EASTBAY Works

Analytical Overview of the Region

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East Bay Regional Planning Unit

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Table of Contents

Executive Summary

The East Bay population is highly educated and increasingly diverse, which makes the East Bay an exceptional place for high-value, high-wage, and high-growth industries and jobs. There are stark disparities, however, in education, income, and exposure to barriers such as poverty and disability. These educational disparities create significant obstacles for many of the East Bay's residents to access stable, high-quality jobs—an issue that will continue to worsen as technology shapes the skills required to access better-paid jobs. At the same time, the region faces important challenges – from population and labor force participation rates that are still below pre-pandemic levels to persistent inequality as the economy continues to recover.

Between 2022 and 2032, the white population is predicted to decline by 18 percent (170,000) and the Black population by nine percent (25,000) while the Asian population is expected to increase by 15 percent (119,000) making Asians the largest racial group in the East Bay. This linguistic diversity is consistent with a relatively large foreign-born population in the East Bay Region. Nearly 30 percent of East Bay residents are foreign born. Further, between 2022 and 2032, population loss is largely expected to occur among younger age cohorts (see Figure 2). This indicates that the East Bay population is predicted to continue getting older in coming years putting added pressure on services such as healthcare and increasing demand for low-wage service jobs supporting the elderly.

The relatively high median income in the East Bay obscures large racial and ethnic gaps in household income. For instance, white households have a median income of $123,347 while the median income of Hispanic or Latino households is $82,011 and for Black households in Alameda County it is $59,817. Women, many people of color, people with a high school diploma or less, part-time workers, and the unemployed are disproportionately in poverty. While only 6.4 percent of white residents are in poverty, 15.2 percent of Black residents and 11.8 percent of Hispanic of Latino residents are in poverty.

Educational attainment is relatively high in the East Bay compared to the rest of California. Among adults 25 years and older, 28 percent have earned a bachelor's degree compared to 22 percent of Californians and 20 percent have earned a graduate, professional, or doctorate degree compared to 14 percent of Californians.

The COVID-19 pandemic was a tremendous shock to the East Bay economy with lasting impacts. From January 2020 to January 2021, the East Bay lost approximately 112,000 jobs, or nine percent of total jobs. the pandemic exacerbated both economic and health disparities in the East Bay, particularly along racial, ethnic, and gender lines. These disparities were evident in problems such as workforce job stability, access to opportunity, on-the-job coronavirus exposure, and physical and mental health outcomes.

The persistent contraction in labor supply is not driven mostly by women responding to the demand for childcare, since the drop in desired work hours is evident across demographic groups. The largest declines in desired work hours are among people with less than a college degree, suggesting that lower-educated workers are avoiding low-wage service jobs that put them at higher risk for illness even as the effect of the pandemic subsides. While labor force participation is still recovering, unemployment has returned to pre-pandemic levels. In October 2022, the unemployment rate was 3 percent, the same level of unemployment as February 2020, just before the onset of the pandemic

East Bay industry is highly diversified with the number of jobs distributed similarly across the largest sectors. Educational and Health Services is the largest major sector with 204,500 jobs in September 2022, which makes up 17.4 percent of nonfarm employment in the region. When considering industry sub-sectors, however, Manufacturing (9.7 percent), Retail Trade (9.3 percent), and Accommodation and Food Service (8 percent) are largest in the East Bay.

While these are the largest industries the core industries (size, growth potential, middle wage jobs) for East Bay are: Manufacturing, Professional and Scientific, Healthcare, Construction, Transportation and Warehousing. These industries are positioned to generate substantial innovation, investment, and job and business growth over the coming years. In addition, substantial venture capital has gone to technologies associated with autonomous vehicles, cloud-based productivity software, semiconductors, artificial intelligence (AI), and cybersecurity. While these industries are much smaller, they have the potential for massive societal disruption and could play an outsize role in the East Bay's future economy.

While there are many hopeful signs and areas of opportunity, a major challenge and contributor to the East Bay's Cost of Living is housing. House prices have risen sharply since the mid-1990s and especially following the Great Recession as housing costs began to rise again after 2012. The median listing price for housing in Alameda County in June 2022 was $1.02 million up from $700,000 in December 2016.[1] In Contra Costa County, the median listing price in June 2022 was $867,000. High housing costs are also cited by employers as one of the greatest challenges in attracting and retaining workers. Expensive housing can deter talented workers in professional fields from moving to or staying in the region.

Additionally, a recent wave of layoffs in the tech industry is likely to affect the East Bay region. Estimates suggest that by early December 2022, over 120,000 people had been laid off by Bay Area tech companies with more layoffs expected. Layoffs will create short- and medium-term problems for the East Bay economy and but could mean an opportunity for East Bay companies to hire talented workers who have been let go.

[1] St. Louis Fed

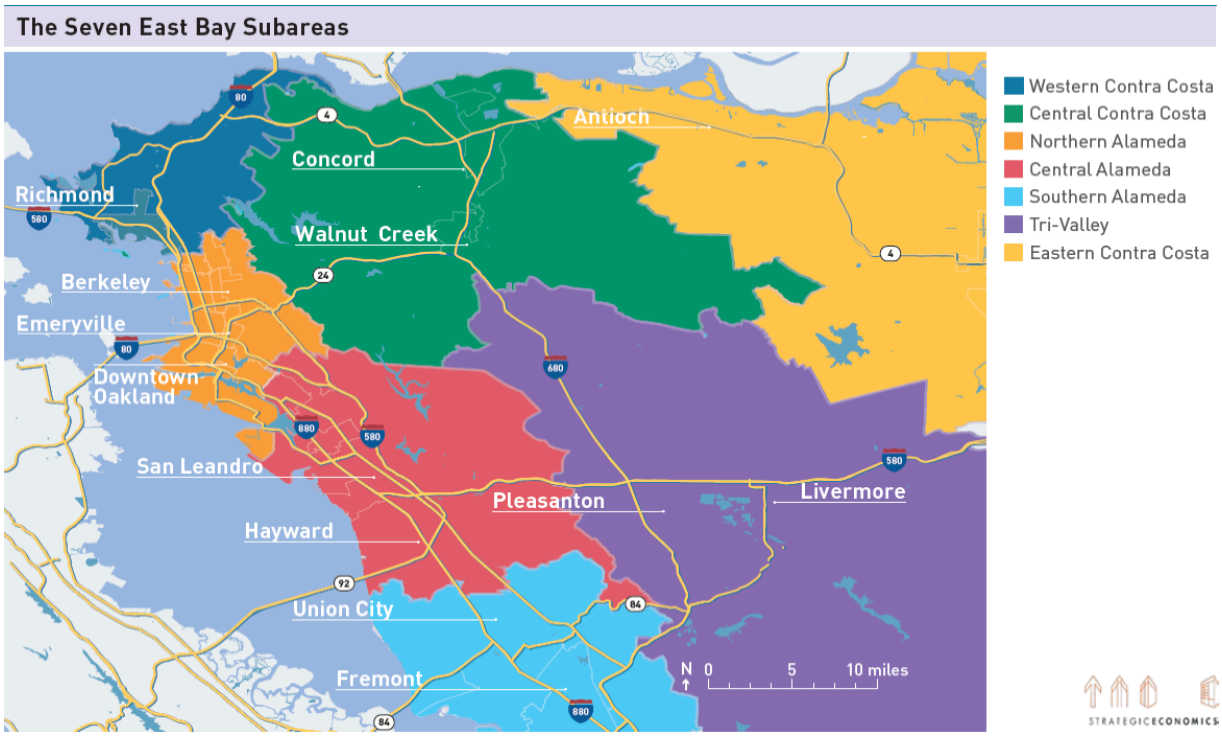
I. Introduction: Economic and Demographic Overview

The East Bay Region of California is a sub-region of the nine county San Francisco Bay Area, one of the most productive and prosperous regions on the planet. The East Bay Regional Planning Unit (EBRPU) is a partnership of member Workforce Development Boards representing Alameda County and the City of Oakland, and Contra Costa County and the City of Richmond. The four Workforce Development Boards have a long-standing regional partnership pre-dating the Workforce Innovation and Opportunity Act (WIOA), under the **EASTBAY***Works* brand.

This report is an economic and workforce analysis that includes the latest data and trends on demographics, occupations, and industries within the East Bay. It is comprised of information vital to workforce development planning, such income and poverty data, skills and educational levels, and employer demand.

This report treats the East Bay as a single area, but the East Bay's two counties are distinct from each other, with different opportunities and challenges. In 2019, Alameda County accounted for approximately 67 percent of the East Bay's jobs. A large share of those jobs were in traded sectors ranging from biotechnology, creative professional services, and information, to advanced manufacturing and logistics. In contrast, Contra Costa County's economy, with only few significant office concentrations, is dominated by household-serving sectors, such as food services, healthcare, hospitality, and personal services. In addition, eastern Contra Costa County, which has some of the Bay Area's lowest-cost housing, is also relatively distant from the Bay Area's major employment centers.

Figure 1. East Bay Subareas



II. DEMOGRAPHICS

The East Bay is racially, ethnically, and linguistically diverse with relatively high levels of education, employment, and household income. At the same time, the region faces important challenges – from population and labor force participation rates that are still below pre-pandemic levels to persistent inequality as the economy continues to recover.

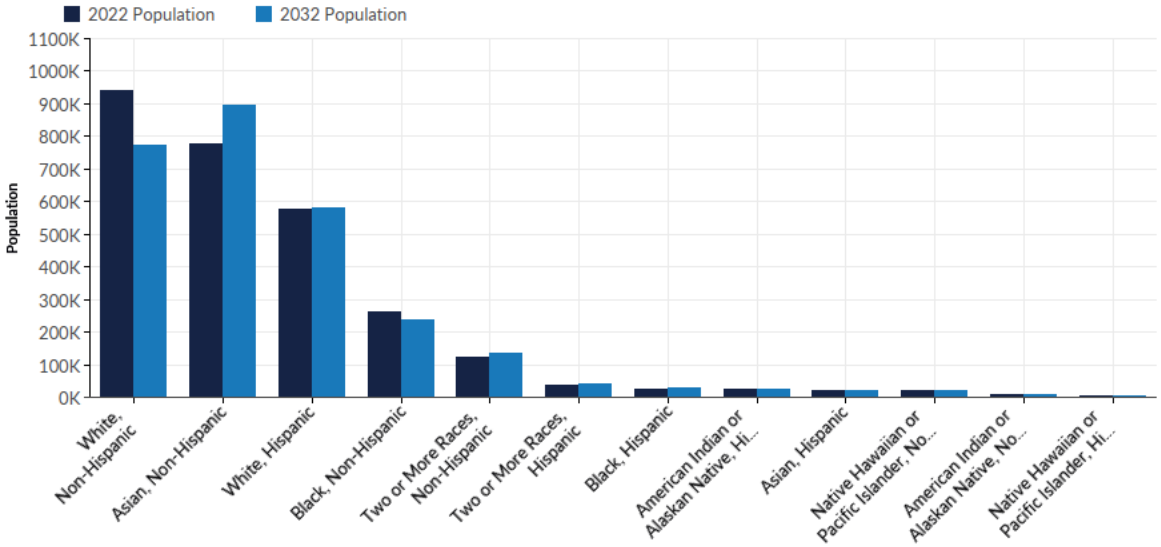
Between 2019 and 2021, the East Bay population declined by nearly 15,000 residents from approximately 2.83 million to 2.81 million.[2] The loss of population has been concentrated in Alameda County, which lost nearly 23,000 people while Contra Costa County added nearly 8,000 residents. Over the next decade, the East Bay population is predicted to continue falling by approximately 45,000 people to 2.77 million.[3] Despite a declining population, the Association of Bay Area Governments (ABAG) predicted that from 2015-2050 the number of households will increase by 54 percent in Alameda County and by 44 percent in Contra Costa County.[4]

As the overall population has shifted in response to the COVID-19 pandemic, the racial and ethnic makeup of the region has also changed. The largest change has been among white residents. Between 2019 and 2021, East Bay residents who identify as white have fallen from 45.5 percent to 36.9 percent.[5] Similarly, the number of non-Hispanic whites has fallen from 36.5 percent to 34.1 percent. The number of residents identifying as Black alone has also declined but to a lesser degree, from 9.8 percent to 9.3 percent, but continues a longer-term trend. Other racial or ethnic groups have experienced increases between 2019 and 2021. The largest increase has been among people identifying with two or more racial groups, which increased from 6.3 percent to 13.3 percent. People identifying as Asian, Hispanic or Latino, or some other race have also increased at much lower rates. Whether these changes reflect changing identification among East Bay residents or people moving to and from the East Bay, the region has become more diverse through the pandemic.

The population is expected to continue changing by race and ethnicity (see Figure 2). Between 2022 and 2032, the white population is predicted to decline by 18 percent (170,000) and the Black population by nine percent (25,000) while the Asian population is expected to increase by 15 percent (119,000) making Asians the largest racial group in the East Bay.

[2] US Census ACS 1-year estimate. If we compare the 2020 decennial census with the 2021 American Community Survey 1-year estimate, the drop is even more pronounced from 2,848,280 to 2,809,969 or 38,311 residents.
[3] Lightcast 2022
[4] Plan Bay Area 2050 https://www.planbayarea.org/digital-library/plan-bay-area-2050-final-blueprint-growth-pattern
[5] US Census ACS 1-year estimate

Figure 2. East Bay Population by Race and Ethnicity, 2022-2032



Source: Lightcast 2022

This regional diversity is evident in other ways. For instance, 42 percent of East Bay residents over the age of five speak a language other than English including Spanish (17 percent) and Asian and Pacific Island languages (15 percent).[6] Among households where a language other than English is spoken, 8 percent (79,324) are limited-English-speaking households, including 16.5 percent (26,568) of Spanish-speaking households and 22.9 percent (42,147) of Asian and Pacific Island languages-speaking households.

This linguistic diversity is consistent with a relatively large foreign-born population in the East Bay Region. Nearly 30 percent of East Bay residents are foreign born compared to 27 percent for California and 14 percent for the United States.[7] Of the East Bay foreign born, over half are from Asia (56 percent) and nearly a third are from Latin America (31 percent). In addition, 13 percent of East Bay residents are non-citizens.

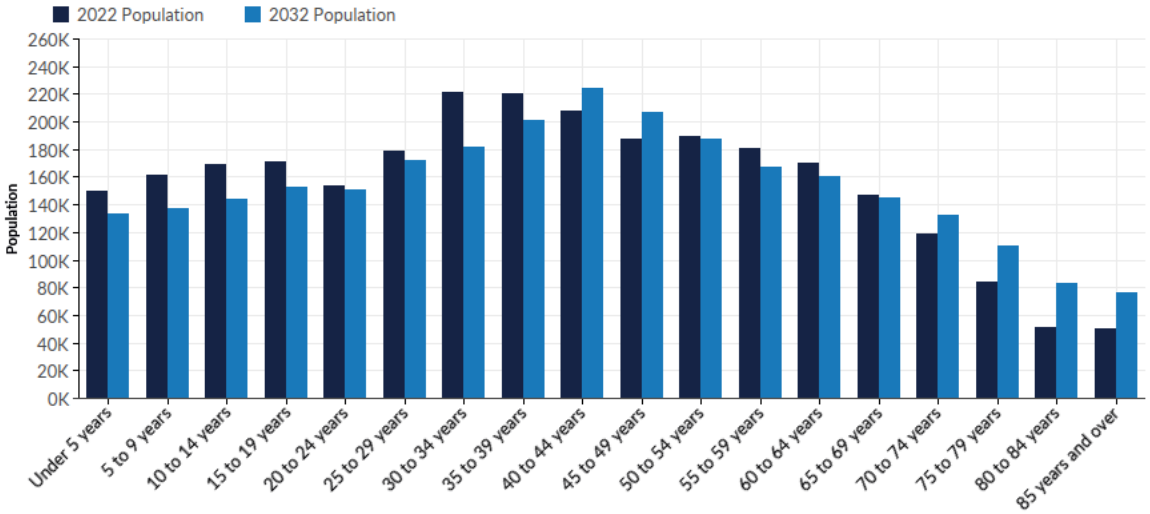
The East Bay population is slightly older than the rest of the state. The median age in the East Bay is 39.6 years old compared to 37.6 years for the state of California and 38.8 years for the United States as a whole.[8] The East Bay population is also aging. The median age has increased by two years between 2011 and 2021. This is driven by fewer people between 0-29 years old (39.3 percent vs. 35.5 percent) and more people who are 65 years and older (12.1 percent and 15.6 percent). The working age population, ages 15-64, has declined by 1.7 percent. Today, over 80 percent of the East Bay population is 15 years old and over and 67 percent is between the ages of 15 and 64 years old or, working age.[9] An aging population and shrinking working age population may create some challenges, including greater

[6] US Census ACS 1-year estimate
[7] US Census ACS 1-year estimate
[8] US Census ACS 1-year estimate
[9] The US Census defines working age as 15 to 64 years old. The Bureau of Labor Statistics defines working age as 16 years and older.

demand for healthcare and social assistance and a smaller labor force to meet employer demands across the region.

