

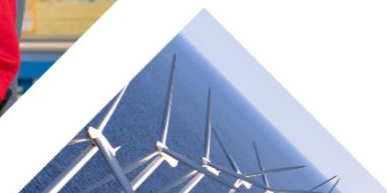


Building a Community-Led,  
Climate-Forward Economy

# REGIONAL PLAN PART 2

BAY AREA JOBS FIRST  
COLLABORATIVE

DECEMBER 2024



## Table of Contents

Executive Summary .....	8
I. Introduction .....	12
OVERVIEW AND BACKGROUND .....	12
OUTREACH AND COMMUNITY ENGAGEMENT PLAN AND SUMMARY .....	15
HOW THIS REPORT IS ORGANIZED .....	17
II. Bay Area Jobs First Policy Framework.....	18
III. Setting the Context .....	22
THE BAY AREA ECONOMY .....	22
HISTORICALLY DISADVANTAGED COMMUNITIES AND POPULATIONS.....	28
IV. Process for Identifying and Prioritizing Target Sectors and Industries and Cross-Cutting Strategies.....	33
V. Target Sectors and Strategies .....	34
ARTS AND CULTURE .....	34
CHILD CARE AND EARLY CHILDHOOD EDUCATION .....	47
CONSTRUCTION.....	60
HEALTHCARE .....	76
MANUFACTURING .....	90
SUSTAINABLE ENVIRONMENTAL MANAGEMENT.....	105
VI. Overview of Tradable Sub-Sectors.....	118
SEMICONDUCTORS AND COMPUTER MANUFACTURING .....	119
ADVANCED MANUFACTURING AND ROBOTICS.....	121
BIOTECHNOLOGY .....	123
TRANSPORTATION ELECTRIFICATION .....	124
BATTERY STORAGE AND OTHER RENEWABLE ENERGY TECHNOLOGIES .....	127
AEROSPACE AND SPACE MANUFACTURING .....	131
SUSTAINABLE AGRICULTURE AND VITICULTURE .....	134
TOURISM AND HOSPITALITY .....	136
ARTIFICIAL INTELLIGENCE .....	138
ALTERNATIVE FUEL PRODUCTION .....	141
VII. Foundational Economic Strategies .....	145
VII. Alignment With State Policies And Priorities.....	178

## Terms and Acronyms

AB 816	Worker Cooperative Act
AB 1482	Climate Adaptation Strategy
AB 1672	IHSS Employer-Employee Act
ABAG	Association of Bay Area Governments
APEN	Asian Pacific Environmental Network
BAAQMD	Bay Area Air Quality Management District
BACCC	Bay Area Community College Consortium
BAHFA	Bay Area Housing Finance Authority
BAGJPE	Bay Area Good Jobs Partnership for Equity
BAJFC	Bay Area Jobs First Collaborative
BARC	Bay Area Regional Collaborative
BART	Bay Area Rapid Transit (system)
BCDC	San Francisco Bay Conservation and Development Commission
BIL	Bipartisan Infrastructure Law
BIPOC	Black, Indigenous, People of Color
CAD	Computer-Aided Design
CalAIM	California Advancing and Innovating Medi-Cal
CalHHS	California Health and Human Services Agency
CAI	California Apprenticeship Initiative
CAM	Computer-Aided Manufacturing
CARB	California Air Resources Board
CBP	Community Benefit Plan
CCA	Center for Caregiver Advancement
CCECE	Child Care and Early Childhood Education
CCPU	Child Care Providers United
CDP	Child Development Permit
CDSS	California Department of Social Services
CDFI	Community Development Financial Institution
CEDS	Comprehensive Economic Development Strategy
CHIPS Act	Creating Helpful Incentives to Produce Semiconductors Act
CHW/P/Rs	Community Health Workers, Promotoras, and Representatives
CJF	California Jobs First Program (formerly Community Economic Resilience Fund [CERF])
CNA	Certified Nursing Assistant
CPUC	California Public Utilities Commission
CSCCE	Center for the Study of Child Care Employment
CTA	County Transportation Agency
CTE	Career Technical Education
CWDB	California Workforce Development Board
CYBHI	Children and Youth Behavioral Health Initiative
DBE	Disadvantaged Business Enterprise (program)
DEI	Diversity, Equity, and Inclusion
DOE	(U.S.) Department of Energy
DOL	(U.S.) Department of Labor
EBI	Evidence-Based Intervention
EBPRD	East Bay Regional Park District
ECE	Early Childhood Education
EDD	(Bay Area) Economic Development District
EEO	Equal Employment Opportunity

EfA	English for Advancement
ESL	English as a Second Language
ESOL	English for Speakers of Other Languages
ESOP	Employee Stock Ownership Program
ETP	Employment Training Panel (program)
EV	Electric Vehicle
FCCH	Family Child Care Home
FFN	Family, Friends, and Neighbors (providers)
GHG	Greenhouse Gas (emissions)
HCAI	Healthcare Access and Information
High-Road Jobs	Jobs that offer a living wage, health insurance, full-time, and full-year employment <sup>1</sup>
HPI	Healthy Places Index
HRCC	High Road Construction Career
H RTP	High Road Training Partnership
HST	Health System Technology
HVAC	Heating, Ventilation, and Air Conditioning
IHSS	In-Home Supportive Services
IJA	Infrastructure Investment and Jobs Act
IRA	Inflation Reduction Act
JAC	Joint Apprenticeship Committee
LAA	Local Arts Agency
LEED	Leadership in Energy and Environmental Design
LIUNA	Laborers International Union North America
LTSS	Long-Term Services and Supports
LW-FHI	Living Wage, Full-Time, and Full-Year with Health Insurance
MSA	Metropolitan Statistical Area
MTC	Metropolitan Transportation Commission
NBS	Nature-Based Solutions
NEA	National Endowment for the Arts
NGO	Nongovernmental Organization
Nine counties	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma
OJT	On the Job (training)
PFS	Pay for Success (contract)
PLA	Project Labor Agreement
PPA	Priority Production Area
PPIC	Public Policy Institute of California
Proposition 1	Behavioral Health and Infrastructure Bond (California)
Proposition 28	Art and Music K-12 Education Funding Initiative (California)
Proposition C	Early Care and Education for All Initiative (San Francisco)
R&D	Research and Development
RFP	Request for Proposal
RHNA	Regional Housing Needs Allocation
RPCE	Research, Planning and Community Engagement (Committee)
RRT	Regions Rise Together
RSI	Regular Substantive Interaction (curriculum)
SB 1	Road Repair and Accountability Act
SB 234	Child Care Family Home Expansion

<sup>1</sup> These criteria serve as a floor for high-road jobs. The definition should be continuously refined based on the available data.

SB 525	Health Care Minimum Wage
SB 535	Disadvantaged Communities
SB 973	Pay Data Reporting
SBDC	Small Business Development Center
SEIU	Service Employees International Union
SF OEWD	San Francisco Office of Economic and Workforce Development
SFEP	San Francisco Estuary Partnership
SFPUC	San Francisco Public Utilities Commission
SMB	Small and Midsize Business
SNAP	Semiconductor and Nanotechnology Pioneers (apprenticeship model)
TK	Transitional Kindergarten
UCSF	University of California, San Francisco
USFWS	U.S. Fish and Wildlife Service
WCA	Worker Co-op Academy
WPCS	Waiver Personal Care Service

# Acknowledgements

Program funding was generously provided through the California Jobs First (CJF) program, led by the Governor’s Office of Business and Economic Development, the Governor’s Office of Planning and Research, and the Labor and Workforce Development Agency.

## BAJFC Steering Committee

Aaron Burnett, Canal Alliance, Marin County  
Amber Twitchell, On the Move, Napa/Sonoma Counties  
Andreas Cluver, Building Trades Council of Alameda, Alameda County  
Anita Kumar, Bay Area Regional Health Inequities Initiative, Bay Area  
Brad Paul, Association of Bay Area Governments/Metropolitan Transportation Commission, Bay Area  
Enrique Lopezlira, UC Berkeley Labor Center, Alameda County  
Carolina Martinez, California Association for Micro Enterprise Opportunity, Bay Area  
Chris Rico, Solano Economic Development Corporation, Solano County  
Christa Brown, San Francisco Foundation, San Francisco County  
Claire Lau, Chinese Progressive Association, San Francisco County  
Jeff Bellisario, Bay Area Council Economic Institute, Bay Area  
Kim Tavaglione, San Francisco Labor Council, San Francisco County  
Kit O’Doherty, Bay Area Community College Consortium, Bay Area  
Ky Le, County of Santa Clara, Santa Clara County  
Louise Auerhahn, Working Partnerships USA, Santa Clara County  
Paul Fong, CA Federation of Teachers, Sonoma/San Mateo Counties  
Stephanie Reynolds, Indian Health Center, Santa Clara County  
Tamia Brown, Contra Costa Workforce Development Board, Contra Costa County  
Tamisha Walker, Safe Return Project, Contra Costa County  
Zoe Siegel, Greenbelt Alliance, Bay Area

## Fiscal Agent:

Bay Area Good Jobs Partnership for Equity

## Consultant Team:

Teilachanell Angel, Walker Angel Enterprise for Equitable Work  
Lea Grundy, GroundWorks Campaigns  
Anne McMonigle  
Vikrant Sood, BAM Consulting Inc.  
Egon Terplan, BAM Consulting Inc.  
Nichole Trujillo Rice, Trujillo-Rice Consulting  
Ryan Fukumori, PolicyLink

## Regional Convener:

All Home

Anna Tonelli, Program Manager

Diana Orozco, Director of Housing and Economic Strategy

Jay Banfield, Chief Economic Mobility Officer

Laura Maldonado, Economic Mobility Project Manager

Veronica Marquez, Communications Manager



# Executive Summary

The Bay Area Jobs First Collaborative (BAJFC) Regional Plan Part II outlines target sectors and strategies for the Bay Area Region to guide a new approach to economic development and growth that prioritizes and intersectionalizes equity, job quality, climate resiliency, and community voice. Building on the Regional Plan Part 1, the baseline assessment of the Bay Area, this report examines a number of key economic sectors and foundational strategies, including assets, challenges and opportunities for growth and investment.

## Disinvested and Historically Marginalized Communities

The BAJFC Sub-Regional Tables identified populations that would benefit most from this work. Broadly, these populations include workers from communities affected by systemic racism; those who live in racially segregated, disinvested, or underserved neighborhoods; and those from underrepresented ethnic or racial groups. Strategies that benefit these workers will ultimately benefit their families and communities, and lead to a stronger and more equitable regional economy. This is further described in Section III, Setting the Context.

## Target Sectors and Industries

The Bay Area Jobs First Collaborative (BAJFC) identified as areas of focus the following six target sectors and industries, as well as four economic foundational sectors cross-cutting, sector-neutral strategies. These focus areas do not comprehensively define the regional economy but rather represent sectors where the BAJFC has identified critical challenges and associated opportunities, while prioritizing its efforts in developing worker-focused and community-driven innovative strategies that could lead to structural change and improved job quality, equity, economic diversification, and climate resilience. These sectors and industries and cross-cutting, sector-neutral strategies are discussed in detail in Sections V and VII of this report.

The six target sectors and industries are as follows:

1. **Arts and Culture:** As a vibrant cultural landscape for the enjoyment and enrichment of communities across the Bay Area, the arts and culture sector plays an important role in the Bay Area's economic landscape, providing employment in many types of organizations large and small and supporting independent artists and performers. Moreover, this sector contributes to economic growth, diversification, and resilience in the Bay Area through its connections with related industries such as tourism, design, advertising, and digital media.
2. **Child Care and Early Childhood Education:** The child care and early childhood education sector is both an important employment sector for a workforce that is dominated by women, especially women of color, and a critical cross-cutting economic foundation that is essential for a thriving economy and a productive workforce for all other sectors. Despite the tremendous importance of this sector both in supporting the development and well-being of children and making it possible for working parents to do their jobs, this sector suffers from chronic underinvestment.
3. **Construction:** The construction sector is one of the largest providers of quality jobs in the Bay Area, with the potential to provide high-road, family-sustaining employment as well as pathways



to these kinds of jobs, including for workers from historically disadvantaged communities. This sector is also fundamental to the region's climate resilience efforts by building, upgrading, and maintaining infrastructure for clean energy production, electrification, and other climate resilience strategies.

4. **Healthcare:** The healthcare sector in the Bay Area is a crucial part of the region's infrastructure, addressing the health needs and support services of a diverse, growing, and aging population. The healthcare and social services sector employs the most workers of any sector within the region. This is an employment growth sector for the Bay Area, but also one characterized by high turnover, workforce shortages, and low retention rates. Strategic investments in this sector could help to improve both the Bay Area health delivery landscape and employment opportunities for this workforce.
5. **Manufacturing:** The manufacturing sector plays a pivotal role in the Bay Area economy, supporting job growth, driving innovation, and maintaining the region's position as a global leader in manufacturing excellence. While employment in this sector is characterized by a division between blue- and white-collar jobs, strategies that move toward high-road manufacturing can offer sustainable employment opportunities for historically marginalized workers.
6. **Sustainable Environmental Management:** The sustainable environmental management sector is crucial to the Bay Area's work toward building climate resilience. It also offers opportunities both for high-road job creation in emerging environmental professions and for improving wages and working conditions for workers in existing professions such as farmworkers. Investments in this sector also can contribute to restorative and environmental justice for historically marginalized communities that have been most impacted by pollution and environmental degradation in the region.

The six target sectors identified in the BAJFC planning process account for about 1.1 million total jobs. These target sectors represent nearly a quarter of the region's total workforce. They have been identified through a broad and deep stakeholder process as critical sectors to serve our communities, diversify local economies, and uplift and expand job quality, equity, and opportunities for workers. From 2012 to 2022, the six target sectors together grew 8.6%, compared to 17%+ growth for the rest of the economy, indicating the need for additional investment to meet community needs and realize these sectors' full potential. Strategic investment in these sectors can support sustainable business growth to meet critical needs for underrepresented communities in the areas of healthcare, child care, cultural communities, and constructing housing and infrastructure. These investments also can help diversify our sub-regional economies to build a clean manufacturing base and shift to sustainable agriculture and environmental jobs. By focusing on these six sectors, the BAJFC is positioned to help shape the future growth of our region's diverse economies around the values of equity, high-road employment, and climate resilience through an inclusive, ground-up approach to economic development that puts workers and job quality at its center.

### Overview of Tradable Sub-Sectors

The BAJFC centered worker and community voice in the development of the above priority sectors, which are discussed at length in this regional plan. This process included extensive stakeholder engagement, which led to the identification of target sectors, strategies and economic foundational sectors. However, subsequent to that process and in response to feedback from the State of California,

the initial report was broadened to create a more comprehensive economic development plan, through the addition of Section VI, Overview of Tradable Sub-Sectors. This section includes overviews of 10 tradable sub-sectors, relevant market factors, and employment growth opportunities and challenges. The additional analyses of tradable sub-sectors did not go through the same extensive community and stakeholder engagement process, which resulted in the prioritization of the target sectors and foundational economic sectors discussed in the rest of this report.

The additional tradable sub-sectors covered in Section VI in which the Bay Area is likely to exhibit competitive advantage for future job production include:

1. Semiconductor and Computer Manufacturing
2. Advanced Manufacturing and Robotics
3. Biotechnology
4. Transportation Electrification
5. Battery Storage and Other Renewable Energy Technologies
6. Aerospace and Space Manufacturing
7. Sustainable Agriculture and Viticulture
8. Tourism and Hospitality
9. Artificial Intelligence
10. Alternative Fuel Production

### Cross-Cutting Economic Foundation Strategies

The four cross-cutting, sector-neutral, economic foundational strategies, are described in Section VII of this report as follows:

1. **Removing Institutional and Structural Barriers:** Eliminating institutional and structural barriers to employment requires addressing systemic inequities and discriminatory practices that hinder job opportunities and generational wealth creation for historically marginalized and immigrant communities. This encompasses a broad and comprehensive approach to addressing equitable hiring practices, providing diversity and inclusion training, eliminating bias in recruitment and promotion processes, providing access to affordable child care and transportation, offering vocational training and educational programs, and implementing policies that promote fair wages and working conditions. It also involves advocating for legislation and policies that dismantle systemic barriers based on race/ethnicity, gender, disability, socioeconomic status, and other factors, ensuring equal access to employment opportunities for all individuals.
2. **Small Businesses and Worker Cooperatives:** Lower-wage workers often have limited access to quality jobs in the formal economy. Undocumented individuals, those facing language barriers, BIPOC individuals (especially women of color), and members of the reentry population are often excluded from these opportunities. Supporting workers in forming their own businesses offers an alternative pathway to higher wages and financial independence. By empowering individuals and communities, addressing local needs, and preventing geographic displacement, small local businesses and worker co-ops support inclusive and equitable economic development.
3. **Government:** The government plays a crucial role in the region's economic activity by providing public amenities and services, building and maintaining infrastructure, ensuring public safety, regulating essential services, investing in the future, implementing monetary and fiscal policies, advancing spatial equity, and protecting civil rights. Government is also responsible for

reflecting public interest in local and state laws, defending the public good, and ensuring equal opportunities for all regardless of race/ethnicity, age, religion, physical ability, gender identity, sexual orientation, language, or country of origin. In addition, the public sector provides employment opportunities. Government employment is one of the few family-sustaining career pathways that are more accessible to marginalized communities.

4. ***Sustaining the Collaborative:*** To ensure continuity and to maintain momentum toward implementation, the BAJFC may consider developing a plan to sustain the effort in some manner into the future.

# I. Introduction

## OVERVIEW AND BACKGROUND

In 2021, Governor Gavin Newsom launched the \$600 million Regional Investment Initiative (formerly the Community Economic Resilience Fund, or CERF) to create high-quality, accessible jobs and help build resilience in the face of the effects of climate change and other global disruptions impacting the state's diverse regional economies. The Regional Investment Initiative is the “signature program” within the larger California Jobs First initiative, which was created to “align investments and maximize benefits across state agencies and departments” to realize the Newsom administration’s vision of a state economy characterized by high-road, family-sustaining jobs and resilience in the face of climate change.<sup>2</sup> Each of the state’s 13 economic regions has a regional Jobs First Collaborative funded through the Regional Investment Initiative, supported by a broad coalition of community partners, including labor, business, local government, education, environmental justice groups, representatives of historically marginalized populations, Indigenous and tribal partners, and community-based organizations. The California Jobs First initiative embodies a deliberate and inclusive strategy for economic and workforce development. By leveraging state resources and investments, it empowers communities to shape their own futures in a participatory and equitable manner through a regional economic development planning process. The Bay Area region, including the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, has intentionally centered workers and people from historically marginalized communities in a regional planning process grounded in the concepts of regenerative economic practices,<sup>3</sup> economic diversification of sectors and industries across the region, and the lived experiences and emerging priorities of the participating communities.

As part of the Regional Investment Initiative planning phase, each collaborative is responsible for developing an inclusive regional economic plan. For the Bay Area, this planning has been guided by the principles of the Bay Area Jobs First Collaborative (BAJFC) and elements of a high-road strategy<sup>4</sup> including prioritizing improved job quality and access, and meeting the skill and profitability needs of employers as well as the economic, social, and environmental needs of the community. The plan development process was divided into two phases, producing a two-part regional plan. Regional Plan Part 1 was completed in December 2023 and offered a baseline assessment of economic, environmental, and health conditions in the Bay Area. It also included mapping of stakeholder organizations and communities from across the region, identifying a “wide spectrum” of community, labor, local government, business, and other organizations that were already involved in the regional planning process or whose voices would be important to engage meaningfully in an inclusive process.<sup>5</sup>

---

<sup>2</sup> California Jobs First & Bay Area Jobs First Collaborative. (2024). *Bay Area Jobs First Collaborative*. [Slide Show]. Slides 4–5. <https://www.allhomeca.org/wp-content/uploads/2024/03/March-26-Bay-Area-Stakeholder-Meeting-Slides.pdf>

<sup>3</sup> For an explanation of regenerative economic practices, see *Regenerative Development: The Art and Science of Creating Durably Vibrant Human Networks* by Dr. Sally Goerner. <https://capitalinstitute.org/wp-content/uploads/2015/05/000-Regenerative-Devel-Final-Goerner-Sept-1-2015.pdf>

<sup>4</sup> LegiScan. (2021). *California Senate Bill 162: Community Economic Resilience Fund Program*. <https://legiscan.com/CA/text/SB162/id/2434215>

<sup>5</sup> Bay Area Jobs First Collaborative. (2023, December). *California Jobs First: Regional Plan Part 1*. p. 19. <https://drive.google.com/file/d/1GvKBODn5cN7wOBXGSbG0dfIZdVvSbbCR/view>

Regional Plan Part 1 acknowledges that a deep understanding of the region’s current state is crucial for developing effective strategies to transition to a sustainable economy with high-quality employment opportunities. It also presents a dual perspective of challenges and opportunities in the Bay Area, emphasizing the need to address long-standing systemic disparities while showcasing the region’s economic resilience. It underscores the significance of collaborative efforts to leverage regional strengths and reduce vulnerabilities in order to create high-quality employment opportunities and achieve an equitable and sustainable economic future for the Bay Area.

Drawing from some of the information provided in Regional Plan Part 1, Regional Plan Part 2 seeks to develop and establish a forward-looking holistic economic development and transition road map with strategies that prioritize the creation and retention of high-quality/high-road jobs, make long-term structural improvements in and provide equitable access to jobs and resources, and emphasize developing sustainable and resilient economies and industries. In addition, it focuses on ensuring that the combined set of strategies collectively benefit the different populations and geographies in the region and lead to transformational change for those who have been historically and systematically discriminated against. Moreover, an important theme in the ongoing dialogue of the BAJFC has been the need to develop strategies for the transformation of low-road jobs in essential industries to higher-wage, family-sustaining jobs.

In addressing the intertwined challenges of job quality, equity, and climate resilience, an important theme that arose in conversations with stakeholders from the BAJFC was the sense that economic development strategies have traditionally been driven by top-down government policies and labor market demands, often excluding the voices of workers and their advocates. There were many voices in the BAJFC who suggested that a truly comprehensive understanding of the labor market should be grounded in the lived experiences of everyday workers and job seekers, especially those from marginalized communities.

There are three priorities of California Jobs First: job quality, equity, and climate resilience. The BAJFC has added a fourth priority: stakeholder voice.

#### **Stakeholder Voice:**

“In order to help our workers achieve economic mobility and prosperity, we need a worker-centered approach to California’s economy, with investments in wages that will allow families to thrive, paid vocational training, and holistic support to remove systemic barriers.”

— Stephanie Wong, CA Jobs First Project Coordinator, and Claire Lau, Senior Advocacy Manager, Chinese Progressive Association

predictable, safe, and provide a pathway out of poverty and the potential to build generational wealth.<sup>6</sup> In the Bay Area, middle-wage job expansion has lagged, showing only a 22% increase from 1990 to

---

<sup>6</sup> California Workforce Development Board. (n.d.). The California high road: A road map to job quality. [https://cwdb.ca.gov/wp-content/uploads/sites/43/2020/08/OneSheet\\_Job-Quality\\_ACCESSIBLE.pdf?emrc=568f58](https://cwdb.ca.gov/wp-content/uploads/sites/43/2020/08/OneSheet_Job-Quality_ACCESSIBLE.pdf?emrc=568f58)

2021.<sup>7</sup> Barriers such as housing and transportation cost, along with the geographical mismatch between where people live and work, worsen these disparities, leaving many workers, especially women and BIPOC people, in essential roles with inadequate pay. Establishing equitable, high-road job pathways across the region can greatly enhance workers' lives and foster resilient, thriving communities, leading to a more equitable economy in the Bay Area.<sup>8</sup>

**Equity:** Social justice movements such as Black Lives Matter and the economic and social ramifications of the global pandemic have brought to light the deep-rooted systemic racism and inequities that continue to shape our society. Essential workers, who are predominantly BIPOC, immigrants, and women, have been crucial during these crises yet are often underpaid, overworked, and subjected to poor working conditions and insufficient workplace protections. This reality calls for economic and workforce development strategies that center racial justice and equity.

**Climate Resilience:** Meanwhile, climate catastrophes have become more frequent, further stressing vulnerable communities. In the Bay Area, climate change–related extreme heat events, floods, and wildfires challenge the whole region but disproportionately impact marginalized and low-income groups that have fewer resources to prepare for and recover from these kinds of events. For example, in a 2022 extreme heat event, temperatures in Santa Rosa broke 115°F, placing extreme stress on the area's lower-income agricultural workers whose profession requires them to work outdoors. Events such as these highlight the urgent need for climate action that prioritizes these communities and addresses existing inequalities.<sup>9</sup>

To foster equitable economic growth in light of these areas of challenge, many local communities are developing strategies to create good jobs and new businesses that will promote equity by ensuring that historically marginalized communities can fully participate as workers, consumers, entrepreneurs, and leaders and thrive even amid climate change. For example, promoting a manufacturing renaissance can revitalize local economies, providing high-quality jobs that support families and communities. Investments in energy sufficiency can create sustainable careers while addressing environmental concerns. The healthcare and child care sectors also present significant opportunities for career growth and stability, which are crucial for supporting working families and ensuring community well-being. Furthermore, nature resilience jobs, focused on conservation and climate adaptation, can protect the regional environment and create pathways to meaningful employment.

The BAJFC aims to align regional planning and coordination across the nine counties of the Bay Area, ensuring that all voices are heard and represented. This Bay Area Regional Plan developed by the BAJFC is intended to be an economic and workforce development road map for the Bay Area region as a whole and a “living document” that can suggest a path for fostering a dynamic and resilient economy. This road map is intended to point to strategies and initiatives that can help the Bay Area adapt across geographies and industries to shifting economic landscapes, emerging challenges, and new opportunities. Centering working people as decision-makers, fostering a racially just future, building collective power for working families, and integrating technology to serve people are all strategies that

---

<sup>7</sup> Bay Area Jobs First Collaborative. (2023, December). p. 36.

<sup>8</sup> Bay Area Jobs First Collaborative. (2023, December). pp. 7 & 36

<sup>9</sup> Greenbelt Alliance. (2023). Bay Area resilience hotspots: Leading with nature and investing in people. <https://www.greenbelt.org/hotspots/#hotspots>

are essential for sustainable and inclusive growth. The Bay Area’s regional efforts so far, led by the BAJFC, exemplify how coordinated, inclusive, and adaptive work across a wide variety of communities and interests can set the stage for a thriving economy that benefits all its residents.

As outlined in the Bay Area Regional Plan Part 1, the BAJFC has implemented a governance structure that is representative and inclusive of stakeholders across the region and reflects its commitment to developing a fair and equitable process. As the Bay Area is large and heterogeneous, “regional” entities and strategies often do not include all of the region, resulting in disproportionate representation for some communities over others. The BAJFC governance structure includes a Steering Committee; a Research, Planning, and Community Engagement (RPCE) Committee; and Sub-Regional Tables, all communicating with and coordinated by the BAJFC Regional Convener.

- **BAJFC Steering Committee:** The BAJFC established a 21-member Steering Committee reflective of stakeholder groups across the Bay Area. Steering Committee members can elect an alternate to serve with them in case they are unable to attend. Three Steering Committee members serve as co-chairs for the group, working closely with the Regional Convener.
- **Research, Planning, and Community Engagement (RPCE) Committee:** The RPCE Committee is part of the BAJFC’s governance structure along with the Regional Convener, the fiscal lead, the Steering Committee, and the Sub-Regional Tables. The RPCE Committee focuses on bringing together, developing, and implementing the research, analysis, and community engagement activities undertaken during the Part 1 planning process. Membership of this group includes the Sub-Regional Table Co-Conveners, representatives from organizations contracted to conduct research and analysis or outreach and engagement, and Steering Committee members with expertise or an interest in helping the committee achieve its goals.
- **Sub-Regional Tables:** The BAJFC established a structure of Sub-Regional Tables to ensure community voices are included throughout the Regional Investment Initiative process. Given the geographic size and diversity of the Bay Area region, six Sub-Regional Tables were defined: 1) Alameda, 2) Contra Costa, 3) Marin and Sonoma, 4) Napa and Solano, 5) San Francisco, and 6) San Mateo and Santa Clara. Each Sub-Regional Table is responsible for outreach to and engagement with stakeholders and community members in their sub-region, by establishing a general structure that applies equitable practices such as shared leadership, clear roles and responsibilities for Co-Conveners, and principles for inclusive representation from all groups.

## OUTREACH AND COMMUNITY ENGAGEMENT PLAN AND SUMMARY

The culture and work of the BAJFC planning process for Regional Plan Part 2 has been highly participatory from its inception and characterized by a high degree of stakeholder engagement, particularly from community and labor organizations. In the course of developing Regional Plan Part 2, both the general direction and specific, detailed decisions about the content of Regional Plan Part 2 were driven “from the bottom up” by the interests and concerns of the participants and shaped by the values and lived priorities of their communities. This approach stands in contrast to comparable



economic policy-making processes that are often driven first by a preconceived framework into which the perspectives and needs of the communities in question are required to fit.

Over the months of developing the content in Regional Plan Part 2, there were multiple opportunities for participants from all sub-regions and communities throughout the BAJFC to weigh in at each stage of the planning process. This planning process began with an in-depth participatory process to identify the specific sectors, industries, and cross-cutting economic foundation strategies that would be focused on in the Plan. The initial steps in this process produced a list of dozens of potential sectors, industries, and cross-cutting strategies that the BAJFC ultimately narrowed down to six sectors and four cross-cutting strategies. The next step in the planning process was to identify sub-sectors within those sectors on which the Plan would focus, combining sub-sectors where appropriate. Next, participants worked together to identify specific investment strategies for each sector that would align with the focal sectors and cross-cutting strategies, as well as the concrete work and lived priorities of their communities.

The engagement processes to secure input at these various stages included a variety of activities tailored to the needs and availability of the groupings within the BAJFC to make the process as accessible as possible for all parties. At every stage of the process, there were regular reminders for BAJFC participants about what the process had been so far, current opportunities to engage and take ownership, upcoming options for additional involvement, and explicit explanation of the decision-making process.

The consultant team also reached out to staff at the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) to coordinate the development of Regional Plan Part 2 with the region's Comprehensive Economic Development Strategy (CEDS),<sup>10</sup> which was adopted in January 2018. MTC/ABAG will initiate an update to the strategy later this year, but for all intents and purposes Regional Plan Part 2 is consistent with the 2018 CEDS and subsequent programs such as the Priority Production Area (PPA) program, which provided planning grants to projects in Solano, Contra Costa, and Alameda counties to plan for the reuse of industrial areas as future job centers. Regional Plan Part 2 is also consistent with the 2016 San Francisco Bay Area Goods Movement Plan<sup>11</sup> and Plan Bay Area 2050.<sup>12</sup>

Engagement opportunities were as follows:

- Both in-person and virtual facilitated meetings with the Sub-Regional Tables and their co-conveners.
- Regular drop-in “Office Hours” for anyone from any part of the BAJFC to join the conversation.
- Shared drafts of pieces of the Plan at every stage of development with participants encouraged to collaborate, revise, or affirm the direction of the work in detail in “live” comments in the drafts themselves.
- Regular presentations and facilitated discussions at each stage of the planning process for the various stakeholder groupings including the Regional Plan Part 2 Workgroup, the BAJFC Steering

---

<sup>10</sup> Association of Bay Area Governments. (2024). *Comprehensive Economic Development Strategy for the San Francisco Bay Area*. [https://abag.ca.gov/sites/default/files/complete\\_ceds\\_with\\_all\\_appendices.pdf](https://abag.ca.gov/sites/default/files/complete_ceds_with_all_appendices.pdf)

<sup>11</sup> Metropolitan Transportation Commission. (2024). *San Francisco Bay Area Goods Movement Plan*. <https://mtc.ca.gov/planning/transportation/san-francisco-bay-area-goods-movement-plan>

<sup>12</sup> Metropolitan Transportation Commission. (2024). *Plan Bay Area 2050*. <https://mtc.ca.gov/planning/long-range-planning/plan-bay-area-2050>

Committee, and the broader general stakeholder group convened monthly by the regional convener.

The ongoing and long-term strategy for this Collaborative to continue to work together and maintain connectedness is to be determined in the months to come by the stakeholders themselves.

## HOW THIS REPORT IS ORGANIZED

The content in this report is arranged in the following manner:

- A general policy framework for the Bay Area Regional Plan Part 2—an “at a glance” discussion of the vision, goals, and values of the BAJFC in developing this plan, as well as a brief overview of the sectors, industries, and cross-cutting, sector-neutral strategies described in the Plan.
- A broad overview of the economic context and conditions in the Bay Area including key economic trends and highlights and a discussion of the stakeholders involved.
- In-depth discussions of the six focal sectors and industries, and key sub-sectors, identified by the BAJFC including for each sector a definition and sector profile, opportunities, and challenges inherent in each sector; options for specific investment strategies; and how that sectoral work would align with state and BAJFC priorities.
- Section VI provides additional exploration into tradable sub-sectors, including \sector overviews, market factors and considerations relevant to future employment growth. This section was included at the request of the State of California as an addendum to broaden the report into a more comprehensive economic development plan. It did not go through the extensive community and stakeholder engagement process that helped inform the rest of this report.
- In-depth discussions of the four cross-cutting, sector-neutral, economic foundation strategies identified by the BAJFC, including a definition and profile for each cross-cutting strategy, opportunities and challenges associated with that strategy, options for specific investment strategies, and alignment with state and BAJFC priorities. Moreover, a brief discussion of broad options for sustaining the life of the Collaborative into the future for ongoing shared work.

## II. Bay Area Jobs First Policy Framework

### Vision and Values

The Bay Area Jobs First Collaborative (BAJFC) is committed to centering the needs of workers and historically marginalized communities in the development of a regional economic development plan. The BAJFC values equity, high-road employment, sustainability, and climate resilience and intends for the process and recommendations of Regional Plan Part 2 to be shaped by the voices of these workers and communities themselves.

#### Bay Area Jobs First Collaborative Vision:

To re-envision regional economic development planning, centered around the values of equity, high-road employment, sustainability and climate resilience, and shaped by workers and impacted community members themselves.<sup>13</sup>

#### Stakeholder Voice:

“Too often, economic development policy for our region has been shaped without our communities and working families at the table. We wanted to do something different in developing the Bay Area Regional Plan, so our guiding principle has been to approach this planning process with a ‘bottom-up’ perspective that centers the voices of our communities every step of the way.”

—Keith Brown, Executive Secretary-Treasurer, Alameda Labor Council

#### Guiding Principles

The guiding principles of the Bay Area Jobs First High Road Transition Collaborative<sup>14</sup> include the following:

- Climate resilience led by frontline communities and workers.
- Lifting up job quality, growing high-road jobs, and elevating racial equity and worker voices.
- Honoring local without losing the power of the region.
- Inclusive, democratic, grassroots governance.
- Taking action toward transformational change.

### Target Sectors and Industries

Over the course of its work, BAJFC participants and the BAJFC Steering Committee identified as areas of focus the following six target sectors and industries, as well as four cross-cutting, sector-neutral strategies. The six sectors do not comprehensively define the regional economy but rather represent sectors where the BAJFC has identified some of the critical challenges and associated opportunities as previously referenced in the Outreach and Community Engagement section. For these sectors, the

<sup>13</sup> Community Economic Resilience Fund Bay Area High Road Transition Collaborative (BA-HRTC) Planning Phase Plan. Submitted June 14, 2023. p. 3. [https://www.allhomeca.org/wp-content/uploads/2023/07/BAHRTC\\_Planning\\_Phase\\_Plan\\_6.9.23\\_V2\\_updated.pdf](https://www.allhomeca.org/wp-content/uploads/2023/07/BAHRTC_Planning_Phase_Plan_6.9.23_V2_updated.pdf)

<sup>14</sup> Ibid.

BAJFC has prioritized its efforts in developing worker-focused and community-driven innovative strategies that could lead to structural change and improved job quality, equity, economic diversification, and climate resilience. These sectors and industries and cross-cutting, sector-neutral strategies are discussed in detail in Sections V and VII of this report.

The six **target sectors and industries** are as follows:

1. **Arts and Culture:** As a vibrant cultural landscape for the enjoyment and enrichment of communities across the Bay Area, the arts and culture sector plays an important role in the Bay Area's economic landscape, providing employment in many types of organizations large and small and supporting independent artists and performers. Moreover, this sector contributes to economic growth, diversification, and resilience in the Bay Area through its connections with related industries such as tourism, design, advertising, and digital media.
2. **Child Care and Early Childhood Education:** The child care and early childhood education sector is both an important employment sector for a workforce that is dominated by women, especially women of color, and a critical cross-cutting economic foundation that is essential for a thriving economy and a productive workforce for all other sectors. Despite the tremendous importance of this sector both in supporting the development and well-being of children and making it possible for working parents to do their jobs, this sector suffers from chronic underinvestment.
3. **Construction:** The construction sector is one of the largest providers of quality jobs in the Bay Area, with the potential to provide high-road, family-sustaining employment as well as pathways to these kinds of jobs, including for workers from historically disadvantaged communities. This sector is also fundamental to the region's climate resilience efforts by building, upgrading, and maintaining infrastructure for clean energy production, electrification, and other climate resilience strategies.
4. **Healthcare:** The healthcare sector in the Bay Area is a crucial part of the region's infrastructure, addressing the health needs and support services of a diverse, growing, and aging population. The healthcare and social services sector employs the most workers of any sector within the region.<sup>15</sup> This is an employment growth sector for the Bay Area, but also one characterized by high turnover, workforce shortages, and low retention rates. Strategic investments in this sector could help to improve both the Bay Area health delivery landscape and employment opportunities for this workforce.
5. **Manufacturing:** The manufacturing sector plays a pivotal role in the Bay Area economy, supporting job growth, driving innovation, and maintaining the region's position as a global leader in manufacturing excellence. While employment in this sector is characterized by a division between blue- and white-collar jobs, strategies that move toward high-road manufacturing can offer sustainable employment opportunities for historically marginalized workers.
6. **Sustainable Environmental Management:** The sustainable environmental management sector is crucial to the Bay Area's work toward building climate resilience. It also offers opportunities both for high-road job creation in emerging environmental professions and for improving wages and working conditions for workers in existing professions such as farmworkers. Investments in this sector also can contribute to restorative and environmental justice for historically marginalized communities that have been most impacted by pollution and environmental degradation in the region.

---

<sup>15</sup> Community and Place-Based Data Tool (GIS Planning). (n.d.).

The four cross-cutting, sector-neutral, **economic foundation strategies** are as follows:

1. **Removing Institutional and Structural Barriers:** Eliminating institutional and structural barriers to employment requires addressing systemic inequities and discriminatory practices that hinder job opportunities and generational wealth creation for historically marginalized and immigrant communities. This encompasses a broad and comprehensive approach to addressing equitable hiring practices, providing diversity and inclusion training, eliminating bias in recruitment and promotion processes, providing access to affordable child care and transportation, offering vocational training and educational programs, and implementing policies that promote fair wages and working conditions. It also involves advocating for legislation and policies that dismantle systemic barriers based on race/ethnicity, gender, disability, socioeconomic status, and other factors, ensuring equal access to employment opportunities for all individuals.
2. **Small Businesses and Worker Cooperatives:** Lower-wage workers often have limited access to quality jobs in the formal economy. Undocumented individuals, those facing language barriers, BIPOC individuals (especially women of color), and members of the reentry population are often excluded from these opportunities. Supporting workers in forming their own businesses offers an alternative pathway to higher wages and financial independence. By empowering individuals and communities, addressing local needs, and preventing geographic displacement, small local businesses and worker co-ops support inclusive and equitable economic development.
3. **Government:** The government plays a crucial role in the region's economic activity by providing public amenities and services, building and maintaining infrastructure, ensuring public safety, regulating essential services, investing in the future, implementing monetary and fiscal policies, advancing spatial equity, and protecting civil rights. Government is also responsible for reflecting public interest in local and state laws, defending the public good, and ensuring equal opportunities for all regardless of race/ethnicity, age, religion, physical ability, gender identity, sexual orientation, language, or country of origin. In addition, the public sector provides employment opportunities. Government employment is one of the few family-sustaining career pathways that are more accessible to marginalized communities.
4. **Sustaining the Collaborative:** To ensure continuity and to maintain momentum toward implementation, the BAJFC may consider developing a plan to sustain the effort in some manner into the future.

The six target sectors identified in the BAJFC planning process account for about 1.1 million total jobs. These target sectors represent nearly a quarter of the region's total workforce. They have been identified through a broad and deep stakeholder process as critical sectors to serve our communities, diversify local economies, and uplift and expand job quality, equity, and opportunities for workers. From 2012 to 2022, the six target sectors together grew 8.6%, compared to 17%+ growth for the rest of the economy, indicating the need for additional investment to meet community needs and realize these sectors' full potential. Strategic investment in these sectors additionally can support sustainable business growth to meet critical needs for underrepresented communities in the areas of healthcare, child care, cultural communities, and constructing housing and infrastructure. These investments also can help diversify our sub-regional economies to build a clean manufacturing base and shift to sustainable agriculture and environmental jobs. By focusing on these six sectors, the BAJFC is positioned to help shape the future growth of our region's diverse economies around the values of equity, high-

road employment, and climate resilience through an inclusive, ground-up approach to economic development that puts workers and job quality at its center.<sup>16</sup>

### Disinvested and Historically Marginalized Communities

The BAJFC Sub-Regional Tables identified populations that would benefit most from this work. Broadly, these populations include workers from communities affected by systemic racism; those who live in racially segregated, disinvested, or underserved neighborhoods; and those from underrepresented ethnic or racial groups. Strategies that benefit these workers will ultimately benefit their families and communities. See Section III.B below for further detail.

---

<sup>16</sup> U.S. Census Bureau. (2023). *American Community Survey 5-Year Data (2018–2022)*. [Data set]. U.S. Department of Commerce

### III. Setting the Context

#### THE BAY AREA ECONOMY<sup>17</sup>

The Bay Area, encompassing nine counties surrounding the San Francisco Bay in Northern California, is a vast region of 7.6 million people and 4.2 million jobs. It is a place where cutting-edge innovation and longstanding inequalities coexist, creating a complex landscape for economic and social development.

The Nine-County San Francisco Bay Area



At its core, the Bay Area is an economic powerhouse, with an annual economic output of more than \$1.2 trillion, which is nearly double its output in 2001.<sup>18</sup> The region is globally renowned for its

<sup>17</sup> Information in the Bay Area Economy section is summarized from Regional Plan Part 1. The sources for the data are the U.S. Census; U.S. Bureau of Labor Statistics 2020–2021; U.S. Centers for Disease Control and Prevention; U.S. Housing and Urban Development Department; National Land Cover Database; CalEnviroScreen 3.0 and 4.0; CalAdapt; the California and U.S. Environmental Protection Agencies; the California Departments of Forestry and Fire Prevention and Public Health; the UC Berkeley Voting Database; and the MIT Wage Calculator, among others.

<sup>18</sup> See <https://vitalsigns.mtc.ca.gov/indicators/economic-output>.



technology sector, centered in Silicon Valley, which continues to drive innovation and attract talent from around the world. This economic strength is complemented by a diverse range of industries, including healthcare, education, manufacturing, and a burgeoning green technology sector. However, the region's prosperity is not evenly distributed. The Bay Area grapples with significant income inequality and a housing affordability crisis that disproportionately affects low-income and marginalized communities. Many workers, especially those in service industries, struggle to afford living in the areas where they work, leading to long commutes and displacement.

Demographically, the Bay Area is one of the most diverse regions in the world, with a rich tapestry of cultures and ethnicities. The geographic diversity is both a strength and a challenge, as the region works to ensure equitable opportunities and representation across all communities. The population is also aging, with implications for healthcare, housing, and workforce development. Environmentally, the Bay Area is at the forefront of sustainability efforts. The region is a leader in clean energy initiatives and environmental policies, driven by both public demand and the pressing realities of climate change impacts such as sea-level rise and increased wildfire risks.

The Bay Area's governance is characterized by a network of local, regional, and state entities. This structure allows for targeted local solutions but can also lead to fragmentation in addressing region-wide issues. There is a growing recognition of the need for more coordinated, regional approaches to challenges such as transportation, housing, and economic development. In terms of infrastructure, the region boasts world-class research institutions, a robust public transportation system (though strained by demand), and significant cultural amenities. However, there is an acknowledged need for investment in aging infrastructure and expansion of services to meet the Bay Area's needs.

The workforce landscape is diverse, with high-paying tech jobs coexisting alongside a large service sector and a shrinking middle class. There is an increasing focus on workforce development and creating pathways to high-road jobs, particularly for historically marginalized communities. Despite its challenges, the Bay Area remains a hub of innovation, not only in technology but also in social policy and community development. There is a strong tradition of civic engagement and a willingness to experiment with progressive solutions to urban and regional problems.

## Key Trends

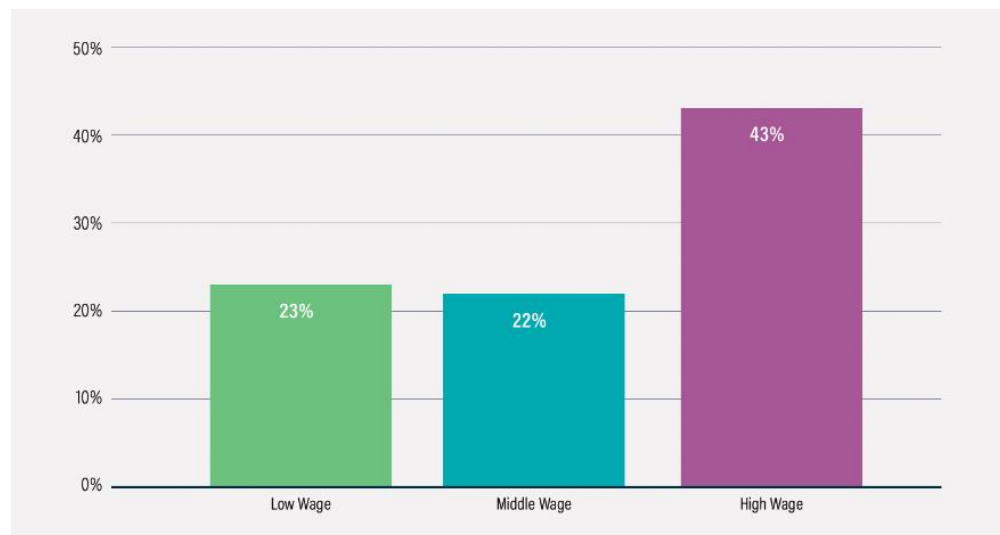
The Bay Area has a robust and diverse economy, but it faces significant challenges in terms of income inequality, occupational segregation, and ensuring that future job growth provides quality employment opportunities across all segments of the population.

**Population and Demographics:** The Bay Area has experienced a 3% population decline since 2020 due to both COVID-related deaths and out-migration. The region's population is also aging, with a median age of 39 years, higher than both the California and U.S. averages. The Bay Area has become more diverse over the past five years, with increases in Asian and Hispanic/Latinx populations, while the share of non-Hispanic/Latinx White residents has decreased across all counties.

**Labor Force and Employment:** The Bay Area has a labor force of 4.2 million people, with three out of four workers employed in white-collar jobs. While the region has largely recovered employment losses

from the pandemic, the recovery has been uneven. Employment levels in most counties are higher than in 2017, except for Marin. However, middle-wage job growth has lagged behind low-wage and high-wage job growth over the past three decades.

### Job Growth in the Bay Area by Wage Level, 1990–2021



Source: The State of Bay Area Workers Data Tool (Rework the Bay, 2021).

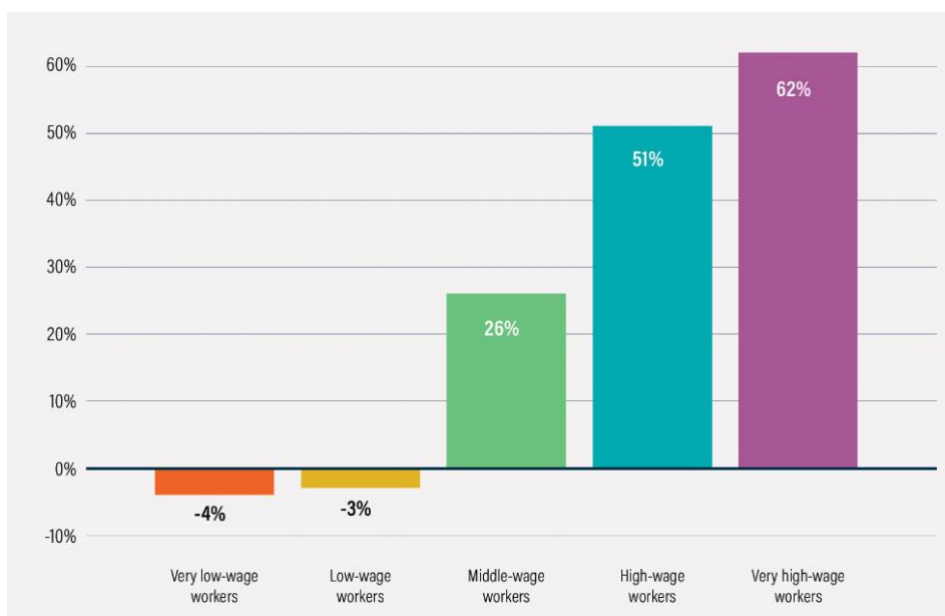
**Income Inequality and Job Quality:** There are significant disparities in income growth, with high-wage workers experiencing substantial gains over the past two decades, while low-wage workers have seen negative growth in real terms. The pandemic exacerbated these inequalities, with low-income adults in the Bay Area continuing to struggle financially.

**Occupational Segregation:** There is significant occupational segregation by race/ethnicity in the Bay Area. Black and Hispanic/Latinx workers are overrepresented in lower-paying occupations, whereas White and Asian workers are overrepresented in higher-paying jobs. This segregation contributes to wage disparities, with U.S.-born White workers earning a median wage 60% higher than U.S.-born Hispanic/Latinx and Black workers.

**Education and Skills:** The Bay Area has a highly educated population, with one in two adults holding a bachelor's degree or higher. However, there are significant disparities in educational attainment by race/ethnicity, which correlate strongly with occupational segregation and income inequality.

**Business and Industry:** The largest employment sectors in the Bay Area are professional and business services, education and health services, and trade, transportation, and utilities. Although the region is home to many large tech companies, two-thirds of businesses in the Bay Area employ fewer than five employees.

Figure 3: Income Growth for Full-Time Workers, Bay Area, 1990–2021



**Future Job Projections:** The Bay Area is projected to add over 700,000 jobs in the decade between 2020 and 2030, an overall increase of nearly 18%. The growth is broadly distributed across the region, with counties projecting double digit increase in jobs. The fastest-growing occupations over the next decade are projected to be primarily in low-wage sectors, potentially reinforcing existing disparities unless interventions are made to improve job quality.

From the perspective of low-wage workers, the Bay Area faces several challenging trends and conditions including the following:

**Job Quality:** Although employment has largely recovered since the pandemic, much of the growth is occurring in low-wage occupations. The fastest-growing occupations over the next 10 years are also projected to have primarily low-wage jobs that currently do not pay a living wage. Nearly 55% of workers in the Bay Area face precarious employment conditions, lacking a living wage, health insurance, and/or full-time, full-year employment. The projected growth in low-wage occupations suggests that such challenges could worsen.

**Income Inequality:** Low-wage workers have experienced negative growth in their earned income over the past two decades, whereas high-wage workers have seen substantial gains. This widening gap is exacerbating economic inequality. In addition, almost 20% of Bay Area workers do not receive health insurance through their employer or union and three out of four workers do not have access to a

retirement plan through their work. Many low-wage jobs are in sectors that experienced significant disruptions during the pandemic, such as retail and food services, which has contributed to higher job insecurity for these workers.

**Educational Barriers:** Although the Bay Area has a highly educated population overall, there are significant disparities in educational attainment by race/ethnicity. This correlates strongly with occupational segregation and income inequality, potentially limiting opportunities for low-wage workers to advance. Workers with lower educational attainment are much more likely to be in precarious jobs. Almost 25% of workers in jobs that do not provide a living wage, full-time, and full-year with health insurance (LW-FHI) have only a high school diploma, and another 12% have less than high school education. In contrast, almost 80% of workers in jobs that qualify as LW-FHI jobs have a bachelor's degree or higher. To access these growing job markets, many low-wage workers will need additional training or education. The report suggests that workforce development programs will be crucial to help workers transition to these new opportunities.

**Career Progression:** Various workforce development programs are aimed at helping workers gain skills and access better jobs. These include community college programs, apprenticeships, and industry-specific training. But education and workforce training alone might not be sufficient to allow career progression for workers in many occupations. This implies structural barriers to advancement for many marginalized workers. For example, language barriers can confine workers to low-wage jobs and hinder access to educational and training opportunities crucial for career advancement.

**Demographic Disparities:** Women, Black, and Hispanic/Latinx workers are disproportionately represented in low-wage, precarious jobs. This occupational segregation contributes significantly to wage disparities and overall economic inequality. In the Bay Area, about 60% of Black workers and 70% of Hispanic/Latinx workers are in non-LW-FHI jobs compared to 50% for White and Asian workers.

**Costs of Essential Services and Amenities:** Child care is unaffordable for many families, with costs in all Bay Area counties exceeding the 7% affordability threshold. This particularly affects women's employment. In all Bay Area counties, housing costs for moderate-income households exceed the 30% affordability threshold and transportation costs are 11%–22% of household income. The high cost of living in the Bay Area, particularly housing costs, disproportionately affects low-wage workers, making it difficult to make ends meet even with full-time employment.

**Potential Growth Areas:** Sectors with potential for job growth include green economy jobs, healthcare support roles, construction, manufacturing, and child care/early education. Some industries that traditionally include low-wage jobs are also evolving. For example, the push for sustainable practices might create new types of jobs in sectors such as agriculture and transportation. Since 2017, industries that typically employ many low-wage workers, such as trade, transportation, and utilities, and leisure and hospitality, have lost about 75,000 jobs. This loss was particularly severe due to the pandemic and the shift to remote work.

**Sub-Regional Differences:** The impact on low-wage jobs varies across the Bay Area. From 2017 to 2022, San Francisco saw significant declines in leisure and hospitality (-20.1%) and trade, transportation, and utilities (-18.6%); Alameda County experienced job losses in retail trade; and Napa and Solano counties, uniquely, saw some growth in leisure and hospitality (+2.7%). In most Bay Area counties, a majority of

workers do not live in their county of employment,<sup>19</sup> suggesting a mismatch between affordable housing locations and job centers.

These barriers combined prevent low-wage workers from achieving economic stability in the high-cost Bay Area environment. The challenges suggest a need for policies that support job creation in areas where people live in addition to improving job quality and access and providing pathways for career advancement. Despite these significant challenges, potential opportunities in emerging and growing industries, as well as in improving job quality, present equally significant paths forward.

## Bay Area Labor Market

Over the past few years, the Bay Area has seen a gradual improvement in job quality. By 2021, 45% of jobs in the Bay Area were classified as LW-FHI, up from 39% in 2017. However, this also means that more than half of the jobs in the region still fall short of these quality standards. As described above, there are significant disparities across demographic lines with six out of 10 Black workers and seven out of 10 Hispanic/Latinx workers in precarious jobs. By comparison, about one in two White and Asian workers are in precarious jobs.

The high cost of living in the Bay Area presents substantial challenges for workers. These high costs can act as barriers to accessing better job opportunities. The pandemic had an uneven impact on the labor market. From 2019 to 2021, there was a 6% decrease in non-LW-FHI jobs, whereas LW-FHI jobs actually increased 2%. Furthermore, the recovery for precarious jobs in 2021 was relatively slow and remained negative, even one year after the onset of the pandemic. Due to occupational segregation—the overrepresentation of women and workers of color in precarious jobs—these workers experienced greater economic loss and slower recovery, which further widened economic inequality in the region.

Occupational data show wide disparities in earnings across different sectors. Computer and mathematics occupations consistently have the highest median hourly wages across the region, whereas jobs in food preparation, personal care, and farming/fishing are at the lower end of the wage scale. Despite their essential nature, many of these lower-paid occupations lack living wages and benefits.

Union coverage, which can be an indicator of job quality and worker bargaining power, varies significantly between the public and private sectors. Although public-sector union coverage often exceeds 50%, private-sector union coverage in most Bay Area metro areas is below 10%.

The region has made some progress in linguistic inclusion, with the proportion of linguistically isolated households decreasing from 9.7% in 2010 to 8.3% in 2019. However, this still represents a significant portion of the population that could face language barriers in the workplace.

