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East Bay ECONOMIC OUTLOOK



2014-15





EAST BAY ECONOMIC OUTLOOK 2014-15

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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) whose mission is to establish the East Bay as a world-recognized location to grow businesses, attract capital and create quality jobs.

One of the 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 Economic Outlook which is both a forecast and summary of key economic indicators for the East Bay as it compares to the region, the state of California, and the United States as a whole.

To see all of East Bay EDA's reports and economic forecasts, please visit:
www.eastbayeda.org

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Key indicators confirm the prevailing consensus that the East Bay's economy is stable and healthy. Employment continues to grow and the jobless rate is well below that of the rest of California. The resulting growth in incomes coupled with population increases have been good for business activity.

The region remains an attractive place for investment with noticeable increases in sectors connected with computer hardware and software. The distribution of employment shows that the East Bay is well equipped to support small businesses. Improved international trade has bolstered activity in related sectors, such as transportation and warehousing. Facilitating commercialization of the region's R&D will support continued investment and job growth, especially in professional services.

East Bay real estate offers many advantages for commercial tenants seeking relative affordability in the competitive Bay Area markets. Office vacancy rates declined while rents grew mildly, providing opportunity to capture companies seeking to relocate from higher priced San Francisco. The East Bay remains an excellent location for industrial activity with a variety of building types at reasonable rates. The region is well-positioned for anticipated improvements in manufacturing employment.

Residential real estate, meanwhile, shows foreclosures declining. Relative affordability has attracted homebuyers and renters from neighboring regions. The fast-growing population combined with slowing new home construction has increased market pressure which may continue until new building stock becomes available. Housing pressure will remain an economic challenge for the East Bay – and greater Bay Area – both in terms of affordability and access.

The trends point to a positive outlook for the East Bay economy. Businesses continue to increase employment and maintain productivity. Continued growth in personal income reverberates in other parts of the economy and attracts more business growth. Ensuring that these benefits reach all income levels presents an opportunity for the region to sustain the growth and enhance quality of life. Focusing on educational attainment – particularly in science, technology, engineering and math – will offer improved career pathway opportunities. Looking at opportunities for infrastructure and commercial real estate improvements to accommodate new technology and a growing population will be essential for the East Bay to capture market and residential growth.





EMPLOYMENT TRENDS

The latest revisions from California's Employment Development Department show that employment levels in the East Bay increased at a significantly faster pace than previously estimated. **These revised estimates increased East Bay job (or employment) growth from a paltry 0.2%, to a healthy 2.4% from December 2012 to December 2013.**

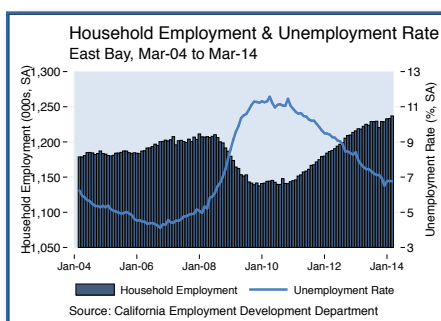
More recently, the total number of workers employed at firms located in the East Bay (employment totals determined by payroll figures) expanded by 1.7% (17,000 jobs) from March 2013 to March 2014, which matches the nation overall and is a better showing than other research-based economies such as Boston (1.3%). Job growth in the East Bay did lag the South Bay (4.2% or 40,000 jobs) and San Francisco (2.2% or 23,000 jobs).

Importantly, East Bay businesses are starting to add new workers, as determined by the payroll figures, at an even faster pace than East Bay residents are finding work (as determined by an employment survey of households). Payroll employment trailed household employment for much of the recovery. The total number of employed residents in the East Bay (household employment) has increased by 1.5% year-over-year. In terms of jobs, there are 17,000 more workers employed by East Bay businesses and 18,700 more East Bay residents who are employed than there were one year ago. **With the increase in the number of employed residents in the East Bay, the unemployment rate in the region fell 1.0 percentage point hitting 6.8% in March 2014, well below the state's overall (8.1%).**

The average hours worked in the East Bay has steadily increased since the end of the recession. According to the U.S. Bureau of Labor Statistics, the averaged hours worked in the East Bay was 35.8 hours in March 2014 on a seasonally adjusted basis, up from 35.7 hours in March 2013 and 33.7 hours in March 2012. Moreover, the number of those employed part-time for economic reasons has steadily declined across the state, falling by 6.8% from March 2013 to March 2014.

Employment gains have occurred across a broad range of industry sectors in the East Bay in recent years. Some of the fastest growing sectors over the past year have been Transportation and Warehousing (4.9%), Real Estate (4.2%), and Wholesale Trade (4.0%). Much of the growth in Wholesale Trade, and Transportation and Warehousing, can be attributed to increased port activity, with the value of exports (6.1%) and Imports (5.5%) at the Port of Oakland increasing from 2012 to 2013.

While the Real Estate and Construction sectors have posted solid gains over the last two years, these sectors still have ground to make up before returning to their pre-recession employment levels. From 2000 to 2006, employment levels in Real Estate averaged 18,200, compared to 16,700 currently. Employment levels in Construction averaged over 69,000, compared to 57,460 currently. Real Estate and Construction both have room for additional gains over the next year, despite recent robust growth.



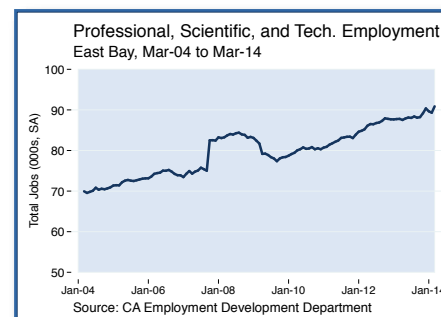
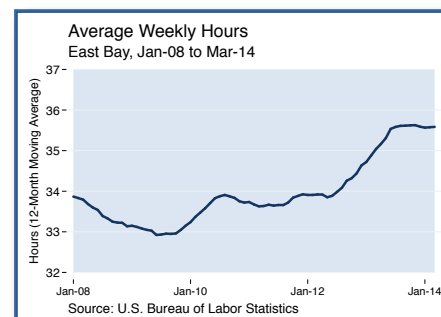
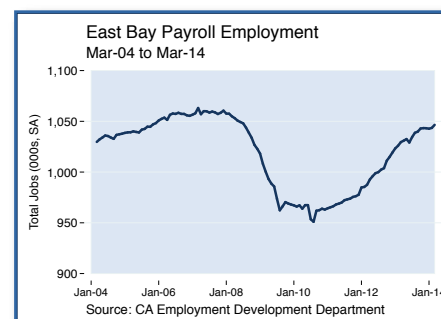
High-skilled sectors such as Professional Scientific, and Technical Services (3.5%) and Health Care (3.3%), also posted significant growth from March of 2013 to March of 2014. Employment growth in Computer Systems Design Services increased payrolls by a substantial 7.4% over the past 12 months. The region's Manufacturing sector expanded as well, growing by 2.4%, while the majority of the state's metro areas saw their manufacturing sectors contract in 2013.

The sector that experienced the steepest declines over the past year has been Administrative Support, which includes temporary positions. It should be noted, some of the declines in Administrative Support positions may be individuals moving from temporary positions to more permanent ones.

INDUSTRY CONCENTRATION

The industrial composition of the East Bay economy is noticeably different from that of the South Bay and San Francisco. Compared with the East Bay, San Francisco has a higher share of payroll jobs in Professional, Scientific, and Technical Services (14.6% vs. 8.7%) as well as Leisure and Hospitality (13.3% vs. 9.5%), while the South Bay has a higher share of payroll jobs in Professional, Scientific, and Technical Services (12.7% vs. 8.7%) and Manufacturing (16.3% vs. 7.6%).

Although the industrial composition varies among the Bay Area's different regions, the industries experiencing the most growth over the last decade have been similar. Over the past 20 years, the share of payroll positions



East Bay Payroll Employment Growth by Industry

	Mar-14	1-Year Change (%)	2-Year Change (%)
Total Nonfarm	1046.5	1.7	6
Total Private	882.1	1.8	6.9
Transport, Warehouse, Util.	34.7	4.9	5.1
Wholesale Trade	46.7	4	8.9
Prof Sci and Tech	90.9	3.5	6.6
Health Care	151.5	3.3	11.3
Leisure and Hospitality	99.5	3.1	9.7
Manufacturing	79.8	2.4	1.8
Educational Services	23.2	2.3	10.3
Information	21.3	1.2	-3.4
Construction	57.5	1.1	15.4
Other Services	37.4	1.1	3.3
Financial Activities	49.5	0.2	1.8
Management	28.9	0.1	8.9
Retail Trade	106.3	-0.3	3.9
Admin Support	53.9	-3.4	5.9
NR/Mining	1.1	-8.7	-8.9
Government	164.4	0.8	1.3

The region has a higher concentration of small businesses than other Bay Area regions.

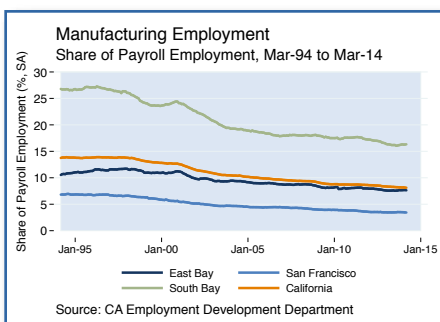
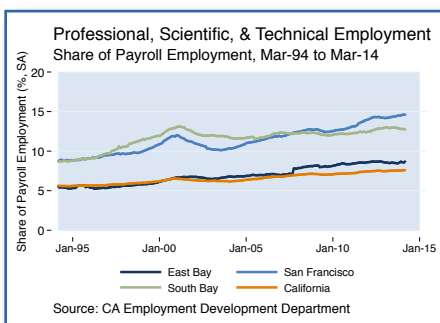
LABOR MARKETS



in Professional, Scientific, and Technical Services has increased by 3.2 percentage points in the East Bay, outpacing California, where the share of positions rose by just 2.0 percentage points over the same period. Additionally, the Manufacturing sector in the East Bay saw its share of positions drop less severely (-2.9 percentage points) than California (-5.6 percentage points), San Francisco (-3.4 percentage points), and the South Bay (-10.5 percentage points) over the past 20 years. **More recently, the East Bay has started to reposition itself to assume a more prominent role in the manufacturing sector.**

From 2011 to 2012, small businesses (less than 50 employees) led job

growth in the East Bay, increasing payrolls by over 14,000 jobs (or individuals). The majority of these gains at small businesses were concentrated in the Services sector. This is important for the East Bay because the region has a higher concentration of small businesses than other Bay Area regions. Small businesses account for 45.5% of employment in the East Bay, 44.2% in San Francisco, and 36.2% in the South Bay. Large businesses (over 500 employees) also significantly expanded their payrolls in the East Bay between 2011 and 2012, adding nearly 9,000 new positions. The distribution of employment in the East Bay indicates that the region is well equipped to support small businesses.



Share of Total Payroll Employment by Industry

	East Bay		San Francisco		San Jose		California	
	2014	1994	2014	1994	2014	1994	2014	1994
Admin Support	5.2	5.6	6.1	5.3	5.7	6	6.5	5.5
Construction	5.5	4.5	3.8	2.9	4	3.4	4.3	3.9
Educational Services	2.2	1.5	2.7	1.7	4.1	2.9	2.3	1.5
Financial Activities	4.7	5.8	7	10.6	3.4	4	5.1	6.4
Government	15.7	19.2	12.4	14	9.5	11.5	15.5	17.1
Health Care	14.5	10.2	10.6	8.3	11.1	6.8	13	9
Information	2	3.3	4.9	3.6	6.3	2.9	3	3.2
Leisure & Hospitality	9.5	7.6	13.3	10.6	9.1	7.3	11	9.4
Management	2.8	2.5	2.4	3.8	1.3	1.3	1.4	1.8
Manufacturing	7.6	10.5	3.4	6.8	16.3	26.8	8.1	13.8
NR/Mining	0.1	0.3	0	0.1	0	0	0.2	0.2
Other Services	3.6	3.2	3.9	4.2	2.6	3	3.4	3.4
Prof Sci and Tech	8.7	5.5	14.6	8.7	12.7	8.7	7.6	5.6
Retail Trade	10.2	11.6	8.5	9.3	8.8	9.3	10.5	11.1
Trans., Warehouse, Util.	3.3	4	3.8	6.3	1.5	1.8	3.3	3.6
Wholesale Trade	4.5	4.7	2.5	3.9	3.8	4.2	4.6	4.5

Percentage of Total Employment by Size of Business (2012)

	0-49 Employees	50-99 Employees	100-499 Employees	500 + Employees
East Bay	45.5	15.1	25.1	14.3
San Francisco	44.2	13.3	24	18.6
South Bay	36.2	12.5	22.6	28.6
California	40.8	14.2	24.5	20.5

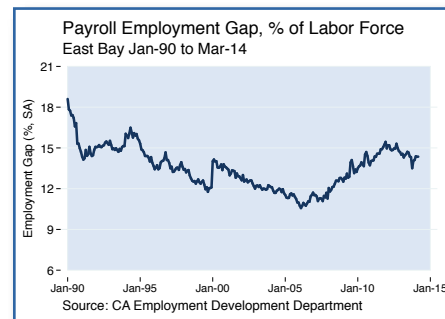
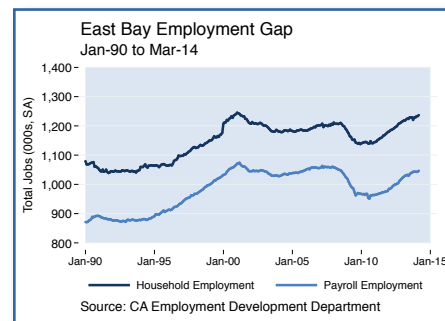
COMMUTING

The gap between the number of East Bay residents who are employed and the number of workers employed by firms located in the East Bay reveals that the region has a large share of outbound commuters. However, the gap between household and payroll employment as a share of the labor force has fallen in recent years. Overall, nearly 380,000 East Bay residents (31.5%) commute out of the area each day, heading primarily to San Francisco (137,000) and Santa Clara (89,000) Counties. On the other hand, 187,000 workers commute into the East Bay for work each day. Santa Clara County is the source of the largest number of commuters (41,000) to the East Bay.