Between 2022 and 2023, population loss is largely expected to occur among younger age cohorts (see Figure 2). This indicates that the East Bay population is predicted to continue getting older in coming years putting added pressure on services such as healthcare and increasing demand for low-wage service jobs supporting the elderly.

Figure 3. East Bay Population by Age Cohort, 2022-2032.



Source: Lightcast 2022

At present, an older population may contribute to relatively high earnings in the region. The average earnings per job in the East Bay is $103,000, which is $25,000 above the national average.[10] Another measure is household income. The median household income in 2021 was $109,729 in Alameda County and $111,080 in Contra Costa County for an average median household income of $110,405 in the East Bay.[11] For California, the median household income was $84,907 and $69,717 for the U.S. Over a third of East Bay households have an income of $150,000 or more and 26 percent of households have an income of $200,000 or more.

While East Bay incomes are relatively high, so is a living wage for the region. For an individual with no children, a living wage in the East Bay is $24.26 an hour, or $50,463 a year.[12] The average household size in the East Bay is 2.77 people and the average family size is 3.3 people.[13] The living wage for two working adults with one child is $110,937 in Alameda County and $109,313 in Contra Costa County, which is roughly equal to the median household income for the East Bay. For a breakdown of the living wage inputs for a family of three, see figure 4. The average household size for a married couple family in the East Bay is 3.35. For a family of four with two working adults, they need $142,524 a year in Alameda

[10] Lightcast 2022
[11] US Census ACS 1-year estimate
[12] Massachusetts Institute of Technology Living Wage Calculator https://livingwage.mit.edu/counties/06001. Annual wage is before tax and based on 2080 hours of work per year.
[13] US Census ACS 1-year estimate

County and $139,277 a year in Contra Costa County, which is higher than the median household income in both counties.

Figure 4. Annual Living Wage Inputs for Two Adults and One Child in Alameda County and Contra Costa County, 2022.

	Alameda County	Contra Costa County
Food	$9,124	$9,124
Child Care	$14,718	$13,472
Medical	$7,249	$7,249
Housing	$30,941	$30,941
Transportation	$11,391	$11,391
Civic	$5,120	$5,120
Other	$6,477	$6,477
Required annual income after taxes	$85,144	$83,898
Annual taxes	$25,793	$25,415
Required annual income before taxes	$110,937	$109,313

Source: Massachusetts Institute of Technology, Living Wage Calculator

A living wage is substantially higher than minimum wages in the East Bay. For example, as of January 1, 2023, the minimum wage is $15.75 in Alameda, $15.97 in Oakland, and $16.17 in Richmond.[14] The minimum wage is relatively high in Emeryville ($17.68), El Cerrito ($17.35), and Berkeley ($16.99), but still falls below the living wage for a single adult without children.

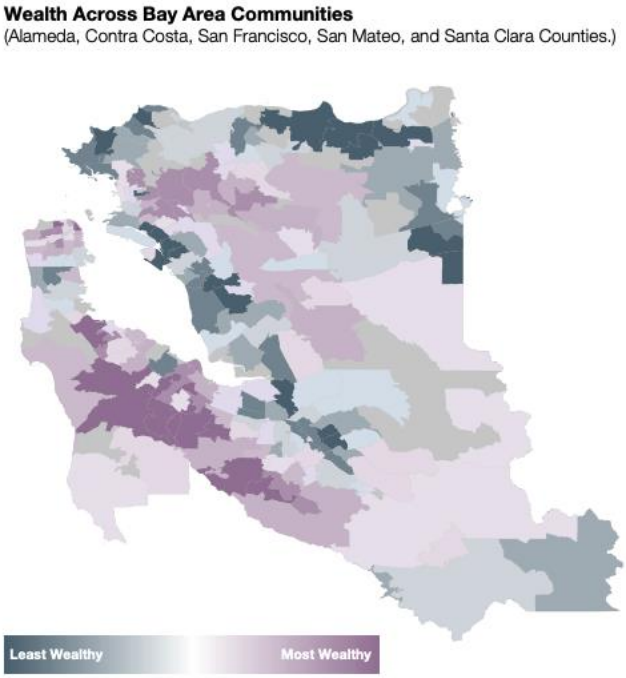
The relatively high median income in the East Bay obscures large racial and ethnic gaps in household income. For instance, white households have a median income of $123,347 while the median income of Hispanic or Latino households is $82,011 and for Black households in Alameda County it is $59,817. American Indian and Alaska Natives have the lowest median household income ($56,989 in Alameda County) apart from single mothers ($49,817 in Contra Costa County). Asian median household income is the highest of all groups at $146,259 in Alameda County. These large gaps mean that some groups have fewer resources to support education or workforce training, pursue a new job, or move somewhere with better work opportunities.

Resource gaps are even more pronounced in terms of wealth. Relative to the Bay Area as a whole, Alameda County and Contra Costa County are less wealthy. Although the Bay Area is the wealthiest region of California, as a whole, the wealth is highly concentrated. In 2019, 11 Bay Area zip codes had a net worth of over $1.5 million per resident while around 15 percent of zip codes had a net worth per person below $50,000.[15] Many of the least wealthy zip codes are in the East Bay. Figure 5 shows the concentration of wealth by zip code across the nine Bay Area counties.

[14] UC Berkeley Labor Center (2022). https://laborcenter.berkeley.edu/inventory-of-us-city-and-county-minimum-wage-ordinances/#s-2

[15] California Legislative Analyst's Office (2019). "California's Geography of Wealth." https://lao.ca.gov/reports/2019/4093/ca-geography-wealth-090519.pdf

Figure 5. Wealth by Bay Area Zip Codes, 2019

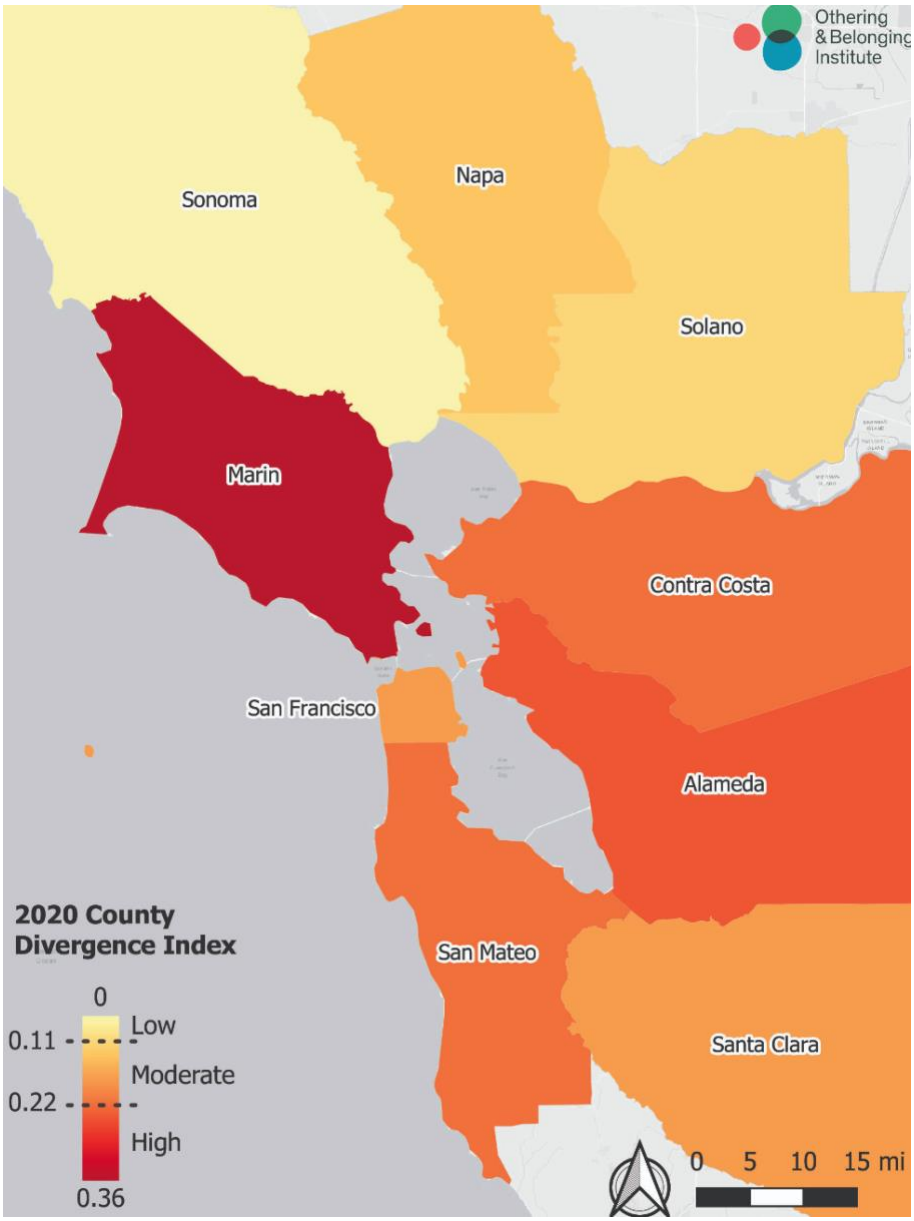


Source: California Legislative Analyst's Office

Along with low levels of wealth are high levels of racial segregation. In the Bay Area, six of the 10 most segregated Black neighborhoods are in Oakland, as are four of the top five segregated Latino neighborhoods.[16] Three of the top four most segregated Asian neighborhoods are in Fremont. Both Alameda County and Contra Costa County are highly segregated. Figure 6 shows the degree of racial segregation in the Bay Area in 2020.

[16] Menendian, Gambhir, and Hsu (2021). "The Most Segregated Cities and Neighborhoods in the San Francisco Bay Area." https://belonging.berkeley.edu/most-segregated-cities-bay-area-2020

Figure 6. Racial Segregation by County in the Bay Area, 2020



Source: Othering and Belonging Institute, UC Berkeley

High levels of segregation are associated with income inequality. For example, San Pablo is one of the most highly segregated cities in the Bay Area with 62 percent Latino residents, 11 percent Black residents, and nine percent white residents.[17] San Pablo had a median household income in 2019 of $53,198. By contrast, Lafayette was 70 percent white in 2019, eight percent Latino, and one percent Black with a median household income of $178,889. Figure 7 shows the racial segregation and median household income of the 20 most segregated cities in the Bay Area.

[17] Menendian, Gambhir, and Hsu (2021)

Figure 7. The 20 Most Segregated Cities in the Bay Area, 2019.

Cities/Towns	Inter-municipal Divergence	Median Household Income (2019)	Asian (%)	Black (%)	Latino (%)	White (%)	Other (%)	Level of Segregation
East Palo Alto	0.6345	$67,087	5.46%	10.33%	64.74%	9.48%	9.99%	High
San Anselmo	0.4892	$128,212	3.45%	0.69%	8.79%	79.59%	7.49%	High
Mill Valley	0.4749	$163,614	5.86%	0.83%	6.22%	80.15%	6.94%	High
San Pablo	0.4279	$53,198	13.92%	11.38%	61.50%	9.14%	4.06%	High
Tiburon	0.4248	$154,915	7.55%	0.99%	6.43%	77.73%	7.30%	High
American Canyon	0.3127	$101,792	33.72%	6.40%	30.65%	21.98%	7.26%	High
Los Gatos	0.3093	$155,863	19.58%	0.78%	9.03%	63.95%	6.67%	High
Gilroy	0.3025	$101,616	9.64%	1.97%	57.50%	26.14%	4.75%	High
Lafayette	0.2899	$178,889	13.04%	0.86%	8.44%	69.45%	8.21%	High
Orinda	0.2809	$223,217	16.68%	0.90%	6.38%	68.40%	7.64%	High
Fremont	0.2759	$133,354	63.73%	2.22%	12.59%	16.55%	4.92%	High
Los Altos Hills	0.2677	$250,001	33.28%	0.29%	4.15%	55.96%	6.31%	High
Half Moon Bay	0.2666	$134,177	5.48%	0.64%	34.35%	54.95%	4.58%	High
Clayton	0.2644	$157,768	9.61%	1.86%	12.30%	68.18%	8.04%	High
Cupertino	0.2467	$171,917	68.33%	0.56%	4.18%	23.04%	3.89%	High
Daly City	0.2443	$94,550	57.22%	2.27%	23.76%	11.69%	5.06%	High
Union City	0.2409	$114,681	57.72%	4.27%	21.23%	10.95%	5.83%	High
Los Altos	0.2366	$235,278	34.83%	0.53%	4.65%	53.21%	6.78%	High
Richmond	0.2366	$68,472	14.20%	17.26%	44.73%	17.44%	6.37%	High
Piedmont	0.2326	$224,659	19.86%	1.13%	6.53%	62.60%	9.87%	High

Source: Othering and Belonging Institute, UC Berkeley

Within-city segregation is also important for understanding how income, wealth, and poverty are distributed across the region. Oakland has the highest level of neighborhood segregation in the Bay Area.[18] Richmond is both highly segregated from its surrounding region and internally segregated between its neighborhoods.

Poverty is relatively low but, like income and wealth, inequitably distributed across different groups. In 2021, 9.1 percent of East Bay residents were below the poverty line compared to 12.3 percent of Californians and 12.8 percent of Americans.[19] However, poverty is distributed unequally within the East

[18] Menendian, Gambhir, and Hsu (2021)
[19] US Census ACS 1-year estimate

Bay. Women, many people of color, people with a high school diploma or less, part-time workers, and the unemployed are disproportionately in poverty. For example, nearly 10 percent of East Bay women are in poverty compared to 8 percent of men. This is due, in part, to more women than men being single parents. In 2021, 5 percent of East Bay residents were single parents but roughly three-quarters of single parents were women. The poverty rate for single mothers in 2021 was 22.7 percent.

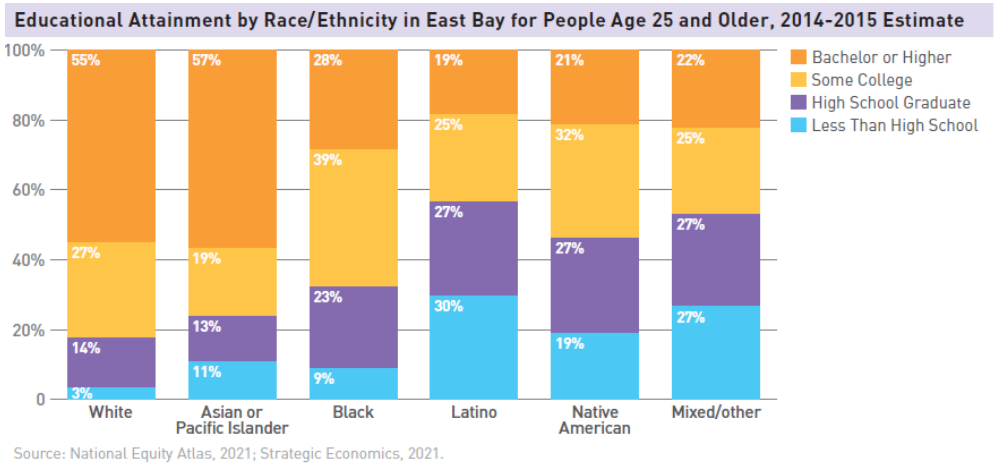
When considering race and ethnicity, only 6.4 percent of white residents are in poverty while 15.2 percent of Black residents and 11.8 percent of Hispanic of Latino residents are in poverty.[20] Poverty is particularly high among people 25 years and older with less than a high school degree (18 percent) and the unemployed (20 percent). By contrast, people with bachelor's degrees (4 percent) and full-time workers (1.3 percent) are much less likely to be in poverty.

