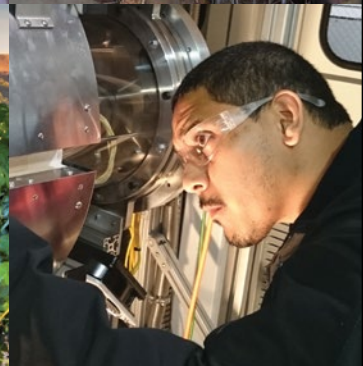


Economic
Recent Trends
Employment
Health Care
Industry
Technology
& Innovation
Ports & Trade
Consumer
Demand
Business Trends
Residential
Real Estate
Commercial
Long-Run
Considerations
Education
The Impact of
Education on
Employment
and Income
Health Insurance
and Social
Services
Shifting
Demographics
Recession Effects

East Bay ECONOMIC OUTLOOK



2016-17



EAST BAY ECONOMIC OUTLOOK 2016-17

CONTENTS

EXECUTIVE SUMMARY 3

EAST BAY EMPLOYMENT 4

Overview 4	Commuting 7
Labor Markets 4	Age and Educational Attainment 8
Industry Concentration and Firm Size 6	Labor Market Forecast 9

EAST BAY BUSINESS ACTIVITY 10

Business Activity Overview 10	Personal Income 13
Local Spending 11	International Trade 13
Tourism and Business Travel 12	Venture Capital 15

EAST BAY COMMERCIAL REAL ESTATE 18

Commercial Real Estate Overview 18	Retail Construction 22
Office Rental Market 18	Warehouse Rental Market 22
Office Submarkets 19	Warehouse Submarkets 23
Office Construction 20	Flex/R&D Rental Market 24
Retail Rental Market 21	Flex/R&D Submarkets 24
Retail Submarkets 21	Industrial Rental Market 25

EAST BAY RESIDENTIAL REAL ESTATE 26

Overview 26	Home and Condominium Prices and Sales 28
Home Prices 26	Apartment Vacancies and Rents 30
Condominium Prices 26	Residential Construction 30
Housing Affordability 26	Forecast of Existing Single-Family Home Prices and Sales 31
Defaults and Foreclosures 26	Forecast of Construction Activity 32
Supply 27	
Home and Condominium Sales 28	

EAST BAY DEMOGRAPHICS / QUALITY OF LIFE 33

Population Growth 33	Income and Education 35
Population Composition (Age and Ethnicity) 34	Occupations and Workforce Readiness 37

CONCLUSION 39

ABOUT THIS REPORT

The **East Bay Economic Development Alliance** (East Bay EDA) is a public/private partnership serving the San Francisco Bay Area's East Bay (Alameda and Contra Costa Counties). East Bay EDA's mission is to be the regional voice and networking resource for strengthening the economy, building the workforce and enhancing the quality of life in the East Bay.

One of East Bay EDA's core strategies is to provide valuable information about the trends impacting the East Bay economy. Each year we produce an annual East Bay Economic Outlook, which is both a forecast and a summary of key economic indicators for the East Bay as it compares to the Bay Area region, the state of California, and the nation as a whole.

REPORT AUTHORS

This report was prepared for East Bay EDA by Beacon Economics:

Christopher Thornberg, Ph.D., *Founding Partner*
Robert Kleinhenz, Ph.D., *Executive Director of Research*
Eric Meux, *Senior Research Associate*
Brian Vanderplas, *Senior Research Associate*
Alan Hooper, *Senior Research Associate*
Justin Niakamal, *Research Associate*

To contact Beacon Economics:
Rick Smith, Director of Business Development
Beacon Economics, LLC
(858) 997-1834 | rick@beaconecon.com | www.beaconecon.com

Reproduction of this document or any portion therein is prohibited without the express written permission of East Bay Economic Development Alliance and Beacon Economics LLC.

Copyright ©2016 by the East Bay Economic Development Alliance.

To access East Bay EDA's reports, economic forecasts and business resources data, please visit:
www.EastBayEDA.org



East Bay Economic Development Alliance
1221 Oak Street, Suite 555, Oakland CA 94612
(510) 272-6746 | info@EastBayEDA.org

The East Bay economy performed well in 2015, and is expected to continue on its present course. The region maintains an affordability advantage over its neighbors in San Francisco and the South Bay, serving as one of the most important drivers of its recent economic success. The East Bay economy experienced accelerated growth across indicators compared to 2014. Moreover, it outperformed the state, the nation, and in some cases, its highly charged neighboring economies of the South Bay and San Francisco.

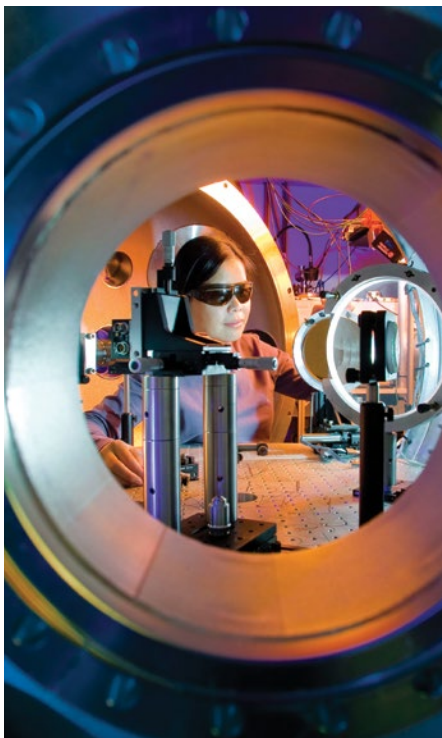
The East Bay continues to maintain its appeal as a relatively affordable place where many high-income earners employed in San Francisco and the South Bay choose to reside. It is also an affordable place to expand and relocate businesses that already have operations in the greater region, or for start-ups that want to benefit from local synergies. Yet by holding this position of relative affordability, cyclical economic trends in the East Bay vary from those in San Francisco and the South Bay because these regions are growing at different points of the business cycle. Simultaneously, fundamental changes in production methods and consumer preferences are changing the way businesses operate. This report examines the recent performance of the East Bay economy, and reports on trends in the region and how they compare to San Francisco, the South Bay and the state overall.

Key highlights from the analysis include:

- The East Bay labor market moved forward at a strong pace in 2015, matching statewide job growth rates and surpassing average national job growth rates. The region also boasted lower unemployment rates in 2015, compared to the state and nation.
- As local incomes rise, the East Bay economy also benefits from incrementally higher spending. Taxable sales growth in the East Bay outpaced the South Bay and San Francisco, as well as California. Taxable sales growth in the East Bay also came in faster than nationwide retail sales.
- Travel and tourism activity has been robust over the last year as passenger traffic at Oakland International Airport increased faster than at San Francisco and San Jose International Airports. BART ridership to and from the airport has increased due to the new airport BART station.
- Local residential and commercial real estate markets continue to benefit from the East Bay's relative affordability advantage over the South Bay and San Francisco, attracting new residents and businesses to the region.
- Permits for new housing units in the East Bay grew by double digits in 2015, while San Francisco and the South Bay experienced a decline last year. However, an undersupply of housing in the East Bay is still driving up home prices at a rapid pace.
- Attractive labor market conditions coupled with home affordability continued to draw migrants from across California. The East Bay's population in 2015 grew at one of the fastest paces in over 10 years.

Economic growth in the East Bay is expected to remain strong in 2016, building on the gains achieved in 2015. Most sectors of the economy saw accelerated growth last year and should continue on their recent trajectories through 2016. Affordability remains the crucial factor in the East Bay, and the region is expected to see continuing gains from this advantage over the foreseeable future.





OVERVIEW

The East Bay's labor market has finally hit its stride, and is poised for further growth in 2016 and 2017. Recently revised estimates show that East Bay employment growth in 2015 was much better than previously reported. Nonfarm jobs from December 2014 to December 2015 grew by 2.8%, rather than the 2.0% originally estimated by the State's Employment Development Department. And, while this is slightly behind its neighbors in San Francisco and San Jose, the East Bay was on par with the state as a whole and well above the national average of just 2.0%.

The East Bay's unemployment rate fell to 4.3% in February 2016, compared with 5.5% in the state of California. Employment in the East Bay's Construction sector has led the pack — outgrowing every other major industry over the past two years (12.8%). This signals that developers are taking notice of the immense opportunities in the East Bay and investing in new residential and commercial developments in the area. This is a welcome sign for the region, as new residential properties will be of the utmost importance for the region to continue to grow and attract new residents in the years to come.

Outbound commuting among East Bay residents remains most common in high-skilled industries — which means that these workers are likely bringing home relatively higher wages. Many of these workers migrated to the East Bay in search of more affordable housing and improved quality of life while maintaining jobs in San Francisco or San Jose. They now represent a local

asset that can be leveraged to attract businesses to the East Bay and to foster further growth at existing firms.

Overall, the future of the East Bay is looking bright, and Beacon Economics forecasts that payroll employment will continue to grow at roughly 2.0% during 2016.

LABOR MARKETS

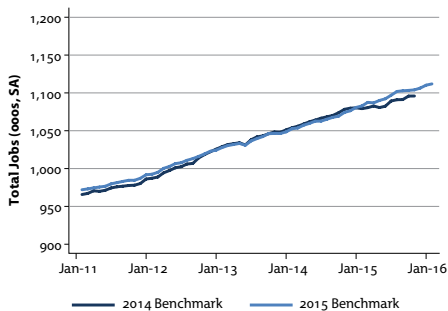
Employment levels in the East Bay increased at a faster pace than previously estimated over the past year, now outpacing the nation and many other notable economies. The East Bay outpaced Denver, Washington D.C., Los Angeles, New York City, Chicago, Indianapolis and Boston, among others. With the new revisions, growth in the East Bay for December 2014 to December 2015 went from an estimated 2.0% to 2.8%. That translates into an additional 5,500 new jobs created over the past year, and puts the East Bay well ahead of the 2.0% growth in the nation overall over the same period.

The economic expansion in the East Bay has continued into 2016. From February 2015 to February 2016, nonfarm employment in the East Bay grew by 2.7% (29,000 jobs), outpacing the 1.9% growth in the nation over the period. However, job growth in the East Bay was overshadowed by the State (2.8%), San Jose (3.6%), and San Francisco (4.0%) over the same period.

The unemployment rate in the East Bay is continuing to fall, coming in at 4.3% in February 2016. While well below the unemployment rate in the state overall (5.5%), the

East Bay Payroll Employment

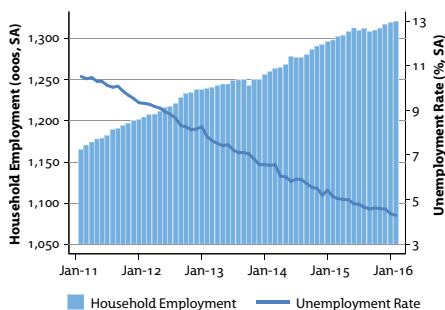
Feb-11 - Feb-16



Source: CA Employment Development Department

Household Employment & Unemployment Rate

East Bay, Feb-11 - Feb-16



Source: CA Employment Development Department

Note: SA stands for Seasonally Adjusted

unemployment rate remains elevated compared with San Francisco (3.1%) and San Jose (3.8%). As unemployment has fallen in the East Bay, the labor force has continued to expand over the past year, growing by 11,300.

The average hours worked in the East Bay has steadily increased since the end of the recession. While the average hours worked has dipped slightly in recent months, the average work week in the East Bay was 35.0 hours in February 2016 on a seasonally adjusted basis, up from 33.6 hours in February 2012. More

East Bay Payroll Employment Growth by Industry

	Feb 2016	% Change	
		1 yr.	2 yr.
Total Nonfarm	1,111.80	2.7	5.6
Total Private	942.7	3.1	6.3
Construction	64.9	6.7	12.8
Health Care	161.2	4.8	8
Information	23	4.4	9.4
Educational Services	22.9	4.3	0.7
Leisure and Hospitality	108.7	4.2	7.6
Transport, Warehouse, Util.	39	4.1	12.3
Wholesale Trade	48.8	3.9	6.2
Retail Trade	115.4	3.4	6.2
Prof Sci and Tech	94.9	3	5.1
Manufacturing	87.4	2.2	7.8
Other Services	38.4	2	2.4
Government	169.1	0.6	2.2
Admin Support	59.6	-0.2	4
Financial Activities	49	-1.1	-1.2
Management	28.7	-5.2	-3.3
NR/Mining	0.8	-11.5	-0.8

Source: CA Employment Development Department

importantly, the number of those who are employed as part time workers for economic reasons has steadily declined across the state, falling by 18.1% from February 2015 to February 2016.

Employment gains have been seen across a broad range of sectors in the East Bay in recent years, and the region is creating jobs on both ends of the wage spectrum. Some of the fastest growing sectors over the past year have been Construction (6.7%), Health Care (4.8%) and Leisure & Hospitality (4.2%). However, high-skilled sectors such as Information (4.4%) and Professional Scientific, and Technical Services (3.0%) also posted significant growth over the year. In addition, manufacturing jobs expanded in 2015, growing by 2.2% in the East Bay.

Only a handful of major sectors saw employment levels decline over the past year: Financial Activities (contracted by -1.1%), Management (contracted by -5.2%), Administrative Support (contracted by -0.2%) and Natural Resource and Mining (contracted by -11.5%). The driving force behind the steep declines in payrolls in the Natural Resource and Mining sector were layoffs by Chevron, which cut 530 jobs in San Ramon and 70 jobs in Richmond.¹

Clearly, high-tech jobs are a strong presence in the East Bay. Computer Systems Design and Related Services was the significant source of new jobs in 2015, generating 2,100 new positions from February 2015 to February 2016. However, the demand for skilled workers extends well beyond “tech” jobs: Hospitals, Architectural/Engineering Services,



Photo: Greg Linhares, City of Oakland

Average Weekly Hours

East Bay, Feb-11 - Feb-16



Source: U.S. Bureau of Labor Statistics

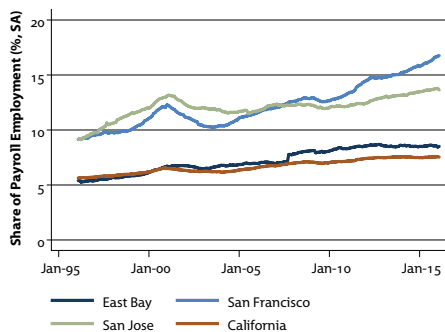
¹ George Avalos “Chevron posts surprise \$588 million loss in fourth quarter, job cuts loom” The Mercury News, January 29, 2016.