Workers in higher-skilled occupations are the most likely to be outbound commuters from the East Bay. The industries in which the largest

proportion of the East Bay's outbound commuters work are Information (44.8%), Manufacturing (42.5%), and Professional, Scientific, and Technical Services (41.8%). With a high concentration of these types of jobs in nearby San Francisco and the South Bay, many area residents are taking advantage of the East Bay's relatively affordable housing and commuting to neighboring counties for work. Though this may seem unpromising, if these high-wage jobs are located disproportionately in San Francisco and the South Bay, workers will be attracted to those regions regardless of where they live. From this perspective, outbound commuters represent employment and income for the East Bay economy.

Perhaps more importantly, Contra Costa and Alameda Counties each saw the largest inflows of domestic migrants in the state from 2012 to



Place of Work for East Bay Residents

County of Work	Employed Residents (2012)	2012 Share (%)
East Bay	866,322	69.5
Other	109,511	8.8
San Francisco	136,982	11
San Mateo	44,022	3.5
Santa Clara	89,177	7.2
Total	1,246,014	100

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

	East Bay	San Francisco	San Mateo	Santa Clara	Other
Accommodations	78	9.7	2.6	2.4	7.4
Admin Support	70.8	10	4	4.4	10.9
Art and Entertainment	74.2	13	1.7	3.4	7.8
Construction	67.9	8.5	3.9	7.7	12
Educational Services	70.3	7.4	2.8	9.4	10.1
Finance and Insurance	63.4	24.7	4.3	3.1	4.5
Government	74.4	10.3	2.3	2.9	10
Health Care	75.6	8.8	2	5.4	8.2
Information	55.2	20.7	3.8	12.9	7.4
Manufacturing	57.5	5.8	5.3	22.5	8.9
Management	69.2	15.6	0	2	13.2
NR/Mining	83.7	1.7	0.7	0	13.9
Other Services	79.1	7.4	2	3.4	8.1
Prof Sci and Tech	58.2	16.6	5.2	12.8	7.2
Real Estate	76.6	12.1	1.5	3.7	6.2
Retail Trade	76.2	7.2	2.4	3.9	10.4
Transport & Warehousing	61.3	12.8	11.1	4.7	10.1
Utilities	59.8	29.2	3.7	2.3	5
Wholesale Trade	72.6	9.4	3.1	3.6	11.3
Total	69.5	11	3.5	7.2	8.8



2013, ranking number one and two, respectively. This is partly due to the East Bay's close proximity to the booming high-tech employment markets of San Francisco and the South Bay in combination with its relative affordability. **The region is succeeding in enticing new residents and capturing the benefits of having an increasing number of high-income earners who will pay local taxes and are likely to spend their earnings at East Bay businesses.**

While a large share of East Bay residents commute out of the area each day, workers in certain industries are less likely to be outbound commuters. In particular, residents employed in Accommodations (78.0%), Real Estate (76.6%), and Retail Trade (76.2%) work primarily within the East Bay. And within the sub-categories of Manufacturing, the region has a strong core of residents employed locally in the Petroleum and Coal Manufacturing Products sector. These place-based industries (refineries) are likely to remain part of the employment landscape for a long time, particularly as replacement jobs become available and new technologies demand more skilled employees.

The large number of outbound commuters from the East Bay does present some unique challenges for the region. Chief among these are the area's high levels of traffic and traffic congestion, which put a strain on local infrastructure. In addressing the problem the East Bay has included efforts that specifically help alleviate congestion and help protect and support the environment. For example, ground breaking recently began on the East Bay Greenway project, which will create over 240

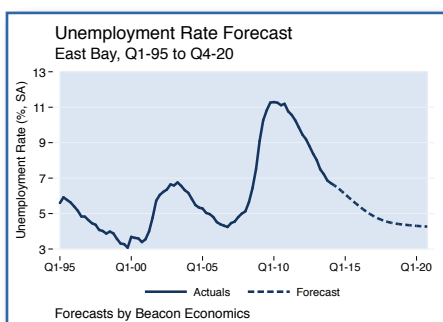
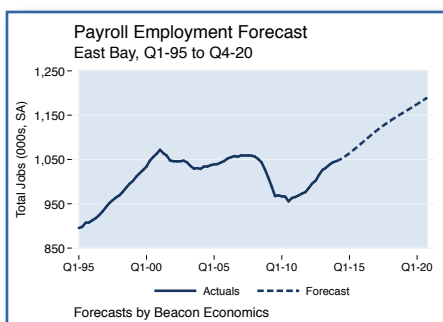
miles of bike trails in Oakland and bring more than 500 new jobs to the region.¹ There is also discussion about expanding the Bay Area Bike Share, which began in August 2013, to Oakland, Berkeley, and Emeryville by spring 2015.² These projects will not only alleviate some of the traffic congestion in the region, they will also increase mobility, make the region safer for cyclists, and improve the local environment. Meanwhile, charging stations are proliferating across the East Bay as consumers adopt electric and hybrid cars.

FORECAST

Beacon Economics is forecasting payroll employment in the East Bay to continue to grow by 1.7% on an annualized basis in 2014. **With these gains, the unemployment rate in the East Bay is expected to fall to 6.3% by the end of 2014.**

Among higher wage sectors, the Professional and Management sector is forecast to continue leading the recovery. By the end of 2014, employment in this sector is expected to rise 2.4% above levels at the beginning of the year (first quarter). The Manufacturing sector is also forecast to continue growing in 2014, with employment levels rising by 0.9% by the end of the year.

The gains over the next year are also expected to persist in the long run as the East Bay continues to attract people from all over the United States and the world. It is one of the nation's



¹ http://www.ebparks.org/news/Greenway_s1_p1445

² <http://www.sfgate.com/bayarea/article/Bike-share-program-looking-to-expand-to-East-Bay-5381235.php>

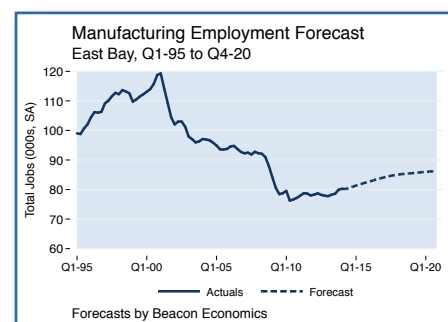
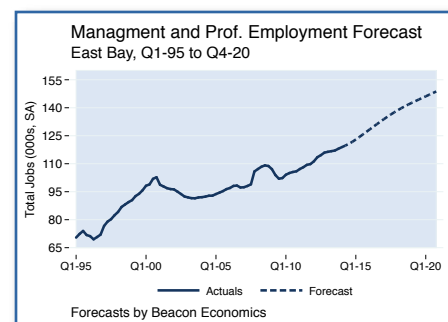
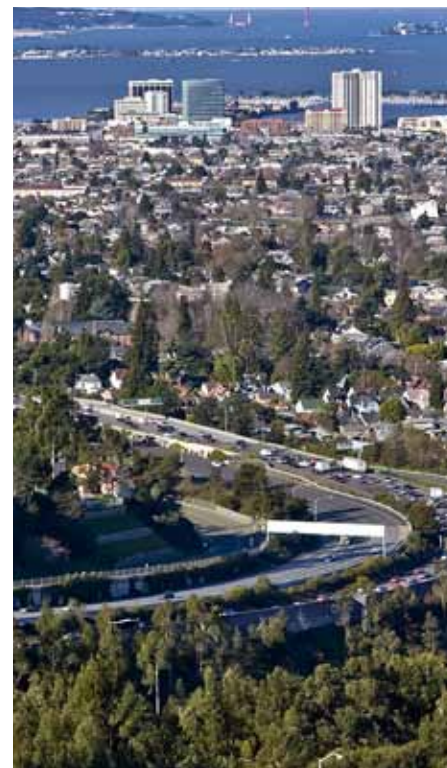
East Bay Employment Forecast, Q2-14 to Q4-20 by Industry

	Q1-14	Q1-15	Q1-16	Q4-20
Total Nonfarm	1045.9	1064.1	1089.3	1189.4
Unemployment Rate	6.7	6.1	5.4	4.3
Government	164.7	165.4	166.6	172.2
Education/Health	173.7	173.8	173.4	185.2
Management/Professional	118.9	123	128.4	148.7
Retail Trade	108	109.3	111.3	116.1
Leisure/Hospitality	99.5	99.7	101.5	113.8
Manufacturing	80.2	81.3	82.8	86.3
Construction	56.3	61.6	67.3	80.6
Admin Support	54.9	57.5	60.9	72.7
Financial Activities	49.6	50.3	52.6	57.2
Wholesale Trade	45.5	46.3	47.1	49.8
Other Services	37.6	38.3	38.9	42.2
Trans/Warehouse/Util	34.5	34.9	35.4	37.4
Information	21.3	21.5	22	25.5
Natural Resources/Mining	1.2	1.3	1.3	1.6

major strongholds for Biotechnology and Clean Energy and there are few signs of the area losing its edge in these industries in the near future. **Based on these longer-term trends, payroll employment levels are forecast to grow by 13.7% (143,000 jobs) from current levels through 2020.** Perhaps more importantly, high-wage sectors are expected to be at the forefront of this growth, with Management and Professional Services forecast to grow by 25.1% (29,800 jobs) over current levels through 2020.

Notably, with Management and Professional Services expected to grow at a brisk pace in the coming years, a skilled workforce will be necessary to fill the ranks of these new positions. If the region fails to develop a workforce to fill future positions, it will not be able to take full economic advantage of the growth in high-skilled industries that is forecast for the years

to come. Historically, the young and the less-educated have faced greater difficulty finding work. According to the 2012 American Community Survey from the U.S. Census Bureau, the East Bay unemployment rate for workers with a bachelor's degree was just 5.7%, compared to 13.2% for workers with a high school diploma. Among age groups, 20.2% of workers aged 16 to 25 years are unemployed, compared to just 7.1% of workers aged 46 to 55 years. With higher-skilled positions expected to account for a significant share of East Bay job growth over the next decade, it is paramount that the region focus on these groups and continue working to develop an educated work force.

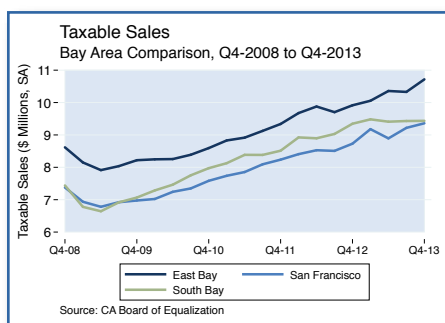




CONSUMER AND BUSINESS SPENDING

Consumer spending growth in the East Bay has been precipitous. **Taxable sales increased 8.1% from the fourth quarter of 2012 to the fourth quarter of 2013**, compared to increases of 7.2% in San Francisco and 1.0% in the South Bay.

The East Bay's fast pace of growth relative to its neighbors, is a recent development. Looking longer-term, over the past five years, taxable sales grew by 24.4% in the East Bay, compared to 26.9% in San Francisco and 26.8% in the South Bay.



Taxable Sales by East Bay Cities/Towns

Location	Q4-2012 (\$)	Q4-2013 (\$)	Chg (%)
Alameda	175,752	178,127	1.4
Albany	50,987	53,793	5.5
Antioch	122,766	265,552	116.3*
Berkeley	372,593	381,237	2.3
Brentwood	147,141	143,574	-2.4
Clayton	9,073	9,892	9
Concord	631,417	678,156	7.4
Danville	124,657	132,075	6
Dublin	374,554	416,631	11.2
El Cerrito	72,843	70,844	-2.7
Emeryville	184,097	182,633	-0.8
Fremont	780,055	865,780	11
Hayward	656,018	705,557	7.6
Hercules	35,571	30,026	-15.6
Lafayette	64,262	66,686	3.8
Livermore	504,453	566,443	12.3
Martinez	135,699	131,813	-2.9
Moraga	24,245	24,235	0
Newark	220,114	225,230	2.3
Oakland	1,042,627	1,070,442	2.7
Oakley	33,693	27,629	-18
Orinda	23,183	28,932	24.8
Piedmont	3,772	6,561	73.9*
Pinole	80,650	83,159	3.1
Pittsburg	142,264	175,992	23.7
Pleasant Hill	176,722	186,726	5.7
Pleasanton	496,796	574,346	15.6
Richmond	333,280	346,834	4.1
San Leandro	507,694	545,944	7.5
San Pablo	42,352	45,873	8.3
San Ramon	194,492	209,893	7.9
Union City	204,192	221,225	8.3
Walnut Creek	492,407	507,391	3

Source: CA Board of Equalization

*Reflects changes due to CA Board of Equalization reporting

Consumer spending growth is up almost everywhere in the East Bay, with some of the strongest growth in the region's larger cities. Taxable sales in Dublin, Livermore, and Fremont rose by over 11% from the fourth quarter of 2012 to the fourth quarter of 2013. Although the increases are primarily attributable to job and income growth as the economy continues to expand, population growth may also play a role. The population of Dublin, for example, grew by 7.1% over the course of 2013 (Livermore and Fremont grew by 1.7% each), and the population of Alameda County grew by 1.5%, the second fastest pace in the state.³

While a large influx of new residents has provided a boost to local spending most cities in the East Bay are following the regional trend: economic growth, including job growth and personal income growth, has led to jumps in consumer and business spending. Nearly all of the East Bay's largest cities have experienced an increase in consumer spending year-over-year.