Educational attainment is therefore an important factor in reducing the risk of being in poverty. Educational attainment is relatively high in the East Bay compared to the rest of California. Among adults 25 years and older, 28 percent have earned a bachelor's degree compared to 22 percent of Californians and 20 percent have earned a graduate, professional, or doctorate degree compared to 14 percent of Californians.[21] East Bay residents are also less likely than other Californians to have less than a high school diploma (11 percent), no more than a high school diploma (17 percent), or some college but no degree (17 percent).

Earnings vary widely across levels of educational attainment in the East Bay from approximately $32,000 a year for people 25 years and older with less than a high school diploma to around $83,000 a year with a bachelor's degree and over $100,000 a year with a graduate or professional degree.[22] Educational attainment is highly racialized thus contributing to the racialized inequalities in income and poverty. Whereas 56 percent of East Bay residents have a bachelor's degree or higher, 30 percent of Black residents, including 26 percent of Black men, have the same level of educational attainment. Native Hawaiian or Other Pacific Islanders (24 percent), Hispanic or Latinos (23 percent), American Indian or Alaskan Natives (19 percent), and people who identify as some other race (17 percent) are particularly less likely to have a bachelor's degree or higher. Additionally, 25 percent of American Indian or Alaska Natives, 29 percent of Hispanic or Latinos, and 35 percent of people who identify as some other race have less than a high school education. These groups are especially at risk of being in poverty as educational attainment impacts access to well-paying jobs in the East Bay.

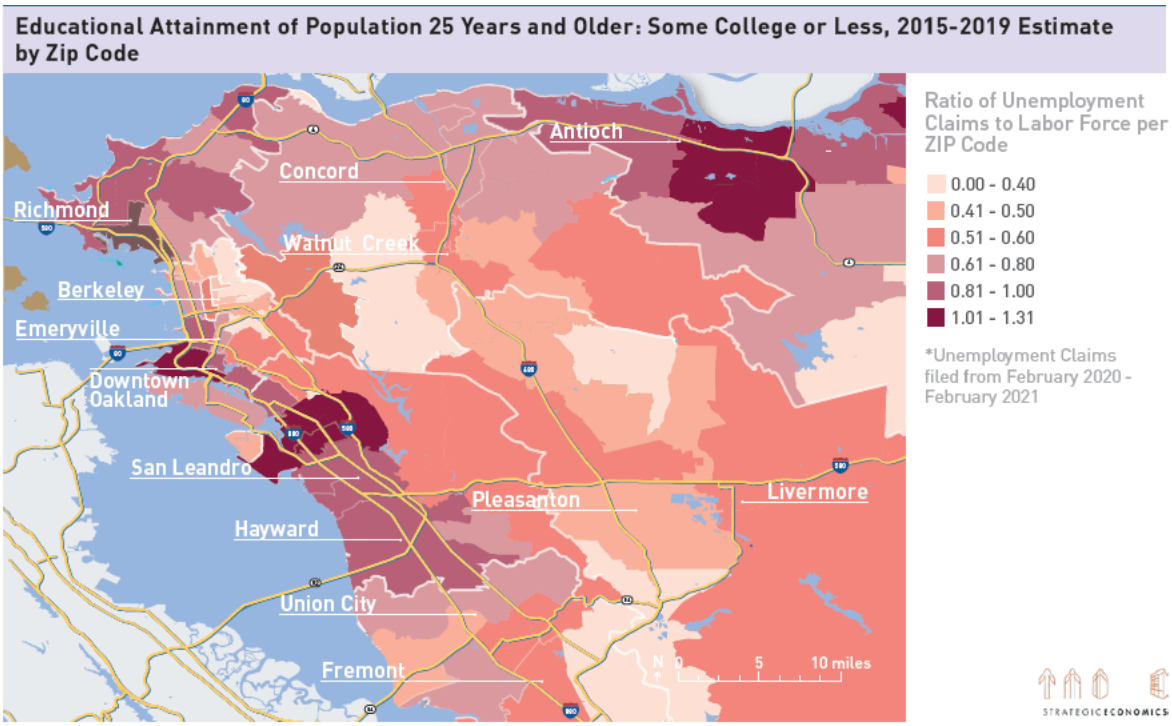
[20] US Census ACS 1-year estimate
[21] US Census ACS 1-year estimate
[22] US Census ACS 1-year estimate

Figure 8. East Bay Educational Attainment by Race and Ethnicity, 2014-15



Among East Bay residents with bachelor's degrees or higher, 56 percent have a degree in a science and engineering or related field compared to 51 percent throughout California.[23] The East Bay therefore has an especially scientific and technically capable workforce. However, science and engineering education is unevenly distributed among men (57 percent) and women (40 percent). Outside science and engineering, 23 percent of residents have a postsecondary degree in the arts and humanities and 17 percent in business.

Figure 9. East Bay Educational Attainment, 2015-2019



[23] US Census ACS 1-year estimate

Another demographic factor that can impact economic development is the health of the East Bay population. In 2021, nearly 11 percent of the noninstitutionalized civilian population had a disability, similar to the state as a whole.[24] Among 18–64-year-olds in the East Bay, 8 percent have a disability. There are also racial disparities in disability. For instance, Black (17 percent) and American Indian and Alaska Native (13 percent) residents are more likely to have a disability. While the vast majority of East Bay residents are insured, five percent of noninstitutionalized civilians between 19-64 years old lack health insurance.

Overall, the East Bay population is highly educated and increasingly diverse, which makes the East Bay an exceptional place for high-value, high-wage, and high-growth industries and jobs. There are stark disparities, however, in education, income, and exposure to barriers such as poverty and disability. These education disparities create significant obstacles for many of the East Bay's residents to access stable, high-quality jobs—an issue that will continue to worsen as technology shapes the skills required to access better-paid jobs.[25]

III. ECONOMY

The following data captures the key elements of the East Bay economy as defined by labor force, jobs, sectoral mix, industry growth rates, and economic specialization. In this analysis, the spatial differences within the East Bay were captured by comparing the two counties to each other. Specific implications for individual subareas can be further inferred based on the subarea profiles.

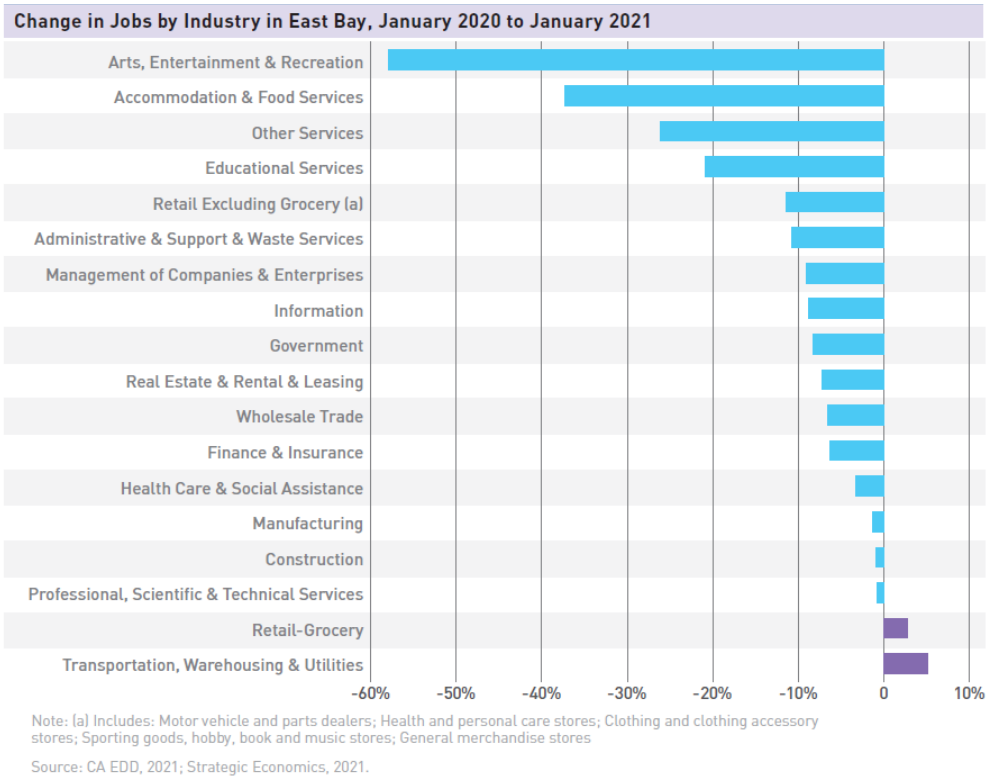
A. COVID-19 Impact and Recovery

The COVID-19 pandemic was a tremendous shock to the East Bay economy with lasting impacts. From January 2020 to January 2021, the East Bay lost approximately 112,000 jobs, or nine percent of total jobs. Figure 10 shows the change in the number of jobs by industry. The Transportation and Warehousing sector (+5%), as well as Grocery Stores (+3%), were the only two categories that gained jobs.

[24] US Census ACS 1-year estimate

[25] Hammerling, Jessie HF. 2022. Technological change in five industries: Threats to jobs, wages, and working conditions. Berkeley: UC Berkeley Labor Center. https://laborcenter.berkeley.edu/ technological-change-in-five-industries/.

Figure 10. Change in Jobs by Industry, 2020-2021



The largest disruptions were in sectors that depend on in-person interaction such as tourism and hospitality, food service and nightlife, entertainment, and personal services industries, which disproportionately employ women, people of color, and immigrants. Smaller-scale, independently owned retail businesses that rely on in-person shoppers were especially hard hit.

As industries shrank, unemployment rose sharply. East Bay unemployment rates are typically higher for people of color and women, but these disparities were exacerbated during the pandemic. Latinx workers experienced much higher unemployment than white and Asian/Pacific Islander workers during the beginning of the pandemic. Comparison of East Bay unemployment claims by race in 2020 also shows that Black workers in the East Bay were overrepresented among the unemployed. And while Black workers accounted for eight percent of the labor force in the East Bay in 2019, they accounted for 13 percent of unemployment claims during 2020.

The pandemic also forced people out of the labor force as childcare and schools either shut down or switched to remote learning. Media reported that women were especially impacted by childcare demands. However, there is evidence that the effect of the pandemic on women did not drastically reduce their labor force participation. Economist Claudia Goldin (2021: 13) writes, “statements about differences by gender are generally overblown when comparing the figures for 2020/21 to those in the

pre-pandemic period."[26] There were small differences in employment by gender, but the largest differences were by education. Goldin notes that one exception was Black women without a college degree who experienced much larger declines in employment than Black men or other women with comparable schooling. Women did drastically increase time spent doing childcare, but custodial fathers did as well. Although the pandemic did not drive most women out of the labor force due to childcare demands, it did increase the stress of caring for children while working and anxiety about their jobs.

The COVID-19 pandemic thus exacerbated racial, gender, and income inequalities. Higher-wage workers were more likely to be able to work remotely throughout the pandemic in occupations that were less-impacted by public health measures and economic downturn. High-wage workers, who are more likely to be white and male, were also better-positioned to avoid economic losses while low-wage workers often had to deplete their savings due to job losses and reduced work hours. Workers in lower wage yet "essential" positions such as at grocery stores and transit agencies were at a high risk of coronavirus exposure. Lower-wage workers at "non-essential" activities, including indoor dining, bars, personal services and entertainment venues, were initially most likely to be unemployed as these businesses reduced operations and later more at risk of COVID infection as they resumed operations. Women were more likely to leave the labor force to care for children when day cares closed and schools switched to remote learning. As a result, the pandemic exacerbated both economic and health disparities in the East Bay, particularly along racial, ethnic, and gender lines. These disparities were evident in problems such as workforce job stability, access to opportunity, on-the-job coronavirus exposure, and physical and mental health outcomes.

In response to these many challenges, federal, state, and local governments deployed enormous new resources to support communities during the pandemic and to reinvest in the economy as the pandemic recedes. These resources supported affordable housing, workforce development, infrastructure investment, business support, and numerous other needs. Just over two years after the start of the pandemic in March 2020, key aspect of the East Bay economy have recovered and even surpassed pre-pandemic levels. Unemployment reached pre-pandemic lows and major industries like manufacturing employ more people today than before the pandemic.

Despite important points of recovery, the COVID-19 pandemic brought about transformational changes. Key sectors of the East Bay economy were impacted in lasting ways. For instance, retail trade remains below pre-pandemic levels and is predicted to continue declining. Many small businesses struggled during the pandemic due to thin operating margins, lack of capital reserves, and lack of existing relationships with traditional financial institutions, which limited access to federal assistance such as the Paycheck Protection Program. These challenges were especially notable for businesses owned by women, people of color, and immigrants.

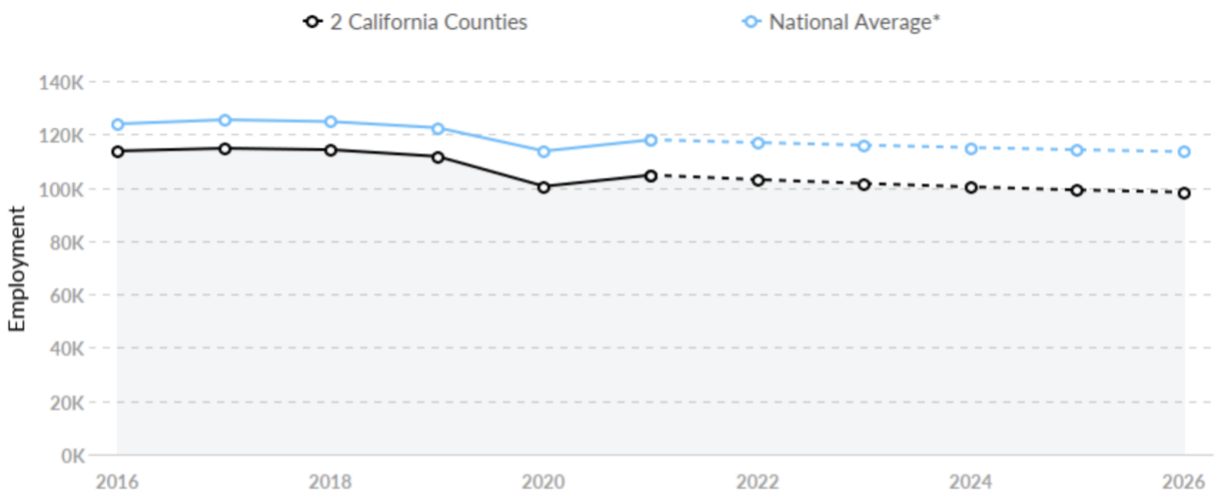
The pandemic also pushed more retail trade toward Ecommerce, accelerating existing trends. This favored larger retailers with established Ecommerce platforms and pushed smaller businesses to pivot toward expanding their Ecommerce and online marketing presences. The decline of traditional retail is an opportunity for "experiential" businesses in bricks-and-mortar retail locations such as restaurants, gyms, and entertainment. The growth of Ecommerce will also continue to drive reductions in total retail

[26] Goldin (2021). "Assessing Five Statements about the Economic Impact of COVID-19 on Women." National Bureau of Economic Research, White Paper. https://www.nber.org/sites/default/files/2021-06/GOLDIN_SEANWhitePaper.pdf

space required per resident, increased demand for distribution facilities located near population centers, and new opportunities to redevelop and reuse shopping center sites.

Overall, retail trade remains below 2019 employment levels and is predicted to decline 13.6 percent from 2016-2026, a decline accelerated by the pandemic.

Figure 11. Retail Trade Employment in the East Bay and Nationally, 2016-2026



	Region	2016 Jobs	2026 Jobs	Change	% Change
●	2 California Counties	113,750	98,306	-15,443	-13.6%
●	National Average	123,905	113,492	-10,413	-8.4%

Source: Lightcast 2022

The widespread adoption of remote work during the pandemic also continues to impact the East Bay economy. The pandemic led to wide-ranging impacts on the demand for office space, retail and services, housing, and transportation. Businesses also undertook a variety of strategies to replace entertainment, conferences, and other activities that once occurred in person. While many people have returned to in-person work, the effects of remote work are lasting. For instance, many workers have come to value remote work and are willing to forego pay raises to continue working remotely.[27]

Similarly, the rapid and widespread adoption of telehealth and distance learning will likely lead to a permanent expansion of these services. The pandemic also provided a moment for governments to prove their ability to rapidly remake laws, policies, and regulations. Some of this additional regulatory flexibility and speed is likely to continue beyond the pandemic.