EAST BAY EMPLOYMENT



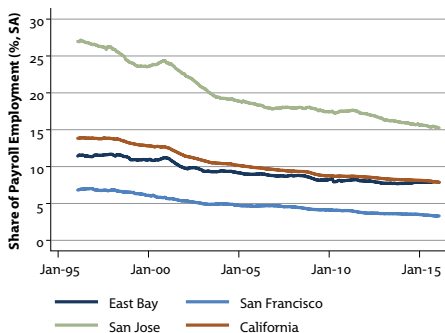
Professional, Scientific, & Technical Employment

Share of Payroll Employment, Feb-96 - Feb-16



Manufacturing Employment

Share of Payroll Employment, Feb-96 - Feb-16



and Information Services combined to create 3,000 new jobs in the East Bay last year as well.

INDUSTRY CONCENTRATION AND FIRM SIZE

In assessing the job numbers, it is helpful to note that the industrial composition of the economy in the East Bay is noticeably different than San Jose and San Francisco. San Francisco has a higher share of payroll jobs in Professional, Scientific, and Technical Services and Tourism/Leisure and Hospitality, while San Jose is more concentrated in Professional, Scientific, and Technical Services and Manufacturing. The East Bay is more concentrated in Retail Trade, Health Care, Government,

and Construction — largely inward-facing industries serving the local population.

However, the East Bay's job structure has been changing. Over the past 20 years, the East Bay region has become more concentrated in Professional Scientific and Technical Services, which represents 3.1 percentage points more of the jobs in the East Bay today than it did in the past. This outpaces California, which saw shares rise by just 1.9 percentage points over the same period.

The East Bay's Manufacturing sector has also been more resilient over the past 20 years, with its share of total employment falling by 3.5 percentage points, relative to California (-5.9 percentage points), San Francisco (-3.5 percentage points) and San Jose (-11.8 percentage points). As a result, the region has transformed into a

Share of Total Payroll Employment by Industry

	East Bay		San Francisco		San Jose		California	
	2016	1996	2016	1996	2016	1996	2016	1996
Government	15.2	18.4	11.7	12.9	8.6	10.3	15.2	16.6
Health Care	14.5	10.1	9.7	8.1	10.9	6.5	13.2	8.9
Retail Trade	10.4	11.4	7.7	8.6	8.3	9.2	10.3	11.1
Leisure and Hospitality	9.8	7.8	12.8	11.4	9.3	7.2	11.6	9.6
Prof Sci and Tech	8.5	5.4	16.8	9.1	13.7	9.1	7.5	5.6
Manufacturing	7.9	11.4	3.3	6.8	15.2	27.0	7.9	13.8
Construction	5.8	4.9	4.1	3.0	4.3	3.8	4.7	4.0
Admin Support	5.4	6.1	5.8	6.6	6.1	7.4	6.5	6.0
Financial Activities	4.4	5.2	6.9	10.1	3.3	3.5	4.9	5.8
Wholesale Trade	4.4	4.7	2.5	3.8	3.4	4.4	4.5	4.4
Transport, Warehouse, Util.	3.5	4.2	3.8	6.4	1.5	1.8	3.4	3.7
Other Services	3.5	3.2	3.7	3.9	2.5	2.9	3.4	3.4
Management	2.6	2.4	2.7	3.8	1.2	1.4	1.4	1.8
Information	2.1	3.2	5.7	3.5	7.4	2.9	3.1	3.3
Educational Services	2.1	1.3	2.7	1.8	4.2	2.6	2.2	1.5
NR/Mining	0.1	0.2	0.0	0.0	0.0	0.0	0.2	0.2

Source: CA Employment Development Department

higher-skilled labor market more quickly than the rest of the state, while losing fewer of its mid-skilled jobs.

The East Bay is particularly friendly to small businesses and has a higher concentration of small firms compared with San Francisco and San Jose. Small businesses account for 45.5% of employment in the area, compared with 43.0% in San Francisco and 35.1% in San Jose. These small businesses have been a huge asset to the region during the recovery and current expansion. The distribution of employment in the East Bay indicates that the region is well equipped to support small businesses. It has successfully grown large businesses as well, although it is home to fewer large businesses compared with its neighbors.

Employment Shares by Size of Business, 2014

	Number of Employees			
	0-49	50-99	100-499	500+
East Bay	45.5	14.4	26.3	13.7
San Francisco	43.0	13.0	24.2	19.8
San Jose	35.1	12.5	22.3	30.1
California	40.8	14.2	24.4	20.6

Source: CA Employment Development Department

COMMUTING

The gap between the number of residents employed in the East Bay and the number of workers employed by East Bay businesses reveals the region has a large share of outbound commuters. However, that gap has fallen in recent years as the East Bay begins to create local jobs at a faster pace. Roughly 36.7% of the workers

in the East Bay commute out of the area each day, with San Francisco County and Santa Clara County being the most popular destinations, down from 37.8% a year earlier.

Place of Work for East Bay Residents

County of Work	Employed Residents 2014	2014 Share %
East Bay	896,411	63.3
Other	228,742	16.2
San Francisco	162,074	11.4
San Mateo	50,294	3.6
Santa Clara	78,332	5.5
Total	1,415,853	100

Source: U.S. Census Bureau, American Community Survey

Outbound commuters tend to be some of the highest-skilled residents of the East Bay. Top industries for outbound commuters include Information (51.1%), Professional, Scientific, and Technical Services (46.4%), and Manufacturing (40.1%). Clearly, many Bay Area residents are taking advantage of housing that is more affordable in the East Bay and choosing to commute to nearby counties for employment opportunities. While this puts strains on the region's infrastructure needs, the East Bay benefits from these commuters over the short run through increased demand for housing and more spending in the local economy. Over the longer term, these outbound commuters represent a significant local asset that can be leveraged for a variety of economic development efforts.

Contra Costa County and Alameda County saw significant inflows of domestic migrants from 2014 to 2015. In fact, Contra Costa again



The economic expansion in the East Bay has continued into 2016. From February 2015 to February 2016, nonfarm employment in the East Bay grew by 2.7% (29,000 jobs), outpacing the 1.9% growth in the nation over the period.

EAST BAY EMPLOYMENT

Place of Work for East Bay Residents by Industry (%)

	East Bay		San Francisco		San Mateo		Santa Clara		Other	
	Share (%)	Number	Share (%)	Number	Share (%)	Number	Share (%)	Number	Share (%)	Number
Information	49.9	22,618	17.9	8,097	6.7	3,033	11.2	5,099	14.3	6,505
Prof Sci and Tech	53.6	85,336	17.6	27,999	5.0	8,020	9.2	14,611	14.6	23,192
Construction	54.2	49,046	12.0	10,855	3.5	3,130	6.5	5,913	23.7	21,468
Finance & Insurance	57.0	37,415	24.5	16,088	3.7	2,436	3.2	2,093	11.7	7,653
Manufacturing	59.9	70,675	6.0	7,045	4.2	4,928	14.2	16,734	15.8	18,666
Transport/ Warehousing	60.0	32,535	13.5	7,293	8.4	4,547	3.9	2,110	14.3	7,731
Utilities	60.6	6,802	25.8	2,900	2.2	249	2.1	232	9.3	1,043
Art & Entertainment	62.2	21,556	12.2	4,222	3.3	1,148	2.1	714	20.3	7,032
Admin Support	64.0	43,025	11.2	7,564	3.0	1,998	4.6	3,126	17.1	11,524
Other Services	67.9	51,536	9.0	6,858	3.2	2,434	2.9	2,211	16.9	12,846
Retail Trade	68.2	95,575	8.1	11,380	2.7	3,768	4.4	6,120	16.6	23,274
Wholesale Trade	68.9	26,857	5.6	2,194	4.9	1,898	6.4	2,500	14.1	5,509
Accommodations	69.2	67,124	11.6	11,237	3.3	3,190	2.0	1,959	13.9	13,466
Educational Services	70.7	38,235	10.5	5,659	1.1	597	3.7	2,014	14.0	7,540
Health Care	71.4	127,013	8.6	15,367	2.3	4,132	4.1	7,290	13.6	24,207
Real Estate	71.5	24,059	12.8	4,297	3.6	1,205	3.4	1,127	8.7	2,942
Government	71.6	89,150	10.2	12,711	2.7	3,379	3.2	3,954	12.3	15,338
Management	73.2	1,076	10.7	157	0.0	0	9.5	140	6.5	96
NR/Mining	75.6	6,778	1.7	151	2.3	202	4.3	385	16.2	1,450
Total	64.1	896,411	11.6	162,074	3.6	50,294	5.6	78,332	15.1	211,482

Source: U.S. Census Bureau, American Community Survey

East Bay Residents 25 and Older (2014)

Age	Unemployment Rate
Under 25	14.0%
25 to 34	8.5%
35 to 44	5.2%
45 to 54	5.3%
55 to 64	5.8%
Over 65	6.0%
Educational Attainment	Unemployment Rate
Less Than High School	9.6%
High School Graduate	8.1%
Some College	7.7%
Bachelor's Degree +	4.1%

Source: U.S. Census Bureau, American Community Survey

received the second-highest number of domestic migrants in the state over the period, indicating the attractiveness of the region and the promise of benefits from the increased population.

While the East Bay sees a large share of residents commute each day, a closer look shows the region has many home-grown industries as well. For example, East Bay residents employed in Management (73.2%), Government (71.6%), and Real Estate (71.5%) sectors work primarily in the East Bay. And residents account for most of the local jobs in Petroleum and Coal Manufacturing Products.

AGE AND EDUCATIONAL ATTAINMENT

The unemployment rate for East Bay residents with a bachelor's degree or higher was just 4.1% in 2014, compared with 8.1% for residents with only a high school diploma.² These unemployment rates are lower than the statewide average across the majority of education levels. Millions of dollars have been invested in the East Bay for workforce development through the local community colleges, curricular practical training grants, and trade adjusted assistance career

training programs. Compared to other regions this appears to have been effective in creating job opportunities for both higher-skilled and lower-skilled workers.

In 2014, the unemployment rate for East Bay residents younger than 25 remains elevated (14.0%), however it is lower than the unemployment rate for the same age range in the state overall (17.4%). Young professionals in the East Bay are also keeping pace with other parts of the state, with the unemployment rate for residents 25 to 34 at 8.5% in the East Bay, matching the 8.5% rate in the state overall.

LABOR MARKET FORECAST

Beacon Economics forecasts East Bay payroll employment will continue to grow at a rate by roughly 2% over the

course of 2016. With these gains, the unemployment rate in the East Bay is expected to remain near 4.3%, which is in-line with historical norms.

These gains over the next year are also forecasted to continue in the long run. The region continues to attract people from all over the United States, and indeed all over the world. Furthermore, the region is one of the major hubs in the United States for Biotechnology and Clean Energy.

Payroll employment levels are forecasted to grow by 10.8% (119,900 jobs) from current levels to 2021. Perhaps more importantly, high-wage sectors are expected to be at the forefront of this growth, with Management and Professional Services expected to grow by 20.9% (26,000 jobs) over current levels during the same period.

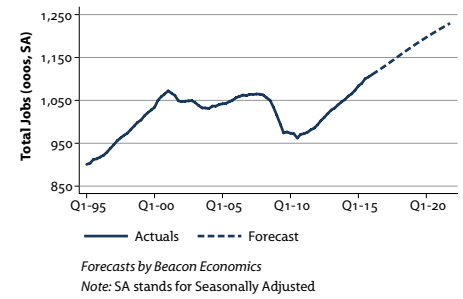
East Bay Employment Forecast, Q1-16 to Q4-21 by Industry

	Q1-16	Q1-17	Q1-18	Q4-21	2016
Total Nonfarm	1,110.0	1,131.2	1,154.1	1,229.8	8.6
Unemployment Rate	4.4	4.4	4.3	4.2	10.9
Government	169.6	171.6	173.6	179.4	8.3
Education/Health	181.0	184.4	187.7	200.0	9.3
Management/Professional	124.2	128.2	132.9	150.2	13.7
Retail Trade	114.2	114.9	115.8	117.8	15.2
Leisure/Hospitality	108.5	110.2	112.3	121.4	4.3
Manufacturing	87.7	87.7	88.3	90.7	6.1
Construction	65.0	67.8	70.7	81.2	3.3
Admin Support	60.2	62.1	64.5	70.4	3.4
Financial Activities	49.4	51.1	52.8	55.6	1.5
Wholesale Trade	48.4	49.1	49.8	52.3	2.5
Other Services	38.5	39.1	39.8	42.3	1.2
Trans/Warehouse/Util	39.5	40.5	40.7	40.6	7.4
Information	22.9	23.5	24.3	26.9	4.2
Natural Resources/Mining	0.9	0.9	1.0	1.0	0.0