Growth in consumer spending continues to be driven by strong auto sales and spending on leisure and hospitality. From the fourth quarter

East Bay Taxable Receipts by Category

Category	Q4-2012 (\$)	Q4-2013 (\$)	Chg (%)
Fuel and Service Stations	10,402,169	10,018,946	-3.7
Building and Construction	7,521,026	8,131,416	8.1
Autos and Transportation	14,372,905	15,921,687	10.8
Restaurants and Hotels	9,782,603	10,586,043	8.2
Food and Drugs	6,134,086	6,360,220	3.7
Consumer Goods	26,243,684	26,894,132	2.5
Business and Industry	16,280,269	17,333,150	6.5
Total	105,741,976	111,595,424	5.5

Source: HdL Companies

³ State of California, Department of Finance. California Grew by 356,000 Residents in 2013. Apr 30, 2014.

of 2012 to the fourth quarter of 2013, taxable sales receipts increased 10.8% in the Autos and Transportation category and 8.2% in the Restaurants and Hotels category.

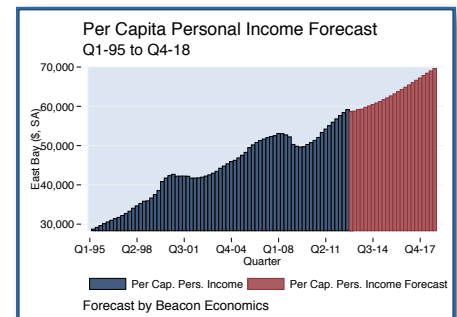
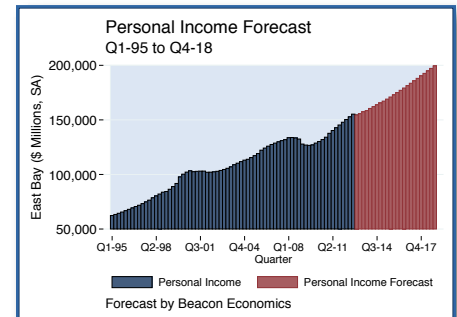
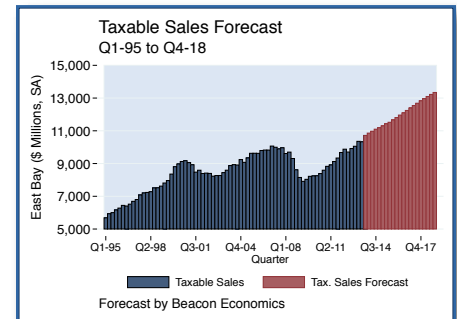
These data are indicative of how the economic recovery is helping businesses expand, which reverberates in other parts of the local economy.

As spending increases, business revenues increase, allowing more money to be spent on business services (Business and Industry taxable sales receipts are up 6.5%) and on new construction (Building and Construction taxable sales receipts are up 8.1%). Spending in the Building and Construction category has benefitted not only from increased business revenues for new properties and renovations but also from growing personal income and low interest rates that support new residential construction and renovations. Even though economic growth is currently occurring across most sectors of the East Bay economy, growth in a few key sectors can have a major impact on the region's economy over time.

Beacon Economics is forecasting taxable sales growth to taper somewhat in the next year, having already reached peak levels in 2013. Taxable sales growth is forecast to be in the 4% to 5% range from 2014 through 2017, before decreasing slightly to about 4% by the end of 2018. This forecast accounts for in-migration to the East Bay, but it is possible that taxable sales growth could be slightly higher than expected in the event of especially strong migration. This could occur as residents of San Francisco and the South Bay relocate in response to the East Bay's lower cost of living.

In the coming years, income and employment growth will continue to bolster consumer spending in the East Bay. Strong business travel and tourism (as shown below) will encourage spending in the Retail category and the Leisure and Hospitality category, and continued growth of residential and commercial real estate markets will encourage Construction spending and Durable Goods spending.

As noted in the Labor Markets chapter of this report, employment growth in the East Bay has been quite strong, and the growth in consumer spending in categories like Consumer Goods and Leisure and Hospitality, in which businesses employ high numbers of workers relative to other sectors, means that personal income growth has also been strong in recent quarters. **Beacon Economics is forecasting personal income to maintain its current pace of roughly 4.5% growth, year-over-year.** Personal income growth will likely remain in the lower 4% to 5% range from 2014 through 2015, then increase to the upper 4% to 5% range from 2016 through 2018. Cost of living, as measured by the U.S. Bureau of Labor Statistics Consumer Price Index for the San Francisco area, has grown at roughly 2.5% to 3.0% year-over-year, meaning personal income will slightly outpace cost of living increases through 2018.



Personal income growth will likely remain in the lower 4% to 5% range from 2014 through 2015, then increase to the upper 4% to 5% range from 2016 through 2018.

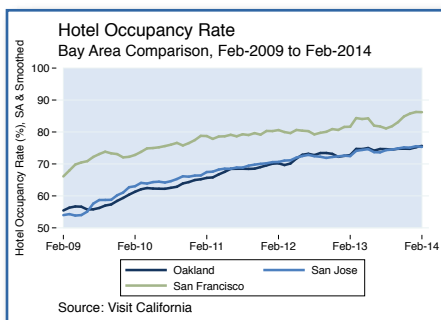
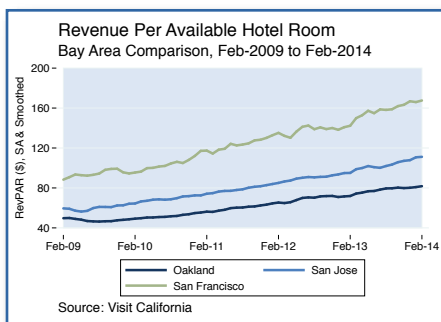


The East Bay, relative to most areas of California, already has an especially large proportion of highly educated residents. As discussed earlier in this report, the unemployment rate among these residents is lower than for residents in other education cohorts and their wages are significantly higher. As the U.S. economy continues to grow, the demand for consumer and intermediate goods and services produced by higher-skilled workers is expected to grow more than demand for goods and services produced by workers with lower educational attainment. This means that businesses that employ high-skilled workers will be motivated to further train and retain them, putting upward pressure on wages. The pressure highly educated workers have on wages should spill over to less educated workers living in the region. At a per capita personal income of \$59,000, Beacon Economics is forecasting personal income growth in the East Bay to keep pace with population growth from 2014 through 2015, before personal income growth begins outpacing growth in the population. Per capita personal income is forecast to increase at a rate of between 2% and 3% from 2014 through 2015. From 2016 through 2018, Beacon Economics is forecasting per capita personal income to grow at a rate of between 3.0% and 3.7% year-over-year. **Per capita personal income is forecast to reach roughly \$70,000 by the end of 2018.**

in revenue per available hotel room (RevPAR). Oakland's hotel RevPAR increased 13.1% when comparing December 2012 through February 2013 to December 2013 through February 2014⁴. This compares to increases of 17.9% in San Francisco and 16.6% in San Jose and reaches a new post-recession high with growth that does not appear to be slowing.

Oakland's hotel occupancy is on par with San Jose (77.3% and 75.7%, respectively) and somewhat lower than that of San Francisco (86.6%). With less than 5,000 hotel rooms, Oakland lacks sufficient hotel accommodations to meet future demand. However, new development and a growing focus on attracting tourists and business travelers is underway. This past September, the Ramada Hotel Oakland International Airport opened, featuring 225 new hotel rooms.⁵ In addition, Visit Oakland has launched a rebranding effort that will promote building new hotels and increasing tourism from nearby states such as Oregon. A new hotel is also being proposed for 11th Street between Franklin and Webster Streets.⁶

The East Bay Tourism sector is growing strongly, and the rebranding effort is a welcome sign as the region seeks to match tourism growth in San Francisco and the South Bay.



The local hotel industry is benefiting substantially from growth in consumer and business spending, as is the industry across the San Francisco Bay Area and throughout the country. Rising business travel and tourism have contributed to significant increases

⁴Three-month averages are applied to adjust for potential anomalies in 1-month data.

⁵Frojo, Renee, "Oakland Scores 225 New Rooms with Ramada Hotel." San Francisco Business Times, Sep 12, 2013.

⁶Sciacca, Annie, "Oakland Rebrands in Hopes of a Tourist Boost." San Francisco Business Times, Apr 2, 2014.

GATEWAYS: OAKLAND INTERNATIONAL AIRPORT AND THE PORT OF OAKLAND

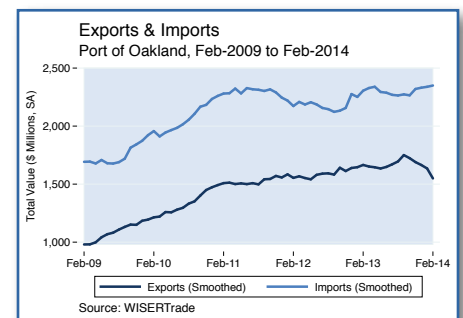
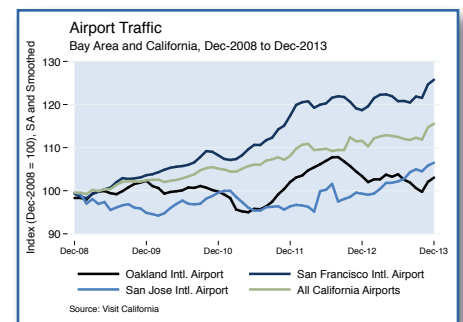
Growth in East Bay business travel and tourism has not yet carried over to growth in visitor traffic at Oakland International Airport (OAK). Comparing the three-month period of October through December 2012 to the three-month period of October through December 2013 reveals that visitor traffic at OAK fell by 2.3%, while visitor traffic increased by 4.7% at San Francisco International Airport (SFO), by 6.3% at San Jose International Airport, and by 3.0% at airports statewide.

Although more tourists and business travelers have chosen recently to utilize airports in other parts of the San Francisco Bay Area, that should change in the coming year. The new BART Oakland Airport Connector, which is expected to begin operations this fall,⁷ will allow OAK passengers to commute directly from the airport to the rest of the San Francisco Bay Area, eliminating a significant deterrent for many traveling out of OAK. The airport should also see a bump in international traffic with the introduction of low-cost flights to Stockholm and Oslo through Norwegian Air Shuttle, beginning in May.⁸ In June 2014, Southwest Airlines will begin nonstop service from OAK to Baltimore/Washington International Thurgood Marshall Airport and increase frequencies on a number of existing routes, including Oakland

to Kansas City.⁹ Even SFO Airport Director John Martin has been quoted as saying he expects Oakland's airport traffic to grow, and pick up a larger share of Bay Area air traffic in the coming years.¹⁰

At the Port of Oakland, trade activity over the past year reveals two different trends: import growth that is slightly above the state average and export growth that is well below the state average. **The total dollar value of imports to the Port of Oakland increased 1.4% when comparing the three-month period of December 2012 through February 2013 to the three-month period of December 2013 through February 2014.** This compares to an increase of 3.9% at the Port of Los Angeles, an increase of 0.5% in the state overall, and decreases at the Port of Long Beach (-15.2%) and the Port of San Francisco (-8.1%). At the Port of Richmond, a key port for vehicle imports and petroleum, import growth was substantially higher during the same three months of 2013 than in 2012 (110.5%), but this reflects a very weak year for importing in 2012. Growth was only 0.6% higher for December 2013 through February 2014 than for December 2011 through February 2012. Smaller ports exhibit much greater volatility in trade activity from year to year.

On exports, total dollar value decreased by 8.7% at the Port of Oakland, compared to increases of 3.4% at the Port of Los Angeles, 6.2% at the Port of Long Beach, 7.6% at the Port of San Francisco, and 5.4% in the state



⁷ Cabanatuan, Michael, "Oakland Airport BART Tram to Open in Fall 2014." SFGate, Dec 24, 2013. ⁸ Ross, Andrew S., "Cheap Oakland Flights Put Norway, Sweden in Reach." SFGate, Sep 4, 2013.

⁸ Ross, Andrew S., "Cheap Oakland Flights Put Norway, Sweden in Reach." SFGate, Sep 4, 2013.

⁹ Southwest Airlines. *Southwest Airlines Adds New Route, More Flights from Oakland International Airport This Summer.* Dec 18, 2013.

¹⁰ Sabatini, Joshua, "San Francisco Airport Forecasts Some Slowdown in Growth." San Francisco Examiner, Apr 21, 2014.



overall. Once again, export activity showed precipitous growth at the Port of Richmond, at 328.2% during the three-month periods of December 2012 through February 2013 to December 2013 through February 2014. However, growth was slower (but still strong) over a two-year window (53.0%) from December 2011 through February 2012 to December 2013 through December 2014.

Much of the year-over-year decline in exports at the Port of Oakland occurred at the end of 2013 and in early 2014. Total dollar value of exports decreased over \$360 million between November and December 2013, falling from \$1.89 billion to \$1.53 billion, and remained between \$1.53 and \$1.59 billion in January and February of 2014. Yet, looking across 2013 (January through November), and the average dollar value of exports was much higher – \$1.69 billion. Exports fell off at the turn of 2013 and they have yet to fully recover. Nonetheless, relative to 2012, 2013 remained a good year for exports at the Port of Oakland, especially for the Port's top commodities.

Exports of the Port of Oakland's key commodities—non-durable goods such as fruit, nuts, and meat—increased substantially from 2012 to 2013.

