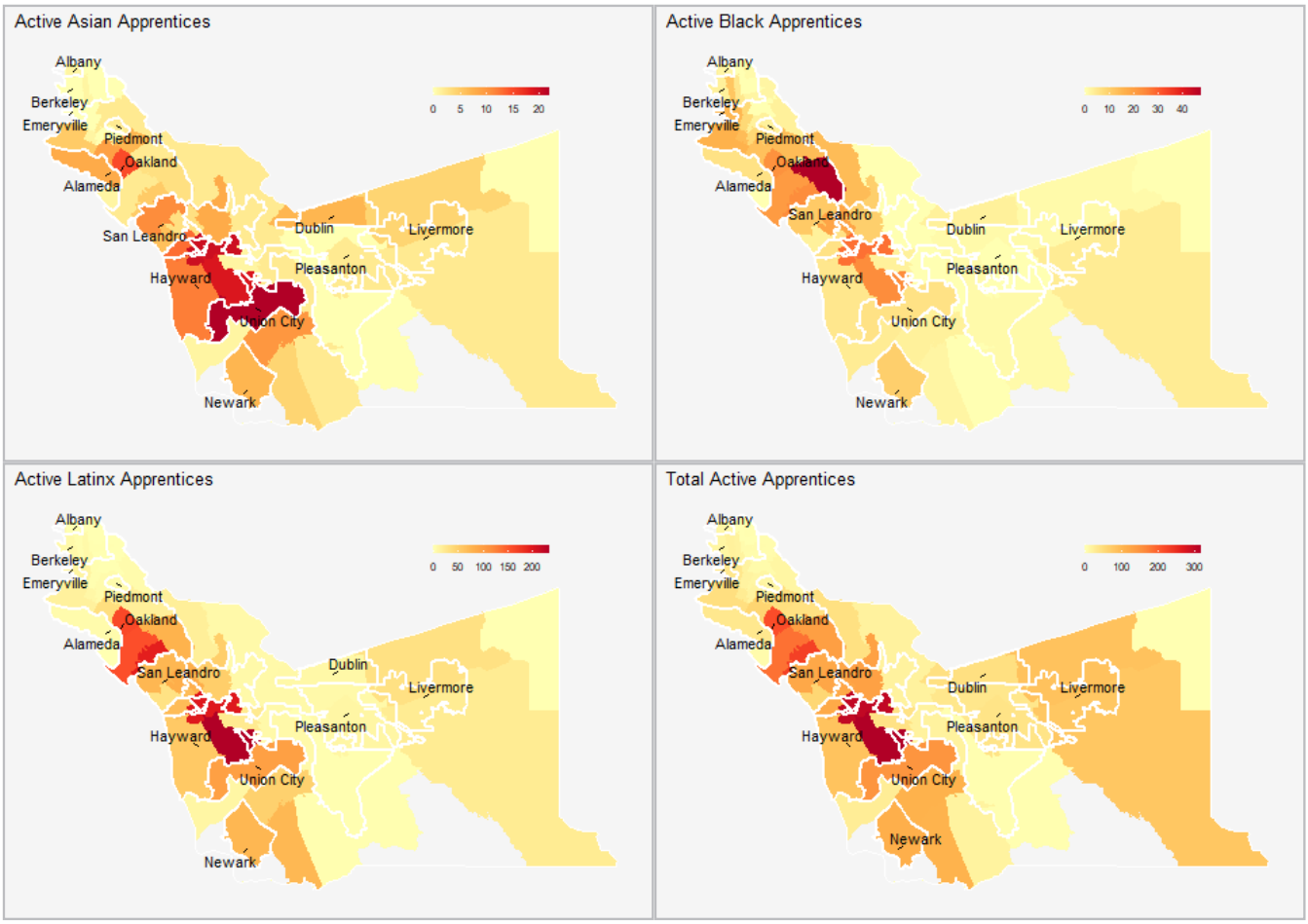

Figure 12: Geographic Area of Active Apprentices by Ethnicity (2019)

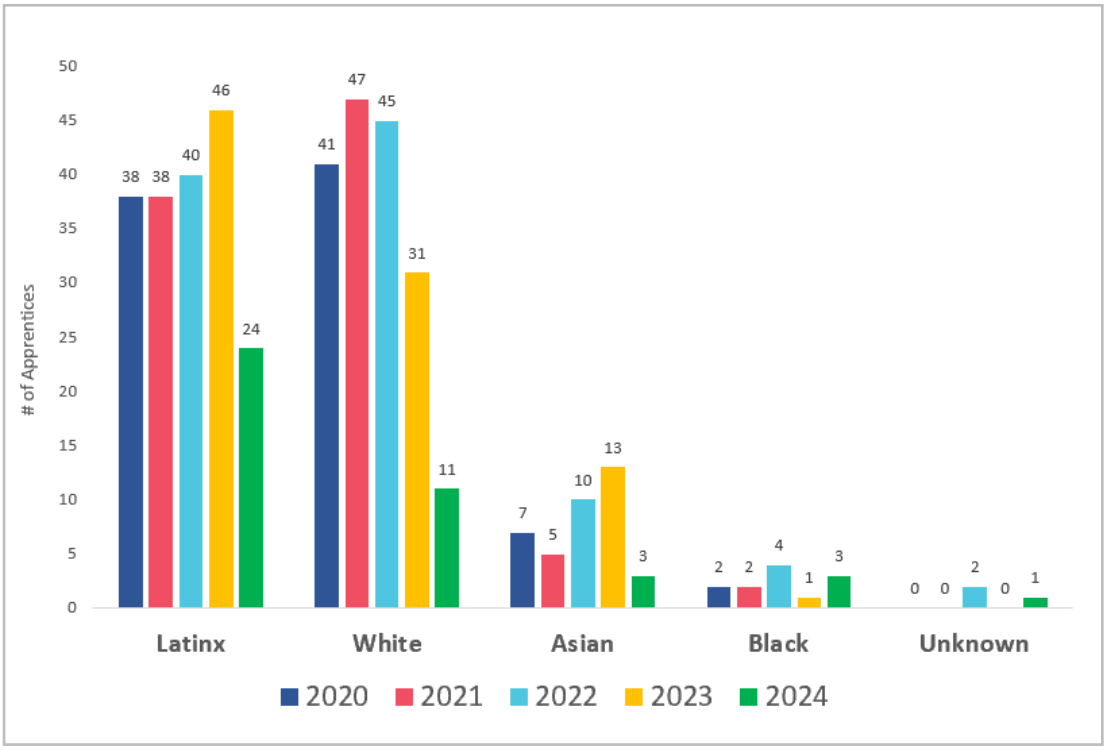

Figure 13: Projected # of Graduated Apprentices by 2024 in Alameda County

Figure 11 shows current active apprentices as of 2019 by gender and ethnicity. Latinx apprentices, followed by white apprentices, of both genders represent the highest proportion of all apprentices across the county, region, and statewide. The overall Bay Area region has a higher proportion of Black female apprentices with 31%.

Figure 12 shows a map of where active apprentices reside in Alameda County based in zip code, broken down by ethnicity as of 2019. Most of the active apprentices are concentrated in the western part of Alameda County near the cities of Oakland and San Leandro as shaded in red on the map. Most Black apprentices reside in the Oakland area, whereas most Asian and Latinx apprentices reside in the Hayward area and east of Oakland.

Effect of Dependents and Wages on Graduation Rates

DAS provides data on the number of dependents for each apprentice enrolled in a state-registered apprenticeship program. We conducted a regression analysis to determine the effects of dependents on apprenticeship graduation rates. While holding all other factors constant, apprentices with more dependents are less likely to graduate. An apprentice with 6 dependents is roughly 34% less likely to graduate than one with no dependents. Another regression analysis indicated that the highest wage crafts are 5.8 times more likely to graduate compared to lowest wage crafts. The effect is less certain as wage increases. Licensure and certification may play a larger role at the high end of wages.

Projected Graduated Apprentices

We used a probit regression model to project the number of apprentices expected to graduate in the near future based on historical data and the probability of apprentices graduating given demographics while accounting for the effect of confounding variables (refer to Appendix VI.D for the projection methodology). Based on our regression, 414 of the active apprentices in Alameda County are expected to graduate by 2024. **Figure 13** shows the projected number of graduated apprentices by ethnicity. Latinx apprentices represent the highest number of projected graduating apprentices with 186 total.

Public Agency Project Labor Agreement Participation Data

Meeting Local and/or Targeted Hire Goals

Certified payroll data is a good indicator to track compliance and measure how well PLAs are meeting their local and/or targeted hire goals. The following are two examples of PLA hiring and apprenticeship goals in the City of Oakland based on the certified payroll data provided by the City. The Brooklyn Basin Jobs Agreement (2009) indicates that 6% of the total work hours, or up to 300,000 hours, should be performed by apprentices living in Oakland. Based on the payroll records, Oakland apprentices reached this goal by performing a total of 9% of the total project hours. The Oakland Army Base Public Improvements PLA (2012) indicated a local hiring goal of 50%; in implementation, 41% of the total hours were performed by Oakland workers. The agreement also indicated that 20% of the total work hours should be performed by apprentices; the project reached this goal at exactly 20%. Lastly, the agreement indicated that 25% of the total apprenticeship hours should be performed by local disadvantaged workers, which the project exceeded with 51%.

Local agencies can use certified payroll data to track the status of their PLA goals and analyze demographics both during and after project completion. Payroll data contains the following categories for each contracted employee: apprentice status, craft, total work hours, residential address, gender, ethnicity, veteran status, and gross pay. For example, the Los Angeles County Metropolitan Transportation Authority (Metro) uses its payroll data to publish a quarterly report on the status of its PLA and Construction Careers Policy which tracks the participation rates of apprentices, female workers, BIPOC workers, and disadvantaged workers on all projects. Metro also established an online female participation scorecard system to track each project's attainment of the agency's executive order to reach a 6.9% female participation goal. Agencies in Alameda County can adopt a similar process, such as publishing quarterly or annual reports, or establish a participation scorecard system based on the analysis of certified payroll data to measure the project's performance on their respective PLA goals.

Hours Worked on PLA Projects in Parts of Alameda County

Through July and September 2020, we were able to obtain past certified payroll data from seven public agencies that serve Alameda County, including AC Transit, Alameda County, BART, City of Oakland, Oakland Unified School District, Port of Oakland, and Peralta College. These agencies were consistent in providing data for project name, craft, gender, race/ethnicity, city, and zip code. Based on certified payroll data between 2012 and 2020, the Port of Oakland accounted for over 700,000 additional hours of work (or 396 FTE). Female workers accounted for 3% of all hours worked for the Port of Oakland. We were able to break down the hours worked by craft, gender, and ethnicity based on certified payroll data from AC Transit, the City of Oakland, and BART. Collectively, these three agencies reported 6 million hours of work (or 3,331 FTEs) on PLA projects between 2012 and 2020.[66] Female workers accounted for less than 2% of this total—Latinx female workers accounted for 0.5% of all hours, and Black and white female workers each accounted for roughly 0.4% of hours worked. Latinx workers performed most of the hours across most crafts. Laborers performed the most hours, about 30% of total worked on all projects, and most of those hours were performed by Latinx workers. Because this analysis does not include data of all the public agencies within Alameda County, it does not capture the full construction activity of public works projects in the county.

Construction Demand Forecasts

We forecasted future construction demand in Alameda County between 2021 and 2030 to determine the anticipated pipeline of work needed by public agencies on PLA projects and determine potential short-term and long-term solutions to recruit, retain, and prepare construction workers in the industry. The forecast is defined by near-term (2021-2025) and long-

[66] A full-time equivalent (FTE) is 50 40-hour work weeks, or one year of work.

term (2026-2030) projects. These years were chosen based on the existence of planned capital improvement projects from the following seven public agencies: AC Transit, Alameda County, BART, City of Oakland, Oakland Unified School District, Port of Oakland, and Peralta College. Most of these agencies have planned projects over the next five years, though the majority do not have projects planned beyond 2025. To address these differences, we used two methodologies to forecast construction demand:

- **Short-Term Approach**: Data on planned projects can inform both the number of hours and the mix of crafts used.
- **Long-Term Approach**: Estimating the relationship between overall economic activity and each agencies' demand for construction labor.

The demand forecasts are based on two main assumptions. In both the short-and the long-term, it is assumed that there will not be drastic changes in construction techniques. This allows for the same mix and amount of labor on similar projects. In the long term, we also assume that the goals of each agency will not drastically change. This means that the types of projects that each public agency will undertake should remain relatively stable and the number of projects will only vary based on changes in available funds.