B. Economic Output

Gross Regional Product (GRP) measures the contribution of East Bay industry to the regional economy of Alameda and Contra Costa counties. The East Bay's total GRP amounted to $209 billion in 2019 just prior

[27] Karageorge (2022). "Workers would rather work from home than get a raise." Bureau of Labor Statistics. https://www.bls.gov/opub/mlr/2022/beyond-bls/workers-would-rather-work-from-home-than-get-a-raise.htm

to the COVID-19 pandemic and in 2022 is just over $240 billion due to strong growth in sectors like Manufacturing and Professional, Scientific, and Technical Services (detailed below).[28] Per capita GRP in the East Bay is $85,450. By comparison, per capita GRP for San Diego County is $80,975 and for Orange County it is $89,168. This puts the East Bay roughly in the middle between slightly larger regions of the state, making the East Bay an important economic engine for California.

Alameda County accounts for roughly two-thirds of GRP at $158 billion due to the high concentration of Manufacturing and other high-value businesses linked to high-tech sectors and the growing blue economy. This is compared to $82 billion for Contra Costa County where there are fewer jobs and lower-value industries like Health Care and Social Assistance. The trade balance for the region is skewed toward imports, which are goods or services purchased from industries outside of the East Bay. Imports are approximately $255 billion while exports from the region are approximately $219 billion.[29]

C. Labor Force and Employment

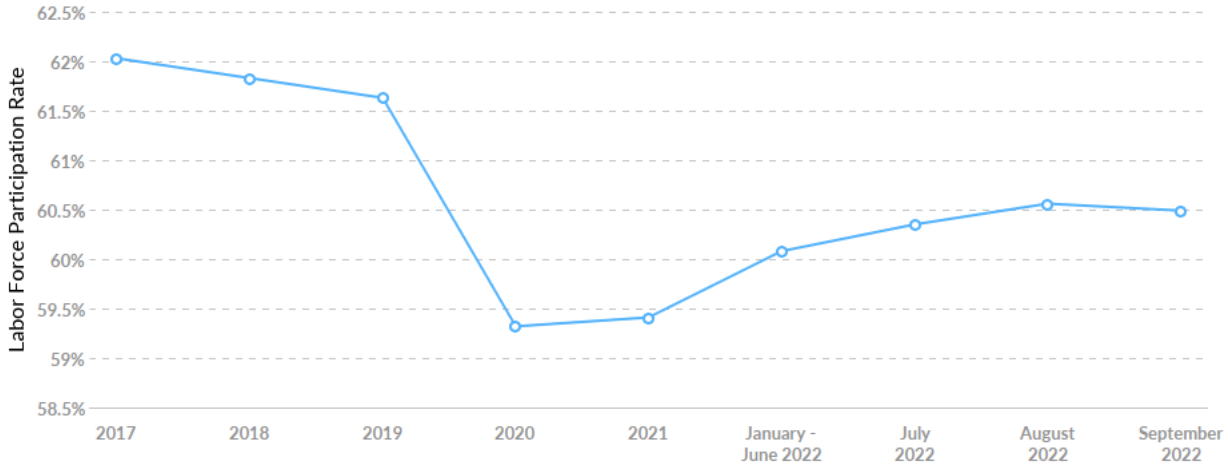
In October 2022, there were nearly 1.39 million East Bay residents in the labor force compared to 1.42 million in February 2020.[30] Since the start of the pandemic, labor force participation has been lower among younger workers and older workers as well as less-educated workers. In 2021, 70 percent of workers between 25-64 years old with a high school education or less participated in the labor force compared to 87 percent with a bachelor's degree or higher.[31] Similarly, 85 percent of men were in the labor force compared to 75 percent of women and 74 percent of women with children. This large gender gap in the East Bay and elsewhere is partly due to caregiving responsibilities, particularly among mothers.[32] But it also reflects longer-term trends in women's labor force participation. Nationally, the largest differences in labor force participation because of the pandemic were by level of education.[33]

Persistently low labor force participation in the East Bay is consistent with national trends showing labor force participation below pre-pandemic levels by 1.3 percent (see Figure 12).[34] While the cause of persistently low labor force participation is still under investigation, there is some evidence that people out of the labor force or working part time have less desire to work since the start of the pandemic.[35] This suggests that the persistent contraction in labor supply is not driven mostly by women responding to the demand for childcare, since the drop in desired work hours is evident across demographic groups. The largest declines in desired work hours are among people with less than a college degree, suggesting

[28] Lightcast 2022
[29] Lightcast 2022
[30] Bureau of Labor Statistics
[31] US Census American Community Survey 1-year estimate
[32] Montes, Smith, and Leigh (2021). "Caregiving for Children and Parental Labor Force Participation During the Pandemic." Board of Governors of the Federal Reserve System. https://www.federalreserve.gov/econres/notes/feds-notes/caregiving-for-children-and-parental-labor-force-participation-during-the-pandemic-20211105.html
[33] Goldin (2021). "Assessing Five Statements about the Economic Impact of COVID-19 on Women." National Bureau of Economic Research, White Paper. https://www.nber.org/sites/default/files/2021-06/GOLDIN_SEANWhitePaper.pdf
[34] Bureau of Labor Statistics https://www.bls.gov/news.release/pdf/empsit.pdf
[35] Faberman, Mueller, and Sahin (2022). "Has the Willingness to Work Fallen During the Covid Pandemic?" Federal Reserve Bank of Chicago. https://www.chicagofed.org/publications/working-papers/2022/2022-08

that lower-educated workers are avoiding low-wage service jobs that put them at higher risk for illness even as the effect of the pandemic subsides.

Figure 12. Labor Force Participation Rate in the East Bay, 2017-2022



Source: Lightcast 2022

Consistent with a smaller labor force, fewer people are employed now than prior to the pandemic despite a low rate of unemployment in the region. In September 2022, there were 1.18 million people employed compared to 1.19 million in February 2020.[36] Overall, there are roughly half-a-million people between the ages of 16 and 64 years old who are either unemployed or not in the labor force.

While labor force participation is still recovering, unemployment has returned to pre-pandemic levels. In October 2022, the unemployment rate was 3 percent, the same level of unemployment as February 2020, just before the onset of the pandemic.[37] Although unemployment has risen slightly since May 2022 when it fell to a low of 2.6 percent, it remains far below its April 2020 peak of 14.6 percent. Since returning to pre-pandemic levels, unemployment in the East Bay has been consistently lower than California as a whole, which has hovered around 4 percent since May 2022.

There are substantial differences in unemployment rates by race. In 2021, the annual unemployment rate was 7.2 percent in the East Bay. For white workers, unemployment was 7.3 percent and for Asian workers it was 5.8 percent. By contrast, Black workers had an unemployment rate of 9.4 percent. While unemployment has fallen by more than half in 2022, low unemployment rates don't necessarily lead to narrower gaps. For example, in 2019 unemployment in Alameda County was 3.9 percent and Black unemployment was 6.5 percent compared to 3.7 percent for white workers, a larger gap than in 2021. One reason is that the job gains between April 2020 and through 2021 were largely associated with an increase in low-wage jobs, while the number of middle- and high-wage jobs remained steady. As race and unemployment data become available for 2022, we are likely to see the same inequalities across racial and ethnic groups.

[36] Bureau of Labor Statistics; California Employment Development Department
[37] Bureau of Labor Statistics

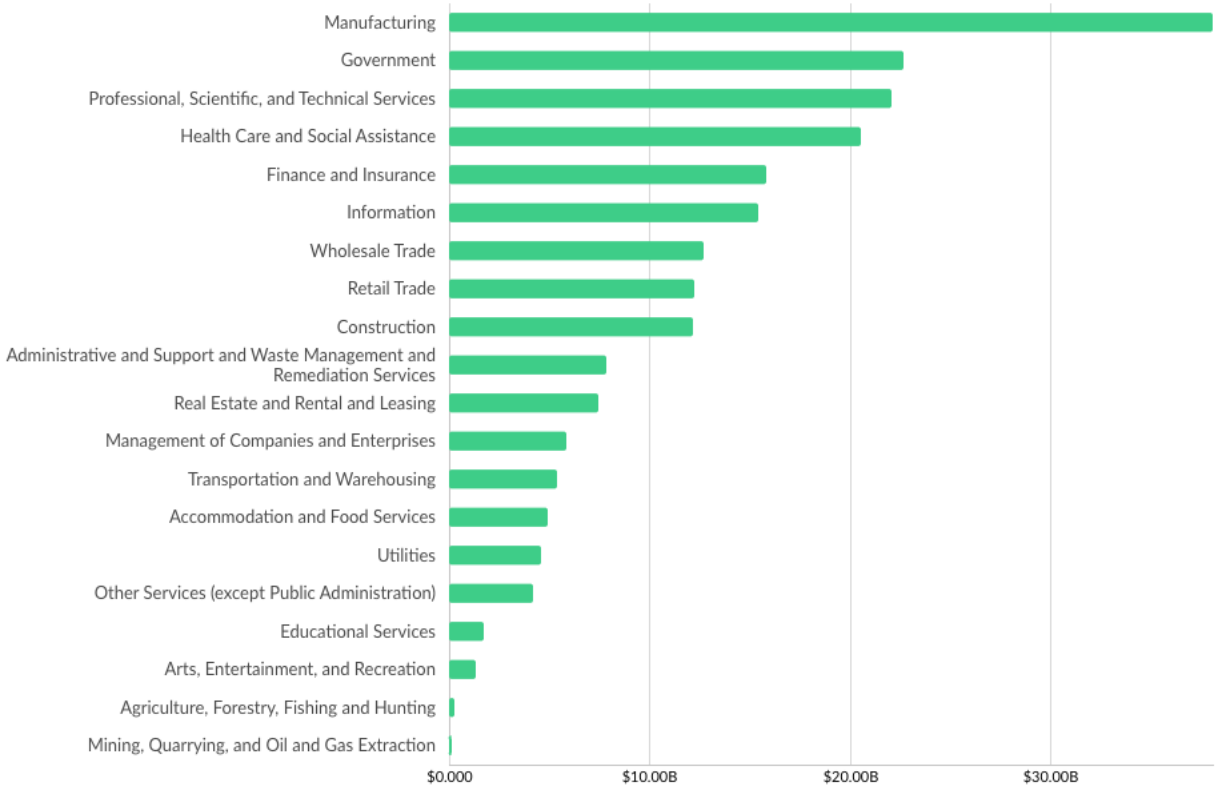
D. Industries, Occupations, and Skills

i. Industries

East Bay industry is highly diversified with the number of jobs distributed similarly across the largest sectors. Educational and Health Services is the largest major sector with 204,500 jobs in September 2022, which makes up 17.4 percent of nonfarm employment in the region. When considering industry sub-sectors, however, Manufacturing (9.7 percent), Retail Trade (9.3 percent), and Accommodation and Food Service (8 percent) are largest in the East Bay.

Despite their size in terms of employment, Retail Trade and Accommodation and Food Service contribute much less to East Bay GRP than Manufacturing or other, smaller industries by the number of people employed (see Figure 13). Industries such as Manufacturing, for example, generate faster growth in economic output relative to the number of jobs in part through automation and the application of labor-saving technology. As a result, Manufacturing plays an important role as an economic driver for the East Bay along with Professional, Scientific, and Technical Services. Health Care and Social Assistance, by contrast, is a large sector in the East Bay but the GRP per person working in the industry is relatively small.

Figure 13. Gross Regional Product by Industry in the East Bay, 2021



Source: Lightcast 2022

Employment across the largest industries has largely recovered from the pandemic. Manufacturing has had the strongest recovery in the East Bay region with 11 percent more jobs in August 2022 than in August 2019. Education and Health Services is four percent above pre-pandemic levels. Professional and Business Services (0.3 percent) and Trade, Transportation, and Utilities (1 percent) are near pre-pandemic levels. However, Nondurable Goods (-12 percent), Leisure and Hospitality (-11 percent), Financial Activities (-8 percent), and Information (-8 percent) remain well below.

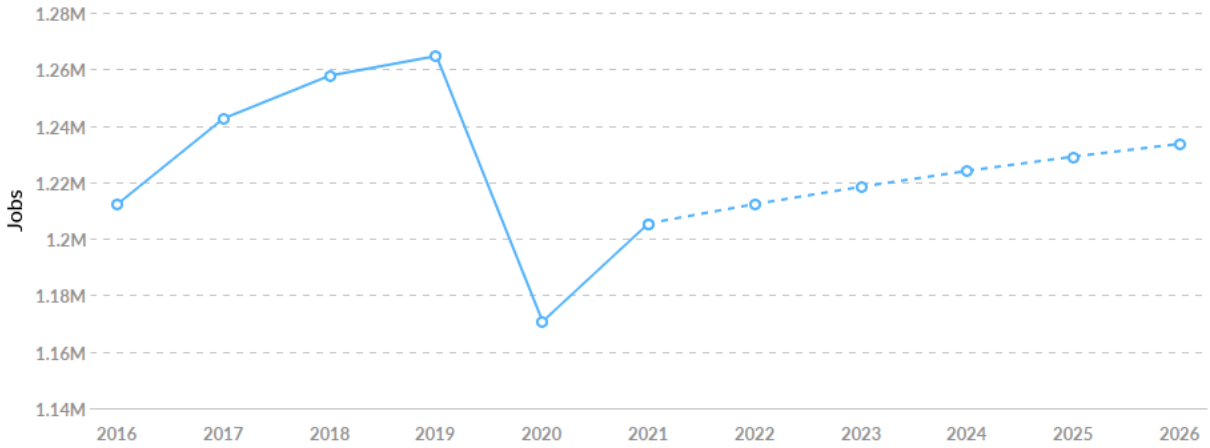
Figure 14. Change in the Number of Jobs by Industry in the East Bay, August 2019 – August 2022

Industry	East Bay
Leisure & Hospitality	-11%
Nondurable Goods	-12%
Financial Activities	-8%
Information	-8%
Government	-7%
Construction	-3%
Natural Resources, Mining, Construction	-3%
Other Services	-3%
Trade, Transportation & Utilities	1%
Professional & Business Services	0.3%
Educational & Health Services	4%
Manufacturing	11%
Total Nonfarm	-1%
Total Farm	0%

Source: Centers of Excellence for Labor Market Research, "San Francisco Bay Region: LMI News & Updates."

Overall, the number of jobs in the East Bay remains below pre-pandemic levels. In 2019, there were 1.27 million jobs in the East Bay. In 2022, there are an estimated 1.21 million jobs, which is just slightly above the number of jobs in 2016. While job growth was relatively strong from 2020 to 2021 as the East Bay began to recover from the massive job losses of the pandemic, growth has since slowed, and the number of jobs is predicted to remain below pre-pandemic levels (see Figure 15).

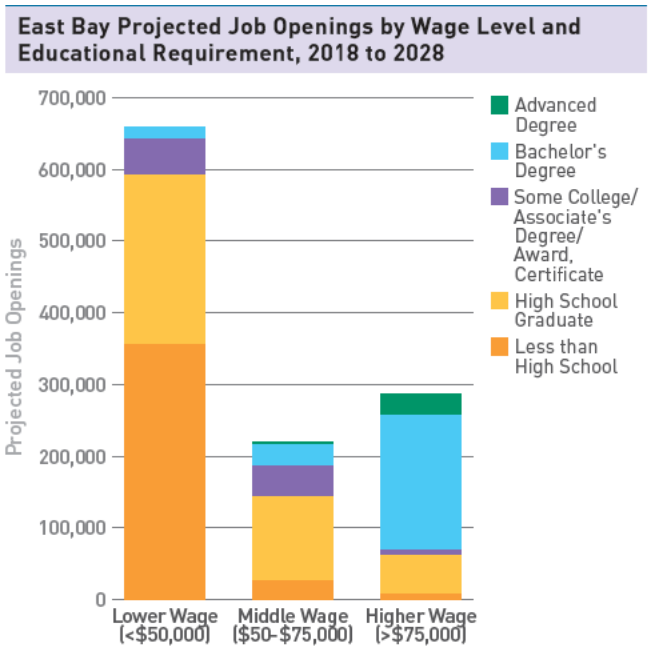
Figure 15. Number of Jobs in the East Bay, 2016-2026.