Minimum wages across the Bay Area vary considerably, from the state minimum of \$15.50 to as high as \$18.75 in Berkeley, reflecting differing local policies and cost-of-living considerations. Overall, although the Bay Area has seen some positive trends in job quality, the labor market has significant inequalities. Many workers, particularly those from marginalized communities or in certain occupational sectors,

---

<sup>19</sup> Stiefel, E. (2024, March 12). *S.F. workers are living increasingly far from the office: Map shows where they moved*. San Francisco Chronicle. <https://www.sfchronicle.com/bayarea/article/workers-office-distance-move-18710632.php>

continue to face challenges in accessing high-quality jobs that provide living wages, stable schedules, and essential benefits.

## Bay Area Industries

The region's employment landscape is diverse, with more than 4 million workers across various industries. The largest employment sectors are professional and business services (22.6%), education and health services (17.5%), and trade, transportation, and utilities (15.5%). Since 2017, technology-related fields have seen the most substantial job growth, with information and professional and business services adding more than 110,000 jobs combined. However, lower-wage industries such as trade, transportation, and utilities, and leisure and hospitality have lost about 75,000 jobs since 2017, particularly due to the pandemic and the shift to remote work.

Each sub-region shows distinct employment patterns:

- San Francisco City/County has seen significant growth in the information (+33%) and professional and business services (+6.1%) sectors since 2017. The information sector has 2.5 times greater concentration of jobs compared to the state average.
- San Mateo and Santa Clara counties (Silicon Valley) have experienced strong growth in technology-related industries and manufacturing, adding more than 75,000 jobs in information and professional and business services, and nearly 15,000 in manufacturing from 2017 to 2021, although there also were large-scale layoffs in the technology industry in 2022 and 2023.<sup>20</sup>
- Alameda County's largest employment share is in trade, transportation, and utilities (20.1%), reflecting its strategic location for goods movement. Manufacturing has also grown significantly, adding more than 15,000 jobs since 2017.
- Contra Costa County's largest employment sector is education and health services (23.5%), which has grown 8.8% since 2017. The county is also developing high-demand healthcare careers.
- Marin and Sonoma counties have seen employment gains primarily in construction and professional and business services, each adding more than 3,000 jobs since 2017. This growth is partly attributed to rebuilding efforts after the 2018 fires.
- Napa and Solano counties have experienced growth in education and health services (+4.5%), construction (+6%), and manufacturing (+3%) since 2017. This sub-region was the only one to see growth in leisure and hospitality (+2.7%).

## HISTORICALLY DISADVANTAGED COMMUNITIES AND POPULATIONS

The success or failure of the Bay Area economy is intrinsically tied to the level and breadth of inequality and poverty in the region. Populations and workers who have been left behind represent both an outcome of the current approach to economic development and a result of historic discrimination and

---

<sup>20</sup> Avalos, G. (2024, July 4). Bay Area tech layoff totals jump to worst pace in more than a year. [SiliconValley.com. https://www.siliconvalley.com/2024/07/03/economy-tech-jobs-layoff-mountain-view-san-ramon-sunnyvale-south-bay/](https://www.siliconvalley.com/2024/07/03/economy-tech-jobs-layoff-mountain-view-san-ramon-sunnyvale-south-bay/)

bias. The BAJFC is committed to approaching economic development from the perspective of marginalized workers and communities. The section below identifies both areas and populations that continue to experience disproportionate environmental, health, and economic impacts.

## Historically Marginalized and Disinvested Populations Identified By the BAJFC

As mentioned in the introduction to this report, historically marginalized and disinvested populations that the BAJFC has identified for focus and that are described in Regional Plan Part 1 include communities that may be affected by systemic racism; racially segregated or underserved neighborhoods; underrepresented ethnic or racial groups; communities with a legacy of disinvestment; and populations affected by a history of discriminatory practices. Workers today who are without pathways to high-road jobs in the Bay Area are often from historically marginalized and disadvantaged communities. Without intentional efforts to make change, future workers from these same communities will likely face similar challenges. Several groups who face barriers to accessing high-quality employment are as follows:

- **Low-wage workers:** people in jobs that do not provide a living wage or benefits, often without clear paths for advancement.
- **People without a college degree:** people with limited access to high-quality jobs.
- **BIPOC (Black, Indigenous, and People of Color) people:** people who are disproportionately represented in low-wage and climate-vulnerable jobs.
- **Immigrants:** people who sometimes lack documentation or face language or cultural barriers.
- **Workers in climate-vulnerable industries:** people with outdoor jobs such as those in agriculture, construction, and landscaping.
- **Workers in declining industries:** people with jobs that could be phased out in the transition to clean energy, particularly those in fossil fuel–related jobs.
- **Formerly incarcerated individuals:** people who face significant barriers to employment due to their justice system involvement.
- **Workers with limited English proficiency:** people who experience language barriers that can limit access to language-appropriate training and high-quality job opportunities.
- **Housing insecure or homeless individuals:** people who lack stable housing, creating additional barriers to securing and maintaining employment.
- **People left out of the workforce due to lack of support services:** people who lack access to affordable child care (e.g., single parents, especially mothers).
- **Workers in industries with high rates of independent contractors or gig workers:** people who often lack the benefits and protections of traditional employment.
- **Workers in small businesses or worker cooperatives:** people who may have limited resources for training and advancement.
- **Older people:** people who may face age discrimination or challenges in adapting to new technologies.
- **People with disabilities:** people who may face discrimination or lack of accommodations in the workplace.



These groups of workers often overlap, with many workers facing multiple and intersecting barriers to accessing high-road jobs.

## Climate Vulnerability and Historically Disadvantaged Communities

The Bay Area faces multiple challenges in the face of climate change caused by a history of extractive and polluting industries operating both locally and globally. Disadvantaged communities, which often face disproportionate environmental burdens and may have fewer resources to adapt to climate change, are at a particularly higher risk. In addition, these historically marginalized communities have often been left out of economic development planning processes resulting in their voices not being heard in shaping solutions to climate impacts in their own communities. This requires targeted, equitable interventions and investments to build resilience against climate impacts, addressing both immediate climate risks and underlying socioeconomic vulnerabilities and historic patterns of pollution and disinvestment.

Regional Report Part 1 identifies disadvantaged communities in the Bay Area that will be impacted most by climate change. These areas are considered particularly vulnerable due to their low scores on the Healthy Places Index (HPI).<sup>21</sup> Communities in these areas face multiple climate-related risks and socioeconomic challenges. Specific high-risk areas include the following:

- Parts of Richmond and Antioch in Contra Costa County
- Areas in East Oakland and San Leandro in Alameda County
- Portions of Vallejo and Fairfield in Solano County
- Sections of East San Jose in Santa Clara County
- Bayview-Hunters Point and Tenderloin neighborhoods in San Francisco

In addition, communities in shoreline areas, particularly in Alameda and Contra Costa counties, face high flood risks. The communities of Foster City, Suisun City, and Corte Madera also have high exposure to flood risks. Inland areas in Contra Costa and Solano counties are projected to experience the most significant increase in extreme heat days. Communities near industrial areas and major highways, especially in the East Bay, are at higher risk of poor air quality exacerbated by climate change.

Also as described in Regional Plan Part 1, communities most at risk from climate change generally have lower incomes, higher unemployment rates, and less access to resources for climate adaptation. They also often have higher proportions of renters and people of color, groups that historically have been more vulnerable to climate impacts. Many of these areas have aging infrastructure less capable of withstanding climate stresses. Some communities, particularly in the East Bay, are near sea-level rise inundation zones and have critical infrastructure at risk. Several of these communities are located near polluting industries or contaminated sites, compounding their climate vulnerability with ongoing environmental health risks.

### ***Stakeholder Voice:***

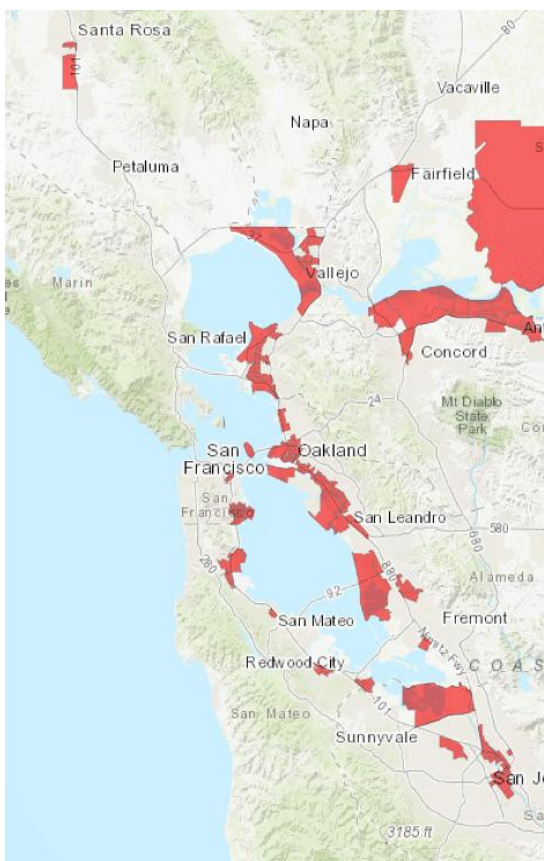
---

<sup>21</sup> Healthy Places Index. (2022). <https://www.healthyplacesindex.org/>

“Our communities feel the visceral impacts on our health and ability to thrive caused by climate change and the polluting industries. We’re already experiencing active climate crises such as floods, fires and heat in the Bay Area, and we know this will only intensify in the coming years. That’s why it’s necessary for us to transition away from an extractive economy based on profit and pollution and toward local, healthy, and life-sustaining economies that benefit everyone.”

—Emma Ishii, Local Policy Coordinator, Asian Pacific Environmental Network

### Senate Bill 535: Disadvantaged Communities and Climate Investments



SB 535 (2012) directed that at least a quarter of the California Climate Investments (Greenhouse Gas Reduction Fund and funds appropriated by the Legislature) from the proceeds of the state’s Cap-and-Trade Program go to projects that provide a benefit to disadvantaged communities and at least 10% of the funds go to projects located within those communities. These funds must be used for programs that further reduce emissions of greenhouse gases. The legislation gives the California Environmental Protection Agency the responsibility for identifying those communities. The map on the left identifies Census tracts that are designated as SB 535 disadvantaged communities.

*Note:* Historically disadvantaged communities are not the only communities that face climate impacts, but these areas are most at risk due to the existing environmental and health burden, as well as demographic characteristics of populations living in these Census tracts.

### SB 535 Disadvantaged Communities

The state has designated several Census tracts in the Bay Area that are considered disadvantaged as per SB 535. These communities are typically areas that have experienced long-term disinvestment, resulting in inadequate infrastructure that is less resilient to climate impacts. These communities are also often located in areas more exposed to environmental hazards, such as flood plains or near industrial zones, due to historical patterns of segregation and discriminatory land-use policies. Residents of SB 535 communities often have lower incomes, making it harder to prepare for, respond to, and recover from climate-related events. These communities typically have fewer resources to adapt to climate change, such as an inability to relocate during disasters.

Pre-existing health conditions, which are often more prevalent in disadvantaged communities, can be exacerbated by climate impacts such as extreme heat or poor air quality. Residents may also work in climate-sensitive industries (e.g., outdoor labor, agriculture) that are more affected by extreme weather events. In addition, substandard housing in these communities might be more vulnerable to climate impacts and less energy efficient. Many disadvantaged urban communities lack green spaces, leading to higher temperatures during heat waves. These communities generally have less political influence to advocate for climate adaptation measures. SB 535 communities often face multiple environmental burdens simultaneously, which can compound their vulnerability to climate change.

## IV. Process for Identifying and Prioritizing Target Sectors and Industries and Cross-Cutting Strategies

The process to define target sectors leveraged the many hundreds of stakeholders involved in the planning process over the last year and a half. These discussions led to the identification of sectors where there was energy and excitement to develop collaborative strategies that meet the goals of the BAJFC. This iterative process resulted in the identification of six target sectors.

The culture and work of the BAJFC has been highly participatory. Nearly every aspect of the BAJFC's work in 2023–24 has been characterized by a powerful commitment to a bottom-up process driven by the priorities, values, and goals of the organizations and communities involved. This participatory culture and values drove the process by which the BAJFC identified the sectors, industries, sub-sectors, and cross-cutting, sector-neutral, economic foundation strategies described in this document.

The key bodies within the BAJFC structure that engaged actively in identifying the sectors and cross-cutting, sector-neutral, economic foundation strategies were as follows:

- Six Sub-Regional Tables, each representing 1–2 of the Bay Area's nine counties and each convened by two or more Co-Conveners from local community and labor organizations.
- Regional Plan Part 2 Workgroup.
- Research, Planning, and Community Engagement Committee.
- Bay Area Jobs First Steering Committee.

As participants in the process developed and subsequently narrowed the list of potential sectors and cross-cutting, sector-neutral strategies to focus on the Bay Area's Regional Plan, they generally took into account the following criteria:

- **Equity/transformational change**, including the extent to which the sector/industry or strategies will help create and sustain high-road jobs and/or lift up job quality, and create opportunities for economic mobility for one or more target populations.
- **Job quality and access**, including whether the sector/industry or strategies help match workers and their skills to high-road jobs and empower workers.
- **Climate resilience**, including the extent to which the sector/industry or strategies improves environmental and human health and well-being.
- **Economic competitiveness, diversification, and resilience**, including the extent to which the sector/industry or strategy helps diversify the regional economy, makes it more resilient, meets a critical community or social need, and supports a regional transition toward a regenerative economy.
- **Existing Sub-Regional priority**, including whether the sector/industry had already been identified by at least one or more sub-regions as a priority in which participants from that sub-region were already developing potential project work.
- **Alignment with state and federal priorities**, including the extent to which the sector/industry or strategy aligns with and/or complements existing regional assets or investments and helps meet local, regional, state, and federal sustainability and climate goals.

To develop the list of sectors, industries, and strategies, the consultant team began by gathering all the written information available from the Sub-Regional Tables about potential focal sectors, industries, and strategies, as well as any available information about project work they were already considering for other funding in those areas of work. The team also joined various monthly stakeholder meetings—meetings held by the Regional Convener open to all interested groups and individuals—to present the work in progress on the regional plan and to gather input and ideas on the sectors being prioritized. The team absorbed and categorized this information, and from there moved to meeting first with the Co-Conveners of each Sub-Regional Table and then with the Sub-Regional Tables themselves. In these meetings, the consultant team gathered and cataloged all the ideas raised by participants and then synthesized them into a list of 18 potential sectors and cross-cutting, economic foundation strategies, as well as a voluminous list of potential implementation strategies associated with these sectors and industries. The Regional Plan Part 2 Workgroup then narrowed and combined areas of work to create a list of six sectors or industries and four cross-cutting, sector-neutral, economic foundation strategies. This list was approved by the BAJFC Steering Committee in late June and is described in Sections V and VII of this Bay Area Regional Plan Part 2.

The Bay Area Jobs First Collaborative centered worker and community voice in the development of the priority sectors discussed in this regional plan. As outlined above, the process included extensive stakeholder engagement that led to the development of target sectors and strategies and foundational enablers. Based on feedback from the State of California and discussions with the Bay Area Jobs First Steering Committee, the Collaborative broadened the initial report to create a more comprehensive economic development plan. Section VI, Overview of Tradable Sub-Sectors, includes sub-sector overviews, market factors and employment growth opportunities and challenges.

## V. Target Sectors and Strategies

### ARTS AND CULTURE

#### Summary

The arts and culture sector within the Bay Area is a vibrant hub for preserving diverse artistic heritage and serves as a powerful platform for advocacy, social and environmental justice, and connectivity. Despite insufficient sources of dedicated funding, this sector drives significant employment and revenue, and augments adjacent sectors such as technology, hospitality, and service, underscoring its importance to the economic diversification of the region. The arts also play a crucial role in providing equitable education, fostering a diverse and inclusive community, and uniquely and effectively advancing climate resilience and environmental justice by raising awareness and inspiring action. Although the regional contributions of the arts are vast and significant, the sector faces challenges from inadequate social and economic infrastructure, unstable and inconsistent demand, and earning disparities—widening the gap of income inequality for BIPOC and historically marginalized communities. Strategic investment in and intentional integration of the arts can transform these challenges into opportunities, improving job quality, creating equitable access, and addressing social and environmental justice. A thriving arts sector is vital for the region’s economic resilience, inspiring public action and

driving meaningful change.

### **Stakeholder Voice:**

“The arts and culture sector contributes significantly to community-building in historically marginalized communities, but it is under-recognized as a source of employment in these communities. Investing in the arts and culture sector can increase its impact and move it forward from community-building into power-building.”

—Nadine Rambeau, Executive Director, EPACENTER

## Definition

### Sector

The arts and culture sector in the Bay Area region encompasses a diverse range of activities and institutions including performing arts, visual arts, music, literature, and cultural festivals. It features renowned museums, theaters, concert halls, and annual events. In addition, the sector in this region is enriched by many small arts and culture nonprofits that employ and support artists and performers, as well as independent artists and performers, all contributing to the vibrant cultural landscape across the nine Bay Area counties.

Work in the arts and culture sector focuses on the creation, preservation, and promotion of artistic and cultural expression, enhancing community identity, fostering social cohesion, and driving economic growth. The sector contributes to overall regional economic growth in the Bay Area by creating jobs across various professions, boosting tourism, and supporting related industries and other sectors by playing a pivotal role in economic innovation. Professions in this sector include visual and digital artists, design, film production, entertainment, performers, writers, musicians, sports, and media, as well as professionals in arts administration, education, and technical support and people working in emerging artistic professions such as content creation. By providing cultural experiences, promoting diversity, and engaging in the community, the arts and culture sector plays a crucial role in the region’s social and economic vitality.

We focus on two areas of this sector that are key for the Bay Area region.

### Sub-Sectors

- **Small and Midsize Arts and Cultural Nonprofits:** These organizations play a vital role in the cultural and economic ecosystem by providing essential support and resources for individual local artists and performers in the cities and counties where they live and work—providing access to work space and materials, acting as fiscal agents, providing coaching and training, providing assistance with

budgeting and fundraising, and advocating on behalf of artists. These entities employ individuals who are dedicated to nurturing creative talent, preserving local and cultural tradition, offering opportunities for professional development, and facilitating community engagement through various arts programs and events. Small and midsize arts and cultural nonprofits focus on promoting multiculturalism and ensuring that artistic expression is accessible and visible to all members of the community, which is often their mission.

- **Independent Artists, Writers, and Performers:** This sub-sector consists of individuals who create, produce, and present their work without the backing of larger institutions or organizations. Their work contributes to the region's vibrant cultural scene through a wide range of disciplines, including visual arts, music, theater, dance, and literacy arts. These independent artists and performers often operate on a freelance, project, or seasonal basis, relying on personal networks, small-scale venues, and grassroots support to showcase their talents and engage with the community. A distinct aspect of this sub-sector is its power to harness creativity that is deeply personal. The freedom from institutional parameters can allow these artists to create art that directly reflects their local lived experiences, thereby playing a crucial role in maintaining the area's artistic and cultural diversity and sowing the seeds for innovation.

## Profile<sup>22</sup>

The arts and culture sector has a significant presence across the entire Bay Area, with each county showing a distinct employment pattern. The sector tends toward part-time employment compared to other sectors in most counties, reflecting its often project-based or seasonal nature. Urban centers such as Alameda, Santa Clara, and San Francisco lead in total employment, but even the smaller or more rural counties maintain a notable arts presence, underscoring the sector's importance to the region's cultural and economic diversity.

The arts and culture sector in the Bay Area employs more than 82,000 workers (2022 data) across a range of sub-sectors, including museums, art galleries, historical sites, performing arts companies, film, independent artists, writers, and performers, as well as recreation and spectator sports. Fewer than 30,000 total jobs are in arts and culture alone with much of the remainder in recreation employment. This sector has added 4,800 new jobs since 2012. The sector has more part-time workers (43,726) than full-time workers (38,740).

The sector attracts workers across all age groups, but it tends to be younger overall, with a significant number of workers aged 16–24 (17,813), indicating the sector's role in providing entry-level jobs. The majority of workers in this sector are U.S.-born (65,015) compared to immigrants (17,451). The sector has a high rate of English proficiency at 91.3%, with only 8.7% of workers having limited English proficiency.

About 56% of workers have a bachelor's degree or higher, with 38.1% having only a bachelor's degree and 18.2% also having a graduate degree. The most common occupations in the sector include arts, design, entertainment, sports, and media (19,289 workers); personal care and service (18,106); and management (9,801). The sector shows a spread across earning categories. About 51.6% of workers earn in the lowest-wage category (\$0–\$30.20/hour), 32.0% are in the middle range (\$30.20–

---

<sup>22</sup> U.S. Census Bureau. (2023). *American Community Survey 5-Year Data (2018–2022)*. [Data set]. U.S. Department of Commerce. [Applicable to all data in the Arts and Crafts Profile section.]



\$56.60/hour), and 16.4% are in the highest category (\$56.60+/hour). Alameda County has the largest workforce in this sector (18,245), followed by Santa Clara County (16,130) and San Francisco County (12,133).

About 58.0% of workers in this sector commute by car or motorcycle and 16.0% work from home, which is higher than most other jobs before the pandemic, reflecting that many artists and cultural workers use their homes as a “live/work” space. The sector also has a higher than average rate of workers who bike or walk to work (5.1%). About 69.7% of workers in this sector have employer- or union-sponsored healthcare, with a higher percentage among full-time workers (78.8%) compared to part-time workers (61.5%). The sector employs a diverse workforce. White workers make up the largest group (45,464, 51%), followed by Hispanic/Latinx (18,048, 20%), Asian (15,127, 17%), multiracial (5,031, 5.6%), and Black (4,616, 5%) workers. When analyzing race/ethnicity by wage levels, White workers disproportionately earn the highest wages. The share of White workers increases from 41% of lowest-wage jobs to 61% of the highest-wage jobs, whereas the share of Hispanic/Latinx workers decreases from 25% of the lowest-wage jobs to just 11% of the highest-wage jobs.

The broad arts, entertainment, and recreation sector is projected to grow significantly. In the region’s central counties (Alameda, Contra Costa, San Francisco, and San Mateo), the arts, entertainment, and recreation sector (NAICS 71) is projected to grow nearly 57% from 2020 to 2030, adding more than 14,600 jobs.<sup>23</sup> This is compared to a regional growth projection of 17.6%. In San Francisco and San Mateo counties, the performing arts, spectator sports, and related industries (NAICS 711) are projected to grow more than 41% (adding approximately 2,000 jobs).

When analyzing occupations, there is a clearer picture of the sector and its growth prospects. Regionwide, there are nearly 33,000 workers classified as “art and design” workers. That occupation alone is projected to add nearly 3,500 additional jobs by 2030.<sup>24</sup> Some of the key occupations within art and design include dancers, composers, musicians, actors, writers, photographers, film and video editors, and directors. Many of these occupations are projected to grow 20%–30% in the current decade.

Numerous studies note the economic importance of the sector. A 2021 study of the nonprofit arts sector in San Francisco alone noted that the sector generated \$1.7 billion in economic output and supported nearly 37,000 full-time equivalent jobs per year.<sup>25</sup>

#### Jobs in Arts and Culture Sector and Industry, 2020 and 2030

Key Occupations	2020 Job Estimate	2030 Projection	Increase	Median Hourly Wage
Producers and Directors	5,700	6,670	970	\$39–\$61

<sup>23</sup> California Open Data Portal. (n.d.). *Long-term industry employment projections, 2020–2030*. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-industry-employment-projections>

<sup>24</sup> California Open Data Portal. (n.d.). *Long-term occupational employment projections, 2020–2030*. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-occupational-employment-projections>

<sup>25</sup> Bay Area Council Economic Institute. (2021, March). *Arts and the economy: The economic and social impact of the arts in San Francisco*. <https://www.bayareaeconomy.org/files/pdf/ArtsAndTheEconomySFMarch2021Final.pdf>

Writers and Authors	5,510	6,020	510	\$51–\$52
Photographers	2,810	3,600	790	\$24–\$39
Musicians and Singers	1,960	2,390	430	\$40–\$51
Designers, All Other	1,910	2,140	230	\$45–\$64
Film and Video Editors	1,100	1,310	210	\$35–\$37
Camera Operators, Television, Video, and Motion Picture	490	540	50	\$27–\$31
Set and Exhibit Designers	470	480	10	\$30–\$51
Actors	390	470	80	\$28–\$29
Dancers	210	270	60	\$30
Music Directors and Composers	210	260	50	\$31–\$32

Source: State of California Employment Development Department, Long-Term Occupational Employment Projections (2020–2030)

## Landscape

### Challenges

- Affordability, Access, Opportunity:** The rising cost of living in the Bay Area has displaced multitudes of artists and art organizations, turning arts and creativity into an elitist pursuit, potentially narrowing the region’s diverse artistic expression. This, combined with a lack of social and economic infrastructure, limits demand and opportunities, hindering career mobility. The absence of industry standards for wages and employment practices perpetuates an environment of low-wage jobs and exploitation of people working in this sector.
- Economic Impact and Disparity:** As mentioned above, arts and culture are often overlooked and underestimated for the essential and vital role they play in the local, state, and national economies. The arts sector is large and diverse, and its businesses and workforce are a significant contributor to our state economy and identity. California is home to 11,563 nonprofit arts organizations, and the state’s creative sector accounts for \$18.67 billion in assets and 15.4% of California’s total employment.<sup>26</sup> The nonprofit arts sector in San Jose alone contributes \$292 million to the local economy each year through the expenditures of organizations and their audiences, supporting 4,738 jobs and generating \$46.4 million in revenue for local, state, and federal governments.<sup>27</sup> Although California is the fifth largest economy in the world, in no small part due to its robust creative economy, funding for the arts is often unreliable, especially during economic downturns. Funding for the California Arts Council, which awarded more than \$17 million through 376 grants (156 to the Bay Area region) for arts and cultural organizations’ general operating support in

<sup>26</sup> California Arts Council. (2024). About. <https://arts.ca.gov/about/>

<sup>27</sup> Americans for the Arts. (2023). Arts & Economic Prosperity 6. [https://5p3a96.p3cdn1.secureserver.net/wp-content/uploads/2023/11/CA\\_CityOfSanJose\\_AEP6\\_OnePageSummary-10-17-23.pdf](https://5p3a96.p3cdn1.secureserver.net/wp-content/uploads/2023/11/CA_CityOfSanJose_AEP6_OnePageSummary-10-17-23.pdf)

2023,<sup>28</sup> was cut by \$5 million in the 2024–25 fiscal year budget, which will have a direct impact on the organizations within the Bay Area that rely on local, state, and federal funding. Limited resource allocation and lack of organizational coordination and alignment within the sector is a direct reflection of the governmental and societal disconnect between investment and the economic significance of this sector.

- ***Inequitable Funding Distribution and Historical Disinvestments:*** Cultural nonprofits and smaller organizations foster and support new generations of workers from historically marginalized communities, but many struggle to remain operational due to historical underrepresentation and disinvestment in these same communities. This dynamic creates a barrier for individual workers or smaller organizations to access the resources and funding streams needed to drastically alter their economic trajectory. Moreover, state-local partnerships in this sector struggle to provide equitable access due to funding disparities, administrative capacity issues, and bureaucratic barriers. Implicit biases and lack of diverse representation on governing boards further exacerbate inequalities, while geographical disparities and insufficiently tailored support leave under-resourced and marginalized communities at a disadvantage. Addressing these challenges requires intentional strategies to ensure fair resource distribution, simplified processes, and targeted support for underserved areas.

## Opportunities

- ***Artists-in-Residence Programs:*** Such initiatives provide artists with dedicated time, space, and resources to focus on their creative projects. These programs often include access to studios, living accommodations, stipends, and opportunities for community engagement and collaboration. The goal is to foster artistic development and innovation, allowing artists to immerse themselves in their work without the distractions of everyday responsibilities. These programs address some of the immediate needs of shared workspace and housing costs but can only serve the needs of a small population.
- ***Creativity and Innovation Demand:*** According to the Conference Board’s Ready to Innovate report, creativity is among the top five applied skills sought by business leaders with 72% saying that creativity is of “high importance” when hiring.<sup>29</sup>

### Collaborative Example: Island City Waterways

<sup>28</sup> California Arts Council. (2024).

<sup>29</sup> Americans for the Arts. (n.d.). *Arts, business, creativity, and innovation research*. <https://www.americansforthearts.org/by-topic/creative-economy>

An example of a collaborative approach between a cultural community nonprofit and local government is the partnership of the Rhythmix Cultural Works and the City of Alameda in presenting *Island City Waterways*, which narrates the story of Alameda Point, the former Naval Air Station and “gateway to the Pacific” through four wars. By integrating theater, dance, and music with commercial and residential development, *Island City Waterways* employed creative placemaking strategies to foster deeper connections between the local community, the island’s unique history, and one another.<sup>30</sup>

- **Local Film Rebate/Tax Credit Initiatives:** The City of Oakland recently passed the Oakland Film Initiative, which provides a 10% rebate on local spending in film production, including expenses related to purchases or rentals, contracted services, and wages for local residents.<sup>31</sup> The initiative is similar to the City of San Francisco’s film rebate program, which offers a refund for fees and payroll taxes paid to the city during film productions of up to \$600,000.<sup>32</sup> These initiatives have the potential for monumental regional economic impact, incentivizing investment in local services, the local workforce, and a multitude of local businesses.
- **Acknowledging the Critical Role of Arts and Culture: Support** for the arts is frequently seen as competing with support for social, humanitarian, and environmental crises, without the acknowledgement that incorporating arts and creativity can accelerate and enhance solutions to these problems. Opportunities exist to elevate recognition of how governmental, nonprofit, and private organizations can benefit from partnerships with local, state, and federal arts institutions to integrate the arts and creativity into programmatic or policy efforts, including those that address social justice and environmental justice causes.
- **Leveraging Funding Initiatives for Public Education:** Proposition 28 was enacted in 2022, mandating additional funding for arts and music education in public schools by requiring that a certain percentage of the state’s education budget be allocated to hiring arts and music teachers. This initiative seeks to enhance the educational experience for students, promote equity in education, provide cultural enrichment, improve student outcomes, and provide job creation for art and music teachers. Dedicated funding to hire arts and music teachers throughout California presents new employment opportunities for local artists and musicians. However, many schools lack the infrastructure or resources needed to recruit and retain a qualified workforce, especially with an ongoing shortage of teachers.<sup>33</sup> Through public education and organizational partnerships, training and credentialing programs could be developed with the guarantee of job placement.

## Assets

The Bay Area has long been known for its vibrant arts scene and has produced groundbreaking artists creating works that consistently challenge both artistic and social norms, contributing to a distinctive

<sup>30</sup> California Arts Council. (2020). *Creative impact: The arts and the California challenge—Strategic framework: 2020–2027*. <https://view.publitas.com/ca-arts-council/california-arts-council-strategic-framework/page/sta30-31>

<sup>31</sup> Meline, G. (2024, July 17). *It just got a little easier to film a movie in Oakland*. KQED.

<https://www.kqed.org/arts/13961266/oakland-film-initiative-rebate-program>

<sup>32</sup> Entertainment Partners. (2024). *California—San Francisco*. <https://www.ep.com/production-incentives/us/california/sanfrancisco>

<sup>33</sup> See <https://edsources.org/>

cultural landscape. Practices characterized by advocacy, humor, and a spirit of experimentation reflect the region's diverse and innovative ethos and rich cultural legacy.<sup>34</sup> Arguably the greatest asset of this sector, artists and performers influence consumer activity by driving fashion trends, defining music genres, creating visual works that spark imagination, and encapsulating profound insights and values through expressive written and spoken language. However, the success of the workforce and the sector as a whole is contingent upon robust collaboration with local government, community-based organizations, workforce development agencies, and employers committed to cultivating a skilled, creative workforce and ensuring high-road job creation with equitable access.

- **Bay Area Arts and Culture Workforce:** The region is one of the most diverse and culturally rich regions in the world. The contributions from creative communities within the visual arts, literary arts, craft arts, multimedia arts, performing arts (including street performers), art education, and cultural and traditional arts play a pivotal role in shaping the identity of the Bay Area region.
- **Arts Collectives and Hubs:** That Bay Area's legacy of creative innovation is evident in the many arts and cultural collectives represented within the workforce of this sector. Local talent and innovation can be fostered through these kinds of small organizations which also often present work through smaller venues throughout the region. They can serve as alternatives to traditional academic institutions and have the ability to bolster skill sets and connect individuals to steady, consistent work opportunities.
- **Local Art Agencies (LAAs):** LAAs are vital assets to the region, playing a central role in fostering a dynamic arts and cultural sector by meeting community needs through diverse activities such as arts programming, public art management, and grant administration. Their partnerships with tourism, social services, businesses, and public safety further enhance community development. Through these efforts, LAAs not only enrich the cultural landscape but also drive economic growth and social cohesion, making them indispensable for regional economic advancement.<sup>35</sup>

## Prospects

The arts and culture sector in the Bay Area has the potential for significant growth and diversification, rooted in the region's tradition of promoting multiculturalism and ensuring artistic expression, which continues to generate revenue for cities, counties, and adjacent sectors.

Many large organizations, including local jurisdictions, non- and for-profit entities, and arts endowments, among others, provide dedicated funding through grants and commissions to support employment and artistic expression.<sup>36</sup> However, the sector is plagued by great disparity between investments received and what communities they are allocated to as well as a lack of investments commensurate with the overall economic impact the sector has within the Bay Area region. Challenges such as affordability issues displacing artists, funding disparities, and lack of an economic and social

---

<sup>34</sup> Galpin, P.-F. (2024, June 12). *10 Bay Area artists that shaped the San Francisco art scene*. The Collector.

<https://www.thecollector.com/bay-artists-san-francisco-art-scene/>

<sup>35</sup> National Endowment for the Arts. (n.d.). *Grants for arts projects: Local arts agencies*.

<https://www.arts.gov/grants/grants-for-arts-projects/local-arts-agencies>

<sup>36</sup> For example, nonprofit arts and culture organizations spent \$780.6 million during the 2014–15 fiscal year in San Francisco.

<https://www.sfartscommission.org/our-role-impact/press-room/press-release/new-report-shows-%20importance-arts-industry-san-francisco>

infrastructure to support demand present barriers for stability in the workforce, especially for BIPOC and historically disinvested communities. Integrating arts into social and environmental initiatives, increasing local advocacy and alignment for funding, and enhancing technical assistance and access to training programs and initiatives can provide opportunities for growth and pathways to high-road jobs.

Post-pandemic, the arts and culture sector continues to play a significant role in economic diversification, stimulating ongoing economic recovery and enhancing community resilience through creativity, innovation, and cultural tourism. Studies have shown that the arts tend to develop independently from other sectors, offering a unique diversification advantage. An arts sector capable of diversifying state and local economies and quickly recovering from challenges is especially valuable, as demonstrated during the recoveries from the Great Recession and the COVID-19 pandemic.<sup>37</sup> Furthermore, the sector possesses a powerful capacity to address social and environmental justice issues that are widely understood by the public across age, native language, ethnicity, or gender. By increasing awareness, sparking critical dialogue, and galvanizing public action through compelling narratives and creative expression, the arts have the ability to drive meaningful change and engagement.

## Investment Strategies

Investment strategies for the arts and culture sector will help achieve the following objectives:

1. Create access to stable and equitable funding and resources for small arts and cultural nonprofits.
2. Promote and support small business development, enhance job quality, and create long-term employment opportunities through cross-sector partnerships, workforce development, and demand generation.
3. Generate direct sectoral demand and stable employment while further enhancing the economic impact of related industries.

### Objective 1: Create access to stable funding and resources for small arts and cultural nonprofits

- **Secure dedicated funding sources and create a regional local arts agency.** Dedicated funding for this sector through state and local government entities is vital, but can also be vulnerable to budget cuts in years of economic downturns. According to the California Arts Council, arts and culture production in California drives 7.7% of the state's economy, producing more than \$261 billion in direct impact and supporting 742,432 jobs.<sup>38</sup> At the same time, the health of the arts and cultural sector is at risk due to having endured decades of underfunding and having been profoundly impacted by the global pandemic.<sup>39</sup>

---

<sup>37</sup> Noonan, D.S. (2021). *The arts and culture sector's contributions to economic recovery and resiliency in the United States*. National Assembly of State Arts Agencies. <https://nasaa-arts.org/wp-content/uploads/2021/01/2021-Key-Findings-Arts-and-Culture-Contrib-to-Econ-Recovery.pdf>

<sup>38</sup> American for the Arts Action Fund. (2023). *Why the arts matter in California*. <https://www.artsactionfund.org/sites/artsactionfund.org/files/2024-03/CA%202024%20%28Inland%20Empire%29.pdf#:~:text=The%20California%20arts%20and%20culture%20sector%20was%20a,California%27s%20workforce%29%2C%20and%20total%20compensation%20of%20%24125%20billion>

<sup>39</sup> Florida, R., & Seman, M. (2020). *Lost art: Measuring COVID-19's devastating impact on America's creative economy*. Washington, DC: Brookings Institution.

Local Arts Agencies provide a range of programs and services to help strengthen the arts infrastructure at the local level and direct dedicated funding to arts and cultural nonprofits and other organizations and initiatives. Over the past 50 years, LAAs have evolved and grown into a diverse field of organizations that work to foster and support the arts at the local level. Americans for the Arts has been the national service organization for the nation’s LAAs since their inception<sup>40</sup> The designation of cultural districts, which concentrate artistic activities within urban areas, can attract stable funding through collaborative ventures of public and private investments, economic development initiatives, and tourism. Cultural districts often receive support from local governments, businesses, and community organizations. Cultural districts in cities such as Berkeley and Oakland have been highlighted for their governance processes and economic impact, showcasing how arts activities can drive local economic and social development.<sup>41</sup> The California Cultural District program was enacted in 2015 and implemented by the California Arts Council in 2017 when the state designated its first 14 districts for a five-year unfunded pilot period. With that designation, each district has been able to galvanize cross-sector collaboration and stimulate investments and tax revenues for their local economies. Cultural districts are a proven method to increase economic vitality while strengthening the cultural fabric of communities. In the United States, 16 statewide programs have established more than 343 unique cultural districts, which promote cultural equity, boost tourism dollars, increase property values, and generate more money for the region and state, enhancing regional development and creating a multiplier effect with other industries.<sup>42</sup>

The establishment of and funding for a regional LAA in the Bay Area, connected to and focused on small arts and cultural nonprofits, would create a highly influential entity capable of securing a more substantial and consistent funding stream for the small arts and cultural nonprofit sub-sector. A regional LAA should have equitable representation from each county LAA as well as representation from small arts and cultural nonprofits. This initiative could facilitate a more equitable distribution of resources, thereby fostering transformative change within this vital sub-sector. In the creation of such an entity, it would be important to acknowledge the historic inequities that exist within the region with varying capacities across sub-regions to attract such funding independently as well as inconsistent budget allocation projections from state and local governments.

- **Promote accessible, equity-focused grant programs and selection processes.** In order to achieve greater equity in funding for the arts, it is crucial to establish alternative methods for granting funding to promote equitable investment and address barriers faced by historically marginalized communities in accessing traditional written grant applications. The primary objective of such programs would be to enhance inclusivity and ensure equitable access to funding opportunities for all communities, particularly those that have been historically

---

<sup>40</sup> Americans for the Arts. (2024). *Local arts network*. Washington, DC: Author. <https://www.americansforthearts.org/by-program/networks-and-councils/local-arts-network>

<sup>41</sup> Redaelli, E. (2019). *Cultural districts: Mixing the arts and other businesses*. In *Connecting Arts and Place: Sociology of the Arts*. London: Palgrave Macmillan. [https://doi.org/10.1007/978-3-030-05339-0\\_5](https://doi.org/10.1007/978-3-030-05339-0_5)

<sup>42</sup> Americans for the Arts. (2024).



underserved. Suggestive practices to adopt are outlined below and referenced under aspirational areas for change within the strategic framework of the California Arts Council:<sup>43</sup>

- Multimedia Applications
  - Video and Audio Submissions
  - Phone Conversations
- In-Person Meetings
  - Community Outreach Events
  - One-on-One Consultations
- Referral System
  - Partner Organization Referrals
  - Peer Referrals
- Simplified Written Applications
  - Short-Form Applications
  - Language Accessibility
- Support and Resources
  - Application Assistance Workshops
  - Technical Support
  - Wraparound Services.

Incorporating alternative methods for securing funding can enhance accessibility for underserved communities.

- **Provide physical and digital infrastructure.** The development of public workplaces, workspaces, and cultural hubs can offer access to technology and tools. Investing in digital tools and technologies can help artists expand their reach and efficiency. Finding or creating places or spaces that are accessible to those within the small arts and cultural nonprofit sector is a challenge given the limited physical infrastructure and high cost of rent in the Bay Area. Distinguishing between “place” and “space” is an important consideration for realizing these needs. “Place” refers to the physical locations where artists gather to work, such as studios, workshops, and galleries. These are tangible environments that provide a sense of presence and immediate interaction. “Space,” in contrast, is a more abstract concept that includes any environment where artists can collaborate, not necessarily tied to a specific location. Space can refer to the flexible and adaptable areas within a larger venue where creative activities occur, emphasizing the potential for transformation and multi-use opportunities within a given place. Investing in and providing both can help individual artists and the regional arts and culture sector grow and thrive.

**Potential Partners for This Objective:** LAAs; local and state grantmaking foundations and philanthropic foundations; local, state, and federal elected officials and representatives within the region; among others.

---

<sup>43</sup> California Arts Council. (2024). *Strategic framework: How we think*. <https://arts.ca.gov/about/how-we-think/>

**Objective 2: Promote and support small business development, enhance job quality, and create long-term employment opportunities through cross-sector partnerships, workforce development, and demand generation**

- **Centralize regional opportunities for the existing and emerging workforce.** Employers, artists and cultural workers, community-based organizations, government, and related entities could collaborate to develop an online tool to promote employment opportunities, workforce training, and job placement for emerging and current workers. This could be modeled on a platform similar to Collective, the California Arts Council resource center, which is a central hub for connecting California’s arts and culture communities with both the public and each other. This could be a locally-focused economic development tool which could broaden the reach of employment and training opportunities for members of the regional arts community in a more transparent and equitable way. Moreover, public agencies and nonprofits could commit to utilizing this platform and set notifications for new opportunities such as jobs, internships, artist calls, grants, conferences, workshops, and more. This centralized alignment could enhance transparency and lay a foundation for establishing industry standards for wages and the benefits provided for work.
- **Invest in and develop arts hubs and community centers.** Arts hubs offer resources, training, workforce development, and networking opportunities for artists, performers, cultural workers, and content creators, especially for those from historically disinvested communities. When provided access to space, resources, services, and direct employment connections, workers become familiar with the various career pathways within the sector and gain access to high-road employment offering family-sustaining wages, full-time employment, and benefits. In partnership with educational institutions, community, labor, and business, arts hubs would focus on and offer the following:
  - *Workforce Development for Emerging and Existing Workers*
    - Establishing centralized centers where new entrants interested in arts, culture, and design can embark on career paths with access to training, certification, and paid internships.
    - Creating hubs where both new and seasoned professionals in arts, culture, and design can find space, resources, shared services, and job opportunities.
  - *Employer Sustainability*
    - Strengthening and supporting the infrastructure of small, BIPOC-led arts and culture organizations. This would include supporting presenters and arts education providers dedicated to employing diverse artists and cultural workers, ensuring they receive fair, living wages for their work in arts, culture, and design.
  - *Shared Learning and Advocacy*
    - Fostering a collaborative environment in which participating organizations can learn from each other, share their findings, and develop case statements to secure additional funding.
    - Advocating for the region’s creative workforce to access larger resources, such as promoting equitable wages for artists, supporting affordable housing for

artists, and establishing cultural districts to increase job opportunities and stimulate economic growth in local cities.

- Promoting joining with and/or the formation of unions or associations. Note that there are many unions and associations within this sector that advocate for fair wages and sustainable practices for independent artists and create industry standards.

Arts hubs have the potential to facilitate sectoral alignment and foster organizational collaboration by sharing and compounding resources. Collectively, they can function as long-term employment centers, driving a significant shift toward diversifying the Bay Area's economy to encompass a greater proportion of jobs in arts and culture, a sector that is sustainable and regenerative while enhancing and supporting the entire community.

**Potential Partners for This Objective:** BIPOC-led small and midsize arts and cultural nonprofits, labor unions representing workers in the sector (e.g., musicians, stage hands, writers), educational institutions, and high-road employers, among others.

### **Objective 3: Generate direct sectoral demand and stable employment while further enhancing the economic impact of related industries**

Opportunities to generate demand for the arts and culture sector in the Bay Area, and build an economic and social infrastructure that can support ongoing economic opportunity and career mobility for workers, are vital to the sustainability and resilience of this sector. Financial incentives, such as targeted tax credits and rebate initiatives for direct investments within the region, can attract substantial private investment, leading to the creation of high-road jobs that offer fair, family-sustaining wages, benefits, and long-term stability. By fostering growth in arts infrastructure, these investments will also stimulate economic activity in adjacent sectors such as hospitality, tourism, security, trucking, and retail, creating a ripple effect of economic benefits throughout the region.

A recent extension of California's film and television tax credit program, now running through 2030–31, builds on its success of generating more than \$24 billion in economic output and supporting more than 188,000 jobs. The updated program is projected to create 60,000 new jobs and attract \$10 billion in investment. It introduces workforce diversity provisions, boosts funding for career pathways training, and launches a pioneering on-production safety pilot program. Announced in February 2024, 15 selected productions are projected to bring in more than \$400 million to California's economy and employ nearly 20,000 cast, crew, and background performers, directly impacting the Bay Area with planned film days for recent projects set for Alameda, Marin, and San Francisco counties. This expansion leverages California's varied landscapes, attracting productions statewide and stimulating economic growth.<sup>44</sup>

---

<sup>44</sup> California Governor's Office of Business and Economic Development. (2024, February 26). *California's Film & Television Tax Credit Program attracts biggest blockbuster in program history, adding \$166 million to state's economy*. [Press Release]. <https://business.ca.gov/californias-film-television-tax-credit-program-attracts-biggest-blockbuster-in-program-history-adding-166-million-to-states-economy/>

As briefly discussed above, The City of Oakland has sparked the interest of business leaders and professionals through the recent passage of the Oakland Film Initiative. This initiative expands on the statewide tax credit program as well as regional efforts such as the San Francisco film tax rebate program. The initiative offers a 10% rebate on local film production spending, including purchases, rentals, contracted services, and wages for local residents. An additional 2.5% rebate is available for productions with budgets of at least \$250,000 that spend production funds in high-unemployment zip codes or at worker-owned co-ops.<sup>45</sup>

These demand-generating initiatives have the potential to augment adjacent sectors and enhance job quality through target-hire mandates. Recognizing the strength of the arts and culture sector within the various communities throughout the Bay Area and identifying opportunities to boost demand through economic incentives can have a transformative impact. These initiatives would not only stimulate economic growth but also provide widespread community benefits, thereby reshaping the trajectory of this sector across the region.

**Potential Partners for This Objective:** LAAs, artist collectives, industry partners, state and local governments, among others.

## Conclusion

Investing in the arts and culture sector in the Bay Area is crucial for preserving the region's unique identity and cultural legacy. These strategies not only support economic diversification and resilience by boosting adjacent sectors but also provide equitable access to funding and high-road job creation for small and midsize arts organizations. Strategic alignment and targeted initiatives will ensure resources are equitably distributed, particularly benefiting historically disinvested communities, and generating widespread community benefits.

## CHILD CARE AND EARLY CHILDHOOD EDUCATION

### Summary

The child care and early childhood education (CCECE) sector in the Bay Area is foundational to the region's economic and workforce resilience. It forms the backbone of social infrastructure for working families across socioeconomic backgrounds, particularly for women and essential workers with nontraditional work hours. Despite the high demand for child care—with up to 45% of children in a third of the Bay Area counties potentially lacking care<sup>46</sup>—the CCECE sector remains woefully underfunded. Among the predominantly female workforce, which is largely women of color and almost a third of whom are immigrants, more than 80% earn less than a living wage.<sup>47</sup> This double conundrum of high demand for affordable care and the already low wages for workers, creates both inaccessibility for working families, especially low-income and BIPOC families, and low-road jobs for a workforce that

---

<sup>45</sup> Meline, G. (2024, July 17). *It just got a little easier to film a movie in Oakland*. [Arts & Culture]. KQED. <https://www.kqed.org/arts/13961266/oakland-film-initiative-rebate-program>

<sup>46</sup> Bipartisan Policy Center. (2020). Child care gaps assessment. <https://childcaregap.org/>

<sup>47</sup> U.S. Census Bureau. (2023). American Community Survey 5-Year Data (2018–2022). [Data set]. U.S. Department of Commerce.

struggles to attract new recruits. This challenge is largely rooted in the failure to recognize and fund CCECE as the public good it is.

However, there is an opportunity to affect change. Prioritizing investments in this sector can enable broader, equitable workforce participation generally, especially for women, while simultaneously promoting equity and uplifting a vital workforce. The BAJFC recognizes the profound impact the CCECE sector has on the Bay Area economy and that greater investment in this sector is a commitment to economic prosperity, social equity, and the well-being of families across all communities.

#### ***Stakeholder Voice:***

“In the Bay Area, we have experienced decades of underinvestment in state, federal, and local funding to meet the need for affordable child care for families and to pay our child-care workers fair and livable wages. We need to invest in creating pathways to high-road jobs for child-care and ECE workers both to create greater equity for these predominantly female and BIPOC workers and to create a stable supply of affordable, appropriate child care for Bay Area working families.”

—Mary Ignatius, Executive Director, Parent Voices CA

## Definition

### Sector

The CCECE sector provides services and programs supporting the development and well-being of children from birth to age 13. The sector focus is on early learning, social and emotional development, and foundational education. Occupations in this sector include child-care providers and workers, early childhood education (ECE) administrators and teachers, school-aged extended care program coordinators, family resource specialists, early intervention specialists, and support staff. It plays a crucial role in supporting working families, advancing women’s labor force participation, and shaping the future of the region’s youngest residents.

Access to safe, reliable, and affordable child care has long been a challenge for working families, especially those who are historically marginalized and low income. Lack of affordable, quality child care particularly impacts women in the workforce as the responsibility for caring for young children tends to fall disproportionately on women. Thus, the sector is also a cross-cutting foundational strategy as high-quality, economically, and geographically accessible child care is the underpinning for a thriving workforce.

### Sub-Sectors

CCECE includes the following four sub-sectors, each with public and private pay offerings.

- **Licensed Family Child Care Homes (FCCHs):** Licensed by the California Department of Social Services (CDSS), the FCCHs provide home-based care and include two classes: small providers for up to eight children and large providers for up to 14 children.
- **Licensed Centers:** Also licensed by the CDSS, center-based early care and education includes pre-K in schools/transitional kindergarten (TK), faith-based nursery schools, Head Start/preschools and community-based organizations. These types of centers can provide extended care for children from birth to age 13.
- **License-Exempt Family, Friends, and Neighbors (FFN):** These services are provided by a member of the family, a friend, or a nanny.
- **Pediatric Day Health and Respite Care:** This is a specialized form of care for children with specific medical and other health needs. This care is provided by a highly trained, more specialized workforce and is not included in the CCECE sector discussion in this plan.

## Profile<sup>48</sup>

In 2022, the CCECE sector employed 35,991 workers in the Bay Area, of which 56% were full-time jobs and 44% were part-time. This is a decline from 2012, when the Bay Area had 38,413 CCECE workers. Around 44% of CCECE workers provide child-care services, which includes education, training, and library services. Another 42% provide personal care service. Note that the Census counts might not capture all providers in this sector.

The CCECE workforce is predominantly female and largely reliant on immigrant workers: 91% are women, of which 66% are women of color; 43% are foreign-born; and only 77% are proficient in English. The sector provides employment to workers of all ages, but 26% are 50–64 years old, many of whom are likely to retire within the next decade. Workers in this sector have varied educational backgrounds. About 40% have a bachelor’s degree or higher, with 29.2% having only a bachelor’s degree and 11.5% also having a graduate degree. A significant portion, 28.1%, have some college education but no degree.

CCECE earnings vary, but there is a clear stratification.<sup>49</sup> A 2020 analysis by the Center for the Study of Child Care Employment (CSCCE) reveals that small FCCH providers, which are licensed to care for up to eight children, earn the least among the CCECE workforce, ranging from \$23,800 to \$41,800 per year. Large FCCH providers, caring for up to 14 children, tend to have somewhat higher earnings, ranging from \$42,000 to \$56,100, which is still lower than a living wage.<sup>50</sup> The MIT cost of living index indicates a living wage in the Bay Area is about \$30.20/hour, or about \$63,000 per year.<sup>51</sup> Fully 82% of CCECE workers earn less than \$30.20/hour, while around 15% earn \$30.20–\$56.60/hour. Only around 3% earn more than \$56.60/hour.

Occupational data for the CCECE sector shows that most jobs are in three occupations: child-care workers, preschool teachers, and administrators at child-care centers and preschools. These occupations

<sup>48</sup> U.S. Census Bureau. (2023). *American Community Survey 5-Year Data (2018–2022)*. [Data set]. U.S. Department of Commerce. [Applicable to all data in the CCECE Profile section unless otherwise cited.]

<sup>49</sup> The data could be skewed by the share of large FCCH providers and therefore not representative. Nonetheless, it is directional and paints a clear picture.

<sup>50</sup> Montoya, E., et al. (2022). *Early education compensation: Findings from the 2020 California Early Care and Education Workforce Study*. Center for the Study of Child Care Employment, UC Berkeley.

<sup>51</sup> Massachusetts Institute of Technology. (2024). *Living wage calculator*. <https://livingwage.mit.edu/>

provide nearly 31,000 jobs today and are projected to add nearly 6,000 jobs between 2020 and 2030.<sup>52</sup> The bulk of the employment is in the direct service provision—jobs that currently pay median hourly wages of less than \$22 per hour, with the lowest wage subregions being the North Bay (Solano and Sonoma counties). Pay for administrators in the sector is significantly higher, above \$60,000 per year, but requires a bachelor’s degree. These wage levels suggest the need for raising the floor of pay.

Overall, CCECE is largely a low-wage sector with low profit margins. This limits the potential for this sector to attract more workers. Yet, the projected need for workers in this sector is expected to grow significantly. Occupations such as preschool teachers alone are projected to grow by 26% between 2020 and 2030, while child-care workers are projected to grow by a relatively modest 9%.

In addition, many CCECE jobs are without access to affordable health and retirement benefits, forcing many providers and workers to rely on social assistance programs. Overall, around 65% of workers have employer- or union-sponsored healthcare, with a higher percentage among full-time (69%) versus part-time (59%) workers. Recently, California’s Child Care Providers United (CCPU) made California the first state to offer retirement benefits to home-based child-care workers. The union successfully negotiated a \$2 billion two-year deal with the state to secure rate increases, establishing a \$100 million health reimbursement fund and an \$80 million retirement fund.

Relative to their share of the overall workforce, Hispanic/Latinx and Black workers are overrepresented in this sector, whereas White and Asian workers are underrepresented. Wage disparities within the sector exacerbate inequities. White workers constitute 32% of the CCECE workforce but around 41% are among the highest earners. By comparison, Hispanic/Latinx workers constitute almost the same share of the workforce, at 31%, but only about 36% are among the highest earners.

#### Jobs in the Child Care and Early Childhood Sector and Industry, 2020 and 2030

Key Occupations	2020 Job Estimate	2030 Projection	Increase	Median Hourly Wage	Entry-Level Education
Preschool Teachers	15,530	19,600	4,070	\$18–\$22	Associate Degree
Child-Care Workers	12,560	13,700	1,140	\$17–\$19	High School/ Equivalent
Administrators	2,580	3,030	450	\$29–\$38	Bachelor’s Degree

Source: State of California Employment Development Department

The CCECE is local-serving, not a traded sector, which implies that future growth is likely based on a combination of higher spending for services, wider access to services, and overall population growth. It

<sup>52</sup> California Open Data Portal. (n.d.). *Long-term occupational employment projections, 2020–2030*. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-occupational-employment-projections>



is not a sector that can offer services beyond the region. Therefore, unlike traded sectors, the cost of innovation (e.g., new teaching styles such as project-based learning), higher wages and improved service cannot be spread across a wider population beyond the Bay Area. As a result, the sector's growth potential is conditioned on higher public investments in combination with better bargaining power of workers in child-care and preschool centers.

Nationally, families spend more than \$50 billion annually on child care services in what is largely a low-wage, market-based system.<sup>53</sup> It is hard to put an accurate number on the true economic benefits of public spending on the CCECE sector—in terms of equitable access to economic prosperity for all workers, especially women and low-wage workers—but the spillover benefits to the broader economy, and therefore the returns on investment, are likely to be orders of magnitude higher than what is generated through the current system.