Based on the construction demand analysis, the aforementioned public agencies will demand a total of 4.4 million hours of work hours or 2,248 FTEs in 2025 on planned projects identified in the public agencies' capital improvement plans.[67] **Table 9** shows the demand by hours and FTE for the top five crafts. It is expected that public construction projects will demand most of the work by laborers, followed by electricians, and carpenters, which are also within the top five crafts of both incoming and graduating apprentices in Alameda County. Refer to Appendix VI.E for the methodology and the construction demand for all crafts.

Table 10 shows the demand by hours and FTE in 2030 based on three different growth scenarios (refer to Appendix VI.E for the methodology). Based on the moderate growth scenario, it is expected that public construction projects from the seven public agencies will demand 9.9 million of work hours or about 4,951 FTEs in 2030.

Most of the work in the long-term will also be demanded by laborers, followed by carpenters and electricians in 2030 as shown in **Table 11**. Refer to Appendix VI.E for the methodology and long-term demand for all crafts in all three growth scenarios.

These crafts align with the top crafts of incoming and graduating apprentices in Alameda County. Local pre-apprenticeship programs and public agencies should focus on recruiting apprentices, particularly BIPOC and women, in these top demanded crafts in both short-and-long term projections as outlined in Appendix VI.D,E, as well as improve on-site work environment to ensure the retention of current apprentices and journeyworkers needed to meet this future demand.

[67] AC Transit and Oakland Unified School District are not included in the short-term forecast because they do not have any planned short-term projects.

*Table 9: Short-Term Construction Demand in Work Hours by Top 5 Crafts (2025)**

Craft	2021	2022	2023	2024	2025	Total	FTE
Laborers	312,169	356,888	311,275	283,223	217,761	1,481,316	741
Electrical - Electronic	155,571	178,149	157,729	136,858	104,991	733,297	367
Carpentry	123,120	136,995	114,881	101,924	78,666	555,585	278
Engineer	87,882	100,865	88,687	80,166	61,581	419,180	210
Iron - Steel Workers	56,201	64,202	57,021	48,105	36,875	262,404	131
*Based on planned construction projects in the following agencies: Alameda County, BART, City of Oakland, Port of Oakland, and Peralta College							

*Table 10: Long-Term Demand Projections Demand (2030)**

Growth Scenario	Total Work Hours	Full-Time Equivalent Workers
Moderate Growth	9,901,917	4,951
Slow Growth	9,505,209	4,753
Lower Bound Growth	8,034,826	4,017
*Based on projected construction from the following agencies: AC Transit, Alameda County, BART, Oakland USD, City of Oakland, Port of Oakland, and Peralta College		

Table 11: Long-Term Moderate Growth Construction Demand in Work Hours by Top 5 Crafts (2030)

Craft	2026	2027	2028	2029	2030	Total	FTE
Laborers	567,354	585,866	604,377	622,889	641,401	3,021,887	1,511
Carpentry	276,531	284,059	291,586	299,114	306,641	1,457,931	729
Electrical - Electronic	203,341	209,155	214,969	220,783	226,597	1,074,846	537
Engineer	157,232	162,497	167,763	173,029	178,295	838,816	419
Drywall / Lather	116,951	120,187	123,423	126,659	129,895	617,115	309

Image Credit: International Brotherhood of Electrical Workers Local 595

RECOMMENDATIONS

This section recommends actions that public agencies, unions, contractors, educational institutions, and other partners can take to create a diverse and sustainable pipeline of construction workers. The recommendations were informed by qualitative (interviews, meetings with advisory committee members, research) and quantitative (DAS, public agency, trades, pre-apprenticeship data) sources. The recommendations are also grounded in the advisory committee's shared values, which include the following:

- A commitment to **centering equity and expanding opportunities** for BIPOC, women, and marginalized populations;
- Building respectful relationships and **centering collaboration**;
- Strong commitment to **creating real solutions and sharing best practices** for creating and enforcing PLAs that will benefit community residents who live here, so people can stay;
- Commitment to strengthening the workforce development pipeline;
- **Delivering quality projects** that meet standards and are built to code.

The recommendations in this section are bound by the limitations set forth by California's Proposition 209, adopted by voters in 1996, which prohibits race and gender-based preferences by public entities in employment and contracting. This has led many public entities to explore a variety of mechanisms to direct employment and training opportunities to local and/or disadvantaged workers, as a fallback option, as well as to advance public policies related to local jobs and disadvantaged workers as ends in themselves. Proposition 16, which would have repealed Proposition 209, was defeated November 3, 2020 with more than 57% of Californians voting no on the measure. See Appendix F for further guidance for public entities on Proposition 209.

Public agencies must look toward the most innovative tools in the field to increase the representation of BIPOC and women in construction. This includes selecting data-driven and results-oriented PLA language that drives desired policy goals. It also includes leveraging the power of multi-jurisdictional collaboration. Coordinated action is essential to creating the conditions necessary for improving outcomes for BIPOC and women in the trades. Actions can be both demand and supply driven. Demand side recommendations refer to actions that can drive the demand for a diverse workforce through contracting and procurement language and policies. Supply side recommendations, though outside of the scope of most public agencies, are equally essential. These refer to strategies to scale up the recruitment, hiring, training, and retention of diverse workers to meet the needs of the region.

Set Data Driven Workforce Goals

Workforce diversity goals aim to increase employment opportunities for those who face significant barriers to entering and advancing in the construction industry.[68] Setting workforce diversity goals creates an inherent demand for and places value on recruiting, training, and retaining individuals that are underrepresented in the construction industry.

Recommendations regarding the establishment of various types of workforce goals are detailed below:

LOCAL EMPLOYMENT GOALS

Several agencies on the advisory committee have set local hiring goals or requirements on a project-by-project and/or agency-wide level. However, according to a UC Berkeley study on strengthening PLAs in the region, some public agencies fall short of meeting their hiring goals.[69] The report notes a lack of data-informed goals in the region – goals that are customized on the

[68] See Section VI.B for a discussion of use of term "goals" versus "requirements." We use the term "goals" for convenience.

[69] Schmidt, A. (2019). Strengthening PLAs in California's East Bay. UC Berkeley Goldman School.

EXAMPLE: LOCAL EMPLOYMENT GOALS

City of Los Angeles Department of Public Works PLA	California High Speed Rail PLA
Targets workers residing in low income zip codes, defined as: ***...Zip codes within the City ... having at least 2 census tracts (or portion thereof) in which the median household income is less than the Los Angeles median household income, and/or where the unemployment rate exceeds 100% of the County of Los Angeles' unemployment rate as reported by the most recent U.S. Census Bureau data.***	Targets workers residing in "Economically Disadvantaged Areas," defined as: ***"... a zip code that includes a census tract or portion thereof in which the median annual household income is between $32,000 and $40,000 per year, as measured and reported by the U.S. Census Bureau in the 2010 U.S. Census, and as updated by the parties upon the U.S. Census Bureau issuing updated Median Annual Household Income Data by census tract in the American Community Survey."*** Both PLAs include attachments that indicate which zip codes meet these criteria.
Source: City of Los Angeles Department of Public Works PLA	Source: California High Speed Rail project PLA

availability of the local workforce and demand of major projects.

Rather than simply targeting all residents of a jurisdiction, a stronger policy approach is to direct opportunities to residents of low-income zip codes within the jurisdiction. This approach:

a. Would advance economic equity by directing opportunities to neighborhoods that need it most;

b. May advance racial equity without running afoul of Proposition 209;

c. Can be implemented easily because place of residence is easy to document, and is generally on file with employers, unions, apprenticeship programs, and other referral sources;

d. Provides a more compelling legal and policy rationale by fighting concentrated poverty than just a city prioritizing its own residents.

Jurisdictions wishing to utilize this approach can cross-reference census data (which gives average household incomes) with zip codes to create a list of low-income zip codes that can be used in implementation.

Tiers of local geography can be implemented by referral services

Some jurisdictions have included prioritized geographic tiers in their local hiring percentage requirements, such as the following:

a. Tier I: East Bay City (or low income zip codes in a given East Bay City)

b. Tier II: East Bay Region – Alameda and Contra Costa County (or low income zip codes in Alameda and Contra Costa County) ***(if Tier I is infeasible)***

c. Tier III: Five county Bay Area region – Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara (or low income zip codes in the five county region) ***(if Tier II is infeasible)***

We recommend that, rather than asking contractors to implement these tiers in an already complex hiring process (and making recordkeeping systems and compliance determinations utilize them as well), referral sources be asked to prioritize their referrals of workers when contractors request them while keeping enforceable percentage requirements simple.

EXAMPLE: EXCLUDING OUT OF STATE WORKERS FROM LOCAL PERCENTAGE REQUIREMENTS

San Francisco Administrative Code	Oakland Army Base Public Improvements Construction Jobs Policy
"Out-of-State Workers. Project Work Hours performed by residents of states other than California shall not be considered in calculation of the number of Project Work Hours to which the Local Hiring Requirements apply. Contractors and Subcontractors shall report to Awarding Departments and OEWD the number of Project Work Hours performed by residents of states other than California."	The Oakland Army Base Policy excludes hours worked by out-of-state residents from percentage goals and contractor hiring requirements – but requires tracking of those hours, with the requirements being triggered if the number of hours worked by out-of-state workers exceeds 30% of work hours. *"[Percentage requirements and hiring process requirements] shall not apply to Project Work Hours performed by residents of states other than the State of California (and such hours shall not be considered Project Work Hours for purposes of determining satisfaction of the percentage requirements... Notwithstanding the above, if, for any calendar year, the percentage of Project Work Hours worked by residents of states other than the State of California exceeds thirty percent (30%) of Project Work Hours in such calendar year, then for all subsequent years of work on the Project, the first sentence of this Section IV.G. shall not apply, and the [goals and processes] shall be applicable to all Project Work Hours, including those performed by residents of states other than the State of California."*
Source: San Francisco Administrative Code, Chapter 82, Local Hiring Policy for Public Construction Section 82.4(e)	*Source: Oakland Army Base Public Improvements Construction Jobs Policy, Section IV.G.*

Exclude out-of-state workers from local percentage requirements

Programs are on the strongest legal footing when excluding hours worked by out-of-state workers from applications of percentage requirements. This provides complete protection from claims under the privileges and immunities clause, which can only be raised by workers from other states.[70]

Many Bay Area policies include this language,[71] and to our knowledge none have reported problems with excessive use of this exemption by contractors.

DISADVANTAGED WORKER GOALS

Many PLAs establish goals for "disadvantaged" workers (See Section III) - those that have barriers to employment or are otherwise appropriate for referral to employment and training opportunities. Categories have included:

a. Long-term unemployed

b. Emancipated foster youth

[70] The U.S. Constitution's privileges and immunities clause is the main legal concern that courts have addressed with regard to local hiring policies. However, the clause addresses only interstate travel, and a claim under the clause can only be raised by residents of other states. Therefore, excluding hours worked by out-of-state workers from the hiring program is a complete defense against a privileges and immunities claim. See City of Cleveland v. Ohio Dept. of Transport., 508 F.3d 827, 847 (6th Cir. 2007) ("Cleveland's ordinance was drafted to avoid reaching contractors who hire only out-of-state workers, so it does not 'discriminate against the employment of labor from [another] state.'").

[71] See City of Cleveland v. Ohio Dept. of Transport., 508 F.3d 827, 847 (6th Cir. 2007) ("Cleveland's ordinance was drafted to avoid reaching contractors who hire only out-of-state workers, so it does not 'discriminate against the employment of labor from [another] state.'").

c. Veterans

d. Formerly incarcerated (or other "contact" with the criminal justice system)

e. Disabled

f. Formerly homeless

g. Recipient of public assistance

h. Member of low-income household

i. Resident of a low-income neighborhood

Some policies require a person to have at least two of the listed criteria to qualify. Public entities should consider adding to this list a category of "graduates of a pre-apprenticeship training program," since many such programs provide excellent preparation for early stages of a construction career, and recruit from diverse local populations. Most Disadvantaged Worker definitions include a local requirement as well. For example, a "disadvantaged worker" is defined as a local resident who also satisfies one or more of the listed criteria for disadvantage.

Avoid "category creep"

In crafting a list of criteria establishing disadvantage, public entities should keep in mind "category creep." It may be tempting to add numerous categories of disadvantage, to advance various public purposes. However, each new category dilutes a policy's focus on the other categories, diffusing the effects of the program. And if a policy has too many categories – particularly if some of them are broad – then contractors may hit the numbers without having to change any hiring or staffing decisions.

Avoid vague categories

Categories need to be drafted with precision. For example, how do we define "long term" unemployment? What is "contact with" the criminal justice system? If this is a serious contract requirement, meant to be enforced, then it needs to be easy for all parties to establish and/or verify whether an individual satisfies the criteria.

Consider ease of implementation

Public entities should keep in mind administrative feasibility of certain designations. Assessing household income is extremely complex and intrusive, and probably should not be undertaken by employers or referral services. But assessing place of residence is easy, as it can be done with many kinds of documents, and employees generally need to provide employers with an address anyway.