Non-durable goods represent a much larger share of exports at the Port of Oakland than they do in California as a whole. On the other hand, exports of durable goods at the Port of Oakland, especially high-tech goods such as medical instruments and metals and ores, showed weak or negative growth from 2012 to 2013. Additionally, because the Port of Oakland's export traffic remains fundamentally dependent on agriculture, the severe drought conditions that are expected to occur in 2014 may have a negative impact on the Port's overall exports this year. With California's water supply in a precarious state, the Port of Oakland may have to rely more on exports of durable goods in the coming years.

VENTURE CAPITAL

Venture capital funding decreased significantly in 2013 in some of the East Bay's flagship technology sectors including Industrial Energy (includes Clean Tech) and Semiconductors—each of which have received over 10% of all U.S. venture capital funding since 2010. However, data reveal that the region has received increased funding in a number of key emerging industries. **Venture capital funding nearly doubled for**

Port of Oakland Top Exports by Commodity

Commodity	2013 Value (\$ 000s)	2012 Value (\$ 000s)	Chg (%)	% of All Oakland Exports	% of All CA Exports	Difference, Oak vs. CA (pp)
Edible Fruit/Nuts/Citrus Fruit/Melon Peel	5,389,060	4,559,061	18.2	13.4	3.2	10.2
Meat/Edible Meat Offal	2,557,624	2,550,440	0.3	6.3	0.3	6.1
Beverages/Spirits/Vinegar	1,077,394	865,584	24.5	2.7	0.6	2.1
Industrial Machinery, Incl Computers	1,057,748	1,047,869	0.9	2.6	6.9	-4.3
Dairy, Eggs, Honey, Animal Products	725,337	467,943	55	1.8	0.6	1.2
Electrical Machinery/Sound Equip/TV Equip	573,438	538,328	6.5	1.4	8.5	-7.1
Iron/Steel	564,983	661,169	-14.5	1.4	0.8	0.6
Medic or Surgical Instruments/Parts	529,918	589,323	-10.1	1.3	5.3	-3.9
Vehicles/Parts	500,630	495,753	1	1.2	2	-0.8
Inorg Chem/Rare-Earth Metals/Radioact Compds	460,914	582,150	-20.8	1.1	0.3	0.8

Source: WISERTrade

East Bay Venture Capital Funding by Sector

Sector	2012 (\$ Millions)	2013 (\$ Millions)	Chg (%)	East Bay Share of All US VC Funding, 2013	East Bay Share of All US VC Funding, 2010-Present
Biotechnology	283.6	222.3	-21.6	5.2	4.9
Computers and Peripherals	17.6	35	98.7	6.2	6.3
Consumer Products and Services	40.5	65.9	62.5	6	4.1
Electronics Instrumentation	20.3	10	-50.8	3.6	8.5
IT Services	23.4	24.9	6.3	1.3	0.7
Industrial Energy	188.2	49.4	-73.8	3.4	10.7
Media and Entertainment	6.7	9.8	45.6	0.3	0.7
Medical Devices and Equipment	76.7	42.6	-44.4	2.1	3.8
Networking and Equipment	0	1.4		0.2	0.6
Semiconductors	119.8	42.7	-64.3	7.8	13.4
Software	142.6	119	-16.6	1.1	2.1
Telecommunications	1.4	2	42.9	0.3	0.3
Total	927.3	624.9	-32.6	2.2	3.9

Source: MoneyTree

Computers and Peripherals in 2013.

Funding for Consumer Products and Services, which includes firms such as Revolution Foods in Oakland that provides healthy food choices for schools, grew by 62.5% last year.

At the same time, venture capital funding for Biotechnology in the East Bay decreased by 21.6% in 2013 as compared to 2012. Nonetheless, it remains a growing sector for venture capital funding in the East Bay. The East Bay's share of all U.S. Biotechnology venture capital funding stands at 4.9% from 2010 to present, and it exceeded that average last year, at 5.2%. The East Bay's Biotechnology sector continues to grow through companies like Metabolex in Hayward, which received \$12.7 million in funding to develop drugs for metabolic diseases, and Zyomyx in Fremont, which received \$14.2 million in funding to develop new diagnostic platforms.

Venture capital funding for Industrial Energy in the East Bay decreased in 2013, but the sector, which includes many of the region's Clean Tech firms,

is far from shrinking. For example, in 2013, the solar energy firm Sungevity in Oakland received \$15 million in funding to develop solar panel technology, while Pasteurization Technology Group in San Leandro received \$5 million in funding to develop renewable energy solutions through wastewater disinfection. Additionally, LightSail Energy in Berkeley received \$5.5 million in funding to develop efficient energy storage technology.

The East Bay will remain at the center of commercial science and technology because it serves as one of the nation's top scientific research communities. The region is home to one of the world's premiere research institutions – the University of California, Berkeley – as well as Lawrence Livermore National Laboratory and Sandia National Laboratories in Livermore, and Lawrence Berkeley National Laboratory in Berkeley. Additionally, numerous specialized research facilities leverage public funding to commercialize new technologies, products, and processes across a range of innovative industries such as bio-fuels, energy generation and storage, genomics and



East Bay Industrial Energy VC Funding (incl. Clean Tech)

Industrial Energy Sector	2011 (\$ Millions)	2012 (\$ Millions)	2013 (\$ Millions)
Advanced Materials	20.1	31.6	4.2
Agriculture & Forestry		4	
Biofuels & Biochemicals	3		
Energy Efficiency	3.5	11.8	
Energy Storage	11		5.5
Recycling & Waste	189.7		
Smart Grid		3	
Solar	304	136.8	34.7
Water & Wastewater		1	5
Total	531.3	188.2	49.4

Source: MoneyTree

BUSINESS ACTIVITY



proteomics, agriculture, biotechnology, medical treatments and devices, high performance computing, advanced materials, industrial enzymes, lasers, cyber security, and more.

These institutions not only solidify the East Bay's reputation for advanced scientific study but also help to draw both new non-profit and commercial research to the area. For example, in 2007, British Petroleum (BP) supplied \$500 million in funding to create the Energy Biosciences Institute and chose the University of California, Berkeley campus to host the new Institute.¹¹ In 2013, UC Berkeley chose Richmond as the future home of a second Lawrence Berkeley National Laboratory campus, expected to open in 2016.¹² Meanwhile, Lawrence Livermore National Laboratory and Sandia National Laboratories continue to make progress developing a 100-acre business park

to connect the two facilities with companies that need access to their equipment and expertise.

Each of these developments is deliberate in its approach to strengthening ties between public sector research and private sector applications and commercialization. Just as computer science research at Stanford University has helped Silicon Valley continue to attract technology firms, the East Bay's world renowned laboratories and research university will help attract biological, energy, and other advanced scientific firms to the region.

Finally, the University of California, Berkeley also educates many students who go on to develop their own successful firms, bringing additional venture capital funding to the East Bay. UC Berkeley has 160 alumni who have founded companies that received a

Impacts of Research and Development Spending in the East Bay

Sector	Impact	Employment	Labor Income (\$ 000s)	Value Added (\$ 000s)	Output (\$ 000s)	Retail Output (\$ 000s)	Real Estate Output (\$ 000s)	Food Services and Drinking Places Output (\$ 000s)
Scientific R&D	Direct	5	546.9	543.5	1,000.0			
	Secondary	5	289.4	483.8	805.8			
	Total	10	836.3	1,027.30	1,805.8	40.1	51.0	28.5
Surgical and Medical Instrument Manufacturing	Direct	3	321.7	546.8	1,000.0			
	Secondary	4	239.2	407.2	674.6			
	Total	7	560.9	954.0	1,674.6	34.3	27.5	18.0
Other Basic Organic Chemical Manufacturing	Direct	1	97.4	155.2	1,000.0			
	Secondary	3	199.7	376.0	947.9			
	Total	4	297.1	531.2	1,947.9	15.5	15.0	10.8
Medicinal and Botanical Manufacturing	Direct	2	179.0	229.6	1,000.0			
	Secondary	3	265.4	424.8	752.8			
	Total	5	444.4	654.4	1,752.8	23.1	23.0	12.9
Pharmaceutical Preparation Manufacturing	Direct	1	117.0	275.9	1,000.0			
	Secondary	3	268.7	410.7	730.5			
	Total	4	385.7	686.6	1,730.5	16.4	20.8	11.8
Biological Product Manufacturing	Direct	1	104.4	176.8	1,000.0			
	Secondary	4	350.0	535.8	929.2			
	Total	5	454.4	712.6	1,929.2	18.3	29.8	14.3

Source: IMPLAN; Calculations by Beacon Economics

¹¹ Sanders, Robert, "BP Selects UC Berkeley to Lead \$500 Million Energy Research Consortium with Partners Lawrence Berkeley National Lab, University of Illinois." UC Berkeley News, Feb 1, 2007.

¹² Jones, Carolyn, "UC Picks Richmond for Lawrence Berkeley Lab Campus." SFGate, Sep 15, 2013.

East Bay Venture Capital Funding by Startup Stage

Sector	Seed, 2013 (\$ Millions)	Seed Funding, 2012-13 (% Chg)	Early Stage, 2013 (\$ Millions)	Early Stage Funding, 2012-13 (% Chg)	Expansion Stage, 2013 (\$ Millions)	Expansion Stage Funding, 2012-13 (% Chg)	Later Stage, 2013 (\$ Millions)	Later Stage Funding, 2012-13 (% Chg)
Biotechnology			32.4		81.8	-7.6	108.1	-44.6
Computers and Peripherals			35.0					
Consumer Products and Services					5.0	-62.3	60.9	123.0
Electronics Instrumentation					10.0	-48.2	0.0	-100.0
Financial Services								
IT Services			0.4		24.5	4.7		
Industrial Energy			6.5	-81.9	24.7	-46	18.2	-82.9
Media and Entertainment			9.8	178.1				
Medical Devices and Equipment			5.2	-20.1			37.4	-3.1
Networking and Equipment							1.4	
Semiconductors			22.7	-33.2	19.0	-52.5	1.0	-97.8
Software	14.8	13,851.8	15.6	-27.4	50.1	34.6	38.5	-54.0
Telecommunications			0.5	-64.3			1.5	
Total	14.8	54.4	128.1	23.6	215.0	-32.2	267.1	-46.3

Source: MoneyTree

first round of venture capital funding, second only to Stanford University at 190 alumni.¹³

The East Bay's base of non-profit and commercial research and development has a substantial impact on the regional economy. In addition to the roughly \$625 million in venture capital funding East Bay firms received last year (see table above), Lawrence Livermore National Laboratory spends an average of roughly \$1.4 billion per year on research and development, while Lawrence Berkeley National Laboratory spends roughly \$800 million per year, and Sandia National Laboratories spends roughly \$2.3 billion per year on average, of which \$600 million is based in the East Bay.¹⁴

This \$3.4 billion in public sector R&D spending has a very large multiplier. For example, \$1 million in spending in the Scientific Research and Development sector in the East Bay generates an additional \$806,000 in secondary economic activity. For

Biological and Medicinal Manufacturing, the impact is equivalent, generating nearly double the amount of economic output from the original investment. Energy development, such as biofuel manufacturing (Other Basic Organic Chemical Manufacturing) generates nearly \$1 million in secondary economic output. In addition, \$1 million in spending in the Scientific Research and Development sector generates anywhere from \$200,000 (Other Basic Organic Chemical Manufacturing) to \$350,000 (Biological Product Manufacturing) in secondary wages and earnings for workers throughout the East Bay.

Investment in the Scientific Research and Development sector also generates a secondary impact on seemingly unrelated but key regional economic sectors, such as Real Estate, Retail, and Leisure and Hospitality. These particular sectors support a large number of low-skilled jobs in the East Bay. From \$1 million in spending in the Scientific Research and Development sector, retail stores receive an estimated

Spending in Scientific Research and Development in the East Bay is a benefit to both high-skill, high-wage industries and low-skill, low-wage industries alike.

¹³ Soper, Taylor, "These are the Top Universities Graduating the Most VC-Backed Entrepreneurs." GeekWire, Oct 23, 2013.

¹⁴ National Science Foundation. Table 7: Total R&D Expenditures at Federally Funded Research and Development Centers, by FFRDC: FYs 2003-12. Jan 2014.

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\$40,000 in secondary economic activity, while real estate firms receive an estimated \$51,000, and restaurants and bars receive an estimated \$28,500. Spending in Scientific Research and Development in the East Bay benefits employment in both high-skill, high-wage industries and low-skill, low-wage industries alike.

Although venture capital funding in the East Bay decreased significantly from 2013 as compared to 2012, the drop occurred exclusively among firms seeking expansion and later stage venture capital funding. Seed and early stage funding increased in the East Bay during this time. Biotechnology, which in 2012 received hundreds of millions of dollars in venture capital funding for companies at later stages but no funding for companies in earlier stages, generated \$32.4 million in early stage funding in 2013. **Software companies in the East Bay received less than \$100,000 in seed funding in 2012, but received \$14.8 million in 2013.** Although the level of total venture capital funding for East Bay firms declined in 2013, especially in flagship sectors such as Industrial Energy, venture capital firms are beginning to target nascent East Bay tech firms,

rather than more established firms. Venture capital funding may begin to rebound as these younger firms expand and move to rounds of later-stage funding that tend to garner far greater amounts of funding in the long-term.

Venture capital funding in 2013 was heavily concentrated in Alameda County, with the biggest recipients being firms located in the Cities of Hayward, Newark, and Pleasanton. Hayward served as a focal point for medical technology startup funding, with local firms in that field receiving over \$90 million in venture capital funding last year. Although Fremont firms in the Industrial Energy sector received only \$3.2 million in venture capital funding in 2013, the City is establishing itself as a national hub for clean technology, especially solar technology. Fremont is home to over 30 clean tech firms, such as Solaria, and a resurgence in funding for clean tech will be a boon for the City's startup sector.¹⁵ Firms located in Fremont received \$33 million in Software venture capital funding in 2013 alone.