## Landscape

### Challenges

- **An Underappreciated Public Good:** Without adequate public funding for an essential service, the recruitment and retention of workers and providers will continue to be a challenge. California has taken some action to improve equitable access through its Master Plan for Early Learning and Care. However, initiatives such as expanding universal TK and funding 200,000 new subsidized child-care slots by 2028 have been hindered by a shortage in providers and workers. To create comprehensive CCECE solutions, investment in providers and workers must occur in tandem with policies geared to expand access.
- **Supply-and-Demand Gap:** There is a shortage of providers and workers in CCECE in part because it is a low-margin industry without the financial incentive to attract and retain a stable workforce. Workers lack benefits and find it difficult and time consuming to secure licensing and opportunities for upward mobility. These labor shortages have a direct impact on the sector's significant supply and demand gap, leading to a growing number of unmet child-care needs for Bay Area families.<sup>54</sup>
- **Equity Child-Care Impact on Women Workers:** The dominance of women and the concentration of people of color in this sector reflect occupational segregation, which is influenced by historical policies, social narratives, and cultural norms. Work performed by women, stereotypically referred to as "pink-collar work," remains undervalued and underpaid in our economy contributing to gender wage gaps. The disproportionate impact of CCECE extends to the women's workforce broadly. At the height of the pandemic, 2 million women were pushed

---

<sup>53</sup> Bipartisan Policy Center. (2023). *Building bipartisan support for child care toolkit: 2023 update*. <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2023/02/BPC-ECI-Bipartisan-Toolkit-2023-Update-Full-Report.pdf>

<sup>54</sup> Bipartisan Policy Center. (2020). *Child Care Gaps Assessment*. <https://childcaregap.org/>

out of the workforce, many citing lack of available childcare as a reason. “The ‘She-cession’ is estimated to have set women’s labor force participation back to the lowest rates since 1988, in stark contrast with January 2020, just before the global pandemic, when women made up the majority of the labor force for the first time in U.S. history.”<sup>55</sup>

- **Availability of Facilities:** Expanding child care as a social infrastructure necessitates suitable physical infrastructure. Barriers to acquiring, expanding, and maintaining child-care facilities limit sector growth. Compliance with strict regulatory requirements can put renovation costs beyond the means of potential providers. Rising real estate/rental, insurance and utility costs, zoning, and permit fees create more financial burden.
- **Nontraditional Hours:** In California, 35% of children under age six have parents with nontraditional working hours. Low-income Black and Hispanic/Latinx families are more likely to hold such jobs: 48% of Black and 41% of Hispanic/Latinx children have parents who work nontraditional hours compared to 25% of White children.<sup>56</sup> Regular child-care centers typically do not accommodate schedules outside of 7 a.m. to 6 p.m., presenting significant challenges for families working nontraditional hours, such as nurses, paramedics, janitorial service, construction, and firefighters, and more. This gap often leaves essential workers without reliable child care.
- **Cost of Care:** Pandemic effects, coupled with high inflation, have driven up child-care costs, making it prohibitively expensive for working families. According to the U.S. Department of Health and Human Services’ guidelines, child care is considered affordable when it is less than 7% of a household’s income. Child-care costs in all Bay Area counties were much higher than this threshold, making child care effectively unaffordable to a large share of families in the region.<sup>57</sup>
- **Universal TK Expansion:** The expansion represents both a challenge and opportunity to both workers and consumers in this sector. California’s universal TK expansion aims to ensure equitable, high-quality education for all students, regardless of socioeconomic backgrounds. It therefore extends TK to all four-year-olds for the 2025–26 academic year. The policy is well-intentioned, but its rollout has created challenges for working parents and early childhood education providers. ECE centers provide both education and extended care, which benefits parents who rely on before- and after-school care, but Universal TK does not include care beyond the set school hours, leaving many parents struggling to find suitable options for their children beyond the school day. This gap in care forces parents to seek alternatives such as before- and after-school programs, private child care, or nannies, which many families cannot

---

<sup>55</sup> Farrell, M., & Angel, T. (2021, November). *Women breaking barriers: A guide to recruiting, training and retaining women in the residential construction trades*. Washington, DC: Building Talent Foundation.  
<https://static1.squarespace.com/static/5ea08129e26e0e4587370aed/t/626821e54ddc5b50b77fd858/1650991589572/Women+Breaking+Barriers+%281%29.pdf>

<sup>56</sup> Schilder, D., Willenborg, P., Lou, C., Knowles, S., & Jaramillo, J. (2021). *Comparing potential demand for nontraditional-hour child care and planned policies across states*. Washington, DC: Urban Institute.

<sup>57</sup> Bay Area Jobs First Collaborative. (2023, December). p. 293.

afford.<sup>58</sup> In addition, losing four-year-olds has left many providers financially burdened, forcing them to increase the average costs for the families of younger children remaining in their care.<sup>59</sup>

## Opportunities

- **State Priorities and Political Will:** California’s Master Plan for Early Learning and Care underscores the growing awareness among policymakers of the importance of this sector. The Plan aims to build a comprehensive, equitable learning system while also growing the workforce. It includes strategies for expanding access to preschool; enhancing career pathways for educators and caregivers; addressing regional cost differences; providing sustainable funding models, shared service networks, and dual language support; and prohibiting suspensions and expulsions.<sup>60</sup>
- **Regional Initiatives for Child-Care and Workforce Investments:** Several Bay Area counties have passed or have pending child-care funding measures that include investments in workforce development. San Francisco voters approved Proposition C, creating a commercial rent tax to increase subsidized vouchers and wages for ECE workers via salary support grants and compensation and retention stipends.<sup>61</sup>
  - The reported impact of Prop C as of 2023 was a 47% increase in salaries, a \$12,336 average annualized wage impact from stipends, 27 new facilities creating 552 new slots, and a 72% reduction in wait-listed families, as well as 73%–83% of employees intending to remain with their employer for the next two years—a complete reversal from the pre-pandemic turnover rate of 74% every two years.<sup>62 63</sup>
  - Similar efforts in Alameda, Sonoma, Santa Clara, and Napa counties aim to provide substantial investments in the CCECE sector infrastructure, ensuring that facilities are modernized and equipped to meet the needs of young learners.
  - In addition, workforce development has emerged as a key focus, with plans to provide paid training programs, higher wages, and improved overall job quality as well as create clear, accessible career pathways for providers.
- **Universal TK:** As mentioned before, universal TK is both a challenge and an opportunity. California’s PK-3 Early Childhood Education Specialist Instruction Credential primarily targets professionals with a bachelor’s degree and a Child Development Permit (CDP) to meet the

---

<sup>58</sup> Torres, B. (2024, June 12). *As California’s transitional kindergarten enrollment grows, parents must make big choices*. KQED. <https://www.kqed.org/news/11989789/as-californias-transitional-kindergarten-enrollment-grows-parents-must-make-big-choices>

<sup>59</sup> Four-year-olds require lower staff-to-child ratios, which allows providers to cross subsidize services for younger children who require a higher staff-to-child ratio.

<sup>60</sup> California Health & Human Services Agency. (2024). *Master Plan for Early Learning and Care*. <https://www.chhs.ca.gov/home/master-plan-for-early-learning-and-care/>

<sup>61</sup> Nguyen, D. (2023). *How a local tax is keeping much-needed child care in San Francisco affordable*. KQED. <https://www.kqed.org/news/11948690/business-tax-provides-crucial-funding-for-early-childhood-education-and-care-in-san-francisco>

<sup>62</sup> San Francisco Department of Early Childhood. (2023). *Increased educator pay through the Workforce Compensation Initiative to reshape early educator landscape*. [2023 Impact Strategy]. <https://sfdec.org/increased-educator-pay-through-the-workforce-compensation-initiative/>

<sup>63</sup> San Francisco Department of Early Childhood. (2023). *2023 Annual Impact Report*. <https://sfdec.org/2023-annual-impact-report/>

demand for qualified early education teachers as part of the state's Universal TK initiative. The program also aims to create more inclusive pathways for experienced child-care workers without a four-year degree through offering additional training and education, leveraging partnerships with community colleges, and recognizing prior experience. However, it is important to point out that while this is a future goal of the program, there is still not a defined path to getting there.<sup>64 65</sup>

- **Family, Friends, and Neighbors:** The lack of data on the FFN sub-sector downplays its significance, but these informal support systems provide not only a service but also a lifeline for low-income and marginalized families priced out of the market and for essential workers. FFN workers provide a key service in underserved communities, particularly for infant care. FFN work is also an important source of employment for a large section of the child-care workforce who have skills and experience but do not have the resources (or the real estate) to establish a formal child-care business and meet all the requirements for state licensing.<sup>66</sup>

## Assets

Key assets for driving change in CCECE include a wide range of organizations in the Bay Area. Nonprofit partners offer resources and support for child-care providers and families, including resource and referral networks. Philanthropic organizations currently play a key role in providing supplemental funding and will remain crucial partners. The Bay Area's expansive community college system currently offers ECE coursework, certifications, and degrees and will make for good partners in scaling and expanding Paid Early Learning apprenticeships. Universities and research institutions offer in-depth research and insights, complementing the work of nonprofit and philanthropic organizations. Other organizations engaged in this sector are First 5, the largest CCECE network in California; unions advocating for workers and providers (CCPU, SEIU 521, and SEIU 1021); local area nonprofits connecting families to care such as Bananas Child Care Resource; grassroots advocacy groups such as Parent Voices; and subject matter experts and policy advocates such as the UC Berkeley Center for the Study of Child Care (CSCCE) and the Public Policy Institute of California (PPIC).

## Prospects

As long as the overall economy continues to expand, drawing more workers and families to the Bay Area, the need for affordable child care and early childhood education will continue to increase. Major improvements are needed in the CCECE sector such that all working families are supported with accessible and affordable child care, ensuring their ability to pursue training, education, and career advancement and every child's care needs are met in culturally, linguistically, and developmentally appropriate ways. At the same time, it is crucial that the workers who provide this critical service that

---

<sup>64</sup> Fensterwald, J. (2022, June 17). *California to create teaching credential covering pre-K through 3rd grade that requires literacy training*. EdSource. <https://edsource.org/2022/california-to-create-teaching-credential-covering-pre-k-through-3rd-grade-that-requires-literacy-training/674316>

<sup>65</sup> California Commission on Teacher Credentialing. (2023, April 25). *Commission adopts regulations for new PK-3 Early Childhood Teaching Credential*. [Press release]. <https://www.ctc.ca.gov/commission/newsroom/press-releases/2023/2023-01>

<sup>66</sup> Stakeholder feedback from Louise Auerhahn, Director of Economic and Workforce Policy, Working Partnerships USA, July 8, 2024.

keeps the economy running also be supported and valued and be able to build profitable businesses and secure living wages, accessible health and retirement benefits, and opportunities to grow and advance. The strategies outlined below address the needs of providers, workers, and families. Although ultimately a fundamental change in CCECE funding structure is required, the Bay Area is already implementing important policy changes and stepping up and standing at the forefront of transformative change for this sector.

## Investment Strategies

Investment strategies for the CCECE sector will help achieve the following objectives:

1. Raise the floor and transform CCECE careers into viable family-supporting, high-road, high-quality economic opportunities.
2. Create equitable access and remove barriers for providers, workers, and families.
3. Provide the physical infrastructure needed for the sector to grow.

### **Objective 1: Raise the floor and transform CCECE careers into viable, family-supporting, high-road, high-quality economic opportunities**

To make structural change in the CCECE sector, it is important to address the underlying financial structure of the sector and increase rates of unionization. One approach to making this change would be to establish a region-wide advocacy effort to transform the funding structure for child care to mirror that of the public education system and to recognize child care as a critical public good. This approach would address the needs of both subsidized and private service providers.

The goals of this effort would be as follows:

- Provide child care as a public good supported with public funding to bring child-care funding on par with the true costs of providing care.<sup>67</sup>
- Eliminate administrative enrollment barriers for families.
- Make permanent the “Hold Harmless” policy set to expire in 2025, which shifts subsidies from attendance-based to enrollment-based funding.
- Renew and expand access to the Health Benefit Trust and Retirement Benefit Trust, which provides healthcare and retirement security to child-care and early childhood education workers. The benefit is secured through the CCPU Collective Bargaining Agreement, which is set to expire in 2025.
- Ensure that credentialing, especially when it is a requirement, is aligned with commensurate pay and wage floors.
- Recognize and reward the skills and value that is inherent in the FFN workforce by strengthening formal payment structures for license-exempt FFN workers.
- Enhance awareness, education, and outreach among all sub-sectors of the workforce, including center-based providers (which provide service to groups of children, often placed in classrooms by age), to create joint efforts across the CCECE sector.

---

<sup>67</sup> Capito, J., Kenyon, K.F., & Workman, S. (2022, August). *Understanding the true cost of child care in California: Building a cost model to inform policy change*. P5 Fiscal Strategies.  
[https://www.prenatal5fiscal.org/files/ugd/8fd549\\_831af20bfb4142b59fda11194bb908fd.pdf](https://www.prenatal5fiscal.org/files/ugd/8fd549_831af20bfb4142b59fda11194bb908fd.pdf)

- Educate providers and workers on how union-backed advocacy and collective bargaining can improve job quality, wages, benefits, and economic policies that improve resilience.

*Creating and facilitating upwardly mobile career paths through workforce training, including reducing barriers to obtaining training and credentials, is key to transforming CCECE jobs into high-road jobs.* An important strategy to achieve this is expanding licensed-center workforce apprenticeships to provide paid pathways for recruiting and training child-care workers and gaining ECE credits in preparation for continued education. A potential model is Pathways to Success, a YMCA grant-funded, state-accredited apprenticeship program offered through five community colleges and two four-year-degree colleges that helps build the talent pool for local center-based hiring. Its pre-development program allows high school students to graduate with 6–12 units of ECE credits, after which they can pursue state-accredited apprenticeships, pursue further education toward obtaining ECE credentials, or secure employment that offers a steady source of income while in school. It is an evidence-based intervention (EBI) program specifically designed for adult workers with disabilities.<sup>68</sup> Potential funding sources for this approach include U.S. Department of Labor (DOL) Registered Apprenticeships and DOL Critical Sectors Job Quality grants.

*An opportunity exists to leverage the changes coming to the sector with TK expansion by offering more early learning TK apprenticeships to create a paid pathway for new and existing child-care workers to move into and up the career ladder.* Components of this approach could include the following:

- Design programs to meet learners’ and workers’ holistic needs by incorporating the recommendations outlined in Section VII.A.: Removing Institutional and Structural Barriers (see “Boost investment in and expand paid high-road training and holistic program design”).
- Modernize curricula to include lessons on how to respond to climate emergencies, address implicit and explicit bias, coach and support children with special needs, and increase accessibility by offering on-site multilingual training.
- Align wages and subsidies with level of training to ensure that workers and providers are rewarded as they gain more training and credentials.

A potential model for region-wide expansion is the Early Learning DOL Registered Apprenticeship pilot in the South Bay, offered through Mission College and DeAnza College in partnership with First 5 Santa Clara.<sup>69</sup> The first cohort from this program graduated in May 2024. Three more cohorts are in progress. The apprenticeship model opens doors for participants to gain paid work experience while pursuing their college education. In February 2024, a new PK-3 ECE Specialist Instruction Credential was approved and apprenticeship pilots are currently under way.

## **Objective 2: Create equitable access and remove barriers for providers, workers, and families**

*Creating more equitable access for low-income and marginalized families includes meeting families’ diverse needs and improving the process for connecting families with providers.* Important strategies to achieve include the following:

- Provide child-care services during evenings, weekends, irregular hours, or 24/7 to accommodate working families with nontraditional work schedules and essential workers—firefighters, nurses,

<sup>68</sup> The YMCA. (n.d.). *What is the program?* <https://teachymca.org/the-program/>

<sup>69</sup> First 5 Santa Clara County. (n.d.). *First 5 Santa Clara County: Early learning workforce initiatives*. [Slide show].



grocery, and foodservice workers, who are disproportionately BIPOC, with irregular work schedules.<sup>70</sup> Nontraditional child-care hours not only enable workers to access family-sustaining careers but also allow working parents to pursue advancement opportunities such as evening and weekend courses that could ultimately improve career opportunities. These services are currently provided by license-exempt and unpaid family, friends, and neighbors. Simplifying licensing processes may even open up economic opportunities for such providers within the CCECE sector.

- Establish multi-age child-care centers with several care offerings for families with children straddling age groups to provide a single point of care. Age limitations mean families with multi-age children must seek care in multiple facilities.
- Establish one or more online child-care matching platforms in the Bay Area to create a single go-to source for finding providers that meet families' distinct needs, while helping service providers advertise openings and services. Such platforms have the capacity to match care based on location, hours of availability, openings by child age, and cultural, linguistic, and medical needs. Additional benefits include the following:

- A centralized eligibility list that provides CCECE workers and consumers the freedom and flexibility to find care and employment throughout the region, potentially reducing spatial inequalities
- Streamlined access to child-care and preschool programs that simplifies the process for families seeking child-care assistance and supports the efficient allocation of available resources.<sup>71</sup> <sup>72</sup> A successful model for this is San Francisco's Early Learning SF initiative. Managed by the San Francisco Office of Early Education in partnership with the Children's Council of San Francisco, Wu Yee Children's Services, and Compass Family Service, the initiative allows families to apply for financial aid and select the child-care options that best meet their needs through a single application process. The system connects families to early education programs and ensures that providers are matched with families whose references align with their services.

*Making licensing more accessible and expanding small business support for FCCH and FFN providers is another avenue to increasing the availability of quality, accessible child care for working families while simultaneously removing barriers for child-care providers to move into higher-road employment. Options to achieve this include the following:*

- Create more accessible pathways to licensing for license-exempt FFN providers including paid, multilingual on-site training options. Equip FFN providers with accessible high-quality programming, activities, and resources to provide education and enrichment to the children in their care.
- Strengthen and expand provider networks that offer support in administration, compliance, capacity building, small business management, networking, and sharing and pooling of resources (e.g., best practices, curriculum development, supplies, and shared substitutes).
- Conduct a mapping analysis to identify child-care deserts in the region, especially in disinvested, historically marginalized, and low-income communities.

---

<sup>70</sup> San Francisco Foundation. (2020, May 13). *Bay Area's essential workers are disproportionately people of color, women and immigrants, new study finds*. <https://sff.org/bay-areas-essential-workers-are-disproportionately-people-of-color-women-and-immigrants-new-study-finds/>

<sup>71</sup> Reset San Francisco. (2011). *Can I get help with childcare (day care) in San Francisco right away, or is there a waiting period? [FAQ]*. <https://www.reset-sanfrancisco.org/faq/can-i-get-help-with-childcare-day-care->

<sup>72</sup> Children's Council San Francisco. (2024). *Early Learning SF*. <https://www.childrenscouncil.org/elsf/>



Employers can also be part of the solution to increasing access for working families by adding to the number of worksite child-care centers. This can be accomplished by leveraging cross-sector partnerships, policy reforms, and grant funding eligibility requirements to incentivize employer investment in establishing on-site/near-site child-care facilities. A model for this kind of strategy is included in the CHIPS Act, which set a historic precedent by requiring manufacturers applying for \$150 million or more in grants to provide or identify nearby child-care services. This requirement advances the goals of recruiting and retaining women in manufacturing and improving gender pay gaps due to occupational segregation. Identify state and local funding opportunities in industries where women are underrepresented, but offer family-sustaining wages to replicate this model. The federal government’s “CHIPS Women in Construction Framework” offers a model for securing employers’ commitment to adopting an equitable workforce development framework to increase the number of women in the construction workforce, including by ensuring the availability of child care. Other models found in “The Child Care Roadmap for Employers” developed by the U.S. Chamber of Commerce Foundation may also be useful.<sup>73</sup>

### **Objective 3: Provide the physical infrastructure needed for the sector to grow.**

As discussed above, an increase in investment in physical infrastructure for the provision of child care is needed to maintain, expand, and grow the sector. Reestablishing the Child Care and Development Infrastructure Grant Program to provide grants to upgrade eligible facilities could help address this need. In addition, child-care providers, families, advocates, and others with an interest in the sector can work to ensure that local zoning allows for child-care centers to expand and that existing laws (e.g., SB 234<sup>74</sup>) are being enforced that establish child care as residential use and prevent business licenses, fees, or taxes. Policy makers can also explore the repurposing of public spaces such as schools, and commercial spaces to create more child-care centers.

**Potential Partners for These Objectives:** Child-care and early childhood education advocacy groups; community-based organizations and nonprofit partners; child-care network providers; resource and referral agencies; philanthropic organizations that have long supported the sector by filling crucial funding gaps; the Low Income Investment Fund; Build Up CA; training providers; community colleges and the Bay Area Community College Consortium (BACCC); county Offices of Education; local, state, and federal governments; unions representing workers in education; workers and providers including family, friends, and neighbors; organizations representing the voices of parents and families; and parents and families themselves.

## **Conclusion**

Child care and early childhood education is both a sector that must grow to service the needs of Bay Area working families, especially women, as well as an employment opportunity for women, immigrants, and workers who may not have English language proficiency. To expand affordable service

---

<sup>73</sup> U.S. Chamber of Commerce Foundation. (2020). *Childcare solutions for working parents*. [Employer Roadmap]. [https://chamber-foundation.files.svdcn.com/production/documents/ECE-Employer-Roadmap\\_March-2022\\_web.pdf?dm=1704748799](https://chamber-foundation.files.svdcn.com/production/documents/ECE-Employer-Roadmap_March-2022_web.pdf?dm=1704748799)

<sup>74</sup> Governor’s Office of Planning and Research. (2022, September 20). *OPR develops an SB 234 factsheet about supporting child care family home expansion*. [Announcement]. <https://www.opr.ca.gov/news/2022/09-20.html>

to families while also ensuring job quality for the workforce, the public, private, and nonprofit sectors, including philanthropy, must build a policy, funding, and regulatory framework that facilitates achieving both aims: expand access and raise job quality.

# CONSTRUCTION

## Summary

The construction sector stands as a cornerstone of the Bay Area’s economy, offering high-road, family-sustaining jobs with comprehensive benefits. Driven by the region’s dynamic economic landscape, rising housing demand, and progressive climate policies, this sector is at the forefront of sustainable and resilient building practices, addressing environmental concerns, and mitigating seismic risk.<sup>75</sup> With historic investments slated for infrastructure upgrades and new projects in the coming decades, the industry is set to create a surge in employment opportunities. This growth presents a substantial chance for young people of all backgrounds to join apprenticeship programs, securing high-quality careers in a field with an aging workforce. Moreover, as the Bay Area intensifies efforts to electrify its building stock and decarbonize the economy, these construction jobs will play a crucial role in enhancing climate resilience. Importantly, the sector also provides a vital avenue for advancing equity, offering historically marginalized communities access to stable and rewarding employment, thereby fostering inclusive economic growth.

### **Stakeholder Voice:**

“Through inclusive local hiring, strong training, and apprenticeship and pre-apprenticeship programs in the construction sector, we can provide pathways to careers in skilled trade unions that offer livable wages and benefits so people can support their families in the Bay Area. This is life-changing for people from communities that historically have been shut out of those opportunities, especially women and people of color. I myself went from growing up in low-income housing to being a homeowner thanks to City Build and Local 3.”

—Meg-Anne Pryor, Apprenticeship Coordinator, Operating Engineers 3, Joint Apprenticeship Training Center District 1

## Definition

### Sector

The Bay Area construction sector is essential for developing, maintaining, and renovating residential, commercial, industrial, and infrastructure projects, driving the region’s prosperity. The sector is supported by a variety of skilled building and construction trade crafts including plumbers, pipefitters,

---

<sup>75</sup> FEMA, U.S. Department of Homeland Security. (2004, January). *Primer for design professionals: Communicating with owners and managers of new buildings on earthquake risk*. [Risk Management Series]. [https://www.fema.gov/pdf/plan/prevent/rms/389/fema389\\_ch2.pdf](https://www.fema.gov/pdf/plan/prevent/rms/389/fema389_ch2.pdf)

steamfitters, heavy equipment operators, electricians, iron workers, sheet metal workers, glaziers, laborers, carpenters, brick layers, painters, roofers, and cement masons, as well as contractors, developers, and safety managers. A highly skilled construction trades workforce is vital for the overall economic health of a Bay Area region that depends on essential infrastructure, facilities, and housing. The Bay Area construction industry has developed a training and employment structure through state-accredited apprenticeship programs jointly managed by labor unions and employers. This structure produces some of the most skilled trades workers in the world, integrating technological advances that increase efficiency to support the exacting demands of the tech and biotech industries for precision construction of their facilities.<sup>76</sup> Also supporting a network of suppliers, subcontractors, and service providers, the construction sector amplifies its economic impact. Public works construction projects, such as transportation systems and community facilities, improve access to essential services and enhance residents' quality of life, particularly in underserved areas. Examples of significant projects in the public sector include seismic upgrades to the Golden Gate Bridge, ensuring its resilience in the event of an earthquake, and the expansion of the Bay Area Rapid Transit (BART) system, which improves transportation access and reduces traffic congestion, benefiting the environment and the community. By driving economic equity, climate resilience, and high-road jobs, the construction sector is crucial to the Bay Area's sustainable and inclusive growth.

## Sub-Sectors

The construction sector can be sub-divided in multiple ways. In the Bay Area region, there is a clear need and opportunity for construction workforce growth in one area: residential construction.

The Bay Area's housing crisis has become its defining feature. A severe shortage of affordable housing has put the American Dream out of reach for the next generation, restricted the region's economic competitiveness, and resulted in extremely high levels of homelessness that is now common in cities across the region. A dramatic increase in housing production that achieves widespread, abundant affordable housing options is critical to the economic vibrancy of the region, to advancing homeownership options for low- and moderate-income people, and to advancing equity throughout the region.

### Ensuring Job Quality: Equitable Career Pathways

Legislators hope that streamlining regulations and enforcing regional planning targets will go a long way toward stimulating the housing production the region needs, but if the Bay Area is to complete these units it will need the right talent to do so. The Bay Area needs to prioritize job quality in residential construction and invest in scaling up quality training via joint labor-management apprenticeships—that is the high-road path toward containing overall project costs and ensuring adequate skilled labor supply and effectiveness of training investments.

Various federal and state programs are focused on training the next generation of apprentices, and could be leveraged by our region:

---

<sup>76</sup> UA Local 393 Pipe Trades Training Center. (n.d.). *Construction technology*. <https://www.pttc.edu/construction-technology>

- In July of 2024, the Biden administration announced a \$244 million investment in the **Registered Apprenticeship system**, marking the largest ever federal investment in this program – the gold standard earn-and-learn training pathway.<sup>77</sup>
- In July of 2022, the California Division of Apprenticeship Standards announced the launch of the **California Youth Apprenticeship Committee** and the **California Youth Apprenticeship Grant Program**, both enabled by SB 191. The Youth Apprenticeship Grant Program is the state’s first major investment in youth apprenticeship programs, providing \$20 million for FY 2022-2023 with the aim of reaching 500,000 active apprentices by 2029.

### The Next Wave of Housing Production

Housing market innovations—such as modular construction and utilization of mass timber—also present opportunities to hasten the pace of housing production while providing new types of construction roles.

For decades, the construction industry has faced productivity challenges, consistently lagging other sectors. Modular construction boosters promise a transformative solution by moving many building activities from traditional sites to factories, utilizing off-site, manufacturing-style production. Although not a new concept, recent technological advancements, economic pressures, and shifting perspectives have generated unprecedented interest and investment in modular construction. If widely adopted, this approach could significantly enhance productivity, help address housing shortages in various markets and fundamentally change how the region builds. However, modular construction faces significant headwinds including a challenging financing model,<sup>78</sup> concerns about quality, labor, and construction standards,<sup>79</sup> and limited production capacity.<sup>80</sup> The industry is also not currently integrated with apprenticeship-based workforce development practices.

Several start-ups in this field call the Bay Area home, either having their headquarters here and manufacturing elsewhere, or doing both within the region:

- **Adobu** is headquartered in Redwood City and builds ADUs ranging from studios to two bedroom units.
- **Factory\_OS**: Founded in 2016, Factory\_OS constructs multi-family modular prefabricated housing. Their Vallejo factory on Mare Island employs innovative techniques to deliver affordable units rapidly, using union labor and software provided by Autodesk.
- **Mighty Buildings** is building prefabricated accessory dwelling units (ADUs) in Oakland. By using 3D printing, robotics, and automation, their customizable home kits aim to have 99% less waste and a lower carbon footprint.

<sup>77</sup> The White House. (2024, July 11). Fact sheet: Biden-Harris administration announces record federal investments in registered apprenticeships, holds workforce hub convening in Philadelphia with new commitments to train and hire workers. The White House. <https://www.whitehouse.gov/briefing-room/statements-releases/2024/07/11/fact-sheet-biden-%E2%81%A0harris-administration-announces-record-federal-investments-in-registered-apprenticeships-holds-workforce-hub-convening-in-philadelphia-with-new-commitments-to-train-and-hire/>

<sup>78</sup> Stein, A. (2023). *Disruptive development: Modular manufacturing in multifamily housing*. Turner Center for Housing Innovation. [https://turnercenter.berkeley.edu/wp-content/uploads/pdfs/A.Stein\\_PR\\_Disruptive\\_Development\\_-\\_Modular\\_Manufacturing\\_in\\_Multifamily\\_Housing.pdf](https://turnercenter.berkeley.edu/wp-content/uploads/pdfs/A.Stein_PR_Disruptive_Development_-_Modular_Manufacturing_in_Multifamily_Housing.pdf)

<sup>79</sup> Honest Builders Coalition. (n.d.). *Home*. Honest Builders Coalition. Retrieved December 2, 2024, from <https://www.honestbuilderscoalition.org>

<sup>80</sup> Turner Center for Housing Innovation. (2022, February). *Southern California off-site construction: Opportunities for scaling the production of affordable housing*. Turner Center for Housing Innovation. <https://turnercenter.berkeley.edu/wp-content/uploads/2022/01/Southern-California-Off-Site-Construction-February-2022.pdf>

- **Villa Homes** is located in San Francisco and is California’s number one provider of prefabricated ADUs designed for infill locations.

Mass timber is another housing construction innovation--referring to large, solid wood panels or components used in construction, which are engineered to provide strength and stability for buildings. It typically includes products like cross-laminated timber (CLT), glue-laminated timber (glulam), and laminated veneer lumber (LVL). These materials are made by layering and bonding pieces of wood together, resulting in structures that can rival traditional materials like steel and concrete in terms of durability and fire resistance.

Mass timber is also celebrated for its environmental benefits, as it sequesters carbon and is considered a renewable resource. Additionally, mass timber construction can be faster and more efficient than traditional methods, as many components can be prefabricated off-site. This innovative approach is gaining traction in sustainable building practices and is seen as a viable solution for addressing housing shortages. For example, **oWOW** is located in Oakland and is currently developing the tallest mass timber building on the West Coast, and one of the tallest wood buildings in the world.

A string of aggressive regulatory reforms and a variety of innovative construction methods have the potential to reinvigorate the Bay Area’s new housing supply. However, it will take both innovative policies and construction methods paired with an investment in the next generation of tradespeople to actually build these housing units. In some cases, the two will rely on each other—for example, effectively implementing mass timber projects requires a workforce specifically trained in these new materials.

### Profile<sup>81</sup>

The construction sector is a significant employer across the Bay Area, playing a crucial role in the region’s economic landscape and ongoing development efforts. The sector employed 234,815 workers in the region as of 2022, compared to 200,104 workers in 2012. The sector is characterized by higher rates of full-time employment, with 175,862 full-time workers compared to 58,953 part-time workers.

The sector employs workers across all age groups, with the largest concentration in the 35–49 age range (89,729 workers). There is also significant representation in the 50–64 (67,579) and 25–34 (50,869) age groups. The sector provides fewer opportunities for the youngest (16–24) and oldest (65+) workers, though still employs 15,114 and 11,524 in these groups, respectively. The sector does however suffer from a gender imbalance, with men dominating the workforce: there are 209,127 male workers compared to only 25,688 female workers, reflecting the traditionally male-dominated nature of the industry.

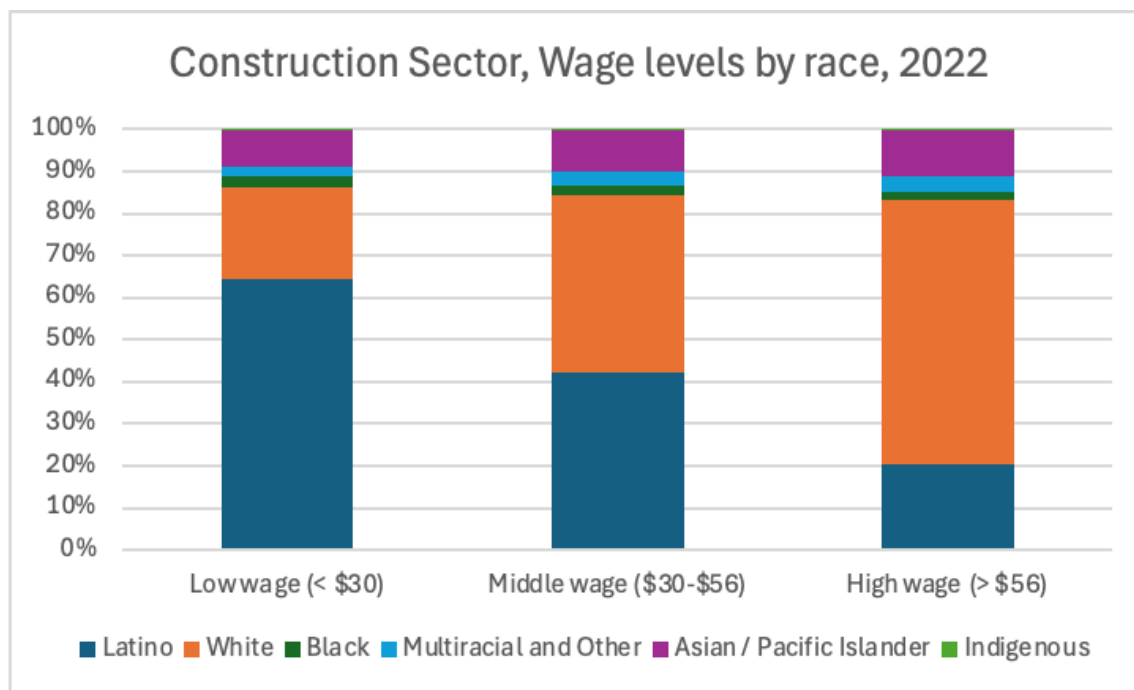
The sector employs both U.S.-born (135,702) and immigrant (99,113) workers. More than 72% of workers are English proficient, 20% have a bachelor’s degree or higher (15.1% have only a bachelor’s degree and 5% also have a graduate degree), and 30.2% have a high school diploma or equivalent as their highest level of education.

---

<sup>81</sup> U.S. Census Bureau. (2023). American Community Survey 5-Year Data (2018–2022) [Data set]. U.S. Department of Commerce. [Applicable to all data in the Construction Profile section.]

The most common occupations in the sector are directly related to construction trades (142,672 workers), followed by management (44,245) and office and administrative support (12,732). While a plurality of jobs are in the lowest-wage categories, the sector has a more even distribution across earning categories. About 44.8% of workers earn in the lowest-wage category (\$0–\$30.20/hour), 34.9% are in the middle range (\$30.20–\$56.60/hour), and 20.3% are in the highest-wage category (\$56.60+/hour). About 77.3% of workers in this sector commute by car or motorcycle, the highest percentage among the sectors analyzed in this report, reflecting both the spread out pattern and location of construction activities and the presence of workers commuting in from outside the region. Only 7.3% work from home, reflecting the on-site nature of most construction work. About 64% of workers in this sector have employer- or union-sponsored healthcare, with a higher percentage among full-time workers (69%) compared to part-time workers (49%).

The construction sector employs a diverse workforce, with a large representation of Hispanic/Latinx workers who make up the largest group (115,382), followed by White workers (92,231). Asian (23,062) and Black (6,325) workers are also represented, though in smaller numbers. When analyzing race/ethnicity by wage level, White workers are disproportionately represented in the highest-wage jobs in the sector (63% of those jobs), whereas Hispanic/Latinx are disproportionately employed in the lowest-wage jobs (64% of those jobs).



Full-time employment is common across all counties, suggesting stable, ongoing work in the sector. The largest share of the workforce are in counties with a significant tech sector or where materials processors and suppliers are located (Santa Clara, Alameda, and Contra Costa). Even in counties with stricter development policies (Marin and Napa), construction maintains a notable presence.



The sector added about 35,000 jobs from 2012 to 2020. State projections show additional growth of about 25,000 new jobs from 2020 to 2030, a 12.4% increase.<sup>82</sup> Growth is projected in all counties though the highest rates of new construction workers are projected for Marin and Napa counties (more than 20% growth each). The state’s employment growth projections for the construction sector (12.4%) are lower than that for the regional economy (17.6%), likely reflecting the challenge of building new projects or infrastructure in the Bay Area.

The state’s projections may mask potential growth opportunities created by public policy such as efforts to address housing affordability and homelessness (through a regional housing bond) or the region’s investment in accelerating clean energy transition. The region’s ongoing needs for more housing and resilient infrastructure suggests construction will remain a crucial part of the Bay Area’s economy.

Construction trades remain the largest source of employment opportunities and growth potential in the region, with nearly 20,000 new jobs expected to be added between 2020 and 2030.<sup>83</sup> When combined with job openings (opportunities created when a worker leaves the workforce, thus opening up a new job), the sector offers tens of thousands of jobs that could potentially provide a pathway for younger workers to gain employment in construction, which offers a median hourly wage that ranges from \$30 to \$37. For example, electricians earn median hourly wages of \$32 (North Bay) to \$50 (West Bay) with about 3,000 new jobs projected between 2020 and 2030.

Finally, the diversity of the workforce, particularly the strong representation of Hispanic/Latinx workers and the presence of workers with limited English proficiency, indicates that the sector provides employment opportunities to all Bay Area workers.

#### **Why Labor Standards Matter**

Having high labor standards in any sector is often consistent with the sector not only paying living wages and emphasizing worker voice but also providing tangible benefits to the community. Labor standards attract and retain high-performing, productive workers to the construction industry, and adequate enforcement and compliance mechanisms ensure these standards are adhered to. Strategies to improve job quality, create high-road jobs with equitable access, and foster climate resilience would lead to a skilled and diverse workforce that receives prevailing wages with access to affordable healthcare, retirement benefits, sick leave, overtime pay, and workers’ compensation—fostering a healthy and sustainable economic environment. Some of the benefits of increasing labor standards specific to the construction sector are as follows:

- **Living Wages and Benefits:** Unionized construction workers in the Bay Area often receive a prevailing wage<sup>84</sup> that more closely reflects the high cost of living in the region. In addition, employers contribute to an overall benefits package that includes hourly wages, health insurance, and retirement plans. This total compensation includes fair hourly wages, health insurance and retirement plans, and paid leave, compounding the overall regional economic impact and perpetuating stability within the community.

<sup>82</sup> State of California Employment Development Department. (2024). Employment projections.

<https://labormarketinfo.edd.ca.gov/data/employment-projections.html>

<sup>83</sup> California Open Data Portal. (n.d.). *Long-term occupational employment projections, 2020–2030*. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-occupational-employment-projections>

<sup>84</sup> The U.S. Department of Labor defines prevailing wage as “the combination of the basic hourly wage rate and any fringe benefits rate, paid to workers in a specific classification of laborer or mechanic in the area where construction, alteration, or repair is performed, as determined by the Secretary of Labor.” See <https://www.dol.gov/agencies/whd/IRA>

- **Union Representation:** Many construction workers in the Bay Area are represented by unions and thus are able to advocate as a group for their own rights and working conditions, as well as benefit from increased oversight of compliance with industry health, safety, and labor law regulations. Union representation ensures that workers have a voice in negotiations over wages, benefits, workforce development, and safety standards. This collective bargaining power leads to better working conditions and job security for workers, further enhancing the sector's contribution to the community's well-being.
- **Training and Apprenticeships:** A construction sector with high labor standards is also one where there is significant investment, from employers and workers, in training and apprenticeship programs, providing workers with the skills and certifications needed to succeed. Joint Apprenticeship Committees (JACs) are jointly managed by labor and employers in California. These committees are responsible for the administration and supervision of training programs, ensuring they meet state standards and provide comprehensive, quality training to apprentices.<sup>85</sup>
- **Health and Safety Standards:** An emphasis on worker safety is also core to labor standards and is achieved through rigorous standards and protocols to ensure that construction sites are safer environments than they would otherwise be. This focus on safety reduces workplace injuries and fatalities, promoting a healthier and more productive workforce.
- **Community Benefit Agreements:** Labor standards imply strong connections and relationships with the communities where projects are built. Community benefit agreements guarantee the creation of high-quality jobs, the inclusion of excluded workers, prioritized investment in disadvantaged communities, and border community advantages. These agreements establish wage standards that significantly surpass the California minimum wage or meet prevailing industry wages. In addition, benefit standards provide access to affordable healthcare, sufficient child-care support, sick leave, overtime pay, and workers' compensation.
- **Project Labor Agreements (PLAs):** These pre-hire contracts are negotiated among labor, employers, and government entities to ensure that skilled workers are hired, projects are completed on time, and workers gain access to long-term career pathways and quality jobs.<sup>86</sup>

## Landscape

### Challenges

- **Aging Workforce:** As the current workforce nears retirement, implementing high-road, demand-side strategies is crucial to attract the next generation of skilled workers and ensure workforce continuity. According to California's Aging Workforce Report, as of 2022, 25% of the construction workforce was at age 55 or over.<sup>87</sup>
- **Declining Job Quality and Lack of Labor Law Enforcement:** California has some of the strictest labor laws in the nation; however, unfair labor practices are prevalent throughout the

<sup>85</sup> State of California Department of Industrial Relations. (2024). Apprenticeship programs information guide—definitions. [www.dir.ca.gov/databases/das/defpage.html](http://www.dir.ca.gov/databases/das/defpage.html)

<sup>86</sup> GoodJobs.gov. (n.d.). Six key facts about federally-funded Project Labor Agreements. [Good Jobs Initiative]. [https://www.dol.gov/sites/dolgov/files/OPA/GoodJobs/Docs/Six\\_Key\\_Facts\\_About\\_PLAs.pdf](https://www.dol.gov/sites/dolgov/files/OPA/GoodJobs/Docs/Six_Key_Facts_About_PLAs.pdf)

<sup>87</sup> Labor Market Information Division, California Employment Development Department. (2023, June). California's Aging Workforce Report. <https://labormarketinfo.edd.ca.gov/Publications/Trend-Reports/californias-aging-workforce-report.pdf>

construction industry.<sup>88</sup> Employee misclassification, wage theft, and exploitation are examples of how low-road contractors undermine the sector's efficiency. According to the Bureau of Labor Statistics, 45% of construction workers reported working for employers with poor labor standards, highlighting the need for better practices in the industry.

- **High Housing Costs and Limited Affordable Housing:** The Bay Area is facing a severe affordable housing shortage, exacerbating economic inequality. Efforts to lower labor costs in housing construction risks pushing the very workforce needed to build it out of the region as those workers will be less able to afford to live in the area.
- **Lack of Labor Standards in Decarbonization:** Decarbonization efforts in residential construction often lack labor standards and primarily benefit high-income households, using low-road contractors. The aging and poorly maintained housing stock further complicates these efforts, affecting individual families, skilled labor, and the broader regional economy. Moreover, California's climate investments in residential building upgrades are mostly lacking any form of labor standards.<sup>89</sup>

## Opportunities

- **Sustainability and Energy Efficiency Construction:** The Bay Area construction sector is expanding its green building focus, incorporating decarbonization, green materials, and clean energy to embrace sustainable practices and address environmental challenges. Examples include the following:
  - Renewable Energy Integration: Many Bay Area projects are incorporating solar panels and wind energy systems to reduce reliance on fossil fuels and lower greenhouse gas emissions.
  - Energy-Efficient Designs: Innovative building designs focus on passive cooling techniques, high-performance insulation, and smart HVAC systems. These approaches minimize energy consumption by leveraging natural ventilation, shading, and advanced materials that enhance thermal performance.<sup>90, 91</sup>
- **Bay Area Housing Finance Authority (BAHFA):** To address the Regional Housing Needs Allocation (RHNA), the Metropolitan Transportation Commission (MTC), which is the transportation planning, financing, and coordinating agency for the nine-county San Francisco Bay Area,<sup>92</sup> created the BAHFA. The region came close to putting a bond on the November 2024 ballot that would have injected \$20 billion into the local construction industry over 10 years, and leveraged additional affordable housing funding, becoming a major driver of demand. Although

---

<sup>88</sup> Hussain, S. (2024, May 15). California's strong labor laws aren't enough to protect workers, report says. Los Angeles Times. <https://www.latimes.com/business/story/2024-05-15/californias-strong-labor-laws-dont-do-enough-to-protect-workers-new-report-says>

<sup>89</sup> U.C. Berkeley Labor Center. (2024, March 25). Factsheet: Workforce standards for an equitable economy. <https://laborcenter.berkeley.edu/factsheet-workforce-standards-for-an-equitable-economy/>

<sup>90</sup> Dejtiar, F. (2023). Cooling and energy efficiency: A new era in building design. Arch Daily. <https://www.archdaily.com/1008419/cooling-and-energy-efficiency-a-new-era-in-building-design>

<sup>91</sup> Hall, S. L. (2024). Green building revolution: Transforming construction with sustainable materials, innovations. Bluebeam. <https://blog.bluebeam.com/green-building-revolution-materials-innovations/>

<sup>92</sup> Metropolitan Transportation Commission. (2024). Bay Area Housing Finance Authority (BAHFA). <https://mtc.ca.gov/about-mtc/authorities/bay-area-housing-finance-authority-bahfa>

the bond was ultimately not put before voters this year, BAHFA remains an avenue to fund the production of more affordable housing options and create high-road jobs, boosting the overall quality and sustainability of employment in the sector.

- **State Policies Create Demand for Sustainable Construction Practices:** Policies such as Title 24, Part 6, of the California Energy Code<sup>93</sup> and the California Green Building Standards Code (CALGreen)<sup>94</sup> mandate the use of energy-efficient design, materials, and consumption methods, as well as wastewater management and indoor air quality. These sustainable practices can transform the industry with environmentally responsible, resource-efficient, and socially equitable approaches. Implementing demand-side strategies such as renewable energy systems, electrification, sustainable materials, and decarbonization will reduce environmental impacts while creating pathways to high-road job opportunities with equitable access and enhancing resilience in historically marginalized communities.
- **Clean Infrastructure Investments Requiring Labor Standards Creates Demand for Skilled Workers:** The Biden administration’s Invest in America policies encompass a broad range of initiatives designed to spur economic growth, create jobs, and invest in the country’s infrastructure and clean energy future. The prevailing wage requirements under the Invest in America laws ensure that workers are paid fair wages that reflect local standards, thereby upholding labor standards and preventing wage undercutting. In addition, the Community Benefits Plans mandated by these laws create opportunities for high-road skilled labor by promoting training, apprenticeship programs, and other workforce development initiatives, fostering a more skilled and equitable labor market. Similarly, California policies mirror this agenda by enforcing strict labor standards and investing in workforce development to ensure equitable economic growth and support for skilled labor.

## Assets

The Bay Area’s skilled construction workforce exemplifies excellence, innovation, and sustainability. Ongoing upgrade training for journeypersons keeps workers current with industry advancements, new technologies, and safety standards, ensuring their competitiveness in a dynamic job market. This commitment to continuous learning is crucial for adapting to the evolving green economy, where sustainable practices and eco-friendly technologies are prioritized. These efforts are complemented by a focus on equity, high-road jobs, and environmental resilience. High-road apprenticeship and apprenticeship readiness programs, along with strong industry partnerships, play a vital role in building a skilled construction workforce that is prepared to meet the challenges of a sustainable and equitable future.

---

<sup>93</sup> California Energy Commission. (2024). Building energy efficiency standards. [www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards](http://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards)

<sup>94</sup> State of California Building Standards Commission. (2024). CALGreen 2009–2024 [www.dgs.ca.gov/BSC/CALGreen](http://www.dgs.ca.gov/BSC/CALGreen)

- Skilled Construction Workforce:** As described above, ongoing journeyperson upgrade training is one component of ensuring a skilled construction workforce in the Bay Area. Access to leading industry training keeps this workforce well-positioned for ongoing employment with the capacity to take on more complex and innovative projects that contribute to environmental sustainability. By acquiring advanced skills and knowledge, journeypersons not only enhance their employability and job performance but also play a pivotal role in driving the construction industry’s transition toward greener, more sustainable practices.
- High-Road Apprenticeship Readiness Programs and Registered Apprenticeship Programs Providing Lifelong Careers:** Apprenticeship readiness initiatives such as the High Road Construction Careers (HRCC) program provide equitable access to skilled trades careers through industry-recognized training pathways. Registered apprenticeship programs provide a combination of on-the-job training and classroom instruction, offering continued career growth and development opportunities for apprentices to become journeypersons and receive continuing education leading to additional opportunities such as construction management and more. HRCCs emphasize partnerships that connect local building and construction trades councils with workforce boards, community colleges, and community-based organizations.<sup>95</sup> This collaboration creates structured pathways featuring a standardized core curriculum and essential supportive services, leading to state-certified apprenticeships in various crafts. These initiatives establish systems and policies that align with the State Plan<sup>96</sup> goals of equity (providing access to skills and economic opportunities) and job quality (linking to careers with good wages and benefits). Diverse state funding sources, such as the Greenhouse Gas Reduction Fund<sup>97</sup> and the Road Repair and Accountability Act (SB 1),<sup>98</sup> allow the California Workforce Development Board (CWDB) to allocate millions of dollars to pre-apprenticeship partnerships throughout California. HRCC projects such as the East Bay Regional Trades Program provide historically marginalized community members—women, ethnic minorities, youth, and those impacted by the justice system in particular—a route out of poverty and toward economic self-sufficiency in the building trades. This is achieved through a mix of targeted outreach, pre-apprenticeship training, and supportive services, as well as enhancing and enforcing local hire ordinances to guarantee swift entry for program graduates into the trades.<sup>99</sup>
- Strong Industry Partnerships:** The skilled workforce is also supported by strong industry partnerships between the public and private sectors, fostering collaboration and knowledge exchange. This synergy ensures that the workforce remains at the forefront of industry advancements, ready to tackle challenges such as an aging workforce and the integration of new technologies. For example, programs such as the California Apprenticeship Initiative (CAI) bring together educational institutions, employers, and labor organizations to create a pipeline of skilled workers trained in the latest green technologies and sustainable practices. Overall, the

<sup>95</sup> California Workforce Development Board. (2024). *High road construction careers*. <https://cwdb.ca.gov/initiatives/hrcc/>

<sup>96</sup> California Governor’s Council for Career Education. (2024). *Master Plan for Career Education*. <https://careereducation.gov.ca.gov/master-plan-engage/>

<sup>97</sup> U.S. Environmental Protection Agency. (2024). *Greenhouse Gas Reduction Fund*. <https://www.epa.gov/greenhouse-gas-reduction-fund>

<sup>98</sup> State of California. (2024). *Rebuilding California: Your tax dollars at work*. <https://www.rebuildingca.ca.gov/>

<sup>99</sup> California Workforce Development Board. (2024).

Bay Area's skilled construction workforce is a cornerstone of its thriving construction sector, driving innovation, sustainability, and economic resilience. This commitment to partnership is fundamental to investing in, developing, and maintaining the renewable energy infrastructure needed to meet regional, state, and national climate goals.

### **Innovative Regional Training Programs**

Building & Construction Trades Council (BCTC) affiliated **Joint Management Labor Apprenticeship Training Centers** can be found throughout California and the Bay Area's nine counties, providing 'earn while you learn' workforce development services for every construction occupation. In addition to direct training through apprenticeships Bay Area BTCs are also involved in a variety of programs to connect women and underserved communities with middle-class careers in the building and construction trades.

- **San Francisco:** SFBCTC and its affiliates have established agreements with the City's CityBuild program, which works with a variety of community based providers, to support pre-apprenticeship training and streamlines entry into apprenticeship programs. The SFBCTC has also established the **Sistas With Tools**, a pre-apprenticeship program focused on preparing, supporting, and retaining Black and Latina women in high skills and high wage unionized construction trades apprenticeships and unionized construction trades careers while providing them with supportive services to ensure that they thrive.
- **East Bay:** The Alameda and Contra-Costa have established the **Construction Trades Workforce Initiative** to bridge the gaps between union labor and community stakeholders. CTWI's services include education about union construction career pathways and assistance with accessing resources; customized support including improving job placement and specialized training, designing and launching numerous "multi-craft core curriculum (MC3)" pre-apprenticeship programs, understanding workforce agreements and union master labor agreements, and recruitment assistance; and workforce and labor policy development to ensure widespread and diverse access to high-road, family-sustaining careers in the union construction trades.
- **Peninsula:** SMBCTC affiliates work with the San Mateo County Union Community Alliance to support the **Trades Induction Program**, an MC3 120-hour pre-apprenticeship training course introducing trainees to the wide variety of construction trades in partnership with union apprenticeship programs and community and education partners in the area, held at the College of San Mateo. Affiliates also participate with the San Mateo Unified High School District to introduce students to the tools, processes, techniques and materials commonly used in building construction and woodworking.
- **South Bay:** The **Santa Clara-San Benito BCTC** works with Working Partnerships USA's b, year-long apprenticeship readiness program offering 12 months of individualized construction career coaching, assistance with applications, testing and interviews for construction apprenticeships, and job retention support, combined with a 130-hour pre-apprenticeship class based MC3 curriculum.
- **North Bay:** The NBBTC is leading a project known as the **North Bay Trades Introduction Program (NB TIP)**. targeting women and underserved communities. The program spans five counties of the North Bay, including Marin, Mendocino, Lake, Napa, and Sonoma counties.



- The **Nor Cal Carpenters Training** is the educational organization that provides apprentice, journey-level, and related training services for Union Carpenters and Carpenter signatory Contractors across 46 northern California counties. Bay Area training centers are located in Pleasanton (Alameda Co), Fairfield (Solano Co), & Morgan Hill (Santa Clara Co). By partnering with local community-based programs, the Nor Cal Carpenters can ensure their programs reach those who stand to benefit the most.

## Prospects

Investing in the Bay Area construction sector is pivotal for creating high-road jobs that ensure fair wages and career growth. This sector can be a powerful engine for equity, providing historically disinvested communities with opportunities to thrive through targeted hiring practices, affordable housing production, and safe and sustainable infrastructure. Furthermore, prioritizing environmentally resilient construction practices will help mitigate climate change impacts, ensuring a sustainable future for the region.

The Bay Area faces a significant housing shortage, but a skilled labor workforce is poised to address this challenge. Employing prevailing wages in construction projects, coupled with robust labor law enforcement, will increase the demand for and access to high-road construction jobs, offering marginalized communities opportunities to enter the industry and promoting equity. The Bay Area construction sector spans residential, commercial, industrial, and public infrastructure development, creating numerous stable prevailing wage jobs accessible through state-approved apprenticeships. This promotes economic equity by providing valuable skills and career advancement opportunities without college debt.

The construction sector in the Bay Area is dedicated to green building and sustainable construction by adopting environmentally responsible, resource-efficient, and socially equitable practices. By integrating renewable energy systems, electrification, sustainable materials, and decarbonization efforts, the sector not only reduces environmental impacts but also promotes greater equity and resilience within communities, particularly those that have been historically marginalized. An example of this commitment is the Salesforce Tower in San Francisco, which is LEED Platinum certified. This building integrates renewable energy systems, sustainable materials, and state-of-the-art waste reduction techniques, showcasing the sector's commitment to environmental stewardship and efficiency. By incorporating these sustainable practices, energy-efficient systems, and green building standards, the construction sector in the Bay Area can play a crucial role in helping California achieve its climate goals and ensure a more sustainable and resilient future.

The Bay Area region is at the forefront of sustainability and energy-efficient construction, integrating renewable energy systems and innovative building designs that minimize energy consumption, including through initiatives such as the Bay Area Housing Finance Authority (BAHFA) described earlier. The BAHFA bond, if passed, could inject \$20 billion into the local construction industry, significantly boosting affordable housing and creating demand for and access to high-quality jobs. Furthermore, clean energy infrastructure investments under the Biden administration's Invest in America policies and similar California initiatives are creating demand for skilled workers while upholding labor standards, fostering a more equitable and skilled labor market. These initiatives, coupled with efforts to diversify the



workforce and provide expanded access to marginalized communities, position the Bay Area as a leader in driving innovation, sustainability, and economic resilience.