TRADE-BY-TRADE GOALS

Our analysis shows a variance in the diversity between the trades. While some trades have made considerable strides in diversifying their workforce (notably for male Latinx workers), others have fallen short. Our analysis also demonstrates that BIPOC tend to be concentrated in lower paid trades (See Section V for a detailed analysis).

Enforceable, trade-specific goals allow for workforce goals to apply across all trades – as opposed to project-wide goals, which might be easily satisfied through hours worked by more-diverse and/or lower-paid trades. An approach applying workforce goals on a trade-by-trade basis ensures that all segments of the industry are addressed.

Note that some policies allow aggregation of hours worked for all ***contractors and subcontractors performing work within a trade***, while some apply to each individual contractor. Applying goals to all contractors in a trade in aggregate will allow more flexibility and simplify a project's compliance determinations, while in theory achieving similar overall results; but this approach may allow some small contractors to avoid scrutiny and responsibility.

CONSIDER HAVING SEPARATE GOALS FOR APPRENTICE HOURS, AS OPPOSED TO JOURNEY-LEVEL HOURS OR OVERALL WORKFORCE.

On public projects, prevailing wage laws generally require use of one hour of a registered apprentice for each five hours of journey-level work, on a craft-by-craft basis.[72] Because of the importance of apprenticeship as a path to quality

[72] California State Legislative Information. Labor Code 1777.5; Article 2. https://www.dir.ca.gov/das/RatioExemption.htm.

construction careers, many workforce policies establish percentages applicable specifically to the apprentice hours.

For example, the Oakland Army Base PLA establishes a percentage requirement that 25% of the apprentice hours be worked by local disadvantaged workers.[73] Apprentice goals should be trade-specific, so that contractors in all crafts are included, and workers in all crafts are provided opportunities. Note, however, that apprenticeship programs vary greatly in admissions systems and frequency of enrollment opportunities, so actually getting a set of workers enrolled in a quality apprenticeship program is often beyond the scope of a workforce goals policy or a PLA.

SET APPRENTICE SPONSORSHIP REQUIREMENTS

To address these challenges, many targeted hiring policies and Alameda County PLAs require contractors to ***sponsor apprentices into apprenticeship programs***. For many apprenticeship programs, contractors play the key role of committing to employ a worker new to the trade, paying a sponsorship fee, and providing the worker with initial work hours and training to start advancement in the craft. Requiring contractors to take such steps – in crafts where apprenticeship admissions standards allow this approach – can be an important part of getting individual workers enrolled and, on the job,, with classroom training and other employment to follow. Unlike workforce percentage requirements, for each apprentice newly sponsored into an apprenticeship program, the project can point to a particular worker provided with a valuable opportunity, including mentorship and training. PLAs with apprentice sponsorship requirements (such as the Oakland Army Base Public Improvements PLA, and several other Alameda County precedents) generally tie the number of sponsorship requirements to the size of the project, and place responsibility on the prime contractor to ensure compliance across the project.

INCORPORATE A "RAMP UP" PERIOD TO SET UP PARTIES FOR SUCCESS, IF APPROPRIATE

As described in Section III, achieving workforce diversity goals will take time and a collaborative effort among multiple partners. A "ramp up" period provides contractors a certain number of years to meet workforce diversity goals with interim benchmarks to ensure progress and allow for course correction if needed. Advisory Committee members noted that a "ramp up" periods works well for large, multi-year projects, but may be challenging for smaller covered projects completed in the span of a few months.

Establish Clear Responsibilities for All Parties in Achieving Workforce Goals

The sheer complexity of training and hiring processes in the construction industry is a barrier to the achievement of workforce goals. Numerous parties have different roles and complex relationships: pre-apprenticeship programs, apprenticeship programs, unions and their hiring halls, union contractors, and non-union contractors. Multiply all the above by dozens of different construction trades, with varying pre-apprenticeship training paths, apprenticeship program requirements and collective bargaining agreements. Add in prime contractors and multiple tiers of subcontractors – as well as public entities advancing construction projects meant to further multiple policy goals.

Given this context, simply including a workforce goal in prime contracts will be ineffective. Even detailed policies and contractual requirements will run aground if careful attention is not paid to actual hiring systems on a project, and the responsibilities of various parties. This section describes some issues and possible approaches to the technical aspects of successful design and implementation of workforce goals.

[73] Oakland Army Base Public Improvements. Construction Jobs Policy, pg.4, Section III.C: "Disadvantaged Workers. For each construction trade in which a Contractor performs Project Construction Work, at least twenty-five percent (25%) of hours worked by Apprentices [shall be] performed by Disadvantaged Workers."

EXAMPLE: CLEAR CONTRACTOR REQUIREMENTS

Oakland Army Base Improvements, Construction Careers Policy

"**Alternative Approaches.** Each Contractor shall either follow the processes set forth ... below, or satisfy the percentage requirements...

B. **Hiring and Referral Processes.**

1. **Contractor Procedures**. Contractors shall undertake the following steps in the following order, in an effort to retain Residents, Disadvantaged Workers, and Apprentices:

   a. Step One: Utilize the Contractor's discretion to assign to perform Project Construction Work any current employees who are Residents, identified Disadvantaged Workers, Apprentices;

   b. Step Two: If the Contractor utilizes a Union hiring hall to retain workers, utilize name call, rehire, or similar procedures in the relevant collective bargaining agreement to request particular individuals who have been identified as Residents, Disadvantaged Workers, or Apprentices;

   c. Step Three: If the Contractor utilizes a Union hiring hall to retain workers, request that the hiring hall refer Residents, Disadvantaged Workers, or Apprentices;

   d. Step Four: If the above steps have not enabled satisfaction of the percentage requirements set forth in Section III.C of this Policy related to hiring of Residents, Disadvantaged Workers, or Apprentices, request referral of needed categories of workers from the Jobs Center;

   e. Step Five: Fairly consider workers that have been referred by the Jobs Center within three (3) business days of request therefor."

Source: Oakland Army Base Public Improvements, Construction Jobs Policy, pg. 3, Section III.

GOALS VERSUS REQUIREMENTS: A NON-ISSUE?

Most workforce percentages are termed either "goals" or "requirements" – but this language choice may reflect a distinction without a difference. Virtually every policy that includes a specified percentage indicates that a contractor can comply with the policy by either achieving the percentage, or by demonstrating that it tried to do so, and insufficient workers were available in the desired category (see the following section regarding contractor requirements and "good faith" efforts). Under that almost-universal policy structure, labeling the percentage a "goal," as opposed to a "requirement," makes no difference in the requirements imposed on contractors or the compliance determination. Either way, the contractor is required to take certain steps to attain the percentage and can be found in noncompliance if it fails to take those steps and does not attain the percentage. Parties designing workforce policies should focus on actual policy requirements and avoid reliance on unstated implications of terminology.

CONTRACTOR REQUIREMENTS AND "GOOD FAITH" EFFORTS

As noted earlier, almost every policy that includes workforce percentages requires contractors to either attain those percentages, or demonstrate that it took certain steps to do so.[74] Many policies are either vague about the steps contractors are required to take, or require steps that are so inconsistent with industry practices that they will not be effective. In specifying requirements for contractors:

[74] See San Francisco Administrative Code, Chapter 82, Local Hiring Policy for Public Construction, Section 82.5. A rare exception is the City of San Francisco's policy covering public works construction, which establishes percentage requirements enforceable through assessment of liquidated damages, without a "good faith efforts" or process compliance route. Instead, exemptions may be granted on a craft-by-craft basis on the basis of (i) designation as a "Specialized Craft"; (ii) contractor demonstration of hiring local residents on other projects; (iii) contractor demonstration of apprentice sponsorship; and (iv) establishment of "Direct Entry Agreements" for that craft.

Do not use vague language

Avoid language such as "efforts to hire local workers include but shall not be limited to..." or "contractor shall make sustained, ongoing efforts to identify and hire local workers." Instead, Use specific language, laying out the steps you expect contractors to take.[75] Contractors need to be given for a list of required steps to try to find the category of workers, and they need assurance that if they follow those steps, they will not be sanctioned if those workers are unavailable.

Do not require contractors to take steps that are inconsistent with industry practices or contractual requirements

Requirements that contractors attend job fairs or post newspaper notices when they need qualified construction workers for an active project will not be complied with and would not be effective if they were. Require only steps that contractors can take, and that are likely to connect contractors with qualified, available workers.

Do not ignore the role of union hiring halls in the hiring process

Both union and non-union contractors working under most PLAs are contractually required to obtain some workers from union hiring halls. Contractors who cannot otherwise attain workforce percentages should be required to request needed categories of workers from union hiring halls and utilize all available flexibility under collective bargaining agreements.

a. **PLAs are a unique opportunity to negotiate revisions to union hiring hall referral rules.** All PLAs contain a boilerplate provision indicating that the PLA overrides conflicting provisions of collective bargaining agreements.[76] PLAs can therefore be a vehicle for prioritizing union referral of needed categories of workers to help contractors achieve workforce percentages through negotiated provisions.[77] Such PLAs therefore provide an advantage compared to projects without PLAs, which are subject only to pre-existing hiring hall rules. Note, however, that PLAs are multi-party contracts, and public entities do not have power to impose changes on union hiring hall rules without voluntary agreement from unions through a PLA negotiation process.

b. **Require contractors to sponsor apprentices,** as part of their effort to attain workforce percentages regarding apprentice utilization (see discussion in Section A.4 above). As noted, not all apprenticeship programs will have available sponsorship and enrollment opportunities at any given time. However, where apprenticeship enrollment opportunities are available, contractors should be required to sponsor and employ apprentices needed to attain workforce percentages. This is a key strategy to get targeted workers into apprenticeship programs. Sponsorship also includes coverage of any registration fees – a barrier that may put apprenticeship programs out of reach for many low-income workers.

Collect Data to Track Progress on Workforce Goals

Once the appropriate workforce diversity goals are set, contractor performance should be consistently tracked and made available in an accessible, public facing dashboard. Though most agencies track performance in their project's labor and contract management compliance software, the results are less frequently published for the benefit of external stakeholders. This oversight creates a lack of general awareness on progress towards workforce goals. A data-driven approach will facilitate the enforcement of workforce goals and provide a rich set of data that can form the basis of tailored workforce strategies down the

[75] Oakland Army Base Public Improvements, Construction Jobs Policy, pg. 3, Section III.

[76] E.g.: San Francisco Public Utilities Commission Water Systems Improvement Project (WSIP) Project Labor Agreement, Sec. 2.10: "Where a subject covered by the provisions of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail."

[77] California PLAs including negotiated revisions to referral procedures to help contractors achieve workforce goals include: State of California High Speed Rail PLA; State of California Department of Toxic Substances Control – Exide Cleanup; City of Los Angeles Department of Public Works PLA; LA Metro PLA; Oakland Army Base PLA; Alameda County PLA.

line. Public agencies must also coordinate their respective data collection efforts across the region, thus creating a "snapshot" of the region's performance.

A regional snapshot is only as good as the quality of data collected. Public agencies rely on external parties, such as contractors and the trades, to get a sense of the composition of the workforce. As such, public agencies should adopt simple and predictable data collection requirements to minimize the burden on these parties and ensure consistent and reliable data.

A coordinated approach to data collection can include the following actions.

PUBLIC AGENCIES

Agree to track similar metrics on PLA outcomes

Public agencies should agree to each collect a series of common metrics that will help provide a regional picture of the construction workforce. Adopting an identical list will also create predictability for contractors who work on public projects. The metrics listed below are a starter set for discussion and based on the survey we distributed to public agency representatives at the start of this project. As part of a Phase Two, public agencies will review the metrics below and determine the most appropriate set for the region.

a. Project Information: Name and Type of Project, Total Project cost, Estimated Construction Start and End Dates

b. Contractor Information: Name of Prime Contractor and Subcontractors

c. Workforce diversity

   i. Apprenticeship Utilization: By trade and by contractor: Number of workers and percentage of work hours

   ii. Disadvantaged Worker Utilization (disaggregated by race and ethnicity) apprentice, journey-level, by trade and by contractor

   iii. BIPOC Utilization (disaggregated by race and ethnicity): apprentice, journey-level, by trade and by contractor

   iv. Subcontractor Utilization – BIPOC, Women, Veteran, and Disadvantaged Business Enterprises

Develop partnerships between large and small jurisdictions

Partnerships with larger agencies can facilitate data tracking for smaller agencies. Labor and contract compliance software can be expensive for smaller jurisdictions that may only have one or two projects covered by a PLA. This should not be a deterrent to data tracking. A smaller agency can enter a Memorandum of Understanding (MOU) with a larger entity in order to ensure data is tracked accurately. The partnership need not be limited to labor and contract compliance software. Larger agencies typically have dedicated enforcement staff that can work with contractors directly to ensure they are meeting requirements. Due to staffing constraints, project managers may also assume labor compliance duties on a project. These functions are inherently conflicted: project managers are focused on critical path items to ensure project delivery while labor compliance may raise issues that will impact critical path. As part of a Phase II of this project, public agencies should discuss how/if such partnerships are feasible, and what types of support services would be most useful in ensuring contractor compliance.