Source: Lightcast

In addition to the number of jobs remaining below pre-pandemic levels, the share of middle-wage, middle-skill jobs is declining in the East Bay as the regional economy shifts toward service jobs requiring either high or low educational attainment. As a result, shares of both high-wage and low-wage jobs have increased and will likely continue to do so at least through the end of the decade (see Figure 16).

Figure 16. Projected Job Openings in the East Bay by Wage Level and Education Requirement, 2018-2026

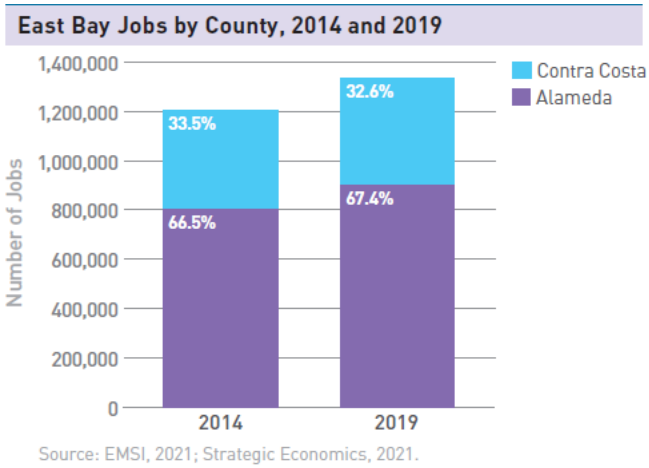


Note: There are also 365,000 additional projected job openings that do not have wage information. Sixty-five percent of these jobs require a high school diploma or less.

Source: CA EDD, 2021; Strategic Economics, 2021.

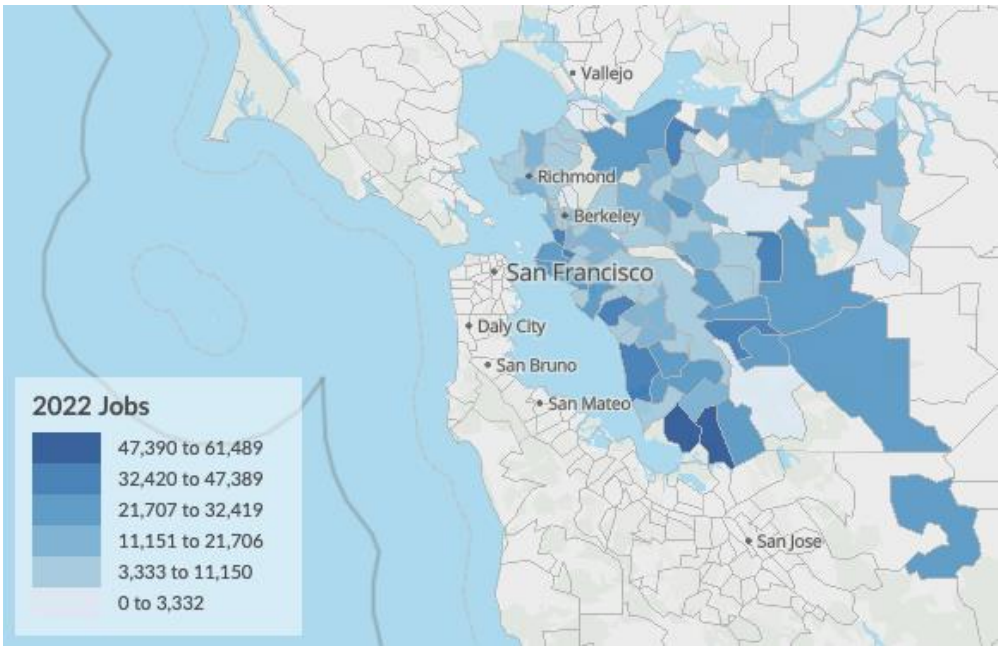
Jobs are distributed unequally across the East Bay. Over two-thirds of jobs are in Alameda County and this figure has been growing. Figure 17 shows the number of jobs in Alameda and Contra Costa Counties in 2014 and 2019.

Figure 17. Number of East Bay Jobs by County, 2014 and 2019



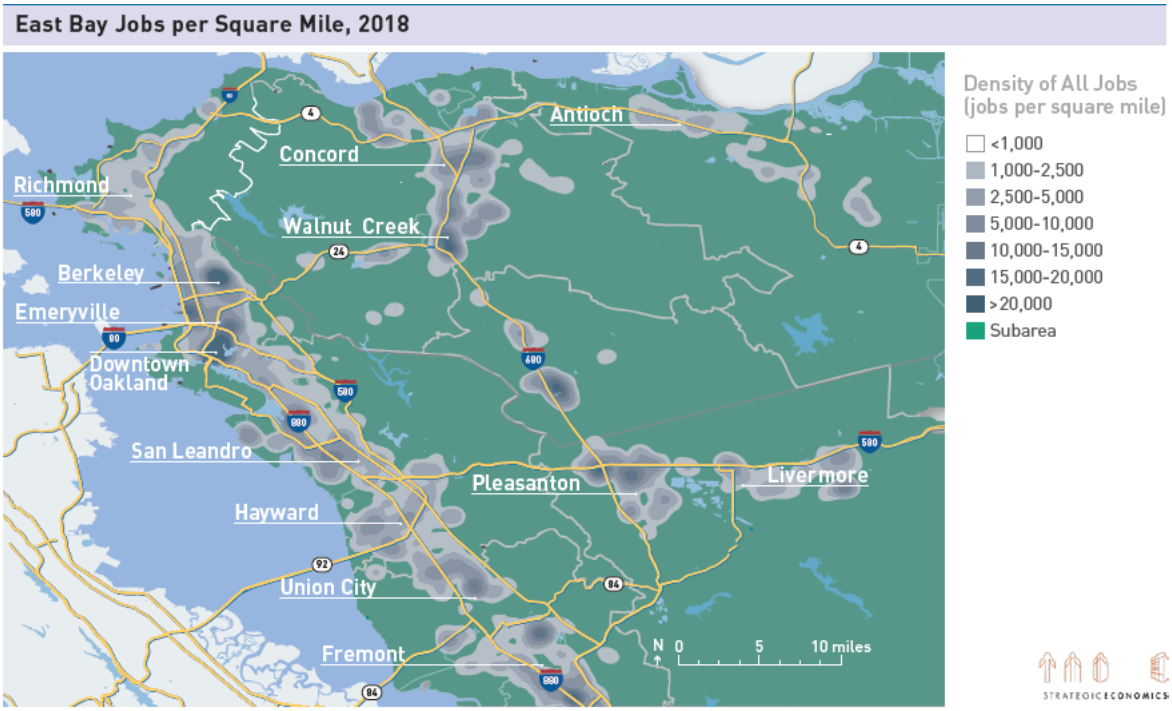
Southern Alameda has the largest number of jobs while northern Alameda has the strongest concentration of jobs (see Figure 18 and Figure 19). Downtown Oakland, Berkeley, and Emeryville constitute a large share of regional employment. The Jobs are also clustered along the Interstate 880 corridor, which connects Downtown Oakland to San Jose through Alameda County. Communities along this corridor include Fremont, Union City, Hayward, and San Leandro. In the Tri-Valley area of Alameda County, jobs are concentrated at the intersection of Interstates 580 and 680 in Dublin and Pleasanton. While there are fewer jobs in Contra Costa County, there are several large concentrations along Interstate 580 in Livermore and along Interstate 680 in San Ramon. Walnut Creek and Concord in Central Contra Costa also have strong job concentrations. The spatial employment pattern shows that communities that are closer to and better connected with the rest of the Bay Area have higher concentrations of economic activity.

Figure 18. Number of Jobs in the East Bay by Zip Code, 2022



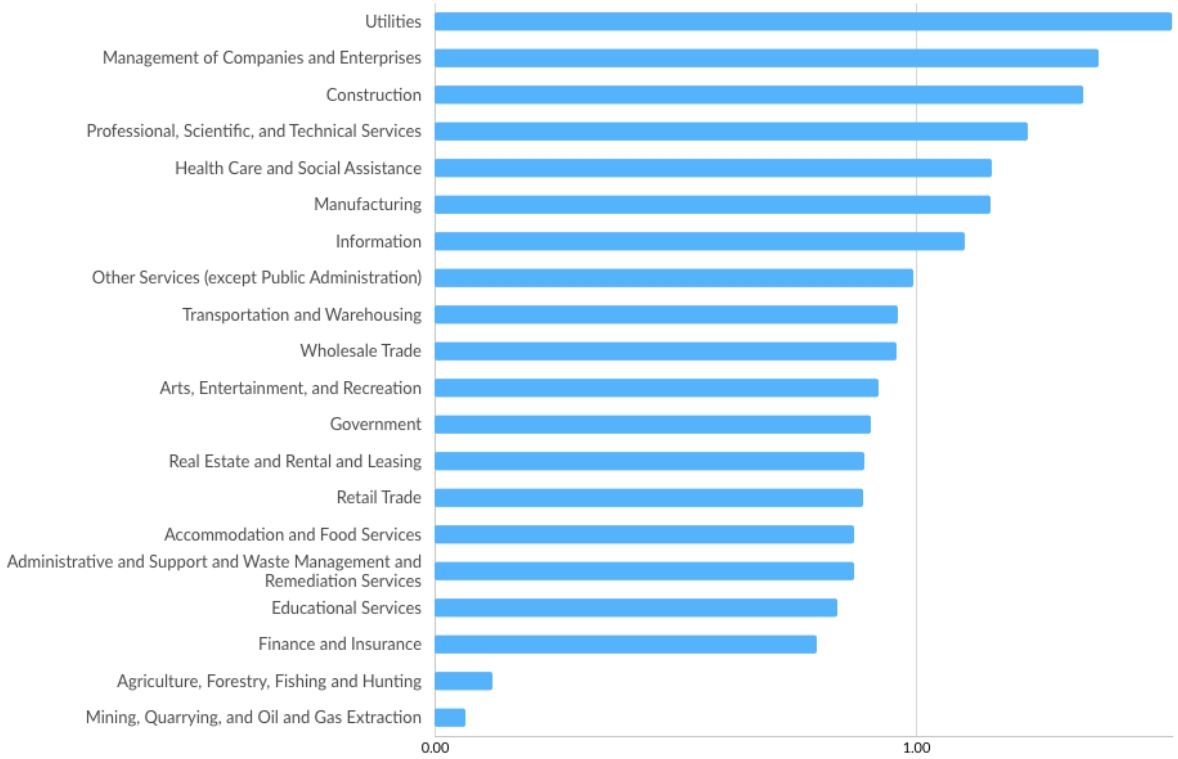
Source: Lightcast

Figure 19. Number of Jobs per Square Mile in the East Bay, 2018.



In addition to jobs being concentrated in particular places throughout the East Bay, industries are also concentrated to a greater or lesser extent across the region. The “location quotient” is used to indicate when an industry in the East Bay has a higher share of jobs than would be expected when compared against the nation. East Bay industries with a location quotient greater than one represent greater concentration of a given industry in the East Bay. The East Bay has multiple industries with a location quotient greater than one (see Figure 20). In 2021, Utilities had the highest location quotient for the region at 1.53.

Figure 20. Location Quotient for East Bay Industries, 2021

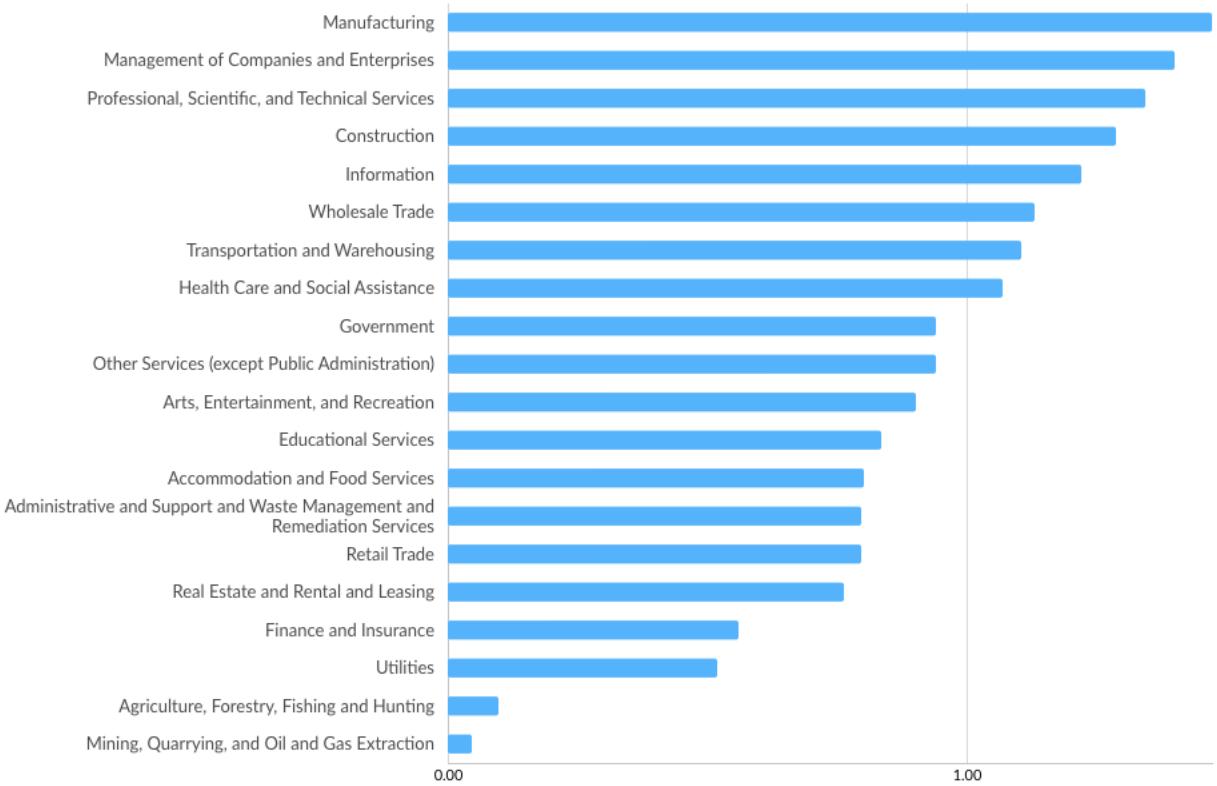


Source: Lightcast 2022

However, because East Bay industry is largely concentrated in Alameda County, the location quotient at the county level may be a better indicator of concentration. For instance, Manufacturing has a location quotient of 1.15 in the East Bay and 1.47 in Alameda County meaning it is much more concentrated in Alameda County compared to the rest of the country (see Figure 21).[38] In Contra Costa, the location quotient for Utilities is 3.69, a very high level of concentration that explains why Utilities is the most concentrated industry in the East Bay (see Figure 22). This is due to a large number of jobs in Natural Gas Distribution, which make up 95 percent) of Utilities jobs. The 4,552 Natural Gas Distribution jobs is roughly four times the number of Utilities jobs for similar sized regions around the country. The greatest demand for Utilities workers comes from PG&E, which had over 10 times the number of job postings (681 job posts) than the next employers between December 2021 and November 2022. Comparing industry concentration across the two counties gives a good indication of how industry is spread throughout the East Bay.