Known as a hub for renewable energy nationwide, the East Bay is one of the biggest adopters of, and markets for, solar technology in California,

East Bay Venture Capital Funding by City, 2013 (\$ Millions)

Sector	Alameda	Berkeley	Concord	Dublin	Emeryville	Fremont	Hayward	Lafayette	Livermore	Newark	Oakland	Pleasanton	San Leandro	San Ramon
Biotechnology	12.2	7.0	1.1		2.0	14.2	53.7		0.7	44.4		84.2		2.8
Computers and Peripherals										35.0				
Consumer Products and Services				40.5	6.2					14.1	5.0			
Electronics Instrumentation						10.0								
IT Services		0.4			24.5									
Industrial Energy		5.5				3.2	1.0		4.7		30.0		5.0	
Media and Entertainment					9.3						0.5			
Medical Devices and Equipment							36.2					0.2	6.2	
Networking and Equipment						1.4								
Semiconductors	1.0					5.0	16.0			20.7				
Software		30.6		1.5	17.9	33.0		4.5			7.9			23.5
Telecommunications						1.5			0.5					
Total	13.2	43.5	1.1	42.0	59.9	68.3	107.0	4.5	5.9	114.2	43.4	84.4	11.2	26.3

Source: MoneyTree

Solar Energy Capacity by Sector, Top 20 Counties (Total Megawatts)

Residential	MW	Commercial	MW	Non-Profit	MW	Government	MW
San Diego	85.5	Los Angeles	53.4	San Diego	10.2	Los Angeles	63.5
Riverside	79.3	San Diego	41.8	Los Angeles	9.3	Santa Clara	48.7
Los Angeles	78.2	San Bernardino	32.6	San Joaquin	5.6	Contra Costa	37.5
Unspecified	72.2	Fresno	29.8	Orange	4.9	San Diego	35.2
Orange	46.5	Orange	27.3	Riverside	4.4	Riverside	35.2
San Bernardino	43.0	Kern	27.2	Santa Clara	3.7	Kern	30.2
Santa Clara	36.4	Riverside	22.6	Butte	2.4	San Bernardino	28.7
Fresno	26.3	Santa Clara	21.0	Alameda	1.9	Alameda	20.6
Contra Costa	23.3	Tulare	20.9	Madera	1.8	Orange	18.4
Ventura	20.2	Alameda	17.0	San Francisco	1.7	Fresno	18.3
Kern	20.1	Sonoma	16.2	Sonoma	1.6	Kings	14.6
Alameda	18.7	Ventura	14.2	San Bernardino	1.4	San Mateo	13.7
Sonoma	17.7	Napa	11.7	Contra Costa	1.1	Tulare	12.9
Placer	14.0	San Joaquin	10.9	Shasta	1.0	Ventura	11.2
Tulare	11.8	Contra Costa	10.7	Yuba	1.0	Monterey	9.6
San Mateo	10.7	Yolo	8.8	Merced	1.0	Sonoma	8.8
San Joaquin	7.9	Butte	7.8	Fresno	0.8	San Joaquin	8.6
El Dorado	7.5	San Luis Obispo	6.9	Marin	0.8	Solano	8.2
San Luis Obispo	7.3	Kings	6.9	Monterey	0.8	Yolo	5.3
San Francisco	7.0	Merced	6.8	Yolo	0.7	Madera	5.3

Source: Go Solar California

engaging public and private sector institutions as well as homeowners. **A multi-city permit standardization process was completed in 2013 under the auspices of the East Bay Green Corridor to streamline rooftop solar installations.** In terms of total megawatts of solar capacity, residences in Contra Costa and Alameda Counties utilize solar technology at roughly the same level as residences in sunlight-rich areas such as Kern and Fresno Counties. Among government institutions, the Contra Costa County public sector is one of the biggest users of solar energy in the state, topped only by government institutions in Los Angeles County and the South San Francisco Bay.

Contra Costa and Alameda Counties are also two of the state's top counties for wind energy production. According

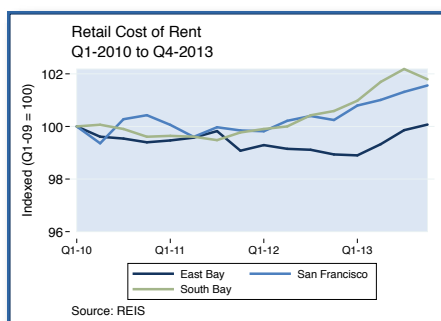
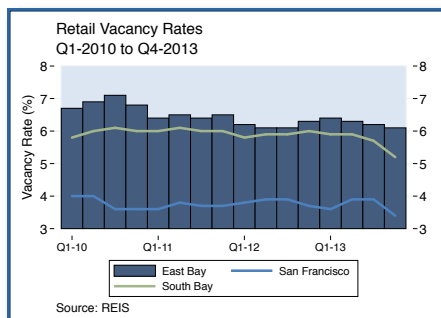
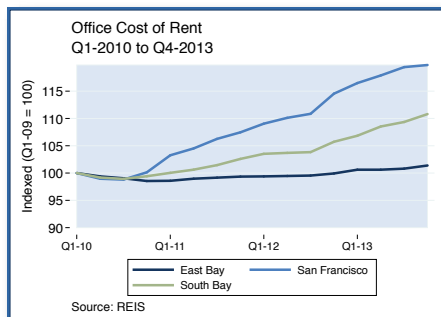
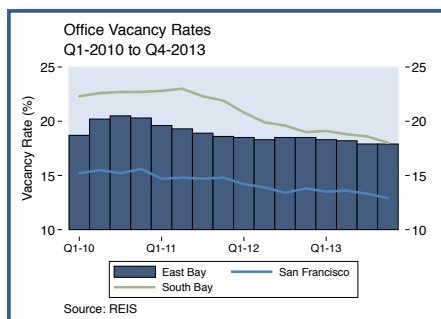
to data from the California Energy Commission,¹⁶ as of the end of 2013, Alameda County had nine wholesale wind energy facilities with a total capacity of 353 megawatts. This represents the fourth highest capacity statewide and 5.8% of all capacity at wholesale wind facilities in California. Contra Costa County had two wholesale wind energy facilities as of the end of 2013 with a total capacity of 107 megawatts. This represents only 1.8% of statewide capacity but nonetheless is the sixth highest capacity of all counties statewide. The East Bay is not just exporting green energy research and technology from is substantial base of clean tech firms but applying that research and technology locally, for the good of East Bay residents and businesses in the short- and long-run.



The East Bay is not just exporting green energy research and technology from is substantial base of clean tech firms but applying that research and technology locally, for the good of East Bay residents and businesses in the short- and long-run.

¹⁵ DiFranco, Rachel, "The Sun is Shining on This Solar Suburb." *Clean Technica*.

¹⁶ "Tracking Progress." *California Energy Commission*, Jan 15, 2014. http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf.



OFFICE REAL ESTATE

The demand for office space in the East Bay continued to gradually improve in 2013. The office vacancy rate in the East Bay declined by 60 basis points from the fourth quarter of 2012 to the fourth quarter of 2013, though it remains elevated at 17.9%. Office space remains equally available in the South Bay (18.0% vacancy), while the San Francisco office market appears much healthier at 12.9% vacancy.

Rent prices for office space grew only mildly in the East Bay. **The average rent price per square foot per year grew from \$26.03 in the fourth quarter of 2012 to \$26.41 in the fourth quarter of 2013, a minimal 1.4% increase.** In contrast, rent prices for office space grew by 4.6% in San Francisco to \$43.83 per square foot, and by 4.8% in the South Bay to \$32.11 per square foot. Notably, these increases may help bring more tenants into the East Bay as office space in neighboring regions becomes even less affordable.

With job growth in industries that traditionally occupy office space expected to grow throughout the East Bay in the following year, and with significantly lower rent prices, office space availability, and state-of-the-art infrastructure and broadband internet access, demand for office space should improve.

RETAIL REAL ESTATE

Many new retail stores came on line in the East Bay in 2013, as indicated by the 236,000 square feet of retail space absorbed in the region over the year. At the same time, the overall vacancy rate among retail properties only dipped by 20 basis points from the fourth quarter of 2012 to the fourth quarter of 2013, falling to 6.1% vacancy. The relatively slow decline in the vacancy rate is due to new units, totaling 181,000 square feet of retail space, coming online over the year. By comparison, the vacancy rate in the South Bay declined by 80 basis points in 2013. San Francisco's retail market tightened even more with the vacancy rate declining by 30 basis points and hitting 3.4% vacancy in the fourth quarter. Still, the East Bay maintains a sub-10% vacancy rate, which is typically associated with an expanding market.

Meanwhile, rent prices at East Bay retail stores in 2013 had their strongest showing in recent years. This is partly a result of new and/or higher-end units being constructed, which tends to put upward pressure on prices. Rent prices in the East Bay grew by 1.1% from the fourth quarter of 2012 to the fourth quarter of 2013, reaching \$28.20 per square foot per year and marking three consecutive quarters of rising rents.

Retail trade jobs in the East Bay are expected to grow at a healthy rate in 2014, meaning demand for retail space should continue to grow throughout the year.

INDUSTRIAL REAL ESTATE

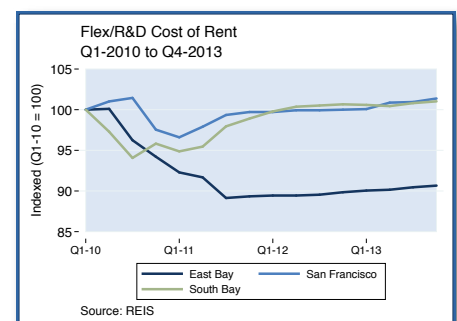
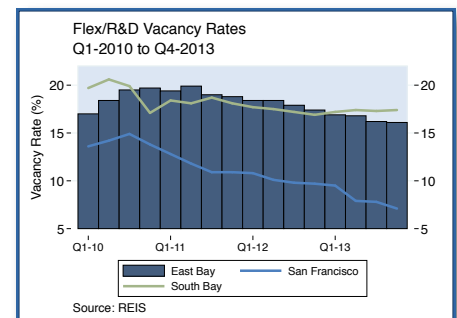
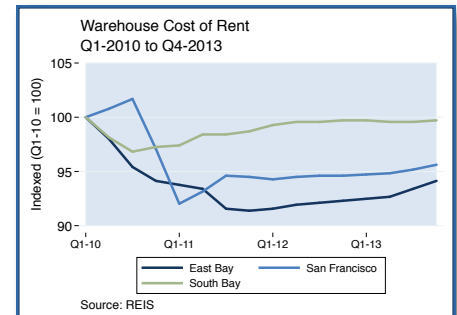
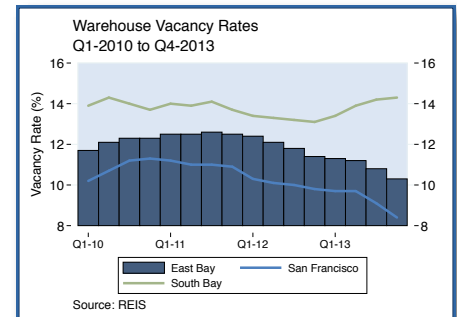
Demand for industrial properties continued to improve in the East Bay in 2013, both among warehouse and distribution centers and among flex and research and development (R&D) properties. At warehouse and distribution centers, the vacancy rate declined by 110 basis points from the fourth quarter of 2012 to the fourth quarter of 2013, falling to 10.3% vacancy. During the fourth quarter of 2013, the East Bay's vacancy rate for these properties was far below that of the South Bay (14.3%), where the vacancy rate actually increased by 120 basis points over the year. On the other hand, more warehouse and distribution centers in San Francisco became occupied as a share of those available in the area. San Francisco's vacancy rate for warehouse and distribution centers declined by 140 basis points from the fourth quarter of 2012 to the fourth quarter of 2013. Importantly however, the East Bay has a much larger market of available warehouse and distribution centers: There was 12.6 million square feet of vacant warehouse and distribution center space in the East Bay in the fourth quarter of 2013, compared to 2.7 million square feet in San Francisco and 5.0 million square feet in the South Bay.

Warehouse and distribution center rents increased by 2.0% in the East Bay from the fourth quarter of 2012 to the fourth quarter of 2013, reaching \$5.13 per square foot per year. That year-over-year growth represents the steepest increase in rent prices since prior to the recession – indicating that

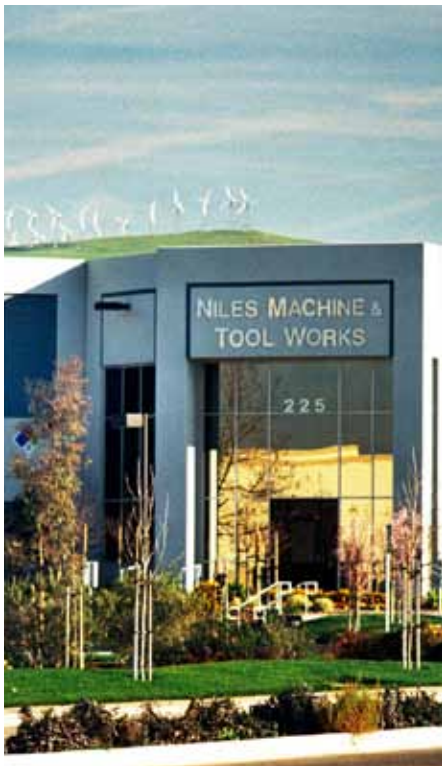
industrial property managers are seeing competition from potential tenants and upgrading their facilities to better meet tenants' demands.