Post PLA outcomes on a website (as a dashboard)

In our scan of PLAs/CBAs across the country, we found that few jurisdictions publish data on PLA outcomes. This oversight undermines broader understanding and support of PLAs. To ensure that PLA outcomes are communicated in an accessible manner, public agencies should create an online dashboard with simple and compelling data visualizations. Labor and contract compliance reports are often long, complex tables, making it difficult to draw any meaningful insights. In the right hands, however, data can be transformed to make it easier to interpret and provide value to stakeholders and decision makers alike. Data visualization includes the use of visual elements (such maps, pie charts, etc.) to portray the importance of data. The dashboard should provide high level takeaways in visual form as well as opportunities for interested parties to access more comprehensive data. The dashboard

should include succinct narrative findings to help humanize the data. It should be updated regularly and consistently. [78]

Develop and post a 5, 10, year project forecast

Public agencies should publicly share their 5- and 10-year forecasts of projects on a website (as a dashboard). This data will be even more useful if analyzed to determine the number of full-time equivalent positions needed, sorted by craft, under each project. This will provide all stakeholders with the following: a sense of when projects will come online, how many workers can be needed, and what types of crafts will be needed, so training can be deployed accordingly. This type of analysis can inform conversations on workforce funding coordination (See recommendation entitled "Coordinate Ongoing Support for Diverse Workers").

Create a regional dashboard

Public agencies may wish to aggregate the data generated by steps above into a regional dashboard that illustrates the region's performance and progress towards workforce goals. This dashboard can be managed and aggregated by a larger agency for the benefit of the region.

CONTRACTORS

Provide race and gender data

Contractors should provide data on the race and gender of each crew member. Furthermore, contractors should provide information about how each worker was brought onto the jobsite – existing crew member, referral source, etc. Public agencies should create a short list of categories to track how an employee was brought on. The categories should be clear and easily verifiable by the contractor. (See Appendix F for discussion of legal issues regarding demographic data collection.)

TRADES

Track consistent data on membership (by craft)

For purposes of this study, EA developed a brief survey tool to query East Bay trades on the composition of their memberships. Several affiliates stated that they do not regularly collect race and gender data and submitted estimates of their member composition. As public agencies continue to prioritize workforce diversity as a factor in public procurements, the trades should proactively address the forthcoming demand and begin the process of collecting data.

a. Total membership
    i. Number of Apprentices
    ii. Number Journey workers
b. Membership by race/ethnicity
c. Membership by gender
d. Number of members set to retire in the next 5 years

APPRENTICESHIP PROGRAMS

Joint apprenticeship training committees (JATCs) are required to report race and gender data to the Division of Apprenticeship Standards (DAS). DAS data provides a reliable picture of the composition of the workforce at the apprenticeship level. However, some aspects of the apprenticeship program could benefit from further tracking to identify potential hurdles for BIPOC and/or women.

a. How do JATCs share news of available apprenticeship spots?
b. Entrance into a JATC typically requires a combination of a written exam and in-person interview. Are practice tests or sample interview questions shared with pre apprenticeship training programs or other community-based organizations that train diverse job seekers?
c. While data of entering apprentices is tracked, data of rejected candidates is unavailable. How many apprenticeship candidates are rejected? What are the grounds for rejection? What is the race/gender of the rejected candidates?

PRE-APPRENTICESHIP PROGRAMS (PATPS)

For purposes of the study, EA created a survey tool for PATPs to self-report on the racial/gender composition of their cohorts. We received

[78] As an example, advisory committee members may wish to consider Los Angeles Metro's Project Labor Agreement Quarterly Report: https://media.metro.net/2020/pla-ccp-quarterly-report.pdf.

responses from only three of nine PATPs in the East Bay, making it particularly difficult to get a complete picture of pre-apprenticeship trainees in the East Bay. PATPs offer an array of wraparound services to help their students successfully apply for apprenticeship programs, tailored specifically to BIPOC and women. [79] They are crucial first step in exposing BIPOC and/or women to the trades and ensuring their long-term success. If the goal is to diversify the construction field over the long term, then collecting data on the PATP pipeline to understand the pool for apprenticeship in the near-term. However, we know that PATPs have limited resources to conduct thorough data collection. We suggest collecting simple data points, perhaps with the ongoing support of public agencies and trades, and others. Suggested data points for collection include:

a. Total enrolled members (by year/cohort)
b. Graduation rate (by year/cohort
c. Race/ethnicity of members (by year/cohort)
d. Gender of members (by year/cohort)
e. Employment status upon graduation, 6 months after graduation, 1 year after graduation (e.g. in construction industry or not, by race/gender)

Enforce to Ensure Progress on Workforce Goals

Enforcement of workforce goals is a longstanding challenge. Factors making enforcement difficult include:

a. Numerous contractors involved on a project site – sometimes dozens, with multiple tiers of subcontracts;
b. No direct contractual relationship between the public owner and the subcontractors;
c. Many subcontractors come on and off the jobsite quickly, leaving little time for identifying instances of noncompliance and resolving them prior to work being concluded – public entities are often forced to try to impose sanctions regarding work that has been completed, which is not the goal;
d. Multiple unions, apprenticeship programs, and pre-apprenticeship programs involved in the hiring and training process – sometimes dozens of crafts and their associated unions and programs;
e. General reluctance of public entities to impose financial consequences on contractors who are performing work for the entity; and
f. Limited public entity staff time for oversight and enforcement.

The recommendations set forth in this section can go a long way toward alleviating some of these problems. In general, the simpler a policy can be the more feasible it is for contractors to comply, and public entities to monitor and enforce. Above recommendations include suggestions regarding policy drafting and data gathering with enforcement in mind.

PLAs constitute a unique opportunity to consolidate agreement regarding how hiring and referral will work across all crafts and contractors on a large public project. PLAs are the only contractual relationship that a public entity will have with the unions, which play such a key role in staffing jobsites and operating top-tier training programs. PLAs should be negotiated with workforce goals in mind and should facilitate their achievement.

From an enforcement perspective, we recommend the following:

a. Workforce goals and contractor reporting requirements be included in the project's prime contracts, regardless of whether a project has a PLA. Public sector prime contracts typically have very strong enforcement provisions, indicating that a lack of fulfillment of contract terms will lead to withholding of payments – probably the most effective enforcement tool. In addition, prime contracts hold the prime contractor responsible for the behavior of subcontractors at all tiers, which is crucial, as the public entity has no direct relationship with subcontractors.

[79] Conway, M., Gerber, A., and Helmer, M. (2010). Construction Pre-Apprenticeship Programs: Interviews with Field Leaders. The Aspen Institute.

b. Perhaps most importantly, including workforce requirements in a prime contract indicates to the contractors that these requirements are as important to the public entity as other contract terms, that they are equally expected to be complied with – and that similar consequences will ensue if they are ignored. This simple step leads to the strongest, most direct enforcement power for public entities looking to influence contractor behavior and sends a strong signal regarding the seriousness of the policy goal.

c. Establish an operational plan at the onset of the agreement. An operational plan describes how – and more importantly, who – to monitor, implement, and enforce the provisions in an agreement. The creation of an operational plan can be written into a PLA. An operational plan describes roles for the PLA administrator and partners. Without a clear description of responsibilities, a timeline for completion of tasks, and resources available, PLA responsibilities may fall by the wayside in favor of other pressing matters. These seemingly minor oversights may result in shortcomings in the achievement of PLA goals.

Support the Retention and Advancement of Diverse Workers

Harassment and discrimination on construction jobsites create a negative work environment that adversely impacts worker safety, productivity, and retention. Our interviews with workers revealed several personal experiences where workers were treated differently and/or were denied opportunities for advancement based on their race, gender, or sexual orientation. Anti-harassment curricula have long existed on construction sites but tend to focus on minimizing risk for the employer and lacks concrete tools for intervention and systemic change. However, there are several emerging models across the US and Canada that focus on prevention and intervention. These new models train owners, managers, workers with concrete tools to step up and intervene when harassment and discrimination occurs in the workplace.

WORKSITE HARASSMENT PREVENTION

Public agencies should require the implementation of a workplace harassment prevention program across all projects covered by a PLA. Ideally, public agencies in the Bay Area would select a common program to ensure that all worksites are held to the same standards. A positive worksite culture is good for the construction industry's bottom line: it improves work performance, enhances employee engagement, and supports the retention of the workforce. In making a decision on a curriculum, public agencies may wish to consider the following evaluation factors developed by the Regional Respectful Workplaces Committee, a Portland, Oregon based review committee comprised of public agencies, the Oregon Building Trades Council, and community based organizations.[80] A strong worksite harassment prevention program:

a. Must incorporate a train-the-trainer model: This model empowers curriculum participants to deliver training to colleagues;

b. Must have a clear understanding of and be relevant to the construction industry;

c. Must include a curriculum aimed at creating a safe workplace for all workers: The curriculum with must have a focus on BIPOC, LGBTQ+, and female workers;

d. Must result in an industry-recognized credential that could be recognized broadly by the construction industry.

As part of a Phase II, the advisory committee may wish to delegate a working group to review curricula to determine what program best fits the needs of the East Bay. Our interviews with workers revealed that instances of harassment occur as early on as pre apprenticeship. As such, the advisory committee may also consider including JATCs and pre apprenticeship training programs in the selection process. Widespread adoption of a common curricula is by no means a panacea – but it is a way begin to address worksite culture at the source.

[80] Metro, Oregon Tradeswomen, and Worksystems. (October 2020). Regional Respectful Workplace Model Review Committee Recommendations: Tools to Address Jobsite Culture in Construction.

JOBSITE MONITORING

Implement a jobsite monitoring program to ensure BIPOC workers and women are accessing opportunities for advancement.

a. Interviews revealed a persistent issue of "pigeon-holing" BIPOC workers and women to lower skilled/paid crafts

b. Within broad crafts, additional skills may be gained, but workers may be barred from accessing due to lack of training and/or lack of supportive supervisors

c. May require the intervention of a third-party entity to verify discrimination

Coordinate Ongoing Support for Diverse Workers

To address barriers to entry for BIPOC and women in the construction industry, public agencies and other local funding entities must collaborate on efforts to ensure a consistent pipeline of diverse workers into the construction field. Coordinating funding on recruitment, training, retention, and other support services will ensure workforce training in the region is directly responsive to projected demand. Several PLAs in the region require that contractors pay into a workforce development fund – which is a critical first step in coordinating workforce efforts in the region. Furthermore, many public agencies also manage workforce training dollars. Moving forward, these funds should be coordinated based on the anticipated workforce need.

PUBLIC AGENCIES

There are several ways public agencies can coordinate funding supports to drive the development of a diverse workforce. A few suggested strategies are listed below:

a. Public agencies can agree to set aside a portion of their capital project budgets for workforce development and small contractor support (e.g. a 1% set aside). Agencies could manage these funds independently.

b. Prime Contractors to set aside a portion of their hard costs for workforce development and/or small contractor assistance – contractors choose from a pre-approved list of supportive services.[81] A pre-approved list serves two purposes. One, it ensures that funds are directed to qualified agencies. Two, pre-approval can expedite the disbursement of funds, which ensures funds do not sit unused.

c. Agencies pool their funding through a funding intermediary. A single intermediary can then create efficiencies in fund management and seek out additional funding (private, public, philanthropic) as appropriate.

d. Regardless of what approach agencies choose to take, they should coordinate and communicate on their respective workforce investments to ensure efforts are coordinated and not duplicative.

Types of supports that should be funded include:

a. Support to community-based organizations that increase exposure to construction – with a particular focus on workers with barriers to employment (e.g. formerly incarcerated, homeless, single parent households, etc.)

b. Increased educational partnerships with the K-12 system and the trades to build student awareness of and interest in the construction industry (e.g. the Chicago PLA's teacher-in-service program in which local unions instruct Chicago Public School teachers on how students can pursue apprenticeships). This can include job shadowing programs, paid summer internships, tailored public school curricula, etc.

c. Support to pre-apprenticeship programs – particularly to provide paid training and ongoing supports (transit pass, case management services, record expungement, etc.)

d. Support to culturally relevant supportive programs that help workers e.g. IBEW's Local 11's 2nd Call)

e. Job readiness, life skills, anger management, parenting supports, financial management

[81] As an example, the Port of Oakland's MAPLA requires that contractors pay into a Social Justice Trust Fund.

f. Support and technical assistance to small, BIPOC owned business in competing for government contracts

g. Support and technical assistance to tradespeople and BIPOC entrepreneurs that wish to start their own business

TRADES

Establish (more) direct or preferred entry agreements

Direct or preferred entry refers to an agreement in which graduates of a training program(s) who meet eligibility criteria have a direct route into an apprenticeship program. Typically, programs are selected that serve workers with barriers to employment and have a track record for training to industry standard. There are many upsides to increasing the use of direct entry agreements – contractors can more readily meet their local and/or targeted hire requirements, training programs are able to ensure that their graduates have paid employment upon graduation, and public agencies are able to ensure their investments in public infrastructure results in real job opportunities for local workers.