### **Construction Financing Basics**

Financing construction projects requires securing capital from banks, investors, and financial institutions. Owners of privately financed projects make workforce decisions by choosing between union and non-union contractors. Publicly funded projects, which tend to be overwhelmingly performed by union signatory contractors, are covered by prevailing wage laws that reward productivity, safety, and effective project management in bidding. They do so by standardizing wage and benefit rates on a craft-by-craft basis, ensuring fair compensation for workers and removing wages from competition. Research has consistently shown there to be no cost impacts from prevailing wages, which are often set to union standards with comprehensive health and welfare benefits and mandatory contributions to apprenticeship programs. Union contractors working under these conditions on both public and private projects emphasize safety precautions, continual training and skills enhancements, and capital investment to maximize labor productivity.

### **Investment Strategies**

Strategic investment strategies in the Bay Area’s construction sector are crucial for fostering sustainable growth and innovation. Financial incentives for green building practices will encourage the adoption of energy-efficient technologies. Financial tools such as grants, green bonds, and tax credits will reduce up-front costs and make green construction more accessible and attractive. In addition, upholding robust labor standards ensures that the workforce benefits from prevailing wages, safe working conditions, and quality training. This dual approach not only promotes economic development and environmental stewardship but also helps build and retain a new generation of skilled and motivated workers who can drive the construction sector’s long-term success and resilience.

Investment strategies for the construction sector will help achieve the following objectives:

1. Establish a Bay Area green building fund.
2. Support Community Benefits Plans in alignment with federal and state investments.

#### **Objective 1: Establish a Bay Area green building fund**

A green building fund designed for the Bay Area would be structured to attract a diverse range of investors, including institutional investors, private equity firms, and venture capitalists, and impact investors’ interest in sustainable development. The fund would target both new construction and retrofitting of existing building stock to meet high energy efficiency and sustainability standards. Key features could include financing for LEED-certified buildings and net-zero energy projects, and utilizing cutting-edge green technologies such as energy-efficient HVAC systems and sustainable building materials. The fund could provide various funding options including equity investments, green bonds, and low-interest loans, ensuring flexibility to meet different project needs and scales.

To ensure the success and sustainability of the fund, stringent criteria would be established for project selection. These criteria would include measurable environmental impacts such as reductions in energy consumption, water use, and carbon emissions. Additional projects would need to demonstrate social benefits, such as improved indoor air quality and contributions to the local community through job

creation. To further drive impact, partnerships with regional governments, nonprofits, and academic institutions could be pursued, leveraging additional resources and expertise. This comprehensive approach would ensure that the building fund would not only promote sustainable construction but also align with broader environmental and social goals, making it an attractive and impactful investment vehicle. A green building fund could do the following:

- Promote high-road, family-sustaining jobs
  - Prioritize job quality and access
    - Training Programs: Secure ongoing funding for HRCC programs to equip workers with the skills needed for green building technologies and practices.
    - Prevailing Wages: Ensure that jobs created through the fund offer prevailing wages and benefits to attract and retain a skilled workforce.
    - Target Hiring Policies: Prioritize the hiring of local residents, veterans, women, and BIPOC communities to strengthen the community's economic base and provide opportunities for more equitable and accessible employment opportunities.
- Provide community benefits
  - Sustainable Infrastructure: Invest in green infrastructure projects that improve public spaces, enhance air and water quality, and create recreational areas.
  - Energy Efficiency: Implement energy-efficient retrofits for public buildings and low-income housing, reducing energy costs for residents and improving living conditions.
  - Educational Initiatives: Support community education programs on sustainability practices and the benefits of green building, fostering community engagement and awareness.
- Promote climate resilience for the Bay Area
  - Renewable Energy Projects: Invest in solar, wind, and other renewable energy projects to reduce reliance on fossil fuels and lower greenhouse gas emissions.
  - Green Spaces: Develop urban green spaces that absorb carbon dioxide, improve air quality, and mitigate the urban heat island effect.
  - Sustainable Building Materials: Promote the use of sustainable, low-carbon building materials in construction projects to reduce the overall environmental footprint.
- Enhance equity for historically marginalized communities
  - Serve marginalized groups
    - Inclusive Hiring Practices: Mandate the inclusion of underrepresented groups in training programs and employment opportunities through project labor agreements and community benefit agreements.
    - Affordable Housing: Fund the construction of affordable, energy-efficient housing to ensure that marginalized groups have access to safe, sustainable living environments.
    - Community Grants: Provide grants to community organizations that support marginalized groups, helping them to participate in and benefit from green building projects.

These strategies focus on ensuring job quality, climate resilience, and equitable access to opportunities and benefits for all communities, particularly those historically marginalized.

## **Objective 2: Support Community Benefits Plans in alignment with federal and state investments**

Implementing robust labor standards on construction projects ensures that workers are treated fairly, receive a living wage, and work in safe conditions. One such example is the recent stipulation requiring a PLA on any project with at least \$35 million in federal funds.<sup>100</sup> Such measures not only protect the workforce but also contribute to higher-quality construction and increased productivity. When workers are well-compensated and trained they are more motivated and capable, reducing the likelihood of errors and accidents. As described earlier in this section, strong labor standards help attract skilled labor, fostering a more experienced and trained workforce that can better meet the demands of complex projects with ever-changing technology and materials.

One approach to improving labor standards is to establish Community Benefit Plans (CBPs). The U.S. Department of Energy (DOE) requires CBPs as part of many federal programs, including all Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) funding opportunities and loan applications. CBPs further enhance the positive impact of government-funded projects by ensuring that local communities directly benefit from development initiatives.

These plans include commitments to hire local workers and mandate environmental protections and improvements, contributing to the overall well-being of the community. This approach promotes social equity and community development, ensuring that the economic benefits of government-funded projects are distributed more broadly and inclusively. One such example is the Stonestown Development agreement in San Francisco, which provides 3,500 new residential units, with a mix of housing for students, senior citizens, and families, including a requirement of 20% affordable housing production. The CBP within this agreement includes robust labor standards, an on-site child care center for 100 children, park improvements, transit funding, an annual average of 800 construction and other jobs, and 1,000 new permanent jobs in San Francisco.<sup>101</sup>

*Potential Partners for These Objectives:* Regional Building Trades Councils and Signatory Contractor Associations, building and construction trade unions, regional building trades nonprofits including HRCC training partners and community groups, workforce boards, state and federal agency representatives, philanthropic entities, the UC Berkeley Labor Center, among others.

## **Conclusion**

---

<sup>100</sup> Federal Acquisition Institute. (2024). *Use of project labor agreements (PLAs) on federal construction projects*. [https://www.fai.gov/sites/fai/files/2024-02/1.PLA\\_Training\\_Slides\\_Final\\_0.pdf](https://www.fai.gov/sites/fai/files/2024-02/1.PLA_Training_Slides_Final_0.pdf)

<sup>101</sup> City and County of San Francisco. (2024, July 16). Major new housing approved: Stonestown Project to deliver thousands of homes and new open space on west side of San Francisco. <https://www.sf.gov/news/major-new-housing-approved-stonestown-project-deliver-thousands-homes-and-new-open-space-west#:~:text=The%20project%20will%20provide%20a,nonprofit%20operator%20at%20subsidized%20rent>

The construction sector in the Bay Area stands as a beacon of progress toward the goals of the Bay Area Collaborative, offering high-road jobs that ensure fair wages and safe working conditions for all working people. This industry plays a pivotal role in fostering economic equity, particularly for marginalized communities, by providing accessible career pathways and robust support systems. Furthermore, with a steadfast commitment to sustainable practices, and vital to clean energy generation, the construction sector contributes to the region's environmental resilience, ensuring that the region's growth is both inclusive and ecologically responsible. Together, these efforts underscore the sector's crucial contribution to a thriving, equitable, and sustainable future for the Bay Area.

## HEALTHCARE

### Summary

Grounded in the societal belief that healthcare is a fundamental human right as well as California’s commitment to expanding healthcare access, increasing affordability, and delivering care for all residents regardless of age, income, or immigration status,<sup>102</sup> a robust and resilient healthcare sector is vital to the economic and social infrastructure of the Bay Area region. Driven by the demands of an aging population, shifts toward in-home and innovative care models, and the region’s ongoing involvement in healthcare policy and advocacy efforts for healthcare reform,<sup>103</sup> the healthcare sector is expected to experience significant growth. However, occupations with significant demand needs face the greatest workforce shortages due to low wages, limited opportunities for career advancement, and substantial physical demands.

Many of these jobs are entry-level patient-facing positions, predominantly occupied by women—particularly women of color—and characterized by poor working conditions with high turnover rates attributed to burnout from the heightened physical and mental workplace demands. Investments in diversifying the workforce in higher-earning occupations, providing paid training for workers to enhance communities’ resources to tackle climate crises for those most vulnerable to its effects, ensuring equitable access to high-road jobs, improving job quality for essential high-demand occupations, and streamlining and improving access to in-home and long-term support services are all important strategies for shaping the healthcare sector in the Bay Area to meet the goals of the Bay Area Jobs First Collaborative.

These strategies will not only address these workforce challenges but also ensure comprehensive and culturally competent healthcare delivery for all community members and develop a workforce that is more reflective of the community, promoting both higher employment standards and greater equity in healthcare.

#### ***Stakeholder Voice:***

“As the need for home-care workers skyrockets with the aging of the population, we must invest in creating high-quality home-care jobs, including in IHSS, that reflect family-sustaining wages, benefits, and training and career pathway opportunities within home care to ensure home-care workers are supported and empowered to remain in this critical workforce and they are not forced to look outside of home care for opportunities for advancement.”

<sup>102</sup> Office of Governor Gavin Newsom. (2024). *Priorities*. <https://www.gov.ca.gov/priorities-and-progress/priorities/>

<sup>103</sup> Bay Area Jobs First Collaborative. (2023, December). p. 371.

## Definition

### Sector

Healthcare in the Bay Area is a crucial part of the region's economic and social infrastructure, addressing the health and supportive service needs of a diverse, growing, and aging population. As indicated in Regional Plan Part 1, the healthcare and social services sector employs the most workers of any sector within the region.<sup>104</sup> The sector includes a range of services and facilities including hospitals, clinics, behavioral health facilities and services, medical centers, public health services, primary care and specialty clinics, long-term support services and rehabilitation facilities, home care and home health services, biotechnology and pharmaceuticals, medical devices and technology, digital health, healthcare research and education, and care coordination.

A wide range of professions make up the healthcare sector workforce including support care workers working both in facilities and in the community, doctors, nursing staff and other types of patient care providers, allied healthcare workers, administrators, researchers, and the health-tech workforce. In addition, dietary specialists, environmental service workers, and those who perform janitorial services are integral to the workforce in healthcare facilities even though they are not classified as healthcare workers. These facilities, institutions, services, and professionals enable this sector to address diverse community health needs, from primary care and mental health to specialized treatments, preventive care, cutting-edge medical advancements, and public health initiatives.

We focus on three areas of this sector that are key for the Bay Area region.

### Sub-Sectors

- **In-Home Support Services (IHSS) and Long-Term Services and Supports (LTSS):** This sub-sector focuses on providing medical and non-medical (personal care) and support services to individuals who need assistance with daily activities due to chronic illness, disability, or aging. It includes a variety of services delivered in the consumer's home or in long-term care facilities such as nursing homes, assisted living communities, and rehabilitation centers. This sub-sector is vital to the healthcare sector, offering essential care that enables aging and disabled residents to maintain their independence and quality of life within their communities. These services not only alleviate the burden on hospitals and nursing facilities but also create personalized care environments that foster better health outcomes and emotional well-being for vulnerable populations.
- **Patient Care Including In-Patient/Acute Care and Outpatient/Ambulatory Care:** This sub-sector focuses on delivering direct medical services to individuals across various settings, including hospitals, clinics, home health environments, and direct community deployment to diagnose,

---

<sup>104</sup> Bay Area Jobs First Collaborative. (2023, December). p.43.

treat, and manage health conditions. This sub-sector relies heavily on essential healthcare workers, performing physically demanding jobs under challenging conditions that directly impact patient outcomes and the overall effectiveness of our healthcare services.

- **Community Behavioral Health:** This sub-sector focuses on the overall well-being of the community with an emphasis on behavioral health, addressing mental health, substance abuse, and preventive care within community settings. Community behavioral health can offer accessible, culturally competent care and support aimed at improving the overall well-being of individuals and families in the region. Investments in community health are crucial for the Bay Area, as it fosters sustainable economic growth by improving public health outcomes and creating a more resilient and inclusive society. This sub-sector supports diverse employment opportunities and strengthens the foundation for a healthier, more adaptable community, driving both social and economic benefits for the region.

### Profile<sup>105</sup>

The healthcare sector is a major employer in the Bay Area, with 391,732 workers as of 2022, compared to 343,543 workers in 2012. The sector offers more opportunities for full-time employment, with 266,002 full-time workers compared to 125,730 part-time workers. The sector employs workers across all age groups (16–65+), with the largest share in the 35–49 age range (137,095 workers). There are also a significant number of workers in the 50–64 (113,042) and 25–34 (90,737) age groups. The sector provides opportunities for workers of all ages, including 21,606 workers aged 16–24 and 29,252 workers aged 65 and older.

The healthcare sector suffers from a stark gender imbalance, with women dominating the workforce. There are 277,134 female workers compared to 114,598 male workers, reflecting the traditionally female-dominated nature of healthcare professions. The sector employs both U.S.-born (245,089) and immigrant (146,643) workers. Almost 89% of workers are English proficient, with the remaining 11.2% having limited English proficiency.

About 60% of workers in this sector have a bachelor's degree or higher, with 29.6% with a bachelor's degree and another 30.8% also having a graduate degree. This high level of education reflects the specialized skills and certifications required in many healthcare professions. The most common occupations in the sector are directly related to healthcare practitioners and technicians (177,941), followed by healthcare support workers (54,794) and management roles (28,196).

The sector shows a relatively even distribution across earning categories. About 37% of the workers earn in the lowest-wage category (\$0–\$30.20/hour), 30.5% are in the middle range (\$30.20–\$56.60/hour), and 32.2% are in the highest category (\$56.60+/hour). About 73.5% of workers in this sector commute by car or motorcycle. Only 10.5% work from home, reflecting the on-site nature of most healthcare work.

A high percentage (81%) of healthcare workers have employer- or union-sponsored healthcare, with 85.8% of full-time workers covered and 70.9% of part-time workers covered. Some sub-sectors have a

---

<sup>105</sup> U.S. Census Bureau. (2023). American Community Survey 5-Year Data (2018–2022). [Data set]. U.S. Department of Commerce. [Applicable to all data in the Healthcare Profile section.]



fairly diverse workforce, particularly women of color, such as in allied healthcare occupations: with 140,557 Asian workers compared to 132,386 White, 75,243 Hispanic/Latinx, and 29,455 Black workers. Overall, White and Asian workers make up more than two-thirds of the healthcare workforce

In terms of race/ethnicity by wage levels, Hispanic/Latinx workers are disproportionately employed in lower-wage jobs and White workers are disproportionately employed in higher-wage jobs. Although Hispanic/Latinx workers have nearly 30% of the lowest-wage jobs, they have less than 9% of the highest-wage jobs. At the same time, White workers have only 22% of the lowest-wage jobs but more than 42% of the highest-wage jobs. Black workers have only 4.5% of the highest-wage jobs, while having 7.4% of all healthcare jobs.

The healthcare sector is projected to grow significantly in the coming decade. State projections show a growth of nearly 100,000 workers between 2020 and 2030, a faster rate of growth than the overall economy.<sup>106</sup> All counties are projected to add employment, and only Napa County will add healthcare jobs at a rate slower than the overall economy (8.2% versus 17.6%, respectively). The projected growth is more focused in ambulatory healthcare and nursing services, as opposed to hospitals (with the exception of Santa Clara County, which is projected to grow by nearly 6,000 new jobs between 2020 and 2030). Ambulatory healthcare, or outpatient care, includes a mix of community clinics, urgent care clinics, and medical offices. Recognizing the growth of ambulatory healthcare and the growing importance of nursing, this sector strategy is focused on opportunities to grow employment and improve job quality in outpatient settings.

The sector's projections also reveal an increasingly bifurcated industry with faster growth at the lower wage levels (i.e., support occupations paying \$17–\$19 hourly on average).<sup>107</sup> Those occupations overall will add nearly 350,000 jobs in the decade from 2020 to 2030.<sup>108</sup> In comparison, the higher-wage technical occupations (which pay on average \$50–\$65 hourly) will have fewer than 140,000 new jobs. The home health and personal care aides occupation is not only low-wage with a large current workforce (150,000), but is expected to grow substantially (by 40,000 jobs) between 2020 and 2030. Current median wages range from \$15.30 per hour in North Bay counties to \$18.60 in San Francisco and San Mateo counties.

By comparison, occupations related to behavioral health are more varied and have a lower growth rate: projections indicate that occupations related to therapy, counseling, social work, and community health will grow by 7,000 jobs. In the Bay Area, median wages in the healthcare sector are generally below the threshold that defines a high-road job. There is however the potential to improve wages and job quality across this growing sub-sector. The table below shows key behavioral health occupations and the current and projected employment as well as median wages. Note that the range reflects the differences in wage levels between the higher-wage and lower-wage counties.

---

<sup>106</sup> California Open Data Portal. (n.d.). Long-term industry employment projections, 2020–2030. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-industry-employment-projections>

<sup>107</sup> California Open Data Portal. (n.d.). Long-term occupational employment projections, 2020–2030. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-occupational-employment-projections>

<sup>108</sup> “Total job openings” are created by the combination of new jobs (i.e., industry job growth) and job openings created when a worker “changes occupations or leaves the labor force.” See [https://labormarketinfo.edd.ca.gov/LMID/Glossary\\_of\\_Terms.html](https://labormarketinfo.edd.ca.gov/LMID/Glossary_of_Terms.html).

## Jobs in Healthcare Sector and Industry, 2020 and 2030

Key Occupations	2020 Job Estimate	2030 Projection	Increase	Median Hourly Wage
Marriage and Family Therapists	4,440	4,980	540	\$23–\$32
Rehabilitation Counselors	2,670	2,940	270	\$15–\$22
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	7,220	8,730	1,510	\$25–\$31
Counselors, All Other	2,120	2,300	180	\$24–\$27
Child, Family, and School Social Workers	7,900	8,800	900	\$28–\$38
Healthcare Social Workers	2,850	3,180	330	\$48–\$50
Mental Health and Substance Abuse Social Workers	3,100	3,440	340	\$48–\$62
Social Workers, All Other	1,210	1,270	60	\$30–\$38
Health Educators	2,040	2,280	240	\$32–\$40
Social and Human Service Assistants	10,420	12,130	1,710	\$22–\$25
Community Health Workers	1,450	1,690	240	\$24–\$32
Community and Social Service Specialists, All Other	3,080	3,520	440	\$25–\$32

Source: State of California Employment Development Department

Overall, the Bay Area healthcare sector employs a predominantly female and full-time workforce, with a mix of U.S.-born and immigrant workers. The sector offers opportunities across all wage levels and maintains a strong presence across all Bay Area counties. As a large portion of healthcare is local-serving (as in, not a traded sector), the largest share of jobs are located in counties with the largest populations (e.g., Alameda and Santa Clara). The sector's growth since 2012, and its significant workforce suggests healthcare is a crucial component of the Bay Area economy, which will be defined in the coming decades by the region's rapidly aging population.

The healthcare sector in the Bay Area stands out for its strong union presence and the diversity of its workforce. It provides a wide range of job opportunities, from entry-level support roles to highly specialized medical professions. Overall, the healthcare sector appears to be a stable, growing, and diverse source of employment in the Bay Area, offering career opportunities across various skill levels and educational backgrounds.

## Landscape

## Challenges

- **Rising Costs, Unequal Access to Services, and Workforce Shortages:** Despite technological advancements and innovations, disparities in healthcare quality and affordability persist, particularly affecting low-income and marginalized communities. Addressing these issues is crucial for equitable and sustainable healthcare delivery. The global pandemic intensified many pre-existing issues as demand for general healthcare, as well as mental health and behavioral healthcare services, surged while healthcare workers in many areas of practice experienced burnout from the physical and mental toll and exited the industry.
- **Workers Left Behind:** Policy changes have made significant advancements in overall job quality; however, large populations of the workforce remain left behind. One example of such a policy change leaving out a portion of the workforce is SB 525, which was passed, was signed into state law, and is scheduled to take effect on October 1, 2024.<sup>109</sup> This legislation sets minimum wage increases for many healthcare workers, but does not include in-home care workers (IHSS) or personal care aides—raising the floor for some, but not all, and especially leaving out occupations facing increased demand but experiencing greater worker shortages.
- **Limitations on Career Advancement for Lower-Wage, Entry-Level Jobs:** Many healthcare sector occupations experience high turnover because of the lack of financial incentives, clear career pathways, and heightened physical demands. These essential roles include medical assistants, certified nursing assistants (CNAs), and home health aides, predominantly filled by women of color. Addressing worker shortages and improving public access to healthcare and supportive services will require targeted and collaborative approaches to improving job quality through increased wages and benefits and improving upward mobility for entry-level, patient-facing healthcare workers.
- **Steep Barriers to IHSS Worker Recruitment, Especially for Non-Relative Providers:** Exacerbating the shortage of workers in the IHSS space are additional challenges, predominantly due to overall poor job quality. Workers in this profession are primarily relatives providing essential care for loved ones. Many of these jobs are not full-time, offer relatively low wages, and often do not have access to paid health insurance benefits or decent paid leave.<sup>110</sup> Moreover, providers who are relatives often do not contribute to Social Security and therefore workers do not have a retirement income. All of these challenges make it difficult to recruit non-relative providers into the IHSS program or combat the drastic workforce shortage levels.
- **Delayed Reimbursement Rates Affecting Healthcare Access and Profitability:** Policies and funding models, including Medicare and Medicaid reimbursement rates, significantly impact the sector's operations and profitability. Challenges with delayed payments and inadequate coverage affect healthcare providers' financial stability and patient care. In addition, Medicaid reimbursement rates have not kept pace with Medicare, creating disparities in funding and

---

<sup>109</sup> California Legislative Information. (2023). SB-525 Minimum wages: Health care workers. [https://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=202320240SB525](https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB525)

<sup>110</sup> Dickman, H. (2023, June). California's In-Home Supportive Services program: An equity analysis. [Issues Brief]. Justice in Aging. <https://www.capaihss.org/wp-content/uploads/2023/06/JIA-CA-IHSS-Program-An-Equity-Analysis-060923.pdf>

access to care.<sup>111</sup> Moreover, some California hospitals, including those in the Bay Area, have faced potential Medicare funding losses due to compliance issues, exacerbating financial pressures.<sup>112</sup>

- **For-Profit Educational Institutions and Predatory Lending:** For-profit educational institutions training medical assistants, CNAs, and other entry-level healthcare occupations often expose students to predatory lending practices to meet the high cost of this education, leading to significant debt burdens. Furthermore, these institutions frequently offer poor job placement services, resulting in graduates struggling to find stable, well-paying jobs, thereby undermining their financial stability and career prospects.<sup>113</sup>

## Opportunities

- **In-Home Care and Long-Term Support Services**
  - **Aging Population:** The nine-county Bay Area is home to 7.6 million people with a median age of 39 years old, surpassing the median ages of both California and the United States, with one out of four people projected to be 60 or older by 2030.<sup>114</sup> This growing elderly population is driving demand for long-term support and care services necessitating more healthcare professionals to ensure accessible, equitable support services.
  - **Shift to Home-Based Care and Increased Access:** There is a notable trend toward in-home care as it is often more cost-effective and preferred by individuals for comfort and convenience. This shift drives demand and has the potential for new, high-quality employment opportunities by creating roles for IHSS, LTSS, and community health workers to work within their own neighborhoods, leading to a workforce that is more reflective of the community it serves. California is dedicated to enhancing equitable healthcare access, particularly in underserved regions, with initiatives to expand Medi-Cal and increase the number of healthcare workers and services, which is essential for culturally competent care.
  - **Workforce Challenges/Opportunity for Growth:** As described above, the Bay Area region is experiencing a critical shortage of healthcare workers, which is both a challenge and an opportunity in this sector. This shortage is particularly evident in the significant demand for IHSS workers,<sup>115</sup> impacting the quality and availability of care. Focusing on improving job quality in this space will help to ensure opportunities for future recruitment and retention of the workforce.
  - **Career Pathways:** Supported through the California Department of Social Services, the IHSS Career Pathways Program is a promising optional program that provides training

---

<sup>111</sup> American College of Radiology. (2023, May). Medicaid reimbursement is not keeping pace with Medicare. [Bulletin]. <https://www.acr.org/Practice-Management-Quality-Informatics/ACR-Bulletin/Articles/June-2023/Medicaid-Reimbursement-Is-Not-Keeping-Pace-With-Medicare>

<sup>112</sup> Becker's Healthcare. (2023). California hospital at risk of losing Medicare funding over patient safety violations. [Becker's Clinical Leadership]. <https://www.beckershospitalreview.com/patient-safety-outcomes/california-hospital-at-risk-of-losing-medicare-funding-over-patient-safety-violations-2.html>

<sup>113</sup> Howarth, R., Barkley, W., & Lang, R. (2018, June). A bitter pill: Gainful employment and credentialism in healthcare support fields. Center for Responsible Lending. <https://www.responsiblelending.org/research-publication/bitter-pill-gainful-employment-and-credentialism-healthcare-support-fields>

<sup>114</sup> Bay Area Jobs First Collaborative. (2023, December). p. 31.

<sup>115</sup> Dickman, H. (2023, June).

opportunities to enhance providers' skills. IHSS and Waiver Personal Care Services (WPCS) providers who have completed provider enrollment are eligible to register for the IHSS Career Pathways Program training courses and can be compensated for time spent attending and completing training courses.

- Policy and Regulatory Changes for a Path to Statewide Bargaining for IHSS Workers: Policy initiatives that would grant statewide bargaining to all IHSS providers in California, allowing IHSS workers to negotiate wages and benefits at the state level rather than county by county,<sup>116</sup> have been introduced in recent years, but never materialized. Recently, the IHSS Employer-Employee Act (AB 1672), introduced in 2023, made significant progress toward awareness and opened the door for negotiations among agencies. This year, Governor Newsom approved a state budget that included funding for a statewide bargaining design group that will develop an implementation plan. New legislation is expected to be introduced in 2025 that will include the workgroup's recommendations.
- Policy and Regulatory Initiatives: The California Master Plan for Aging is a blueprint that outlines five goals and 23 strategies to build a California for all ages by 2030 and includes funding opportunities that employers can tap into to support initiatives aimed at improving care for the aging population. These funds are intended to help develop a more robust workforce, enhance training programs, and expand services that align with the plan's goals, such as increasing the availability of home-based care and supporting high-road job creation. Also, an overhaul of the state's Medi-Cal system, California Advancing and Innovating Medi-Cal (CalAIM), is under way.
- Patient Care (Including In-Patient/Acute Care and Outpatient/Ambulatory Care)
  - Integrated Care Models: There is an increasing focus on integrating physical and mental health services to provide comprehensive patient care. Integrated care models in the Bay Area's healthcare sector offer a prime opportunity for growth by improving coordination, enhancing patient outcomes, and reducing overall healthcare costs.
  - Value-Based Care: The shift from fee-for-service to value-based care models emphasizes outcomes and cost-effectiveness, influencing how patient care is delivered. Value-based care prioritizes patient health outcomes and cost efficiency, marking a shift from traditional payment models and offering significant potential for expanding and enhancing the healthcare sector within the region.
  - High-Road Training Partnerships: Such partnerships are geared toward improving the job quality of allied healthcare workers including CNAs and medical assistants.
  - Lateral Career Moves: Opportunities to make lateral career moves can help boost retention and offer workers opportunities other than exiting the workforce due to burnout from the physical and mental toll of their jobs.
  - Career Advancement into Highly Demanded Occupations with Retention Problems: Offering opportunities for current healthcare professionals to transition into other related healthcare occupations with staffing retention challenges can be part of the solution for workforce shortages. For example, there is a shortage of licensed psych

---

<sup>116</sup> SEIU 2015. (2023, February). "They're only getting more essential." California home caregivers seek statewide bargaining power. <https://www.seiu2015.org/>

techs in large part due to the psychologically demanding nature of the work. Paid on-the-job training for CNAs to receive the necessary credentialing to become psych techs is one way to create a career pathway in this sub-sector.

- Community Health and Behavioral Health
  - Mental Health Awareness and Impacts of Proposition 1, the Behavioral Health and Infrastructure Bond: The growing awareness and de-stigmatization of mental health issues have led to increased demand for behavioral health services.<sup>117</sup> Prop 1, placed on the March 2024 ballot by Governor Gavin Newsom, and passed by voters, is a significant initiative aimed at enhancing mental health services in California by allocating \$6.4 billion in bonds to fund mental health treatment facilities and services, with a particular focus on increasing the availability of mental health beds and expanding access to comprehensive behavioral healthcare services.
  - Children and Youth Behavioral Health Initiative (CYBHI): This program, allotting \$4.7 billion for children’s mental health, is managed by the California Health and Human Services Agency (CalHHS) and works in partnership with CalHHS departments and offices, other state agencies, community-based and educational organizations, and a wide range of partners. The initiative focuses on four key strategic areas: workforce training and capacity, behavioral health ecosystem infrastructure, coverage architecture, and public awareness.
  - Community Health Initiatives: Community health workers, promotoras, and representatives (CHW/P/Rs) provide essential preventive, promotive, and supportive referral services for communities in California that have been historically and systemically marginalized and discriminated against and distanced from the healthcare system. CHW/P/Rs are multilingual and serve diverse communities with varied needs across the state. Healthcare Access and Information’s (HCAI) CHW/P/R workforce initiative seeks to expand and support the CHW/P/R workforce and is part of the Workforce for a Healthy California initiative, a cooperative platform geared toward joining workforce information and opportunities together in one space for easy access. The focus is on providing direct links to programs expanding and diversifying opportunities in behavioral health, primary and specialty care, nursing, allied health, and direct care professions.<sup>118</sup>

## Assets

The Bay Area healthcare sector is well-positioned for success in executing workforce and economic development strategies due to its diverse, robust, and skilled workforce. Strong training and apprenticeship programs in partnership with educational institutions create opportunities for workers to receive comprehensive, relevant education. Apprenticeship programs within the sector, which combine on-the-job-training with an earn-while-you-learn model, create clear career ladders for advancement. Community colleges in the region further support training and development, enhancing workforce

---

<sup>117</sup> Wiener, J. (2024). With Prop. 1 passage, Gavin Newsom again changes how Californians with mental illness get help. CalMatters. <https://calmatters.org/health/mental-health/2024/03/proposition-1-gavin-newsom-2/>

<sup>118</sup> California Department of Health Care Access and Information. (2024). Community health workers, promotores & representatives. <https://hcai.ca.gov/workforce/initiatives/community-health-workers-promotores-chw-p/>

readiness. In addition, community programs and initiatives drive equitable access, create a workforce prepared to address community health needs in the face of climate change, and offer economic diversification.

- **Diverse, Robust, and Skilled Workforce:** The highly skilled healthcare workforce within the Bay Area is crucial in delivering high-quality care and innovation, underpinning the region's economic and social infrastructure. The workforce plays a vital role in meeting the diverse healthcare needs of the community, especially the aging population, preparing to address health care needs that may arise in the case of climate crises, and driving economic growth.
- **Strong Industry Partnerships:** Through state-accredited apprenticeship programs, which are jointly managed by labor and employers, these programs offer on-the-job training with an earn-while-you-learn model providing a built-in career ladder, pay increases, and benefits, and ensuring workforce development, job placement, and retention.
- **Workforce Development and Sustainability Initiatives:** Job training and workforce development programs, along with community health worker initiatives, are integral to the Bay Area healthcare sector, with community colleges, community-based organizations, and nonprofits playing a crucial role in creating high-road jobs through industry partnerships and comprehensive training. These programs not only provide equitable access to career advancement for underserved communities but also contribute to climate resilience and economic diversification by promoting climate preparedness and fostering a diverse, skilled workforce. Moreover, California's community college system, as the largest provider of workforce training globally, provides Career Technical Education (CTE) certificates and degrees, leading to an average increase in income of 14%–45%, with the healthcare sector having the highest financial benefits from such educational investments.<sup>119</sup>

## Prospects

As the demand for healthcare workers grows to meet the needs of an aging population, the sub-sectors and occupations with the greatest projected growth face significant workforce shortages and low retention rates due to low wages, mental and physical demands, and limited career advancement opportunities. Prioritizing investment in this sector is essential for addressing these challenges and ensuring a stable and equitable healthcare system for Bay Area communities. Strategies for recruiting and retaining a diversified healthcare workforce are fundamental to creating a sustainable, resilient, social, and economic infrastructure within the region. Focused efforts on improving job quality; providing paid training opportunities, including preparedness for long-term support service workers often on the front lines of climate disasters; and enhancing career ladders will be pivotal to achieving sustainable economic development, enhancing communities' resources to respond to climate crises for those most vulnerable to its effects, and improving healthcare outcomes for the region.

---

<sup>119</sup> Bay Area Jobs First Collaborative. (2023, December). p. 318.



## Investment Strategies

Investment strategies for the healthcare sector will help achieve the following objectives:

1. Expand the diversity of workers in higher-earning occupations and ensure equitable access to high-road jobs.
2. Improve job quality and bolster retention among in-home care and long-term support service providers.
3. Ensure equitable and comprehensive healthcare access within the community.

### **Objective 1: Expand the diversity of workers in higher-earning occupations and ensure equitable access to high-road jobs**

- Support initiatives to recruit, train, and retain a more diverse workforce. Workforce diversity and equitable representation across the entire healthcare sector is vital to the success of preventive health measures, the provision of culturally appropriate care, and the overall quality of care and supportive services available to the community it serves. Targeted outreach to BIPOC communities to recruit, train, and retain members of these communities within the healthcare sector is a first step to realizing a workforce that matches community needs and increases access to equity and upward mobility.
- Leverage the model of the High Road Training Partnership (H RTP) to improve entry-level healthcare student graduation and job placement rates, improve the job quality of service providers, and create career pathways for potential workers from underserved communities. A proven strategy for workforce development is to form collaboratives that include community nonprofits, labor, government, and employers all working to improve job quality, establish accessible entry points for workers from underserved communities, and create career pathways and upward mobility for the allied healthcare workforce. Strong labor partners benefit directly as this approach tackles staffing shortages and ensures that every Californian has access to quality, affordable care delivered by valued and respected healthcare professionals, while healthcare providers and employers experience the same benefits and have access to a skilled workforce to meet demand needs.

An example of such a collaborative effort is reflected in the California Workforce Development Board's H RTP, which was initiated by a labor union representing healthcare workers, community nonprofits providing support services, a healthcare system, and a healthcare employer. The H RTP's Advancing Entry Level Healthcare Student Graduation and Job Placement Rates initiative seeks to offer careers that build economic mobility and generational wealth through intentional and strategic support service deployment and heightened equitable opportunity and low-cost education with quality job placement.

- Improve career pathway selection and graduation rates for healthcare workers, clinicians, and behavioral health workers from underserved communities by providing career readiness training, career coaching, and placement sessions that include increased multilingual training/education options. Allied healthcare workers are often caught in a cycle of inequity leading to disparity in wages and benefits. Approximately 78% of allied healthcare workers

actively working and entering allied healthcare programs are BIPOC with the majority of those being women of color.<sup>120</sup>

Models such as The AlliedUP Career Coaching Group are forging a new path centered on a foundation of leadership that understands the importance of escaping the traditional, unpredictable, and sometimes predatory temp agency staffing models while offering careers that build economic mobility along with generational wealth. High levels of graduation rates and job placement are added incentives, as well as the partnership with SEIU-UHW, as these job placement opportunities are directly connected to union representation.

**Potential Partners for This Objective:** Labor unions representing healthcare workers, community-based organizations, healthcare employers, Labor-Management Cooperative Committees, and California Workforce Development Board/High Road Training Partnerships (HRTPs), among others.

**Objective 2: Improve job quality and bolster retention among in-home care and long-term support service providers**

- Leverage existing training models that improve the job quality of service providers, create career pathways, and elevate the profile of essential, yet undervalued occupations, through investing in training programs for climate-related disasters for in-home and long-term providers, who are often on the front lines. Through the California Workforce Development Board's H RTP, the Center for Caregiver Advancement (CCA) developed and delivered a pioneering emergency preparedness and climate resiliency training for long-term support service workers that can be a model for similar efforts within this sector. More than 500 IHSS and nursing home workers completed the CCA's six-week course on how to prepare for, respond to, and recover from climate-related emergencies. The IHSS Career Pathways Program, the state's current short-term training initiative for IHSS providers, expanded upon the H RTP program through which more than 6,000 providers have taken at least one module on emergency preparedness. In an impact study of the training, caregivers showed a substantial gain of knowledge and skills and consumers felt increased confidence in their caregivers' abilities to help during emergencies.

Long-term support service workers are often on the front lines of climate-related emergencies such as wildfires, floods, and other extreme weather events, and they can be a lifesaving resource for consumers when they are trained and equipped with the skills and tools to respond to these emergencies. Climate resiliency caregiver training aims to elevate the profile of caregivers and broaden the team of people traditionally seen as first responders to include caregivers, leading to greater opportunities for career advancement and improved job quality for a sector that is currently amid unprecedented change given the shift to in-home care and nontraditional healthcare settings.

The training is truly a community-focused effort as the majority of IHSS providers either live with or live in the same communities as their consumers, and the H RTP participants were in

---

<sup>120</sup> California Workforce Development Board. (n.d.). High Road Training Partnership: Advancing entry-level healthcare student graduation and job placement rates. [https://cwdb.ca.gov/wp-content/uploads/sites/43/2023/07/2022.H RTP .AlliedUP.Advancing-Entry-Level-Healthcare-Student-Graduation-and-Job-Placement-Rates\\_ACCESSIBLE.pdf](https://cwdb.ca.gov/wp-content/uploads/sites/43/2023/07/2022.H RTP .AlliedUP.Advancing-Entry-Level-Healthcare-Student-Graduation-and-Job-Placement-Rates_ACCESSIBLE.pdf)

neighborhoods identified as priority populations by CalEnviroScreen as those most affected by pollution. The training thereby enhances communities' resources to tackle climate crises for those most vulnerable to its effects.

- Streamline and ease support service access. A centralized platform that matches IHSS providers with consumers would be transformational to the growing in-home care consumer population and create employment opportunities and develop career enhancement training programs that would allow an IHSS provider to be formally integrated into the care team and receive paid training and wage enhancements.

In a 2020 study by the State Auditor, the majority of counties surveyed in California indicated that consumers using IHSS lacked a sufficient number of caregivers to provide each recipient with all of the approved services.<sup>121</sup> Although the reasons for this unmet need varied, chief among them was the inability of consumers that need services to find and access in-home care providers, and specifically those that match their specific needs.

A California Health Care Foundation study of contract model IHSS reinforced this challenge, concluding that the effectiveness of IHSS hinges on an individual's ability to secure a reliable, high-quality IHSS provider.<sup>122</sup> The report offers several solutions to help IHSS recipients find providers, including centralized data systems for locating and contacting potential providers, addressing the issues that arise from the IHSS backup provider registry system being unevenly implemented on a county-by-county basis, which is not conducive to the needs of Bay Area regional coordination and alignment.

One model for addressing this issue is the Carina nonprofit online matching platform,<sup>123</sup> which collaborates with Medicaid programs and other community organizations to facilitate consumer-provider matches, ensuring that individuals in need of home-based care and supportive services can find suitable caregivers efficiently.

Existing pilots of this model, promoted by the Service Employees International Union (SEIU) 2015 have been successful, highlighting the value of coordination with organized labor unions that drive workforce training. The benefits include the following:

- Providing home-care workers and consumers with more choices, better information, and opportunities to connect.
- Helping home-care workers gain access to full-time work near where they live, increase their income, and find new clients and/or additional hours when needed.
- Helping home-care consumers better meet their care needs by making it easier to find qualified providers nearest to them.

---

<sup>121</sup> Auditor of the State of California. (2021, February). In-Home Supportive Services Program. <https://information.auditor.ca.gov/pdfs/reports/2020-109.pdf>

<sup>122</sup> California Care Health Foundation. (n.d.). Health care for all Californians. <https://www.chcf.org/>

<sup>123</sup> Carina. (2024). Better care. Better jobs. <https://www.carina.org/>

- Centralizing the possibility of a skilled workforce working through a “hiring hall” model in which partnerships with labor unions, community organizations, and government agencies can lead to better care and better jobs.

**Potential Partners for This Objective:** Labor unions representing healthcare workers, healthcare employers, disability rights groups, patient care advocacy groups, California Healthcare Foundation, local government, and community-based organizations, among others.

### **Objective 3: Ensure equitable and comprehensive healthcare access within the community**

- Employ community healthcare initiatives for behavioral health workers. Leverage apprenticeship programs with a Labor-Management Cooperation Committee at local educational institutions to develop this emerging sub-sector and identify career opportunities within healthcare and government. The Paid Community Health Worker Apprenticeship Program at Berkeley City College is an example of a multi-union, multi-employer program that trains individuals to administer behavioral support services within the community and, where applicable, within the home.<sup>124</sup>
- Facilitate entry points into healthcare, social work, and human services. A collaboration among healthcare unions, public employee unions, community nonprofits, workforce development agencies, and employers can help to provide entry points into these sectors and shape the future of work in this space as demand for community-based care increases. Paid training experience for homeless outreach, wellness coaching, and preventive healthcare measures can lead to future employment in social work, human services, and a variety of patient-care occupations.

**Potential Partners for This Objective:** Community-based nonprofits that contract with the public sector, such as East Bay Innovations and Healthright 360 SF; labor unions representing healthcare workers; in-home support service workers; promotoras programs; and healthcare employers and providers; among others.

## **Conclusion**

The healthcare sector in the Bay Area is vital to the region’s economic and social infrastructure, especially as it addresses the needs of a growing and aging population that will require high-quality, equitably accessible patient care and supportive services. Given the projected demand, improving job quality to develop and stabilize for this essential workforce is crucial. By driving high-road job creation and providing equitable access for historically marginalized communities, the sector can develop and transform a workforce that better reflects the diverse community it serves, ultimately leading to more effective, inclusive, and resilient healthcare services and improved outcomes.

---

<sup>124</sup> Berkeley City College. (2024). Community Health Worker Apprenticeship. <https://www.berkeleycitycollege.edu/phs/apprentice/>

# MANUFACTURING

## Summary

The Bay Area's manufacturing sector, traditionally composed of low-wage jobs primarily held by BIPOC workers, is evolving into a sector offering high-road opportunities by merging traditional practices with cutting-edge technology, supporting the production of critical components for renewable energy systems and sustainable practices.<sup>125</sup> Despite the sharp divide between blue-collar (production) and white-collar (e.g., engineering, software) jobs within this sector, targeted training programs and multi-sectoral partnerships can bridge this gap, enabling workers to transition into more lucrative positions, raising industry standards, providing equitable employment access, and creating new opportunities for historically marginalized communities, as well as those shifting from fossil-fuel dependent jobs. This transition is being led by leveraging a resurgence of federal investment in the sector,<sup>126</sup> and aligning the needs of high-road manufacturers with workforce development providers to adapt and strengthen training programs and develop pathways to well-paying, family-sustaining careers while promoting environmental resilience and economic diversification.

Improving job quality in blue-collar manufacturing involves offering competitive wages and benefits; ensuring a safe work environment; providing ongoing, paid training; fostering a work-life balance; and encouraging employee engagement and career advancement. Furthermore, high-road manufacturing not only enhances job quality and operational efficiency but also elevates traditionally undervalued positions into roles that are vital to economic ecosystems throughout the region, providing comprehensive benefits and economic stability for a diverse workforce, and fostering economic equity, community stability, and inclusive resilience in the Bay Area economy.

### Stakeholder Voice:

"Manufacturing in the metro South Bay provides some 170,000 jobs, most in computer and electronic product manufacturing. There are significant disparities in pay and participation in the sector: Median earnings are not quite \$25/hour in production occupations but \$90/hour in computer and mathematical occupations. Strategies that create pathways for historically marginalized workers to move into higher-wage jobs or improve working conditions in jobs that they currently hold are essential for creating a more equitable economic landscape. We need companies to create more accessible apprenticeships, which provide employment gateways for entry-level workers and integrate skill-building milestones and wage increases into the apprentice's journey. Widespread employer investment in training for

<sup>125</sup> Bay Area Council Economic Institute. (2021, October). Future careers in manufacturing: Building a stronger manufacturing workforce in Northern California. [https://www.bayareaeconomy.org/files/pdf/Manufacturing\\_Report\\_Oct2021.pdf](https://www.bayareaeconomy.org/files/pdf/Manufacturing_Report_Oct2021.pdf)

<sup>126</sup> Manufacturing.gov. (2022, May 6). Fact sheet: Biden administration celebrates launch of AM Forward and calls on Congress to pass Bipartisan Innovation Act. <https://www.manufacturing.gov/news/announcements/2022/05/fact-sheet-biden-administration-celebrates-launch-am-forward-and-calls>

incumbent workers would ensure that workers have opportunities for career and income advancement while assuring employers that they have a workforce with the skills they need for success.”

—Lawrence Thoo, Strategic Engagement Manager, work2future

## Definition

### Sector

The manufacturing industry in the Bay Area is a vital and dynamic part of the region’s economy, characterized by a robust value chain that includes research and development (R&D), material sourcing, design, production, and logistics. The integration of advanced technologies can drive efficiency, and a strong focus on sustainability prioritizes green manufacturing practices. Potential areas of focus include initiatives for a manufacturing future with work in areas such as semiconductor and electronics manufacturing, biotechnology and pharmaceuticals, metal machining and fabrication, basic and green building materials, transportation, logistics, and warehousing, computer and electronic manufacturing, aerospace and defense, clean energy, food and beverage, medical devices, and oil and gas.

The Bay Area’s strategic location is characterized by its sophisticated supply chain and logistics network supported by extensive warehousing and key port facilities, such as the ports of Oakland, San Francisco, Richmond, Redwood City, Benicia, Alameda, Martinez, and Pittsburg.

Within the Bay Area region, white-collar manufacturing jobs include R&D, engineering, project management, and administrative roles, which often require higher education and offer higher salaries, better benefits, and more advancement opportunities. Conversely, blue-collar jobs such as machine operators, assembly line workers, and maintenance technicians typically require technical training or apprenticeships but offer lower wages, fewer benefits, and limited upward mobility, most noticeably in areas without union representation. Moreover, manufacturing is among the largest employers of BIPOC and immigrant workers; 83% of Silicon Valley’s 60,000 production workers are people of color.<sup>127</sup>

### Goods Production and Job Quality

Goods production often has historically been associated with low wages, poor working conditions, and limited job security. However, there is significant potential to transform these positions into higher-quality jobs through targeted investments and policy interventions.

Providing comprehensive training and opportunities to upgrade skills can empower workers with the abilities needed to operate sophisticated machinery, leading to higher wages and career advancement prospects. However, providing training alone does not change the nature of existing

---

<sup>127</sup> U.S. Census Bureau. (2023). American Community Survey 5-Year Data (2018–2022). [Data set]. U.S. Department of Commerce.

jobs. Conscious employer-side interventions are necessary to restructure jobs along a high-road model.

Federal and state programs that offer tax incentives and grants to companies adopting sustainable practices and advanced technologies can further support this transition, promoting economic growth and job quality. For example, the Employment Training Panel in California provides funds for job training, ensuring that workers are equipped to thrive in a modernized manufacturing environment.<sup>128</sup>

## Sub-Sectors

Because manufacturing can be broken down into multiple sub-sectors, it is important to be specific when discussing the sector at large. The future trajectory and workforce needs of one manufacturing sub-sector—e.g., wine production—will look far different than of another sub-sector—e.g., machine parts manufacturing. Because of this variation across the sector, this section highlights some of the pockets of manufacturing that are most likely to produce future job growth in the Bay Area because of market or policy factors, while also presenting opportunities for employment gains in occupations that align with BAJFC principles. However, specific data points on trends in these sub-sectors can be difficult to obtain; therefore, much of the analysis in this section is concentrated on identifying trends and potential opportunities.

- **Semiconductors and Computer Manufacturing:** The Computer and Electronic Product Manufacturing sub-sector plays a major role in the Bay Area economy, particularly Santa Clara County, which housed nearly 80% of the sub-sector's 160,000 regional jobs as of the end of 2023. Recent growth in the sector has been driven by record levels of spending on research and development in the Bay Area. The computer and electronics manufacturing sub-sector also holds many of the Bay Area's largest companies by market capitalization—and in turn, the world's largest publicly held companies—as Bay Area-headquartered **Nvidia, Apple, Broadcom, Cisco**, and **AMD** are all part of this manufacturing sub-sector.
- **Advanced Machining and Robotics:** The region's deep-rooted technology ecosystem, proximity to world-class universities like Stanford and UC Berkeley, and access to venture capital have fostered a unique environment for innovation in manufacturing. Companies such as **Tesla**, with its advanced electric vehicle (EV) production at the Fremont Gigafactory, and **Jabil's** San Jose Blue Sky Innovation Center, are leading examples. In addition, startups focusing on industrial robotics, AI-driven production processes, and IoT (Internet of Things) integration contribute to the region's manufacturing evolution. The Bay Area's advanced manufacturing sector plays a crucial role in developing complex products that are then used by other Bay Area companies, from 3D printed machine parts and medical devices to autonomous vehicle components.

---

<sup>128</sup> 125 Employment Training Panel. (2024). Welcome. <https://etp.ca.gov/>



- **Biotech and Life Science Technologies:** The Bay Area is home to one of the largest concentrations of biotech and life sciences companies globally, driven by the region's proximity to world-class research institutions that have been the site of some of the world's most significant medical innovations. Despite the Bay Area's large life sciences industry, a 2024 study by CBRE shows that demand for life sciences talent in the Bay Area continues to outpace supply.<sup>129</sup> Still, the Bay Area is leading the charge in cutting-edge developments, contributing to 20% of new biotech startups in the U.S. in the past decade, and nearly doubling its National Institute of Health (NIH) funding in the last decade from around \$22 billion in 2014 to nearly \$40 billion in 2023.<sup>130</sup> Local investments in life science technologies have also surged in recent years, including notable expansions by companies like **Genentech**, **Gilead**, **Bayer**, and **BioMarin**.
- **Cleantech:** The Bay Area has long been a leader in clean technology and renewable energy innovation, driven by the state's aggressive climate goals and the region's high concentration of venture capital. This sub-sector encompasses everything from solar photovoltaic, wind, wave/ocean power, biofuels and biomass, carbon storage and management, renewable energy services, battery technologies, electric vehicle technologies, solar thermal, professional energy services, fuel cells, smart grid, and geothermal, as well as the deployment of energy-efficient technologies. Federal and state investments in clean energy technologies present important opportunities for job growth in this sector, and labor standards and community benefits plans (such as those required in many Biden Administration investments) offer a critical opening to ensure these are high-quality jobs with equitable access, and accountability for local project impacts.
- **Aerospace and Spacetechnology Manufacturing:** The State of California has demonstrated a commitment to the development of space and aerospace companies. Starting in August 2022, the Governor's Office announced the creation of a **Space Industry Task Force**, to help California harness future growth in the space industry, both military and commercial. According to the Governor's press release, California is home to nearly one-third of all spacetechnology companies and 10% of space tech companies globally, has in the last 11 years attracted nearly half of the nation's space tech investment capital, and in 2022 attracted more than 85% of the capital invested in the United States in space-related companies.<sup>131</sup> This Task Force therefore works to attract new businesses in the sector, support existing space and aerospace businesses, grow the industry's workforce, create new career paths in fields such as quantum physics and AI, expand R&D and manufacturing, and create new models for public-private cooperation. As of October 2023, UC Berkeley is partnering with **NASA Ames Research Center** (based in Mountain View) to establish the **Berkeley Space Center**, a 36-acre innovation hub in Silicon Valley. This center will facilitate collaboration among Berkeley students, NASA scientists, and private companies to advance research in aviation, space technology, and AI. Expected to offer up to 1.4 million

---

<sup>129</sup> CBRE (June 2024). US Life Sciences Talent Trends. Accessed at: <https://www.cbre.com/insights/books/us-life-sciences-talent-trends-2024>

<sup>130</sup> Avison Young. Bay Area Life Science Report Q1 2024. Accessed at: <https://www.avisonyoung.us/documents/d/san-francisco/avison-young-bay-area-life-science-report-q1-2024>

<sup>131</sup> California's New Space Industry Task Force to be Led by the Governor's Office of Business and Economic Development [Governor's Office of Business and Economic Development](#).

square feet of research space, it aims to foster public-private partnerships and accelerate technological advancements, with initial buildings projected to be ready by 2027.

As manufacturing is the largest traded sector—meaning it sells goods and services outside of the local area and brings economic activity into a region—opportunities in these sectors will be discussed in more detail in a later section that dives more deeply into the tradable sectors.

## Profile<sup>132</sup>

The manufacturing sector in the Bay Area employed 397,921 workers as of 2022. This represents about 10% of the total workforce in the region. The sector has seen modest growth with an addition of 7,849 workers between 2012 and 2020, or a 2% growth rate. Manufacturing activity is largely concentrated in the southern and eastern parts of the Bay Area, including Contra Costa, Alameda, and Santa Clara counties. Santa Clara County leads the Bay Area in manufacturing employment with 164,385 workers, followed by Alameda County (86,040) and Contra Costa County (35,666). This represents a significant portion of the county's workforce, reflecting its strong ties to the tech industry. In the South Bay, manufacturing is among the largest employers of BIPOC and immigrant workers; 83% of Silicon Valley's 60,000 production workers are BIPOC. Other key characteristics of manufacturing jobs and workers include the following:

The majority of manufacturing jobs are full-time positions. In 2022, there were 343,774 full-time workers compared to 54,147 part-time workers in the sector. The sector employs workers across all age groups, with the largest share in the 35–49 age range (142,260 workers), followed by the 50–64 age range (128,050 workers). There are fewer young workers aged 16–24 (22,632) and older workers 65 and older (21,107) in the sector. The sector has a significant gender imbalance. Men hold 264,373 jobs in the sector, whereas women hold 133,548 jobs.

The sector has a high proportion of immigrant workers. Of the total manufacturing workforce, 203,189 are immigrants, whereas 194,732 are U.S.-born. About 79.2% of workers are English proficient and about 60% of workers have a bachelor's degree or higher, with 31.4% having only a bachelor's degree and 29.1% also having a graduate degree. Nearly 75% of all workers in the sector are White and Asian. When analyzing race/ethnicity by wage levels, Hispanic/Latinx workers are disproportionately employed in the lowest-wage jobs, whereas White workers are disproportionately in the highest-wage jobs. Hispanic/Latinx workers are more than one-third of the lowest-wage workers and fewer than 6% of the highest-wage workers. Black workers are also less likely to be employed in the highest-wage jobs in the sector.

The most common occupations in manufacturing include production workers (86,369), management (82,420), and architecture and engineering roles (72,594). 30% of workers earn in the lowest-wage category (\$0–\$30.20/hour), whereas 27.3% are in the middle range (\$30.20–\$56.60/hour), and 42.8% are in the highest category (\$56.60+/hour). About 69.6% of manufacturing workers commute by car or

---

<sup>132</sup> U.S. Census Bureau. (2023). American Community Survey 5-Year Data (2018–2022). [Data set]. U.S. Department of Commerce. [Applicable to all data in the Manufacturing Profile section.]

motorcycle. Only 16.8% work from home. A high percentage (86.2%) of manufacturing workers have employer- or union-sponsored healthcare, with 88.9% of full-time workers covered.

The manufacturing sector provides significant and relatively stable jobs in the Bay Area, characterized by a predominantly male, immigrant workforce with good wages and benefits, but facing challenges in terms of gender diversity and limited English proficiency for a portion of its workers.

However, in the Bay Area manufacturing sector, a significant disparity exists between blue-collar and white-collar jobs, with blue-collar positions often with lower wages, fewer benefits, and limited advancement opportunities compared to their white-collar counterparts. Given the broad diversity of the region's manufacturing sector, only about 20% of workers in manufacturing are in production. Those occupations' median wages are \$20–\$24 hourly, among the lower-paying jobs within manufacturing.<sup>133</sup> This reflects the importance of improving job quality in manufacturing. More than half of all workers in the region's manufacturing sector are in “white-collar” occupations: about 22% in management occupations, 19% in architecture and engineering, and 9% in computer and mathematics. Each of those occupational groupings have average wages well above \$100,000 annually.<sup>134</sup>

Some major manufacturing employers (such as Apple, which is classified as computer equipment manufacturer) have tens of thousands of Bay Area employees yet do little to no manufacturing within the region. This reflects the region's relative competitiveness in the higher-wage functions such as research and development, design, engineering, and prototyping.