Meanwhile, demand for East Bay flex and R&D facilities continues to gradually improve. The vacancy rate for these properties declined by 130 basis points from the fourth quarter of 2012 to the fourth quarter of 2013, falling to 16.1% vacancy and marking the tenth consecutive quarter of decline. San Francisco's flex and R&D facilities experienced more robust gains as the vacancy rate there declined by 260 basis points, falling to a sturdy 7.1% vacancy.

Rent prices at East Bay flex and R&D facilities grew by 0.9% from the fourth quarter of 2012 to the fourth quarter of 2013, reaching \$8.93 per square foot per year. In comparison, San Francisco's average rent price in the fourth quarter of 2013 reached \$14.02 per square foot per year and the South Bay's average rent price hit \$13.79 per square foot per year. These numbers indicate that East Bay industrial property managers are able to offer significant discounts to willing tenants despite tax incentives offered in San Francisco such as the biotechnology payroll tax exclusion and the clean technology payroll expense tax exclusion¹⁷.



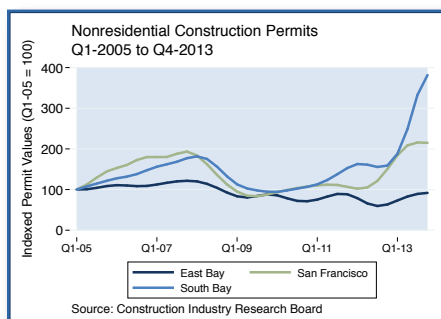
¹⁷ See <http://oewd.org/Business-Assistance-Tax-Credits.aspx> for more information.



NONRESIDENTIAL CONSTRUCTION

Nonresidential construction in the East Bay remained tepid in 2013. Nonresidential permit values managed to rise by 33% in 2013 over 2012, but that is only because 2012 figures are the lowest on record since the early 2000s. In comparison to the value of permits filed in 2011, the 2013 total was only up by 0.1%. The value of nonresidential construction permits filed in San Francisco in 2013 was 89% higher than their value in 2012 and 88% above their 2011 value. Even more impressive was the 81% growth in the value of nonresidential permits filed in the South Bay in 2013 over the prior year, putting that region 125% above its 2011 total value.

Permitting for some specific types of nonresidential construction is also growing in the East Bay. **Most notably, permits for new industrial structures grew by 326% from the fourth quarter of 2012 to the fourth quarter of 2013, reaching \$149.0 million.** Permit values for new retail stores totaled \$137.4 million in 2013, up by 184% over 2012. New projects include a Safeway store in Rockridge, which has not been drastically affected by the company's recent acquisition. There were very few new offices permitted however, a reflection of the only gradual improvement in the East Bay's office vacancy rate and rent prices.



Permitting in the East Bay for renovations and alterations bounced back in 2013 after a paltry 2012. Renovation and alteration permits increased by 34% from the fourth quarter of 2012 to the fourth quarter of 2013.

DEVELOPMENT CHALLENGES AND OPPORTUNITIES

RENT DISCOUNTS

Across all property types, the East Bay offers potential tenants significantly more affordable rents compared to neighboring San Francisco and the South Bay. **Office tenants can save an average of 39.7% by relocating their operations to the East Bay from San Francisco, or 17.8% by relocating from the South Bay.** Furthermore, these savings are for Class A office space, while savings are even greater for Class B or C office space.

The savings at retail store space are not as large, though tenants can save 15.2% by locating in the East Bay rather than San Francisco, and 9.7% by locating in the East Bay rather than the South Bay. Note that these savings are based on units of similar size, so tenants can alternatively choose to trade affordability for more space by occupying more square feet for the

Nonresidential Building Permit Values, in Millions (\$)

Type of Property	2009	2010	2011	2012	2013	East Bay 2012-2013 Change (%)	San Francisco 2012-2013 Change (%)	South Bay 2012-2013 Change (%)
Office	21.5	3.5	67.5	13.5	8.1	-40	195	-9
Retail	48.7	48.7	99.6	48.4	137.4	184	289	263
Industrial	101.1	112.1	24.7	35.0	149.0	326	87	191
Renovations/Alter.	608.6	575.2	604.7	497.9	667.2	34	15	13
Total	948.8	867.9	980.3	722.9	982.2	36	89	86

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 Q4-2013 (\$ per sq. ft. per year)	Discount from San Francisco (%)	Discount from the South Bay (%)
Office	Total	26.41	39.7	17.8
Office	A	29.72	39.9	21.2
Office	BC	22.97	34.9	18.6
Retail	Total	28.20	15.2	9.7
Warehouse/Distribution	Total	5.13	39.7	25.7
Flex/R&D	Total	8.93	36.3	35.2

Source: REIS

same price. Tenants doing business internationally can find added cost advantages at industrial properties with proximity to the Port of Oakland.

Rents at East Bay warehouse and distribution centers in the fourth quarter of 2013 averaged only \$5.13 per square foot per year, 39.7% less than the cost in San Francisco and 25.7% less than the cost in the South Bay. **Similarly, the average rent at flex and R&D facilities in the East Bay in the fourth quarter of 2013 was 36.3% less than in San Francisco and 35.2% less than in the South Bay.**

OFFICE RELATED EMPLOYMENT

With office space much more affordable in the East Bay than in neighboring San Francisco and the South Bay, businesses that prefer more space per worker can save the most by

establishing themselves in the region. Office related employment¹⁸ in the East Bay grew by 4.6% from December 2011 to December 2013. The amount of office space occupied increased accordingly – growing by 3.6% from the fourth quarter of 2011 to the fourth quarter of 2013. In contrast, over the same time, office related employment in San Francisco grew by 8.2% while the amount of occupied office square footage only increased by 4.6%. In the South Bay, office related employment increased by 10.1% while the amount of occupied office square footage only increased by 0.8%. These numbers demonstrate that square feet per worker declined in both neighboring regions much more than in the East Bay.



Across all property types, the East Bay offers potential tenants significantly more affordable rents compared to neighboring San Francisco and the South Bay.

Office Related Employment and Occupied Square Feet of Office Space

Location	Growth from Dec.-2011 to Dec-2013(%)	Growth from Q4-2011 to Q4-2013 (%)
East Bay	4.6	3.6
San Francisco	8.2	4.6
South Bay	10.1	0.8

Source: REIS and the California Employment Development Department

¹⁸ Office related employment includes all workers employed in the following industries: Professional and Business Services, Information, Financial Activities, Wholesale Trade, and Government.



Various East Bay office submarkets with higher rent prices had the lowest vacancy rates in the fourth quarter of 2013.

Office Submarket Snapshot: Q4-2013

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
North Alameda	27.98	10.5	565
Central Business District	29.05	11.6	1,224
West Contra Costa	23.03	14.3	279
North I-680	26.98	14.8	1,114
North Contra Costa	27.71	16.4	1,839
Fremont/Newark	20.46	23.8	755
Airport/San Leandro/Hayward	21.33	24.0	991
South I-680	24.45	30.5	2,624

Source: REIS

OFFICE SUBMARKETS

While affordability is one factor that attracts tenants, other factors are clearly important. Various East Bay office submarkets with higher rent prices had the lowest vacancy rates in the fourth quarter of 2013. These submarkets include North Alameda and the Central Business District¹⁹. Submarkets in Contra Costa County, meanwhile, have a fair amount of available space. The submarkets located in the southern portion of the East Bay are the most affordable and are actually inflating the East Bay's overall vacancy rate. For example, the South I-680 submarket²⁰ had 2.6 million square feet of vacant office space in the fourth quarter of 2013. Unfortunately, these submarkets have more uneven distribution of broadband capabilities than North Alameda and the Central Business District.

RETAIL SUBMARKETS

Demand for retail stores tends to overlap with demand for office space because workers shop near their place of employment. Not surprisingly then, submarket trends among East Bay retail stores resemble office market trends. The Central/North Alameda, Central Contra Costa, and West Contra Costa submarkets, which have above-average rent prices, currently have the lowest retail vacancy rates in the region. However, these submarkets still have a number of available units. The East Contra Costa submarket currently has a retail vacancy rate of 10.1%, and property managers are struggling to fill vacant units even with the lowest rent prices in the East Bay.

Retail Submarket Snapshot: Q4-2013

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
Central/North Alameda	28.01	5.2	302
Central Contra Costa	31.11	5.4	407
West Contra Costa	32.79	5.4	128
South Alameda	25.30	5.8	273
East Alameda	26.86	7.3	316
East Contra Costa	23.60	10.1	310

Source: REIS

¹⁹ Submarkets are delineated by REIS. North Alameda includes the northern portion of the City of Alameda, Emeryville, and Piedmont. The Central Business District surrounds Lake Merritt in the western portion of the City of Oakland and includes the Old Oakland historic district, the Adams Point neighborhood, and the San Antonio district.

²⁰ The I-680 submarket includes Dublin, Livermore, and Pleasanton.

Warehouse and Distribution Center Trends

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
Newark/Fremont	5.28	9.5	1,957
Berkeley/Richmond/Martinez	5.18	9.5	1,602
Concord/Pittsburg	4.91	10.0	1,014
Oakland/San Leandro	4.47	10.3	2,790
Union City	5.20	11.1	1,614
Pleasanton/Livermore	5.40	12.4	1,563
Hayward	5.49	12.9	2,585

Source: REIS

WAREHOUSE AND DISTRIBUTION CENTER SUBMARKETS

Demand for warehouses and distribution centers in the East Bay varies within submarkets. The Newark/Fremont and Berkeley/Richmond/Martinez submarkets have the lowest vacancy rates, each with 9.5% vacancy in the fourth quarter of 2013. Notably, these two submarkets are located on opposite ends of the East Bay. The Hayward submarket, which has an older building stock that is less attractive to many potential tenants, and Pleasanton/Livermore submarket had the highest vacancy rates in the fourth quarter of 2013 – though the rates do not vary much from the rest of the region. Indeed, available warehouse and distribution centers seem to be spread out evenly across the East Bay.

FLEX AND RESEARCH AND DEVELOPMENT SUBMARKETS

The strongest submarkets for flex and R&D properties seem to be those with the highest average rent prices. The exception is the flourishing Oakland/San Leandro submarket, which is a strong market yet maintains average rent prices. Notably, the average rent in the Berkeley/Richmond/Martinez submarket is more than twice that of the East Bay's average rent price, and only 182,000 square feet of available space was vacant as of the fourth quarter of 2013. **This submarket is supported by the various universities and research centers and laboratories in the area and should continue to thrive as these institutions grow.**

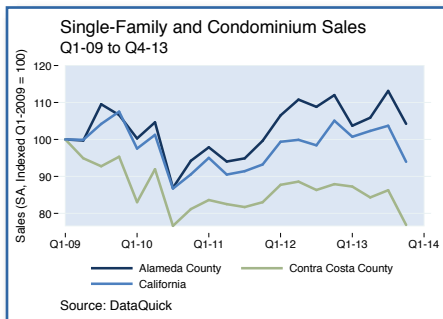
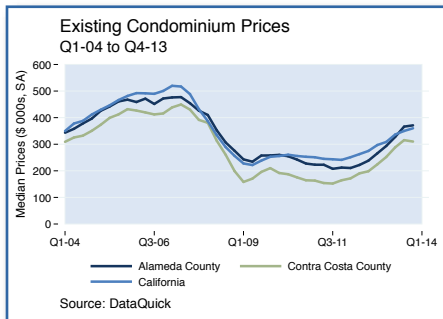
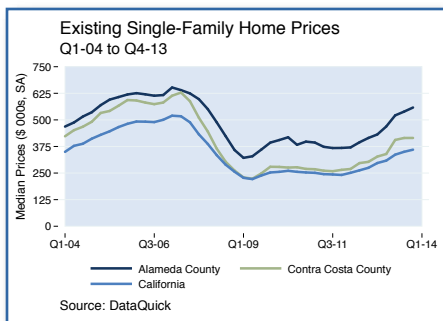


Available warehouse and distribution centers seem to be spread out evenly across the East Bay.

Flex and Research and Development Trends

Submarket	Rent (\$ per sq. ft. per year)	Vacancy Rate (%)	Vacant Square Feet (000s)
Oakland/San Leandro	8.72	7.2	161
Pleasanton/Livermore	9.65	15.2	588
Berkeley/Richmond/Martinez	18.05	15.6	182
Concord/Pittsburg	9.60	16.2	357
Newark/Fremont	8.19	17.1	1,816
Hayward	8.06	19.2	783
Union City	5.19	19.3	188

Source: REIS



Economic and real estate market fundamentals indicate that the East Bay's home price appreciation over the last year is not symptomatic of a bubble, and was warranted by improving foreclosures and better economic conditions.

HOME PRICES

Home prices in the East Bay appreciated strongly over the last year. **The median price of an existing single-family home in Alameda County increased by 29.3% from the fourth quarter of 2012 to the fourth quarter of 2013, reaching \$558,000. In Contra Costa County over the same period, the median price increased by 26.7% to hit \$415,000.** In comparison, the median price of an existing single family home in the South Bay increased by 14.8% and in San Francisco it increased by 10.0%. A portion of the recent surge in East Bay home prices is attributed to the declining share of distressed sales in the region and the fact that the East Bay real estate market was more deeply affected by widespread foreclosures. These two factors indicate that the recent pace of price appreciation is not sustainable for long, despite rapid population growth. However, both economic and real estate market fundamentals indicate that the East Bay's home price appreciation over the last year is not symptomatic of a bubble, and was warranted by improving foreclosures and better economic conditions.