Source: Forecast by Beacon Economics

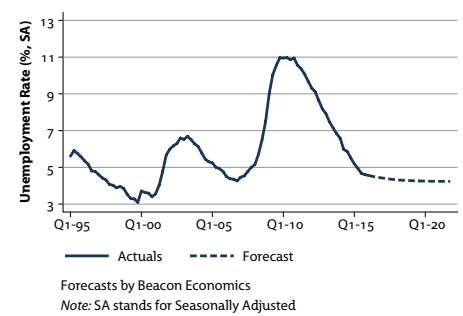
Payroll Employment Forecast

East Bay, Q1-95 - Q4-21



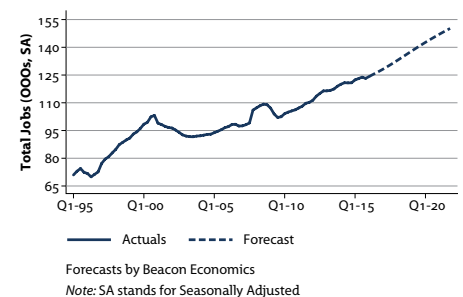
Unemployment Rate Forecast

East Bay, Q1-95 - Q4-21



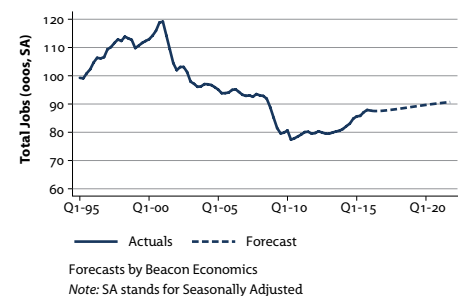
Management and Professional Employment Forecast

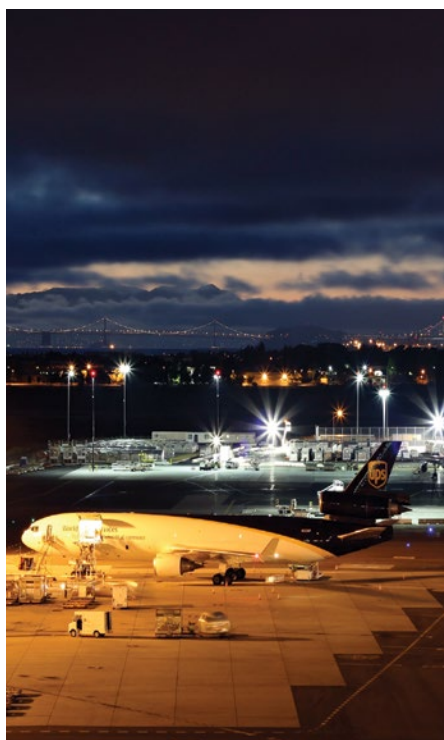
East Bay, Q1-95 - Q4-21



Manufacturing Employment Forecast

East Bay, Q1-95 - Q4-21





BUSINESS ACTIVITY OVERVIEW

The East Bay economy has been on strong footing this last year as the bulk of business activity indicators have been trending favorably. Consumer and business spending have posted solid gains in the region, outpacing taxable sales growth in San Francisco, San Jose, the state overall, and when compared to national retail sales. Travel and Tourism activity has also been strong as Oakland International Airport has added new flights and international destinations, and BART ridership to and from the airport has surged.

International trade did hit a soft patch over the last year, but this is not unique to the East Bay. Nominal trade values are lower for the state and nation overall, but much of this is due to lower prices amid reduced demand. Slow growth in the global economy and a strong dollar took their toll on the nominal value of U.S. goods exports. However, overall trade volumes have been fairly steady as real U.S. exports of goods were down only marginally in 2015 and

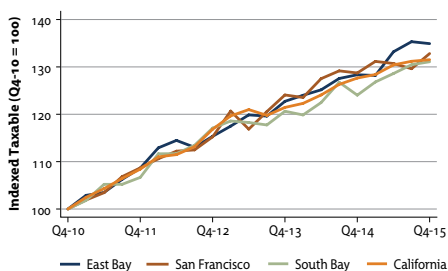
total exports actually rose 1.1% when accounting for a 4.0% increase in the export of services.³

Local venture investment in the East Bay also cooled over the last year, but this came on top of an exceptionally strong 2014, so a pullback was not entirely unexpected. The Software industry remained the largest target for venture capital funding and made up more than one-quarter of all East Bay investment in 2015. Not to be outdone, venture capital funding for the Biotechnology industry was also a major recipient and made up more than one-fifth of all venture capital funding in the East Bay.

Virtually all of the East Bay's major indicators show that the region's business sector is firing on all cylinders. As more businesses and residents take advantage of the region's relative affordability, Beacon Economics expects growth to remain robust. In all, 2015 shaped up to be a good year, and the outlook for 2016 and 2017 is optimistic, with nothing on the immediate horizon to signal a reversal of the region's positive trends.

Taxable Sales Comparisons

Q4-10 to Q4-15



Source: California Board of Equalization

East Bay Taxable Receipts, YTD 2014 (Q1-Q3) to 2015 YTD (Q1-Q3)

Category	2014 YTD	2015 YTD	Change (%)
Autos and Transportation	51,172,444	57,349,828	12.1%
Building and Construction	25,043,896	27,845,888	11.2%
Business and Industry	52,186,262	55,571,033	6.5%
Food and Drugs	17,344,949	18,097,583	4.3%
Fuel and Service Stations	32,624,672	27,158,081	-16.8%
General Consumer Goods	63,684,883	66,020,129	3.7%
Restaurants and Hotels	33,132,419	36,176,024	9.2%
Total	317,781,753	334,689,370	5.3%

Source: HdL Companies

³ In fact, real total exports were actually up 1.1% last year because exports of services rose 4.0%

LOCAL SPENDING

Local spending by consumers and businesses grew at a strong pace last year, making the East Bay one of the leading regions in the nation. Taxable sales growth in Alameda and Contra Costa Counties outpaced growth in both the San Francisco and San Jose Metropolitan Areas, but also came in faster than statewide taxable sales growth as well as retail sales in the nation overall. Taxable sales in the East Bay grew by 5.2% from 2014 to 2015, whereas growth in San Francisco and San Jose came in at 3.0% and 4.8%, respectively. Statewide taxable sales increased by 4.3% over the same time period, and U.S. retail sales edged up just 1.4% from 2014 to 2015.

Spending was robust across a number of categories. Through the first three quarters 2015 of growth was positive across all major spending categories with the exception of Fuel and Service Stations, where the sharp decline in energy prices resulted in reduced spending on gasoline and related products. The largest contribution to overall spending was from the Autos and Transportation category, which increased by 12.0% during the year-to-date period. Rising incomes and lower gas prices contributed to new automobile purchases locally and across the state. According to the California Department of Finance, the number of new vehicle registrations during the first three quarters of 2015 was up by 9.7% compared to the same period in 2014.

On a regional basis, Alameda County made the largest contribution to overall spending growth in 2015, although both East Bay counties grew

East Bay Taxable Sales by Area, 2014 to 2015

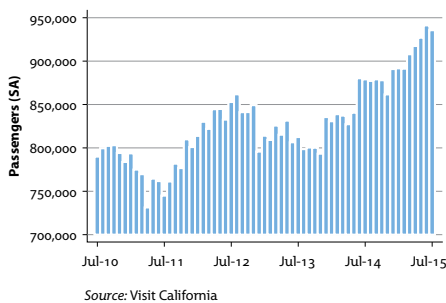
City	2014	2015	Change (%)
Hercules	155,735	187,154	20.2%
San Leandro	2,235,352	2,490,537	11.4%
Alameda	768,689	850,164	10.6%
Newark	906,991	989,638	9.1%
Albany	207,096	224,456	8.4%
Concord	2,605,674	2,821,842	8.3%
Brentwood	594,694	641,843	7.9%
Livermore	2,227,810	2,385,517	7.1%
Walnut Creek	1,880,605	2,006,501	6.7%
Fremont	3,503,106	3,728,986	6.4%
Orinda	87,097	92,197	5.9%
Clayton	36,627	38,729	5.7%
Pleasanton	1,995,766	2,095,081	5.0%
Emeryville	748,450	781,105	4.4%
Dublin	1,599,180	1,666,183	4.2%
Berkeley	1,552,746	1,616,458	4.1%
El Cerrito	253,238	263,590	4.1%
Pleasant Hill	697,470	724,054	3.8%
Pinole	306,691	317,266	3.4%
Lafayette	248,946	256,128	2.9%
Hayward	2,742,440	2,815,336	2.7%
Piedmont	18,277	18,749	2.6%
Oakley	138,278	141,175	2.1%
San Pablo	179,116	181,948	1.6%
Oakland	4,379,654	4,440,687	1.4%
Danville	466,646	471,907	1.1%
Antioch	1,020,319	1,023,996	0.4%
Richmond	1,315,757	1,316,758	0.1%
San Ramon	830,590	823,004	-0.9%
Moraga	92,428	88,930	-3.8%
Union City	824,472	788,819	-4.3%
Martinez	478,820	447,970	-6.4%
Pittsburg	621,893	559,009	-10.1%

Source: CA Board of Equalization

by just over 5% from 2014 spending levels. The City of Fremont was one of the leading cities within Alameda County. In the near term, spending activity in Fremont could get another bump in growth as Tesla Motors gears up for production and sale of the Model 3. Pre-orders for Tesla's



OAK Airport Traffic
Jul-10 to Jul-15



Traffic at Oakland International Airport is a prime example of the strong growth in the region's Travel and Tourism sector.

latest offering have surged beyond anticipated sales since the new company unveiled its new electric car at the beginning of April. As production ramps up at their Fremont factory along with increased sales at their local showroom in Fremont, the City's economy will get a nice boost from increased spending by the hundreds of new Tesla employees, who will largely spend their incomes locally.

The strong performance in some of the top growing cities can be attributed to specific factors. In the City of Livermore, for example, the San Francisco Premium Outlets is a strong source of sales tax revenue. San Leandro has benefited from higher regional spending on automobiles and the presence of a large number of dealerships in the City. Many of the fast growing cities are also quite small, such as Hercules and Albany, and the high growth is very much a function of the spending growing from a small base.

TOURISM AND BUSINESS TRAVEL

The strength of the local economy can be readily seen in regional tourism and travel data, which clearly shows the East Bay not only outperforming its neighbors to the south and west, but also outperforming the state overall. What's more, the East Bay has gained steam over an already strong showing in 2014.

Traffic at Oakland International Airport is a prime example of the strong growth in the region's Travel and Tourism sector. In 2015, there were 11.2 million air passengers who

enplaned or deplaned at OAK, an 8.4% increase over the prior year and an acceleration over the 5.9% growth from 2013 to 2014. The 8.4% growth in 2015 surpassed San Francisco and San Jose International Airports where passenger traffic growth came in at 7.1% and 6.6%, respectively. OAK also appears to have surpassed growth in statewide air passenger traffic. For the first seven months of 2015, the most recent statewide data available, air passenger traffic was 4.2% higher than the same year-to-date period in 2014.

The strong growth in passenger traffic at OAK is due in large part to the addition of new flights and international destinations. A new international carrier known for its modest fares, Norwegian Airlines, originated new routes to Europe and has contributed to the airport's 27 consecutive months of passenger growth. The trend seems likely to continue as Southwest will be adding four more daily peak hour flights to Long Beach in June. Port of Oakland officials have been promoting OAK as "the Best Way to the San Francisco Bay Area" because of their close proximity to downtown San Francisco, and the airport's increased access to the BART system through their new Oakland Airport Connector. In November 2015, the millionth passenger benchmark on the Oakland Airport Connector was reached, resulting in a 36.5% increase from the former shuttle bus usage.

With upgraded BART infrastructure and new flights added at the airport, a greater number of visitors are staying in East Bay hotels. From 2014 to 2015, hotel occupancy rose by 2.5 percentage points to 81.7%. In

addition to increased occupancy, the average daily room rate in 2015 was 12.4% higher than the prior year. In contrast, average daily rates in San Francisco and the South Bay rose by 3.7% and 12.1%, respectively. The higher occupancy and daily rates in the East Bay led to a 16.0% increase in revenue per available room over the prior year, a strong improvement over the already impressive 15.1% increase in revenue per available room that occurred the prior year.

In addition to increases in business travel, meetings and conferences, and hotel stays, overall improvement in the East Bay economy has also led to increases in personal travel, tourism, and hotel stays. Much of this dried up in the wake of the 'Great Recession', and the region is now gaining back much of that activity. Before the recession, for example, Southwest Airlines ran high frequency LAX-OAK flights on a daily basis. During the recession, Southwest cut back, but, as noted above, is now increasing flight frequencies to southern California once again.

PERSONAL INCOME

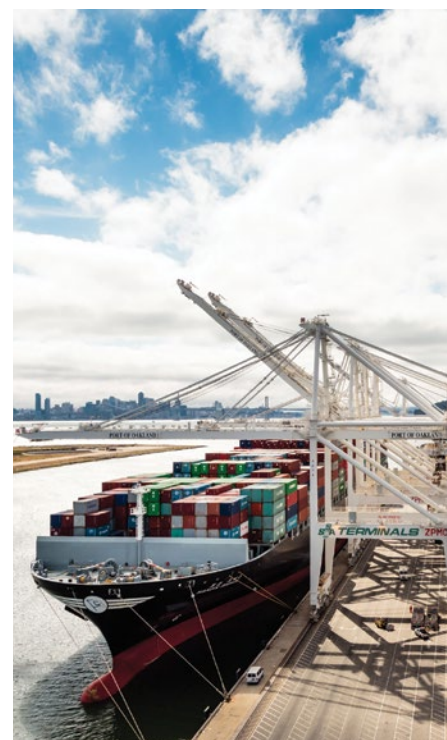
Steady gains in the East Bay labor market, as well as more high wage earners taking up residence in

the region, have been a boon to personal income growth in the region. The latest data show that income growth in the East Bay has not only accelerated, but is matching or surpassing growth in other Bay Area regions and in the state overall. From 2013 to 2014, the latest data available, personal income in the East Bay increased by 6.3%, a markedly stronger rate than the 3.6% growth from 2012 to 2013.