Looking ahead, the manufacturing sector is projected to add nearly 30,000 jobs between 2020 and 2030, much faster than in the prior decade, though slower than the region overall.<sup>135</sup> The biggest source of projected job growth is in Alameda, Contra Costa, and Santa Clara counties, especially in computer and electronic product manufacturing and computer and peripheral equipment manufacturing. Some sub-segments, such as beverage manufacturing in the North Bay, are projected for faster growth. In Napa alone, beverage manufacturing is projected to grow nearly 25%, significantly higher than the region's 17% projected rate of growth from 2020 to 2030.

### Key Components of the Manufacturing Value Chain

The region's value chain includes a mix of research and development, specialized suppliers and inputs, and high value products in the marketplace. This ecosystem's dynamic manufacturing value chains include the following components:

- **Research and Development (R&D):** The Bay Area has strong R&D capabilities, particularly due to its proximity to top universities and research institutions. This ecosystem supports both start-ups and established companies.

<sup>133</sup> 127 California Open Data Portal. (n.d.). Long-term occupational employment projections, 2020–2030. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-occupational-employment-projections>

<sup>134</sup> Note that average wages noted are specific to occupational groupings, not industries.

<sup>135</sup> California Open Data Portal. (n.d.). Long-term industry employment projections, 2020–2030. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-industry-employment-projections>

- **Material Sourcing and Processing:** This includes the production and refinement of raw materials needed for manufacturing. This also includes inbound logistics to store and transport raw materials.
- **Design and Prototyping:** The region's strong tech sector contributes to advanced design capabilities, including the use of technologies such as AI and machine learning.
- **Production and Assembly:** This includes the actual manufacturing processes, from small-scale production to larger industrial operations.
- **Testing and Quality Control:** To achieve effective production, there must also be measures in place to ensure that products meet required standards and specifications.
- **Logistics and Distribution:** This includes the systems to get produced products into the marketplace of consumers or other businesses. The Bay Area's strategic location supports a sophisticated supply chain and logistics network, including key port facilities in Oakland, Richmond, and Redwood City, as well as extensive warehousing and distribution infrastructure.
- **Marketing and Sales:** This includes the mechanisms to ensure potential customers know what the products are and can differentiate the region's produced products from other sources.

Other components are also critical to the success of the region's manufacturing sector and ability to move up to higher value activities and products. These include:

- **Sustainability and Green Manufacturing:** There is a focus on sustainable manufacturing processes and the production of innovative technologies, including in clean energy.
- **Workforce Development:** This includes apprenticeship programs and partnerships with educational institutions to train skilled workers.
- **Supply Chain Integration:** Such integration addresses the importance of the co-location of various components of the manufacturing supply chain, particularly R&D, prototyping, testing, pre-commercialization, and full commercialization.
- **Innovation in Materials:** New materials, including nanotechnology, are being developed for use in various industries.

## Landscape

### Challenges

- **Climate and Environmental Justice–Related Challenges:** These include the phasing out of fossil fuel manufacturing, which has significant economic and social impacts for communities in Contra Costa and Solano counties. In addition, there is a critical need to transition other prevalent manufacturing sectors in the South Bay, such as electronics and building materials, to lower-carbon approaches and product types that minimize environmental impacts on surrounding communities.
- **High Regional Land Costs and Infrastructure Upgrades Needed:** The manufacturing sector in the Bay Area faces numerous challenges, including high land costs and competition for land

development from commercial and housing developments, inconsistent local regulations, and a lack of prioritization and investment in upgrading logistics infrastructure such as ports and goods movement corridors.

- **Energy Reliability and Costs Can Be a Competitive Disadvantage for Energy-Intensive Manufacturers:** Energy reliability and costs are significant barriers, as manufacturers struggle with unreliable and expensive electricity, which hamper potential operations and complicate the region's progress toward decarbonization goals.
- **Many Manufacturing Jobs Offer Low Pay and Low Workforce Standards:** Manufacturers report difficulties in attracting and retaining a skilled workforce. Simultaneously, many manufacturing jobs offer low wages and often precarious, unsafe working conditions, disproportionately affecting BIPOC workers. Moreover, California climate investments within clean economy manufacturing largely lack any form of labor standards. Requiring Labor Peace Agreements or Neutrality Agreements, which are contracts between an employer and a labor union that establish the terms for unionization and labor organizing efforts, within this sector, especially as a qualification for accessing public investments, can be essential strategies for promoting fair market competition and supporting unionization efforts.<sup>136</sup>
- **Lack of Regional Vision and Consensus on Where or How to Grow the Manufacturing Sector:** The region lacks a unified vision for manufacturing, given its diverse industries, and has seen a decline in employment, expertise, and investment. Despite significant R&D occurring locally, much of the intellectual property related to manufacturing is held overseas. National trends, such as increased automation, outsourcing, and offshoring, have contributed to the decline in manufacturing employment.

## Opportunities

Key opportunities for growing the Bay Area's manufacturing sector include the following:

- **Unprecedented Federal Investment in Industrial Policy and Reshoring of Production and Manufacturing:** The federal government has launched a once-in-a-lifetime industrial policy agenda to reinvigorate and reshore manufacturing, including unprecedented investments via the CHIPS Act (2022) and the Inflation Reduction Act (IRA, 2022). These federal investments have the potential to bring back manufacturing operations to the United States and reduce supply chain vulnerabilities, especially in green technologies and sustainable manufacturing processes. The Bay Area can leverage these investments to not only strengthen its existing industrial base but also grow into new and higher-value manufacturing activities.

To take advantage of the opportunities available through the federal IRA, Infrastructure Investment and Jobs Act (IIJA), and CHIPS programs, as well as climate-related funding at the state level, the implementation timeline for aligned project work will need to be within the next

---

<sup>136</sup> U.C. Berkeley Labor Center. (2024, March 25). Factsheet: Workforce standards for an equitable economy. <https://laborcenter.berkeley.edu/factsheet-workforce-standards-for-an-equitable-economy/>

five years. Beyond that time frame, either the funding support will have already been allocated or other states will have developed the capacity and, with that, reaped the economic benefits.

- **Federal Government Requires Labor Standards, Equity, and Community Engagement within Many Investments:** Alongside these overall industrial policy investments are policy commitments to building a high-road, sustainable, equitable manufacturing sector, including the Biden administration’s Good Jobs Principles (2022) and the Justice40 initiative (2021) for disinvested communities, as well as community benefits agreements.
- **Federal Rules Create Opportunities for New Partnerships to Prepare Workers to Access High-Quality Manufacturing Jobs:** The new federal policy infrastructure creates an opportunity to shift the region’s manufacturing sector away from low-road, precarious jobs. Bringing together unions, businesses, community advocates, and workforce development entities can transform the industry and the quality of manufacturing jobs in the Bay Area. Strengthening partnerships among academia, industry, organized labor, and government can drive investment in preparing a new workforce for emerging jobs in manufacturing that come out of the region’s research.
- **Sustainability and Climate Goals Create a Market Opening for Clean Technologies:** There are numerous state and federal commitments to meet climate, environmental, and environmental justice goals while also meeting growing consumer demand for green technology (e.g., renewable energy, EVs, battery storage). These commitments offer opportunities for investment.
- **State Climate Goals Create Market Opportunities: Reaching** California’s goal of carbon neutrality by 2045 (which includes 100% clean energy) will require a massive economic transition to produce the technologies, components, and infrastructure needed to make the shift. The Bay Area can be a leader in equitable, high-road clean energy manufacturing, including the batteries and energy storage needed for electrification, and the manufacturing or assembly of components needed for EVs, advanced lighting and HVAC, solar power generation, wind turbines, electric grid maintenance and expansion, and associated infrastructure. There is also the opportunity for existing manufacturers to reduce their carbon footprints and improve the environmental justice impacts of their operations.
- **State Incentives in Manufacturing:** There are currently three California financial incentives for manufacturing:
  - **California Competes Tax Credit:** This program provides tax credits to businesses that want to come to California or stay and grow in the state. It is available to companies of all sizes and industries, including manufacturing, and aims to encourage businesses to make capital investments and create jobs in California.
  - **Sales and Use Tax Exemption for Manufacturing and R&D Equipment:** California offers a partial exemption of sales and use tax on certain manufacturing and R&D equipment purchases. This incentive reduces the cost of purchasing equipment for use in

manufacturing, processing, refining, fabricating, or R&D, helping to lower operational costs for manufacturers.

- **Employment Training Panel (ETP) Program:** The ETP program provides funding to employers to assist in upgrading the skills of their workers through training. Manufacturing companies can benefit from this program by receiving financial assistance to train new and existing employees, thereby improving productivity and competitiveness.
- **Opportunities to Leverage the Region’s R&D to Co-Locate Adjacent to Manufacturing Facilities:** Highly innovative fields benefit from close proximity between research and production. The Bay Area historically had this close proximity but lost much of it during the decades of deindustrialization and the overseas shift in advanced manufacturing. With the onshoring of advanced production, there are opportunities for co-location of various components of the manufacturing supply chain, particularly R&D, prototyping and testing, pre-commercialization, and full commercialization. This will be increasingly important for the semiconductor, energy, and other advanced materials and products sectors. The Bay Area is well-positioned to retain these companies within the region as it has R&D capacity in many of these emerging and growing sectors.
- **California’s Commitment to Streamlining Clean Energy Production and Storage Capacity to Increase Reliability and Reduce Energy Costs:** Governor Newsom has introduced an executive order and legislative package that aims to streamline permitting and other regulations to ensure the state can build more clean energy projects faster. These actions are essential to implementing the “Building the Electric Grid of the Future: California’s Transition Plan” and highlights the role of technology in this modern electricity grid, allowing users to supply power to the grid they have stored in their zero-emission car batteries and other appliances.<sup>137</sup>

## Assets

The Bay Area stands as a beacon of innovation and economic vitality, driven by a robust ecosystem of start-ups, established companies, and venture capital. This dynamic region boasts an unparalleled synergy between cutting-edge enterprises and a deeply rooted culture of innovation. The strong regional ecosystem, featuring emerging start-ups, established corporations, and abundant venture capital, fosters technological advancements and business growth. Specialized infrastructure, particularly in transportation, supports connectivity and efficiency, further propelling economic development. Local market demand for new clean technologies is a feature of the region’s commitment to sustainability and eco-friendly innovations. Innovative policies support high-road jobs, ensuring fair wages and career pathways while accelerating the adoption of groundbreaking technologies. Together, these elements create a powerful picture of a region poised to lead in the green economy, prioritizing social equity and environmental resilience. The Bay Area’s manufacturing sector benefits from several key assets including the following:

---

<sup>137</sup> Office of Governor Gavin Newsom. (2023, May). Building the electricity grid of the future: California’s Clean Energy Transition Plan. <https://www.gov.ca.gov/wp-content/uploads/2023/05/CAEnergyTransitionPlan.pdf>



- **Strong Regional Ecosystem of Start-ups, Established Companies, and Venture Capital:** The region's manufacturing sector is closely intertwined with the region's innovation ecosystem, including leading research institutions such as UCSF, Stanford, and UC Berkeley, which are among the leading recipients of research spending nationally.<sup>138</sup> This thriving ecosystem supports regional growth and innovation.

The region also has a network of national laboratories, including the Department of Energy's Lawrence Berkeley National Laboratory, the Lawrence Livermore National Laboratory, and Sandia National Laboratories, as well as NASA's Ames Research Center.

The Bay Area continues to receive the largest amount of venture capital funding of all regions nationally.<sup>139</sup> To the extent that these companies succeed, many will seek locations for production facilities. The region continues to be a place where pioneering advancements in high-tech, clean energy, and biotechnology drive national economic competitiveness.

- **Highly Skilled and Diverse Workforce:** The manufacturing sector benefits from a highly skilled workforce, with a significant number of engineers, scientists, production and assembly workers, and technicians. In addition, the presence of high-quality educational institutions and a culture of innovation attract talent from around the world.
- **Existing Specialized Infrastructure, Especially in Transportation:** The region has highly developed transportation networks, including ports, rail freight, airports, and highways, all facilitating efficient logistics. This includes the Port of Oakland (seaport), which is the 10th busiest port in the country and one of the few with a relatively high share of containers that are export-oriented.<sup>140</sup>
- **Local Market Demand for New Clean Technologies and Local Support for Innovative Policies:** As state and regional investments, incentives, and tax advantages defer the cost of onshoring manufacturing, the Bay Area can capture this revenue by keeping consumer spending local or within the state.

In addition, the state's regulatory environment and carbon neutrality goals create market opportunities as firms that wish to sell to California must meet high standards for emission reduction, primarily from the California Air Resources Board. This creates an opportunity to locate production of these products in the region, especially as much of the innovation to drive new emission reduction is coming from start-

---

<sup>138</sup> In 2022, these universities spent more than \$4 billion in R&D and were ranked the second, 10th, and 31st largest recipients of R&D spending among universities nationally. See

<https://ncesdata.nsf.gov/profiles/site?method=rankingBySource&ds=herd>.

<sup>139</sup> Florida, R. (2023, December 7). Where US tech investment is growing the most. Bloomberg.

<https://www.bloomberg.com/news/articles/2023-12-07/san-francisco-bay-area-nyc-boston-dominate-vc-investment-in-us>

<sup>140</sup> Port of Oakland. (2024). Port of Oakland year-end container volume ends strong <https://www.portofoakland.com/port-of-oakland-year-end-container-volume-ends-strong/#%3A~%3Atext%3DFull%20imports%20rose%2016.4%25%2C%20moving%2C58%2C302%20TEUs%20in%20December%202022>

ups within the region.

## Prospects

The expansion of high-road jobs in the manufacturing sector can directly support the region's economic diversification and resilience. Most notably, the region has a strong concentration in a diversified set of high-technology sectors and continues to see significant start-up activity. However, the reliance on tech also results in periods of both boom and bust. Boom periods strain infrastructure and result in jumps in housing costs, whereas bust periods put burdens on the region's safety net and public spending as unemployment rates increase. Having a more diversified set of manufacturing sub-sectors that are directly connected and built on non-tech-related assets (e.g., food, energy, building materials) would increase economic resilience during these shock periods. In addition, more localized manufacturing reduces the reliance on imported products or products from other regions, especially in the event of supply chain crises or risks (such as a pandemic, a natural disaster, or political upheaval).

Expanding high-road jobs in the manufacturing sector can improve job quality and elevate the work of blue-collar workers, ensuring they receive fair wages and opportunities for advancement. By investing in disinvested communities and increasing job opportunities, this shift fosters economic equity, particularly for marginalized workers, and strengthens local economies. In addition, promoting environmentally resilient manufacturing practices will help safeguard the region against future environmental challenges. A diversified and resilient manufacturing sector benefits the entire region by reducing reliance on volatile tech industries and mitigating the impact of economic shocks. Ultimately, this approach can help ensure long-term economic stability and sustainability for communities across the region.

## Investment Strategies

Investment strategies for the manufacturing sector will help achieve the following objectives:

1. Create a climate-resilient infrastructure investment plan for targeted industrial areas and ensure a sufficient supply of industrial land region-wide.
2. Build a new regional manufacturing coordination entity to capture federal investment and deploy funding to grow key sub-sectors.
3. Improve job quality and establish consistent labor standards.

### **Objective 1: Create a climate-resilient infrastructure investment plan for targeted industrial areas and ensure a sufficient supply of industrial land region-wide**

To unleash the potential of manufacturing in the Bay Area, particularly in underinvested regions such as eastern Contra Costa County and western Alameda County, the Bay Area must prioritize substantial infrastructure upgrades. These industrial-rich areas require cleanup, remediation, and improved transportation linkages to transform into thriving hubs for emerging sectors. Investing in these improvements will drive economic growth, create high-road jobs, and ensure equitable opportunities for marginalized communities, all while fostering environmental resilience and sustainable development.

Bay Area Collaborative organizations can drive significant change in this area by engaging marginalized workers and environmental justice communities from the outset and fostering trust and robust working

relationships with public agencies. By conducting listening sessions, establishing advisory committees, and implementing feedback mechanisms, these organizations can ensure that community voices shape priority projects and implementation. Collaborative initiatives, bolstered by training programs and partnerships with educational institutions, can equip local residents with the necessary skills for infrastructure jobs. Joint planning sessions, integrated project teams, and shared objectives with public agencies will help align priorities.

**Objective 2: Build a new regional manufacturing coordination entity to capture federal investment and deploy funding to grow key sub-sectors**

The Bay Area could develop a manufacturing consortium that has three key roles:

- Advocate for state and federal funding and policies that result in the onshoring of industrial activities.
- Deploy state and federal funding with high-road values of equity, job quality, and environmental sustainability.
- Coordinate among regional stakeholders to support the growth of key manufacturing sectors such as creating a specific battery manufacturing hub. This would help result in locating production facilities within the region or adjacent areas (such as the northern San Joaquin Valley) as opposed to in other states.

To meet the goals of the region's Jobs First initiative, the Bay Area Manufacturing Consortium can place workers and underrepresented communities at the heart of a dynamic manufacturing sector by convening a multi-sectoral partnership to capture potential federal manufacturing investments. Securing these resources will empower the consortium to strategically deploy funds and support employers committed to quality jobs, worker representation, and equitable employment.

The consortium could collaborate with the Bay Area Economic Development District (EDD), the Association of Bay Area Governments (ABAG), the U.S. Economic Development Administration (EDA), state agencies, and key stakeholders to create a comprehensive strategy for revitalizing the Bay Area's manufacturing sector. This initiative would be crucial for the South Bay in particular, home to many low-wage manufacturing jobs. Federal investments can modernize this sector by upgrading infrastructure, fostering R&D, and enhancing workforce development. In addition, targeted support for high-road employers with strong labor standards would reduce economic disparities and promote equitable growth in underserved areas such as East San Jose.

To address the specific needs of sub-regions, target investments should focus on upgrading manufacturing infrastructure, fostering research and development, and enhancing workforce development programs. By prioritizing these areas, such an initiative can help transform low-wage manufacturing jobs into higher-quality positions that provide better pay and benefits. The strategic deployment of federal funds can also support the growth of high-road employers who adhere to robust labor standards, thereby promoting equitable growth and reducing economic disparities in underserved communities. This holistic approach will ensure that the revitalization efforts benefit the entire region, with particular attention to areas such as East San Jose and other sub-regions with high concentrations of low-wage jobs.

In particular, the manufacturing consortium should invest in “just transition” efforts to support workers and local jurisdictions that otherwise stand to lose jobs and revenue as the oil and gas industry phases out of the region. The manufacturing consortium can prioritize community support and buy-in, especially in communities that historically have suffered a lack of environmental justice. In the Bay Area, specific just-transition activities include workforce development programs such as the East Bay Green Corridor, which retrain workers from fossil fuel industries for jobs in renewable energy and energy efficiency sectors.<sup>141</sup> In addition, local initiatives such as the RichmondBUILD program invest in community-led projects that promote environmental sustainability and economic resilience, particularly in underserved neighborhoods.<sup>142</sup>

The new manufacturing consortium should also focus on leveraging public funding and financing programs to attract and retain high-road manufacturing jobs in target sectors. To achieve that goal, the manufacturing consortium can advocate for statewide efforts to streamline environmental review and local permitting for clean manufacturing projects, especially when it leads to the cleanup of toxic and contaminated sites in proximity to disadvantaged communities.

The new consortium can also focus specifically on capturing and employing funds in opportunities in clean energy and battery manufacturing.

- **Renewable Energy Generation and Integration:** To reach its goal of generating all electricity from renewable sources by 2045, California will continue to make significant investments in the manufacturing and assembly of equipment such as wind turbines, high-density battery storage, and grid components. Manufacturing the machinery that is used in these factories is itself a growth opportunity as many of the machines are manufactured overseas. Bay Area organizations can partner with local start-ups, small manufacturing facilities, and large consumers of the equipment to develop a feasible plan for the growth and expansion of this industry. They can also coordinate with institutions that are leading the R&D on renewable energy generation and integration to ensure that intellectual property rights for future technological breakthroughs are held within the country.
- **Energy-Efficient Consumer Products:** As the residential and commercial sectors decarbonize, the demand for energy-efficient devices and consumer products is projected to grow significantly. Products might include energy-efficient lighting, HVAC systems, and motors, among others. As with renewable energy integration, the collaborative organizations can build equitable partnerships with worker and community leaders to develop a feasible plan for the growth and expansion of this industry as well as coordinating with institutions that are leading in research and development.

Furthermore, by adopting this comprehensive approach, the manufacturing consortium can effectively elevate existing industry-recognized training programs. This strategy not only addresses current skills gaps but also promotes long-term economic growth in the region. By investing in the current network of quality training programs in the Bay Area, the consortium can enhance the effectiveness and reach of these initiatives. Through community outreach and support services, the program can ensure that opportunities are accessible to underrepresented groups, thereby removing barriers to participation and

---

<sup>141</sup> East Bay Green Corridor. (2022). About us? Corridor profile. <https://ebgreencorridor.org/>

<sup>142</sup> City of Richmond. (n.d.). RichmondBUILD Academy. <https://www.ci.richmond.ca.us/1243/RichmondBUILD>

fostering economic equity. By leveraging a diverse range of resources and partnerships, and securing federal and state investments for high-road job training, the consortium will be well-positioned to develop a skilled workforce that meets industry demands and contributes to sustainable development.

### **Objective 3: Improve job quality and establish consistent labor standards**

Improving job quality and establishing consistent labor standards in the manufacturing sector can lead to significant benefits for both workers and employers. Uniform labor standards ensure that all employees receive fair wages, benefits, and working conditions, which can enhance job satisfaction and reduce turnover. Consistent standards also create a level playing field for employers, encouraging them to invest in their workforce through training and development rather than resorting to cost-cutting measures. By promoting high job quality, manufacturers can attract and retain skilled workers, leading to increased productivity and innovation. This helps lessen the disparity between traditionally low-wage blue-collar manufacturing jobs and white-collar jobs. In addition, equitable labor practices can provide significant benefits for marginalized communities by ensuring access to fair wages and stable employment, thereby contributing to broader social equity. The regional Bay Area organizations described above in Objective No. 2 can partner with labor, community organizations, employers, and local jurisdictions to encourage industry and labor standards for high-road manufacturing jobs. Collaborative organizations could work with employers that provide high-road jobs to assess how existing programs and resources can be adapted to better support skill needs, along with convening workforce development providers to strengthen connections among existing programs to provide more portable, transferable skill sets. By promoting standardized training and certification programs, workers can achieve greater mobility within the industry, enhancing their career prospects and financial stability. This type of comprehensive approach would not only support workers but also help build a more resilient and competitive manufacturing sector in the Bay Area.

## **Conclusion**

Meeting the region's climate goals and generating clean energy will necessitate a substantial economic shift to develop the necessary technologies, components, and infrastructure. By leveraging investments in manufacturing and establishing partnerships with high-road employers, workforce development partners, labor unions, and government, the Bay Area region is poised to lead in equitable, high-road clean energy and production manufacturing. In addition, the need to support existing manufacturers in reducing their carbon footprints and mitigating environmental justice impacts and creating high-road opportunities for historically marginalized communities, BIPOC individuals, and women further underscores the critical importance of investments in this sector both in the Bay Area and California.

# SUSTAINABLE ENVIRONMENTAL MANAGEMENT

## Summary

The sustainable environmental management sector in the Bay Area is crucial for the region's economic and environmental sustainability, playing a pivotal role in meeting California's ambitious climate goals. Strategic investments in this sector are essential not only for improving job quality and creating high-road employment opportunities with family-sustaining wages and benefits but also for restoring justice to historically marginalized communities that have endured pollution and disinvestment. Prioritizing equitable access to high-road jobs and focusing on restoration and cleanup efforts through investments within these communities is imperative. Given the sector's emerging status and evolving potential, establishing industry and workforce standards will significantly enhance its development. Leveraging the skilled workforce transitioning from fossil fuel-dependent jobs, along with new workforce entrants, presents a unique opportunity for workforce growth. Workforce development strategies that promote environmental management education and leverage existing state-accredited apprenticeship programs, jointly managed by labor and employers, can drive the sector's expansion. Addressing these challenges with swift action can serve as a catalyst for growing the sector, building regional climate resilience, promoting economic diversification, and ensuring a sustainable and equitable future for the Bay Area.

## Definition

### Sector

The sustainable environmental management sector encompasses environmental stewardship, climate resilience, resource management, and sustainable agriculture. The sector focuses on preserving natural ecosystems, maintaining biodiversity, improving community resilience, managing natural resources, and promoting agricultural practices that sustain both the environment and food production—significantly benefiting California's food systems and providing diverse economic opportunities for workers in these occupations. In addition, it plays a critical role in offsetting the economic and social impacts of the decommissioning fossil fuel production industry by fostering growth in regenerative and sustainable economic practices. Key components include sustainable agriculture, nature-based solutions, water resource management, waste reduction and management, clean energy initiatives, brownfield remediation, ecological restoration, advanced mitigation and adaptation, and vegetation management.

The sector fosters new job growth by creating opportunities in various fields that drive innovation and development in green technologies and sustainable practices such as environmental science, renewable energy, sustainable agriculture, conservation, land management, and environmental education. The sector also includes policy development and enforcement to ensure the health and sustainability of natural resources, aiming to balance economic growth with environmental stewardship and a just transition, and ensuring skill-based land stewardship and sustainable practices that promote both ecological balance and equitable economic opportunity, especially for BIPOC communities that have disproportionately suffered the effects of pollution, contamination, and resource depletion.

## Profile<sup>143</sup>

The sustainable environmental management sector does not neatly conform to the existing industry classifications system. Therefore, for the purposes of this report, this section uses a combination of industry classifications, including agriculture, forestry, fishing, and hunting sector, which includes crop production, animal production and aquaculture, forestry, logging, fishing/hunting/trapping, and support activities for agriculture and forestry. Using those data, there are just under 26,000 jobs in the region in this sector, representing a small share of the total regional employment. Of these sectors, the largest share of jobs are in crop production.

The agriculture sector offers the starkest contrast of all sectors in this report from the perspective of race/ethnicity and wages. Three-quarters of the lowest-wage jobs are filled with Hispanic/Latinx workers, whereas they hold only 7.5% of the highest-wage jobs. White workers have about 20% of the lowest-wage jobs but three-quarters of the highest-wage jobs. Yet, overall, this is primarily a low-wage sector with nearly 80% of all workers earning less than \$30 per hour, the highest percentage among all sectors except child care. In addition, only 15% earn middle-range wages.

Given the limitations of using standard definitions around agriculture and forestry to measure the sector, there are also data limitations in the projections analysis. Nonetheless, looking ahead to 2030, the region is projected to add 2,400 jobs in farming, with no counties or subregions projected to lose employment in agriculture.<sup>144</sup> The North Bay counties of Sonoma and Napa are projected to grow agricultural employment close to or higher than the region's growth rate, with each county projected to add about 1,000 jobs between 2020 and 2030.

Farming, fishing, and forestry occupations are also low-wage jobs. Median hourly wages range from a low of \$16 in Solano County to a high of just above \$22 hourly in Marin County. Logging equipment operators, a related occupation in the logging sector, receive higher hourly wages at close to \$30.<sup>145</sup>

The sector also includes occupations such as environmental scientists and engineers, whose wages are far higher than in traditional agriculture. Environmental engineers earn hourly wages of \$55–\$65 while environmental scientists earn \$33–\$53 per hour. Both of those occupations typically require a bachelor's degree for entry-level work and are projected to grow from 3,740 jobs in 2020 to 4,230 by 2030. Environmental science and protection technicians typically require an associate degree for entry-level work. Hourly wages for this workforce ranges from \$20 in Solano County to \$32 in San Francisco. While that occupation is smaller (with 1,180 in 2020), it is projected to grow more than 21% by 2030, reflecting the opportunity for more technical jobs that do not require a four-year degree.

Bay Area's high cost of living and limited land availability impacts the overall growth of agriculture. However, the region's land protections, strong market preference for locally sourced foods, and growing beverage manufacturing sectors reflect ongoing strength in drawing products from the region's agricultural lands.

---

<sup>143</sup> U.S. Census Bureau. (2023). American Community Survey 5-Year Data (2018–2022). [Data set]. U.S. Department of Commerce. [Applicable to all data in the Sustainable Environmental Management section.]

<sup>144</sup> California Open Data Portal. (n.d.). Long-term industry employment projections, 2020–2030. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-industry-employment-projections>

<sup>145</sup> California Open Data Portal. (n.d.). Long-term occupational employment projections, 2020–2030. State of California Employment Development Department. <https://data.ca.gov/dataset/long-term-occupational-employment-projections>



Growing region-wide action on climate resilience, coupled with the region's strengths in environmental policy, education, engineering, landscape architecture, and design, represents a growth opportunity for land management and environmental remediation occupations in this sector. There are many opportunities to increase job quality and create pathways to better jobs in this sector by leveraging California's and Bay Area's growing investments in climate adaptation, mitigation, and resilience. Additionally, it is unlikely that automation or globalization will impact a large number of jobs in this sector. By definition, much of the work of environmental management must take place within the region. As such, the standard industry and occupation projections alone do not represent the full spectrum of opportunity for this evolving and regionally important sector.

## Landscape

### Challenges

- **Urgency to Grow the Green Economy and Economic Impact on Workers:** Rapidly accelerating climate impacts are powering the urgent need to shift to a green economy. Climate change poses not only an environmental disruption but also an economic one, particularly as it pertains to the workforce in the fossil fuel economy. A rapid green energy transition must be accompanied by substantial investment in workforce training and development strategies, as well as direct support for workers transitioning to green energy occupations.
- **Underdeveloped Workforce Development Strategies and Career Pathways:** The lack of clear, defined career pathways and state-accredited apprenticeship programs within this sector present barriers to securing funding for workforce development initiatives. Developing training, apprenticeships, and career pathways is essential for this sector's growth. Implementing hiring, training, retention, and career development for disadvantaged and dislocated workers, ensuring workers enroll in certified training programs with minimum industry criteria, and investing in apprenticeship programs and High Road Training Partnerships with worker organizations and industry partners will provide comprehensive career development opportunities.<sup>146</sup>
- **Lack of Clear Workforce Standards Policy or Administrative Framework:** One of the greatest challenges in designing and implementing high-road workforce standards in this sector is the lack of a clear policy and administrative framework akin to the policies deployed in the public sector. This emerging sector does not yet have broadly applicable public works statutes or a comprehensive approach to workforce standards administration. In addition, there is a need for increased capacity for state interagency coordination to develop a comprehensive approach to workforce standards across agency programs and public investments. For effectiveness, these standards should include enforcement mechanisms within contract and program design, incorporating audit processes, penalties, remediation for violations, and adequate enforcement staffing to ensure compliance.<sup>147</sup> Furthermore, climate spending and regulatory agencies can

---

<sup>146</sup> U.C. Berkeley Labor Center. (2024, March 25). Factsheet: Workforce standards for an equitable economy. <https://laborcenter.berkeley.edu/factsheet-workforce-standards-for-an-equitable-economy/>

<sup>147</sup> U.C. Berkeley Labor Center. (2024, March 25).

also exercise their prerogative to incorporate and strengthen workforce standards and regulation across their portfolios. California decision-makers should consider investing in strengthening interagency governance to design and administer high-road workforce standards across climate spending agencies, while setting clear timelines for adoption.<sup>148</sup>

## Opportunities

Key opportunities for growing the sustainable environmental management sector in the Bay Area include the following:

- **Build a Climate-Ready Workforce and Prioritize Displaced Workers: Investments** in assisting a workforce transitioning from fossil fuel–dependent jobs include High Road Training Partnership (HRTTP) programs and partners such as local community colleges, labor unions, industry leaders, and government agencies focusing on creating sustainable, high-quality jobs. Efforts to alleviate and mitigate the vast economic impact of this industrial transition are under way and include strong coordination and collaboration from a diverse coalition of industry, labor, workforce development agencies, local, state, and federal governments, and academic research institutions. This coordination focuses on opportunities to promote workforce resilience in the growing green jobs sector by identifying skills-adjacent occupations, investing in training and education, and providing equitable support to facilitate fossil fuel workforce transitions.
- **The Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024:**<sup>149</sup> This statewide proposition, passed by voters, provides \$10 billion for environmental and climate protection initiatives. Specific funding programs would address safe drinking water; drought, flood, and water resilience; wildfire and forest resilience; sea-level rise and coastal resilience; biodiversity protection and accelerating nature-based climate solutions; clean air; park creation and outdoor access; climate-smart, sustainable, and resilient farms, ranches, and working lands; and extreme heat mitigation. Investment in these areas will lead to job creation and ongoing economic opportunities as California works toward achieving its climate and renewable energy goals. The measure will fund projects that enhance climate resilience, which will necessitate a skilled workforce, thereby boosting job creation and providing economic benefits to the state and the Bay Area region.
- **Environmental and Environmental Justice Organizations:** The presence of numerous nonprofit organizations and advocacy groups dedicated to environmental protection and conservation strengthens community engagement and initiatives for preserving natural resources. Organizations such as the Asian Pacific Environmental Network (APEN),<sup>150</sup> which participates in the BAJFC, are present throughout the Bay Area and are leading environmental justice efforts focusing on a just transition to a regenerative economy.

---

<sup>148</sup> Appel, S., & Hammerling, J.H.F. (2023, September). California’s climate investments and high road workforce standards: Gaps and opportunities for advancing workforce equity. Berkeley, CA: UC Berkeley Labor Center.

<sup>149</sup> CalMatters. (2024). SB 867: Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024. [Digital Democracy]. [https://digitaldemocracy.calmatters.org/bills/ca\\_202320240sb867](https://digitaldemocracy.calmatters.org/bills/ca_202320240sb867)

<sup>150</sup> Asian Pacific Environmental Network. (n.d.). Mission. [Who is APEN?]. [www.apen4ej.org](http://www.apen4ej.org)

## Assets

The Bay Area has vital assets essential to the sustainable environmental management sector. The emerging skilled workforce includes indigenous and immigrant landworkers with centuries-long experience in vegetation management and adaptation techniques, as well as the workforce transitioning from fossil fuel–dependent jobs where strong partnerships and investment are focused on enhancing job quality and providing job placement in new, high-road jobs within the sector. Workforce development agencies and industry partnerships are leveraging public and private investments to develop pathways to high-road jobs, training programs, and state-accredited apprenticeship programs. Government support through policies, regulations, and funding promotes environmental stewardship and sustainable development ensuring a robust and resilient green economy. Moreover, academic partners are focused on strengthening the economy through quality job creation with equitable access within this emerging sector and offering technical assistance to state agencies, labor groups, and other stakeholders, thereby providing ongoing support for successful, equitable, and safe workforce development strategies.

- **Emerging Skilled Workforce:** Indigenous and immigrant landworkers have centuries-long experience working ancestral lands statewide and within the region and possess historic skills in deploying advanced vegetation management, mitigation, and adaptation techniques that are vital to our understanding of how fire and other natural processes have historically shaped this region of the world. In addition, preparation to create opportunities for a workforce transitioning from fossil fuel–dependent jobs is under way and seeks to develop a skilled workforce and improve the job quality of existing occupations by leveraging public and private investment in green jobs.
- **Workforce Development Agencies and Industry Partnerships:** With added interest and financial investments in climate-related jobs, workforce development can play a huge role in identifying and developing careers and career pathways. New, high-road training programs can provide pathways to quality jobs by leveraging existing state-accredited apprenticeship programs, jointly managed by labor and employers.
- **Government Support:** Supportive local and state government policies, regulations, and funding programs promote environmental stewardship, conservation initiatives, and sustainable development practices.
- **Academic Research Institutions:** The UC Berkeley Labor Center Green Economy program conducts research on job creation, job quality, access, and training within the emerging green economy. In addition, it offers research and technical assistance to state agencies, labor groups, and other stakeholders involved in developing and implementing energy and climate change policies both in California and nationally.<sup>151</sup>

---

<sup>151</sup> UC Berkeley Labor Center. (2024). Green economy. <https://laborcenter.berkeley.edu/green-economy>

### **Stakeholder Voice:**

“La sabiduría de los antepasados—nos dejaron esto para que nosotros seguimos aplicando, trabajando en este a cuidar a la Madre Tierra.” (“The wisdom of our ancestors—they left us this so we could continue applying it, doing this work to take care of Mother Earth.”)

—Maria Salinas, Farmworker Organizer, North Bay Jobs with Justice

### **Prospects**

Driven by significant investment and policy implementation from federal, state, and local governments, and emerging industry, labor, and workforce development agency partnerships, the sustainable environmental management sector is poised for significant growth in the Bay Area. The establishment of industry standards will set benchmarks for high-road job creation, and the development of workforce training and state-accredited apprenticeship programs for career advancement will ensure a robust and equitable workforce. Leveraging the transitioning workforce from fossil fuel-dependent jobs, along with addressing decreased demand for workers in sectors impacted by automation, will be crucial for this sector’s development. A successful sustainable environmental management sector will support sustainable growth, economic diversification, restorative environmental justice for communities disproportionately impacted by extractive economic practices, and environmental resilience for the region.

The Bay Area’s vulnerability to climate change—particularly sea level rise, flooding, and wildfire risk—continues to spur investments in climate resilience infrastructure. These efforts not only focus on protecting natural resources but also involve retrofitting urban areas to withstand future climate impacts. As investments in climate resilience grow, so does the demand for a workforce that can support this transformation.

The California Climate Bond, passed in November 2024, directs billions toward climate resilience projects, which will require a substantial number of skilled trained workers to implement. Potential projects include \$10 billion in funding across several areas including \$3.8 billion for water projects to ensure safe drinking water and to protect against drought and water shortages, \$1.5 billion for wildfire prevention, \$1.2 billion to protect natural lands, restore forests, and preserve wildlife habitats, among others.

The need for skilled labor is urgent, and workforce development programs will play a crucial role in training the next generation of workers for these jobs. These jobs include positions across the wage spectrum, from roles such as construction equipment operators, truck drivers, and landscapers, to more technical positions in environmental consulting and engineering. A previous study conducted by the Bay Area Council Economic Institute found that \$8 billion spent in resilience spending (which aligns closely in funding and spending categories in the Prop 4 bond) would yield nearly 120,000 new jobs in California.<sup>152</sup> There is a clear opportunity to align climate investments with job training initiatives,

---

<sup>152</sup> Bay Area Council Economic Institute. Linking the Environment and the Economy. [https://www.bayareaeconomy.org/report/linking\\_the\\_environment\\_and\\_the\\_economy/](https://www.bayareaeconomy.org/report/linking_the_environment_and_the_economy/). Accessed September 30, 2024.

ensuring that workers in the Bay Area have access to the skills needed to meet the growing demand in the climate resilience subsector.

### **Sea Level Rise Infrastructure**

According to the San Francisco Bay Conservation and Development Commission (BCDC), sea levels in the Bay Area are projected to rise by up to 7 feet by 2100, potentially affecting millions of residents. Rising sea levels caused by climate change are already affecting Bay Area shorelines, and if each county in the region tries to tackle the problem in isolation, it could lead to maladaptation—unintended consequences like flooding neighboring communities, neglecting the most vulnerable areas, losing critical coastal habitats, and missing opportunities for shared, region-wide solutions.

In response, the California State Legislature passed Senate Bill 272 (Laird) in 2023, which focuses on coordinated planning and adaptation for sea level rise, mandating that local governments along the San Francisco Bay shoreline develop Subregional Shoreline Adaptation Plans, which must adhere to guidelines set by the San Francisco Bay Conservation and Development Commission (BCDC). This ensures a standardized and collaborative approach to tackling sea level rise across the region. Projects outlined in these plans—which may include new seawalls, levees, marsh restoration, and managed retreat—will be prioritized for state funding, ensuring that adaptation efforts are more equitable and effective.

The Bay Area Regional Coastal Resilience Strategy is spearheading efforts to build resilient infrastructure, including levee construction, wetland restoration, and retrofitting of buildings to withstand flooding and wildfires. Projects like the South Bay Shoreline Project, a \$174 million flood protection and habitat restoration initiative, are key examples of large-scale regional investments.

### **Drought Infrastructure**

The Delta Conveyance Project is a critical infrastructure initiative aimed at modernizing California's water delivery system through the Sacramento-San Joaquin Delta. The project involves constructing an underground tunnel to transport water more reliably through parts of San Joaquin County. It is crucial for addressing water supply needs for 27 million Californians and millions of acres of farmland as well as threats like sea level rise, earthquakes, and droughts. The California's Department of Water Resources released the Final Environmental Impact Report in late 2023, marking a crucial step toward project approval.

The Bay Area has received significant funding to address drought through initiatives like Proposition 1, or the Water Quality, Supply, and Infrastructure Improvement Act, which allocated part of its \$7.5 billion statewide to local water projects, including Pure Water Silicon Valley. Additionally, the East Bay Municipal Utility District (EBMUD) secured \$20 million from the state's Urban and Multibenefit Drought Relief Grant Program for stormwater capture and recycling. San Francisco's Groundwater Storage and Recovery Project, partly funded by Proposition 1, is a key effort to enhance drought resilience, with a total cost of \$140 million. All these drought-related projects present significant opportunities for construction workers and other specialized trades.

### **Forest Management Policy**

In the 30 years between 1987 and 2016, California experienced just three years in which the total land burned by wildfire exceeded 1 million acres. Between 2017 and 2021, four of five years exceeded this threshold, culminating with a record breaking 2020 fire season that burned over 4 million acres in the state. There are several initiatives backed by significant state and regional funding aimed at fire prevention, habitat restoration, and carbon sequestration. One key funding source is CAL FIRE's Forest Health Grant Program, which has allocated over \$250 million statewide for projects like forest thinning, reforestation, and controlled burns to reduce fuel loads. Locally, the North Bay Forest Improvement Program has received \$6 million in funding from the California Climate Investments program, specifically for thinning overgrown forests and removing dead trees to reduce wildfire risk.

In addition, San Francisco's Peninsula Watershed project, managed by the San Francisco Public Utilities Commission, received \$30 million to support forest thinning, firebreak construction, and prescribed burns aimed at safeguarding water resources and communities. The Forest Resilience Bond, a public-private partnership, has also raised \$25 million to accelerate forest restoration efforts in the region, particularly in fire-prone areas like Sonoma and Napa counties.

These investments are critical to wildfire risk reduction and long-term resilience, but also offer massive opportunity for job growth. One study on forest restoration and conservancy from the University of Oregon found that between 14.7 and 23.1 jobs were supported for every \$1 million spent on forest health investments.<sup>153</sup>

## Investment Strategies

Investment strategies for the sustainable environmental management sector will help achieve the following objectives:

1. Develop and promote adoption of sustainable environmental education and training for skilled trades and emerging occupations within the sector to improve job quality and create pathways to high-road green jobs.
2. Develop and maintain a skilled regional workforce for fuels management and climate and forest resilience, prioritizing recruitment from Indigenous and immigrant farmworker populations who are on the front lines of the climate crisis.
3. Employ inclusive procurement mechanisms.
4. Foster research and support opportunities for AgTech innovation hubs.

### **Objective 1: Develop and promote adoption of sustainable environmental education and training for skilled trades and emerging occupations within the sector to improve job quality and create pathways to high-road green jobs**

One of the most effective ways to promote climate resilience is through the restoration of natural ecosystems, which can mitigate the effects of climate change and provide vital services to the community. Ecological restoration efforts aim to rehabilitate degraded ecosystems, such as wetlands, forests, and coastal areas, to restore biodiversity and ecological functions. This involves activities such as

---

<sup>153</sup> Nielsen-Pincus, Max, and Cassandra Moseley. "Economic and Employment Impacts of Forest and Watershed Restoration in Oregon." Ecosystem Workforce Program. Institute for a Sustainable Environment, University of Oregon, Spring 2010. <https://scholarsbank.uoregon.edu/>.

reforestation, soil health improvement, and habitat restoration. Natural and physical structures, such as green infrastructure, living shorelines, and riparian buffers, are utilized to manage stormwater, reduce urban heat, protect coastal areas, filter pollutants, and address sea-level rise and flooding. Ecological restoration demands specialized skills, knowledge of ecological concepts and environmental laws, and an understanding of federal and state resource agencies. Without dedicated training and workforce investments, workers might lack the necessary skills to fill these roles.

The San Francisco Bay is the largest Pacific estuary in the Americas. Over the past 200 years, however, 90% of the wetlands have been decimated. Wetlands are vital ecosystems for thousands of species and play an integral role in protecting against sea-level rise within shoreline communities.<sup>154</sup> Organizations such as Save the Bay, the San Francisco Bay Restoration Authority,<sup>155</sup> the South Bay Salt Pond Restoration Project,<sup>156</sup> and Together Bay Area<sup>157</sup> are advancing large-scale restoration projects throughout the region.

There is an enormous opportunity for historically marginalized communities to participate in the economic benefits of this significant public investment. There is currently an historic influx of funding for climate resilience and natural infrastructure project construction that can be used to fund restoration projects. As the National Skills Coalition and Blue Green Alliance outline in their Data Brief, investments from the Inflation Reduction Act, the Bipartisan Infrastructure Law, and the CHIPS and Science Act programs are expected to generate a combined average of 2.9 million jobs per year and 19 million job-years over the life of these laws.<sup>158</sup>

### **Ecological Workforce Initiative Training Model**

Training such as the Ecological Workforce Initiative fosters informed on-the-job decision-making and compliance, setting industry standards and improving outcomes in workforce development and engagement in this emerging sector. The Ecological Workforce Initiative curriculum consists of 10 hours of classroom training, which can be supplemented by field-based components and on-site mentoring. The training can be conducted in Spanish or English with skilled bilingual/bicultural instructors.

The training partners recognize that all restoration sites, like all land in the United States, are unceded territories of the original peoples. They aim not only to teach about cultural resource laws but also to honor the millennia of indigenous stewardship and ancestral ties to the land. To this end, the program is actively collaborating with tribal representatives to integrate indigenous perspectives throughout the curriculum. This training is currently implemented within the Operating Engineers Local 3 and Laborers International Union North America (LIUNA) apprenticeship program curriculum, which is funded through labor and employer contributions.

---

<sup>154</sup> Save the Bay (n.d.). Our mission. [Who We Are]. <https://savesfbay.org/>

<sup>155</sup> San Francisco Bay Restoration Authority. (n.d.). Overview. [The Authority]. [www.sfbayrestore.org](http://www.sfbayrestore.org)

<sup>156</sup> South Bay Salt Pond Restoration Project. (n.d.). The restoration project. [What We Do]. [www.southbayrestoration.org](http://www.southbayrestoration.org)

<sup>157</sup> Together Bay Area. (n.d.). Mission and vision. [About]. [www.togetherbayarea.org](http://www.togetherbayarea.org)

<sup>158</sup> National Skills Coalition & BlueGreen Alliance. (2024). Unprecedented opportunity: Meeting the workforce demands of new clean energy, manufacturing, and infrastructure investments. [https://nationalskillscoalition.org/wp-content/uploads/2024/02/DataBrief\\_infrastructure\\_NSC\\_BGA\\_final.pdf](https://nationalskillscoalition.org/wp-content/uploads/2024/02/DataBrief_infrastructure_NSC_BGA_final.pdf)



Expanding this type of training to other emerging occupations and applying it to related efforts, such as advanced mitigation, vegetation management, disaster cleanup efforts, addressing sea-level rise and floodplains, and structural hardening, would provide a heightened awareness of the need for ecological preservation and a better understanding of how the systems are interconnected for those not trained in the environmental sciences.

These training models could serve as enhancements to existing jobs and starting points for emerging occupations, creating a win-win for workers, their communities, and the environment. Furthermore, these investments should prioritize recruitment of BIPOC and immigrant workers, creating more equitable employment opportunities for communities that have been historically marginalized, discriminated against, and disproportionately affected by the impacts of climate change.

**Potential Partners for This Objective:** Environmental organizations focused on conservation, restoration and mitigation; labor unions representing construction and building trades; fire, environmental, and resource management workers; local and state governments; employers; and Joint Labor Management Training committees within state-accredited apprenticeship programs; among others.

**Objective 2: Develop and maintain a skilled regional workforce for fuels management and climate and forest resilience, prioritizing recruitment from Indigenous and immigrant farmworker populations who are on the front lines of the climate crisis**

Immigrant and Indigenous farmworkers have historically been excluded from many workforce protections and opportunities. As the impacts of the climate crisis worsen, farmworkers have been among those most affected. These populations should be prioritized for workforce opportunities in developing and implementing climate mitigation and adaptation techniques, while centering the knowledge, skills, and experiences of immigrant and Indigenous farmworkers. For example, cost-cutting measures among vegetation management companies—which clear overgrown brush to minimize the risk of wildfire—often result in low wages, lack of training, and excessive clear-cutting. Numerous factors are causing shifts in the traditional agricultural employment landscape due to automation, poor job quality, and employment replacement measures such as the H-1B program, which allows employers to hire foreign nationals for specialized jobs when qualified American workers are unavailable.<sup>159</sup> Immigrant and Indigenous farmworkers are positioning themselves as the leaders who have the ancestral knowledge, practical skills, work ethic, and heart to do this work, and assert that they should be fairly compensated for it. As automation and environmental disasters continue to drastically change the agriculture industry, they also open up new opportunities in this sector for people already working these lands and suggest ways funds can be directed into capacity-building by recognizing that these workers are the backbone of the agriculture sector.<sup>160</sup>

<sup>159</sup> U.S. Department of Labor. (n.d.). H-1B Program. [Wage and Hour Division]. [www.dol.gov/agencies/whd/immigration/h1b](https://www.dol.gov/agencies/whd/immigration/h1b)

<sup>160</sup> Comi, M., Becot, F., & Bendixsen, C. (2023). Automation, climate change, and the future of farm work: Cross-disciplinary lessons for studying dynamic changes in agricultural health and safety. *International Journal of Environmental Research and Public Health*, 20(6), 4778. <https://doi.org/10.3390/ijerph20064778>

### **Workforce Development and Wildfire Management Model: Trabajadores de la Tierra**

In recent years, immigrant agriculture and landworkers in the North Bay have begun working on the front lines of wildfire management. Known as *trabajadores de la tierra* (landworkers), leaders within this group began to work and organize for improved working conditions and higher pay. Drawing from their institutional land management knowledge and collective action for improved industry standards, these landworker leaders won improved job safety and training in Indigenous languages and a first-of-its-kind \$3 million disaster insurance fund for frontline workers who lose work during disasters. They have also secured unprecedented commitments from growers both large and small to provide hazard pay for workers who harvest when the outdoor air quality is unhealthy.<sup>161</sup>

The project is developing, implementing, and expanding a first-of-its-kind Spanish-language training series that will equip 60 Spanish-speaking residents with the experience and skills necessary to accomplish fuel reduction and vegetation management work over 18 months in the North Bay. This initiative's strong partnerships with the leading climate adaptation and mitigation training organizations in the region, high-road employers and labor serve as a replicable model for workforce development that prioritizes equitable employment opportunities for historically marginalized and disadvantaged communities and ensures that these are high-road occupations providing family-sustaining wages, health and retirement benefits, and stability.

Expansion of this model within the Bay Area region into other areas of concentration within this sector include opportunities for restoration, mitigation, and adaptation, aligning with California's climate priorities and investments in nature-based solutions (NBS). California identified accelerating NBS and strengthening the resilience of natural systems as one of six priority "north stars" guiding California's 2021 Climate Adaptation Strategy.<sup>162</sup>

**Potential Partners for This Objective:** Workforce development agencies; industry partners; local, state, and federal government agencies through funding and policy initiatives; labor unions representing workers within the sector; the Bay Area's skilled workforce; environmental organizations; among others.

### **Objective 3: Employ inclusive procurement mechanisms**

Competitive procurement and granting policies require bidders to disclose detailed information about their commitments to creating high-quality jobs, incentivizing them to include comprehensive training in their proposals. These policies incorporate features such as a scoring process that evaluates applicants based on labor, community, and environmental criteria, and giving credit in the bidding process for

---

<sup>161</sup> Anderson, B. (2023). From farmworkers to land healers. Yes! Solutions Journalism.

<https://www.yesmagazine.org/environment/2023/04/25/california-farmworkers-immigrant-indigenous>

<sup>162</sup> California Natural Resource Agency. (2021). California's 2021 climate adaptation strategy.

<https://www.climate resilience.ca.gov/>

creating quality jobs, retaining workers, hiring disadvantaged and dislocated workers, and adopting community benefit agreements. In addition, contract and enforcement language ensures transparency and accountability for commitments related to California jobs, wages, and training.<sup>163</sup>

The Jobs and Climate Action Plan defines inclusive procurement mechanisms as public policy mechanisms that “give bidders an opportunity to disclose additional detailed information about their commitments to high-road labor practices...to awarding agencies to identify the ‘best-in-class’ employer as a component of bid evaluation.”<sup>164</sup> Inclusive procurement policies focus on public contracts that are administered through requests for proposals (RFPs) and structure such contracts to award points for job quality and access. The U.S. Employment Plan is a notable inclusive procurement policy instrument.<sup>165</sup>

Implementation involves the following:

- **Assessment and Planning:** Identify gaps and opportunities. Develop a detailed plan with targets and timelines.
- **Stakeholder Engagement:** Consult with stakeholders from government, labor, business, and the public.
- **Policy Development and Rollout:** Monitor labor standards, sustainability/ environmental standards, and equity metrics for evaluation criteria. Launch policies with a communication strategy. Provide training for procurement officers and suppliers.
- **Monitoring and Evaluation:** Implement monitoring systems and metrics for measuring success. Conduct regular evaluation and adjust strategies, as needed.

**Potential Partners for This Objective:** Local government agencies to oversee and enforce procurement policies; environmental NGOs to provide expertise on sustainable procurement practices; educational institutions and labor management cooperative committees to develop and deliver training programs; community-based organizations; labor unions; high-road contractors and employers; among others.

#### **Objective 4: Foster research and support opportunities for AgTech innovation hubs**

AgTech innovation hubs reflect innovative solutions to support economic sustainability, agricultural diversity, job growth, and job retention in the agricultural sector. By aligning with the Bay Area Jobs First vision and principles, AgTech can prioritize equity, high-road employment, sustainability, and climate resilience in regional economic development planning. The goal should be to enhance job quality and access, using technology effectively without the sole purpose of displacing workers to increase profits.

Leveraging the North Bay/North Coast AgTech Innovation Hub Feasibility Study<sup>166</sup> and the Manzana Products Facility Pilot Study,<sup>167</sup> workforce development agencies, educational institutions, and industry partners can identify areas within the region to drive technological advancements in agriculture, enhancing efficiency, sustainability, productivity, and high-road job creation potential. Collaboration

---

<sup>163</sup> U.C. Berkeley Labor Center. (2024, March 25).

<sup>164</sup> Appel, S., & Hammerling, J.H.F. (2023, September).

<sup>165</sup> Ibid.

<sup>166</sup> Sonoma Mendocino Economic Development District. (2023). AgTech Innovation Hub Brainstorming Workshop Report Out. <https://www.smedd.org/files/54400144a/AgTech+Innovation+Hub+Brainstorming+Workshop+Report+Out+-+FINAL.pdf>

<sup>167</sup> Marin + Sonoma Catalyst Working Group. (n.d.). Marin + Sonoma fuller pilot application. <https://drive.google.com/file/d/1zTISUkyf1kWNnuJ4b1KCIA1GPyh8Nsdz/view>

among diverse stakeholders, including businesses, educational institutions, and marginalized communities, can ensure inclusive growth and development. Ultimately, AgTech innovation hubs can develop a sustainable, resilient, and innovative agricultural ecosystem that addresses current and future challenges, and can support the transition of the traditional farm and agriculture workforce into occupations with adjacent skills. Hubs can also develop training models to meet workers where they are and create intentional opportunities to harness their industry knowledge and shape a future of work that includes the present workforce.

Potential Partners for This Objective: State, local, and federal government officials; Farm Bureau Associations and Departments of Agriculture; Indigenous communities; economic development entities; educational institutions; agricultural research and innovation organizations; farmers, landworkers, and farmworkers; among others.

## Conclusion

The sustainable environmental management sector of the Bay Area region is integral to economic development, diversification, and resilience. It plays a vital role in meeting climate goals, preserving biodiversity, and restoring environmental justice to communities and workers disproportionately affected by extractive economic practices. This sector holds significant potential for high-road job creation with equitable access for historically marginalized workers making it essential for the region's sustainable future.

## VI. Overview of Tradable Sub-Sectors

The Bay Area Jobs First Collaborative centered worker and community voice in the development of the priority sectors discussed in the previous section, which included extensive stakeholder engagement that led to the development of target sectors and strategies. Based on feedback from the State of California, the BAJFC broadened the initial report to create a more comprehensive economic development plan. This section on tradable sub-sectors includes an overview, market factors, and employment growth opportunities and challenges for each sub-sector.

Tradable sectors are defined as sectors producing goods or services that are exported outside of a particular region. In contrast, non-tradable sectors produce goods and services primarily for the local population. Of the sectors previously outlined, only manufacturing would traditionally be considered a tradable sector. While both tradable and non-tradable activity are an essential component of a high-road regional economic strategy, tradable sectors are an important area of focus because they can help a region increase the size of its economic pie and generate an engine for sustainable economic growth.