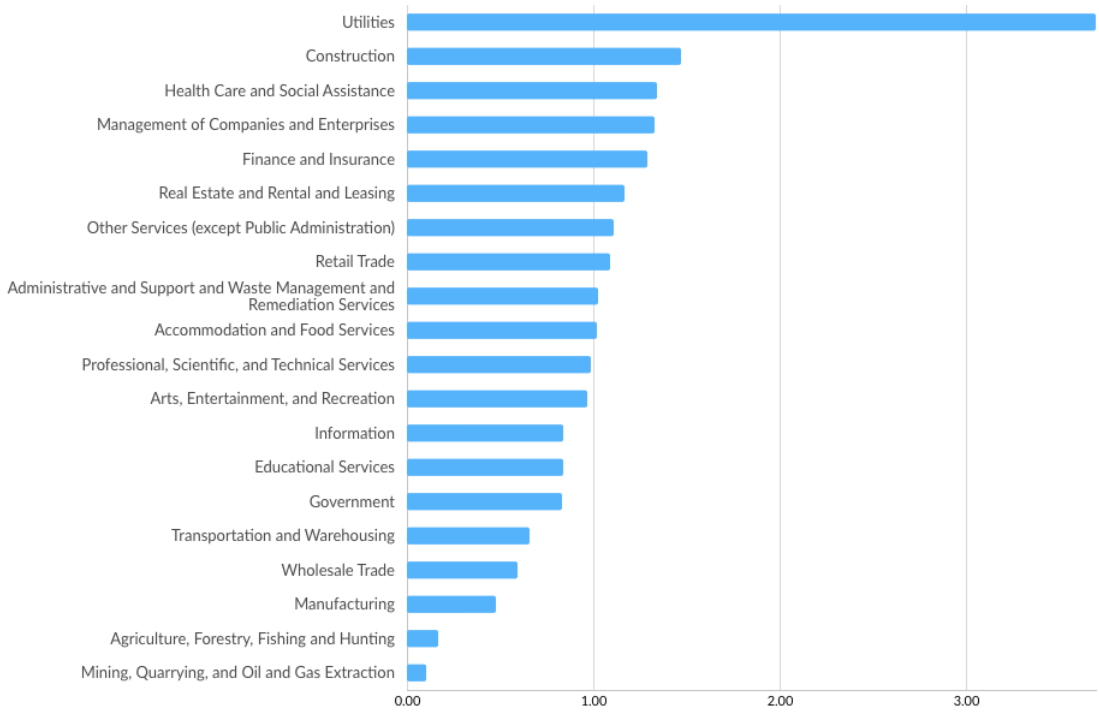
[38] Lightcast 2022

Figure 21. Location Quotient for Alameda County Industries, 2021



Source: Lightcast 2022

Figure 22. Location Quotient for Contra Costa County Industries, 2021



Source: Lightcast 2022

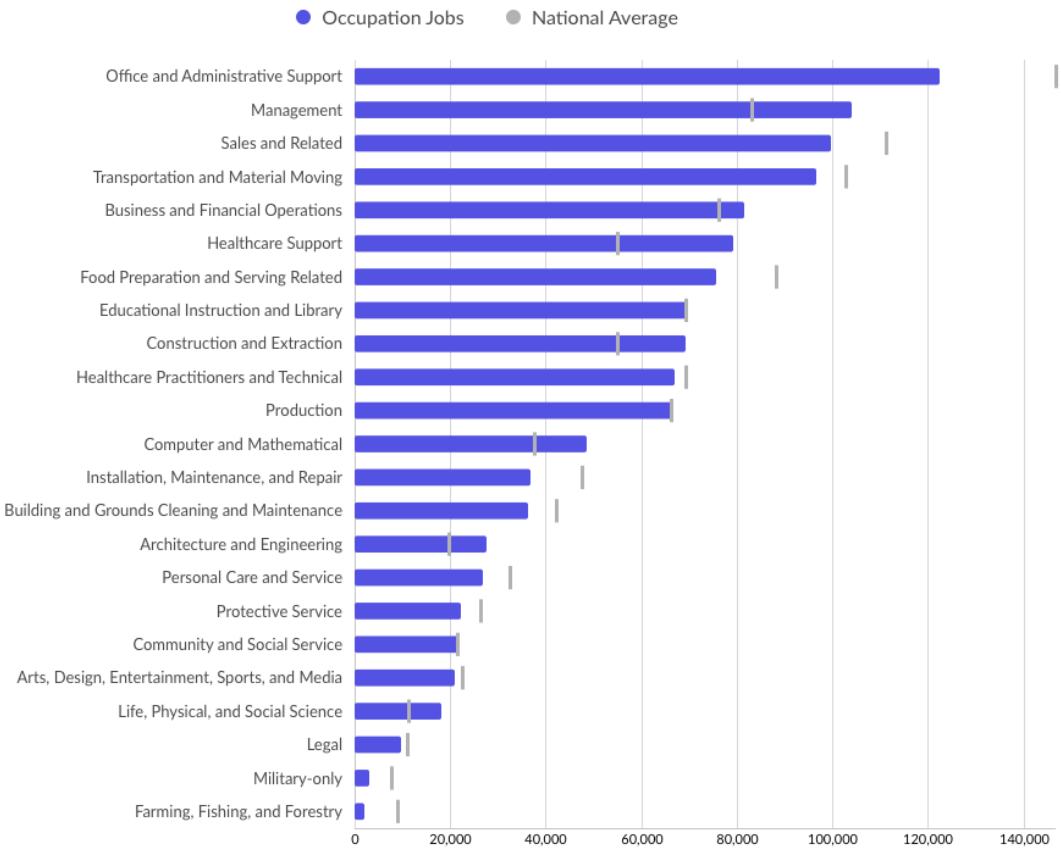
ii. Occupations

The largest number of people in the East Bay are employed in Office and Administrative Support Occupations, which make up 11 percent (120,000) of all jobs in the region.[39] These include sub-occupations such as Secretaries and Administrative Assistants (24,000), Office Clerks (16,000), and Customer Service Representatives (12,000). These occupations are relatively low paying. The median hourly earnings for Office and Administrative Support Occupations were $23.33 in 2021.

The single largest sub-occupation in the East Bay is Home Health and Personal Care Aides, which employs over 50,000 people.[40] This is consistent with the size of the Educational and Health Services sector. It is also a low paying occupation along with other Healthcare Support occupations with hourly earnings of $16.98.

Figure 23 shows the largest occupations in the East Bay and their size relative to the national average. Among the top two occupations, there are relatively few Office and Administrative Support positions in the East Bay while there are more Management positions compared to the national average. Management occupations are relatively well paying with median hourly earnings in 2021 of $62.69. This contributes to comparatively high incomes in the East Bay as opposed to the rest of the nation.

Figure 23. Number of Jobs in East Bay Occupations, 2021



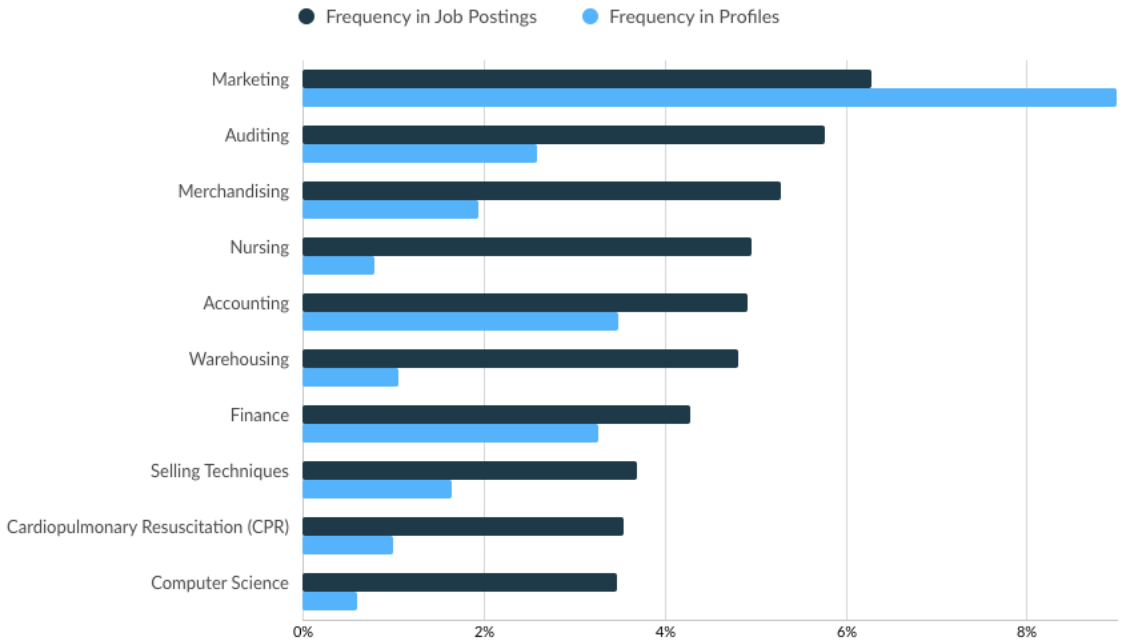
Source: Lightcast 2022

[39] California Economic Development Department
[40] Lightcast 2022

iii. Skills

Another key indicator of the regional economy is demand for skills by regional employers and the supply of skills in the labor force. Skill demand can be measured by their prevalence in online job postings while skill supply can be measured by their prevalence in workers' online profiles on websites such as LinkedIn. Among the top in-demand skills, there is generally more demand than supply. One exception is Marketing, which is the top in-demand skill. Between December 2021 and November 2022, Marketing was included in over 32,000 job postings, or six percent of all job postings during that period, but was included in nine percent of all worker profiles. Marketing is a more prevalent skill in the labor force than other high-demand skills, which may make it easier for employers to find qualified workers to do Marketing. The other top skills are more prevalent in job postings than job profiles. For example, Computer Science was in three percent of job postings and one percent of worker profiles. This suggests that employers may have a more difficult time finding qualified employees with Computer Science skills.

Figure 24. Top In-Demand Skills and Supply of Skills in the East Bay, December 2021 – November 2022

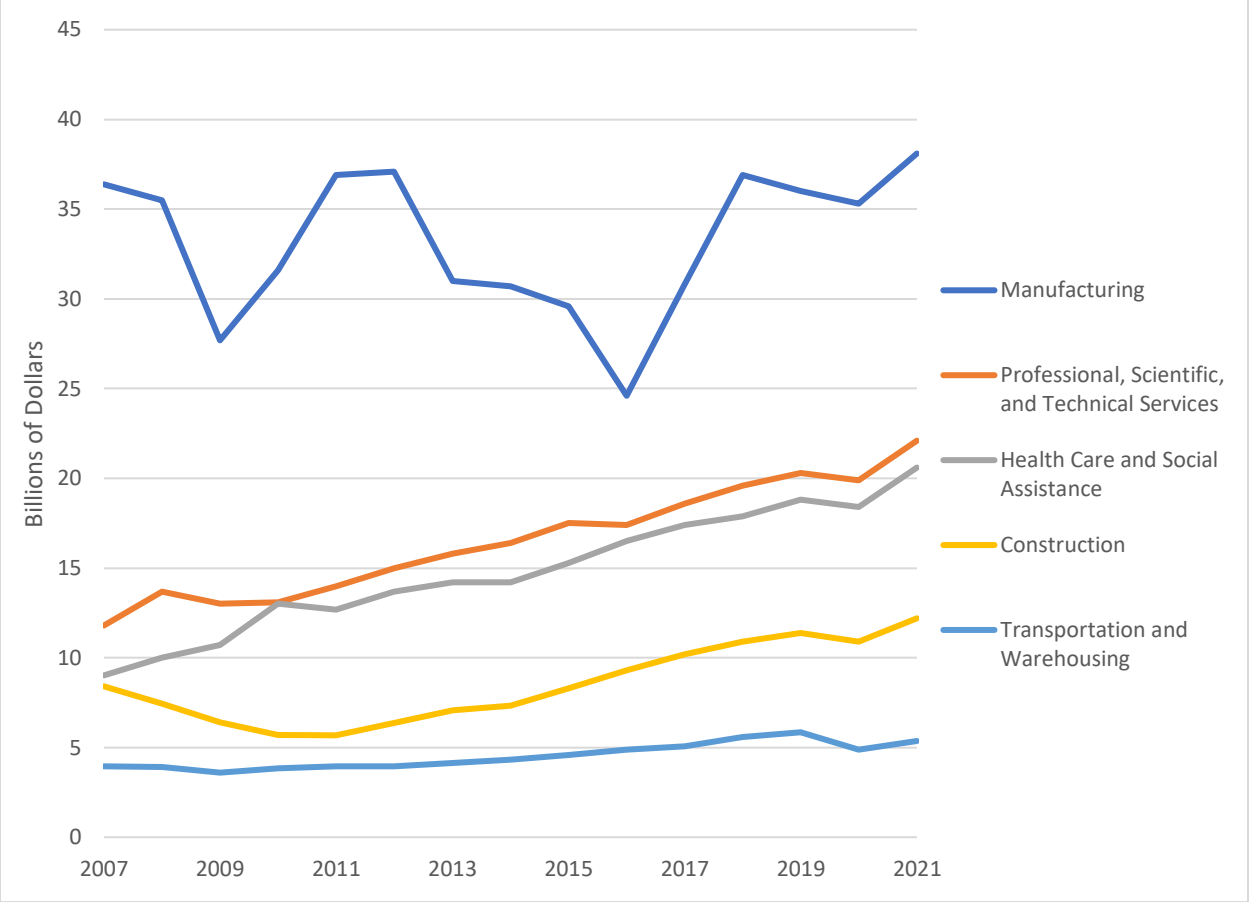


Source: Lightcast 2022

E. Core Industries

The following industries drive economic output in the East Bay. These industries are positioned to generate substantial innovation, investment, and job and business growth over the coming years. Figure 25 shows the Gross Regional Product for these core industries from 2007 to 2021. In some cases, the East Bay's strengths are different from those of the Bay Area's overall economy such as Transportation and Warehousing, which is tied to the Port of Oakland (including the major container terminals in Oakland, and Oakland International Airport), as well as the Port of Richmond, a bulk cargo port.

Figure 25. Gross Regional Product for Five East Bay Industries, 2007-2021 (number in billions).



i. Manufacturing

The strength of Manufacturing's recovery is especially positive for the region. Ninety percent of manufacturing jobs are located in Alameda County. Although only 10 percent of manufacturing jobs are in Contra Costa County, the industry is the largest contributor in terms of economic output (Gross Regional Product) in the county. Manufacturing generates an outsized impact on the East Bay's economic output and high-quality job opportunities. The industry is directly linked to the Bay Area's thriving innovation ecosystem. The manufacturing sector in the East Bay consists of biomedical, life sciences, chemicals, electronics, food & beverage, machinery, metals, and transportation equipment manufacturing.

There are nearly 114,000 manufacturing jobs and as of January 2021, Manufacturing accounted for $38.1 billion of the East Bay's Gross Regional Product and $16.1 billion in earnings.[41] Manufacturing is predicted to grow 29.1 percent between 2016 and 2026. The industry is critical for the East Bay's economic growth. The industry provides a higher share of entry-level, middle-wage jobs compared to other sectors with relatively low barriers to entry in terms of experience and educational levels required. Manufacturing businesses tend to provide robust on-the-job training and career pathway opportunities.

[41] Lightcast 2022

The average salary for manufacturing jobs in the East Bay is $147,692, much higher than the $95,117 national average for similarly sized regions. However, wages vary widely across the industry and given the relationship between educational attainment and wages, white and Asian workers are likely to be in the highest paying positions. There are disproportionate numbers of Asian (33.9 percent) and Hispanic or Latino (25.5 percent) workers in the industry, but disproportionately few white (31.7 percent) and Black (5.7 percent) workers. The industry is also highly gendered with men making up 67.1 percent of workers.

The largest manufacturing sector is Automobile Manufacturing, which accounts for more than 23,000 jobs.[42] This sector is continuing to grow, as well. From November 2021 to November 2022, there were nearly 37,000 unique job postings by roughly 1,500 employers. Tesla (3,142) and Lucid Motors (3,098) each accounted for roughly three times the number of job posts as Abbott Laboratories (1,094), Siemens (742), and Thermo Fisher Scientific (612) (see Figure 26).

Figure 26. Top 10 Companies by Job Posts for Manufacturing Jobs in the East Bay, November 2021 – November 2022

Company	Total/Unique (Nov 2021 - Nov 2022)
Tesla	6,805 / 3,142
Lucid Motors	8,025 / 3,098
Abbott Laboratories	4,463 / 1,094
Siemens	2,060 / 742
Thermo Fisher Scientific	1,538 / 612
Lam Research	1,583 / 510
Danaher	1,559 / 491
Bio-Rad Laboratories	1,347 / 451
10X Genomics	1,101 / 443
Amyris	828 / 395

Source: Lightcast 2022

Advanced manufacturing is a large and growing part of the East Bay manufacturing sector. There are over 7,500 East Bay workers employed in semiconductor-related manufacturing.[43] Another 5,343 are employed in Surgical and Medical Instrument manufacturing. Together, the top ten advanced manufacturing industries employ nearly 27,000 people in the East Bay. The importance of advanced manufacturing is evident in job postings data. From August to October 2022, Computer Science was the most frequently sought-after skill. Other top skills include New Product Development, Automation, Electrical Engineering, Python, Data Analysis, and Mechanical Engineering.