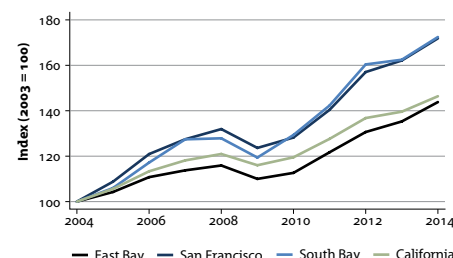
The strong growth in 2014 personal income triggered robust consumer spending, as mentioned earlier. With the pace of job creation in the East Bay accelerating, personal income growth in 2015 should be on par with the prior year. This will keep upward pressure on taxable sales growth as residents spend their incomes and businesses benefit from the additional dollars circulating through the East Bay economy.

INTERNATIONAL TRADE

While most major indicators for the East Bay economy have exhibited strong, if not accelerating, growth, trade has been a soft spot for the region due to several factors. Specifically, there has been a pullback in the total value of trade flows,

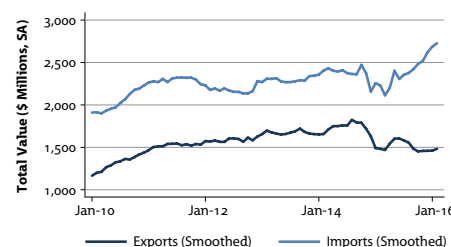


Personal Income Growth
Bay Area and California, 2004 to 2014



Source: U.S. Bureau of Economic Analysis

Exports & Imports
Port of Oakland, January 2010 to February 2016



Source: WISERTrade
Note: SA stands for Seasonally Adjusted

Bay Area Hotel Data

Region	Occupancy Rate (%)			Average Daily Room Rate (\$)			Revenue Per Available Room (\$)		
	2014	2015	Chg (pp)	2014	2015	Chg (%)	2014	2015	Chg (%)
East Bay	79.2	81.7	2.5	122.45	137.57	12.4	97.30	112.82	16.0
San Francisco	86.5	87.6	1.1	254.87	264.26	3.7	221.04	232.64	5.2
South Bay	79.9	79.9	0.1	175.52	196.73	12.1	140.43	157.66	12.3

Source: PKF Consulting



Due to several factors, there has been a pullback in the total value of trade flows, primarily exports.

primarily exports. From 2014 to 2015, the total value of exports moving through the Port of Oakland was down 14.7%, and was down 29.2% at the Port of Richmond.

The East Bay is not alone in this trend, however. The combined ports of Los Angeles and Long Beach saw the total value of outbound shipments decline by 18.5% from 2014 to 2015. The value of exports across all California's ports was down by 9.7%, while the total value of national goods exports was down 7.2% from 2014 to 2015.

It should be noted that these are nominal trade values, which means they are not adjusted for price changes. The major culprit for the lower trade values has been a general decline in overall trade prices. According to the U.S. Bureau of Labor Statistics, from 2014 to 2015, overall export prices declined by 6.3% nationwide, and Beacon Economics estimates California export prices declined by 5.6%. So while the value of exports has declined noticeably, the situation is not as bad as the headline figures suggest.

One of the driving factors behind lower export prices is weak global

demand, both in general and for U.S. goods in particular. Weak global growth and a strong dollar have been the major contributors to this dynamic. China's economic growth continues to decelerate each quarter, and the European Union and Japanese economies are virtually stuck in neutral. Couple this with a dollar that reached a post-recession high in 2015, making U.S. goods more expensive to our trading partners, and you have a recipe for weak exports. Adjusting exports for prices and looking at real values provides a better sense of the trade picture. After taking price changes into account, real exports of U.S. goods were down by just 0.2% from 2014 to 2015. While this was the first annual decline since 2009, it shows that exports of goods were not hit nearly as hard as suggested by the nominal figures.

Trade and container numbers for East Bay ports paint a somewhat more challenging picture for the local International Trade and Transportation sector. The total number of containers passing through the Port of Oakland was down 5% from 2014 to 2015. Most of this was due to outbound containers, which were down 11.7% annually, while inbound containers were virtually

Maritime Trade Activity, East Bay Ports, 2014-2015

Category	Port of Richmond	Port of Oakland
Total Value of Exports, 2014 (\$ Million)	2,382.0	21,037.1
Total Value of Exports, 2015 (\$ Million)	1,687.4	17,945.5
Change, 2014 to 2015 (%)	-29.2	-14.7
Total Value of Imports, 2014 (\$ Million)	10,515.8	29,082.4
Total Value of Imports, 2015 (\$ Million)	7,074.8	27,733.6
Change, 2014 to 2015 (%)	-32.7	-4.6
Restaurants and Hotels	33,132,419	36,176,024
Total	317,781,753	334,689,370

Source: WISERTrade

Port of Oakland Top Exports by Commodity

Commodity	2014 (\$000s)	2015 (\$000s)	Chg (%)	% of All Oakland Exports	% of All CA Exports	Difference, Oak vs. CA (pp)
Edible Fruit/Nuts/Citrus Fruit/Melon Peel	5,610,821	5,635,652	0.4	31.4	6.4	25.0
Meat/Edible Meat Offal	2,716,995	2,092,214	-23.0	11.7	0.4	11.3
Beverages/Spirits/Vinegar	964,345	972,555	0.9	5.4	1.2	4.3
Industrial Machinery, Incl Computers	1,250,226	807,313	-35.4	4.5	14.5	-10.0
Vehicles/Parts	944,691	719,489	-23.8	4.0	5.0	-1.0
Electrical Machinery/ Sound Equip/TV Equip	612,974	478,718	-21.9	2.7	18.3	-15.7
Dairy, Eggs, Honey, Animal Products	852,817	643,471	-24.5	3.6	0.8	2.7
Prep Veg/Fruit/Nuts/Other Plant Parts	486,821	666,115	36.8	3.7	0.9	2.8
Cereals	393,142	467,363	18.9	2.6	0.5	2.1
Optic/Photo/Medical/ Surgical Instrmnts	530,474	517,452	-2.5	2.9	9.8	-6.9

Source: WISERTrade

flat (-0.5%). Some undetermined amount of the decline in container traffic could be due to diversions that occurred from West Coast ports to other channels in early 2015 because of labor disputes at West Coast ports.

The export commodities taking the biggest hit have been meat products, the Port of Oakland's second largest category by export value. From 2014 to 2015, nominal meat export values declined by 23.0%, primarily due to a sharp drop in the value of shipments to Japan, which in turn was largely due to price drops. Abundant supplies and a competitive international market place have driven down prices while volumes have remained fairly steady.

The picture has not been as bad on the import side of the equation. While nominal imports coming through the Port of Oakland were down by 4.6% from 2014 to 2015, virtually all of this was due to

price changes. According to the U.S. Bureau of Labor Statistics, the national import price index was down by 10.2% from 2014 to 2015, and national goods imports were up 4.8% after taking price changes into account, a clear sign that demand in the local and national economies remains steady.

VENTURE CAPITAL

The total amount of venture capital funding flowing into East Bay companies cooled in 2015, but this comes as little surprise after a phenomenal 2014—a year that saw a 90.1% surge in funding over 2013. From 2014 to 2015, venture capital funding to East Bay companies decreased by 12.5%, but was still up 66.8% from the post-recession low in 2013. Moreover, the East Bay was not alone in this trend. Venture



EAST BAY BUSINESS ACTIVITY



East Bay Venture Capital Funding by Industry

Industry	2014 (\$ millions)	2015 (\$ millions)	Chg (%)	Share of Total VC Funding, 2014 (%)	Share of Total VC Funding, 2015 (%)
Biotechnology	170.0	216.9	27.6	14.3	20.8
Business Products and Services	1.7	0.0	-100.0	0.1	0.0
Computers and Peripherals	70.0	70.0	0.0	5.9	6.7
Consumer Products and Services	69.9	87.5	25.3	5.9	8.4
Electronics Instrumentation	23.0	10.1	-56.1	1.9	1.0
Financial Services	36.0	0.3	-99.1	3.0	0.0
IT Services	26.2	5.0	-80.9	2.2	0.5
Industrial Energy	199.1	212.6	6.8	16.7	20.4
Media and Entertainment		12.1			1.2
Medical Devices and Equipment	128.8	109.0	-15.4	10.8	10.5
Retailing Distribution		12.9			1.2
Semiconductors	65.8	22.6	-65.7	5.5	2.2
Software	401.4	278.4	-30.6	33.7	26.7
Telecommunications		5.0			0.5
Total	1191.8	1042.4	-12.5	100.0	100.0

Source: MoneyTree

The Software industry in the East Bay continued to be the largest target for venture capital firms. In 2015 that industry received 26.7% of the \$1.027 billion in total venture capital funding coming into the East Bay.

capital funding to the broader Silicon Valley region (which includes all of the San Francisco Bay Area by PricewaterhouseCoopers' broad definition) was down by 35.8% from the fourth quarter of 2014 to the fourth quarter of 2015, and total venture capital funding in the United States was down by 23.7% over the same period.

The Software industry in the East Bay continued to be the largest target for venture capital firms. In 2015 that industry received 26.7% of the \$1.027 billion in total venture capital funding coming into the East Bay. This was down from 33.7% in 2014 but was still ahead of other industries by a decent margin. Software investment in the East Bay was not as concentrated compared to the nation overall in 2015 where 39.7% of all venture capital funding

went to Software industry companies. This implies that the East Bay is more diverse in terms of the industries receiving venture capital funding. The Biotechnology industry in the East Bay received 20.8% of funds and the Medical Devices and Equipment industry received 10.5% of funds in 2015. Other industries worthy of mention include the Consumer and Products Services and Computer and Peripherals industries, which received 8.4% and 6.7% of funds in the region, respectively.

Within the East Bay Software industry, the bulk of venture capital funding went to Tanium Inc., one of the biggest names in end-point detection and remediation software⁴. Located in Emeryville, Tanium Inc. received a total of \$179.6 million in late stage venture capital funding in 2015, which came on top of \$90

East Bay Venture Capital Funding by Stage

Stage	2014 (\$ millions)	2015 (\$ millions)	Chg (%)	Share of Total VC Funding, 2014 (%)	Share of Total VC Funding, 2015 (%)
Early Stage	236.2	288.1	22.0	19.8	27.6
Expansion	555.6	315.5	-43.2	46.6	30.3
Later Stage	400.0	438.9	9.7	33.6	42.1
Startup Seed	0.0			0.0	
Total	1191.8	1042.4	-12.5	100.0	100.0

Source: MoneyTree

million in expansion stage funding in 2014. After starting in 2007 with a father/son team as founders, Tanium Inc. now has over 200 employees. Given the increasing importance of cyber security in today's world, Tanium could be one of the East Bay's critical software companies for the foreseeable future.

The second largest amount of venture capital funding in 2015 went to Blue Bottle Coffee Inc., a growing coffee chain providing fresh coffee from beans that have come out of the roaster in the last 48 hours. Blue Bottle Coffee Inc. led the region's Consumer Products and Services industry with \$74.9 million in venture capital funding in 2015. Located in Oakland, Blue Bottle has come a long way since its inception ten years ago and recently released its own canned coffee, breaking into a product category that has been dubbed as the "fourth wave of coffee." Prepared coffee drinks sold in cans and bottles has been estimated to have an \$8.5 billion dollar market, a potentially lucrative opportunity for the East Bay's coffee star.

By sector, the Biotechnology industry was the second largest recipient of East Bay venture capital funding in 2015, behind the Software industry. Investment in the Biotechnology industry was spread across several firms, with the largest amount going to SFJ Pharmaceuticals Inc., a drug development company based in Pleasanton, which received \$69.7 million in 2015. Other notable Biotechnology industry companies receiving venture capital funding included 10X Genomics Inc. also in Pleasanton (\$55.5 million), Zymogen Inc. in Emeryville (\$44.1 million), and Advanced Cell Diagnostics Inc. in Hayward (\$22 million).



Blue Bottle Coffee Inc. led the region's Consumer Products and Services industry with \$74.9 million in venture capital funding in 2015.

EAST BAY COMMERCIAL REAL ESTATE



COMMERCIAL REAL ESTATE OVERVIEW

The commercial real estate market in the East Bay had a stellar year in 2015. Not only did the major indicators for the market's health maintain a favorable trajectory, but activity has improved at a faster pace across virtually every property type and indicator. Vacancy rates are falling at a faster clip than the prior year, and rents have accelerated. By all accounts, 2015 was one of the best post-recession years the East Bay's commercial real estate market has ever had.

Affordability remains the name of the game in the East Bay. The overall Bay Area economy is booming — one of the major engines of growth for the statewide economy — and the East

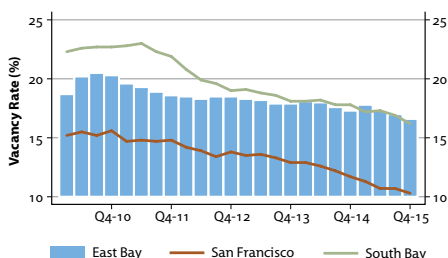
Bay has greatly benefited from its own internal growth, as well as from the growth happening in the tech-heavy centers in San Francisco and the South Bay. Rents are lower across the board relative to the South Bay and San Francisco, providing a handsome incentive for existing companies to relocate, often a dominating factor in the decision-making for new companies to set up shop.

OFFICE RENTAL MARKET

The market for office space has heated up over the past year, accelerating over 2014's already healthy pace of activity. Vacancy rates are falling faster than a year prior, and rents are rising faster as

Office Vacancy Rates

Q1-10 to Q4-15



Source: REIS

Nonresidential Building Permit Values, in Millions (\$)

Type of Property	2010	2011	2012	2013	2014	2013 - 2014 Change (%)		
						East Bay	San Francisco	South Bay
Office	3.5	67.5	13.5	8.1	76.4	847.4	19.4	60.0
Retail	43.0	102.8	33.3	66.9	155.5	132.4	-0.4	-60.6
Industrial	112.1	24.7	35.0	149.0	116.3	-22.0	-15.0	-84.6
Renovations/Alter.	568.6	606.7	477.1	695.2	958.9	37.9	28.1	9.5
Total	850.1	1029.8	622.9	1025.3	1499.1	46.2	14.7	-39.1

Source: Construction Industry Research Board

Rent Discounts in the East Bay Relative to San Francisco and the South Bay

Property Type	Property Class	East Bay Avg. Rent in Q5-2014 (\$ per sq. ft. per year)	Discount from San Francisco (%)	Discount from the South Bay (%)
Office	Total	28.23	43.0	22.5
Office	A	31.83	42.6	23.6
Office	BC	24.45	39.2	22.9
Retail	Total	29.31	17.5	13.0
Warehouse/Distribution	Total	5.38	38.7	24.8
Flex/R&D	Total	9.33	35.7	35.7

Source: REIS

well, both signs of a strong demand for office space in the region. It is anticipated that the East Bay office market will continue to improve in 2016.