Generating regional growth in tradable sector activities requires government and local stakeholders to focus their economic development efforts on strategic industry clusters that can cultivate positive feedback loops for regional economic activity. Regional actors should integrate meaningful job quality, equity, and sustainability in their strategies to support the growth of tradable sectors. High-road economic growth will require intentional regional planning and protections for local communities and workers so that negative externalities of the tradable sectors do not replicate historic inequities, and the benefits of growth also accrue to local workers and communities.

Many of the sub-sectors outlined here fall under the categories of manufacturing and technology. Many of them could also be areas for significant investments under recent federal legislation such as the Inflation Reduction Act (IRA), the Bipartisan Infrastructure Law (BIL), and the CHIPS and Science Act, which have provided a boost to onshoring manufacturing jobs and rebuilding domestic supply chains. Many of these investments include community benefits plans, labor standards, and job training requirements to support quality jobs and investment in local communities that host tradable sectors. Federal funding and policy have not only changed market dynamics (i.e., boosting demand and supporting supply), but also provided a head start to companies in emerging technologies, which can drive the next cycle of economic growth and prosperity.

It must also be recognized that any new cycle of economic growth must be more inclusive than the last—especially in the Bay Area where technological gains have created a massive gap between residents that have benefited from innovation and those that have been excluded from the fastest growing parts of the economy. As such, the analysis presented in this section has sought to highlight workforce development programs and other avenues to increase access to these opportunities for people that historically have been restricted from participating in high-growth sectors.

Ten sub-sectors are highlighted in this section as parts of the regional economy that are likely to grow due to market factors or a mix of public and private investment. While eight of these sub-sectors are largely aligned with the principles of the BAJFC, two (artificial intelligence and alternative transportation fuels) have been critically scrutinized for the risks inherent in their potential growth. Their inclusion here

is intended to ensure that this document accounts for economic and policy trends that could have impacts on the region for years to come (i.e., automation and the movement away from fossil fuels), but is not intended to indicate an endorsement of or prioritization of these sub-sectors by BAJFC.

## Semiconductors and Computer Manufacturing

When tracing the history of what is now known as Silicon Valley, many experts refer to the semiconductor industry—particularly, the founding of Shockley Semiconductors Laboratory in Mountain View in 1955. Since that time, Silicon Valley—broadly defined here as the corridor between San Francisco and San Jose—has pioneered countless innovations that have transformed the global economy: computer processors, the personal computer, multi-media computing, the internet and web browsers, the iPod and iPhone, video streaming, mobile computing, and countless applications built on these platforms.

Semiconductors were the catalyst for Silicon Valley becoming a global epicenter for innovation, and they remain a critical component today as the backbone of all modern electronics, from smartphones to supercomputers. The semiconductor industry feeds into other parts of the economy, such as automotive and telecommunications; and it has an extensive supply chain of specialized activities in the areas of microelectronic devices and nanotechnology. McKinsey predicts the global market for semiconductors could reach more than \$1 trillion by 2030, up from \$600 billion in 2021.<sup>168</sup>

At the same time, the rapid growth of the innovative semiconductor industry provides important lessons about the additional health and safety protections local workers and communities will need beyond even current federal regulations. As a result of this manufacturing boom from the 1950s to the early 1990s, Santa Clara County is home to 21 toxic Superfund sites, more than any other county in the nation. Even decades later, toxins from the manufacturing process that leaked into the groundwater can re-enter buildings through a process called vapor intrusion. These toxins have been associated with higher rates of cancer, miscarriages, or birth defects and fetal brain damage. Labor, environmental justice, and civil rights organizations have formed coalitions like CHIPS Communities United to ensure the CHIPS and Science Act of 2022 are implemented with the necessary labor, health, environmental, and safety protections.

### Semiconductors and Computer Manufacturing in the Bay Area

The Computer and Electronic Product Manufacturing sub-sector plays a major role in the Bay Area economy, particularly Santa Clara County, which housed nearly 80% of the sub-sector's 160,000 regional jobs as of the end of 2023. Recent growth in the sector has been driven by record levels of spending on research and development in the Bay Area.

---

<sup>168</sup> McKinsey & Company. (2024). McKinsey on semiconductors. McKinsey & Company. Retrieved December 2, 2024, from <https://www.mckinsey.com/industries/semiconductors/our-insights/mckinsey-on-semiconductors>

Notably, the region's largest companies are manufacturing few products in the Bay Area or in the state. Instead, laboratory research, design, and prototyping generally takes place in the region, while the manufacturing itself is outsourced:

- Applied Materials' (headquartered in Santa Clara) volume manufacturing occurs in Austin, Texas.
- Broadcom's (headquartered in San Jose) largest U.S. fabrication site is in Fort Collins, Colorado.
- Cisco's (headquartered in San Jose) largest manufacturing facilities are in Mexico and Brazil.
- Nvidia's (headquartered in Santa Clara) chips are 100% sourced from Taiwan.

This dynamic means a large number of jobs in this sub-sector are unattainable to much of the regional population. If the region is to equitably grow this sector going forward, local manufacturing with the appropriate worker and community safety protections can become a much larger part of the overall regional employment profile.

### Federal Investment Drives Hope for a Domestic Manufacturing Expansion

One semiconductor stat has become popular in the recent national political dialogue: Taiwan produces over 60% of the world's semiconductors and over 90% of the most advanced ones.<sup>169</sup>

Given semiconductors' prominent role in future technological advancement, President Biden signed into law the CHIPS and Science Act of 2022 to bolster U.S. research and manufacturing of semiconductors and other electronic components. The CHIPS Act contains \$278 billion in new funding, with \$52.7 billion appropriated for semiconductor manufacturing, research, and workforce development, along with another \$24 billion in tax credits allocated for chip production.

In addition to supporting national security goals and economic competitiveness, new investment in chip manufacturing is expected to bring major economic benefits to the regions where it occurs. In 2021, the Semiconductor Industry Association estimated that \$50 billion in federal incentives would directly create 43,000 in new semiconductor industry jobs, and a total of 280,000 permanent jobs when the secondary effects of increased semiconductor manufacturing are included.<sup>170</sup>

### The Bay Area Faces Many Challenges to Chip Manufacturing

Because the region is home to so many companies involved in semiconductor and related computer products manufacturing, one would think that operational benefits could be attained by locating production near research and development. However, the high costs of doing business in the state, limited land entitled for shovel-ready projects, and regulatory and permitting barriers make competing for large semiconductor manufacturing investments difficult almost everywhere in California.

The Bay Area could be competitive in attracting key parts of the manufacturing supply chain, a space where it is already strong. This can happen in existing technology centers where research is currently concentrated and is also an opportunity for inland areas where land is readily available, housing and other costs are lower, and economic development needs are greatest. Microelectronics could be a

---

<sup>169</sup> The Economist. (2023, March 6). Taiwan's dominance of the chip industry makes it more important. The Economist.

<https://www.economist.com/special-report/2023/03/06/taiwans-dominance-of-the-chip-industry-makes-it-more-important>

<sup>170</sup> Semiconductor Industry Association. (2023, September 28). Chipping in: SIA jobs report. Semiconductor Industry Association. <https://www.semiconductors.org/chipping-in-sia-jobs-report/>



focus, as the Bay Area is already a leader with companies like Lam Research (Fremont headquarters and Livermore manufacturing), KLA Corporation (headquartered in Milpitas), and ASML (research located in San Jose).

Success in attracting federal investment will be dependent on creating workforce pipelines that considerably lower the barriers to entry to this field for disadvantaged populations. While current wage and educational attainment levels skew significantly higher for semiconductor and computer manufacturing roles compared to other production occupations in the Bay Area, there are multiple programs already in existence that seek to train and hire outside of traditional pipelines:

- Foothill College in Los Altos, California currently offers semiconductor processing courses, making it the only community college in the Bay Area to offer courses in semiconductor processing. Foothill College also has a partnership with the National Institute for Innovation and Technology (NIIT) to establish registered apprenticeship programs in the semiconductor and nanotechnology industries. The first apprenticeship pathways in this program were announced in late 2023, providing students paid hands-on training with employers such as Applied Materials and Infinera.
- Facing a shortage of engineering talent, in 2014 Lawrence Livermore National Laboratory partnered with Las Positas College, the Alameda County Workforce Board, and the nonprofit Growth Sector to create Vets2Tech, a program helping to train the next generation of engineers and engineering technicians. For the last 10 years, Vets2Tech has partnered with Bay Area community colleges to develop math and physics curricula and technology training programs, and then funnel graduates, mostly veterans, into employers including Lam Research.

## Advanced Manufacturing and Robotics

Despite post-pandemic narratives, the San Francisco Bay Area remains the global heart of the high-technology industry, continually evolving and shaping the future of technology. From the birth of semiconductors and personal computers to social media and now artificial intelligence, the region has been a catalyst for world-changing innovations. Its strong base and deep well of subject matter experts make the Bay Area the premier place to start and grow a company in new and growing fields. These endeavors will almost certainly continue to attract the best and brightest to our region. However, as the region continues to push the boundaries of science and technology, it must find a way to incorporate a more diverse pool of talent from all walks of life.

### Emerging Fields and Technologies

Throughout the 2010s and 2020s the Bay Area has continued to be at the forefront of cutting-edge technologies like artificial intelligence (AI), advanced manufacturing, robotics, autonomous vehicle development and deployment, payments technology, and big data and cloud computing. Companies like Open AI, Jabil, Waymo, Cruise, Square and others have made the Bay Area home and expanded here. In addition, cloud computing giants such as Google Cloud, Oracle Cloud and Amazon Web Services (AWS), have transformed how businesses operate globally by providing scalable infrastructure and services.

And, leaders in payments and cryptocurrency technologies, like Stripe and Coinbase are pushing digital payments into the 21st century.

Like advanced manufacturing, robotics development in the Bay Area thrives due to the region's world-class universities and research institutions. The area is home to numerous robotics companies, ranging from small startups to major tech giants, focusing on a wide variety of applications including autonomous vehicles, industrial automation, drones, and healthcare robotics. Tech giants like Google (through its subsidiary Intrinsic) and NVIDIA are also major contributors to robotics development, providing essential software, AI, and hardware platforms to support advanced robotic systems.

### New Programs Aim to Broaden Workforce Training

Many of the emerging fields detailed above are research intensive, and therefore often require high levels of experience and advanced degrees. However, there are often opportunities for good paying, working class jobs at these companies with the right training and/or certificate program. Multiple regional and state programs currently exist to ensure that these opportunities are attainable for community college students:

De Anza College has partnered with robotics and autonomous vehicle company Nuro on a first-in-the-nation career pathway for students interested in the autonomous and electric vehicle industry. The pathway combines existing Auto Tech and Computer Information Systems courses into two sets of course work that are offered as certificate programs.

The Smart Manufacturing Technology Program (SMTech) at Ohlone College in Fremont, CA prepares students to become entry-level manufacturing technicians with the skills and knowledge needed for advanced manufacturing in the 21st century. The program emphasizes critical areas such as industrial automation, Industrial Internet of Things (IIoT), additive manufacturing, and other emerging technologies that are transforming the manufacturing landscape. The program features a state-of-the-art facility equipped with smart factory and robotic technology, and it is recognized as a National Center of Excellence in Industry 4.0 (also called the Fourth Industrial Revolution or 4IR—is the next phase in the digitization of the manufacturing sector).

Ohlone works closely with local employers and industry leaders to ensure the SMTech curriculum aligns with real-world needs and that students have the resources and guidance they need to succeed: including job placement assistance, internships, and financial support. Through the Smart Manufacturing in the Silicon Valley Internship Program (SMISVIP), funded by the National Science Foundation (NSF) through its Advanced Technology Education (ATE) grant, students can participate in paid internships, with flexible full-time or part-time options, both in-person and remote. Interns are placed with local manufacturers including Tesla, Lam Research, Lawrence Livermore National Laboratory, Stanford Linear Accelerator Laboratory, Evolve Manufacturing, and many others in the Bay Area.

Further, the Tesla Manufacturing Development Program offers a tuition-free Certificate of Achievement in Smart Manufacturing Technology for students interested in pursuing a career in advanced manufacturing. The program – also offered at Diablo Valley College in Pleasant Hill and Laney College in Oakland – gives graduates the opportunity to transition into a full-time Production Associate in the Tesla Fremont Factory or Lathrop Megafactory.

## Biotechnology

The Bay Area is home to one of the largest concentrations of biotech and life sciences companies globally, driven by the region's proximity to world-class research institutions that have been the site of some of the world's most significant medical innovations. Statewide, the life sciences sector directly employs 335,000 workers with an average wage of \$163,000, more than double the average for the life sciences sector in the US and significantly higher than the average for all other industries in California.<sup>171</sup> Nationally, the Biden administration's emphasis on biotech through the Bioeconomy Executive Order of 2022 allocates billions toward expanding U.S. biotech capabilities, which directly benefits Bay Area companies at the forefront of R&D.<sup>172</sup>

The biotech sector in the Bay Area is projected for substantial growth, driven by a high concentration of R&D activity, federal funding, and private investment. According to CBRE, the Bay Area recorded a 27% increase in life sciences employment from 2019 to mid-2022, surpassing other major U.S. markets, including Boston. This growth is underpinned by a significant pipeline of clinical-stage science projects and clinical trials, which rose globally by 36% from 2020 to 2023. Additionally, National Institutes of Health (NIH) funding to the Bay Area increased 17.6% from 2019 to 2022, reflecting ongoing strong demand for biotech innovation in the region.

Despite its strengths in the region, the biotech sector faces several significant hurdles. High real estate costs in the Bay Area make it difficult for startups to scale and create competitiveness issues with less expensive cities where the cost of living is lower. Many entry-level biotech positions also require advanced degrees or specialized training, which limits accessibility to under resourced populations. Collaboration and workforce training programs that involve industry leaders and education providers will be crucial to developing a more diverse and skilled workforce in the biotech sector.

### Increasing the Talent Pool and Improving Competitiveness

To close the gap between the supply of top talent and growing biotech and life sciences roles, the Bay Area has developed numerous training programs and partnerships between community colleges and biotech firms, with a strong emphasis on expanding access for underserved communities.

UC Berkeley's Break into Biotech offers students from underserved backgrounds the skills they need to access biotech career opportunities through a 5-week paid training program followed by undergraduate academic research.<sup>173</sup> Futurelab+ —launched in 2022 by Genentech—offers free, equity-centered biotech curriculum to help high school students gain exposure to the variety of career options available within the industry.<sup>174</sup>

---

<sup>171</sup> California Life Sciences. (2023). California life sciences sector report 2023. California Life Sciences.

<https://info.califesciences.org/hubfs/California%20Life%20Sciences%20Sector%20Report%202023.pdf>

<sup>172</sup> The White House. (2022, September 12). Executive order on advancing biotechnology and biomanufacturing innovation for a sustainable, safe, and secure American bioeconomy. The White House. <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/09/12/executive-order-on-advancing-biotechnology-and-biomanufacturing-innovation-for-a-sustainable-safe-and-secure-american-bioeconomy/>

<sup>173</sup> QB3: The Bioengineering Institute. "Break Into Biotech." <https://qb3.org/break-into-biotech/>. Accessed September 30, 2024.

<sup>174</sup> Genentech. (n.d.). Futurelab Plus. Retrieved December 2, 2024, from <https://www.gene.com/good/giving/programs-volunteerism/futurelab/futurelab-plus>

In partnership with California State University (CSU) campuses, Biocom California—an industry association for California's biotech and life sciences sectors—developed the Biomanufacturing Technician Program to expand career opportunities in biomanufacturing for historically underserved communities. Led by CSU Long Beach, Fullerton, and Los Angeles, this initiative prepares diverse STEM students for entry-level roles in biomanufacturing, biotechnology, and biopharmaceuticals. This program provides an accessible entry point for disadvantaged populations to a field traditionally requiring advanced technical skills and academic credentials. Biocom is currently exploring expansion to community colleges in the Bay Area, as demand for talent is still high for local entry-level biotech jobs. Nearly 30% of all U.S. life sciences employment is in the Bay Area. As this number continues to grow, this certification is key to ensuring a prepared workforce.

In 2023, NOVAworks—a nonprofit regional workforce development agency in San Mateo and northern Santa Clara counties—partnered with Biocom California to launch a new initiative to enhance business relationships and resources with the region's life science companies; upskill existing NOVAworks customers; create a talent pipeline between job seekers and the biotech industry; and unveil a one-of-a-kind fellowship program.

The NOVAworks Biocom Life Science Fellowship is a cornerstone of this initiative, offering a six-month career exploration program for job seekers of all ages and backgrounds. The fellowship requires a commitment of 25-30 hours and provides participants with opportunities to gain insight into the life science industry, including 1:1 mentorship with industry professionals, networking opportunities, and access to exclusive industry events. The fellowship program also helps fellows refine their resumes and interview skills, preparing them for success in securing jobs within the life sciences industry. No prior science background is required to apply, making it an accessible option for individuals interested in transitioning into biotech.

## Transportation Electrification

Under state law, California has set a goal of cutting carbon emissions by 40% of 1990 levels by 2030—a goal that has since been revised upward to 48% by 2030 and net-zero emissions by 2045. To reach this goal, significant emissions upgrades must be achieved in the transportation sector, which accounts for nearly 40% of the state's greenhouse gas emissions.

This transformation presents a massive opportunity for the Bay Area and California to enhance its transportation manufacturing industry—particularly around electric vehicles. The transportation equipment manufacturing industry employs more than 160,000 people across the state as of the first quarter of 2024. That number has increased by 50% since 2014, according to data from the Quarterly Census of Employment and Wages. While the industry is small in the Bay Area, recent policy changes and investment decisions make this an opportunity area for the region.

### Electric Vehicles and Charging

In response to the scale and urgency of the climate crisis, Governor Newsom enacted the Executive Order N-79-20 in 2020, which ordered a milestone shift away from combustion vehicles, with a goal of 100% of new car sales in the state to be zero emission vehicles by 2035. The California Air Resources Board's (CARB) most recent Scoping Plan charted an even bolder path to reduce emissions, such as

reducing oil use by 94% from 2022 levels by 2045. The Bay Area has been the epicenter of this transformation, with electric vehicle (EV) makers Tesla, Rivian, and Lucid Motors having significant operations in the region. While Tesla still has manufacturing operations at its Fremont facility, the region is generally home to EV research and development activities while manufacturing and assembly is completed out of state.

The bigger opportunity for job expansion in the region likely involves EV charging infrastructure—across publicly-owned charging stations, shared private chargers, and in-home EV charging. The California Energy Commission projects that California needs 1.01 million public and shared private chargers by 2030 and 2.11 million by 2035. This policy goal creates a tremendous need for the manufacture and delivery of charging stations. In-home charging infrastructure must also be upgraded, creating needs for electricians and battery storage experts to upgrade electric panels and install new products.

The Electric Vehicle Infrastructure Training Program (EVITP) certification is required for most projects installing electric vehicle chargers funded by the California Energy Commission. This program will launch statewide in late 2024 with the hope of increasing the number of EVITP certified state-licensed electricians to support the emerging and projected demand of publicly funded charging station infrastructure in California.

The California Energy Commission is currently funding numerous EV infrastructure training programs and curriculum development programs across the state—the majority of which are in southern California and the Central Valley. In the Bay Area, the West Oakland Job Resource Center manages a program called Greening the Transportation, Distribution, and Logistics Industry. In partnership with the Northern California Teamsters Apprenticeship Training Program, the program provides high-road training for on-/off-road EV technologies in the freight sector.

## Bus Fleet Electrification

Caltrain's newly electrified train cars were manufactured in Salt Lake City, while BART's Fleet of the Future train cars were produced in New York. These massive contracts represent two missed opportunities for the state and region to locate production closer to home. With more zero emission transit vehicle purchases on the horizon—state regulations require public transit agencies to gradually transition to 100% zero emissions bus fleets by 2040—more can be done today to ensure that those new bus fleets are purchased from in-state manufacturers that employ local residents.

GILLIG, a Livermore-based company, is the leading manufacturer of public transit buses for municipalities and cities in the United States. The Teamsters organized the facility in 1976 and now represents more than 500 manufacturing workers at the Livermore factory and Hayward parts division. The Teamsters and GILLIG have made a commitment to build a strong partnership that will determine the infrastructure needed for future work to advance skills, opportunities, and career pathways for GILLIG manufacturing employees and for the operators and technicians of GILLIG's transit agency customers. Through this project, full and equal voice will be given to the union and its members at the company, transit agency employees, and GILLIG management to manufacture, operate, and maintain zero-emission buses. Issues of training and advancement will be a central part of the partnership's responsibilities and the voice of GILLIG's workers will be front and center in dealing with those issues.

## Maritime

The Bay Area was once home to a thriving maritime industry. San Francisco Bay Area shipbuilders produced almost 45% of all the cargo shipping tonnage and 20% of warship tonnage built in the entire country during World War II.<sup>175</sup> While the industry has retreated significantly from those great heights, the Port of Oakland remains one of the nation's largest ports, employing more than 10,000 people within its seaport operations. Ship and boat maintenance and repair also continue to be sources of jobs with shipyards in Alameda and Vallejo.

However, the region lacks a maritime manufacturing industry, as nearly all the new vessels used in the Bay Area are sourced from Washington State. Demand for large-scale vessels within the Bay Area is likely to increase in the future for the following reasons:

- In 2022, California leased five sites off Morro Bay and in Humboldt County for offshore wind development—a key step in moving the state toward net zero emissions. The following year, the Offshore Wind and Jobs Act, which will create a plan to upgrade California's ports for offshore wind energy development, was signed. For California to achieve its goal of powering 100% of its economy with clean energy, the state needs to upgrade its seaport infrastructure so it can host hubs for manufacturing, assembly, operations, and maintenance for offshore wind turbines. These port transformations would facilitate robust offshore wind development that could generate enough energy to power 25 million homes by mid-century. Offshore wind projects also require a variety of specialized maritime vessels for tasks like turbine installation, maintenance, and transportation.
- Through various state and federal funding programs, the Water Emergency Transportation Authority (WETA), also known as SF Bay Ferry, is embarking on an ambitious expansion plan that calls for new terminals at Treasure Island, Mission Bay, Berkeley, Redwood City, the South Bay, and the Carquinez Strait. In conjunction with this expansion, WETA is also committed to moving a significant portion of its fleet to electric. WETA now has more than \$130 million set aside to build out its battery-electric fleet and the associated shoreside infrastructure. The construction program calls for a charging float at the downtown San Francisco terminal, a new charging station at the Treasure Island terminal, and a brand new electric-ready terminal for Mission Bay. Multiple vessel purchases and land-side infrastructure will be required over the years to electrify more than half of WETA's fleet.

## Existing Workforce Training Programs

The Angel Island-Tiburon Ferry electrification project in San Francisco aims to convert the ferry fleet to electric power, making it California's first fully electrified ferry service. Supported by a \$24 million grant from the California Air Resources Board, this project will reduce emissions by 150 tons annually. New Zealand-based EV Maritime is leading the conversion, which includes building a new electric catamaran and retrofitting two diesel-powered vessels for higher efficiency. Beyond environmental benefits, the project will create jobs for Latino residents in San Rafael, addressing disparities in clean-energy employment. Managed by ZeroMar and Canal Alliance, the program includes a two-year apprenticeship for local Latino workers, offering \$35 per hour during training and potential \$100,000 annual salaries as

---

<sup>175</sup> National Park Service. "World War II Shipbuilding in the San Francisco Bay Area." <https://www.nps.gov/articles/000/world-war-ii-shipbuilding-in-the-san-francisco-bay-area.htm>. Accessed September 30, 2024.



marine mechanics. This initiative provides pathways into the clean-energy sector for traditionally underrepresented communities, fostering both community empowerment and workforce diversity in climate-focused fields.

The Workforce Waterfront Coalition is a Bay Area initiative aimed at creating a pipeline of skilled ship maintenance and repair workers. Created by the Workforce Development Board of Contra Costa County (WDBCCC) in partnership with maritime industry leaders like Friends of the Port and Bay Ship & Yacht, and educational institutions like CSU Maritime Academy, the initiative aims to support underserved, under-resourced individuals while supporting economic growth in Contra Costa County. The initiative also aids in California's offshore wind energy plans by ensuring a skilled workforce for related ship maintenance. The coalition's first project is a marine trades skills training course, funded by a \$500,000 grant from the California Workforce Development Board Accelerator Fund. The program targets underserved populations, including high school dropouts, the re-entry community, immigrants, and those experiencing homelessness. The 8- to 10-week course, launched in July 2024, trains students in maritime skills – including marine welding, machinist work, and electrical work. Graduates also have early access to entry-level job opportunities through hiring agreements with industry partners.

The Contra Costa Green Empowerment Zone (GEZ) is an initiative established by AB844 (Grayson) for the Northern Waterfront of Contra Costa County, aimed at creating economic opportunities for underserved communities with a focus on green jobs and clean energy. The GEZ supports programs that target individuals from communities that have historically faced barriers to economic opportunities, including low-income populations, people of color, and those affected by environmental challenges. The GEZ programs provide training and job placement in green industries, seeking to build a pipeline of skilled workers equipped to support the growing demand for green jobs, which include roles in solar energy, energy retrofitting, environmental conservation, and clean technology.

## Battery Storage and Other Renewable Energy Technologies

The most critical path to decarbonize the California economy is to increase the share of renewables in the energy mix. When paired with reliable energy storage solutions, utility-level renewable energy supply is more cost effective than nuclear power-, coal-, and even natural gas-generated sources. In addition to shifting the energy mix, grid-scale storage can improve the overall stability and resilience of the electric grid.

Distributed sources of renewables and battery storage can also provide a more sustainable and affordable solution to energy demand in underserved rural and tribal areas as well as lower-income communities in urban areas. The same infrastructure that supports the grid will help meet building and transportation electrification goals. Therefore, governments, entrepreneurs, researchers, and business leaders around the world are looking to develop a range of “next generation” batteries to accelerate the clean energy transition.

Developing and manufacturing next generation batteries will require investments in researching new chemistries, rebuilding local supply chains, developing new manufacturing processes, updating regulations for worker safety and community health protections, and establishing partnerships across public, private, and nonprofit sectors at the local, state, and national level. Currently, this holistic next



generation battery ecosystem only exists only in Europe and Asia, but the San Francisco Bay Area is still the global epicenter of battery technology research and development. Translating this research to commercialization continues to be a challenge, not just in the Bay Area, but nationwide.

### Market Drivers and Industrial Policy

Global market demand for energy storage solutions (for transportation and stationary storage) is expected to grow by 33% annually to reach 4,700 gigawatt hours (GWh) by 2030. This growth will impact the entire supply chain and is estimated to be worth \$400 billion<sup>176</sup> in industry revenue. This presents enormous economic opportunities for local communities, startups, manufacturing firms, and workers without a college degree. This is a rare instance where technology development and manufacturing are intertwined with national and global policy needs.

Despite strong market demand projections and the availability of government funding, initial industry outreach indicates that battery technology developers—particularly those developing advanced, next generation systems—are struggling through key mid- to late-stages of the development/commercialization process. These struggles come at a critical time, as foreign competitors are also in the process of investing aggressively in advanced battery technologies. This need occurs across the battery manufacturing value chain and is particularly pronounced in the processing and commercial development of existing and next generation materials used in battery components (cathodes, anodes, electrolytes); fabrication and assembly of batteries (cells, modules, packs); and reuse and recycling of battery materials.

California, as a global leader in decarbonization and clean energy, has an opportunity to leverage federal resources to invest in next generation storage technologies that support the state’s climate goals. With a whole-economy effort, the state is uniquely positioned to engage with utilities, the private sector, and academic research institutions to capture the benefits of reducing emissions while securing greater global market share for California-sourced materials and California-based companies.

The federal government is also playing a role. The U.S. Department of Energy (DOE) in coordination with the U.S. Department of Labor, Working for America Institute, Li-Bridge alliance, and other organizations have developed nationally-accepted training guidelines to support the rapid development of a globally-competitive advanced battery manufacturing industry in the U.S. The Battery Workforce Initiative (BWI) is designed to strengthen the domestic economy and clean energy supply chains by helping employers meet the increasing demand for skilled workers that is being spurred by private investment in this emerging domestic industry. The purpose of the BWI is to:

- Develop national training program guidelines for key occupations in the industry
- Adopt and implement a work-based learning approach that is responsive to the needs of employers and workers
- Establish programs that combine on-the-job training and classroom instruction in a job training model that resembles apprenticeship
- Support training pilots to grow jobs in the domestic battery supply chain

---

<sup>176</sup> McKinsey Market Study for Li-Ion Batteries, 2023, <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/battery-2030-resilient-sustainable-and-circular>

- Increase worker retention and create career pathways to attract new and diverse workers to the nation’s rapidly growing battery manufacturing industry

In September 2024, the U.S. Department of Energy (DOE) announced \$125 million in funding for two Energy Innovation Hub teams in the Bay Area to provide the scientific foundation needed to seed and accelerate next generation technologies beyond today’s generation of lithium (Li)-ion batteries. These multi-institution research teams, led by Argonne National Laboratory and Stanford University, will develop scientific concepts and understanding to impact decarbonization of transportation and incorporation of clean energy into the electricity grid.

### Partners and Stakeholders Must Overcome Barriers

A wide range of public, private and nonprofit stakeholders, funders, and partners are playing a critical role in attracting and growing a robust research and manufacturing cluster in California. These include:

- Industry partners such as CALSTART and New Energy Nexus. CALSTART is a national nonprofit that represents over 200 members, from start-ups to Fortune 100 companies, in the clean transportation technology industry. New Energy Nexus is a founding member of the New York Battery and Energy Storage Consortium (NY-BEST), and member of Li-Bridge, CalSEED (supports clean energy entrepreneurs) and CalTestBed (funds testbeds for clean energy innovators).
- National laboratories such as Lawrence Berkeley National Lab (LBNL), which is the birthplace of battery electrochemistry and manufacturing science. Other national labs and research centers include University of California (UC) Berkeley, UC Davis, UC Riverside, San Diego State University, Stanford University, SLAC National Accelerator Laboratory, Lawrence Livermore National Laboratory, and Cambridge Energy Innovation Center.
- Battery startups and established firms such as Sila, Lyten, Natron Energy, Mitra Chem, Amprius, Elevated Materials, Sepion, Anthro, Blue Current, Ionobell, Ionlox, Lithos Energy, Quantumscape, Inlyte, Liminal, Sparkz, Enzinc, NantG, Applied Materials, Sylvatec, Solid Energies, Inc, Cuberg, Coreshell, Sonocharge Energy, and Princeton NuEnergy, among others.
- Labor and community partners such as the State Building and Construction Trades Council, International Brotherhood of Electrical Workers, United Auto Workers and the Center for Manufacturing a Green Economy, United Steelworkers, UC Labor Center, Rising Sun, and Greenlining Institute.
- Economic development organizations such as the East Bay Economic Development Alliance, the Solano Economic Development Corporation, Bay Area Council, and the Silicon Valley Leadership Group.

Despite its preeminent role in underlying research, the Bay Area has failed to capture a larger share of the economic benefits from the commercialization of clean energy technologies—both in terms of high-road jobs for workers without a college degree, and tax revenue for local jurisdictions that currently rely on declining legacy industries. Battery startups and entrepreneurs rely on and succeed because of the Bay Area’s research and development capacity, its highly qualified workforce, easy access to venture capital, and one of the world’s most progressive policy frameworks for achieving greenhouse gas reduction. However, these same businesses often relocate to other states or overseas when they reach the manufacturing phase.

The general perception among industrial real estate developers and CEOs is that the Bay Area, and California overall, is too expensive to support manufacturing jobs. Land, labor, housing, permitting, energy and compliance costs, among others, are most often cited as barriers for creating local manufacturing jobs, especially in a globally competitive marketplace. While these costs are real constraints, they can often be overcome in high-margin industries. For example, some industries such as electric vehicle assembly (for cars and buses) support an expansive network of local Bay Area suppliers that is still growing. It is also important that the Bay Area commit to a high-road growth strategy for manufacturing; the region's comparative advantage is in leading edge innovation and a race-to-the-top on quality, not in a low-road race to the bottom.

Next generation batteries are critical for the clean energy transition. They also present a one-in-a-lifetime opportunity for local communities to leverage federal and state investments to revitalize existing industrial areas into job centers for clean energy industries. Given the scale of projected global market demand, one or more global hubs for next generation battery innovation and manufacturing technologies will emerge over the next two to five years. The Bay Area, and California, can capitalize on its underlying strengths and assets to capture a part of this economic benefit; especially since most of the technological innovation will occur in the Bay Area, and both the Bay Area and California are the largest markets for clean energy technologies.

### Existing Bay Area Assets in Renewable Energy

Investment in clean energy technologies will reach \$2 trillion this year according to the International Energy Agency.<sup>177</sup> Of the total venture capital investment in cleantech in the U.S., California receives nearly 40%, with the Bay Area receiving the majority of that. Like other sectors detailed in this section, the Bay Area's leading research universities, national labs, and other institutional assets make it a key player in this space.<sup>178</sup>

UC Berkeley and the Lawrence Berkeley National Laboratory are developing renewable and sustainable energy sources, advancing new technologies to help curb energy demand, understanding the implications for climate change and the environment, and formulating appropriate and timely policy responses.

Many research centers and institutes around the campus focus on specific challenges, such as biofuels research at the Energy & Biosciences Institute in a unique public-private partnership; sustainable infrastructures programs at CITRIS, energy efficiency and electric grid programs at CIEE; or policy-oriented research at the Energy Institute in the Haas School of Business.

### Training the Next Generation of Cleantech Workers

The clean energy sector broadly involves "white collar" jobs (those that require a bachelor's degree or higher) and "blue collar jobs" (jobs that do not require a degree). For blue-collar jobs in clean energy

---

<sup>177</sup> International Energy Agency. Investment in clean energy this year is set to be twice the amount going to fossil fuels. <https://www.iea.org/news/investment-in-clean-energy-this-year-is-set-to-be-twice-the-amount-going-to-fossil-fuels>. Accessed September 30, 2024.

<sup>178</sup> Next 10. Clean Tech Innovation. California Green Innovation Index, 2023 Edition. <https://greeninnovationindex.org/2023-edition/clean-tech-innovation/>. Accessed September 30, 2024.

sectors, the Bay Area has existing training infrastructure, including state-certified apprenticeships run by joint labor-management committees, pre-apprenticeship programs, and community colleges. Most new skills needed in clean energy can be integrated into existing training programs and career pathways. For construction-related skills, apprenticeships run by construction trades unions offer best-in-class training pathways for high-road careers. Paired with pre-apprenticeships and articulation agreements with community college programs, apprenticeships can also be an avenue for increasing diversity and equity in quality blue-collar jobs.

In the manufacturing sector, unions have been developing and launching apprenticeship programs to mirror the success of construction apprenticeships. For this approach to successfully grow in the Bay Area, it will be important that clean energy sector manufacturing employers co-invest in high-quality training and career pathways alongside unions. Currently, many Bay Area manufacturing jobs are non-union, with low wages, poor job quality, and limited opportunity for skill development and advancement. Training investments require a joint investment by workers and employers in quality jobs that compensates workers for developing their skills.

State Building and Construction Trades affiliates, such as the International Brotherhood of Electrical Workers and the United Association of Plumbers and Pipefitters, have decades of experience offering apprenticeship programs that provide on-the-job training and classroom education in energy production, transmission and distribution, renewable energy services, battery technologies, electric vehicle charging technologies, solar thermal, fuel cells, smart grid, and geothermal generation, as well as the deployment of energy-efficient technologies. These programs work on the ‘earn while you learn’ principle that provide a well-rounded training curriculum which provide for professional mobility across the multiple emerging sectors of cleantech.

One example of a community college program in cleantech can be found at Diablo Valley College, which offers an energy systems certificate as a part of its energy systems program. This program teaches students design criteria, installation, safety, maintenance and troubleshooting as well as the societal and economic considerations of a variety of energy systems, such as solar, wind, hydro, geothermal, hydrogen, and other emerging technologies. They also learn to use a variety of tools and analysis techniques in energy efficiency, energy assessment, building performance and measurement, and energy auditing.

## Aerospace and Space Manufacturing

The Aerospace Industry Association puts the size of the space economy at \$469 billion, with 152,000 direct employees in the U.S. in positions ranging from scientists and engineers to technicians and machinists.<sup>179</sup> This growth is driven by increased private-sector investment and government interest,

---

<sup>179</sup> McKinsey & Company. (n.d.). Space: The missing element of your strategy. Retrieved December 2, 2024, from <https://www.mckinsey.com/industries/aerospace-and-defense/our-insights/space-the-missing-element-of-your-strategy>

with the U.S. contributing nearly \$5 billion for space-related research and development (R&D) in the latest FY24 budget.<sup>180</sup>

## Companies Driving Innovation

The Bay Area is already home to several major space companies that are driving innovation in the industry:

- **Spire Global** is based in San Francisco, contributing significantly to satellite data and analytics, attracting \$425 million in funding.
- **LeoLabs**, headquartered in Menlo Park, is a startup that has already received \$100 million in venture capital funding to develop a network of radar stations around the globe that can track every object in low Earth orbit.
- **Ramon.Space**, based in Los Altos, develops high-performance computers, already used in over 50 space missions.
- **Capella Space**, based in San Francisco, is the first company to commercially use Synthetic Aperture Radar (SAR) technology to monitor Earth in real-time, with a unique ability to penetrate difficult atmospheric conditions like clouds and total darkness.
- **Astranis**, another San Francisco company, builds small satellites aimed at improving internet access globally.

Some newer, emerging companies include Pixxel Space Technologies (earth imaging satellites), Xona Space Systems (low earth orbit satellites used in navigation for autonomous vehicles, unmanned aerial vehicles, mobile robotics and other location critical applications), Hedron/Analytical Space (nanosatellites providing a communications backbone for remote sensing satellites and remote industrial IoT applications), Flawless Photonics (space-manufactured optical fiber), Momentus Space (transfer and service vehicles to carry satellites and hosted payloads between orbits in space), Antaris (satellite design and spacecraft software), Astrome Technologies Pvt. Ltd (satellite communication products supporting 5G internet), Auriga Space (small satellite launch vehicles), Epic Aerospace (last mile delivery for small satellites), SpaceLab Ltd. (AI space IoT hardware and software for data transfer from critical infrastructure on Earth), and Orbital Composites (3D printing for factories in space).

## Drone Technology

The region also offers a unique opportunity for companies to develop and test drones, formally known as Unmanned Aerial Systems (UAS). Located in Contra Costa County at Buchanan Field and Byron Airport, the Bay Area Test Site (BATS), offers both controlled and uncontrolled airspace, ideal for a variety of testing needs. The program supports UAS technology and aviation businesses by offering facilities, FAA guidance, and testing environments, all designed to meet the growing demand for local drone development in the Bay Area.

At SFO, Wisk Aero, with \$450 million in funding from Boeing, is working on autonomous, electric vertical takeoff and landing (eVTOL) aircraft. Their goal is to develop air taxis capable of providing zero-emission,

---

<sup>180</sup> U.S. Department of Commerce. (2023, April). Remarks by Deputy Secretary of Commerce Don Graves at the Space Symposium. Retrieved December 2, 2024, from <https://www.commerce.gov/news/speeches/2023/04/remarks-deputy-secretary-commerce-don-graves-space-symposium>

autonomous flights within the next few years, revolutionizing urban transport by reducing traffic congestion and travel times. Wisk plans to certify and operate a large fleet of these air taxis across multiple cities.<sup>181</sup> Similarly, Archer Aviation is building an air mobility network connecting Bay Area locations like San Francisco, Oakland, and San Jose. They aim to reduce long car commutes to short, sustainable flights using their eVTOL aircraft. They are collaborating with real estate developers like Kilroy to establish vertiports, hubs for their electric air taxis, expected to launch in 2025.<sup>182</sup>

## Building a Talent Pool

The region's aerospace economy is built on technologists, engineers and research scientists, who are at the heart of the region's innovation and R&D system. They are abundant. There is also an important place, however, for manufacturing and the commercial space and aerospace industries will need qualified employees at every level, from research scientists to machinists and technicians. As companies grow and their production increases, however, so will their need for a diversified workforce. One reason that Elon Musk chose to grow SpaceX in Southern California was the lack of a sufficiently large technical workforce in the Bay Area region. Connecting students, particularly in less advantaged communities, to career opportunities in the aerospace sector will require focused efforts. Some existing training programs include:

The Aero-Flex Apprenticeship Program, developed by the South Bay Workforce Investment Board (SBWIB), is an employer-centric, "earn and learn" initiative that provides flexible training in aerospace and engineering fields. The program equips participants with industry-specific skills through courses like "Aerospace 101," followed by hands-on internships and on-the-job training with prominent aerospace companies, such as Northrop Grumman. This adaptable model is designed to meet the needs of various employers and locations, helping participants secure long-term employment while supporting workforce development nationwide.<sup>183</sup>

Humanmade is a nonprofit in San Francisco focused on workforce development in advanced manufacturing, including aerospace programs. They provide a 12-week training program aimed at low-income residents to equip them with essential skills for entry-level positions in the manufacturing sector. By partnering with local industries, Humanmade tailors training to meet hiring needs, fostering a diverse and skilled workforce in aerospace and other manufacturing fields.

The region's three major airports: San Francisco International Airport (SFO), Oakland International Airport (OAK), and San Jose International Airport (SJC) all present substantial opportunities for workforce development in the aerospace sector, particularly in maintenance and repair. For example, the Aircraft Maintenance Technology Program at City College of San Francisco is an FAA-certified training program that prepares students for careers as Aircraft Maintenance Technicians. It offers both degree and certificate options over two years of specialized training. The curriculum covers essential topics such as aircraft systems, powerplant maintenance, and structural repair, allowing students to

---

<sup>181</sup> "Wisk Aero Secures \$450 Million from Boeing," Wisk Aero, <https://wisk.aero/news/press-release/wisk-aero-secures-450-million-from-boeing/>

<sup>182</sup> Archer Aviation Inc., "Archer Announces Planned San Francisco Air-Mobility Network Connecting Five Locations Across the Bay Area," Investors Section, Archer.com, September 3, 2024, <https://investors.archer.com/news/news-details/2024/Archer-Announces-Planned-San-Francisco-Air-Mobility-Network-Connecting-Five-Locations-Across-the-Bay-Area/default.aspx>.

<sup>183</sup> South Bay Workforce Investment Board, "AERO-FLEX," South Bay Workforce Investment Board, accessed September 30, 2024, <https://www.sbwib.org/aero-flex>.

qualify for FAA certification exams. The program is accessible to individuals from various backgrounds and provides opportunities for employment across the aviation and aerospace industries.<sup>184</sup>

The region is far from the only national center for space or aerospace innovation, as highly competitive clusters continue to develop elsewhere. One challenge is to create an economic and policy environment that enables startups in the region to grow and remain here. This issue is particularly tied to factors such as the availability and cost of housing, the cost of doing business, the cost of energy, and access to the right kind of physical space for production—issues that impact the manufacturing industry in the Bay Area across the board.

## Sustainable Agriculture and Viticulture

With nearly \$56 billion in agricultural cash receipts in 2022, California is the top producer of agriculture in the nation.<sup>185</sup> While much of this activity is concentrated in the Central Valley and along the Central Coast—no Bay Area county ranks in the top 15 in the state in terms of agricultural value production—the industry remains an important source of jobs and investment and it can be an important driver of regional innovation going forward.

California has also experienced two periods of prolonged drought in the last decade, which makes sustainable agriculture, household water usage reductions, and other sources of water conservation paramount. Because of the policy imperative around water conservation, agtech companies that focus on maximizing yield with targeted water applications have grown across the Bay Area.

Lastly, the viticulture industry remains critical to catalyzing overall economic performance in Napa and Sonoma counties. With grape production and winemaking driving tourism in the area, ensuring that the viticulture industry can continue to thrive is imperative for the Bay Area economy.

### Agriculture in the Bay Area

As of the first quarter of 2024, nearly 20,000 individuals were employed on private payrolls in the agriculture/forestry industry according to data from the Quarterly Census of Employment and Wages (these data points do not include individuals that work outside of traditional payroll employment). Of these 20,000 jobs, nearly two-thirds are located in Napa and Sonoma counties. Of note, less than 10% of California's agriculture jobs are located in the Bay Area and industry has experienced limited job expansion in the last decade.

The Bay Area is home to numerous new companies that are trying to solve crop productivity, harvest efficiency, and water management issues at the intersection of farming and technology. A few of them are detailed below:

- **Agtonomy**—based in South San Francisco—is pioneering advanced automation and artificial intelligence solutions to transform agriculture and beyond. Their platform addresses labor-

---

<sup>184</sup> City College of San Francisco, "Aircraft Maintenance Technology Program," City College of San Francisco, accessed September 30, 2024, <https://www.ccsf.edu/degrees-certificates/aircraft-maintenance-technology-program>.

<sup>185</sup> California Department of Food and Agriculture. (2023). 2022-2023 California agricultural statistics review. Retrieved December 2, 2024, from [https://www.cdfa.ca.gov/Statistics/PDFs/2022-2023\\_california\\_agricultural\\_statistics\\_review.pdf](https://www.cdfa.ca.gov/Statistics/PDFs/2022-2023_california_agricultural_statistics_review.pdf)



intensive needs with automation, turning conventional equipment into autonomous machines. By partnering with leading manufacturers Agtonomy integrates smart technology into tractors and other machinery, enhancing safety and efficiency.

- **HydroPoint**—based in Petaluma—is a provider of smart water management solutions. The company combines controllers and other hardware with cloud-based applications and services to automate irrigation schedules based on landscape-specific parameters. The company also offers real-time leak and flow monitoring solutions for residential and commercial applications.
- **Cisbay**—based in San Jose—offers a suite of agtech products to help farmers optimize crop output that includes soil rejuvenation, seed protection, and growth maximizing services. Cisbay uses microbial technology to help turn wastewater into usable water, reducing water waste and boosting soil health for farms.

The companies listed above and many others in the agtech field rely on data analytics, artificial intelligence, and biotechnology. As such, these agriculture-adjacent roles have significant barriers to entry, often requiring more than a four-year degree. Instead, high-road career pathways are more likely to be found in the viticulture industry.

The Sustainable Agriculture Program at Santa Rosa Junior College offers hands-on training in organic farming, viticulture, and water management. Programs like these are crucial for transitioning the agricultural workforce toward more sustainable practices. Santa Rosa Junior College viticulture students learn by actively pursuing their education and training at the 365-acre Shone Farm situated on the Russian River near Forestville. Shone Farm is an outdoor field laboratory for year-round, hands-on learning, and students also greatly benefit by visiting and learning from growers and managers in the field and from local viticulture experts.

In Solano County, the workforce development board has worked on sustainable agriculture, embedding work sites at sustainable farms in the area through climate career ready summer youth programming. Sustainable Solano is a grassroots, countywide movement uniting people through work that aims to serve the future of Solano County by promoting ecologically regenerative, economically, and socially just communities. Sustainable Solano has grown out of decades of dedicated community work that started with community gardens and has grown to include an emphasis on community capacity building, supporting local food systems and building youth leadership and workforce skills.

Viticulture and Winery Technology programs are available at both Napa Valley College and Las Positas College. At Napa Valley College, courses prepare students for new careers in the wine industry and help current industry employees to advance their careers. Teaching facilities include a five-acre student vineyard, a bonded teaching winery, wine lab space and a wine sales and hospitality lab. At Las Positas College, associate's degree tracks in viticulture and enology allow students to gain hands-on skills in the field and within a teaching winery.

### Challenges to the Growth of Agricultural Employment

There are considerable issues facing the agriculture industry in the region, climate change and water availability chiefly among them. Given the sector's concentration on wine within the Bay Area, it is also notable that trends in the wine industry have not been positive in the last few years. Fewer U.S. consumers have been drinking wine. Instead, they have selected alternatives such as ready-to-drink

cocktails, spirits, cannabis, or have been abstaining altogether. And in 2023, direct-to-consumer wine sales fell, and tasting room visitation dropped for the second straight year.<sup>186</sup>

While the agriculture industry itself is unlikely to be a major source of new job growth, it does continue to support numerous households around the region. Given that many of these roles fall outside of traditional employer-employee contracts, work must be done to ensure that labor standards for agriculture workers are strengthened and enforced. As automation replaces some roles in the field, it will also be critical to ensure that workers are able to access programs that allow them to find alternative means of employment within the industry or in adjacent occupations.

## Tourism and Hospitality

Tourism, hospitality, and event management are key economic drivers for the Bay Area, which attracts millions of visitors from across the country and around the globe annually. The region's rich cultural offerings, natural beauty, and tech events make it a premier destination for both leisure and business travelers. The Bay Area is a hub for high-profile events like Dreamforce, Oracle OpenWorld, and international trade conventions, positioning the region as a leader in business tourism. And while recovery of the Bay Area's tourism and hospitality sector has been slower than anticipated in the wake of the COVID-19 pandemic, conventions and events continue to attract visitors from across the globe, further reinforcing San Francisco's role as a gateway to the U.S. for Asian and Pacific Rim travelers.

### Post-Pandemic Recovery and Investment

Post-pandemic recovery efforts have focused on bringing back international visitors and expanding business tourism. Significant investments in new hotels, convention centers, and cultural institutions, such as the expansion of the San Francisco Museum of Modern Art (SFMOMA), are revitalizing the region's tourism industry. While room nights booked by delegates attending Moscone Center conventions have not hit pre-pandemic levels – bookings grew 78% from 2022 to 2023, with around 620,000 rooms booked from events throughout 2023. Overall, the leisure and hospitality sector employs over 260,000 people in the nine-county Bay Area, growing 6% over the last two years of recovery.

California's Tourism Recovery Act has allocated substantial funding—\$95 million in 2023 alone—toward marketing campaigns designed to re-engage both domestic and international tourists, with a particular focus on high-value international visitors from regions such as Europe and Asia. These campaigns aim to restore the state's prominence as a global tourist destination by emphasizing California's diverse experiences—from its wine country to tech-driven cities. Additionally, the Act has supported local tourism boards in revitalizing their offerings, ensuring that major cities like San Francisco and San Jose can attract large-scale events and international travelers.

California and San Francisco, in particular, have made significant efforts to boost tourism. Visit California's "All Dreams Welcome" campaign highlights achievers from other countries who have fulfilled their dreams and achieved success living and working in California to illustrate the state's anything-is-possible ethos and vibrant melting pot culture. The city's "Always San Francisco" campaign

---

<sup>186</sup> Silicon Valley Bank. State of the US Wine Industry 2024. Accessed at: <https://www.svb.com/globalassets/trendsandinsights/reports/wine/svb-state-of-the-us-wine-industry-report-2024.pdf>

spearheaded by SF Travel aims to attract visitors by showcasing rich cultural scenes, iconic landmarks, and proximity to natural attractions like the Napa and Sonoma wine regions. The city has also launched initiatives to support small businesses, enhance public safety in tourist areas, and improve transportation networks, making it easier for visitors to explore the city. These efforts, combined with the state's broader recovery initiatives, are critical in accelerating the return of tourism to pre-pandemic levels.

### Career Pathways in the Leisure and Hospitality Industry

Many workers left the industry during the pandemic and have been slow to return, seeking more stable or higher-paying jobs in other sectors or regions. The region's high cost of living has made it difficult for businesses to attract and retain workers, particularly in hospitality and service roles. Rising wage expectations and increased competition for talent across industries have further complicated recruitment efforts.

However, these challenges also present opportunities for innovation within the sector by enhancing entertainment districts across the region's struggling downtowns, offering more competitive wages, flexible working conditions, and enhanced workforce development initiatives. By prioritizing diversity and inclusivity in recruitment, the Bay Area can also build a more resilient, adaptable workforce that better reflects the region's global, multicultural clientele.

San Francisco's Office of Economic and Workforce Development's Hospitality Initiative partners with training institutions to provide education, training, and employment assistance to both job seekers and employers in San Francisco's hospitality sector. Training providers include the Charity Cultural Services Center, ECS/CHEFS, Farming Home, Mission Hiring Hall, and others. Participants can enroll in training programs in the culinary and beverage industries (e.g., prep cooks, line cooks, back-of-house, bartender, barback, waitstaff, barista, front-of-house), the hotel industry (e.g., front desk, porter, lodging manager), or facility and building maintenance (e.g., janitorial, housekeeper, property management).<sup>187</sup>

Napa Valley College's Culinary Arts Certificate & Degree Program supports careers in restaurants, wineries, culinary innovation start-up companies, careers in food writing for social media and other broadcast channels, as well as hotels, special event caterers, and high-end private chefs. The program allows aspiring culinary artists to build upon basic culinary skills and incorporates more complex techniques that are needed to perform varying work duties that require professional culinary training.<sup>188</sup>

The City College of San Francisco offers a Hospitality Management Program that prepares students for careers in hotel management, event planning, and restaurant operations.

Apprenticeships with major hotel chains and event management companies are helping diversify the workforce. Tuition is free for San Francisco residents through Free City,<sup>189</sup> and financial aid is available for those who qualify.

---

<sup>187</sup> City and County of San Francisco. Apply to train for a career in hospitality. <https://www.sf.gov/apply-train-career-hospitality>. Accessed September 30, 2024.

<sup>188</sup> Napa Valley College. Culinary Arts-Advanced Certificate of Achievement. <http://catalog.napavalley.edu/areas-of-study/hospitality-culinary-and-tourism-management/culinary-arts-advanced-certificate-of-achievement/>. Accessed September 30, 2024.

<sup>189</sup> City College of San Francisco. Free City. <https://www.ccsf.edu/paying-college/free-city>. Accessed September 30, 2024.

Food Futures is a Marin County based apprenticeship program that trains and mentors those seeking a career in the food industry with the knowledge and skills needed to develop and launch a small food business or to join the larger food and hospitality industry. Launched in summer 2022, the program offers a 6-month apprenticeship placement with food industry professionals specializing in baking and butchering with opportunities to learn invaluable business and marketing skills needed to operate a food business at local farmer’s markets.<sup>190</sup>

NOVAworks, in partnership with the Foothill-De Anza Community College District provides English as a Second Language (ESL) training for front line hospitality workers at three hotels. All hotels are paying for worker wages during training.

## Artificial Intelligence

Compared to the other sub-sectors outlined in this section, artificial intelligence (AI) is a nascent technology. As it remains in the relatively early stages of development and utilization, its potential growth also comes with significant economic risks. It is yet to be seen whether artificial intelligence is a net job producer or a net job displacer in the Bay Area. On one hand, the region is the global epicenter of artificial intelligence research and development, with massive amounts of capital being poured into these technologies. On the other hand, artificial intelligence will undoubtedly replace some jobs—many of them lower-income roles—and make other occupations obsolete altogether.

As the region continues to push the boundaries of science and technology, it must find a way to incorporate a more diverse pool of talent from all walks of life as well as consider the impact on existing jobs and communities. Within this emerging field of AI, it is vital to remember technology is most useful when it is designed based on real people’s needs. Further, the people who are impacted by AI must have agency to shape the technology that dictates their access to critical needs like employment, housing, and healthcare.<sup>191</sup> Similar to programs in the oil and gas industry, the economic transition to AI must be accompanied by a just transition for impacted workers.

### Artificial Intelligence in Application

The AI industry is a rapidly growing sector that focuses on developing machines and software capable of performing tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and language understanding. In recent years, advancements in machine learning, deep learning, and neural networks have revolutionized industries like healthcare, finance, automotive, and consumer services. Major tech companies, including Google, OpenAI, and Anthropic are leading AI research and development, while startups continue to innovate in fields like autonomous vehicles, natural language processing, and robotics.

One of the most visible applications of artificial intelligence—and the one that could cause the most employment disruption—is in autonomous vehicles. The autonomous vehicle industry is centered

---

<sup>190</sup> Community Action Marin. "Food Futures: A Kitchen Apprentice Program." October 5, 2022. <https://camarin.org/blog/general/food-futures-a-kitchen-apprentice-program/>. Accessed September 30, 2024.

<sup>191</sup> TechEquity "AI Policy Principles" March 2024. [https://techequitycollaborative.org/wp-content/uploads/2024/03/AI\\_Policy\\_Principles.pdf](https://techequitycollaborative.org/wp-content/uploads/2024/03/AI_Policy_Principles.pdf)

around developing self-driving cars and trucks that use a combination of sensors, cameras, radar, and artificial intelligence to navigate and operate without human intervention. Companies like Tesla, Waymo (a subsidiary of Alphabet), Cruise (owned by General Motors), and Uber are leading the charge in this space, working to create fully autonomous vehicles that can safely navigate complex environments. The industry claims to hold promise for reducing accidents, improving traffic efficiency, and transforming transportation, logistics, and mobility services. However, workers and the community need a voice in how technology is implemented. Technologies, such as SAE Automation Level 1 and Level 2<sup>192</sup>, which can be deployed to assist workers and enhance the safe operation of vehicles are promising and should be pursued.