For example, RichmondBUILD has a formal direct entry agreement with the Carpenters Training Committee for Northern California and Northern California Laborers Joint Apprenticeship Training Committee. The agreement with the Carpenters ensures that a minimum of five (5) graduates from each cohort will be placed in the apprenticeship program.

Public agencies, trades, training institutions should work together to establish direct entry agreements throughout the East Bay with organizations that work with local BIPOC and female residents and ensure training to industry standard. These agreements should be expanded to include local school districts, regional occupational centers, as well.

Collaborate on a Regional Level to Create a Diverse Workforce

The authority to implement any of the recommendations in this section lies within the individual organizations. However, a regional body such as the advisory committee should continue to meet to review performance on their workforce diversity goals, progress on the recommendations in this report, as well as discuss other relevant issues of region-wide significance.

REGIONAL COLLABORATION

The Advisory Council should collectively determine which actions in this report to prioritize in the near, mid, and long term. Once complete, the advisory committee should develop a work plan to track progress on actions over time. In particular, the advisory committee may want to discuss next steps on the following:

a. Refining local and targeted hire goals to increase participation by BIPOC and female workers;

b. Discuss best practices in enforcement of PLA provisions;

c. Standardizing data collection (public agencies, trades, PATPs);

d. Coordinating on strategies to collaborate with the K-12 system;

e. Coordinating on workforce funding;

f. Creating a regional dashboard;

   i. How to best pool and/or coordinate workforce development funding supports over time;

   ii. Jointly identify state, federal, and philanthropic sources of funding to implement and further support the recommendations in this document

Engage other major public agencies in the region

The advisory committee will further benefit from the active engagement of other large agencies in the region. As this effort moves on to the second phase, a concerted effort must be made to engage those agencies as active participants of the advisory council.

Future participants must come to the table with a commitment to the goals of the advisory committee and possess the subject matter expertise needed to implement the recommendations in this report. Participants must be knowledgeable on topics such as contracting, purchasing, equity, workforce development, and the agency's upcoming capital projects.

Engage agency leadership

The advisory committee should develop a strategy for engaging decisionmakers on the findings of this report and activity moving forward. Their support is essential to the success of this project. The advisory committee may want to coordinate on developing and sharing talking points, and other political considerations.

Image Credit: Building and Construction Trades Council of Alameda County

APPENDIX

1. **Interview Protocol: Barriers and Opportunities to Diversifying the Construction Workforce**
2. **Building Trades Council Affiliates List**
3. **Building Trades Questionnaire Via Survey Monkey (July 2020)**
4. **Apprentice Projection Methodology**
5. **Construction Demand Methodology**
6. **Proposition 16, Proposition 209, and Paths Forward in Public Construction Employment**

1. Interview Protocol: Barriers and Opportunities to Diversifying the Construction Workforce

QUESTIONS

1. What is your name, current title, and company?
2. How long have you been with this company, and what have your role(s) been?
3. Why did you get involved in the trades? What has kept you working in the industry?
4. Would you say you have received any support in the workplace? If so, what has that looked like?
    - Examples could be mentorship, training for interpersonal dynamics, etc.
5. What kind of workplace support do you wish you would have had as you got started?
6. What kind of workplace support would be helpful in the future?
7. If you are comfortable answering – have you experienced any issues at your workplace? If so, who was involved, and how were the issues resolved?
    - This could be between workers, between a worker and a client, between a worker and a supervisor, etc.
8. Are there apprentices and pre-apprentices at your worksite? What have the relationships been like between them and more senior staff?
9. How would you describe your identities (sex, gender, ethnicity, etc.)?
10. Can you speak to your experience in the workplace as someone who is (sex, gender, ethnicity, etc.)?
11. Do you have coworkers that share any of your identities?
    - How would your experience change if they were not there? Or,
    - How would your experience change if there were more?
12. What do you think would help bring in more (black/female/PoC) employees?
    - Examples could include open houses to your worksite for exposure, pipeline programs, a more welcoming workplace, etc.
    - Is there anything that could improve those relationships or experiences?
13. What kinds of supports or education do you think your employer needs to have in place for all employees to be successful in the workplace?
14. What's something you would want someone unfamiliar with the trades to know about your work or experiences?
15. Do you know of other experiences or programs that your peers were involved in that we should know about?
16. Are there any other changes or shifts to your workplace that you would like to see in terms of culture, support, or operation?
17. Is there anything else you would like to share with us about your experiences?

2. Building Trades Council Affiliates List

BUILDING AND CONSTRUCTION TRADES COUNCIL OF ALAMEDA COUNTY

7750 Pardee Lane, Suite 100, Oakland, CA 94621

(510) 430-8664 btca@btcalameda.org

AFFILIATES LIST

AUTO, MARINE & SPECIALTY PAINTERS, LOCAL 1176

2020 Williams St., Ste. A1, San Leandro 94577
(510) 454-8150

http://www.dc16iupat.org/painters.aspx

BOILERMAKERS, LOCAL 549

2191 Piedmont Way, Pittsburg, CA 94565

(925) 427-4121

https://www.boilermakerslocal549.org/

BRICKLAYERS, TILESETTERS & ALLIED CRAFTWORKERS, LOCAL 3

10806 Bigge Street, San Leandro, CA 94577 (510) 632-8781

http://www.bac3-ca.org/

CARPENTERS, LOCAL 2236

115 Broadway, Oakland, CA 94607

(510) 446-2236

http://www.carpenterslocal2236.org/

CARPENTERS, LOCAL 713

1050 Mattox Road, Hayward, CA 94541

(510) 581-7817

https://www.nccrc.org/

CARPET, LINOLEUM & SOFT TILE WORKERS, LOCAL UNION 12

2020 Williams St., Ste. A1, San Leandro 94577
(510) 454-8150

http://www.dc16iupat.org/floor-covering.aspx

CEMENT MASONS, LOCAL 300

100 Hegenberger Road, Ste. 220, Oakland 94621

(510) 430-9492

http://www.opcmialocal300.org/

ELECTRICAL WORKERS, LOCAL 595

6250 Village Parkway, Dublin, CA 94568

(925) 556-0595

https://www.ibew595.org/

ELEVATOR CONSTRUCTORS, LOCAL 8

690 Potrero Avenue, San Francisco 94110

(415) 285-2900

http://www.iuec8.org/

GLAZIERS & GLASS WORKERS, LOCAL 169

2020 Williams Street, Ste. A1, San Leandro 94577
(510) 454-8150

http://www.dc16iupat.org/glaziers.aspx

HEAT & FROST INSULATORS, LOCAL 16

3801 Park Road, Benicia, CA 94510

(707) 748-1616

http://www.insulators16.org/

IRON WORKERS, LOCAL 378

3120 Bayshore Road, Benicia, CA 94510

(707) 746-6100

https://ironworkers378.com/

LABORERS LOCAL 67 (ASBESTOS ABATEMENT)

8301 Edgewater Dr., Ste 201, Oakland 94621

(510) 569-4761

https://www.laborerslocal67.org/

LABORERS, LOCAL 304

425 Roland Way, Oakland, CA 94621

29475 Mission Blvd., Hayward, CA 94544

(510) 562-2661 Oakland

(510) 581-9600 Hayward

http://laborers304.org/

LATHERS, LOCAL 68L

100 Hegenberger Rd, Ste 300, Oakland 94621

(510) 430-1412

https://www.nccrc.org/

MILLWRIGHTS, LOCAL 102

3095 Independence Dr., Ste E, Livermore 94551 (925) 294-5350

https://www.millwrights102.org/

OPERATING ENGINEERS, LOCAL 3

1620 South Loop Rd., Alameda, CA 94501 (510) 748-7446

https://www.oe3.org/

PAINTERS & TAPERS, LOCAL 3

2020 Williams St., Ste. A1, San Leandro 94577 (510) 785-8467

http://www.dc16iupat.org/painters.aspx

PLASTERERS, LOCAL 66

7700 Edgewater Drive, Ste 147

Oakland, CA. 94621

(510) 632-0406

http://www.pl66.org/

ROOFERS, LOCAL 81

8400 Enterprise Way, Ste. 122

Oakland, CA 94621

(510) 632-0505

https://www.unionroofers.com/

SHEET METAL WORKERS, LOCAL 104

1720 Marina Boulevard San Leandro, CA 94577 (510) 895-8660

https://www.smw104.org/SIGN DISPLAY, LOCAL 510

400 Talbert Street,

Daly City, CA 94014 (650) 763-5405

http://www.local510.org/

SPRINKLER FITTERS, LOCAL 483

2525 Barrington Court, Hayward, CA 94545

(510) 785-8483

http://www.sprinklerfitters483.org/

PILE DRIVERS, LOCAL 34

55 Hegenberger Place, Oakland, CA 94621

(510) 635-4227

https://www.nccrc.org/

PLUMBERS & STEAMFITTERS, UA LOCAL 342

935 Detroit Avenue, Concord, CA 94518

(925) 686-5880

https://www.ua342.org/

TEAMSTERS, LOCAL #853

7750 Pardee Lane, Oakland, CA 94621

(510) 895-8853

https://www.teamsters853.org/

U.A. Utility/Landscape, Local 355

426 Alabama Street, Vallejo, CA 94590

(707) 644-0355

https://ualocal355.org/

3. Building Trades Questionnaire Via Survey Monkey (July 2020)

The San Francisco Foundation, and a group of public agencies in Alameda County, are studying the effectiveness of Project Labor Agreements. We are seeking data from the trades to best inform our study. This survey is voluntary, but your participation in this research is valuable in creating data-driven local hiring goals and developing a sustainable pipeline of construction workers to maximize the employment of local residents in the construction trades in the region.

Please complete the form below to the best of your knowledge. If you do not have information or data to a particular question, feel free to skip the question by entering N/A. If you do not have any data available to share, please answers Questions #1-3, and go straight to Question #10.

Top of Form

*1. Name of the organization and your contact information (Name, email, and phone number)

*2. List the geographical areas that your organization represent within the Bay Area region

*3. List the building trades or crafts that your organization represent

4. List the current or estimated # of Active Members (Please specify an estimate # or % of total membership)

A. All Members

B. Apprentices

C. Journeypersons

5. Do you have an estimate on the projected number of Journeypersons retiring in the next 5 years? If so, what is that number?

6. What is the Gender breakdown of your membership (Please specify an estimate # or % of total membership)

A. Female

B. Male

7. Does your organization collect or track information on the members' sexual orientation, such as LGBTQ? If so, are you able to share what that information?

8. What is the Race/Ethnicity breakdown of your membership (Please specify an estimate # or % of total membership)

A. American Indian or Alaska Native

B. Asian

C. Black or African American

D. Hispanic or Latino

E. Native Hawaiian or Other Pacific Islander

F. White

9. Where do your members reside within the Bay Area region? (Please specify # or % of total membership)

A. Alameda County

B. Contra Costa County

C. Marin County

D. San Francisco County

E. Napa County

F. Solano County

G. Other

10. Describe some of the challenges in gathering and/or collecting membership demographic data within your organization.

Bottom of Form

4. Apprentice Projection Methodology

DAS apprenticeship data contains information on both historical apprentices, those that have completed or cancelled a program, and current, active in a program, apprentices. Of the 18,129 residents of Alameda County who entered an apprenticeship program between 1994 and 2014 5,541, 30.6%, completed the program. This graduation rate is not universal but varies given a variety of factors. We seek to explain this variance in graduation of apprentices and use this information to predict if an active apprentice will graduate.

We use a probit regression model to explain the variance in graduation among apprentices. This technique establishes a relationship between information about the apprentice and how this affects the probability of graduation. The regression quantifies the contribution to probability of graduating given demographics while accounting for the effect of confounding variables.

Our regression model accounts for the following:

- Race/Ethnicity;
- Gender;
- Age;
- Number of Dependents;
- Prevailing Wage by Craft;
- Full Time Experience;
- Highest Level of Education;
- Prior Apprentice Credits, and;
- Craft

Qualitatively, we find that the more dependents an apprentice has the less likely they are to graduate. The probability of graduation increases with journeyperson prevailing wage. We find that women are less likely to graduate than men, Black apprentices are least likely to graduate but Latinx apprentices, holding other factors constant, are more likely to graduate than white apprentices.