The average vacancy rate for the East Bay is moving farther from the post-recession peak in 2010, and the pace of decline has even accelerated slightly. According to commercial real estate firm REIS, vacancy rates for office space came in at 16.6% in the fourth quarter of 2015, down 0.7 percentage points from the fourth quarter of 2014. This was an improvement over the 0.6 percentage-point decline from the fourth quarter of 2013 to the fourth quarter of 2014.

Rent growth for East Bay office space has increased greatly this past year, sharply accelerating over 2014 growth. From the fourth quarter of 2014 to the fourth quarter of 2015, office rent increased by 4.7%, more than double the 2.1% year-over-year growth in the fourth quarter of 2014.

The East Bay office market has also managed improvement in relative affordability, even after the strong performance in 2015. As of the fourth

quarter of 2015, the rent per square foot in the East Bay was 22.5% lower than the South Bay, and 43.0% lower than San Francisco. In contrast, East Bay rents were 21.6% and 42.4% lower, respectively, in the fourth quarter of 2014. Even though East Bay rent growth has been stellar this past year, the South Bay and San Francisco have seen even stronger rent growth, leaving the East Bay as a desirable location for Bay Area office space.

OFFICE SUBMARKETS

Much like the previous year, the polarization in the East Bay office market is still readily apparent. Vacancy rates for the North Alameda and Central Business submarkets, consisting primarily of Oakland and parts of Alameda, continued to be among the lowest in the region. The vacancy rate in the North Alameda submarket was 9.0% as of the fourth quarter of 2015, and the Central Business vacancy rate was 10.7%. In contrast, the East Bay average vacancy rate was 16.6% in the fourth quarter.

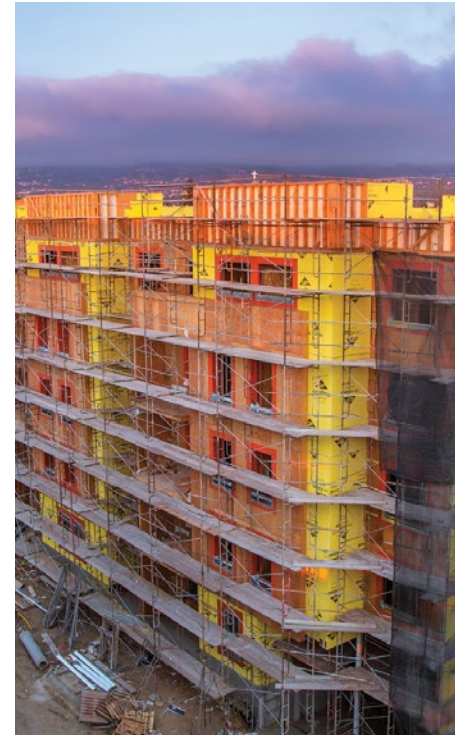
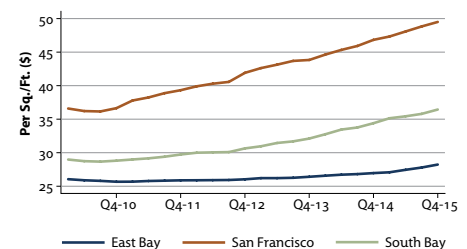


Photo: Greg Linhares, City of Oakland

Office Cost of Rent

Q1-10 to Q4-15



Source: REIS

Office Submarket Snapshot: Q4-15

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
North Alameda	30.4	9.0	484
North I-680	28.3	10.5	792
Central Business District	33.2	10.7	1,138
North Alameda/West Contra Costa	24.9	15.4	300
North Contra Costa	28.6	17.1	1,917
Airport/San Leandro/Hayward	22.0	20.5	848
Fremont/Newark	21.4	22.7	720
South I-680	26.4	29.7	2,523
Santa Clara/Sunnyvale	36.4	16.2	9,707
San Francisco (MD)	49.5	10.3	9,630

Source: REIS

By all accounts, 2015 was one of the best post-recession years the East Bay's commercial real estate market has ever had.



Photo: Greg Linhares, City of Oakland

Contra Costa County and cities to the south and southeast of Oakland maintained more elevated vacancy rates, not surprising given the greater distance from the faster growing Central Business District submarket. Nevertheless, vacancy rates were down virtually across the board.

Rent growth has similarly been concentrated in the Central Business District and North Alameda submarkets. In the Central Business District, the rent per square foot was \$33.20 in the fourth quarter of 2015, up 12.0% from the same time a year prior. Office rent in North Alameda was \$30.39, up 6.9% over the same time period.

recession peak of \$123.2 million in 2008.

Office Construction by Submarket

City/Submarket	2015	Change (%)
Alameda	4,600,000	364.6
Tri-Valley	14,013,337	100.2
I-80/I-880	9,397,630	90.9
Other	318,044	-3.0
Fremont	4,880,000	-88.0
East Contra Costa	10,000	-99.8
North I-680	54,000	N/A
Oakland	1,393,849	N/A
Lamorinda	1,288,567	N/A
East Bay Total	37,858,788	-50.8

Source: CIRB

The strongest permitting activity took place in the City of Alameda, where permit values for new office structures were 364.4% higher in 2015 compared to the prior year. The large difference in the value of office permits in Alameda was due in part to below average permitting in 2014.

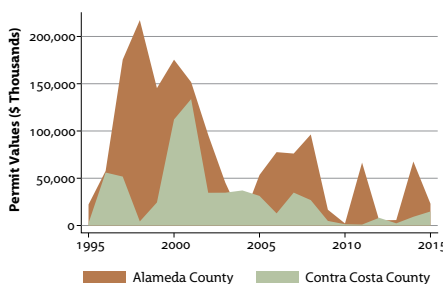
In light of the higher vacancy rate, most construction activity is likely to focus on renovations to existing space, particularly in downtown Oakland where older commercial properties are being renovated to accommodate new tenants, as opposed to building new structures. We have already seen this with Uber's renovation plans for the former Sears building in downtown Oakland, and Soma Capital Partners is in talks to buy a 228,033-square-foot building at 2150 Webster Street, just three blocks from the former Sears building site.⁵ As the renovation opportunities dwindle and vacancy rates continue to fall, higher rents will incentivize

OFFICE CONSTRUCTION

Construction activity has remained subdued this past year, although with vacancy rates at historically elevated levels, there is plenty of space in the market that must be absorbed before new structures are added to the current stock. In the 1990s and 2000s, we have generally seen permitting for office properties begin to trend toward cyclical highs once the vacancy rate dips below 15%.

The value of construction permits for new office structures in the East Bay came in at \$37.9 million in 2015, according to the Construction Industry Research Board, down from \$76.9 million in 2014 but markedly higher than the \$8.1 million in 2013 and \$13.5 million in 2012. Overall, however, permitting levels have thus far remained well below the pre-

Office Construction Permits



Source: Construction Industry Research Board

⁵ Li, Roland. "Exclusive: San Francisco developer in talks to buy potential Oakland tech hub" San Francisco Business Times, February 8, 2016. <http://www.bizjournals.com/sanfrancisco/blog/real-estate/2016/02/oakland-soma-capital-wework-att-t-2150-webster.html>

builders to come back into the market.

RETAIL RENTAL MARKET

The retail market in the East Bay continued to strengthen over the past year, improving on an already solid 2014. Vacancy rates have held steady near post-recession lows and rents continue to rise, indicating a strong demand for retail properties. As of the fourth quarter of 2015, the vacancy rate stood at 6.2%. This was virtually unchanged from 6.1% in the fourth quarter of 2014, which is also the long-run average since 1990. Over the same time period, rents increased by 2.2% from 2014 to 2015, up from the 1.7% increase from 2013 to 2014.

As the local economy has maintained an upward trajectory and affordability has drawn more residents and workers to the region, the retail sector has greatly benefited. More residents and workers mean more spending, and that is precisely what we have seen over this past year. Taxable sales for the East Bay totaled \$45.7 billion in 2015, a 5.3% increase over 2014

levels. Retail employment growth has also been strong. From 2014 to 2015, retail companies added 3,100 jobs to payrolls, a 2.8% increase. This was up from a 2.0% rate of growth from 2013 to 2014.

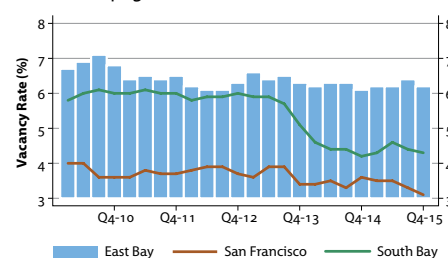
RETAIL SUBMARKETS

Unlike the office market, Contra Costa County has some of the strongest retail submarkets in the East Bay, which makes sense given the recent trends in consumer and business spending. Taxable sales growth for Alameda and Contra Costa counties came in at 5.2% and 5.4%, respectively, in 2015, which is a marked improvement for Contra Costa County, as 2014 growth was 6.2% and 3.5%, respectively.

The higher spending has translated into more demand for retail space in Contra Costa County. In the central part of the county, encompassing the northern section of I-680 and including San Ramon, Lafayette, Walnut Creek and Concord, vacancy rates were 4.6% as of the fourth quarter of 2015, the lowest retail vacancy rate in the entire East Bay



Retail Vacancy Rates
Q1-10 to Q4-15



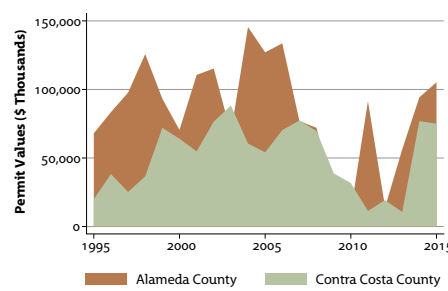
Source: REIS

Retail Submarket Snapshot: Q4-15

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
Central Contra Costa	32.18	4.6	352
Central/North Alameda	30.68	4.9	287
North Alameda/West Contra Costa	33.93	5.3	124
East Alameda	28.09	7.2	329
South Alameda	25.51	7.2	339
East Contra Costa	23.62	10.0	307
Santa Clara/Sunnyvale	33.70	4.3	910
San Francisco (MD)	35.54	3.1	307

Source: REIS

Retail Construction Permits



Source: Construction Industry Research Board



region. West Contra Costa County, which includes Richmond, El Cerrito and Pinole, boasted the third-lowest vacancy rate at 5.3%. Only East Contra Costa County, which includes Pittsburg, Antioch, and Brentwood, has lagged behind as the vacancy rate came in at 10.0% in the fourth quarter, the highest in the East Bay. The Central/North Alameda submarket had the highest rent growth. From the fourth quarter of 2014 to the fourth quarter of 2015, the cost of rent increased by 5.6%, substantially more than all other submarkets.

Retail Construction by Submarket

City/Submarket	2015	Change (%)
Tri-Valley	58,065,986	201.8
Berkeley	19,814,361	50.6
North I-680	61,207,451	33.8
Fremont	11,779,104	27.4
Richmond	10,566,376	-37.7
Other	1,364,967	-62.1
East Contra Costa	1,461,225	-75.7
I-80/I-880	3,025,265	-90.3
Oakland	11,228,958	N/A
Emeryville	553,051	N/A
East Bay Total	180,319,076	5.4

Source: CIRB

RETAIL CONSTRUCTION

The retail market has seen more construction activity over the past year relative to the office market. The total value of retail construction permits totaled \$180.3 million in 2015, a 5.3% increase over 2014 values and was a new post-recession high. This comes on top of two strong years for retail permitting, during which the value of permits increased more than 100% from the prior year.

Timing is right for new retail construction, and there could be a pause in the vacancy rate and rent trajectories as the new stock comes on line in the latter half of 2016 and first half of 2017. The recent expansion of the San Francisco Premium Outlets in the Tri-Valley submarket is a prime example of this. Back in August 2015, the 185,000 square foot expansion opened with 35 new stores.⁶

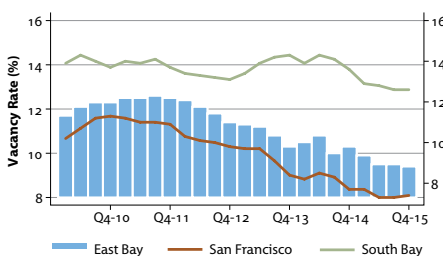
WAREHOUSE RENTAL MARKET

Warehouse properties continue to do quite well in the East Bay as the major indicators are trending in the right direction and at a slightly better pace than the prior year. As of the fourth quarter of 2015, the vacancy rate in the East Bay stood at 9.4%, down 0.9 percentage points from the fourth quarter of 2014. Not only was this a new post-recession low, but it is a drastic improvement from last year, when there was no change from the fourth quarter of 2013 to the fourth quarter of 2014.

Rents have similarly improved and have achieved new post-recession highs. As of the fourth quarter of 2014, the average rent per square foot was \$5.38, a 2.6% increase over the same time a year prior. This was an acceleration in year-over-year rent growth from last year, when rents increased 2.1% in the fourth quarter of 2014.