The US Bureau of Labor Statistics estimates that in California alone there are over 450,000 workers in various driver occupations<sup>193</sup> whose livelihood are threatened by the implementation of this technology. With the sudden proliferation of robotaxis on the streets of San Francisco and Los Angeles, a look at who the people whose jobs are at risk is important.

Looking at taxi drivers, according to the 2020 U.S. Census we see that workers in this industry are composed of a greater share of people of color, than the U.S. population. While Black (alone) population was 12.4% they comprise 24.9% of taxi drivers and Hispanic or Latinos population was 18.7% they are 23.9% of taxi drivers. Correspondingly, but not counted as taxi drivers, are California's Transportation Network Companies (TNC) drivers, or so-called independent contractors, who drive for app-based companies such as Uber and Lyft are also over-representative of people of color. Similarly, drivers identifying as African American/Black comprise twice the TNC driver labor force, respective to the population of California as a whole.<sup>194</sup> Technology built to improve safety should be implemented, not just for the pursuit of profits but in a way that includes, acknowledges, and gives voice to impacted workers.

Environmental and climate regulations have also not yet fully grappled with the current and potential environmental impact of the AI industry's physical infrastructure. Generative AI relies on massive data centers, which require enormous amounts of energy to operate and water to cool the system.<sup>195, 196</sup> California's current water scarcity and climate crisis mean that any economic growth attributable to AI must include a calculation of the industry's material impact on these critical challenges.

## Programs that Could Broaden the AI Workforce

Many of the occupations in AI are research intensive and therefore often require high levels of experience and advanced degrees. While there are opportunities for good paying, working class jobs at AI companies with the right training and/or certificate program, the scope of that opportunity today is

---

<sup>192</sup> SAE International, J3016\_201806: Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles (Warrendale: SAE International, 15 June 2018), [https://www.sae.org/standards/content/j3016\\_201806/](https://www.sae.org/standards/content/j3016_201806/)

<sup>193</sup> Standard Occupational Classifications codes: 533011, 533031, 533032, 533033, 533051, 533052, 533053, and 533054.

<sup>194</sup> Ethnicity of App-Based Drivers Compared to CA General Population, An Analysis of App-Based Drivers in California, UC Riverside School of Business Center for Economic Forecasting & Development, February 2022. [https://protectdriversandservices.com/wp-content/uploads/2022/03/UCR\\_CEFD\\_CA\\_AppDrivers\\_Analysis\\_2\\_17\\_2022-41.pdf](https://protectdriversandservices.com/wp-content/uploads/2022/03/UCR_CEFD_CA_AppDrivers_Analysis_2_17_2022-41.pdf)

<sup>195</sup> NPR Staff. (2024, July 12). AI brings soaring emissions for Google and Microsoft, a major contributor to climate change. NPR. Retrieved December 2, 2024, from <https://www.npr.org/2024/07/12/g-s1-9545/ai-brings-soaring-emissions-for-google-and-microsoft-a-major-contributor-to-climate-change>

<sup>196</sup> St. Fleur, N. (2023). Artificial intelligence's growing energy footprint: A challenge for climate goals. Yale Environment 360. Retrieved December 2, 2024, from <https://e360.yale.edu/features/artificial-intelligence-climate-energy-emissions>

extraordinarily narrow. Multiple regional and state programs currently exist to ensure that AI's growth is accompanied by more expansive opportunities for a broader set of workers.

The Bay Area Community College Consortium (BACCC) has partnered with industry to create a set of programs and pathways in Artificial Intelligence and Data Analytics (AIDA). The BACCC has licensed from Intel the complete two-year Artificial Intelligence instructional program and has created an industry-supported AI Center of Excellence at Laney College. The partnership also provides students with transfer and professional development opportunities. Nearly a dozen Bay Area community colleges have joined the program with partner companies that include Intel, IBM, aiEDU, Alteryx, AWS, and others.

Cañada College has recently begun offering an entry level training program designed to provide residents with fundamental knowledge around artificial intelligence. The program, known as the Introduction to Artificial Intelligence is a six week course focused on the foundational concepts of AI and its practical applications in the job market.

The State of California and NVIDIA have partnered to create a first of its kind program to expand AI tools and resources so students, educators, and workers – especially in community colleges – can learn new skills and advance their careers. The agreement contains a wide variety of objectives including: resources for cutting edge AI research programs, the creation of AI laboratories in high education facilities, AI worker training initiatives, and direct collaboration with community colleges to integrate AI concepts into curriculum. This builds on the work of the Governor's GenAI Executive Order of 2023.<sup>197</sup>

One model for inclusive tech-driven growth in AI could come from the SoLa Impact Beehive in Los Angeles. SoLa Impact is a private equity real estate firm based in Los Angeles that specializes in affordable housing and social impact investments in underserved communities. The Beehive—opened by SoLa Impact in 2021—is the nation's first business campus for Opportunity Zone-operated businesses, and the first Black-owned creative coworking and cultural space in South Los Angeles.

The five-acre development aims to create a collaborative environment for entrepreneurs and investors, supporting entrepreneurship through targeted programs and partnerships. The SoLa Technology and Entrepreneurship Center, developed in collaboration with Riot Games, offers local youth opportunities to explore STEM careers while engaging in e-sports and gaming activities. Scholarships funded by partners like Snap encourage students to build the skills needed to thrive in emerging industries. The 13,000-square-foot center offers free tech education and aims to inspire local youth of color to pursue careers in technology and gaming. Funded by a \$2.25 million donation from Riot Games to the SoLa I CAN Foundation, the center features cutting-edge facilities, including an e-sports arena, a streaming studio, and a robotics lab.

This model of community-driven innovation could be effectively applied to the field of artificial intelligence to bridge existing divides and ensure equitable participation as the next generation of leaders emerges in this industry. Establishing AI-focused, hands-on hubs created by and for underserved communities—much like the SoLa campus—could nurture a more inclusive pipeline of AI innovators and professionals.

---

<sup>197</sup> Office of Governor Gavin Newsom. (2024, August 9). California and NVIDIA launch first-of-its-kind AI collaboration. Retrieved December 2, 2024, from <https://www.gov.ca.gov/2024/08/09/california-nvidia-launch-first-of-its-kind-ai-collaboration/>



## Alternative Fuel Production

To meet the State of California’s climate goals of net-zero carbon emissions by 2045, the California Air Resources Board (CARB) has identified alternative transportation fuels such as hydrogen and biofuels—e.g., renewable diesel and Sustainable Aviation Fuel (SAF)—as playing important limited roles in the state’s decarbonization efforts. CARB views biofuels, which are combustion fuels, as bridge fuels until complete zero-emission technologies can completely replace diesel and conventional aviation fuel. Hydrogen, which has a variable lifecycle emissions profile dependent on its manufacturing process, is considered a zero emissions transportation fuel at the point of use in a fuel cell for transportation. These fuels are seen as crucial for decarbonizing sectors that are hard to electrify, such as in heavy industrial applications, aviation, and certain types of heavy-duty or long-distance transport.

While this sub-sector is being catalyzed by a host of state and federal investments, its growth comes with substantial climate, environmental, and public health risks for the communities surrounding production and use sites. Caution is required as it relates to the growth of these sectors, particularly in existing environmental justice communities that are already burdened with the significant inequities of disproportionately high public health impacts of cumulative pollution. Alternative fuel production has already expanded significantly in the Bay Area due to billions of dollars of state and federal investments. The BAJFC recognizes that for some workers in the region, the recent conversions of petroleum refineries to produce crop-based biofuels in Contra Costa County has provided meaningful job opportunities, including for oil refinery workers.

However, our Collaborative has chosen not to prioritize further development of this sector as part of the California Jobs First effort due to the outstanding concerns and risks associated with these industries, and the significant state and federal subsidies these industries already receive from other programs. This is not intended to be a statement for or against these technologies and their role within the state’s decarbonization efforts, but the Collaborative’s view that other processes outside of California Jobs First are more appropriate venues for considering investment and policy considerations for this sector.

### Biofuels Explained

Renewable Diesel (RD) and Sustainable Aviation Fuel (SAF) are designed to replace conventional fuels as drop-in replacements and can be produced from various feedstocks, including food crops, waste oils, agricultural residues, and even waste woody biomass. Unlike the first generation of biofuels, modern equivalents are drop-in and require few if any modifications to fuel storage facilities or equipment. Producers argue that these fuels can significantly reduce lifecycle greenhouse gas emissions compared to traditional fuels—by up to 80% or more, depending on the production method.<sup>198</sup> However, there remains significant controversy whether this statistic accounts for the full lifecycle emissions of these technologies, when factors such as land conversion are included. Additionally, there are significant concerns about the diversion of vegetable oil to biofuels significantly increasing global food prices.

---

<sup>198</sup> U.S. Department of Energy. Biofuel Basics. <https://www.energy.gov/energysaver/articles/energy-101-video-biofuels-0> Accessed September 30, 2024.



Two oil refineries in Contra Costa County—Phillips 66 Rodeo, and Marathon Martinez—have converted to renewable fuel production, and are two of the largest renewable fuel production facilities in the world:

- In 2022, Martinez Renewables, a joint venture between Marathon Petroleum and Neste, announced it would convert its fossil fuel-based Martinez refinery to exclusively process renewable feedstocks, producing up to 730 million gallons of renewable biofuels per year as a result. The conversion is now complete and currently producing only renewable diesel, but planned upgrades will eventually give it the ability to produce SAF as well.
- Phillips 66 has completed the conversion of its Rodeo facility, now known as the Rodeo Renewable Energy Complex, and is processing exclusively renewable feedstocks into renewable diesel at scale. At full capacity the facility will have the ability to produce 800 million gallons per year of renewable diesel.

### Hydrogen Explained

The state and federal government have invested heavily in expanding the production and use of hydrogen as a critical alternative fuel for hard to decarbonize sectors, such as heavy industry and heavy-duty vehicles. Hydrogen, when consumed in a fuel cell, produces only water as a byproduct. However, the GHG emissions and pollution impact of hydrogen depends on its production. When produced using natural gas, which is a fossil fuel, (aka “Grey Hydrogen”) or biomethane from factory farms, hydrogen production still results in significant GHG emissions and community-harming local pollution as both natural gas and factory farm biomethane are simply methane—a potent greenhouse gas—processed through a highly polluting industrial process called steam methane reformation (SMR).

There are also proposals for “Blue Hydrogen,” which is generally hydrogen produced using natural fossil gas, but where GHG emissions are intended to be captured through carbon capture and sequestration (CCS) technology. However, when produced with renewable power like solar or wind (aka “Green Hydrogen”) through an electrolyzer, hydrogen has the potential to be GHG and local pollution free, to the degree the product is safely produced and transported. Regardless of the source of production, hydrogen is also a highly flammable product requiring safe production, transportation, and blend rates throughout its use.

While there are several producers of hydrogen in the Bay Area, including Chevron, which sells excess hydrogen (“Grey Hydrogen”) produced at their Chevron Richmond refinery; the soon to be built waste-to-hydrogen production facility in Richmond, co-owned by Raven SR and Hyzon Motors in partnership with Chevron; and new infrastructure for hydrogen fueled trucks (particularly connected to the Port of Oakland), current production and consumption is still far below what CARB anticipates will be needed for decarbonizing California’s economy.

However, significant growth is anticipated for the hydrogen market in California, catalyzed by the State’s recent \$1.2 Billion federal grant as one of seven regional Hydrogen hubs in the U.S. for California’s ARCHES program - the Alliance for Renewable Clean Hydrogen Energy Systems. ARCHES is a statewide public-private partnership that is anticipated to include major deployment clusters in the Bay Area and Los Angeles basin. Future deployments will extend into the Central Valley, Inland Empire, and other regions. The State – led by GO-Biz, together with the University of California and national laboratories – is partnering with industry, labor unions, and local governments to build an unprecedented modern

hydrogen network. However the ARCHES program faces significant criticism from environmental justice groups, and there are major questions outstanding regarding how the state’s approach to hydrogen production build-out will prioritize emissions-free production methods and incorporate the concerns and desires of environmental justice communities.

### Environmental Justice Principles for Alternative Fuel Production

While alternative fuels offer a replacement to fossil fuels, their production, delivery, and storage processes are not necessarily free from environmental health and safety impacts. This scenario creates a dynamic where policymakers and industry stakeholders are pushing for novel solutions, while environmental justice advocates must simultaneously raise the desire to see climate solutions that are cleaner, but without the continued negative impacts and risks to the communities they serve.

Due to multi-billion dollar investments from CARB through the Low Carbon Fuel Standard, California is the nation’s top producer and consumer of biofuels. Due to California’s receipt of \$1.2 billion as one of a handful of federal Hydrogen Hubs, the state is also poised for significant expansion of this industry. However, this industry growth, and the job transition and creation benefits of these industries must be balanced with an environmental lens.

After years of study, a network of environmental justice and environmental organizations statewide published a set of Environmental Justice Positions on Green Hydrogen in California<sup>199</sup> summarized in these Equity Principles.<sup>200</sup> The principles applied to alternative fuels are paraphrased here:

- **Production:** Reject any dirty hydrogen or alternative fuel production method that increases pollution in environmental justice communities already over-burdened by disproportionately high cumulative pollution and/or creates adverse climate impacts.
- **Delivery and Storage:** Fuel delivery and storage infrastructure also poses significant impacts on environmental, health, and safety that necessitate special attention and precaution, whether retrofitting or building new industrial infrastructure.
- **End-Uses:** Support only the use of hydrogen and alternative fuels that does not keep other fossil fuel infrastructure online.
- **Decision-making and Inclusion:** Community consent and involvement is required in the development of any hydrogen or alternative fuel project.

Not only a matter of environmental justice, but also simply sound economic strategy, the BAJFC recommends taking a longer-term view on the cost-effectiveness of limited public resources. A sustainable Bay Area depends on learning the lessons of historic inequities and the climate crisis fueled by our fossil-based economy. The BAJFC recommends against investing in strategies that risk replicating short-sighted manufacturing booms without appropriate cleanup plans and recommends against prolonging polluting fossil fuel infrastructure that also delays planning for the cleanup and

---

<sup>199</sup> Communities for a Better Environment (CBE). (2024, September). Shared position with endorsements: CBE and Gridworks Equity Hydrogen Initiative. Retrieved December 2, 2024, from [https://www.cbecal.org/wp-content/uploads/2024/09/Shared-Position-with-endorsements\\_CBE\\_Gridworks\\_-Equity-Hydrogen-Initiative.pdf](https://www.cbecal.org/wp-content/uploads/2024/09/Shared-Position-with-endorsements_CBE_Gridworks_-Equity-Hydrogen-Initiative.pdf)

<sup>200</sup> California Environmental Justice Alliance (CEJA). (2023, October). Environmental justice equity principles for green hydrogen in California. Retrieved December 2, 2024, from <https://ceja.org/2023/10/environmental-justice-equity-principles-green-hydrogen-california/>

redevelopment of land currently used for such production. Wealth from tradable sectors should not come at the expense of local communities and workers.

## VII. Foundational Economic Strategies

### REMOVING INSTITUTIONAL AND STRUCTURAL BARRIERS

#### *Stakeholder Voice:*

“The United States has lost billions of dollars due to racial disparities over generations. Eliminating these disparities increases innovation and brings a variety of perspectives, ideas, and problem-solving approaches, giving companies access to a full range of talents. In the Bay Area, if we can ensure that people of all racial backgrounds have equal access to education, job training, and opportunities, we will be better positioned to achieve economic stability and support economic growth, talent retention, and improved productivity. Together, these factors will promote sustained economic growth and prosperity for the entire region.”

—Nikila Walker-Gibson, President and Environmental and Economic Justice Advocate, Solano County Tri-City NAACP

#### Summary

Eliminating institutional and structural barriers to employment and social integration requires addressing systemic inequities and discriminatory practices that impact job opportunities, generational wealth creation, and integration into the social fabric of communities. By improving access to job opportunities through equitable hiring practices, diversity and inclusion training, and on-the-job mentoring, marginalized groups can achieve higher employment rates, contributing to economic stability and workforce diversity. Moreover, social integration through the elimination of these barriers fosters a sense of community cohesion and belonging, when individuals from historically marginalized communities are able to participate fully in social, civic, and economic activities. This inclusive approach not only improves physical and mental health outcomes for people from these communities by reducing isolation and increasing support but also strengthens community resilience by incorporating diverse perspectives and skills in addressing communal challenges. Improved access to education, training programs, child care, and transportation also equips individuals with necessary resources to succeed. In addition, implementing fair wage policies and advocating for legislation that dismantles systemic barriers based on race/ethnicity, gender, disability, and socioeconomic status are crucial to ensuring more equitable access to employment opportunities for all individuals, fostering more genuinely inclusive workplaces.

Building an inclusive economy with high-road jobs accessible to people from all communities can be an important component of developing a climate-resilient workforce overall that is capable of adapting to the green economy’s demands. This involves investing in high-road apprenticeship and readiness programs to prepare workers for employment in these jobs. This is particularly important for people from historically marginalized communities so that they can be active members of a climate-prepared

and skilled workforce and so that they can remain competitive generally in a dynamic job market. A Brookings Institution study highlights that addressing systemic barriers and fostering an inclusive workforce in the Bay Area can lead to significant growth across various sectors, promoting economic growth and climate resilience across the economy.<sup>201</sup>

## Profile

The Bay Area has experienced tremendous economic growth in recent years, nearly doubling from 2001 to 2020.<sup>202</sup> Fueled by the tech sector and backed by venture capital investment, growth skyrocketed after the Great Recession, and the economy even managed to avoid contraction following the onset of the pandemic. By 2022, the Bay Area MSA (including extended metro areas) had become the nation's fastest growing regional economy.<sup>203</sup> That year, the combined nine-county Bay Area economy generated nearly \$1.2 trillion<sup>204</sup>, but that wealth and resulting opportunities have not been equitably distributed among the Bay Area's communities.

Despite this surging economy, “one-third of residents in the Bay Area—nearly 2 million people—struggle to make ends meet.”<sup>205</sup> Fifty percent of the workforce are employed in non-LW-FHI “low-road” jobs.<sup>206</sup> San Francisco skyscrapers—towers of wealth—stand adjacent to communities that live in abject poverty. Beneath it all, stark and persistent racial inequality exists as Black and Hispanic/Latinx residents experience poverty at triple and double the rates of White residents, respectively.<sup>207</sup> It is evident that profound economic growth has failed to deliver on the promise of economic mobility for Bay Area residents, underscoring what past research has already shown: “There is no correlation between economic growth and economic mobility.”<sup>208</sup>

Inequality is reflected statewide in racial and gender wage gaps. California passed SB 973 in 2020 requiring employers with 100 or more employees to report disaggregated annual pay data.<sup>209</sup> In 2021, Black workers were 2.5 times more likely to earn below \$32,230 annually relative to their representation in the population, American Indian and Pacific Islanders 2.0 times (both are 1% of survey population), Hispanic/Latinx 1.3 times, and Asians 1.2 times; White workers were the only demographic underrepresented in this category (0.7 times). Women made up 54% of those earning less than \$32,230,

---

<sup>201</sup> 171 Liu, A. (2018, June 7). *The urgency to achieve an inclusive economy in the Bay Area*. [Research]. Brookings Institution. <https://www.brookings.edu/articles/the-urgency-to-achieve-an-inclusive-economy-in-the-bay-area/>

<sup>202</sup> Vital Signs. (2022, August). *Economic output*. <https://vitalsigns.mtc.ca.gov/indicators/economic-output>

<sup>203</sup> McLean, T. (2022, November 16). *San Francisco Bay Area has the fastest growing economy in US, report says*. SFGATE. <https://www.sfgate.com/local/article/bay-area-fastest-growing-economy-17587650.php>

<sup>204</sup> Federal Reserve Bank of St. Louis. (2022). *Counties*. Searched for Gross GDP All Industries. <https://fred.stlouisfed.org/categories/27521>

<sup>205</sup> Liu, A. (2018, June 7).

<sup>206</sup> Bay Area Jobs First Collaborative. (2023, December). p. 279.

<sup>207</sup> Bay Area Council Economic Institute. (2024, March). *Racial equity in the Bay Area: How closing gaps can result in broad economic gain for the region*. <https://www.bayareaeconomy.org/files/pdf/>

<sup>208</sup> Social Finance US. (2024, April 15). *Closing roundtable: The power of evidence and outcomes in creating equality of opportunity*. [Video]. YouTube. <https://www.youtube.com/watch?v=74iPGpM4P9E>

<sup>209</sup> Bay Area Council Economic Institute. (2024, March).

while comparatively men made up 65% of those earning \$144,560 or more. Data for non-binary people was calculated as a percentage of population, with 55%–60% having earnings less than \$32,230.<sup>210</sup>

Delving further into the gender pay gap, California women earned \$0.81 for every dollar earned by White men, while Latinas earned \$0.44 and Black women \$0.58.<sup>211</sup> Asian women earned \$0.88, but this masks wage disparities within Asian sub-populations. There is a need for more disaggregated data collection and reporting.

Occupational segregation, the crowding of women and marginalized communities into low-wage occupations, is a key contributor to wage gaps. Thus, even as wage gaps within occupations shrink, overrepresentation in low-income occupations will remain a key driver of income inequality reflecting who has access to quality jobs. Regional Plan Part 1 analyzed the percentage of LW-FHI jobs, which provide a living wage, stable working schedule, and health insurance benefits, by demographic. “In six of the ten most common occupations for White workers, the majority of jobs are LW-FHI jobs. In contrast only one of the ten most common occupations for Black and Hispanic workers meets these criteria.”<sup>212</sup>

Occupational segregation results in reduced economic resilience and insufficient capability to withstand market disruptions such as a pandemic, a severe climate event, or job displacement. During the pandemic, women and workers of color “experienced greater economic loss and a slower recovery, which further widened economic inequality in the region.”<sup>213</sup> Occupational segregation also has implications for the future. People who are low income and from racially marginalized backgrounds are disproportionately concentrated in jobs that have a high share of automatable tasks. McKinsey’s 2019 *Future of Work in America* report projected that low-income workers, particularly Hispanic/Latinx and Black populations, face the highest risk of job displacement by 2030.<sup>214</sup>

As the leading tech innovation hub, “the Bay Area is at the epicenter of the nation’s tech growth and disruption.”<sup>215</sup> Already, the future of work is at our door. In 2018, Bay Area autonomous vehicle company Waymo became the first company in California permitted to test fully autonomous vehicles on public roads.<sup>216</sup> The California Public Utilities Commission (CPUC) recently authorized expansion of Waymo’s autonomous taxi service beyond San Francisco. The continued expansion of autonomous taxi services has implications on the future of work for rideshare drivers.<sup>217</sup> There is an urgent need in the Bay Area to prepare workers with the skills and support needed to transition to the jobs of the future.<sup>218</sup>

---

<sup>210</sup> California Pay Data Reporting System. (2021). Pay and demographics of California workers: Results from Annual Pay Data Reports. <https://pdr.civilrights.ca.gov/s/pay-data-results>

<sup>211</sup> California Civil Rights Department Pay Data Reporting. (2021). *The state of the gender pay gap in California: Key findings from larger employers in 2021*. [https://civilrights.ca.gov/wp-content/uploads/sites/32/2024/03/202403\\_CRD\\_2021-gender-pay-gap-data-highlights.pdf](https://civilrights.ca.gov/wp-content/uploads/sites/32/2024/03/202403_CRD_2021-gender-pay-gap-data-highlights.pdf)

<sup>212</sup> Bay Area Jobs First Collaborative. (2023, December). p. 308.

<sup>213</sup> Bay Area Jobs First Collaborative. (2023, December). p. 283.

<sup>214</sup> McKinsey & Co. (2019, July 11). *The future of work in America: People and places, today and tomorrow*. <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-in-america-people-and-places-today-and-tomorrow>

<sup>215</sup> Liu, A. (2018, June 7).

<sup>216</sup> Shepardson, D., & Sage, A. (2018, October 30). *Waymo gets first California OK for driverless testing without backup driver*. [Technology]. Reuters. <https://www.reuters.com/article/us-autos-selfdriving-waymo/waymo-gets-first-california-ok-for-driverless-testing-without-backup-driver-idUSKCN1N42S1/>

<sup>217</sup> Cano, R. (2024, June 20). *Self-driving Waymos secure final clearance for expansion beyond S.F.* San Francisco Chronicle. <https://www.sfchronicle.com/bayarea/article/self-driving-cars-waymo-sf-19523750.php>

<sup>218</sup> Liu, A. (2018, June 7).

In many cases, technology will also augment jobs, freeing up capacity for more value-added work and higher skilled tasks. The World Economic Forum predicts net positive job growth but anticipates 60% of the global workforce will need retraining by 2027.<sup>219</sup>

To reiterate the findings from Regional Plan Part 1, it is clear that Indigenous, Black, and Hispanic/Latinx communities continue to experience persistent and unrelenting inequity ranking lowest across measures of health, wealth, and employment. These populations, as evidenced in regional studies included in Regional Plan Part 1, are most likely to reside in locales of concentrated poverty and persistent inequity, which can be observed at the zip code and Census tract levels. Areas of concentrated poverty reinforce low economic mobility and condemn future generations to the same.

In 2015, Opportunity Insights, a Harvard University Economic Mobility research lab, published a groundbreaking study that has been used by local governments and in workforce development collaboratives to inform policies and practices across the nation. The study established causal evidence that, on average, the neighborhoods in which a child grows up are predictive of their economic outcomes in adulthood. Raj Chetty, the lead economist behind the study, posits that to achieve scaled community-level impacts, interventions must take a “hyper-local” approach.<sup>220</sup>

*Changing DEI Landscape:* From 2020 to 2022, job postings with DEI in the title nearly doubled.<sup>221</sup> The 2020 murder of George Floyd and the ensuing Black Lives Matter movement, which was active in the Bay Area, sparked a new national conversation about racial justice and catalyzed DEI education in universities and companies across the nation. The movement was thought to have sparked a social awakening. However, as with past efforts, a subsequent backlash has ensued. For example, the Reconstruction era was followed by nearly 80 years of Jim Crow legal discrimination and the Civil Rights era was followed by nearly 60 years of mass incarceration, housing, and workplace discrimination against Black people.<sup>222</sup> Indeed, 2022–2023 saw a 40% decline in DEI postings.<sup>223</sup> Many companies and universities, fearful of social, political, and economic repercussions, have scaled back or dropped DEI efforts entirely.

## Landscape

### Challenges

- ***Institutional and Structural Barriers Hinder Equity and Access to High-Road Jobs:*** In the Bay Area, institutional and structural barriers have historically hindered equitable access to economic opportunities, fair treatment, and career advancement for marginalized groups. High

---

<sup>219</sup> World Economic Forum. (2023, May). *The Future of Jobs Report 2023*. [Insight Report]. [https://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs\\_2023.pdf](https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf)

<sup>220</sup> Social Finance US. (2024, April 15).

<sup>221</sup> Hsu, A. (2023, August 21). *Amid a slowing economy, some companies have been dropping DEI jobs*. NPR.

<https://www.npr.org/2023/08/21/1194972785/amid-a-slowng-economy-some-companies-have-been-dropping-dei-jobs>

<sup>222</sup> Wingfield, A.H. (2024, May 8). *Structural changes in the U.S. economy highlight anew the gray areas of continued racial bias and discrimination in American workplaces*. Washington Center for Equitable Growth. <https://equitablegrowth.org/structural-changes-in-the-u-s-economy-highlight-anew-the-gray-areas-of-continued-racial-bias-and-discrimination-in-american-workplaces/>

<sup>223</sup> Hsu, A. (2023, August 21).



costs of training, education, child care, transportation, housing, and healthcare, along with a lack of generational wealth, impede progress. Language barriers, poor education access, occupational segregation, lack of social capital, and biased hiring practices trap these populations in low-wage, low-quality jobs with little opportunity for advancement. These multifaceted barriers require multifaceted solutions.

- ***Need for Future-Focused Workforce Development:*** Technological advancement raises the skills barriers. Today, 70% of jobs require moderate to high levels of digital competency. Manufacturing trainees, for example, must learn digital skills that might include CAD, CAM, analytic and monitoring software, using and repairing new machines, and broader analytical and critical thinking skills. The widespread proliferation of technology creates the need for broad digital skills training and training and education curricula aligned to the skills for the jobs of tomorrow.
- ***Supportive Services and the “Benefits Cliff”:*** Supportive services are crucial for marginalized communities in job training, as they help remove barriers such as child care, transportation, and housing, making it possible for individuals to fully participate in the economy and succeed. Earning more money can lead to the rapid loss of benefits, creating a “benefits cliff” that discourages financial progress. This abrupt reduction in support, such as healthcare or child-care assistance, can leave individuals worse off financially, despite earning a higher income.
- ***Gentrification and Community Displacement:*** Gentrification and community displacement are significant issues in the Bay Area, especially for households in Alameda and San Francisco counties.<sup>224</sup> Approximately 31% of all low-income households and nearly half of low-income households of color in the Bay Area reside in neighborhoods at risk of gentrification, with Black households more than twice as likely to be affected compared to White households.<sup>225, 226</sup>
- ***Funding and Legal Constraints:*** Financial constraints and legal restrictions limit options for equitable delivery of workforce programs and interventions by restricting the activities funds can be used for (e.g., restricted philanthropic grant funding) and who can be beneficiaries of the funds (e.g., reentry and undocumented populations are barred from federally funded public housing). In addition, funding constraints limit the ability of programs to build capacity and scale effective interventions, such as wraparound supports.

## Opportunities

- ***Removing Barriers Unleashes the Potential of a Diverse Workforce:*** Removing institutional and structural barriers is key to unleashing the potential of a diverse workforce. By fostering an inclusive environment that values varied perspectives and backgrounds, we can tap into the rich

---

<sup>224</sup> Urban Displacement Project. (n.d.). *Mapping displacement, gentrification, and exclusion in the San Francisco Bay Area*. <https://www.urbandisplacement.org/maps/sf-bay-area-gentrification-and-displacement/>

<sup>225</sup> Bay Area Equity Atlas. (2023). *Gentrification risk: Nine-county Bay Area*. <https://bayareaequityatlas.org/indicators/gentrification-risk>

<sup>226</sup> Brekke, D. (2015, August 27). *Tracking gentrification in the Bay Area*. [News Fix]. KQED. <https://www.kqed.org/news/10656484/a-map-of-gentrification-in-the-bay-area>

talent pool that drives innovation and economic growth. Embracing diversity not only enhances creativity and problem-solving but also can position the Bay Area as a leader in equitable employment practices. Investing in inclusive policies and practices will ensure a resilient and dynamic workforce that meets the region's evolving needs and propels the Bay Area toward a prosperous future for all residents.

- ***Closing Racial Income Gaps Fuels Economic Growth:*** The Bay Area Equity Atlas estimates that eliminating racial income disparities could have added \$500 billion to the Bay Area economy in 2020. Building an equitable and inclusive economy drives significant economic growth by boosting productivity and innovation through diverse perspectives. Inclusivity attracts a broader talent pool, enhances competitiveness, and reduces social disparities, leading to overall well-being and social cohesion. As more individuals participate in the economy, consumer spending rises, stimulating further economic activity. Inclusive policies ensure that growth benefits are widely shared, creating a stable and resilient economy. Fostering equity and inclusion generates a virtuous cycle of growth, benefiting both individuals and society, and ensures long-term economic stability.

## Assets

- ***Community Involvement:*** Community involvement in the Bay Area is driven by a wide network of community-based, labor, and philanthropic groups, which work to empower a diversity of Bay Area residents and ensure that policies around inclusion reflect their needs. These organizations promote inclusive policy development through diverse input and strengthen social cohesion by building networks and shared goals. Their engagement boosts local economies, creates job opportunities, and ensures sustainable development, contributing to a more equitable and resilient Bay Area.
- ***Network of Advocates for Inclusive Hiring:*** Inclusive hiring practices are a vital asset to the Bay Area, fostering a diverse and dynamic workforce that drives innovation and productivity. By ensuring equal opportunities for all, these practices attract a broader talent pool, bringing in unique perspectives and skills that enhance competitiveness. Companies with inclusive hiring policies are better equipped to understand and serve diverse markets, leading to increased customer satisfaction and business growth. Moreover, such practices help reduce social disparities, promoting economic stability and social cohesion. Many community and labor organizations participating in the Bay Area Collaborative and outside of it actively advocate for and support inclusive hiring practices and supportive pathways into high-road jobs, which can help ensure that the benefits of economic growth are widely shared across the community.

## Prospects

The Bay Area's future as a place where people from all communities can thrive together hinges on addressing long-standing institutional and structural barriers to equity. This future demands the transformation of low-paying, low-quality jobs into high-road jobs, and it demands stronger workforce development infrastructure to ensure equitable access to those high-road jobs. Multifaceted challenges require comprehensive multifaceted solutions. The strategies below offer a range of options including targeted investment, employer-aligned future-ready curriculum design, wraparound supports to carry

learners through training to sustainable employment, mitigating “benefits cliffs,” innovative funding models, inclusive workplace culture, employer engagement, and throughout them all partnership and collaboration. There is no single remedy, but a portfolio of strategies is presented here for potential incorporation into broader holistic solutions that can unleash the potential of a diverse workforce and deliver on the promise of an inclusive Bay Area economy.

## Investment Strategies

1. Boost investment in and expand paid high-road training with holistic program design.
2. Ensure sustainable and flexible funding for targeted investment
3. Improve workforce funding policies to prevent the “benefits cliff” and promote sustainable economic growth.
4. Engage small to midsize employers as a catalyst for driving regional initiatives and pooled investment in promoting high-road jobs.

### **Objective 1: Boost investment in and expand paid high-road training and holistic program design**

Establish a region-wide advocacy campaign to build awareness and support the expansion and scaling of paid training models at the center of holistic solution design. The goals of this campaign would be as follows:

- **Align Funding Policies and Increase Investment for Paid Training Programs:** Amend workforce and education investment policies to increase the allocation for more resources toward paid training/education programs, ensuring better alignment with industry needs. Increase funding for related supplemental instruction for registered apprenticeships and earn-and-learn models, and advocate for expanded tax benefits for employer-provided educational/training benefits.
- **Promote Holistic Solution Design:** Addressing multifaceted barriers necessitates multifaceted solutions. Continue to build awareness of effective workforce programs so that the training is aligned to the sector and employer need, increase employer engagement in bridge training and hiring, and provide wraparound supportive services and stipends to ensure participants can focus on their education without financial stress, leading to higher completion rates. See the example discussed later in this section: the Semiconductor and Nanotechnology Pioneers (SNAP) Apprenticeship program.
- **Promote Social Capital as an Integral Wraparound Support:** Raise awareness of the importance of social capital to facilitate implementation and program design for creating wraparound supports as a launchpad for economic advancement. In 2022, building on more than a decade of research on economic mobility, Opportunity Insights released a study identifying socioeconomically diverse social networks as “the single strongest predictor of economic mobility to date.”<sup>227</sup> Examples of options include the following:

---

<sup>227</sup> Chetty, R., et al. (2022, August). *Social capital and economic mobility*. [Non-Technical Research Summary]. Opportunity Insights. [https://opportunityinsights.org/wp-content/uploads/2022/07/socialcapital\\_nontech.pdf](https://opportunityinsights.org/wp-content/uploads/2022/07/socialcapital_nontech.pdf)

- Coordinate sub-regional networks of resource navigators that can support learners across multiple training and education programs with 1:1 support including needs assessment, navigating administrative burdens, career guidance, and legal navigators for immigrant and reentry communities.
- Create and promote networking and mentorship programs where employer partners aim to connect training program participants with employees across different levels of their organizations. Advocate for employers to establish formal mentorship initiatives within their workplaces.
- Promote Future-Ready Curriculums for Transitioning Workers Using Shorter, Stackable Curriculum Design: Technological change is anticipated to shift needs faster than current training and education design can keep pace. Shorter, stackable curriculums offer flexibility for learners and the ability to adapt a curriculum to the changing demands of the future. Skills mapping analysis can be used to build curriculums around the needs of experienced workers who already have skills and only need some additional education to transition to the next role.
- Blend Effective Sectoral Workforce Development with Place-Based Strategies: Ensure that the most vulnerable and historically marginalized populations are the beneficiaries of service delivery and support by locating sectoral training opportunities in or near high-need Census tracts and target populations. Leverage data from Opportunity Atlas maps in conjunction with analysis from Regional Plan Part 1 and community knowledge about target populations to identify high-need areas.
- Advocate for and Implement High-Need Hiring Agreements in which Employer Partners Commit to Hiring from High-Need Target Areas within Accessible Commuting Distance: Execute these agreements as an alternative to local hiring agreements, which, due to the high cost of living and spatial inequality in the Bay Area, would not effectively reach many historically marginalized populations as many cannot afford to live near their jobs.<sup>228</sup>

*“Rather than bringing people to opportunity, how do you bring opportunity to people where they live?”*  
—Raj Chetty, Opportunity Insights<sup>229</sup>

### Spotlight: SNAP Program

<sup>228</sup> Bay Area Jobs First Collaborative. (2023, December). p. 177.

<sup>229</sup> Social Finance US. (2024, April 15). *Closing Roundtable: The power of evidence and outcomes in creating equality of opportunity*. [Video]. <https://youtu.be/74iPGpM4P9E?si=2UnVibayUKU7LI9K>

The Semiconductor and Nanotechnology Pioneers (SNAP) paid Department of Labor apprenticeship model, launched in Santa Clara, exemplifies key pillars of effective sector training programs:

- A cross-sector collaboration among a consortium of semiconductor-related manufacturers, Foothill College, the National Institute for Industry and Career Advancement, and workforce boards work2future and NOVAworks was originally convened by the SEMI Foundation, a nonprofit arm of a global industry association.
- The program has high employer commitment due to its employer-driven curriculum, which avoids the common misalignment between educator-driven curriculum and industry needs and the lengthy bureaucratic curriculum approval process that results in outdated materials.
- Targeted diverse recruitment was achieved through partnerships with the workforce boards, which designed a digital marketing campaign geared to reach target populations across Santa Clara in the thousands. Mike Hill, Senior Director of Talent and Organizational Development at Applied Materials, credits this go-to-market strategy for the program's diverse enrollment, which is 50% women.<sup>230</sup>
- Wraparound supports and resource navigation are provided through the consortium's community college partner. After the initial nine-week course, students enroll at Foothill College and are connected to a variety of on-campus and publicly available resources. Many are first-generation college students.
- The forward-looking flexible and adaptable curriculum can be adjusted to address rapidly changing industry needs. The program, which is currently being expanded from two to four years, is divided into stackable models that offer flexibility. This structure meets the needs of students who might not be ready to commit to a full four-year program and, importantly, empowers students with the choice and opportunity to discover what they like and will drive their career paths.

"Training should not just provide you with skills and competencies for the job you're going into today, but it's about providing foundations for the job you want next."

—Martha Ponge, Director of National Apprenticeships, National Institute for Innovation and Technology

### **Spotlight: The Value of Social Capital for the Reentry Population**

Individuals impacted by the justice system encounter numerous obstacles to reintegration that can trap them in low-quality jobs, such as policies barring access to federally funded public housing and hiring discrimination. Consequently, the reentry population faces a jobless rate of almost 60%, 10 times higher rates of homelessness, and a higher risk of suicide. Research shows that pre-parole programs that lead to stable family-sustaining employment reduce recidivism.

---

<sup>230</sup> Author interview with Martha Ponge via Zoom, July 25, 2024.

In addition, as mentioned above, a 2022 study by Opportunity Insights found that social capital, particularly mixed-income social networks, is the strongest predictor of economic mobility, highlighting the importance of networking, mentorship, 1:1 resource navigators, and community building. In describing his own journey from prison to reentry 10 years ago, Victor Flores, a BAJFC Sub-Regional Co-Convenor and the East Bay Resilience Manager for the Greenbelt Alliance, advised anyone navigating reentry to “network, network, network. Expand your social circle to the folks who could help you reach your goals.”

Four Key Needs to Improve the Reentry Processes:

- Diverse training options and career opportunities as well as continuity to complete them.
- Robust pre-parole job search preparation, including networking skills before release.
- Post-release career, education, and resource navigation follow-ups and support.
- Robust wraparound supports specifically targeted to reentry populations.

## **Objective 2: Ensure sustainable and flexible funding for targeted investment**

- **Establish a Regional High-Road Workforce Funding Innovation Collaborative:** The goals of this collaborative would be as follows.
  - Convene cross-sector partners including mission-driven investors that are able to offer zero or low-cost initial funding: Community Development Financial Institutions (CDFIs), impact-investment firms, foundations and philanthropies affiliated with financial institutions, venture capital, and venture philanthropy, alongside stakeholders across workforce finance, training and education, local governments, businesses, labor, community-based organizations, and experienced technical experts.
  - Pilot, measure, evaluate, improve, expand, and scale the use of innovative financial flexible and sustainable funding models.
  - Advocate for expansion of funds/removal of funding restrictions for undocumented and reentry populations. Advocate to protect targeted investments and programs aimed at repairing racial and gender inequity.
- **Establish “Pay it Forward” Revolving Workforce Investment Funds:** These funds would provide low-cost financing for training and support. Loans paid back into the fund would create a regenerative model for reinvestment, reducing the reliance on one-time grants.
- **Pilot, Scale, and Expand the Use of Pay for Success (PFS) Contracts:**
  - PFS contracts, or “outcomes-based” contracts, are an innovative cross-sector investment model wherein private or nonprofit impact investors contribute the up-front capital to local governments via “Career Impact Bonds.” In these contracts, the government repays with interest, contingent on a set of programs called “success factors.” The goal of these contracts is to align incentives with desired outcomes. Doing so requires clear goals, thoughtful curation of measurable metrics, partner programs using evidenced-based practices to achieve the outcomes or well-designed pilots testing new practices, up-front cost-benefit analysis, and technical expertise in impact fund

design and management.<sup>231</sup> Social Finance offers a playbook for getting started with the PFS<sup>232</sup> that also references additional resources such as the outcomes metric database.<sup>233 234</sup>

- **Advocate for State Policy to Protect the Sustainability of Programs and Targeted Investments in Historically Marginalized Communities:** The shift in the DEI landscape has brought landmark legal challenges against policies and programs aimed at addressing injustice and inequality. Civil rights laws, originally designed to protect racially marginalized populations, are being used to end targeted resources and investment in these communities. This sets a dangerous legal precedent that could impact both racial and gender equity programs. However, there is legal precedent for reparations, and in 2023, California demonstrated alignment when it made headlines for becoming the first state to tackle reparations for African Americans.<sup>235236</sup>

#### Policy Goals:

- Classify programs and investments that aim to remediate harm and address inequities for historically marginalized communities as a form of reparation and an act of restorative justice.
- Establish legal protections to allow continued targeted investment of resources and funds for the affected populations.

#### Actions:

- **Policy Advocacy and Lobbying:** Engage with local, state, and federal lawmakers to push for legislation that prioritizes targeted investments in historically marginalized communities. Advocate for policies that allocate funding for reparative initiatives, such as community development projects, educational programs, and healthcare services. Highlight the importance of these investments in addressing systemic inequities and promote the adoption of inclusive policies.
- **Partner with Organizations and Stakeholders:** Form partnerships with advocacy groups, nonprofits, community organizations, and business leaders to create a united front for reparative investments. Collaborate on research and reports that provide evidence of the benefits of such investments. Organize joint initiatives, forums, and conferences to engage stakeholders in meaningful discussions and develop comprehensive strategies for sustained investment in equity-focused programs.

---

<sup>231</sup> 201 Social Finance. (2024, June 18). *Pay for Success Issue Brief Series*. [Insights]. <https://socialfinance.org/insight/pay-for-success-issue-brief-series/>

<sup>232</sup> Social Finance. (2024, June 18).

<sup>233</sup> Global Impact Investing Network. (2024). IRIS Catalog of Metrics. <https://iris.thegiin.org/metrics/>

<sup>234</sup> Examples of outcomes-based metrics might include percentage change in program participants earning a prevalent wage, percentage of program graduates receiving SNAP benefits in the past month, and percentage of change in the program graduates covered by collective bargaining.

<sup>235</sup> PBS. (2023, November 27). *History and facts about reparations in the U.S.* <https://www.pbs.org/articles/what-are-reparations>

<sup>236</sup> Fry, W., Yee, E., & Jetha, R. (2024, June 19). *California is the first state to tackle reparations for Black residents. What that really means.* <https://calmatters.org/explainers/reparations-california/>



### Impact Fund Examples

Impact funds can have wide applications. One nonprofit and investment advisor that specializes in the design and implementation of impact funds, Social Capital, helped to bring about a \$2.6 million Ventura reentry services fund to reduce recidivism,<sup>237</sup> a \$35 million California Universal Basic Income Fund for the California Department of Social Services,<sup>238</sup> and the \$10 million Massachusetts Climate Career Fund.<sup>239</sup>

- The \$8 million Colorado Pay It Forward Fund partnered with The Master Apprenticeship Program to offer trade apprentices zero-interest loans to assist with living expenses during the six-week program. Participants only repay the loans if they earn a salary threshold of \$40,000. This is a potential model for high cost-of-living regions, such as the Bay Area.<sup>240</sup>
- The \$12.4 million JVS Boston English for Advancement (EfA) combines ESOL education with job readiness and career coaching. An evaluation of program outcomes found that EfA averages “an increase of \$3,505 over the first two years and more than \$7,100 for participants who were unemployed at enrollment with previous U.S. work experience.”<sup>241,242</sup>

### Objective 3: Improve workforce funding policies to prevent the “benefits cliff” and promote sustainable economic growth

Mitigating the “benefits cliff” is crucial for ensuring economic stability and growth. The abrupt loss of essential support services when individuals earn higher incomes can be addressed through policy solutions such as gradually phasing out benefits, introducing wage supplements or tax credits, and enhancing access to affordable healthcare, child care, and housing. These measures can ensure that

<sup>237</sup> Social Finance. (2024). *Tackling recidivism in Ventura County, California*. [Our Work]. <https://socialfinance.org/work/tackling-recidivism-ventura-county/>

<sup>238</sup> Office of Governor Gavin Newsom. (2023). *State of California Social Innovation Impact Report 2023*. <https://www.gov.ca.gov/wp-content/uploads/2024/01/2023-California-Social-Innovation-Impact-Report.pdf>

<sup>239</sup> Social Finance. (2024). *Massachusetts Climate Careers Fund*. [Our Work]. <https://socialfinance.org/work/massachusetts-climate-careers-fund/>

<sup>240</sup> Romano, A. (2024, February 2). *Denver-area fund uses \$8M to get more Coloradans in high-demand jobs*. Denver Business Journal. <https://www.bizjournals.com/denver/news/2024/02/02/colorado-pay-it-forward-fund-workforce-training.html>

<sup>241</sup> Social Finance. (2020, November 19). *JVS and Social Finance reflect on significant gains for immigrant Learners in Massachusetts Pay for Success Project*. [Insights]. <https://socialfinance.org/insight/jvs-social-finance-gains-for-immigrant-learners-massachusetts-pay-for-success/>

<sup>242</sup> Roder, A., & Elliott, M. (2020, November). *Stepping up: Interim findings on JVS Boston’s English for Advancement Show large earnings gains*. Economic Mobility Corporation. <https://economicmobilitycorp.org/wp-content/uploads/2020/10/SteppingUp.pdf>

financial progress does not lead to a net loss of vital services, fostering a more sustainable and equitable economic transition into higher-road employment.

- **Implement Gradual Benefit Reduction Programs:** Advocate for policies that phase out benefits gradually as incomes rise, preventing abrupt losses in essential services. This approach ensures that marginalized communities and workers in high-road jobs can achieve financial stability without the fear of losing critical support.
- **Expand Wage Supplements and Tax Credits:** Introduce and promote wage supplements and tax credits targeted at low- to middle-income workers, particularly those from historically marginalized communities. These financial incentives can help bridge the income gap and support a smooth transition to higher earnings without sacrificing access to necessary services.
- **Enhance Access to Affordable Services:** Improve the availability and affordability of healthcare, child care, and housing in the Bay Area, ensuring that all workers, especially those in high-road jobs, have access to these essential services. Prioritizing equitable access to these resources will help build a more inclusive and resilient economy.

#### **Objective 4: Engage small to midsize employers as a catalyst for driving regional initiatives and pooled investment in promoting high-road jobs**

Establish a coalition of small to midsize (SMB) high-road employers and an SMB Workforce Equity Investment fund to advance high-road jobs quality, shared prosperity, and safe and inclusive workplaces. SMBs make up the majority of companies, but may not have the resources to invest in large-scale initiatives. The SMB coalition and fund can address that need through collaboration and pooled resource sharing. This initiative involves strategic partnerships with employers, community organizations, training and educational institutions, and industry groups. Components of the potential work of this coalition and fund could include the following:

- **Coalition Members Commit to Standards:** Within this coalition, it would be crucial for participating coalition members to have a shared commitment to delivering on the promise of high-road jobs, prevailing wages, expanding access to affordable benefits, elevating employee voice, ensuring labor safety protections, and overall raising the floor.
- **Create Shared Stackable Curricula:** These curricula could be used across companies within an industry or sector to build foundational skills (e.g., digital skills) with the option for modules to be customized to individual company needs. A potential model for replication is the SNAP Apprenticeship program described above in which employers “share a common framework and a common RSI curriculum, but each company has its specific skill standards, milestones, OJT plans, and wage plans.”<sup>243</sup>
- **Expand Apprenticeship Models:** This coalition could fund and implement apprenticeship models expanded beyond entry level roles, providing an escalator for existing workers to advance out of low-wage entry-point roles and obtain promotion to higher level sustainable careers.

---

<sup>243</sup> E-mail from Lawrence Thoo, Strategic Engagement Manager, work2future, July 22, 2024.

- **Create a Regional Hub for Advancing Workplace Diversity, Equity, and Inclusion:** With the goal of developing diverse leadership, this initiative could create a regional hub that could work to build talent pipelines and recruit from high-need target areas and populations to increase promotion, advancement, and retention of workers from historically marginalized communities. The hub could also develop programs to support workers from a diversity of backgrounds through mentorship, worker resource groups, building allyship, and addressing discrimination and bias head-on. An important component of this work would be to measure and evaluate its impacts using worker surveys and data for continuous improvement, and strive to scale effective DEI strategies. The hub could also coordinate coalition efforts to advocate for employer incentives such as tax breaks and grants for diversity training and provide recognition programs for employers that achieve inclusion milestones.

## Conclusion

While the Bay Area economy is thriving, the wealth that the regional economy generates has not been equitably distributed, with Indigenous, Black, Hispanic/Latinx and other historically marginalized communities left out of the equation and lacking options for mobility into higher-road employment. This persistent and historic inequity is compounded by occupational segregation and gentrification. There is a need for workforce development and wraparound support initiatives that will address these barriers. Programs that incentivize small to midsize employers to collaborate in developing high-road jobs may help to change this landscape and unleash the enormous potential of the talents and energies of working people from historically marginalized communities and contribute to even greater economic success for the region as a whole.

## SMALL BUSINESSES AND WORKER COOPERATIVES

### Summary

Small businesses form the backbone of the Bay Area economy. More than 98% of all businesses in the region employ less than 100 employees, a threshold that roughly aligns with California’s definition of a small business. Together, these 278,050 businesses employ more than 1.625 million Bay Area workers.<sup>244</sup> For many low-wage earners, starting a small business or forming a worker cooperative is often one of the few ways to move into high-road employment, earn a family-sustaining wage and build wealth. Small businesses and co-ops can help build equity in communities by reducing income inequality, providing job security, and offering a supportive workplace culture, especially for immigrant workers, formerly incarcerated individuals, and workers in low-wage industries. In addition, small businesses and worker-owned cooperatives can play an important part in reducing climate impacts: worldwide, 60% of small businesses report having plans to address their climate footprint.<sup>245</sup> To take full

<sup>244</sup> Labor Market Information Division, California Employment Development Department. (2024). *Size of business data – 2013–2023*. [https://labormarketinfo.edd.ca.gov/LMID/Size\\_of\\_Business\\_Data.html](https://labormarketinfo.edd.ca.gov/LMID/Size_of_Business_Data.html)

<sup>245</sup> Hilbert College. (2023, May 9). *A Guide to Small Business Sustainability Resources*. <https://online.hilbert.edu/blog/small-business-sustainability-resources/>

advantage of this opportunity, the California Green Business Network, a coalition of cities and counties, is helping small and medium-sized businesses across the state go green.<sup>246</sup>

### Small Businesses in the San Francisco Bay Area, 2023

Bay Area Metropolitan Statistical Areas (MSAs) <sup>247</sup>	Number of Businesses	Number of Employees	Payroll (billions)
San Francisco-Redwood City-South S.F.	90,362	512,184	\$12.8
Oakland-Fremont-Hayward	103,663	598,042	\$10.2
Napa	5,804	45,403	\$0.7
San Jose-Sunnyvale-Santa Clara	78,221	470,307	\$9.7

Source: Labor Market Information Division, California Employment Development Department Note: The data are not readily available specifically for the nine Bay Area counties. However, these MSAs cover substantially all of those counties.

#### Stakeholder Voice:

“As a community deeply rooted in the spirit of entrepreneurship, we understand that starting a business is more than just an economic endeavor—it’s a way to uplift ourselves, our family, and our community. Each of these values ties us together as immigrants, including many Filipinos. We bring an innate drive to create and succeed, often leading to higher business formation rates and greater economic resilience. By fostering entrepreneurship, we can transform low-wage work into higher-wage opportunities, building a stronger, more vibrant community for all.”

—Jose Pecho, Chairman, San Francisco Filipino American Chamber of Commerce

#### Definition

In California, small businesses are defined based on the number of employees (fewer than 101) and annual revenue (average gross receipts of less than \$15 million).<sup>248</sup> The state also defines “microbusinesses,” which have 25 or fewer employees and less than \$5 million in average annual gross receipts.<sup>249</sup> To qualify as a small business in California for the purposes of seeking funding or services, a business must be certified by the state.

A worker cooperative is simply a small business owned and self-managed by its workers, who share decision-making authority and profits. Worker co-ops often increase job satisfaction, as workers have a direct stake in the company’s success, and improve productivity and innovation due to collective decision-making. Worker co-ops also tend to prioritize sustainable practices and community well-being,

<sup>246</sup> California Green Business Network. (2024). *Our impact*. <https://greenbusinessca.org/>

<sup>247</sup> Wikipedia. (n.d.). *Metropolitan statistical area*. [https://en.wikipedia.org/wiki/Metropolitan\\_statistical\\_area](https://en.wikipedia.org/wiki/Metropolitan_statistical_area)

<sup>248</sup> California defines small businesses differently than the U.S. Small Business Administration.

<sup>249</sup> California Department of General Services. (n.d.). *Small business (SB) eligibility requirements & support documents*. <https://www.dgs.ca.gov/-/media/Divisions/PD/OSDS/Certification/URLs/SBEligibilityandSupportDocs>

fostering a more equitable economic environment. Co-ops have long existed in the food industry. Bakeries such as Arizmendi and Alvarado Street, as well as stores such as Rainbow Grocery, are well-known examples of worker-owned co-ops in the Bay Area.

## Landscape

### Challenges

Addressing the needs of low-wage workers includes raising the floor for low-paying jobs, creating pathways for workers to move into higher-wage jobs, and growing the number of high-road jobs that provide family-sustaining wages and benefits. Addressing these challenges is critical but not sufficient to meet the needs of all low-wage workers. To create a truly worker-centered high-road economy, the BAJFC can also support the creation of small businesses and worker co-ops. Some of the challenges to get there include the following:

- **Lack of Technical Assistance and Support:** Starting a business is a daunting prospect for first-time business owners. Small businesses and co-ops also may not understand their responsibility as employers toward their workers (e.g., their rights and fair work practices). Place-based institutions and organizational capacity that provide a network of local support services to help workers start small businesses and co-ops remain underfunded and fragmented across the region.
- **Lack of Institutional Expertise to Support Co-op Development:** A growing number of local jurisdictions are interested in promoting worker co-ops but lack expertise and information on how to do so effectively. In particular, many local jurisdictions in the Bay Area do not have supportive policies to support co-ops or help them mitigate legal risks. Similarly, a growing number of community organizations and philanthropic entities are looking for ways to grow co-ops, but currently are without the resources to expand services beyond their immediate communities. In the absence of coordinated region-wide efforts to address the issue, many potential entrepreneurs lack support.
- **Limited Access to Financing and Funding Support:** Many unbanked and under-banked workers and small businesses find it hard to access financing to set up and grow their business, or even get funding support (e.g., healthcare costs for owners and employees can be a limiting factor for anyone seeking to be self-employed or to start their own business). Although federal and state programs offer small business loan programs, these are unavailable to those without a credit history with a financial institution.
- **High Cost of Living in the Bay Area:** Similar to the broader workforce, child care, housing, transportation, and healthcare costs in the Bay Area remain challenging for parents, particularly women entrepreneurs.