To calculate the probability of an active apprentice graduating from their program of study we use the coefficients from the probit regression combined with the information on each active apprentice. We assigned each active apprentice a probability of graduating. To calculate this probability we used our estimated quantitative relationship (see the following regression table) between the control variables and probability of graduating. We sum the quantitative relationship across control variables and end with a probability between 0, no chance of graduating, and 1, guaranteed to graduate. Any active apprentice with a predicted probability of graduating over 0.5, greater than 50%, was designated as a future graduate of their program.

Limitations and Assumptions

There are several limitations to the projections for completed apprentices. First, we are unable to factor in any very recent changes to programs, 2015 and up, aimed at retention or increasing graduation rates. This is due to only evaluating incoming cohorts between 1994 and 2014. We choose these years to allow apprentices in longer programs adequate time to complete their programs, otherwise the longer programs graduation rates would be biased downward. Additionally, any retention programs that were introduced in the 2010s will not have significant effects on these estimates due do the majority of the observations being from before programs were implemented. If these programs are effective that would manifest in a greater number of currently active apprentices graduating and higher graduation rates among the apprentices labeled active in the data.

The second limitation comes from the number of active apprentices available. The DAS data only has information on apprentices that were active when the data was pulled with expected graduation dates extending to 2024. The apprentices that are set to graduate in 2023/2024 do not count people who enter relatively short programs, such as laborers and roofers, but would still graduate in 2023/2024, therefore number of future of graduates should be taken as a lower bound though we are unsure as to whether graduation rates would be higher or lower.

Finally, we are unable to address how the COVID-19 pandemic and recession will affect graduation of active apprentices. For this first pass we keep the estimated coefficients from our regression as plausible. Evidence suggests that COVID-19 infections disproportionally affect Black and Latinx communities. The disproportionate burden of the disease may act to decrease graduation rates from both communities and additionally lower graduation rates for female apprentices may be expected. This decrease in graduation rate may come from several factors: a shifting burden of care work may make it harder for women to complete hours or training, lasting damage due to infection may make the physical nature of construction work no longer possible.

	Coefficient	Standard Error	p.value
(Intercept)	-2.999518956	0.489152199	8.673909e-10
Asian	0.044732585	0.050432923	3.750940e-01
Black	-0.425228568	0.035447903	3.734547e-33
Latinx	0.107047924	0.030137224	3.822906e-04
Unknown	0.020557956	0.107405576	8.482084e-01
Female	-0.351584933	0.053997225	7.456933e-11
DependentCount1	-0.141224357	0.033081136	1.963250e-05
DependentCount2	-0.039832527	0.035216556	2.580240e-01
DependentCount3	-0.054679065	0.039000922	1.609170e-01
DependentCount4	-0.164140883	0.049672259	9.515346e-04
DependentCount5	-0.214349866	0.064587260	9.041684e-04
DependentCount6	-0.413179838	0.084714074	1.075228e-06
Wage	0.030395797	0.006730215	6.292390e-06
Fulltime Experience	0.013941276	0.005065618	5.920770e-03
Entry Age	-0.005138747	0.001594989	1.273846e-03
HighestEducationLevel2	0.166684003	0.077470121	3.142959e-02
HighestEducationLevel3	0.003272016	0.091197235	9.713793e-01
HighestEducationLevel4	0.053833442	0.076016788	4.788345e-01
HighestEducationLevel5	0.099160616	0.057644941	8.539676e-02
HighestEducationLevel6	0.065278947	0.066791157	3.283914e-01
HighestEducationLevel7	0.141429558	0.068752474	3.967822e-02
HighestEducationLevel8	0.202729811	0.084938982	1.699712e-02
rHighestEducationLevel9	0.040675823	0.076798271	5.963581e-01
HighestEducationLevel10	1.326376145	0.509253594	9.199516e-03
Prior Credit Months	0.022633850	0.001232103	2.280297e-75
BOILERMAKER	0.261774099	0.204597522	2.007355e-01
BRICKLAYER	0.583232614	0.120925418	1.413603e-06
CARPENTRY	0.153145969	0.080876419	5.828078e-02
CARPET, LINOLEUM - SOFT TILE	0.404720666	0.119929288	7.390673e-04
CEMENT MASONS	0.676963303	0.122235802	3.056392e-08
DRYWALL / LATHER	-0.035185963	0.090998507	6.990040e-01
DRYWALL FINISHING	0.195011141	0.111269482	7.967031e-02
ELECTRICAL - ELECTRONIC	0.943118286	0.163312943	7.699216e-09
ELEVATOR	0.144944786	0.263790076	5.826828e-01
ENGINEER	0.899718727	0.101863563	1.022826e-18
FIRE SPRINKLER FITTER	0.397718477	0.187625092	3.402705e-02
GLAZIER - GLASS WORKERS	0.618312802	0.103923192	2.686188e-09
INSPECTOR/TESTER	0.368303038	0.187913262	5.000012e-02
IRON - STEEL WORKERS	0.228310875	0.072423463	1.619102e-03
LABORERS	1.122639159	0.132816872	2.850469e-17
LINEMAN	0.825922955	0.635912039	1.940124e-01
MILWRIGHT	0.388947951	0.125886051	2.003704e-03
PAINTING - DECORATION	0.506766619	0.103080625	8.823304e-07
PILE DRIVER	-0.008047365	0.116852598	9.450950e-01
PLASTERERS	0.272290034	0.122269386	2.594940e-02
PLUMBING	0.162088176	0.236228283	4.926182e-01
PLUMBING HVAC	1.597050997	0.116461897	8.478416e-43
ROOFERS	-0.394463973	0.116474251	7.073731e-04
SHEET METAL	0.236856747	0.238433627	3.205216e-01
SHEET METAL HVAC	1.055160458	0.145534587	4.160386e-13
SOUND / COMMUNICATION	0.702242310	0.110679962	2.227135e-10
SURVEYOR	0.515586105	0.143435509	3.249528e-04

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CARPENTRY	0.153145969	0.080876419	5.828078e-02
CARPET, LINOLEUM - SOFT TILE	0.404720666	0.119929288	7.390673e-04
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DRYWALL / LATHER	-0.035185963	0.090998507	6.990040e-01
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ENGINEER	0.899718727	0.101863563	1.022826e-18
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LABORERS	1.122639159	0.132816872	2.850469e-17
LINEMAN	0.825922955	0.635912039	1.940124e-01
MILWRIGHT	0.388947951	0.125886051	2.003704e-03
PAINTING - DECORATION	0.506766619	0.103080625	8.823304e-07
PILE DRIVER	-0.008047365	0.116852598	9.450950e-01
PLASTERERS	0.272290034	0.122269386	2.594940e-02
PLUMBING	0.162088176	0.236228283	4.926182e-01
PLUMBING HVAC	1.597050997	0.116461897	8.478416e-43
ROOFERS	-0.394463973	0.116474251	7.073731e-04
SHEET METAL	0.236856747	0.238433627	3.205216e-01
SHEET METAL HVAC	1.055160458	0.145534587	4.160386e-13
SOUND / COMMUNICATION	0.702242310	0.110679962	2.227135e-10
SURVEYOR	0.515586105	0.143435509	3.249528e-04

5. Construction Demand Methodology

Types of Projects

Project Type	Examples
1. Large scale vertical buildings	Coliseum Transit Village, Cathedral Gardens, Downtown Educational Complex
2. Large scale industrial buildings	Cool Port, Hayward Maintenance Complex
3. Small scale renovations and retrofits	SRJ ADA Ramp Replacement, 911 Facility Carpet Replacement, Seismic Retrofit of Hegenberger Road Overhead

Long Term Demand Projections

Growth Scenario	Total Hours 2026-2030 (FTE)
Moderate	9,901,917 (4,951)
Slow	9,505,209 (4,753)
Lower Bound	8,034,826 (4,017)

Demand Forecasts

To forecast future demand for construction workers the period 2021-2030 is split between a near-term, to 2025, and a long term, to 2030. These dates were chosen based on the existence of planned capital improvement projects. Most participating agencies have planned projects over the next five years while the majority do not have projects planned after 2025. To address these differences two methodologies are used to forecast construction demand; one where the existence of data on planned projects can inform both the number of hours and the mix of crafts used and one that relies on estimating the relationship between overall economic activity and each agencies' demand for construction labor.

The demand forecasts are based on two main assumptions. In both the short and the long term, it is assumed that there will not be drastic changes in construction techniques. This allows for the same mix and amount of labor on similar projects. In the long term it will additionally be assumed that the goals of each agency will not drastically change. This means that the types of projects that each public agency will undertake should remain relatively stable and the number of projects will only vary based on changes in available funds.

Short Term Demand

To estimate short term demand projects were first sorted into types using K-Means clustering based on the mix of crafts. Next a regression on project cost (in $1,000's) and hours worked established a relationship between project cost and hours worked. Finally overall hours were calculated by multiplying the cost of each planned project by the regression coefficient and the mix of hours was determined by which type the project most closely resembled.

There are 3 types of projects: Large scale vertical building, large scale industrial buildings (warehouses), and small-scale renovations and retrofits.

Based on available planned projects overall demand for construction hours between 2021 and 2025 is 4,512,498 hours or 2,256.35 full time equivalents (OUSD).

Long Term Demand

Long term demand estimation combines two methods. For the agency that has projects planned to 2030 the same technique was used as the near-term demand estimation. To forecast long term demand for the agencies that do not have planned projects a relationship between the size of the economy (GDP) and previous

agency spending is established. This relationship was established with a linear regression. The regression coefficients were multiplied by the GDP forecast from the Federal Reserve[82]. Table 2 shows the projected demand for total hours and full-time equivalents from 2026 to 2030.

Data

The data come from multiple agencies. The agencies that provided data are: Alameda County, AC Transit, Bay Area Rapid Transit (BART), The City of Oakland, Oakland Unified School District (OUSD), Peralta Community College, and The Port of Oakland. Each agency report data in different formats. To allow for analysis each data set had to be standardized in different fashions. The goal was to allow all data sets to be merged at the project level with crafts standardized to DAS crafts for descriptive analysis. Beyond the data that was provided by each agency additional data was collected to allow for the demand forecasting. When possible the cost data was bids, engineering estimates or budgets to more closely align with costs of planned projects. All costs are standardized into 2019 dollars.

AC Transit

AC Transit provided data organized by year at the individual worker level with a single project "East Bay Rapid Transit," from 2016 to 2020. The data contained information on Worker City, Zip Code, Gender, Ethnicity, Craft, Journeyworker or Apprentice, Hours and Total Wage. The crafts were standardized to DAS craft and Race/Ethnicity was standardized to one of 6 broad categories.

Alameda County

The data provided by Alameda County consisted of a summary by project and contractor. This included total hours by craft, and by ethnicity. It had additional data on hours worked by women but did the structure of the data did not allow for a breakdown of hours by gender and ethnicity. The data covered PLA projects from 2013 to 2020.

BART

Bay Area Rapid Transit provided individual worker data by project. This included the Craft, Gender, Ethnicity, Zip Code, City and Work Hours for each worker on each project. Both craft and Ethnicity were standardized to match with DAS data. The cost of each project and the years of each project were collected and added to the data.

City of Oakland

The data from the City of Oakland was payroll data, focused at the employee pay period level. There was information on craft, hours worked, pay, project, contractor, zip code, ethnicity and gender. Craft and ethnicity were standardized to the DAS data. The cost of a sample of projects collected.

Oakland Unified School District

The data from OUSD came at the project by contractor level from 2011-2020. This included total hours by craft, hours by ethnicity and craft, hours by craft and gender. Crafts and ethnicities were standardized to match DAS data and a sample of project costs and years was collected.

Peralta Community College

Peralta Community College contained data on a single project, College of Alameda New Center For Liberal Arts. The data was organized at the employee level and had information on year, hours, craft, journeyperson/apprentice, gender, ethnicity, county, city and zip. Crafts and ethnicities were standardized.

Port of Oakland

The port of Oakland provided a summary report of labor use by project. The data was organized at the project level with a breakdown of hours by craft with hours of each craft by ethnicity and by gender. The crafts and ethnicities were standardized. Due to the layout of the data it was not possible to breakdown hours by gender and ethnicity. The cost of each project and the years of each project were collected and added to the data. When needed the labor was divided evenly across years.