Warehouse Vacancy Rates

Q1-10 to Q4-15



Source: REIS

⁶ <http://www.pleasantonweekly.com/news/2015/08/12/san-francisco-premium-outlets-opens-expanded-center-tomorrow>

The improvement in vacancy rates and rents signals strong demand in a healthy warehouse property market. This is even more apparent when taking other indicators into consideration. Employment in the Warehousing and Storage sector increased by 10.3% in 2015, a strong improvement over the 2.6% growth in 2014.

WAREHOUSE SUBMARKETS

The Oakland/San Leandro submarket has seen the most improvement over the last year, boasting both the lowest and the fastest declining vacancy rate. This comes as little surprise, however, given that both the Port of Oakland and Oakland International Airport are within the Oakland/San Leandro submarket, pointing to a strong logistics sector for the East Bay. As of the fourth quarter of 2015, the vacancy rate for this submarket stood at 7.5%, down 2.5 percentage points from the fourth quarter of 2014. Warehouse rents in the Oakland/San Leandro submarket have similarly

outperformed other parts of the East Bay, confirming the strong demand implied in the falling vacancy rate. From the fourth quarter of 2014 to the fourth quarter of 2015, the rents increased by 3.6%.

The Pleasanton/Livermore submarket has been on the lower-performing end of the East Bay's warehousing sector, in large part because it is much farther away from the air and sea ports, but zoning restrictions could also be playing a role as well. There has been discussion in Pleasanton around zoning restrictions recently as the City Council explores the idea of rezoning to allow a Costco, or some other kind of development, in the area.⁷ As the local population expands, Cities in the region will need to re-examine how they plan to grow their local economy and increase their tax base in order to deal with increased demand for government services.

While rent growth was positive, vacancy rates for warehouse properties edged up over the past year. From the fourth quarter of 2014 to the fourth quarter of 2015, rents



Much like other property types in the East Bay, the industrial market has seen a notable uptick in activity, buoyed by a steadily growing regional economy.

Warehouse and Distribution Center Submarket Snapshot: Q4-15

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
Oakland/San Leandro	4.84	7.5	2,073
Union City	5.50	8.2	1,219
Concord/Pittsburg	5.11	8.9	900
North Alameda/West Contra Costa	5.42	9.3	1,609
Hayward	5.81	10.2	2,048
Newark/Fremont	5.55	10.4	2,313
Pleasanton/Livermore	5.64	12.6	1,640
Santa Clara	7.15	12.6	4,351
San Francisco County	8.78	7.4	2,354

Source: REIS

⁷ http://www.eastbaytimes.com/my-town/ci_29760271/pleasanton-council-continues-planning-controversial-costco-site



grew by 2.0%, but the vacancy rate increased from 12% to 12.6%, the highest rate in the East Bay.

FLEX/R&D RENTAL MARKET

The Flex/R&D property market in the East Bay has fared well this past year, thanks to research hubs such as the University of California, Berkeley, the three National Laboratories, the business incubation and acceleration activity spread throughout the region, as well as the growing tech sector gaining traction in Oakland. Not only is the market for the space strong, last year's performance has been an improvement over 2014. As of the fourth quarter of 2015, the vacancy rate stood at 13.2%, down 1.9 percentage points from the fourth quarter of 2014, nearly double the year-over-year decline seen in the fourth quarter of 2014.

Rent growth has also outperformed, which, when coupled with the declining vacancy rate, points to increasing demand. From the fourth

quarter of 2014 to the fourth quarter of 2015, the rent per square foot increased by 2.1%, faster than the year-over-year growth of 1.6% in the fourth quarter of 2015.

FLEX/R&D SUBMARKETS

The Oakland/San Leandro submarket for Flex/R&D properties has done the best this past year, due in large part to its central location relative to University of California, Berkeley, the up-and-coming tech center in the Central Business District office submarket, and reasonable rents. This submarket boasts the lowest vacancy rate, 3.8% as of the fourth quarter of 2015, which is well below the 13.2% average for the East Bay overall. Rents are in the middle of the pack, coming in at \$9.24 per square foot in the fourth quarter of 2015. This represents a substantial discount relative to the North Alameda/West Contra Costa submarket (which includes Berkeley and Emeryville), where rents are \$18.80 per square foot.

Flex and Research and Development Submarket Snapshot: Q4-15

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
Oakland/San Leandro	9.24	3.8	85
Pleasanton/Livermore	10.06	9.3	359
Concord/Pittsburg	9.98	10.2	224
North Alameda/West Contra Costa	18.80	15.1	193
Hayward	8.62	15.6	638
Newark/Fremont	8.43	15.7	1,668
Union City	5.42	17.1	166
Santa Clara	14.52	15.7	10,169
San Francisco County	14.52	4.5	427

Source: REIS

INDUSTRIAL RENTAL MARKET

Much like other property types in the East Bay, the industrial market has seen a notable uptick in activity, buoyed by a steadily growing regional economy. In 2015, the vacancy rate for industrial properties averaged 8.1% in the East Bay, down 0.8 percentage points from 2014, twice the rate of decline for 2014, which was 0.4 percentage points. In similar fashion, rent growth accelerated in 2015 and came in at 2.7%, up from 2.1% in 2014.

Industrial Construction by Submarket

City/ Submarket	2015	Change (%)
Fremont	54,308,271	-59.9
I-80/I-880	33,182,000	643.2
Richmond	20,488,175	180.8
Other	30,628	N/A
East Bay Total	116,259,074	-22.0

Source: CIRB

With San Francisco and the South Bay geared more toward the tech industry, the East Bay region has remained an attractive location for industrial tenants due to a comprehensive goods movement infrastructure. This is readily apparent in the East Bay's lower vacancy rate (8.1%) compared with San Francisco (10.3%) and San Jose (15.8%), and lower rent per square foot, \$5.42 compared with \$6.89 and \$7.17 for San Francisco and San Jose, respectively.

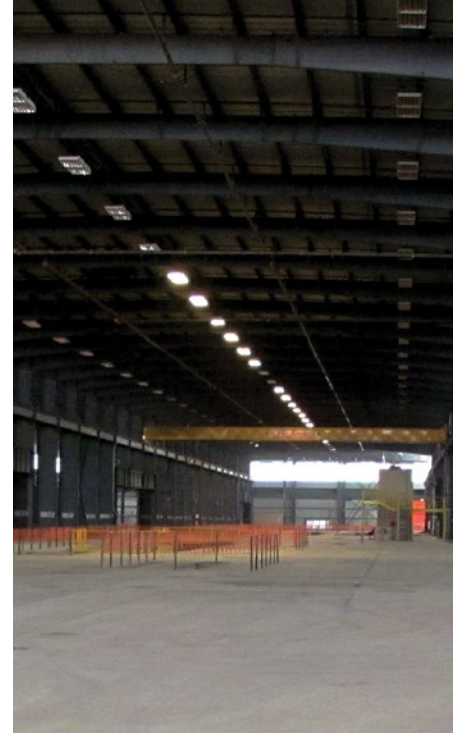


Photo: CBRE

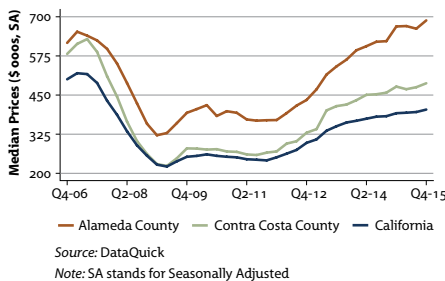
The average vacancy rate for the East Bay is moving farther from the post-recession peak in 2010, and the pace of decline has even accelerated slightly.



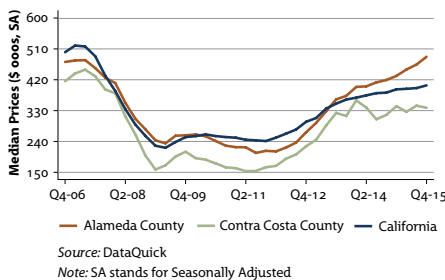
OVERVIEW

The East Bay housing market continues to feel the impact of lingering supply constraints, even as residential construction activity has started to gain momentum. Demand for housing in the region continues to grow, driven by rising incomes and strong population growth. Meanwhile, the gap between the rate of household formation in the region and the supply of available housing remains wide, though Beacon Economics has started to see a slow reversal of this trend. As developers respond to rising prices, the residential real estate market in the East Bay should experience a stabilization of price appreciation, as well as increased sales volume.

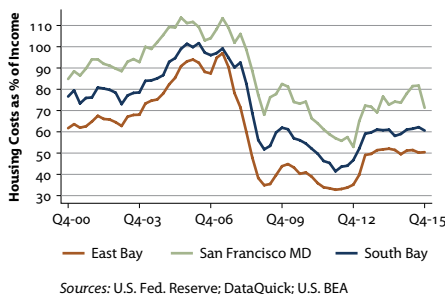
Existing Single-Family Home Prices
Q4-06 to Q4-15



Existing Condominium Prices
Q4-06 to Q4-15



Home Affordability Index
Bay Area, Q4-00 to Q4-15



16.2% from the fourth quarter of 2014 to the fourth quarter of 2015, while the market for existing condominiums continues to languish in Contra Costa County.

HOUSING AFFORDABILITY

The absolute affordability of living in the East Bay, as opposed to elsewhere in the Bay Area, declined slightly in 2015. As of the fourth quarter of 2015, a typical household in the East Bay would have to spend \$32,600, or just over half (50.4%) of their income each year, in order to afford the mortgage payment on a median-priced home in the region. By comparison, typical households in San Francisco and San Jose are facing mortgage payments in excess of 60% of their income, which should continue to entice potential homeowners to the East Bay.

Although persistent home price appreciation has eaten away at the East Bay's absolute affordability, the region's affordability advantage and better housing stock value for price point are still major reasons why it has been a hot spot for in-state migration over the past several years.

HOME PRICES

The East Bay's affordability advantage has continued to drive demand for housing in the region. Accordingly, price appreciation in the East Bay, particularly in Alameda County, outpaced the price growth observed statewide over the past year. However, price appreciation in the East Bay continues to lag growth compared to the ultra-tight San Francisco housing market.

CONDOMINIUM PRICES

The divergence observed in the market for condominiums in Alameda and Contra Costa Counties continued in 2015. The median price for a condo in Alameda County increased

DEFAULTS AND FORECLOSURES

Notices of default in Alameda and Contra Costa Counties have finally dipped below pre-recession levels in a sign that the residential real estate market in the East Bay has transitioned back to a traditional retail market. Accordingly, the trends

Foreclosures in Select Cities in the East Bay

City	1998-2006 Average	Q4 2014	Q4 2015	Change (%)	
				Q4-2014 to Q4-2015	1998-2006 Average to Q4-2015
Alameda	1	5	0	-100	-100
Oakland	37	64	37	-42	0
Richmond	12	18	14	-21	23
Hayward	10	23	14	-41	44
Concord	9	21	13	-37	46
Fremont	6	19	9	-50	56
Berkeley	3	4	4	4	56
Brentwood	3	12	8	-30	174
Antioch	15	39	62	59	301

Source: DataQuick

observed in the region's residential real estate market are no longer influenced by a large number of discounted property sales, as had been the case during the first several years of the economic recovery.

The widespread decline in foreclosures throughout the East Bay in recent years continued in 2015. Moreover, the number of foreclosures in many cities has converged back to the long-run average. The City of Antioch, however, headed in the opposite direction with 23 more foreclosures in 2015 than in 2014. This should be viewed as a bump in the road back to normal conditions, as opposed to a trend reversal.

SUPPLY

The supply of available housing in the East Bay continues to cinch tighter. To this end, only 4.8% of all housing units in the East Bay were vacant as of 2014, compared to 8.2% of housing units statewide. It should be noted that this data is a bit lagged, and does not reflect the moderate increase in residential construction

activity observed towards the end of 2014. However, many of these newly constructed housing units are already off the market, as demand for housing in the region has dwarfed the supply response exhibited over the past year. Ultimately, vacancy rates this low indicate an extremely limited supply of homes on the market.

Housing Vacancy

Year	Alameda	Contra Costa	East Bay	CA
2008	8.6	7.0	7.9	9.1
2009	8.7	8.1	8.5	9.1
2010	7.8	8.1	7.9	9.3
2011	6.7	6.2	6.5	9.1
2012	6.1	5.2	5.7	8.4
2013	5.4	5.4	5.4	8.3
2014	4.9	4.6	4.8	8.2

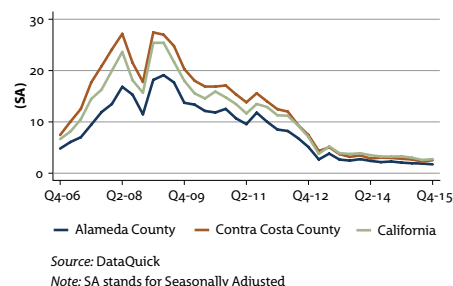
Source: U.S. Census American Community Survey

While residential construction activity in the East Bay finally started to show some life in 2015, it remains well below the pace of new household formation. There were roughly 4,600 fewer housing units permitted for construction than there were new



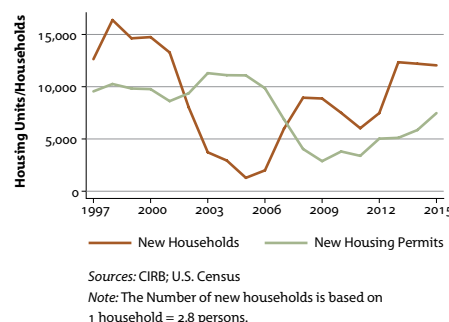
Defaults per 1,000 Mortgaged Housing Units

Q4-06 to Q4-15



Housing Permits and New Households

East Bay, 1997 to 2015





households moving into the region in 2015. Overall, more than 18,000 additional housing units would need to be constructed in the East Bay in order to keep pace with the rate of household formation in the region.