## Opportunities

- **Entrepreneurship Can Be a Pathway to Higher-Wage Work:** Supporting the formation of new businesses can help some lower-wage workers create their own companies and thereby move into high-road, higher-wage work. Self-employment, ownership, and profit sharing are key strategies for lower-wage workers to access middle-wage employment. This is particularly true in lower-wage fields such as janitorial, housecleaning, healthcare, food service, and some nonprofits.
- **Removing Funding and Financing Barriers Is Possible:** An underlying infrastructure exists that facilitates the deployment of financing programs and services offered by state and federal agencies, local lending institutions, and community organizations (e.g., Community Development Financial Institutions, or CDFIs, and small business loan programs), but in many instances is either under-resourced or unevenly distributed across the region. Co-op associations, such as the U.S. Federation of Worker Cooperatives,<sup>250</sup> are trying to overcome another financial barrier by providing affordable healthcare to their members.
- **Small Business Creation Can Provide Benefits for the Whole Community:** As many of these businesses are deeply rooted in their communities, they can fill gaps in critical services and amenities their own communities need. For example, during the global pandemic, community health workers (“Promotoras”<sup>251</sup>) who were part of a worker cooperative-led neighborhood-level COVID outreach, education, and testing of community members in disadvantaged communities.
- **Some Institutional Support Exists:** Many local jurisdictions, foundations, and community groups in the Bay Area are already working on initiatives to expand support services for small businesses and worker co-ops. Creating a mechanism to bring these initiatives to scale and develop a coordinated regional program can be transformational.

### Race and Gender Equity<sup>252</sup>

Anecdotal and research-based evidence suggests that employee ownership can counter inequality across gender and racial lines. Cooperatives in the hospitality, housecleaning, and home-care

<sup>250</sup> U.S. Federation of Worker Cooperatives. (2022). *Welcome to the USFWC Worker Benefits Program*.

<https://www.usworker.coop/workerbenefits/>

<sup>251</sup> Promotoras are community health workers who provide health education and support, often in underserved communities. They bridge gaps between healthcare providers and residents, offering culturally relevant guidance and resources.

<sup>252</sup> Abell, H., Coontz, K., & Nuñez, R. (2021, October). *California worker cooperatives*. Joint publication of Project Equity, California Center for Cooperative Development, Sustainable Economies Law Center & James Irvine Foundation. [https://project-equity.org/wp-content/uploads/2023/07/CaliforniaWorkerCooperatives\\_October2021\\_FINAL.pdf](https://project-equity.org/wp-content/uploads/2023/07/CaliforniaWorkerCooperatives_October2021_FINAL.pdf)

industries, for example, have increased the power and financial stability of women, particularly women of color, in economic sectors where workers' rights are barely protected. Being part of cooperatives has helped these workers gain autonomy and leadership in their workplaces, families, and communities.

Rainbow Grocery, with a diverse workforce throughout its 40 years, and Mandela Grocery Cooperative, whose worker-owners are almost all Black, are well-known Bay Area examples of co-ops empowering women leaders and workers of underrepresented races, ethnicities, and identities in another low-wage industry. Employee ownership transitions can also empower workers of color by transferring ownership from a white founder to a racially diverse workforce, as with Niles Pie Co.

## Assets

The Bay Area can be a promising environment for cooperatives and small businesses if they can leverage the region's unique advantages and navigate its challenges. Success often depends on the specific business model, industry, and ability to tap into local resources and networks. Bay Area assets that can be leveraged to support the potential investment strategies herein include the following:

- **Regional Culture Includes a History of Success Stories of Co-Ops:** The Bay Area has a long history of supporting cooperative models, with many successful examples despite the high cost of living, which can make it challenging for co-ops that typically prioritize worker benefits over maximizing profits. Of the 100 or so co-ops in California, 78 are located in the Bay Area.<sup>253</sup>
- **Supportive Public Programs:** Many public agencies in the Bay Area have adopted small business development policies and programs, including requirements for hiring small, local, and minority-owned vendors and businesses in government procurement. Examples of city-specific programs include those administered by the San Francisco Office of Small Business, the Oakland Business Assistance Center, and the San Jose Office of Economic Development.
- **Network of Community Organizations:** The Bay Area has a wide, though underfunded, range of community programs and support services that provide assistance to small businesses and worker co-ops. These include Small Business Development Centers (SBDCs) that provide free or low-cost consulting and training with locations in San Francisco, Oakland, and San Jose; SCORE, which offers free business mentoring and low-cost workshops; and the Renaissance Entrepreneurship Center, which provides training, support, and resources for small businesses.
- **Network of Funders:** Several philanthropic foundations provide funding and programs to support small businesses and economic opportunities for marginalized populations, including the San Francisco Foundation (focusing on equity and economic inclusion), the Silicon Valley Community Foundation (offering grant programs to support small businesses), the Walter & Elise Haas Fund (supporting economic security initiatives), the Marin Community Foundation (offering grants for economic opportunity initiatives), the East Bay Community Foundation (supporting various community development initiatives), the Bank of America Charitable

---

<sup>253</sup> Ibid.



Foundation (offering grants for economic mobility, including small business support), and the Wells Fargo Foundation (providing grants for small businesses and economic development), among many others.

- **Network of Community Financing Entities:** The Bay Area is host to a wide range of Community Development Investment Funds, local community banks and credit unions, industry-specific associations, local chambers of commerce, and microlenders such as Working Solutions, among others, that operate loan and grant programs.
- **Network of Co-op Resources:** Forming a co-op requires legal, financial, administrative, and personnel support that can overwhelm first-time entrepreneurs. Organizations such as the U.S. Federation of Worker Cooperatives, the Sustainable Economies Law Center, and Project Equity are excellent resources available in the Bay Area.

## Investment Strategies

Lower-wage workers, undocumented individuals, those facing language barriers, BIPOC workers (especially women of color), and members of the reentry population often have limited access to quality jobs in the formal economy. Supporting these workers in forming their own businesses offers an alternative pathway to high-road employment with higher wages and financial independence, thus building greater economic equity in the Bay Area overall.

Investment strategies for encouraging small business development and formation of worker cooperatives will help achieve the following objectives:

1. Provide Bay Area entrepreneurs the resources and support they need to form small businesses and co-ops.
2. Ensure job quality for employees of small businesses.

Investment strategies include the following:

### **Objective 1: Provide Bay Area entrepreneurs the resources and support they need to form small businesses and co-ops**

As discussed above, the lack of support services can be one of the biggest barriers to the formation of more small businesses and co-ops in the Bay Area. This is one reason why Project Equity created the Worker Co-op Academy (WCA), an entrepreneurship training program to help low-income workers launch worker-owned small businesses or co-ops in emerging industries.<sup>254</sup> The strategies outlined below can help address key needs for support that small businesses and co-ops have in the Bay Area as identified by the BAJFC.

- Offer comprehensive technical assistance to newly formed or forming small businesses and cooperatives.

---

<sup>254</sup> Lingane, A. (2015). *Bay Area blueprint: Worker cooperatives as a community economic development strategy*. Carolina Planning Journal, 40, 19–28. [https://www.project-equity.org/wp-content/uploads/2023/06/Bay-Area-Blueprint-Worker-Coops-as-a-Community-Economic-Development-Strategy\\_CPJ2015\\_Lingane.pdf](https://www.project-equity.org/wp-content/uploads/2023/06/Bay-Area-Blueprint-Worker-Coops-as-a-Community-Economic-Development-Strategy_CPJ2015_Lingane.pdf)

- **Train the Trainer Program:** Fund community organizations that provide ongoing support to small businesses and co-ops through mentorship programs and business advisory services.
- **Direct Training and Support:** Mitigate the significant risks for new small businesses and co-ops by providing entrepreneurship training programs, including the following:
  - Tailored programs for lower-wage workers and marginalized individuals to help them form their own companies or become self-employed.
  - Education about the range of ownership and entrepreneurship pathways, including profit sharing, employee stock ownership programs (ESOPs), and worker-owned cooperatives.
- **Financial Education:** Equip individuals with the skills needed to start, sustain, and democratize a business through training programs in business management, financial literacy, access to capital, and the regulatory and legal environment. Consider free programs such as the ones offered by Prospera,<sup>255</sup> the Latino Business Foundation,<sup>256</sup> or the Cooperative Business Development Program of the Center for Family Life<sup>257</sup> as models.
- **Succession Planning Support:** Support the transition of an existing business into a worker co-op. This could involve working closely with an owner on a transition plan in a way that allows the company to maintain its workforce and transform the employees to owners—and therefore move them into higher-wage work. This is a growing opportunity as Baby Boomers start to retire (including shutting down their businesses, which accelerated during the global pandemic). Consider programs such as the one offered by Project Equity, a national organization that helps businesses transition<sup>258</sup> as models.
- Provide support for advocacy, outreach, and engagement
  - **Outreach and Engagement:** Deploy targeted culturally relevant and/or community-based outreach strategies specifically catered to the needs of historically marginalized populations (including BIPOC, immigrant, women, and reentry-owned businesses) to build trust with supportive service providers.
  - **Streamlined Registration and Fee Structure:** Advocate to streamline local business registration processes to make them less onerous for entrepreneurs to start their own businesses. Partner with public agencies in the Bay Area to evaluate their current processes, procedures, and fee structures.
  - **Small Business Associations and Cooperative Alliances:** Create a community of practice to provide networking and resource-sharing opportunities via these organizations, which advocate for the interests of small businesses and co-ops.
- Improve market access for small businesses and co-ops
  - **Government Contracts:** Partner with local governments through the Association of Bay Area Governments (ABAG) to create standardized programs across the region that set

<sup>255</sup> Prospera partners with Latina entrepreneurs to launch businesses that foster cooperation, economic independence, and well-being in immigrant communities. See <https://prosperacoops.org/>.

<sup>256</sup> Latino Business Foundation of Silicon Valley. (2024). *About us*. <https://www.lbfsv.org/>

<sup>257</sup> Center for Family Life in Sunset Park. (2024). *Mission*. [About]. Brooklyn, NY. <https://centerforfamilylife.org/>

<sup>258</sup> For more on Project Equity's Worker-Owned Recovery California Program, see <https://project-equity.org/> and <https://worccoalition.org/2022/09/29/hello-world/>.

aside a portion of government procurement for small businesses and co-ops as a way to create stable demand for their products and services. Most public agencies in the Bay Area have some variation of a Disadvantaged Business Enterprise (DBE) program, but eligibility and verification requirements vary by jurisdiction.

- **Business-to-Business Opportunities:** Facilitate connections between small businesses, co-ops, and large firms to integrate them into broader supply chains.
- Set up specialized incubators and accelerators for marginalized entrepreneurs in high need industries
  - **Start-up Incubators:** Partner with community organizations, local jurisdictions, and other stakeholders to provide office space, mentorship, and funding to start-ups to help them grow and succeed.
  - **Place-Based Co-op Development Hubs:** Fund specialized facilities and programs in specific geographic areas to provide direct support for the creation and expansion of co-ops through tailored resources and guidance.
  - **Apprenticeship Programs:** Build a pipeline for a skilled workforce by partnering with small businesses and co-ops to create paid apprenticeship opportunities that can help workers learn new skills and explore the possibilities of joining a small business or co-op.
- Improve access to microfinance and loan programs for unbanked and under-banked small businesses and co-ops
  - **Better Access to Financing:** Partner with Community Development Financial Institutions (CDFIs) to create targeted small loans and microloans for minority- and women-owned businesses. Ensure that financial institutions such as CDFIs serve the needs of disadvantaged businesses and communities, in partnership with philanthropic organizations, government, and local banks.
  - **Access to Working Capital:** Partner with technology firms that offer innovative financial tools (e.g., FinTech) to create equitable access to capital, stabilize cash flow, and reduce transaction costs/bank fees, especially for unbanked and under-banked populations.

## **Objective 2: Ensure job quality for employees of small businesses**

Many small businesses and co-ops might not understand their legal obligations toward their workers such as paid sick leave, wages, and working conditions. The strategies below address the need to maintain job quality in small enterprises.

- Educate small business and co-op owners about the need to maintain job quality. Partner with small business and community organizations to develop and disseminate clear information about the worker rights and working conditions required by law. Develop content in culturally appropriate, multilingual, and digital formats.
- Build job quality and other standards into funding and financing programs. Partner with small business organizations, public agencies, financial institutions, philanthropic entities, and community organizations to build in job quality requirements in all funding and financing support provided to small businesses and co-ops. Develop standardized language that can be

included in contracts and other official documents.

### **AB 816 Defines Worker Cooperatives<sup>259</sup>**

In 2015, the California legislature passed AB 816, explicitly defining worker cooperatives in state law, for the first time, as “a corporation...that includes a class of worker members who are natural persons whose patronage consists of labor contributed to or other work performed for the corporation.” AB 816 amended the state statute to distinguish the unique attributes of worker cooperatives, which allows for them to access more flexible forms of community capital.

**Potential Partners for These Objectives:** Community and nonprofit organizations, small business organizations, local and state agencies, philanthropic entities, and national small business and cooperative associations, among others.

## **Conclusion**

Promoting small businesses, entrepreneurship, and worker co-ops fosters innovation in the provision of community-centered services and amenities, economic empowerment and equity for marginalized populations, and community development opportunities to grow high-road jobs. These businesses drive job creation, wealth distribution, and local resilience, contributing to economic growth while prioritizing social responsibility and sustainability. By empowering entrepreneurs and worker-owned cooperatives, communities can address local needs, prevent geographic displacement, and support inclusive and equitable economic development.

### **Stakeholder Voice:**

“You think you’re not worthy of a good-paying job because of your background—that you have to take whatever crumbs you can find. At the end of the day, we’re smart. I tell people, ‘Don’t settle for Dollar Tree or McDonald’s. You can do so much more.’”

—Melissa Contreras, formerly incarcerated worker, small business owner of Un Taco Mas catering<sup>260</sup>

<sup>259</sup> LegiScan. (2015). *California Assembly Bill 816*. <https://legiscan.com/CA/text/AB816/id/1258239>

<sup>260</sup> Bay Area Jobs First Collaborative. (2023, December). p. 272.

## GOVERNMENT

### Summary

Government is unlike any other sector of the economy. Its unique position allows it to influence economic trends, address market failures, provide public goods, and balance competing interests in ways that no other sector can match, making it a fundamental force in shaping the Bay Area’s economic landscape. Local public agencies in the Bay Area play a stronger role than most across the country in providing unique services, such as access to healthcare services in the cities of Berkeley<sup>261</sup> and San Francisco.<sup>262</sup> Others, such as the City of San Jose, are at the forefront of climate adaptation and resilience to protect vulnerable residents and infrastructure from the impacts of climate change.<sup>263</sup>

At the same time, the government sector is also a major employer, providing family-sustaining jobs that are relatively more accessible to marginalized populations such as BIPOC workers and women. Fully funding essential public services can provide benefits to the broader economy while also helping improve governance, ensuring that the Bay Area can solve its most pressing challenges, including housing and homelessness, transportation access, climate resilience, and income equality.

#### **Stakeholder Voice:**

“The Bay Area Jobs First Collaborative’s work will not only inform the next update of the regional Comprehensive Economic Development Strategy (CEDS), led by the Association of Bay Area Governments (ABAG), but also the next update to Plan Bay Area 2050, the region’s long-range land-use and transportation plan. This grassroots effort led by the Steering Committee, which puts worker voices at its center—to create high-road jobs for marginalized workers—puts the region on track to achieve greater economic equity and environmental sustainability.”

—Brad Paul, Deputy Executive Director, Local Government Services, Metropolitan Transportation Commission and Association of Bay Area Governments

#### **Public-Sector Impacts of the Great Recession and COVID-19<sup>264</sup>**

The 2008 Great Recession, which was more sharply felt in California than nationally, was followed by a weak recovery. The economic expansion of the previous decade was characterized by widening inequality and increasingly precarious economic status for many workers including those in the public sector. From 2008 to 2013, 163,500 California public-sector workers lost their jobs. As in most recessions, public-sector job losses in 2020 initially lagged behind the private sector,

<sup>261</sup> City of Berkeley. (2024). *Public health*. <https://berkeleyca.gov/safety-health/public-health>.

<sup>262</sup> City and County of San Francisco. (2024). *Section K: Health Surcharges (HCSO administrative guidance)*. <https://www.sf.gov/information/section-k-health-surcharges-hcso-administrative-guidance>

<sup>263</sup> Capone, J. (2022, April 26). *Climate resilience in San José and the Bay Area*. Save the Bay. <https://savesfbay.org/climate-resilience-urban-greening/>

<sup>264</sup> Hinkley, S. (2020). *Public-sector impacts of the Great Recession and COVID-19*. UC Berkeley Labor Center. <https://laborcenter.berkeley.edu/public-sector-impacts-great-recession-and-covid-19/>

but...[subsequently]...outpaced the private sector. These declines have troubling equity implications: The public sector continues the middle class for historically marginalized workers, especially Black workers, who are more likely to work in the public sector than all other racial groups. Data from the Great Recession suggests that public-sector budget cuts disproportionately impacted Black women.

## Definition

Government is not merely a participant in the local and regional economy but also the rule-maker and referee. Through its legislative and regulatory powers, it shapes the playing field for businesses, workers, and consumers. Government has the singular ability to create and enforce laws and make policy decisions that can ripple through the entire economy. Because the government is tasked with considering the greater good of society, local, state, and federal agencies can make choices that are not profit-driven and instead aim for long-term stability and equity. In times of crisis such as those related to the global pandemic or devastating wildfires in 2019,<sup>265</sup> local, state and federal agencies can step in with resources and expertise.

In addition to providing a vast array of services that keeps the civic society and the economy functioning, local, regional, and federal public agencies are an important source of jobs in this region, providing employment opportunities to almost 175,000 workers in 2021 in the Bay Area.<sup>266</sup> The diversity and stability of these jobs have made them a vital component of the Bay Area economy. Government employment is also one of the few family-sustaining career pathways that tends to be accessible to historically marginalized communities due to relatively more robust diversity and anti-discrimination policies and safeguards.

## Landscape

### Challenges

The government sector in the Bay Area faces several challenges that directly impact its ability to deliver services, shape climate response, and provide employment opportunities to marginalized individuals to create greater equity in the region. Challenges related to government's role in the broader economy include the following:

- **Underinvestment in Infrastructure:** The region has not only accumulated deferred maintenance projects (related to public facilities, public transit, water supply, and energy, among others) but also failed to upgrade and expand the infrastructure in line with a growing population and diverse needs. Over the last two decades, as low-income and BIPOC populations were being displaced from transit-served neighborhoods to the suburbs, the negative impact of this

---

<sup>265</sup> California Department of Forestry and Fire Protection. (2024). *2019 Incident Archive*.  
<https://www.fire.ca.gov/incidents/2019>

<sup>266</sup> Vital Signs, Metropolitan Transportation Commission. (2022, December). *Jobs by industry*.  
<https://vitalsigns.mtc.ca.gov/indicators/jobs-by-industry>

underinvestment—in housing, transportation, and public services—has largely been shouldered by those displaced.<sup>267</sup>

- **Jobs and Housing Mismatch and Poor Transit Service:** The lack of affordable housing near job centers has created a large imbalance between where workers can afford to live and where they need to get to for work. The lack of an efficient transit network has resulted in longer commutes for workers, higher emissions, and less time with family. Each day in 2021, around 30,000 workers from Contra Costa County alone crowded onto highways and regional bridges to commute to job centers in the West and South Bay, often for low-wage service sector jobs.<sup>268</sup>
- **High Cost of Living:** The challenging housing market and the overall cost of living in the Bay Area<sup>269</sup> makes it difficult to recruit and retain employees, as government salaries often lag behind those in the private sector. The cost of housing alone has a negative impact on BIPOC families.<sup>270</sup>

Challenges related to job opportunities provided by government include the following:

- **Worker Shortages:** Across all levels of government, there is a shortage of skilled workers, especially in essential areas such as public safety, healthcare, education, and social work. The shortages are a result of chronic underfunding, competition for workers with higher-paying private-sector jobs, and a growing wave of retirements.<sup>271</sup>
- **Lack of Clear Pathways:** Collaborative organizations have raised the issue that individuals from historically marginalized communities<sup>273</sup> and workers without a college degree might not consider a government job as a career option if there are no viable entry points into those jobs or if there is an inherent distrust in government.
- **Onerous Application Processes:** Public-sector job application processes, examinations, and other requirements can be burdensome, inconsistent across jurisdictions, and unfair, especially for English-language learners or those who have the necessary skills but not a college degree.
- **Lack of Meaningful Progress in Eliminating Discrimination and Bias:** Many marginalized individuals continue to face barriers to access due to discrimination and bias.<sup>274</sup> According to a recent report published by Re-Work the Bay, Bay Area Black and Latinx households are twice as

---

<sup>267</sup> Sourourian, M. (2012, January). *Suburbanization of poverty in the Bay Area*. [Community Development Research Brief]. Federal Reserve Bank of San Francisco. <https://www.frbsf.org/wp-content/uploads/Suburbanization-of-Poverty-in-the-Bay-Area2.pdf>

<sup>268</sup> Bay Area Council Economic Institute. (2022, May 18). *Analyzing the regional economic importance of the I-680 corridor in Contra Costa County*. <https://ccta.net/wp-content/uploads/2022/05/Ed-BACEI-I680-5.18.2022.pdf>

<sup>269</sup> Gaines, T. (2023, June 29). *\$100K a year is low-income in the Bay Area, according to new report*. KRON 4. <https://www.kron4.com/news/bay-area/100k-a-year-is-low-income-in-the-bay-area-according-to-new-report/>

<sup>270</sup> Kudlowitz, M. (2022). *Racial equity and affordable housing go hand in hand*. Local Initiative Support Corporation. <https://www.lisc.org/our-stories/story/racial-equity-and-affordable-housing-go-hand-hand/>

<sup>271</sup> Hinkley, S. (2024, January 25). *California's public sector staffing crisis*. UC Berkeley Labor Center. <https://laborcenter.berkeley.edu/californias-public-sector-staffing-crisis/>

<sup>272</sup> Hunter, S. (2023, December 12). *Civil service vacancies in California: 2022–2023*. [Low-Wage Work Program]. UC Berkeley Labor Center. <https://laborcenter.berkeley.edu/wp-content/uploads/2023/12/Civil-Service-Vacancies-in-California-2022-2023.pdf>

<sup>273</sup> Brown, H., & Baker, D. (2021). *Public sector unions mean middle-class jobs for Black workers*. Center for Economic and Policy Research. <https://cepr.net/public-sector-unions-mean-middle-class-jobs-for-black-workers/>

<sup>274</sup> Villarosa, A., & Bhattacharya, J. (2020). *Reimagining a Bay Area workforce system grounded in racial and gender equity*. Insight Center & Re-Work the Bay. [https://reworkthebay.org/wp-content/uploads/2020/05/INSIGHT\\_BAWFC\\_report\\_web.pdf](https://reworkthebay.org/wp-content/uploads/2020/05/INSIGHT_BAWFC_report_web.pdf)



likely as white households to live paycheck-to-paycheck, and residents of color are often the first to be displaced when living costs skyrocket.<sup>275</sup>

## Opportunities

Several initiatives are under way in the Bay Area that will help improve public services, upgrade infrastructure, and meet the distinct needs of marginalized individuals, addressing some of the key challenges discussed above. These initiatives include the following:

- **Transportation:** Investing in clean transportation, public transit, and goods movement, especially in underserved communities.<sup>276</sup>
- **Housing and Homelessness:** Raising money through local and/or regional bonds or other means to build and preserve affordable housing near job centers and transit hubs, and protect tenants' rights.<sup>277</sup>
- **Climate:** Funding more than \$2.74 billion in building climate resilience in the Bay Area, until November 2023, of which \$2 billion was allocated to priority populations.<sup>278</sup>
- **Regulatory Framework:** Streamlining regulations for infrastructure projects, especially those in the clean energy sector.<sup>279</sup>

As an employer, the government can play a more active role to make jobs more accessible to marginalized workers. One approach would be to streamline hiring practices for entry-level positions that provide a ladder to better-paying, high-road jobs. These jobs might include the following:

- **Administrative Support Roles:** Clerks, receptionists, and office assistants typically require a high school diploma or equivalent.
- **Public Safety Roles:** Positions in law enforcement, firefighting, and emergency medical services often require specific training and certification rather than a college degree.
- **Public Works Roles:** Jobs in maintenance, sanitation, landscaping, and transportation frequently require technical skills and on-the-job training.
- **Customer Service Roles:** Jobs in customer service and public relations require communication skills and experience.
- **Technical Roles:** Positions such as IT support, equipment operators, and utility workers often rely on technical knowledge and certifications.
- **Apprenticeships and Internships:** Apprenticeship programs and internships offer hands-on training and pathways to regular positions.

---

<sup>275</sup> Villarosa, A., & Bhattacharya, J. (2020).

<sup>276</sup> Office of Governor Gavin Newsom. (2022). *California makes largest investment to date to expand clean transportation in underserved communities*. <https://www.gov.ca.gov/2022/11/18/california-makes-largest-investment-to-date-to-expand-clean-transportation-in-underserved-communities/>

<sup>277</sup> Metropolitan Transportation Commission. (2024.) *Bay Area Housing Finance Authority (BAHFA)*. <https://mtc.ca.gov/about-mtc/authorities/bay-area-housing-finance-authority-bahfa>

<sup>278</sup> California Climate Investments. (2023). *Region: Bay Area*. <https://www.caclimateinvestments.ca.gov/region-bay-area>

<sup>279</sup> Governor's Office of Planning and Research. (2023). *Infrastructure streamlining*. <https://opr.ca.gov/ceqa/judicial-streamlining/infrastructure-streamlining.html>

## Why Government Jobs Matter for Equity and Community Economic Resilience

Government jobs offer several advantages that can benefit individuals from historically marginalized communities and workers without a college degree, including the following:

- **Relative Accessibility:** Many government positions require only a high school diploma or equivalent, providing entry-level opportunities for a broad range of applicants.
- **Job Stability:** Government jobs often provide greater job security compared to the private sector, with less susceptibility to economic fluctuations.
- **Benefits:** These positions typically come with benefits, including health insurance, retirement plans, paid leave, and job training programs.
- **Career Advancement:** Government jobs often have clear pathways for advancement, with opportunities for promotions and lateral moves across departments.
- **Training & Development:** On-the-job training and professional development programs that help employees gain new skills and qualifications are more established in the public sector.
- **Work-Life Balance:** Many government roles offer predictable hours and a positive work-life balance, which can be particularly appealing and supportive for workers managing family responsibilities.

## Assets

For more than 150 years, as the Bay Area’s population and economy grew, so did its government institutions, which were created to manage and sustain this growth. This institutional capacity continues to expand as new threats and opportunities emerge in one of the most dynamic regions in the world. This network of government functions today serves more than 7.5 million people and 4 million jobs.<sup>280</sup> Although many challenges remain, including underfunding and effective governance, this societal infrastructure is one of the region’s biggest assets—both in terms of the services the sector offers and the quality of jobs it provides. Regional assets in the government sector include the following:

- **Established Institutions with Funding and Mandates:** As described in several of the sectoral sections earlier in this report, the Bay Area has 109 local government jurisdictions,<sup>281</sup> 25 transit agencies,<sup>282</sup> three regional agencies (the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG), and the Bay Area Air Quality Management District (BAAQMD)), and 28 community colleges,<sup>283</sup> among numerous other public entities that all collectively deliver a vast array of programs, projects, and services that meet the needs of Bay Area residents and businesses.
- **Nonprofit, Research, and Advocacy Organizations:** A network of think tanks, research and advocacy organizations, universities, and nonprofit groups champion and challenge the public

<sup>280</sup> Bay Area Jobs First Collaborative. (2023, December). p. 331.

<sup>281</sup> Christopher, B. (2024, January 25). *Approaching Bay Area deadline a “test case” for California’s housing crisis.* [Housing]. CalMatters. <https://calmatters.org/housing/2024/01/california-zoning/>

<sup>282</sup> Barz, S. (2019, November 27). *The definitive list of Bay Area transit agencies.* Seamless Bay Area. <https://www.seamlessbayarea.org/blog/transitagencieslist>

<sup>283</sup> Bay Area Community College Consortium. (2024). Bay Area community colleges. <https://baccc.net/colleges/>

sector to do better at delivering projects, programs, and services. These efforts, in effect, expand the capacity of the government to meet the diverse and specific needs of all residents and workers, especially marginalized individuals.

- **A Large Metropolitan Area and Job Market:** The Bay Area is one of the largest metropolitan areas on the West Coast, with regional offices of numerous state and federal agencies located in San Francisco, San Jose, and Oakland. Along with local and regional governments, this provides a large job market for prospective workers. The availability of a diverse pool of skilled workers further attracts employers in the public, private, and nonprofit sectors.
- **Workforce Training Providers:** The Bay Area has a number of public and private education institutions and workforce training providers that offer culturally competent skills training and certification programs for many entry-level government jobs.
- **A Commitment to Social Justice and Progressive Values:** Most public agencies in the Bay Area have strong diversity and inclusion policies (with varying degrees of effectiveness), robust equal employment opportunity (EEO) regulations, and targeted recruitment programs in government agencies (again, effectiveness unclear). If effectively deployed, these policies can help foster a supportive work environment for all workers, especially marginalized individuals. These challenges are discussed in more detail in the earlier section of this report on Removing Institutional and Structural Barriers.

These assets position the Bay Area's government sector to play a pivotal role in addressing regional challenges around high-road employment, climate resilience, and equity, especially by promoting inclusive economic development and providing employment opportunities to marginalized communities.

## Investment Strategies

The goal of improving government services is beyond the scope of the BAJFC. Investment strategies for this sector discussed in this report therefore focus on investing energy and resources in existing efforts already under way to improve governance and government services. Ensuring that government jobs are more accessible to marginalized individuals, however, is firmly within the scope of the BAJFC. Given the vast scope of this undertaking, the BAJFC can likely be most effective by offering best practices and guidance to public agencies in the region.

Investment strategies for the government sector can help achieve the following objectives:

1. Support existing regional initiatives that align with the BAJFC vision and goals.
2. Improve access to public-sector jobs for underrepresented communities.

### Objective 1: Support existing regional initiatives that align with BAJFC's vision and goals

Given that a number of stakeholders are already working collaboratively to address some of the underlying challenges related to governance and government services in the region, the BAJFC can support these initiatives if they help meet the Collaborative's goals. Key initiatives for consideration include the following:

- **Affordable Housing Production, Preservation, and Protection:** As described in the earlier section of this report focused on the Construction sector, the Bay Area Housing Finance Authority (BAHFA) is authorized by the state to raise funding to support affordable housing production and preservation, reduce homelessness, and protect tenants. In addition, several local jurisdictions, including Santa Clara County, Alameda County, and the City and County of San Francisco, have passed bond measures in recent years to address housing and homelessness.
- **Transportation System:** The Metropolitan Transportation Commission (MTC), nine County Transportation Agencies (CTAs), and 25 transit agencies are working with state and federal agencies to fully fund projects identified in Plan Bay Area 2050, the regional land-use and transportation vision.
- **Clean Transportation:** In the Bay Area, several agencies lead and coordinate clean transportation programs to promote sustainable mobility and reduce environmental impacts, including the BAAQMD, MTC, local transit agencies and governments, the California Air Resources Board (CARB), and electric utility companies such as Pacific Gas & Electric (PG&E) and Silicon Valley Power (SVP).
- **Education:** The Bay Area is served by 127 school districts<sup>284</sup> and more than 3,000 school facilities (with 1.3 million K-12 students), 28 community colleges (with 400,000 students), nine workforce development boards, three state university campuses, and numerous adult schools, public and private colleges, and nonprofit service providers, all of which are working to improve the quality of and equitable access to education.
- **Nature-Based Solutions and Climate Resilience:** Several regional, state, and federal agencies are engaged in the conservation, protection, and restoration of natural resources such as wetlands, waterways, and native habitat in the Bay Area. These agencies include the San Francisco Bay Conservation and Development Commission (BCDC), the San Francisco Estuary Partnership (SFEP), the California Coastal Conservancy, Save the Bay, the Bay Area Regional Collaborative (BARC), the U.S. Fish and Wildlife Service (USFWS), the San Francisco Public Utilities Commission (SFPUC), and the East Bay Regional Park District (EBRPD).

## **Objective 2: Improve access to public-sector jobs for underrepresented communities**

Addressing systemic bias, lack of access, and onerous hiring policies might require statewide or even federal intervention, a role that is not within the purview of the BAJFC. The Collaborative can, however, propose the following best practices as guidance for public agencies. Potential policies and programs that could expand access to government employment include the following:

- **Develop Targeted Apprenticeship and Internship Programs:** Offer structured programs providing hands-on experience and exposure to students and workers from marginalized communities that can lead to regular placement.

---

<sup>284</sup> California Department of Education. (n.d.). *All districts and schools*.  
<https://www.cde.ca.gov/schooldirectory/districtschool?order=1&tab=2>

- **Develop and Implement Inclusive Hiring Practices:** Focus on relevant experience and skill sets rather than requiring a college degree. Streamline the agency job application process, especially for entry-level positions. Implement targeted recruitment efforts to attract marginalized communities.
- **Develop Training and Development Programs:** Establish mentorship and training programs focused on preparing workers from historically marginalized communities for leadership roles. Offer professional development workshops that emphasize leadership skills for diverse employees.
- **Conduct Equity and Inclusion Audits:** Identify and address disparities in hiring, promotion, and workplace culture. Create formal channels for workers to provide feedback and participate in decision-making processes.
- **Expand Outreach and Engagement Initiatives:** Collaborate with community organizations to reach underrepresented groups to promote government jobs as viable career options. Host regular job fairs at schools and community colleges. Develop inclusion programs with targeted outreach to underrepresented communities.

**Potential Partners for These Objectives:** Local and regional jurisdictions and public agencies, organized labor, community and nonprofit organizations, business groups, philanthropic entities, workforce training providers, and quasi-public organizations such as utilities, among others.

## Conclusion

The government sector provides both essential services that allow all other sectors to thrive and high-road job opportunities that are relatively more accessible to marginalized populations, including BIPOC workers and women. A decline in government services therefore negatively impacts the entire economy and especially the most vulnerable populations, including the homeless, un- and under-employed, and minority populations. An underfunded public sector that sheds jobs mostly impacts BIPOC workers, especially Black women. In addition, state and local governments are key drivers of climate mitigation, adaptation, and resilience initiatives through policy, projects, and funding, such as the state's Cap-and-Trade Program.<sup>285</sup>

## SUSTAINING THE BAY AREA JOBS FIRST COLLABORATIVE

### Description

---

<sup>285</sup> California Air Resources Board. (2024). *Cap-and-Trade Program*.  
<https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program>

As described in the introduction to this report, the California Jobs First Program provided \$5 million in planning funds in 2022 to the Bay Area Jobs First Collaborative (BAJFC). The Bay Area Good Jobs Partnership for Equity (BAGJPE) serves as the fiscal agent for the BAJFC, with the San Francisco Office of Economic and Workforce Development (SF OEWD) co-coordinating as the fiscal lead. Part of the funding goes to All Home as the regional convenor of the BAJFC.<sup>286</sup> This funding has provided support for convening the Collaborative community, executing research work, and planning activities to develop Regional Plan Part 2. Should the Collaborative choose to pursue it, the opportunity exists to develop a realistic and fiscally feasible strategy to sustain the effort in some manner. This plan, developed in consultation with all Collaborative organizations, could provide a clear road map for a successor entity that would reinforce the Collaborative’s vision, values, goals, and principles. To sustain motivation beyond specific tasks or deadlines, an ongoing collaborative could develop a long-term vision, set overarching goals, and foster a culture of continuous improvement, regular engagement, and open communication. Moving into the future, a sustained collaborative could also recognize achievements, provide learning opportunities, and take on new projects to keep participating organizations motivated and aligned.

Such a plan could establish guidelines for membership and decision-making processes, outline community outreach and engagement expectations, and design a governance structure. In addition, the plan could identify sustainable funding sources for the successor entity, including resources for operations, further research support, targeted engagement with industry and local governments, and program implementation. Finally, the plan could include a mechanism for periodic evaluation and refinement, including opportunities for the strategic plan (Regional Plan Part 2) to be updated over time to remain relevant and effective. The success of this model would depend on the commitment of participating organizations to facilitate innovative cross-sector partnerships and partnerships across sub-regions, a pioneering approach in the Bay Area that the existing Collaborative has already begun and that offers opportunities for significant regional progress. Although this model would require substantial resources, it could build crucial institutional capacity in the Bay Area for long-term movement toward a just economic transition and climate resilience.

### Collaborative Governance Options

This report offers the following two options for further consideration by the BAJFC, if Collaborative organizations should decide to develop a successor entity.

- **Joint Leadership Council:** This option involves creating a Joint Leadership Council with representation from each participating sector (public, private, nonprofit) as the primary decision-making body. Subcommittees for finance, policy, and community engagement could be created and would report to the Council. This structure would ensure balanced representation, multi-sectoral policy development, and shared accountability. It could foster ongoing collaboration and trust among diverse stakeholders, ensure decisions reflect a broad range of interests and expertise, and lead to more effective and sustainable outcomes. In addition, it could promote a holistic approach to problem-solving, leverage sector strengths to address complex challenges, and optimize resource use by pooling them for greater impact.

---

<sup>286</sup> All Home. (2022, October 7). *Bay Area coalition awarded grant for unprecedented regional green jobs initiative*. <https://www.allhomeca.org/2022/10/27/bay-area-coalition-awarded-grant-for-unprecedented-regional-green-jobs-initiative/>

- **Stakeholder Assembly with Leadership Council:** This governance structure would feature a large Stakeholder Assembly representing all members of the participating organizations, with an Executive Board elected from the Assembly to handle day-to-day operations and decision-making. The Assembly could include representatives from all participating organizations, providing a forum for discussion, input, and consensus-building. The Executive Board would oversee strategic planning, policy implementation, and operational management. Advisory panels, consisting of experts and community representatives, could provide specialized advice and recommendations to the Executive Board. This structure would ensure broad representation, allowing diverse viewpoints to be considered, while the Executive Board would provide efficient management and decision-making. In addition, advisory panels would enhance expertise and community involvement in governance. The benefits of this structure could include fostering a sense of ownership and participation among all members, ensuring that decisions are well-informed and reflect the collective interests of the Assembly, and facilitating a dynamic and responsive governance model that could adapt to evolving needs and challenges.

## Funding and Resource Needs

No matter which governance option the BAJFC finds best suits its needs, should the Collaborative choose to move forward together, it will need to secure funding to continue its activities. Funding possibilities could include the following:

- **Long-Term Public Commitment:** Funding options for long-term public commitments could include local legislation (e.g., property and sales taxes, municipal bonds, and utility taxes), state legislation (e.g., state grants and bonds, and general fund allocations), and voter-approved ballot measures (e.g., general obligation bonds, parcel taxes, and special sales taxes). In addition, public-private partnerships and development impact fees could provide alternative or supplementary financial support. Combining these methods can ensure stable and predictable funding for ongoing operations and initiatives should Collaborative partners decide to move in that direction.
- **An Endowment or Trust:** This option would draw on funding from public grants, private donations, and/or philanthropic contributions. An example would be the National Endowment for the Arts (NEA), which offers funding and support for arts-related projects, fostering creativity and cultural development. Collaboratives in arts or community development could find the NEA's programs and grants valuable for achieving their goals and sustaining motivation. An endowment or trust would generate income that could be used to support the Collaborative's activities over the long term, reducing dependency on year-to-year funding.
- **Federal and State Grants:** Actively pursuing federal and state grants dedicated to workforce development, economic revitalization, and innovation could provide substantial funding. These grants often support collaborative efforts that demonstrate strong community and cross-sector partnerships.

By securing a diverse and robust mix of funding sources, the BAJFC could ensure financial stability and longevity should the participating stakeholders choose to move forward together, allowing it to effectively implement its governance model and achieve its strategic objectives.





## VII. ALIGNMENT WITH STATE POLICIES AND PRIORITIES

### Relevant State Policies and Priorities

As described in the introduction to this report, Governor Gavin Newsom launched the California Jobs First Program in 2021 to bring together and augment multiple state efforts already under way to promote economic diversification, climate mitigation and resilience, and equity. To advance the state's economic diversification and job quality goals, in 2019, the Governor's Office of Business and Economic Development launched Regions Rise Together (RRT)<sup>287</sup> to draw attention to opportunities and assets in inland California. The RRT promoted ground-up economic diversification strategies (including for the state's Just Transition strategy to become a carbon-neutral economy) to grow quality jobs in new and emerging high-road industries.

To advance the state's climate mitigation and resilience goals, the California Air Resources Board (CARB) released its updated proposal in November 2022 to achieve net-zero carbon emissions by 2045.<sup>288</sup> This proposal, the California Climate Action Plan, includes strategies to reduce smog-forming air pollution by 71%, greenhouse gas (GHG) emissions by 85%, and gas consumption by 94%.<sup>289</sup> The action plan aims to achieve these targets through significant reductions in fossil fuel combustion, deploying clean technologies and fuels, reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The plan is estimated to create four million new jobs across the state and save Californians \$200 billion in healthcare costs due to pollution.<sup>290</sup> The state has also developed the Climate Adaptation Strategy, mandated by AB 1482 (2015), to link together the state's existing and planned climate adaptation efforts, making sure they fit together to achieve California's climate resilience priorities. The strategy is organized around outcome-based priorities, enabling a coordinated, integrated approach to building climate resilience.<sup>291</sup>

To advance the state's equity goals, the legislature has adopted policies that ensure a share of major funding programs such as those for climate adaptation and resilience, housing, healthcare, environment, transportation, and workforce development directly benefit disadvantaged communities, including historically marginalized populations. To assist with this effort, the state Environmental Protection Agency has developed an online tool, CalEnviroScreen, that identifies both impacted and at-risk communities. In addition, in 2022, Executive Order N-16-22 established an 11-member Racial Equity Commission to support state agencies to embed and institutionalize racial equity strategies across their

---

<sup>287</sup> Governor's Office of Planning and Research. (2024). *Regions Rise Together*. <https://opr.ca.gov/economic-development/regions-rise.html>

<sup>288</sup> California Air Resources Board. (2022, November 16). *California releases final proposal for world-leading climate action plan that drastically reduces fossil fuel dependence, slashes pollution*. [Press Release]. <https://ww2.arb.ca.gov/news/california-releases-final-2022-climate-scoping-plan-proposal>

<sup>289</sup> Office of Governor Gavin Newsom. (2024). *California releases world's first plan to achieve net zero carbon pollution*. <https://www.gov.ca.gov/2022/11/16/california-releases-worlds-first-plan-to-achieve-net-zero-carbon-pollution/>

<sup>290</sup> California Air Resources Board. (2022, November 16).

<sup>291</sup> State of California. (2024). *California Climate Adaptation Strategy*. <https://climateresilience.ca.gov/>

policies, programs, and initiatives. The Commission also provides technical assistance to local governments to advance racial equity statewide.<sup>292</sup>

In support of the state’s equity goals, Governor Newsom recently announced the release of up to \$3.3 billion in competitive grant funding from Proposition 1 to expand the behavioral health continuum and provide appropriate care to individuals experiencing mental health conditions and substance-use disorders—with a particular focus on people who are most seriously ill, vulnerable, or homeless. To provide equitable healthcare access, especially in underserved areas, the state earlier this year (2024) expanded Medi-Cal to include all individuals aged 26 to 49 regardless of their immigration status.<sup>293</sup> The state also increased funding for more community health centers that provide culturally competent care, especially in rural and low-income communities.<sup>294</sup>

These and many other policies, programs, and projects are driven by California’s commitment to climate resilience, economic mobility, healthcare access, housing affordability, environmental quality, racial equity, and quality education, among others.<sup>295</sup> The BAJFC is committed to addressing these state goals and priorities collectively through the lens of prioritizing high-road employment, climate resilience and equity in the Bay Area. An assessment of how sector strategies emerging from the work of the BAJFC in this Regional Plan Part 2 align with and support state goals and priorities is provided below.

## Economic Diversification and Resilience

The BAJFC sees opportunities to grow quality jobs in emerging industries such as green construction, elder and in-home healthcare, climate resilience through nature-based solutions, clean energy manufacturing, and sustainable agriculture. Growth in these industries is driven by major funding programs such as the IIJA, the IRA, and the CHIPS Act<sup>296</sup> at the federal level, the Cap-and-Trade Program at the state level, and local/regional bond measures in the Bay Area to build and preserve affordable housing, improve public transit, and make infrastructure and frontline communities climate resilient. The BAJFC therefore sees the potential to grow high-road jobs in all six sectors identified in Section V, as well as through the cross-cutting strategies identified in Section VII. Growing these high-road jobs in emerging industries can therefore diversify the regional economy and make it less reliant on the economic cycles of a handful of sectors such as technology and professional services.

Ensuring that the region makes investments in creating and growing middle-wage jobs in sectors that are already projected to grow will allow more than 2 million workers in the Bay Area<sup>297</sup> who are stuck in low-wage and precarious employment to access high-road employment opportunities. Diversifying the range of quality jobs that are accessible to workers without a college degree will also ensure resilience of the regional economy during major downturns, which have consistently impacted disadvantaged communities and low-wage workers.

---

<sup>292</sup> State of California. (2024). *California’s Racial Equity Commission*. <https://racialequity.opr.ca.gov/>

<sup>293</sup> California Department of Health Care Services. (2023). *Ages 26 through 49 adult full scope Medi-Cal expansion*. <https://www.dhcs.ca.gov/services/medi-cal/eligibility/Pages/Adult-Expansion.aspx>

<sup>294</sup> California Department of Health Care Services. (2023). *Medi-Cal enhanced care management and community supports*. <https://storymaps.arcgis.com/collections/53cc039bc1d54e2e9fc0ac92f5b6511a>

<sup>295</sup> Office of Governor Gavin Newsom. (2024). *Priorities*. <https://www.gov.ca.gov/priorities-and-progress/priorities/>

<sup>296</sup> The White House. (n.d.). *President Joe Biden: Investing in America*. <https://www.whitehouse.gov/invest/>

<sup>297</sup> Bay Area Jobs First Collaborative. (2023, December). p. 272. Fifty-five percent of workers in the Bay Area face precarious employment conditions, lacking a living wage, health insurance, and/or full-time, full-year employment.

The BAJFC acknowledges that a resilient, forward-looking economy cannot rely on a few dominant industries such as the tech or professional services sectors that have long defined the Bay Area's economic landscape. Instead, it proposes a vision of economic growth that spans multiple sectors providing quality jobs and contributing to the region's overall prosperity. The manufacturing sector, for instance, is reimagined not only as a revival of traditional industries but also as a growth industry encompassing a mix of clean energy technologies, basic materials, and biotechnology. By leveraging federal investments and connecting local R&D capabilities with production facilities, a resurgence of manufacturing could diversify the region's economic base while positioning it at the forefront of emerging industries.

Simultaneously, strategies emphasize the green economy, weaving sustainability and climate resilience across multiple sectors. From construction techniques that prioritize energy efficiency to environmental stewardship jobs focused on ecological restoration, these strategies aim to create new economic opportunities aligned with California's climate goals. This approach not only diversifies the economy but also ensures its long-term sustainability in the face of climate change. The BAJFC also recognizes the crucial role of small businesses and worker cooperatives in fostering economic diversity. By providing targeted support to small businesses, worker cooperatives, and entrepreneurs from marginalized communities, the strategies aim to cultivate a more varied and locally rooted economic ecosystem. This approach has the potential to complement and diversify the region's economic landscape.

Workforce development strategies also play a pivotal role in supporting this vision of diversification. Multiple sectoral strategies described in this plan emphasize the need for training and education programs that prepare workers for emerging industries and occupations. By equipping the workforce with a diverse range of skills—from green construction techniques to community health work to manufacturing—these strategies aim to create a flexible labor force capable of supporting a more diverse economy and with the resilience to withstand both economic and other shocks such as climate or health crises.

The healthcare sector is another area that can grow and diversify. Strategies in this sector go beyond traditional hospital-based care to encompass in-home care, community health workers, and innovative healthcare delivery models. This expansion diversifies the types of healthcare jobs available while supporting the growth of ancillary industries and services. Even in the arts and culture sector, there is potential for economic diversification. By supporting the growth of creative industries and cultural tourism, these strategies aim to strengthen a sector that not only provides direct employment but also enhances the region's attractiveness to businesses and workers across all industries. Importantly, taking a regional approach that recognizes that different parts of the Bay Area have unique economic needs and opportunities allows for diverse economic activities suited to local conditions.

## Climate Mitigation and Resilience

Regional Plan Part 2 recognizes the urgent need to address climate change while simultaneously creating economic opportunities and fostering equity. Strategies therefore advance climate adaptation, mitigation, and resilience across multiple sectors. In the construction sector, strategies emphasize a shift toward green building practices and sustainable materials. This includes promoting energy-efficient designs, integrating renewable energy systems, and utilizing eco-friendly building materials. These strategies not only reduce the carbon footprint of new and renovated buildings but also enhance their

resilience to climate impacts such as extreme heat and flooding. This plan also highlights the importance of training workers in climate-resilient construction techniques, ensuring a workforce capable of implementing these adaptive measures.

The manufacturing sector strategies in Regional Plan Part 2 focus on clean energy production and climate-friendly technologies. The plan encourages the development and expansion of industries producing wind turbines, solar panels, electric vehicles, and energy storage systems. This approach not only supports California's transition to clean energy but also positions the Bay Area as a hub for climate mitigation technologies. In addition, strategies emphasize making existing manufacturing processes more sustainable and energy-efficient, contributing to overall emission-reduction goals.

Perhaps the most direct contributions to climate adaptation and resilience come from the sustainable environmental management sector strategies, addressing ecological restoration, including wetland rehabilitation and forest management, which are crucial for both carbon sequestration and enhancing natural buffers against climate impacts such as sea-level rise and wildfires. The plan sets the stage for future efforts to transform all jobs in this sector to high-road green jobs by developing and adopting sustainable environmental management training for emerging and existing occupations. The focus on developing a skilled workforce for fuels management and climate resilience directly addresses the increasing wildfire risks in the region.

Regional Plan Part 2 strategies also emphasize the importance of NBS across various sectors. These solutions, such as green infrastructure and urban forestry not only help in mitigating climate change through carbon sequestration but also provide adaptive benefits such as reducing urban heat island effects and managing stormwater runoff. In the agriculture sub-sector, the strategies promote sustainable farming practices that are more resilient to changing climate. This includes water-efficient irrigation systems and crop diversification, which can help maintain food security in the face of increasing droughts and extreme weather events.

Across all sectors and industries, strategies emphasize the need for workforce development programs that prepare workers for jobs in the green economy. This includes training in renewable energy installation, energy-efficient retrofitting, and ecological restoration, among others. By building this workforce capacity, the Bay Area will be better equipped to implement climate adaptation and mitigation strategies at scale. Moreover, the BAJFC recognizes the interconnectedness of climate resilience and social equity. Many of the proposed strategies therefore aim to create green job opportunities in communities that have been disproportionately impacted by both pollution and climate change. This approach not only addresses environmental justice issues but also builds community resilience by providing economic opportunities in sustainable industries.

In addition, the emphasis on small business development and worker cooperatives in climate-related fields can lead to more localized, resilient economic systems. This decentralized approach to economic development can enhance community adaptability in the face of climate-related disruptions. Many of these strategies align with and support broader state and national climate goals. The emphasis on leveraging state and federal funding for clean energy and climate resilience projects demonstrates how regional efforts can contribute to larger-scale climate initiatives. By integrating climate considerations across multiple sectors and industries as well as cross-cutting strategies, focusing on workforce development, promoting nature-based solutions, and emphasizing equitable access to green jobs, the

strategies outlined aim to create a more sustainable, resilient, and prosperous Bay Area in the face of climate change.

## Equity and Access

A central focus of the BAJFC is to improve job quality, protect worker rights, and lift up worker voices. The workers that the BAJFC is most concerned about are the Bay Area's historically disadvantaged and marginalized populations (see Section III.B of this report). Strategies in all six sectors and four cross-cutting strategies therefore place a strong emphasis on job quality for these communities. For example, almost half the jobs in arts and culture are part-time, most jobs in manufacturing offer low wages and few opportunities for advancement, and workers in CCECE find it hard to earn family-sustaining wages despite providing critical social services to families, with disproportionate impacts on working women. Improving job quality can benefit the more than one million Bay Area workers who currently work in these sectors and industries highlighted in this report. Further, as low-wage jobs are expected to grow the most in the Bay Area in coming years, lifting the floor to ensure all jobs pay living wages and benefits will be critical in ensuring the Bay Area meets state goals regarding prosperity for all workers.

In addition to improving job quality, the BAJFC has prioritized improving access to quality jobs for historically marginalized and disadvantaged populations and ensuring that employers provide training and advancement opportunities to workers as they gain experience and accumulate credentials. Low-wage workers across all six sectors have struggled to move into middle- and higher-wage jobs precisely because these opportunities remain limited or unavailable. Strategies in all sectors suggest paid apprenticeship programs, for example, that recruit from marginalized communities to grow a pipeline of workers into family-sustaining wages. All six sectors and industries and cross-cutting strategies also focus on growing and improving the quality of jobs that, unlike in the technology and professional services sectors, do not require a college degree, and unlike in the service and retail sectors, pay a living wage. More targeted programs, culturally competent outreach, partnerships with community organizations, and a reevaluation of the application processes, especially at public agencies, can improve access for these marginalized workers.

Through Regional Plan Part 2, the BAJFC presents a comprehensive approach to advancing equity across multiple economic sectors in the Bay Area. At its core, the BAJFC recognizes the deep-rooted disparities that have long affected historically marginalized communities. The strategies outlined in Regional Plan Part 2 aim to create a more inclusive economy that provides quality job opportunities and pathways to economic stability for all residents. A core approach to creating this inclusivity that has emerged from the BAJFC planning in process is improving job quality and access, particularly in sectors that have traditionally offered low-wage work. For instance, in the CCECE sector, strategies aim to transform these essential but often undervalued jobs into family-sustaining careers. Similarly, in manufacturing and construction, there is an emphasis on creating high-road jobs with living wages, benefits, and career advancement opportunities, while also attracting a more diverse workforce.

Workforce development strategies across multiple sectors described in this plan include paid training programs and apprenticeships that make skill acquisition more accessible to low-income individuals. These programs can be designed to be culturally competent and multilingual, ensuring they can effectively serve the Bay Area's diverse communities. Moreover, this plan recognizes that training alone is often not enough. It is also important to provide wraparound support services, such as child care and

transportation assistance, to help individuals from historically marginalized communities overcome barriers to completing training and securing ongoing high-road employment.

The BAJFC also recognizes the need for equitable entrepreneurship opportunities. Strategies to support small businesses and worker cooperatives are tailored to help marginalized individuals start and grow their own enterprises. This approach aims to create wealth-building opportunities in communities that have historically been excluded from business ownership. Environmental justice is also woven into the strategies, particularly in the environmental stewardship sector. The BAJFC recognizes that certain communities have borne a disproportionate burden of pollution and environmental degradation and therefore proposes creating green job opportunities in these communities, simultaneously addressing environmental concerns and providing economic opportunities.

Throughout the sectors, there is a consistent emphasis on breaking down occupational segregation. The strategies outlined in this plan aim to create clear pathways for historically underrepresented groups to enter higher-paying occupations and industries where they have been historically excluded. This includes efforts to diversify the healthcare workforce and create more equitable access to well-paying construction jobs. The BAJFC also recognizes the importance of inclusive decision-making. Both in the process of developing this plan and in policy-making going forward, the BAJFC calls for including historically marginalized communities in shaping economic development strategies, ensuring that the resulting policies and programs truly address the needs and aspirations of the whole community.

Importantly, the strategies acknowledge that advancing equity requires addressing structural barriers. This includes tackling discrimination, expanding social networks, and improving access to education and resources. The BAJFC calls for more robust data collection and analysis to better understand and address these disparities. The strategies outlined in Regional Plan Part 2 present a multipronged approach to advancing equity in the Bay Area's economy. By focusing on job quality, accessible training, entrepreneurship support, and addressing structural barriers across multiple sectors, the strategies lay out a road map for creating a more inclusive and equitable economic landscape. The goal is not only to provide jobs but also to ensure that all residents, regardless of their background, have the opportunity to secure quality employment, build wealth, and fully participate in the region's prosperity.

The six sectors and industries as well the cross-cutting strategies collectively align and advance key state goals and policies related to climate resilience and adaptation, equity, access to high-road jobs, and economic diversification.