FORECASTING METHODOLOGIES

Short Term Demand

Cluster Analysis

K-Means clustering is used to sort objects into groups. In this case objects are completed projects and groups or clusters will be project types. K-Means clustering works as an iterative

[82] https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20200610.htm

process. First random objects are selected to act as cluster centers then every other object is assigned to a cluster by minimizing the Euclidean distance between cluster center and each object. The center means are calculated to act as a new center, Euclidean distance between objects and new centers are calculated and objects may be reassigned to minimize distance between new center and object. This process continues until centers no longer change and objects do not change cluster.

The data was preprocessed by aggregating hours to the project level. Next the percent of project hours by craft was calculated. The data had 30 different dimensions, 29 craft dimensions and 1 representing project size. The K-means algorithm was run testing between 1 and 10 potential clusters. Using the within cluster sum of squares method 3 clusters was chosen as the optimal number of clusters. PCC and AC Transit were not included in the cluster analysis as they do not have planned short term projects and were their own clusters.

Regression

The regression used to establish the relationship between hours worked and project cost took the form:

The relationship between hours worked and project cost in $1,000s is the regression coefficient β. This was calculated at 1.104. In the above equation ϵ is an error term.

To prepare the agency data for estimation, the hours were aggregated to the year and merged with the natural log of GDP lagged two years. A linear regression determined the relationship between GDP and hours worked. The regression took the form:

In this equation GDP is lagged two years and β represents the relationship between GDP and construction hours demanded, the second term lnGDP*Agency allows for different agencies to have different relationships between demand for construction hours and GDP finally ϵ represents an error term. The natural log of GDP estimates an elasticity. It can be interpreted as how a 1% increase in GDP changes demand for hours.

GDP Forecasts

Forecasts of GDP come from the Federal Reserve Board FOMC June 2020 estimates. These account for the current recession induced by the emergence and subsequent attempts to combat SARS-CoV-2. From Table 1 the Median growth rate is used as a "moderate' growth scenario. This is characterized by a short recession in 2020 and a v shaped recovery. The lower estimate of the central tendency is used as a "slow growth" estimate, with a slightly deeper recession in 2020 and a v-shaped recovery. Finally, the low end of the range is taken as a "lower bound" estimate, with a two-year recession and much slower "check- mark" recovery.

Short-Term Construction Demand in Work Hours by Craft (2021-2025)

Craft	2021	2022	2023	2024	2025	Total	FTE
Laborers	312,169	356,888	311,275	283,223	217,761	1,481,316	741
Electrical - Electronic	155,571	178,149	157,729	136,858	104,991	733,297	367
Carpentry	123,120	136,995	114,881	101,924	78,666	555,585	278
Engineer	87,882	100,865	88,687	80,166	61,581	419,180	210
Iron - Steel Workers	56,201	64,202	57,021	48,105	36,875	262,404	131
Plumbing	41,218	45,878	38,709	33,605	25,914	185,325	93
Cement Masons	24,157	27,210	23,118	21,148	16,305	111,937	56
Drywall / Lather	25,107	26,837	21,101	17,980	13,976	105,002	53
Painting - Decoration	22,532	25,221	21,316	19,097	14,728	102,895	51
Roofers	19,654	22,141	18,874	17,068	13,153	90,891	45
Teamster	18,863	21,742	19,308	17,252	13,237	90,403	45
Sheet Metal	15,560	17,264	14,522	12,485	9,630	69,461	35
Pile Driver	11,837	13,698	12,226	10,978	8,420	57,158	29
Inspector/Tester	5,881	6,891	6,363	5,394	4,118	28,647	14
Carpet, Linoleum - Soft Tile	6,183	6,888	5,745	5,250	4,056	28,122	14
Glazier - Glass Workers	6,193	6,717	5,375	4,769	3,700	26,754	13
Elevator	5,266	6,034	5,377	4,563	3,497	24,736	12
Sheet Metal HVAC	4,864	5,339	4,415	3,762	2,907	21,287	11
Tile Layer/Setter	3,576	3,969	3,285	3,011	2,328	16,169	8
Plasterers	3,595	3,773	2,817	2,536	1,983	14,704	7
Drywall Finishing (Taping)	2,611	2,949	2,590	2,115	1,622	11,887	6
Sound / Communication	2,746	2,910	2,214	2,006	1,565	11,441	6
Bricklayer	2,424	2,576	1,986	1,751	1,364	10,101	5
Asbestos Workers	2,041	2,201	1,742	1,550	1,204	8,738	4
Unknown	1,872	2,003	1,549	1,413	1,100	7,937	4
Fire Sprinkler Fitter	1,987	1,974	1,317	1,132	898	7,307	4
Lineman	1,452	1,685	1,521	1,330	1,019	7,008	4
Surveyor	1,418	1,600	1,353	1,271	981	6,622	3
Boilermaker	1	1	0	0	0	4	0
Total	965,982	1,094,599	946,414	841,743	647,579	4,496,318	2,248

Long-Term Construction Demand in Work Hours by Craft (2025-2030)

Moderate Growth Scenario

Craft	2026	2027	2028	2029	2030	Total	FTE
Laborers	567,354	585,866	604,377	622,889	641,401	3,021,887	1,511
Carpentry	276,531	284,059	291,586	299,114	306,641	1,457,931	729
Electrical - Electronic	203,341	209,155	214,969	220,783	226,597	1,074,846	537
Engineer	157,232	162,497	167,763	173,029	178,295	838,816	419
Drywall / Lather	116,951	120,187	123,423	126,659	129,895	617,115	309
Plumbing	96,278	98,901	101,524	104,147	106,770	507,621	254
Iron - Steel Workers	68,386	70,196	72,005	73,814	75,623	360,024	180
Painting - Decoration	57,431	58,989	60,547	62,105	63,662	302,734	151
Cement Masons	55,464	57,219	58,974	60,729	62,484	294,870	147
Roofers	35,668	36,571	37,473	38,375	39,278	187,365	94
Sheet Metal	30,968	31,715	32,462	33,209	33,955	162,309	81
Teamster	29,914	30,904	31,893	32,882	33,871	159,463	80
Plasterers	28,172	28,981	29,791	30,600	31,409	148,953	74
Sheet Metal HVAC	18,798	19,369	19,941	20,513	21,085	99,706	50
Glazier - Glass Workers	18,357	18,821	19,286	19,750	20,215	96,429	48
Fire Sprinkler Fitter	14,928	15,383	15,837	16,291	16,745	79,184	40
Carpet, Linoleum - Soft Tile	14,202	14,577	14,952	15,327	15,702	74,760	37
Sound / Communication	13,776	14,189	14,601	15,014	15,426	73,006	37
Bricklayer	10,248	10,551	10,855	11,159	11,463	54,277	27
Pile Driver	10,207	10,501	10,796	11,090	11,384	53,978	27
Tile Layer/Setter	9,176	9,414	9,653	9,892	10,131	48,266	24
Elevator	8,064	8,299	8,533	8,768	9,002	42,666	21
Unknown	7,201	7,420	7,639	7,858	8,077	38,196	19
Asbestos Workers	7,203	7,409	7,614	7,820	8,025	38,071	19
Surveyor	4,969	5,149	5,328	5,507	5,687	26,640	13
Drywall Finishing (Taping)	4,573	4,712	4,851	4,990	5,129	24,255	12
Inspector/Tester	2,957	3,072	3,187	3,303	3,418	15,937	8
Lineman	488	499	510	521	531	2,549	1
Boilermaker	12	12	13	13	13	63	0
Total	1,868,850	1,924,617	1,980,383	2,036,150	2,091,917	9,901,917	4,951

Long-Term Construction Demand in Work Hours by Craft (2025-2030)

Slow Growth Scenario

Craft	2026	2027	2028	2029	2030	Total	FTE
Laborers	543,056	560,548	578,040	595,532	613,024	2,890,201	1,445
Carpentry	266,651	273,764	280,876	287,989	295,102	1,404,382	702
Electrical - Electronic	195,709	201,203	206,697	212,191	217,685	1,033,485	517
Engineer	150,320	155,296	160,271	165,247	170,223	801,357	401
Drywall / Lather	112,703	115,761	118,819	121,877	124,934	594,094	297
Plumbing	92,836	95,314	97,792	100,271	102,749	488,962	244
Iron - Steel Workers	66,012	67,721	69,431	71,140	72,850	347,154	174
Painting - Decoration	55,387	56,859	58,331	59,802	61,274	291,653	146
Cement Masons	53,161	54,819	56,477	58,135	59,794	282,386	141
Roofers	34,483	35,336	36,189	37,042	37,895	180,945	90
Sheet Metal	29,988	30,694	31,399	32,105	32,811	156,996	78
Teamster	28,616	29,551	30,485	31,420	32,355	152,427	76
Plasterers	27,110	27,874	28,639	29,404	30,169	143,196	72
Sheet Metal HVAC	18,047	18,587	19,128	19,668	20,208	95,638	48
Glazier - Glass Workers	17,747	18,186	18,625	19,064	19,503	93,126	47
Fire Sprinkler Fitter	14,332	14,761	15,191	15,620	16,049	75,953	38
Carpet, Linoleum - Soft Tile	13,709	14,064	14,418	14,773	15,127	72,091	36
Sound / Communication	13,235	13,625	14,014	14,404	14,794	70,072	35
Bricklayer	9,849	10,136	10,423	10,710	10,997	52,115	26
Pile Driver	9,821	10,099	10,377	10,655	10,933	51,885	26
Tile Layer/Setter	8,862	9,088	9,313	9,539	9,765	46,567	23
Elevator	7,757	7,978	8,200	8,421	8,643	40,999	20
Unknown	6,913	7,120	7,327	7,534	7,742	36,637	18
Asbestos Workers	6,933	7,128	7,322	7,516	7,710	36,609	18
Surveyor	4,734	4,903	5,073	5,242	5,412	25,364	13
Drywall Finishing (Taping)	4,390	4,522	4,653	4,785	4,916	23,266	12
Inspector/Tester	2,805	2,914	3,023	3,132	3,241	15,116	8
Lineman	474	484	494	505	515	2,472	1
Boilermaker	12	12	12	12	13	61	0
Total	1,795,653	1,848,347	1,901,042	1,953,736	2,006,431	9,505,209	4,753

Long-Term Construction Demand in Work Hours by Craft (2025-2030)

Lower Bound Growth Scenario

Craft	2026	2027	2028	2029	2030	Total	FTE
Laborers	447,480	463,951	480,422	496,893	513,364	2,402,109	1,201
Carpentry	227,786	234,483	241,181	247,879	254,577	1,205,906	603
Electrical - Electronic	165,691	170,864	176,037	181,210	186,384	880,185	440
Engineer	123,132	127,818	132,503	137,188	141,874	662,515	331
Drywall / Lather	95,995	98,875	101,754	104,633	107,513	508,770	254
Plumbing	79,294	81,627	83,961	86,295	88,629	419,805	210
Iron - Steel Workers	56,671	58,281	59,890	61,500	63,110	299,452	150
Painting - Decoration	47,344	48,730	50,116	51,502	52,888	250,581	125
Cement Masons	44,100	45,661	47,223	48,784	50,346	236,113	118
Roofers	29,824	30,627	31,430	32,233	33,036	157,149	79
Sheet Metal	26,132	26,797	27,461	28,126	28,790	137,305	69
Teamster	23,509	24,389	25,269	26,150	27,030	126,347	63
Plasterers	22,931	23,651	24,371	25,092	25,812	121,857	61
Glazier - Glass Workers	15,350	15,763	16,176	16,589	17,003	80,880	40
Sheet Metal HVAC	15,094	15,603	16,112	16,621	17,130	80,559	40
Fire Sprinkler Fitter	11,987	12,391	12,796	13,200	13,604	63,978	32
Carpet, Linoleum - Soft Tile	11,772	12,106	12,440	12,774	13,107	62,199	31
Sound / Communication	11,105	11,472	11,839	12,206	12,573	59,196	30
Pile Driver	8,302	8,564	8,826	9,087	9,349	44,128	22
Bricklayer	8,280	8,550	8,820	9,091	9,361	44,102	22
Tile Layer/Setter	7,630	7,842	8,054	8,267	8,479	40,272	20
Elevator	6,546	6,755	6,964	7,172	7,381	34,818	17
Asbestos Workers	5,872	6,055	6,238	6,421	6,604	31,189	16
Unknown	5,782	5,977	6,172	6,367	6,562	30,860	15
Surveyor	3,808	3,967	4,127	4,287	4,446	20,635	10
Drywall Finishing (Taping)	3,672	3,796	3,919	4,043	4,167	19,597	10
Inspector/Tester	2,210	2,312	2,415	2,518	2,620	12,075	6
Lineman	418	428	438	447	457	2,188	1
Boilermaker	10	11	11	11	11	54	0
Total	1,507,727	1,557,346	1,606,965	1,656,585	1,706,204	8,034,826	4,017

6. Proposition 16, Proposition 209, and Paths Forward in Public Construction Employment

By: Julian Gross, Renne Public Law Group

In 1996, after years of Republican positioning of affirmative action as racial wedge issue, California voters adopted Proposition 209, which prohibited public entities' use of race and gender "preferences" in education, employment, and contracting. The new law required termination of numerous diversity and anti-discrimination programs adopted by state and local actors throughout California. Diversity of the University of California student body plummeted, along with graduation rates and future earnings of students in underrepresented groups.[83] Minority- and women-owned businesses lost out on the equivalent of over $1 billion per year in public contracts due to the new law.[84] These impacts continue through the present day.