HOME AND CONDOMINIUM SALES

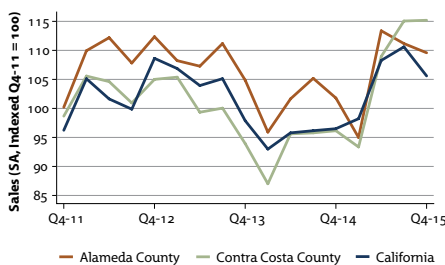
A moderate increase in residential construction activity towards the end of 2014 has sparked a jump in sales activity in the East Bay. In fact, sales activity in the East Bay easily outpaced neighboring San Francisco and Santa Clara Counties. The lion's share of this increase occurred in Contra Costa County, where the number of single-family and condominium sales increased 15.5% between 2014 and 2015.

HOME AND CONDOMINIUM PRICES AND SALES

Much of the home price appreciation observed over the past year has taken place in Alameda County. This fact, coupled with the relatively slow pace of sales activity, indicate that the shortage of housing is most severe in Alameda County. Given the strong demand for housing in the region, it is not surprising that prices have grown at a rapid pace throughout the County. Growth occurred in more affordable cities, such as the City of Emeryville (17.2%), as well as those on the upper end of the spectrum. The City of Piedmont, where the median priced home clocked in at \$2 million in 2015, saw prices grow 14.7% between 2014 and 2015.

The rate of home price appreciation screeched to a halt in Contra Costa County, as prices grew at the relatively slow rate of 3.8% between

Single-Family and Condominium Sales
Q4-11 to Q4-15



Source: DataQuick
Note: SA stands for Seasonally Adjusted

Home and Condominium Sales and Median Prices in East Bay Areas with the Fastest Growing Prices in 2015

City or Town/County	Annual Sales	Median Prices (\$000s)	Year-over-Year Change in Price (%)
Alameda County	13,657	667	9.9
Newark	385	639	18.4
Emeryville	186	462	17.2
Berkeley	631	972	16.4
Union City	492	628	14.7
Piedmont	114	2,000	14.7
Contra Costa County	13,481	508	3.8
Kensington	69	950	19.6
Lafayette	346	1,348	15.6
Orinda	261	1,342	11.0
Concord	1,442	453	11.0
El Cerrito	200	754	10.0

Source: California Association of Realtors

2014 and 2015. Indeed, the five slowest growing cities, in terms of home price appreciation, were located in Contra Costa County. This has provided some relief to potential homebuyers in the region, spurring the jump in sales activity discussed previously.

Trends on the upper end of the market have been a bit choppy in 2015. The areas of Alamo and

Moraga, for instance, experienced relatively slow price appreciation and a drop in sales activity between 2014 and 2015. On the other hand, the residential real estate markets in the areas of Danville and Lafayette were resurgent in 2015.

The bulk of residential market activity has been concentrated in the East Bay's more affordable regions, with prices and sales activity growing in

Home and Condominium Sales and Median Prices in East Bay Areas with the Slowest Growing Prices in 2015

City or Town/County	Annual Sales	Median Prices (\$000s)	Year-over-Year Change in Price (%)
Alameda County	13,657	667	9.9
Dublin	822	760	7.7
Pleasanton	842	879	8.3
Alameda	556	776	8.8
Livermore	1,282	648	9.4
Castro Valley	599	657	9.5
Contra Costa County	13,481	508	3.8
Pleasant Hill	486	592	2.2
Alamo	199	1,503	3.7
Moraga	215	995	3.9
Martinez	562	492	5.8
Danville	887	1,050	7.6

Source: California Association of Realtors

Home and Condominium Prices and Sales in Higher Cost East Bay Areas in 2015

City/County	Median Prices (\$000s)	Year-over-Year Change in Price (%)	Annual Sales	Year-over-Year Change in Sales (%)
Alamo	1,503	3.7	199	-14.6
Lafayette	1,348	15.6	346	12.7
Orinda	1,342	11.0	261	-4.0
Danville	1,050	7.6	887	12.7
Moraga	995	3.9	215	-2.3
Berkeley	972	16.4	631	-1.7
Pleasanton	879	8.3	842	3.6
San Ramon	858	9.2	1,089	8.4
Total	1,018	9.2	4,470	4.5

Source: California Association of Realtors



The supply of available housing in the East Bay continues to cinch tighter. To this end, only 4.8% of all housing units in the East Bay were vacant as of 2014, compared to 8.2% of housing units statewide.

EAST BAY RESIDENTIAL REAL ESTATE



Home and Condominium Sales and Median Prices in Affordable East Bay Areas in 2015

City/County	Median Prices (\$000s)	Year-over-Year Change in Price (%)	Annual Sales	Year-over-Year Change in Sales (%)
Oakland	595	13.6	3,286	9.7
San Leandro	498	11.9	750	20.0
Martinez	492	5.8	562	12.6
Hayward	481	13.9	1,334	22.0
San Lorenzo	476	10.8	233	12.0
Emeryville	462	17.2	186	39.8
Concord	453	11.0	1,442	20.1
Total	526	11.9	7,793	15.4

Source: California Association of Realtors

tandem in these areas. It is a positive sign that this growth has occurred in the East Bay's urban cores, the City of Oakland in particular. The strong growth observed in these densely populated areas is unique to the East Bay. Other areas with housing shortages and high density throughout the state are not experiencing such strong growth.

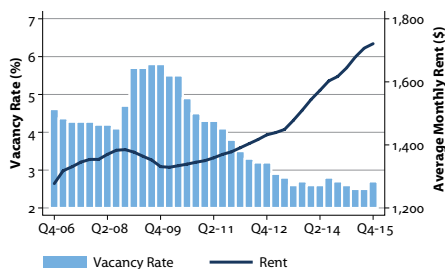
RESIDENTIAL CONSTRUCTION

While developers in the East Bay have been unable to keep up with the rate of new household formation, the region is in far better shape than its Bay Area neighbors. Nearly 7,500 housing units were permitted for construction in the East Bay during 2015, a 27.0% increase from the previous year. By comparison, construction activity fell 5.2% to 5,740 units in San Francisco County, while it plummeted 38.1% to 6,300 units in the South Bay. The regional divergence in construction activity should prove to be a boon for the East Bay over the next year. These soon-to-be constructed housing units will come at a time when the real estate markets in neighboring counties grows even tighter. As a result, many potential homebuyers will continue to flock to the East Bay where homes are more affordable and supply constraints are less severe.

Residential construction activity scales again tipped towards multi-family in 2015, though single-family

Apartment Vacancy Rates and Rents in the East Bay

Q4-06 to Q4-15



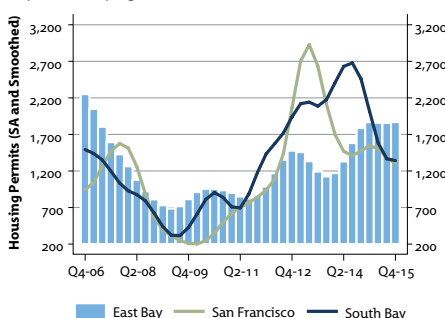
Source: REIS

APARTMENT VACANCIES AND RENTS

The confluence of strong housing demand and a tight supply of housing has driven many potential homeowners into the rental market. As a result, East Bay rents surged 6.4% between the fourth quarter of 2014 and the fourth quarter of 2015, keeping pace with rent growth in the South Bay. At the same time, the vacancy rate remains unchanged at 2.7%, which indicates that all of the rental units that have come on-line in the past year have already been absorbed.

Residential Construction Permits

Q4-06 to Q4-15



Source: Construction Industry Research Board

construction activity still grew steadily over the year. The trend towards multi-family housing parallels what is happening in other urban centers in California, as developers are forced to grapple with a shortage of developable lands in these densely populated areas. Beacon Economics fully expects this trend to continue, as a growing number of large multi-family housing projects have made headlines in recent months. For instance, the Terminal One development proposed for the Point Richmond shoreline is slated to bring 308 condominiums and 26 townhouses to the East Bay.⁸

A large share of the single-family construction in the East Bay over the last three years has occurred in the cities of Dublin and Brentwood. The elevated construction activity in Dublin has helped keep price appreciation at bay and stands as one of the few instances in the region where the supply response has kept pace with growing demand.

Cities in the East Bay Developing the Most Single-Family Units Relative to their Current Single-Family Housing Stock

City	Permits 2013 to 2015	Permits as a Share of Housing Stock (%)
Dublin	1,529	14.7
Brentwood	1,370	8.4
Oakley	486	4.8
Pittsburg	656	4.2
Hayward	740	2.6
Orinda	148	2.3
Livermore	473	1.9

Source: Construction Industry Research Board

Multi-family housing can be expected to account for a larger share of the overall housing stock in a number of cities in the East Bay. The number of multi-family housing units permitted for construction in the City of Pleasanton over the past three years, for example, would increase the stock of multi-family housing in the City by 16.7%. This type of construction activity provides potential homeowners options outside the region's dense urban centers.

Cities in the East Bay Developing the Most Multi-family Units Relative to their Current Multifamily Housing Stock

City	Permits 2013 to 2015	Permits as a Share of Housing Stock (%)
Dublin	1,257	21.0
Pleasanton	1,029	16.7
Lafayette	235	14.7
Emeryville	813	14.1
El Cerrito	188	7.5
Oakley	30	4.7
Piedmont	7	4.4
San Ramon	232	3.3

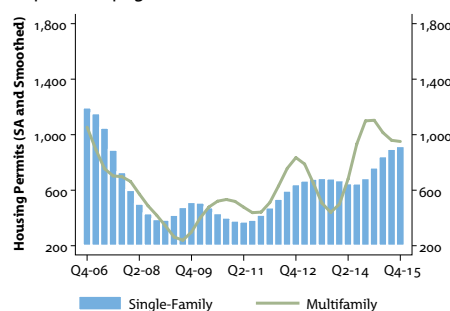
Source: Construction Industry Research Board

FORECAST OF EXISTING SINGLE-FAMILY HOME PRICES AND SALES

Despite the recent increase in residential construction activity, the effects of the regional housing shortage will linger throughout 2016. Beacon Economics predicts that



Single-Family and Multifamily Construction Permits Q4-06 to Q4-15



Source: Construction Industry Research Board
Note: SA stands for Seasonally Adjusted

⁸ Julian Mark, "Chinese developer plots 330 units at prime East Bay shoreline site," *San Francisco Business Times*, February 17, 2016.



price appreciation in the East Bay will remain in the 8% to 9% range throughout 2016. As the supply response picks up steam to match growing demand, price growth is expected to cool. Overall, sales activity should remain steady during this time period, which serves as a testament to the strength of demand for housing in the region.

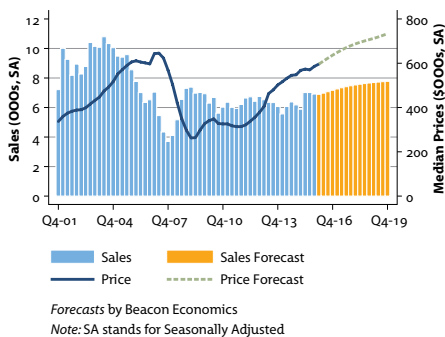
FORECAST OF CONSTRUCTION ACTIVITY

Beacon Economics expects residential construction activity in the East Bay to gain even more momentum in 2016, providing a much-needed boost to the supply of housing in the region. It won't be until 2017, however, that single-family construction really takes off.

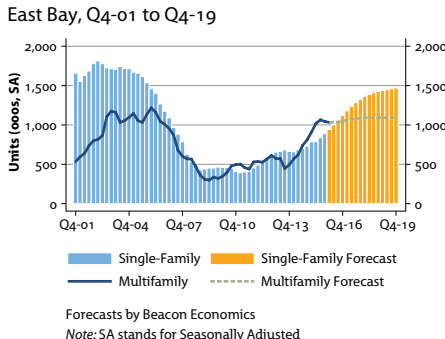
Several cities in the region, have already taken measures to alleviate some of the restrictions that have contributed to the stunted recovery of residential construction activity in the East Bay. The cities of Berkeley and Oakland, for instance, recently voted to ease restrictions on the construction of secondary housing units, also known as in-law units. While this policy is a step in the right direction, much more needs to be done to bring more supply on the market in the short-term.

Nearly 7,500 housing units were permitted for construction in the East Bay during 2015, a 27.0% increase from the previous year.

Median Home Price and Sales Forecast
East Bay, Q4-01 to Q4-19



Residential Construction Permits Forecast
East Bay, Q4-01 to Q4-19



POPULATION GROWTH

The population of the East Bay continued to grow at a faster rate than it has seen in recent years, a trend that is not surprising given the affordability advantage the region enjoys over more expensive regions to the south and west. According to the latest figures from the California Department of Finance, the East Bay experienced a population increase of 2.1% from 2014 to 2015, with total population surpassing 2.7 million residents. In comparison, California's population grew at a rate of 0.9%, a rate that was slightly lower than 2014. The East Bay's population growth was the largest observed in the last decade. Over the past 10 years, the East Bay population has increased by 11%, appealing to not only those priced out of San Francisco and the South Bay, but higher income households, as well.

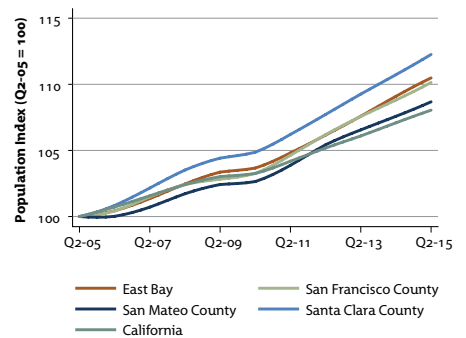
One source of the East Bay's surge in population is individuals coming from within the United States. Domestically, since 2013, more people are entering the region than leaving, although recently the growth has slowed. In 2015 domestic migration was 5,000, but nearly 7,000 in 2014. Growing tech employment in the surrounding regions has been an important factor in driving this migration pattern. As tech jobs and housing costs increased in those areas, the East Bay's relative affordability made it an attractive location for these new employees.