CONDOMINIUM PRICES

Price appreciation of condominiums in the East Bay also grew strongly. The median price of a condominium in Alameda County in the fourth quarter of 2013 was \$371,000, up 39.6% over the median price in the fourth quarter of 2012. In Contra Costa County, the median price of a condominium in the fourth quarter of 2013 was \$310,100, up 38.3% over the median price in the fourth quarter

of 2012. Similar to the single-family market, condominium prices in the East Bay outgrew prices in the South Bay (18.3%), San Francisco (8.6%), and California (21.2%) over the last year because the region had been more deeply affected by excessive foreclosures.

HOME AND CONDOMINIUM SALES

Home and condominium sales in the East Bay dipped during the fourth quarter of 2013. On a year-over-year basis, home and condominium sales declined by 6.9% in Alameda County and 12.6% in Contra Costa County. Home and condominium sales also declined throughout California – dropping 10.6% from the fourth quarter of 2012 to the fourth quarter of 2013. Part of this slow down in sales was caused by the declining number of distressed properties on the market.

DEFAULTS AND FORECLOSURES

Notices of default throughout California have been declining precipitously for the last five years, leading to an equal decline in foreclosures. In Alameda County, the number of defaults declined by 52% from the fourth quarter of 2012 to the fourth quarter of 2013, falling to 525 defaults. Simultaneously, the number of defaults in Santa Clara County declined by 57%, falling to 567 defaults.

With household finances on more solid ground, foreclosure starts

declined by 62.3% in Alameda County and 61.5% in Contra Costa County last year. Furthermore, only 0.9 per thousand homes in Alameda County and 1.6 per thousand homes in Contra Costa County with a mortgage went into foreclosure during the fourth quarter of 2013. This is compared to the 11 per thousand homes in Alameda County and 19 per thousand homes in Contra Costa County that went into foreclosure in the third quarter of 2008 when foreclosure starts were at their peak.

APARTMENT VACANCIES AND RENTS

Demand for apartments in the East Bay continued to grow throughout 2013. **The region's apartment vacancy rate declined by 40 basis points from the fourth quarter of 2012 to the fourth quarter of 2013, falling to 2.8% and representing a lower apartment vacancy rate than in San Francisco County (3.1%).** Meanwhile, rent prices increased by 4.7% over the year, hitting an average of \$1,500 per unit. Rent prices in San Francisco (+5.4%) and the South Bay (+5.2%) grew even more, making an even stronger case for the East Bay's relative affordability.

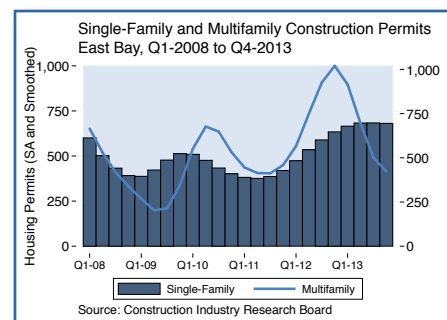
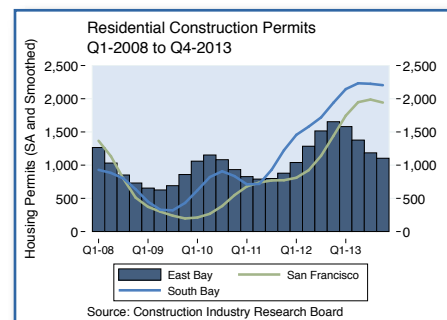
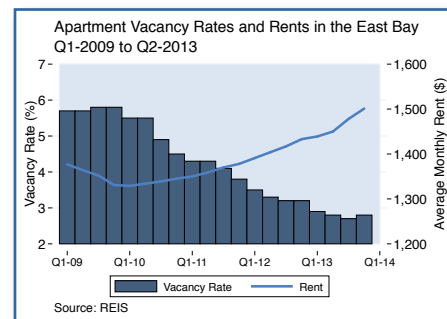
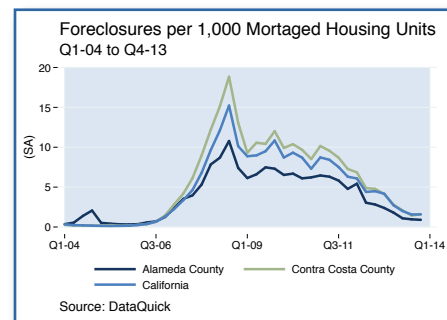
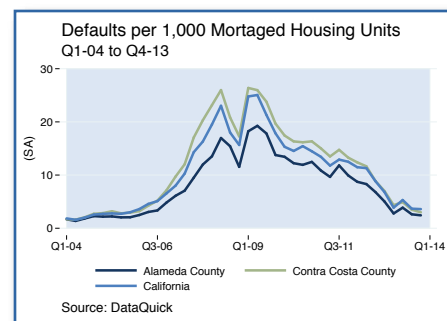
Within the East Bay, the lowest vacancy rates during the fourth quarter of 2013 were in the San Ramon (1.6%) and the San Leandro-Hayward (1.7%) regions. On the other hand, the highest vacancy rates were in Northern Alameda County (4.6%) and Eastern Alameda County (4.2%).

RESIDENTIAL CONSTRUCTION

In 2013, for the second consecutive year, residential construction permitting was strong across the East Bay – though the number of permits filed began to trend downward from a post-recession peak in the fourth quarter of 2012. In 2013, 5,225 housing units were permitted in the East Bay – 6% less than in 2012 but still 63% more than in 2011. In comparison, housing permits grew by 85% in San Francisco and by 34% in the South Bay in 2013.

Permits for single-family housing grew from 2,241 units in 2012 to 2,722 units in 2013, while multifamily housing permits declined from 3,336 units to 2,505 units. Sharp declines in multifamily permits is not unusual since multifamily permits tend to come in bulk, as they did in the middle of 2012. On the other hand, development of some multifamily housing structures has been contested by local neighborhood and community groups concerned about traffic congestion and other issues. The decline in multifamily housing permits may be due in part to the difficulty of developing new structures rather than due to a lack of demand.

Despite the slowdown in residential permitting at the tail end of 2013, which also reflects slower job growth in the construction industry during that period, the lack of housing units available to potential homebuyers and renters combined with rapid population growth and rising home prices in the East Bay, should propel construction permitting upwards in the near future.



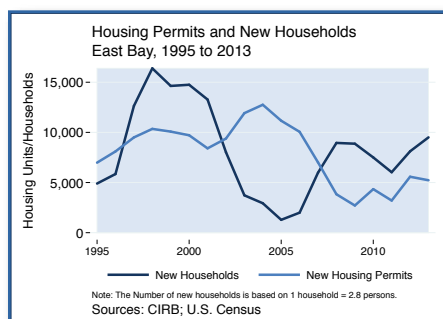
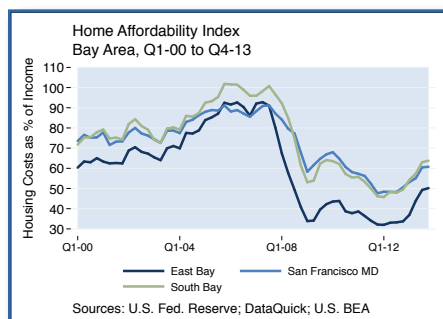


STRUCTURAL ANALYSIS

AFFORDABILITY

Purchasing a home in the East Bay remains a relatively affordable option for many living in the San Francisco Bay Area, and the region has attracted many former residents of San Francisco and the South Bay.

Even with surging home prices over the last year, as a percentage of average per capita personal income, the cost of purchasing a median priced home in the East Bay in the fourth quarter of 2013 was approximately 50%. This is affordable when considering that the average household in the East Bay includes 2.8 persons. Homes in the East Bay are not as affordable as they were one year ago, in the fourth quarter of 2012, when the cost of purchasing a median priced home amounted to 34% of one person's income. Still, while some areas of the East Bay are not as affordable as others, overall, home prices remain far lower than they were between 2000 and 2007.



in the South Bay it was 64%. Since residents currently living in those regions have higher average incomes than residents of the East Bay, were they to move into the East Bay and commute to their current jobs (assuming they don't already work in the East Bay), housing costs would be even more affordable for them.

SUPPLY

Buyers looking for homes in the East Bay have been meeting stiff competition as vacancy rates remain very low. In 2012, the East Bay's vacancy rate was 5.7%, compared to 8.4% in California. Households looking to buy have found very few homes on the market. The California Association of Realtors reports that in March 2014 there were 2.4 months worth of unsold housing inventory in Alameda County and 3.0 months worth of inventory in Contra Costa County. A well-balanced market tends to have six to nine months of inventory.

HOUSING VACANCY

Housing in the East Bay is expected to remain undersupplied in 2014 because an insufficient number of new homes are in construction relative to recent population growth. There were approximately 49,000 more households living in the East Bay in 2013 than there were in 2007 and only 24,900 housing units were permitted over the same period.

East Bay and California Housing Vacancy (%)

Year	Alameda County	Contra Costa County	East Bay	California
2007	8.0	6.7	7.4	8.3
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

Source: U.S. Census American Community Survey

2013 East Bay Home and Condominium Median Prices and Sales (High-Cost Cities and Towns)

City or Town	Median Prices (\$000s)	Year-Over-Year Change in Price (%)	Annual Sales	Year-Over-Year Change in Sales (%)
San Ramon	770	23.7	1,367	-0.1
Lafayette	1,070	22.3	385	7.8
Berkeley	720	21.0	713	-2.5
Pleasanton	750	18.0	1,012	-0.3
Danville	899	16.1	1,159	11.9
Moraga	912	13.8	226	-5.0
Alamo	1,275	10.9	248	-12.1
Orinda	1,017	9.9	294	14.4
Diablo	1,640		19	
Canyon	725		3	
Sunol	708		7	
Total	854	18.0	5,433	2.1

Source: DataQuick

2013 East Bay Home and Condominium Sales and Median Prices (Fastest Growing Prices)

City or Town/County	Annual Sales	Median Prices (\$000s)	Year-Over-Year Change in Price (%)
Emeryville	501	350	48.9
Oakland	4,150	390	47.7
Hayward	1,858	360	37.4
San Leandro	992	380	33.8
Albany	185	603	32.5
Alameda County	18,129	485	32.9
El Sobrante	314	336	41.6
Pittsburg	1,120	250	38.9
San Pablo	560	225	35.5
Concord	1,796	350	34.6
Antioch	1,858	268	32.3
Contra Costa County	16,943	392	33.1

Source: DataQuick

SUB-REGIONAL ANALYSIS

HOME AND CONDOMINIUM PRICES AND SALES

During an economic recovery, home appreciation tends to be strongest in regions with relatively affordable housing, which partially explains the East Bay's recent surge in home prices. This effect is at work within the East Bay as well. Home prices in the communities of Emeryville, Oakland, and El Sobrante rose by over 40% from the fourth quarter of 2012 to the fourth quarter of 2013, while prices in the Cities of Hayward and Pittsburg rose by over 35%. These are all areas that are relatively less expensive than other parts of the East Bay.

Home appreciation within the East Bay from the fourth quarter of 2012 to the fourth quarter of 2013 grew the least in the Cities of Orinda (9.9%) and Alamo (10.9%), and the Town of Moraga (13.8%)—some of the East Bay's least affordable markets. These affluent cities in the East Bay were less affected by the recession and had

much less to recover. They retain their reputations of having great schools, low crime, and high income. And despite the slower appreciation, the median sales prices in these three locations ranged from \$912,000 to \$1.3 million in 2013.

Home appreciation in other high-cost areas of the East Bay also grew more slowly. High-cost areas in aggregate experienced an estimated appreciation of 18.0% from the fourth quarter of 2012 to the fourth quarter of 2013. And the number of homes sold in these high-cost areas actually rose by 2.1%.

Affordable areas in aggregate experienced even more rapid home value appreciation with their sales price increasing 37.8% from the fourth quarter of 2012 to the fourth quarter of 2013. On the other hand, the number of homes sold in these areas declined by 8.9%. This is partially a result of a decline in the number of distressed home sales.

2013 East Bay Home and Condominium Sales and Median Prices (Slowest Growing Prices)

City or Town/County	Annual Sales	Median Prices (\$000s)	Year-Over-Year Change in Price (%)
Alameda	631	588	17.8
Pleasanton	1,012	750	18.0
Berkeley	713	720	21.0
Livermore	1,530	505	21.7
Dublin	1,373	678	24.6
Alameda County	18,129	485	32.9
Orinda	294	1017	9.9
Alamo	248	1275	10.9
Moraga	226	912	13.8
Danville	1,159	899	16.1
Discovery Bay	414	379	16.6
Contra Costa County	16,943	392	33.1

Source: DataQuick

2013 East Bay Home and Condominium Median Prices and Sales (Affordable Cities and Towns)

City or Town	Median Prices (\$000s)	Year-Over-Year Change in Price (%)	Annual Sales	Year-Over-Year Change in Sales (%)
Emeryville	350	48.9	501	-5.3
Oakland	390	47.7	4,150	-3.0
El Sobrante	336	41.6	314	-14.9
Pittsburg	250	38.9	1,120	-13.0
Hayward	360	37.4	1,858	-12.2
San Pablo	225	35.5	560	-21.5
Concord	350	34.6	1,796	-5.2
San Leandro	380	33.8	992	-17.5
Antioch	268	32.3	1,858	-10.2
San Lorenzo	370	32.1	351	-1.1
Richmond	210	31.7	899	-19.6
Oakley	300	29.3	791	-1.0
Pinole	315	27.5	225	-18.2
Rodeo	268	26.1	93	0.0
Martinez	351	23.2	729	-3.8
Hercules	350	22.8	363	-23.6
Discovery Bay	379	16.6	414	9.5
Bethel Island	215		36	
Crockett	270		43	
Total	333	37.8	17,093	-8.9



East Bay Cities Developing Most Single-Family Units Relative To Current Single-Family Housing Stock

City	Permits (2012 and 2013)	Permits as a Share of Housing Stock (%)
Dublin	1,220	14.8
Brentwood	719	4.7
Oakley	352	3.5
Pittsburg	352	2.5
Antioch	403	1.5
Hayward	318	1.3
Orinda	61	1.0

Source: DataQuick

East Bay Cities Developing Most Multifamily Units Relative To Current Multifamily Housing Stock

City	Permits (2012 and 2013)	Permits as a Share of Housing Stock (%)
Emeryville	968	15.6
Orinda	66	13.7
Lafayette	154	7.9
Oakley	74	5.6
Dublin	376	4.8
Pleasanton	303	3.5
Brentwood	54	2.6
Walnut Creek	442	2.2
Livermore	190	2.2

East Bay Foreclosures (Select Cities)

City	1998-2006 Average	Q4-2012	Q4-2013	Q4-2012 to Q4-2013 Change (%)	1998-2006 Average to Q4-2013 Change (%)
Berkeley	3	11	2	-83	-24
Oakland	37	176	76	-57	105
Hayward	10	98	26	-73	176
Fremont	6	39	17	-56	182
Richmond	12	76	34	-55	194
Concord	9	85	31	-63	245
Alameda	1	14	4	-73	310
Antioch	15	108	68	-37	339
Brentwood	3	66	16	-76	430

Source: DataQuick

FORECLOSURES

Foreclosures declined widely throughout the East Bay over the last year. In the City of Berkeley, foreclosures declined by 83% from the fourth quarter of 2012 to the fourth quarter of 2013, while the City of Antioch experienced a 38.1% decline in foreclosures. Still, the number of foreclosures remains elevated when compared to the number of foreclosure filings recorded prior to the housing crash. For example, there were more than twice as many foreclosures in the City of Oakland in the fourth quarter of 2013 than there were on average between 1998 and 2006. This trend is true in most East Bay cities and some locations have even greater distress levels, although foreclosure filings are falling rapidly.