[42] Lightcast 2022
[43] Lightcast 2022

ii. Professional, Scientific, and Technical Services

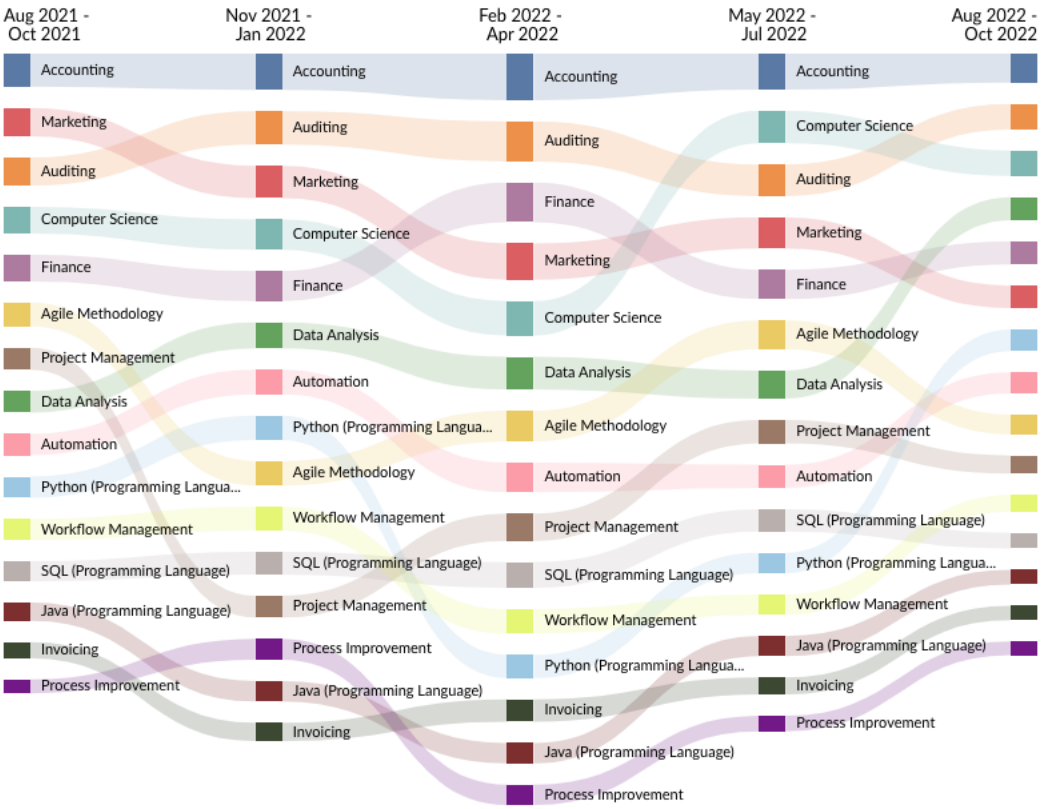
There are over 100,000 Professional, Scientific, and Technical Services jobs in the East Bay.[44] These jobs are concentrated in Alameda County where three-quarters are located. Gross Regional Product for the industry in 2021 was $22.1 billion and has grown steadily, nearly doubling since 2007. However, growth is expected to lag behind the national average between 2016 and 2026 adding 9.6 percent more jobs compared to 16.5 percent nationally.

Over the past year, there have been over 56,000 unique job postings by 3,500 employers including Robert Half, Lawrence Livermore National Laboratory, and Deloitte.[45] The most common job title in job postings is Administrative Assistant (683 job posts), but this is followed by Designer (342 job posts), Project Manager (332 job posts), and Software Engineer (322 job posts). These latter jobs are high paying occupations that make up large sub-sectors like Computer Systems Design and Related Services (23,000 jobs) and Architectural, Engineering, and Related Services (19,000 jobs). Software Developers (7.4 percent) was the largest occupation in the industry in 2021 and had median hourly earnings of $70.07.

In general, Professional, Scientific, and Technical Services occupations are high paying. Of the top 10 occupations, six paid a median hourly wage over $50. The average median hourly earnings of the top 10 occupations are $56.36. The top in-demand skills are a mix of financial and technical skills and include Accounting, Auditing, Computer Science, Data Analysis, and Finance (see Figure 27).

[44] California Economic Development Division; Lightcast 2022
[45] Lightcast 2022

Figure 27. In-Demand Skills for Professional, Scientific, and Technical Services Industry Occupations in the East Bay, 2021-2022.



Source: Lightcast 2022

Each of these occupations typically requires a bachelor's degree or higher for entry-level positions. Lower educational outcomes for residents of color contributes to racial and ethnic inequalities in the Professional, Scientific, and Technical Services workforce where nearly half of employees are white (49.8 percent). Hispanic or Latino (14.4 percent) and Black (4.3 percent) workers are underrepresented.

iii. Health Care and Social Assistance

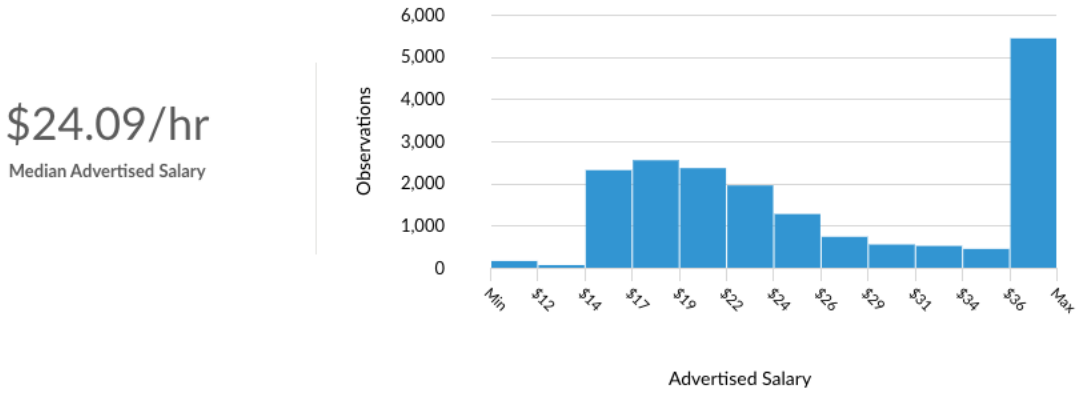
The majority of Health Care and Social Assistance jobs are located in Alameda County (63 percent in 2021) but it is also the largest industry in Contra Costa County with more than 66,000 jobs.[46] Gross Regional Product (GRP) of the Health Care and Social Assistance industry has grown steadily since 2007 from $9.02 billion to $20.6 billion and $16.8 billion in earnings in 2021.

There are more than 180,000 Health Care and Social Assistance jobs and the sector is predicted to grow 23.3 percent between 2016 and 2026.[47] The largest number of jobs are in Ambulatory Health Care Services and Social Assistance. There are nearly 50,000 people employed as Home Health and Personal Care Aides, which is over a quarter of the industry and has median hourly earnings of only $16.98. The size of this occupation accounts for the high demand for skills such as CPR, Caregiving, Meal Planning and Preparation, and Companionship. Wages across the sector are relatively low with a few exceptions

[46] Lightcast 2022
[4747] California Economic Development Department; Lightcast 2022

such as Registered Nurses, which account for 10.1 percent of employees. From November 2021 to November 2022, the median advertised hourly wage in job postings for Health Care and Social Assistance job in the East Bay was $24.09 (see Figure 28)

Figure 28. Advertised Hourly Wages for Health Care and Social Assistance Jobs in the East Bay, November 2021 – November 2022.



Source: Lightcast 2022

Health Care and Social Assistance is a highly gendered industry with 72.9 percent of jobs held by women. There are also disproportionate numbers of Asian (31.6 percent) and Black (14.8 percent) workers. Over three-quarters of job postings over the past year listed less than a bachelor's degree as a required or preferred education level, including 39 percent that did not list any education requirement or preference.[48] While there are low barriers to entry in the industry, it is highly racialized and gendered with predominately low-wage jobs.

iv. Construction

The Construction industry contributed $12.2 billion to Gross Regional Product in 2021, more than doubling since 2011.[49] It is the fourth largest industry in Contra Costa County and the sixth largest in Alameda County.

In September 2022, there were over 74,000 workers in Construction. Most Construction industry jobs are in Specialty Trade Contractors (67 percent) with the largest occupations being Construction Laborers (9.8 percent), Carpenters (8.4 percent), and Electricians (6.8 percent).[50] Construction jobs typically have low educational requirements and relatively high wages. Of the top 10 occupations, three typically have no formal education requirement and four typically require only a high school diploma. The average median hourly earnings for the top 10 occupations are $39.15.

Construction industry workers are disproportionately men (78.6 percent), white (44.4 percent), and Hispanic or Latino (41.1 percent). There is thus a wage premium for lower-educated white and Hispanic or Latino men in the Construction industry. Union density is also relatively high in the construction

[48] Lightcast 2022
[49] Lightcast 2022
[50] California Economic Development Department; Lightcast 2022

industry. In 2021, 18.4 percent of construction employees in the United States were represented by unions.[51] This is nearly double the national union membership rate of 10.3 percent.

v. Transportation and Warehousing

Transportation and Warehousing accounted for $5.4 billion in Gross Regional Product in 2021. There are approximately 44,000 Transportation and Warehousing jobs in the East Bay with nearly 80 percent of jobs in Alameda County.[52] Although the sector is relatively small, it is predicted to grow 42.7 percent between 2016 and 2026. The Transportation and Warehousing industry is key to the "Blue Economy," which is critical to the region's future growth (see a discussion of the blue economy below). Over the past 12 months, there were nearly 11,000 unique job postings with FedEx and UPS as the top hiring companies and Warehousing and Truck Driving the top skills in demand. Transportation and Warehousing workers are disproportionately men (70.8 percent), Hispanic or Latino (31 percent), and Black (15 percent). Entry-level education requirements and wages are relatively low throughout the industry apart from management positions, which typically require a bachelor's degree.

The East Bay plays a critical role in the broader region's goods movement and logistics ecosystem. Goods Movement and logistics in the East Bay are supported by the Port of Oakland and regional Airports, the Port of Richmond, rail and highway connections, and extensive space for warehouses, vehicle storage, and other distribution facilities.

IV. LOOKING FORWARD

Ongoing technological advances in areas like big data, robotics, and artificial intelligence (AI), continually accelerate the pace of change in many industries. Technological development transforms industry when employers deploy new technologies in ways that reduce the number of jobs available. Employers may also use new technologies in ways that expand the numbers of existing jobs or create entirely new types of positions. Whatever the outcome, employers will continue to use new technologies to reorganize production and change work processes. Even when they don't lead to the elimination of jobs, new technologies pose a significant threat to workers' wages and job quality. Technologies that facilitate monitoring and control over workers' actions, speed up the pace of work, and generally devalue workers are also more likely to undermine equity for women, people of color, and other disadvantaged workers.[53] These concerns should be at the forefront of any analysis of technology-driven change in the East Bay economy.

Technological change is at the heart of the growing Blue Economy, which is key to the East Bay's future economy. According to the National Oceanic and Atmospheric Association, prior to the COVID-10 pandemic, the Blue Economy grew faster than the national economy.[54] Between 2014 and 2018,

[51] Bureau of Labor Statistics 2021. https://www.bls.gov/news.release/pdf/union2.pdf
[52] California Employment Development Department 2022; Lightcast 2022
[53] Hammerling (2022) https://laborcenter.berkeley.edu/wp-content/uploads/2022/09/Technological-change-in-five-industries-Threats-to-jobs-wages-and-working-conditions.pdf
[54] NOAA (2021) https://aambpublicoceanservice.blob.core.windows.net/oceanserviceprod/economy/Blue-Economy%20Strategic-Plan.pdf

economic output of America's seaports grew 17 percent and reached 26 percent of Gross Domestic Product.

The Port of Oakland is one of the ten busiest container ports in the United States by cargo volume. The seaport enables the East Bay's businesses (especially manufacturing businesses) to efficiently engage with a global supply chain. The Port of Richmond is another major support for the East Bay economy, providing bulk and liquid cargo transportation.

The federal government is focused on growing the Blue Economy in key areas such as marine transportation, ocean exploration, seafood competitiveness, tourism and recreation, and coastal resilience.[55] These are opportunities for the East Bay economy to grow.

Related to the Blue Economy, CleanTech activities and industries are attracting investment in the East Bay and will continue to grow as our society moves to address environmental challenges by reducing waste and carbon emissions. The East Bay's CleanTech businesses benefit from an expansive network of firms involved in scientific research and development, advanced manufacturing, and construction. Creative technology and design services, more generally, tie directly into the Bay Area's innovation ecosystem. This industry group is dominated by businesses related to the Bay Area's computer technology industry and scientific research and development. Technology and design jobs span fields such as architecture, engineering, media, and technical consulting.

The manufacturing sector in the East Bay is highly intertwined with the East Bay's technology sector. Innovations in the digitization of the supply chain, automation, AI, and sustainable operations are part of accelerating changes for the manufacturing industry. A key growth area tied to manufacturing is the biomedical field. The East Bay plays a specialized role within the Bay Area as an innovation ecosystem focused on medical equipment, biotechnology, pharmaceuticals, and medical devices. The East Bay biomedical field is supported by strong relationships among national laboratories, universities, and industry associations and accelerators. For these reasons, biomedical industries are positioned to continue attracting major venture capital investments.

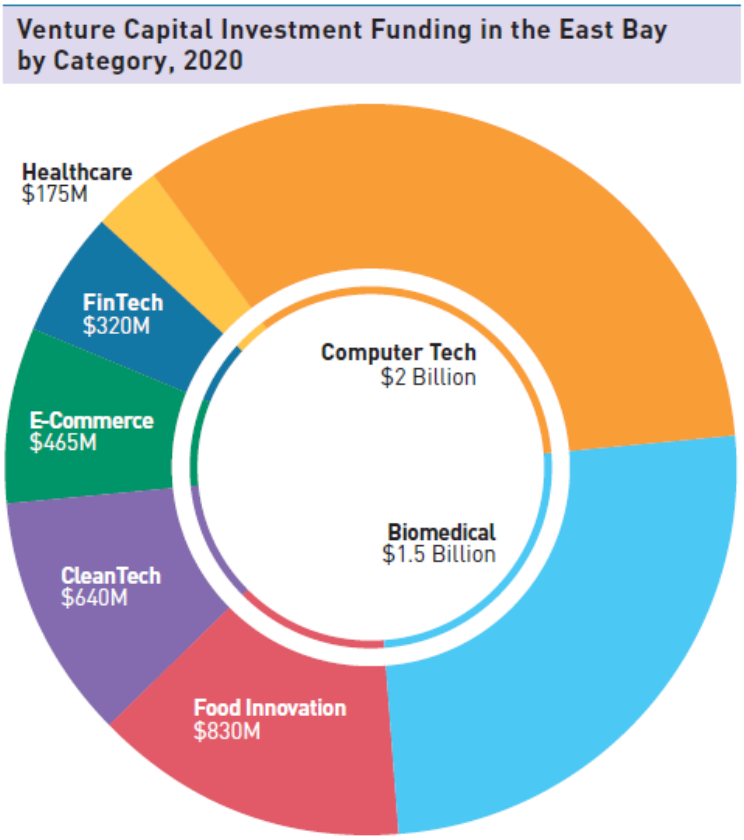
Venture capital investments are an indicator of the types of businesses and industries poised for growth and serve as a measure of the East Bay's competitiveness. They reflect a combination of the East Bay's strengths within the Bay Area and the strengths of the Bay Area overall. Figure 29 shows the breakdown of venture capital funding in the East Bay in 2020 and Figure 30 shows venture capital funding by East Bay subarea. Despite the COVID-19 pandemic, venture capital investment reached the second highest level on record in Oakland in 2020 at $897 million.[56] The number of venture capital investments increased 470 percent from 2010 to 2020, and between 2015 and 2020, the city has averaged 130 venture capital deals per year.