The county migration patterns within the Bay Area bear this out. From 2009 to 2014, the most recent data available, over 13,000 residents migrated from San Francisco, San Mateo, and Santa Clara County to the East Bay according to the U.S. Census American Community Survey. Each of these counties with heavy concentrations of tech jobs has experienced a net loss of population to the East Bay.



Photo: Greg Linhares, City of Oakland

Population Growth Bay Area & California, Q2-05 to Q2-15



Source: California Department of Finance

East Bay Inbound & Outbound Migration Patterns (2009-2014)

County	Inbound	Inbound Share	Outbound	Outbound Share	Net Migration
San Francisco	31,872	21.7%	24,448	15.1%	7,424
San Mateo	15,216	10.3%	11,969	7.4%	3,247
Santa Clara	25,368	17.3%	22,861	14.1%	2,507

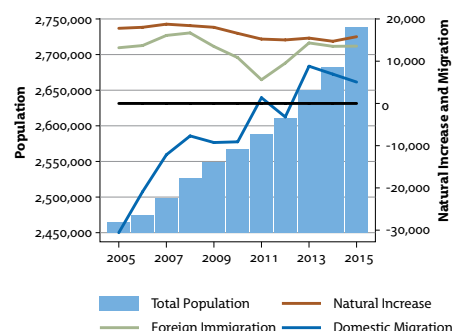
Source: 2009-2014 American Community Survey

East Bay Residents Commute Pattern Shares (2009-2014)

County of Work	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)	2014 (%)
East Bay	65.0	64.1	62.8	62.9	62.2	63.3
Other	15.5	16.4	17.4	17.4	17.8	16.2
San Francisco	9.3	8.6	9.3	10.0	10.5	11.4
San Mateo	3.5	3.4	2.9	3.2	3.3	3.6
Santa Clara	6.0	5.8	5.7	6.5	6.2	5.5

Source: 2009-2014 American Community Survey

East Bay Population 2005 to 2015



Source: California Department of Finance

EAST BAY DEMOGRAPHICS / QUALITY OF LIFE



Photo: Greg Linhares, City of Oakland

And while overall, San Francisco, San Mateo, and Santa Clara counties have all seen fluctuations in net domestic migration, the East Bay has experienced constant growth. What's more, there are large differences within the East Bay region. According to the California Department of Finance, net domestic migration was 421 in Alameda County from 2014 to 2015, but was more than 4,600 in less expensive Contra Costa County over the same time period. It is clear that while new jobs are being created in the Bay Area, cost of living is playing a big role in where those workers choose to live.

As noted in previous Outlook reports, although an increasing number of workers are choosing to live in the East Bay, an increasing number of residents are choosing to work elsewhere. The table above shows the share of East Bay residents who work in the East Bay has gradually declined from 2009 to 2014, while the share of East Bay residents who commute

to local areas such as San Francisco and San Mateo counties has slowly increased. While lower housing prices have attracted residents to the East Bay, many of those residents continue to work outside of the region where there are more work opportunities, especially in tech employment.

POPULATION COMPOSITION (AGE AND ETHNICITY)

A large number of people, particularly young professionals from 20 to 34 years of age, have found the East Bay attractive and have contributed significantly to the population growth. Other California counties with similar population sizes and a comparable share of young professionals, such as Riverside County, are not growing as fast because they do not offer the same employment prospects as the East Bay.

East Bay Population Distribution by Age

Age	2009	2014	2009-2014 Change (%)
Under 5 years	173,979	162,632	-6.5%
5 to 9 years	162,921	174,195	6.9%
10 to 14 years	164,829	168,097	2.0%
15 to 19 years	165,597	166,753	0.7%
20 to 24 years	157,208	177,495	12.9%
25 to 34 years	361,601	396,777	9.7%
35 to 44 years	380,255	389,742	2.5%
45 to 54 years	388,877	390,430	0.4%
55 to 59 years	156,015	179,302	14.9%
60 to 64 years	132,122	157,972	19.6%
65 to 74 years	150,453	207,396	37.8%
75 to 84 years	95,319	102,077	7.1%
85 years and over	43,580	49,392	13.3%
Total	2,532,756	2,722,260	7.5%

Source: 2014 American Community Survey

Significant growth has also occurred in older age groups. From 2008 to 2013, the population ages 65 to 74 increased in the East Bay by an impressive 37.8%. Right behind was the group between the ages of 60 to 64 years, which grew 19.6%. In 2014, nearly one-fifth of the East Bay's population was older than 60.

According to a 2016 *Condé Nast Traveler* ranking, one of the 10 best cities in the entire world is located in the East Bay: Concord.⁹ It is a testament to the East Bay's excellent quality of life that it would appeal not only to young professionals but also to the older, upper income readers of *Condé Nast Traveler*. The senior population in the East Bay, California and industrial nations around the world, is increasing due in part to declining births and the aging baby boomer population. According to a report from the Public Policy Institute of California, California's senior population 65 and older will nearly double in the next 15 years.¹⁰

The East Bay is also distinguished by the diversity of its population. Of the major ethnic groups, the population of Asians and Latinos grew the most. According to the latest data available, roughly 37% of the East Bay's residents are White, while nearly 23% are Asian and almost 24% are Latino. From 2009 to 2014, the fastest growing population group was Asian, growing 20% to almost 620,000 residents.

As for incomes in the East Bay, there is a clear difference in trend lines for those households making more than \$100,000 per year and those making less. The share of households

earning more than \$100,000 has been rising over the past five years while the share of households making less has generally been declining. This trend is not exclusive to the East Bay, however. Across California, housing costs, due in part to short supply, are driving low-income earners out of the state and bringing in higher-income earners. Rising costs of living may be shifting the distribution of income earners in the East Bay, but this is a common trend throughout California.

East Bay Population by Household Income

Income Category	Share 2009 (%)	Share 2014 (%)
Less than \$10,000	4.7	4.8
\$10,000 to \$14,999	4.7	4.1
\$15,000 to \$24,999	7.6	6.8
\$25,000 to \$34,999	7.5	7.1
\$35,000 to \$49,999	11.1	9.7
\$50,000 to \$74,999	17.0	15.5
\$75,000 to \$99,999	12.7	12.0
\$100,000 to \$149,999	17.5	18.6
\$150,000 to \$199,999	8.9	9.8
\$200,000 or more	8.3	11.6

Source: 2014 American Community Survey

INCOME AND EDUCATION

In a post-recession recovery, it is not surprising that annual earnings have grown throughout the East Bay, the surrounding regions and the state. It is important to note, however, the relationship between growth in wages and educational attainment. From 2009 to 2014, annual earnings for workers without a high school diploma rose 1.2%, which is negligible at



Photo: LVwine.org

Over the past 10 years, the East Bay population has increased by 11%, appealing to not only those priced out of San Francisco and the South Bay, but higher income households, as well.

⁹ "Condé Nast Traveler names East Bay city as one of the world's best places to retire." *SFGate*. March 8, 2016.

¹⁰ "Planning for California's Growing Senior Population." Public Policy Institute of California. August 2015.



East Bay Annual Earnings by Educational Attainment, 2014 (\$)

Educational Attainment	California	East Bay	San Francisco	San Mateo	Santa Clara
Less than high school graduate	19,839	22,056	21,521	22,940	23,416
High school graduate (includes equivalency)	27,664	30,855	24,641	32,036	31,349
Some college or associate's degree	36,015	40,909	36,038	42,605	41,315
Bachelor's degree	55,900	62,736	68,439	65,084	76,177
Graduate or professional degree	77,653	87,207	85,591	101,570	102,352

Source: 2014 American Community Survey

East Bay Educational Attainment, 2014 (Share of Population Age 25 and Older)

Educational Attainment	California (%)	East Bay (%)	San Francisco (%)	San Mateo (%)	Santa Clara (%)
Less than 9th grade	10.0	6.6	7.5	6.6	7
9th to 12th grade, no diploma	7.9	5.7	4.4	5.3	5.6
High school graduate (includes equivalency)	20.9	18.7	12.7	15.5	15.5
Some college, no degree	21.7	20.1	15.1	17.9	16.2
Associate's degree	7.8	7.4	6	7.1	7.3
Bachelor's degree	20.0	24.9	32.9	28.6	26.1
Graduate or professional degree	11.8	16.6	21.4	19	22.3

Source: 2014 American Community Survey

best. However, over the same period, earnings grew 8.8% for earners with a bachelor's degree, and earnings grew 13.6% for those with a graduate degree. These trends reflect the premium that a college education carries. In areas with a heavy tech presence, such as the Bay Area, a college education is a worthwhile investment because in the long run the future earnings will offset the short-term costs of the education.

Over time, it is anticipated that more and more residents of the

East Bay will pursue higher levels of education due to the high rate of return on college educations. For example, in 2009, 13.6% of the East Bay's residents (ages 25 and older) did not have a high school diploma. As of 2014, that share is now down to 12.3%. The pattern for college education also reflects the growing premium placed on additional education. In 2009, 39.1% of residents had a bachelor's degree and by 2014, it had grown to 41.5%. The job opportunities of the Bay Area continue to favor employees with

Poverty by Educational Attainment, 2014 (Share of Population Age 25 and Older)

Educational Level	California	East Bay	San Francisco	San Mateo	Santa Clara
Less than high school graduate	26.5%	24.7%	22.8%	17.1%	18.8%
High school graduate (includes equivalency)	16.2%	12.4%	15.8%	9.5%	11.8%
Some college, associate's degree	11.0%	8.9%	12.8%	6.1%	7.4%
Bachelor's degree or higher	5.5%	4.3%	5.5%	3.0%	3.2%

Source: 2014 American Community Survey

college educations, and a growing number of college educated workers are choosing to reside in the East Bay.

While incomes throughout the Bay Area have generally increased over the past year, inequality of income distribution has not immediately worsened. For example, year to year, the East Bay's Gini Coefficient of Inequality — where 1 represents perfect inequality and 0 represents perfect equality — did not change. Furthermore, the East Bay's Gini coefficient is lower than that of California, the nation, Los Angeles County and San Francisco County. However, over the last five years, the East Bay's Gini coefficient has increased 4.5%.

While poverty and income inequality can potentially become an even more significant issue throughout the East Bay, educational attainment is a viable solution. It is also worth noting that while the relationship between income and college education is well known, the advantages of a college degree are not evenly distributed across degree types. Degrees in Science, Technology, Engineering, and Mathematics (STEM) are more likely to lead to higher paying jobs,

especially in the East Bay because of the large number of tech openings in the job market. The East Bay is fortunate to be home to the University of California, Berkeley, which is regarded as the leading public university for an undergraduate education and one of the premier graduate research institutions in the world. But it is also home to a number of private and community colleges that are valuable resources in improving the overall educational attainment for a wide range of students. The continued support and promotion of education, particularly in STEM fields, will benefit both the residents and the businesses in the East Bay as they seek to keep abreast of an increasingly advanced economy.

OCCUPATIONS AND WORKFORCE READINESS

The East Bay workforce is particularly strong in the professional services industry sector, more specifically, finance and technology. The bulk of employment is in management, business, science and arts



Degrees in Science, Technology, Engineering, and Mathematics (STEM) are more likely to lead to higher paying jobs, especially in the East Bay because of the large number of tech openings in the job market.

EAST BAY DEMOGRAPHICS / QUALITY OF LIFE



occupations. These have been stable from 2009 to 2014. The East Bay continues to evolve as a center for technology and innovation and the outlook for tech in the East Bay is bright. Of particular significance is that in 2017 the City of Oakland is slated to be the location of a new headquarters for the transportation network firm Uber, which will support 2,000 to 3,000 employees.¹¹ This is just the largest example of the tech spillover from San Francisco and Silicon Valley that will likely shape the composition of the East Bay's labor force for years to come.

East Bay Occupation Composition of Civilian Employed Population Age 16 and Over

Occupation Type	East Bay 2009	East Bay 2014
Management, Business, Science, and Arts	43.2%	43.0%
Service	16.5%	17.7%
Sales and Office	23.9%	23.8%
Natural Resources, Construction, and Maintenance	7.4%	7.9%
Production, Transportation, and Material Moving	8.9%	7.6%

Source: 2009 and 2014 American Community Survey

In areas with a heavy tech presence, such as the Bay Area, a college education is a worthwhile investment because in the long run the future earnings will offset the short-term costs of the education.

11 "After Uber's Move, Will Oakland Become a Tech Hub?" *Forbes*. September 26, 2016.

CONCLUSION

The outlook for the East Bay's economy remains positive.

Employment is growing not just in the local region, but also throughout the San Francisco Bay Area, which benefits the East Bay economy as a sizable share of its residents work in high wage sectors in the South Bay and San Francisco. As jobs and incomes grow for local residents, business establishments continue to be attracted to the East Bay for its relatively affordable real estate.

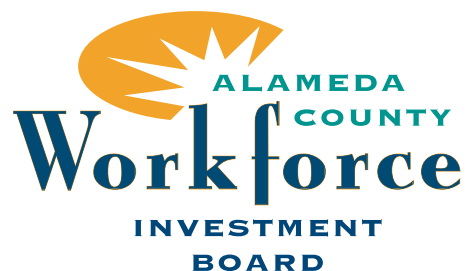
Still, the economic outlook for the East Bay is not without its risks. Housing remains undersupplied. Despite recent construction activity outperforming previous years, the region will need to add more housing in order to maintain its affordability levels. The slowing global economy has also impacted activity at the Port of Oakland over the last year.

Overall, the East Bay is expected to have another strong year in 2016 with nothing in the data signaling a reversal of the region's good fortunes in the immediate future. The San Francisco Bay Area is a major engine of growth in the state, as well as in the nation, and the East Bay is increasingly becoming a primary contributor to the overall region's performance.



Overall, the East Bay is expected to have another strong year in 2016 with nothing in the data signaling a reversal of the region's good fortunes in the immediate future.

This report was supported and prepared in partnership with



1221 Oak Street, Suite 555, Oakland, CA 94612

www.EastBayEDA.org