In June of 2020, the California Legislature placed Proposition 16 on the November 2020 ballot, which if enacted would have repealed Proposition 209. Unfortunately, Proposition 16 was rejected by the voters, 57% to 43%. Supporters of the measure cited a range of factors in the outcome, including the relative delay of the measure's placement on the ballot, the pandemic's limitations on door-to-door campaigning and outreach, and confusing ballot language. Another challenge was deeply divided views on affirmative action among California's Latinx population, surprising some observers.[85] In a harshly ironic observation, Thomas Saenz of the Mexican American Legal Defense and Education Fund noted that educating younger voters about the issue was a challenge due to Prop. 209 itself: "We had to explain what affirmative action is because they have no personal experience of what it is in their lifetime or political consciousness because we haven't had it for a quarter-century."[86]

Where does the failure of Proposition 16 leave us now? Proponents of Proposition 16 are certainly considering whether a stronger, more sustained public education campaign could support a successful repeal of Proposition 209 at a future election. In the meantime, public entities in California continue to face the restrictions of Proposition 209, as well as preexisting federal law regarding race- and gender-conscious action.

Note, however, that ***not all race- and gender-conscious acts by public entities are prohibited by Proposition 209***. Crucial efforts like data gathering and outreach/recruitment requirements are clearly permitted by Proposition 209 and federal law, and in some cases stronger efforts are permissible as well.

Following is a brief overview of the legal framework for race- and gender-conscious action by public entities in California at this juncture, and an explanation of race-conscious efforts that are permissible under both state and federal law.

FEDERAL LAW

The equal protection clause of the United States Constitution imposes limitations on the ability of state and local government entities to take actions that draw classifications based on race or sex. The U.S. Supreme Court subjects race-based classifications by public entities to the highest standard of judicial review: "strict scrutiny." Under this standard, governmental action is

[83] The impact of Proposition 209 and access-oriented UC admissions policies on underrepresented UC applications, enrollment, and long-run student outcomes, Zachary Bleemer, Institutional Research and Academic Planning, UC Office of the President (https://www.ucop.edu/institutional-research-academic-planning/_files/uc-affirmative-action.pdf); Affirmative Action, Mismatch, and Economic Mobility After California's Proposition 209, Zachary Bleemer, Center for Studies in Higher Education 10.20 (August 2020) (https://cshe.berkeley.edu/publications/affirmative-action-mismatch-and-economic-mobility-after-california%E2%80%99s-proposition-209)

[84] The Impact of Proposition 209 on California's MWBEs, Tim Lohrentz, Equal Justice Society (2015) (https://equaljusticesociety.org/wp-content/uploads/2019/10/ejs-impact-prop-209-mwbes.pdf)

[85] https://www.latimes.com/california/story/2020-10-30/proposition-16-affirmative-action-california-latinos.

[86] https://www.latimes.com/california/story/2020-11-04/election-2020-california-proposition-16-fails-affirmative-action-analysis.

permissible only if it is "narrowly tailored" to serve a "compelling state interest," and if it uses the "least restrictive means" to advance that interest. The corresponding standard for court review of gender-based classifications is "intermediate scrutiny," meaning that such actions are permissible only if the action furthers an "important governmental interest." Race-based or gender-based classifications that do not meet these standards may be struck down by the courts as unconstitutional.

Federal courts developed these standards in a series of cases reviewing government action that discriminated against women or people of color, including famous cases such as ***Brown v. Board of Education*** (1954) (prohibiting racial segregation in public schools), ***Loving v. Virginia*** (1967) (striking down restrictions on interracial marriage), and ***Craig v. Boren*** (1976) (striking down Oklahoma's law that imposed different age limits for women and men to purchase beer) – as well as infamous cases like ***Korematsu v. United States*** (1944) (upholding forced internment of Japanese Americans during World War II). These standards have been refined and applied in dozens of cases over decades.

AFFIRMATIVE ACTION

While these standards were developed to protect individuals against race and gender discrimination, conservative justices on the U.S. Supreme Court have chosen to apply these standards to affirmative action programs aimed at redressing the effects of societal discrimination and enhancing diversity. In a series of cases from the 1970s on, the Supreme Court has applied the equal protection clause in reviewing several affirmative action efforts in these areas. Leading decisions regarding diversity in higher education include ***Grutter v.*** Bollinger (2003) (allowing narrowly tailored use of race in admissions decisions) and Fisher ***v. U. of Texas*** (2016) (upholding the University of Texas' undergraduate admissions policy). With regard to affirmative action programs in procurement, key Supreme Court cases include ***City of Richmond v. Croson*** (1989) (striking down a local MBE program) and ***Adarand Constructors*** v. Peña (1995) (applying strict scrutiny to use of race in federal procurement programs).

Given the recent changes in personnel on the Supreme Court, the limited permissibility of affirmative action programs established by these cases may be narrowed even further in future decisions. While there are numerous federal court cases reviewing affirmative action programs in contracting and education, there are comparatively few regarding affirmative action programs in employment – probably because affirmative action in the employment context is less common than programs in procurement and college admissions. Affirmative action in employment is more often established by courts as a remedy for proven discrimination by public or private entities – generally proven through class action litigation.

PUBLIC CONSTRUCTION AND SUBSIDIZATION OF PRIVATE DISCRIMINATION

It is important to remember that while legal standards related to affirmative action are high-profile and controversial, the duty of government actors to avoid and prevent discrimination in their operations is basic and well-established. In the public construction setting, government is ***prohibited from knowingly subsidizing discrimination by private actors***. The U.S. Supreme Court has held:

> [I]f the city could show that it had essentially become a "passive participant" in a system of racial exclusion practiced by elements of the local construction industry, we think it clear that the city could take affirmative steps to dismantle such a system. It is beyond dispute that any public entity, state or federal, has a compelling interest in assuring that public dollars, drawn from the tax contributions of all citizens, do not serve to finance the evil of private prejudice.[87]

This legal duty, imposed by federal law on state and local government actors, supports – and in some cases ***requires*** – proactive action to identify and prevent discrimination in contracting and employment on public projects, as discussed below.

[87] City of Richmond v. Croson, 488 U.S. at 492-493.

PERMISSIBLE ACTIONS IN CONSTRUCTION EMPLOYMENT, UNDER PROPOSITION 209

Proposition 209's clear language and intent prohibits most traditional affirmative action programs in such as those that had been established by many California public entities to promote utilization of minority- and woman-owned businesses in public construction. The California Supreme Court's ruling in ***Hi-Voltage Wire Works. v. City of San Jose*** (2000), striking down San Jose's typical program, made this clear.

However, numerous cases, and background federal law, make clear that even under a Proposition 209 regime, there are still many actions that local government is either permitted or required to take in order to prevent discrimination in employment in public construction.

Data Gathering and Focused Investigation.

Data gathering is perhaps the most fundamental and important tool in any anti-discrimination approach. As this report has shown, due to the sheer number of participating entities on even a single large public construction project, gathering accurate data on race and gender is challenging – and more so, if one wants to collect data on residency, disadvantaged status, and other criteria as well. Proponents of Proposition 209 argued that even ***collection*** of race and gender data violated the new law, but this view was soon rejected in court.[88]

Only a small minority of public entities in California routinely require construction contractors to report the race and gender demographics of their workforces. (The City of Oakland is a notable, and laudable, exception.) Without such data, public entities cannot identify either patterns or isolated instances of race and gender discrimination – much less take action to rectify such discrimination. Public entities can require that contractors provide such information as a matter of course, and, in cases where data indicates the underutilization of workers by race or gender as compared to expected numbers, can undertake additional factual investigation.

A well-designed program like this would present no legal concerns under Proposition 209, since it would not involve a "preference" for any category of worker. On the contrary, an effort to enhance data gathering and bring focused investigations would fulfill public entities' duties to avoid subsidizing private discrimination in its operations.

AFFIRMATIVE ACTION REQUIRED ON FEDERALLY-FUNDED PROJECTS

For any project that is funded in whole or in part with federal funds:

- All contractors are required by federal law to avoid employment discrimination and to take affirmative action to employ women and people of color, in an effort to satisfy specified percentage goals;
- Public entities receiving the funds are required to include affirmative action percentage goals and reporting requirements in all contracts.

These requirements were established by U.S. Executive Order no. 11246, and are implemented by the Office of Federal Contract Compliance Programs (OFCCP), within the U.S. Department of Labor. The OFCCP has released detailed requirements for operation of this program in the construction sector.[89]

Goals for percentage of hours to be worked by women and people of color are not quotas or requirements, but are instead set forth as targets or desired minimums that should be achieved with good faith execution of the required affirmative action steps. The goals are calculated separately for each trade employed by the contractor or subcontractor.

The affirmative action goal for hiring of women is established at 6.9%, with that percentage applicable throughout the country. For people of color, the hiring goal for Alameda, San Francisco,

[88] *See Connerly v. State Personnel Board*, 92 Cal. App. 4th 16, 53 (tracking and reporting data regarding participation of women and minorities does not violate Proposition 209).

[89] See Department of Labor, Office of Federal Contract Compliance Programs, Construction Contractors' Technical Assistance Guide (updated October 2019).

Contra Costa, Marin, and San Mateo counties is only 25.6%. These percentages are set forth in the OFCCP's Technical Assistance Manual, and are based on 1970 census data.

While these numbers – particularly the 25.6% figure – are outdated and low in the aggregate, note that many contractors will have trouble satisfying the required percentage for hours worked by women – and some may have trouble satisfying the percentage for people of color.

Enforcement of the requirements of Executive Order 11246 has been spotty at best, with the only sustained efforts being on certain projects designated "Mega Construction Projects" by the OFCCP. However, it remains the law, and it clearly requires public entities to scrutinize hiring practices and outcomes of contractors on federally-funded projects like major local transportation and infrastructure projects.

Proposition 209 poses no barrier to California public entities' implementation of requirements of Executive Order 11246 on federally-funded projects. Federal law generally prevails over state law, and Proposition 209 itself contains an exception for requirements imposed by funding sources.[90]

"INCLUSIVE OUTREACH" REQUIREMENTS

Under California courts' interpretations of Proposition 209, explicit requirements aimed at a full range of demographic groups are permissible. While a requirement that prime contractors make specified outreach efforts ***only*** to MBEs and WBEs was struck down, the California Supreme Court made clear that a fully inclusive set of outreach requirements would be permissible.[91] Many California public entities have therefore set up subcontracting outreach programs requiring bidders to document outreach efforts to MBEs, WBEs, and "OBEs," or Other Business Enterprises.[92] In fact, the East Bay Municipal Utility District (EBMUD) has for many years successfully operated a classic goals/good-faith-efforts subcontracting inclusion program, scrutinizing bidders' utilization of businesses owned by various demographic groups, including white men.[93]

These contracting outreach programs demonstrate the range of ambitious, race- and gender-conscious outreach programs that can still be implemented during the Prop. 209 era. "Outreach" programs aimed at ensuring equal opportunity and diversity in workforce is a less-developed field, but one that public entities in California can still explore.

In addition to the above approaches, Proposition 209 of course has no effect on race and gender-neutral programs, such as local and disadvantaged hiring requirements as discussed in this report. With the unfortunate failure of Proposition 16, California will live under Proposition 209 for longer. While organizers, educators, and our many communities consider when and whether another effort to repeal Proposition 209 would be appropriate, the work of governance and equity continues.

This review of current law and approaches under Prop. 209 indicates that there is still plenty of room for creative and effective policy development for public entities that wish to prevent race and gender discrimination, and ensure diversity and equal opportunity in employment on public construction projects. In particular, a combination of enhanced data gathering, focused antidiscrimination investigations, inclusive outreach requirement, and local/disadvantaged hiring requirements seems promising. Local governments in California have made an admirable effort to work within the restrictions of Proposition 209 to date, and that work can continue and improve, with expert innovation, shared knowledge, and sustained commitment from government and stakeholders.

[90] See Prop. 209, subsection (e).

[91] See *Hi-Voltage v. San Jose*, 24 Cal. 4th at 565.

[92] *See, e.g.*, the City of Los Angeles' Business Inclusion Program, https://bca.lacity.org/BIS-frequently-asked-questions.

[93] https://www.ebmud.com/business-center/contract-equity-program/key-components/

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