Substantial venture capital has gone to technologies associated with autonomous vehicles, cloud-based productivity software, semiconductors, AI and cybersecurity.[57] In the biomedical field, some of the largest investments have involved medical screening and treatment development, medical devices development, drug discovery, and vaccine research. There has been a heightened focus on environ-

[55] NOAA (2021)
[56] Oakland Chamber of Commerce (2021)
[57] East Bay Forward. East Bay EDA. September, 2021.

mental sustainability and climate change resiliency across sectors, and firms have received funding for activities in renewable energy, building decarbonization, plant-based food and textile development, and agriculture. CleanTech awards accounted for 10 percent of venture capital funding in 2020.[58] Finally, there have been many investments in software applications to support e-commerce payment solutions and financial trading or investment tools.

Figure 29. Venture Capital Funding in the East Bay by Sector, 2020.

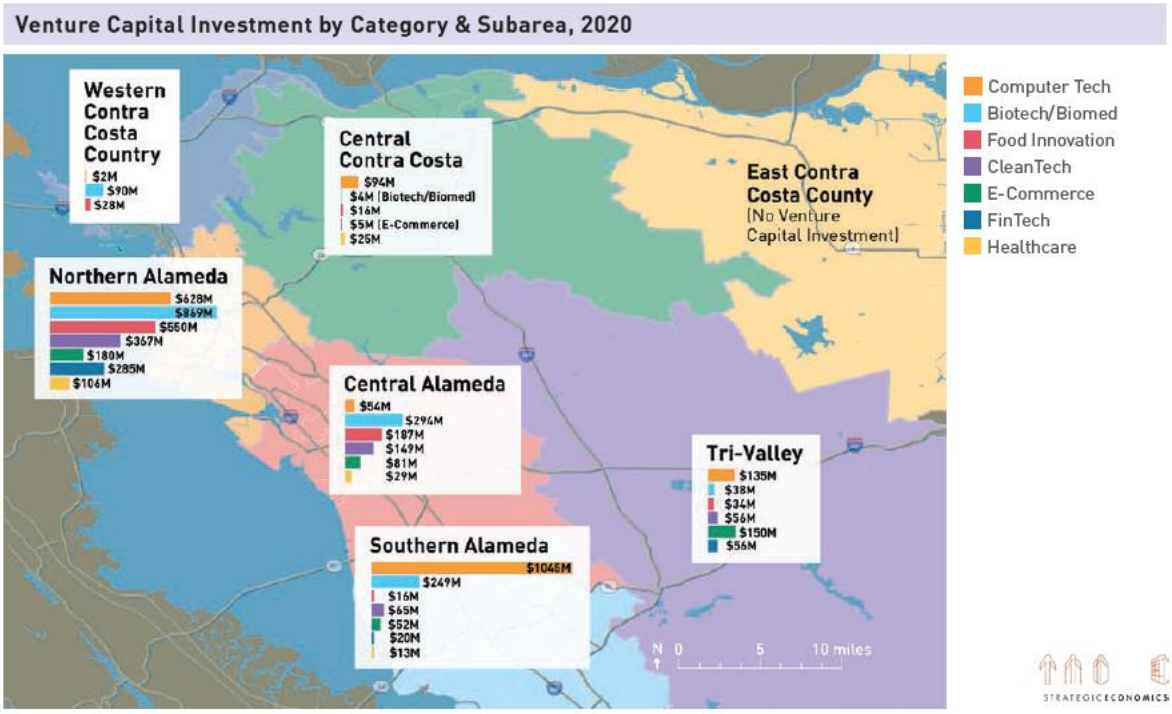


Note: The categories used in this figure are customized based on the establishment-level data. They offer more detail than Figure a, which is just based on aggreggate-level data for the Bay Area subregions.

Source: Pitchbook, 2021; Strategic Economics, 2021.

[58] East Bay Forward. East Bay EDA. September, 2021.

Figure 30. Venture Capital Funding in the East Bay by Subarea, 2020.



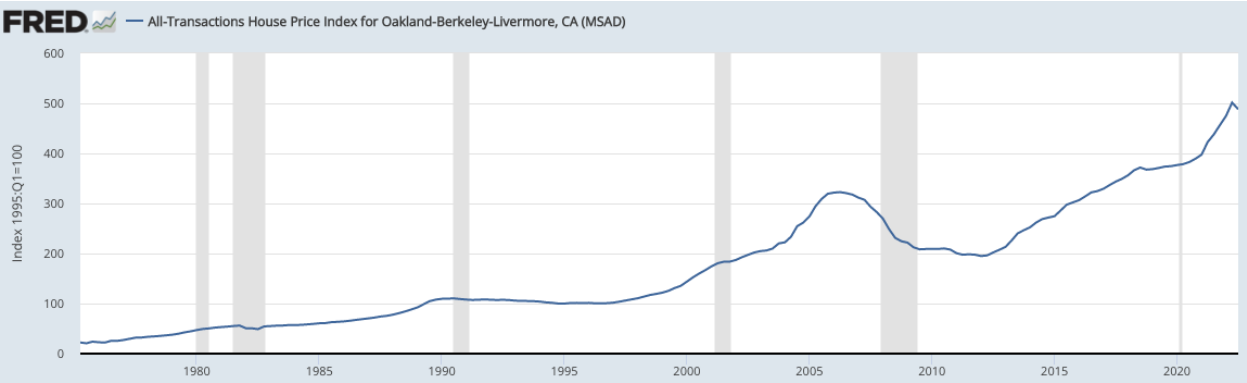
V. CHALLENGES

There are several challenges to the East Bay's continuing economic growth and to broadly shared opportunity and economic outcomes across the East Bay population. As noted above, an aging population means greater stress on healthcare and social services and growing demand for low-wage workers in care industries and sectors. Other challenges include the high cost of housing in the East Bay and persistent inflation that affects the region's already high cost of living.

According to the Council for Community and Economic Research's cost of living (COL) index, the East Bay's COL (147.8) is high relative to the national average (100) and California (135.2).[59] A major contributor to the East Bay's COL is housing. House prices have risen sharply since the mid-1990s and especially following the Great Recession as housing costs began to rise again after 2012 (see Figure 31).

[59] Lightcast 2022

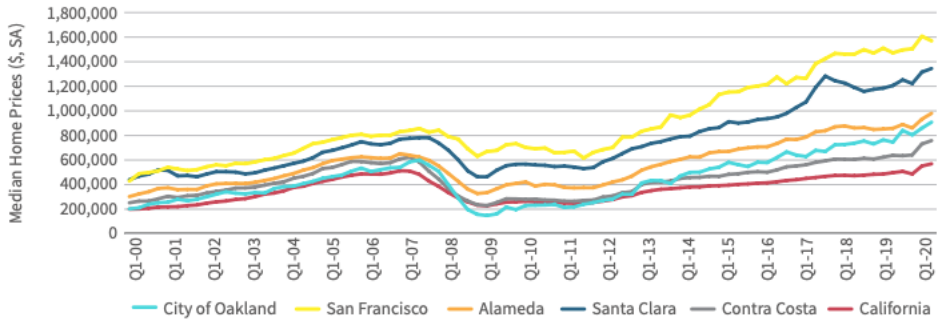
Figure 31. House Price Index for the East Bay, 1975-2022.



Source: St. Louis Fed

The median listing price for housing in Alameda County in June 2022 was $1.02 million up from $700,000 in December 2016.[60] In Contra Costa County, the median listing price in June 2022 was $867,000. By contrast, the median listing price was $449,000 for the nation as a whole. Despite relatively high median wages in the East Bay, housing is much more unaffordable in the region than many other parts of California. However, housing costs are lower in the East Bay than other parts of the Bay Area. For example, single-family home prices are higher in San Francisco and Santa Clara than in the East Bay (see Figure 32).

Figure 32. Median Single-Family Home Prices in the Bay Area, Q1 2000 – Q1 2020



Source: Oakland Chamber of Commerce

Although housing is relatively less expensive in the East Bay, home prices rose faster in the East Bay between Q4 2019 and Q4 2020. In Oakland, existing single-family home prices increased by 22.1 percent compared to 6.7 percent in San Francisco County, 11.6 percent in Santa Clara County, and 14.9 percent in California.[61]

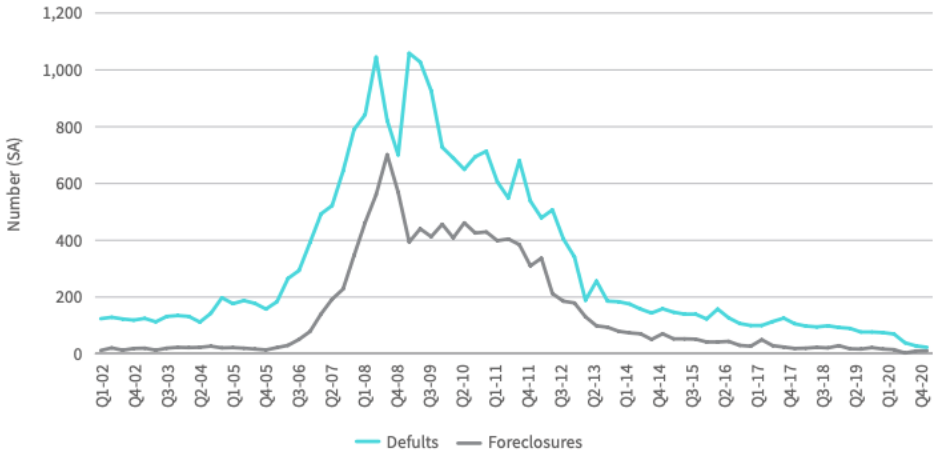
Rents in the East Bay are also relatively high. The median gross rent in Alameda County was $2,061 over the period 2017-2021 and in Contra Costa County it was $2,043.[62] In California, the median gross rent during this period was $1,698 and $1,163 for the country. The COVID-19 pandemic put downward pressure on rents in 2020, but they have since risen rapidly. An analysis of Rent.com's multifamily rental

[60] St. Louis Fed
[61] Oakland Chamber of Commerce (2021)
[62] US Census

property inventory for one- and two-bedroom units between August 2021 and August 2022 indicates that Oakland is now the fourth most expensive city in the nation with an average rent of $4,398. This is 11.3 percent higher than in 2021 and higher than San Francisco's average rent of $4,251.[63] Rents in Fremont are lower than Oakland but rose 34.8 percent from 2021 to 2022 to $3,395 per month.

High housing costs mean that people are more vulnerable during economic downturns. Federal, state, and local policies and assistance limited mass eviction and foreclosure during the pandemic. For example, Figure 33 shows the number of defaults and foreclosures in the City of Oakland between the start of 2002 and the end of 2020. However, the pandemic's economic effects demonstrated how vulnerable many East Bay residents are to economic shocks in such a high-cost region. In 2019, the average household in Oakland would have to spend 46 percent of its income to afford a median-priced home.[64] Expensive housing can impact mental health and access to opportunity, with disproportionate impacts on lower-income workers.

Figure 33. Number of Defaults and Foreclosures in the City of Oakland, 2002 – 2020



Source: Oakland Chamber of Commerce

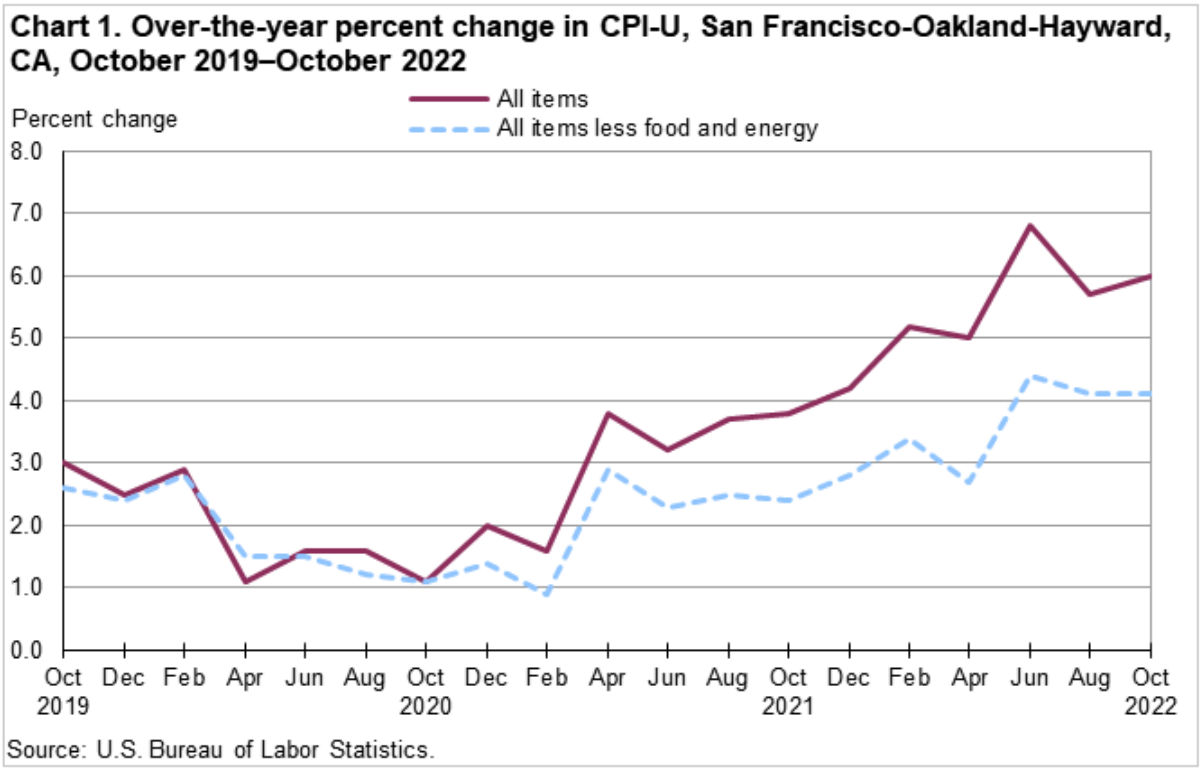
High housing costs are also cited by employers as one of the greatest challenges in attracting and retaining workers. Expensive housing can deter talented workers in professional fields from moving to or staying in the region. Workers in lower-paying professional sectors, such as Education or Social Welfare, often relocate to find less expensive housing. Relocating for less-expensive housing increases the potential for long commutes, especially for lower-wage workers. Those who remain in the East Bay are often forced to seek housing in low-cost neighborhoods or cities, which also tend to be far from the East Bay's major employment centers. Housing prices are also a reason for businesses to relocate out of the East Bay, which may increase the distance between East Bay workers and jobs.

Another challenge for the East Bay economy is inflation. The consumer price index (CPI) has increased steadily since February 2020. Between October 2019 and October 2022, the CPI for all urban consumers increased six percent (see Figure 34) with energy prices increased by 25.9 percent and food prices increasing 10 percent.[65] The sharp increase in energy prices was driven by high gasoline prices, which

[63] Nelson (2022) https://www.rent.com/research/highest-rent-in-the-us/
[64] Oakland Chamber of Commerce (2021)
[65] Bureau of Labor Statistics

rose 32 percent over the year. In September 2022, the average cost for a gallon of gasoline in the Bay Area was $5.67 compared to $3.99 for the U.S.

Figure 34. Over-the-Year Change in Consumer Price Index for All Urban Consumers in the Bay Area, October 2019 – October 2022.



A recent wave of layoffs in the tech industry is also likely to affect the East Bay region. Estimates suggest that by early December 2022, over 120,000 people had been laid off by Bay Area tech companies with more layoffs expected. Layoffs will create short- and medium-term problems for the East Bay economy and laid off workers, in particular. Large-scale layoffs increase mortality, stress, depression, and addictive behavior. However, the cause of the layoffs may not be a long-term structural problem. Many companies may be laying off employees as a result of pressure from boards and investors to follow the example of other companies in the region.[66] While harmful, this could mean an opportunity for East Bay companies to hire talented workers who have been let go.

[66] De Witte (2022) https://news.stanford.edu/2022/12/05/explains-recent-tech-layoffs-worried/