Foreclosures in the East Bay are expected to continue to decline over the next year. Although statewide data shows a bump in foreclosures in the first quarter of 2014, that is a reflection of the backlog of filings that have been created due to changes in foreclosure procedures beginning in 2013.

CONSTRUCTION

A number of East Bay cities have plans to expand their footprint. The City of Dublin has led the way over the past two years with 1,220 single-family construction permits filed in 2012 and 2013. To put that figure in context, the number of single-family homes in Dublin will grow by 14.8% when these homes are completed. The City of Dublin has benefited from an abundance of available land relative to the mostly densely populated cities throughout the Bay Area, and from access to a BART line. Over the last five years (fiscal year 2008 to fiscal year 2013), ridership at the combined Dublin/Pleasanton BART station and the new West Dublin station, increased by 27% while total BART ridership increased by 10%.

Following Dublin are the Cities of Brentwood, Oakley, and Pittsburg, where the housing stock will grow between 2.5% and 4.7% when new homes there are completed.

In the multifamily sector, housing permits in the City of Emeryville totaled 968 units in 2012 and 2013, which would increase the multifamily housing stock in the City by 15.6% when complete. Although multifamily

housing permits for only 66 units were filed in the City of Orinda (which had an estimated population of 18,300 in 2012), these new structures will increase that city's multifamily housing stock by 13.7% when complete. In contrast, the City of Oakland permitted 734 multifamily housing units in 2012 and 2013, and its multifamily housing stock will only grow by 0.8% when the new units are complete.

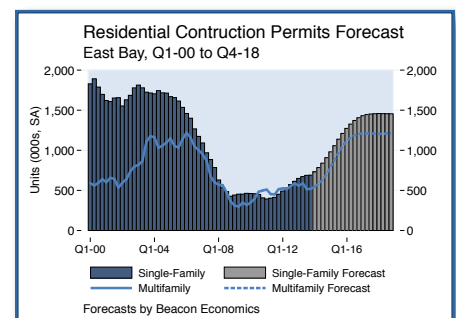
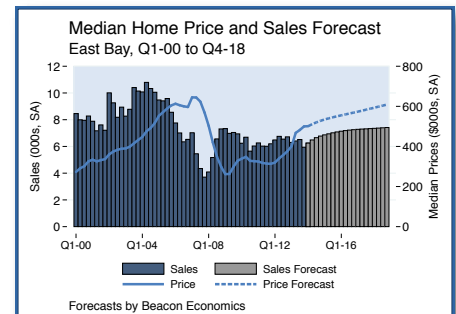
FORECAST

EXISTING SINGLE-FAMILY HOME PRICES AND SALES

Based on the East Bay's real estate market trends, including rapid population growth, home price appreciation is expected to return to a more normal rate of growth later in 2014. From the fourth quarter of 2013 to the fourth quarter of 2014, Beacon Economics projects that the median price of an existing single-family home in the East Bay will grow by 5.6%, and then grow another 4.2% by the fourth quarter of 2015. **The forecast projects that East Bay home sales will grow by 10% over the next two years.** The forecast's biggest risk factor is the potential effect of various recently implemented rules that affect mortgage lending, although Beacon Economics expects their effect to be minimal over the long run.

CONSTRUCTION

With home prices rising and a shortage of housing in the East Bay, Beacon Economics expects construction activity to grow robustly in 2014 and 2015. While projections for 2014 favor the single-family permit category (single-family permits are expected to grow by 21% while multifamily permits are projected to grow by 14%) the forecast also projects that the share of multifamily construction permits will remain near 45% through 2018, compared to approximately 33% in the early 2000s. Overall, Beacon Economics projects that 45,200 housing units will be permitted in the East Bay from the first quarter of 2014 to the fourth quarter of 2018, equaling 11,300 units per year.





POPULATION GROWTH

The East Bay's population continued to grow last year. From July 2012 to July 2013, the region's population increased by 1.5%, surpassing growth in San Francisco and San Mateo Counties. While the East Bay's population growth is on par with that of Santa Clara County, its population growth surpassed that of California, where population only grew by 0.9% in 2013. Overall, Alameda County, along with Santa Clara County, are ranked as the two fastest growing counties in California ²¹.

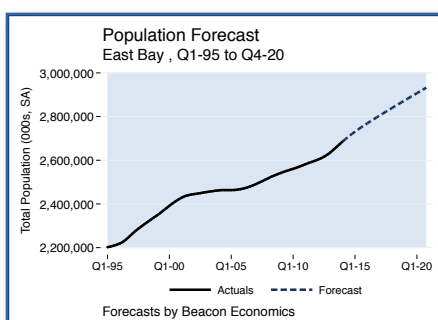
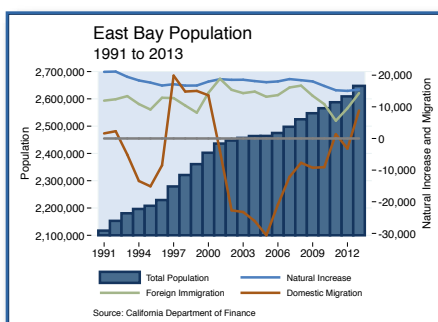
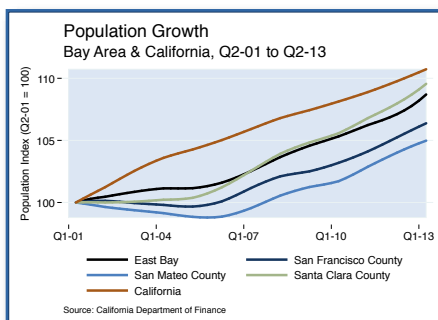
Over the last five years, the East Bay's population grew by an impressive 4.9%, trailing only Santa Clara County, whose population grew by 5.4% over the same time, but outpacing California overall (3.7%).

A region's population can grow and / or contract for the following reasons: (1) natural increases (the difference between the number of births and the number of deaths), (2) foreign immigration, and (3) domestic migration. The most significant observation for the East Bay is domestic migration.

It is interesting to note that despite strong recent population growth, since 2007 the East Bay has experienced negative net migration. This is due in large part to the significant out-

migration from Alameda County—which offset the positive net migration into Contra Costa County over this time. The East Bay, however, did experience a positive inflow of residents who originated from San Francisco, San Mateo, and Santa Clara Counties—areas that are relatively more expensive than the East Bay. Of the inbound migrants who came to the East Bay from other parts of California between 2007 and 2012, 48.0% came from these counties. This underscores the incentive created by the relative affordability of the East Bay as compared to other San Francisco Bay Area counties.

The recent high tech boom in the San Francisco Bay Area has led to a significant increase in housing costs across the region. In San Francisco, in particular, skyrocketing housing costs have forced the lower income demographic to relocate to more affordable places, such as the East Bay, or even move out of the Bay Area altogether. Rising rents have been so extreme that in 2013, there were more eviction notices served on apartment units than there were new apartment units built²². As more high tech companies establish themselves in San Francisco, expect to see a higher number of displaced residents migrate across the bay into areas like Oakland.



East Bay In-State Migration (2007-2012)

Inbound Migration			Outbound Migration			Net Migration	
Origin County	Amount	Share	Migration County	Amount	Share	County	Amount
Marin	4,882	2.2%	Marin	7,534	3.2%	Marin	-2,652
Other	109,340	49.5%	Other	140,798	60.4%	Other	-31,458
San Francisco	44,911	20.3%	San Francisco	33,770	14.5%	San Francisco	11,141
San Mateo	23,035	10.4%	San Mateo	18,111	7.8%	San Mateo	4,924
Santa Clara	38,761	17.5%	Santa Clara	33,028	14.2%	Santa Clara	5,733
Total	220,929	100.0%	Total	233,241	100.0%	Total	-12,312

Source: U.S. Census Bureau

²¹ John Sailors, "Bay Area population growth tops state", San Francisco Business Times, May 1, 2014.

²² Joe Kloc, "Tech Boom Forces a Ruthless Gentrification in San Francisco", Newsweek, April 15, 2014.

East Bay Residents Commute Pattern Shares (2007-2012)

County of Work	2007 Share (%)	2008 Share (%)	2009 Share (%)	2010 Share (%)	2011 Share (%)	2012 Share (%)
East Bay	73.1	73.5	72.7	72.9	70.6	69.5
Other	7.3	6.0	6.3	6.7	9.3	8.8
San Francisco	9.6	10.6	10.4	9.8	10.5	11.0
San Mateo	3.5	3.7	3.9	3.9	3.2	3.5
Santa Clara	6.5	6.2	6.7	6.6	6.4	7.2

Source: U.S. Census Bureau

Overall, despite the occurrence of negative net migration in the East Bay over the last five years, Beacon Economics is forecasting the region's population to grow in the next six years, as more and more residents migrate out of San Francisco and Santa Clara Counties in search of more affordable living. This should reverse the net migration trend from negative to positive in the East Bay.

Since 2007, the share of East Bay residents who commute outside of the East Bay for work has steadily increased. This reflects the East Bay's growing relative affordability, but it also points to the increasing importance of improving regional mass transit.

POPULATION COMPOSITION (AGE AND RACE)

Increases in population in the East Bay have been led by residents in the 20-24 and 25-34 year old categories. According to the U.S. Census Bureau's American Community Survey, combined population growth for these two age groups was 11.6% from 2007 to 2012. **This age demographic represents a prime working age, which may indicate that an increasing share of younger workers are attracted to the East Bay's revitalized urban centers and/or relatively affordable housing costs.**

In addition to a growing population of prime working age individuals, there has also been a significant increase in the population of those classified as middle age or elderly. When combined, these age groups grew by 16.1% from 2007 to 2012. This may be another natural consequence of the East Bay's relative affordability, as the older aged demographic are either near or at retirement age when their income levels may be much lower than those who are of prime working age.

With respect to the racial composition in the East Bay, there has been a slight decrease in the number of white residents in the region, with that share of the population dropping from 42.7% in 2007 to 38.8% in 2012. The Asian population, on the other hand, has grown as a share of the population, increasing to 21.7% in 2012 from 20% in 2007. This phenomenon is likely attributable to the rising number of Asians working in the high tech industry throughout the San Francisco Bay Area. In fact, according to American Community Survey data, the share of Asians working in computer and mathematical occupations in the Bay Area increased from 45.8% in 2007 to 51.8% in 2012. As the high tech sector has led the regional recovery, the number of Asian residents has also increased.



East Bay Population Distribution by Age

Age	2007	2012	2007-2012 % Change
Under 5 years	165,786	164,743	-0.6%
5 to 9 years	155,280	169,370	9.1%
10 to 14 years	168,155	166,362	-1.1%
15 to 19 years	172,402	169,644	-1.6%
20 to 24 years	166,970	176,109	5.5%
25 to 34 years	322,600	370,280	14.8%
35 to 44 years	387,257	380,056	-1.9%
45 to 54 years	385,427	387,817	0.6%
55 to 59 years	160,572	175,283	9.2%
60 to 64 years	122,072	147,791	21.1%
65 to 74 years	144,810	183,300	26.6%
75 to 84 years	92,133	98,823	7.3%
85 years and over	40,378	44,739	10.8%

Source: U.S. Census Bureau

Population Composition by Race

Race	2007	2012	2007-2012 % Change
Hispanic or Latino	540,866	620,126	14.7%
White	1,061,303	1,021,088	-3.8%
Asian	496,351	570,978	15.0%
Black/Afr. America	277,732	272,772	-1.8%
Two or More Races	73,405	114,540	56.0%
Some Other Race	13,820	7,023	-49.2%
Nat. Hawaiian/Pac. Isl.	14,013	18,544	32.3%
Am. Indian/Alaska Native	6,352	9,246	45.6%
Total	2,483,842	2,634,317	4.0%

Source: U.S. Census Bureau

DEMOGRAPHICS / QUALITY OF LIFE



Composition of Population by Household Income

Income Category	Share 2007	Share 2012
Less than \$10,000	5.1%	5.2%
\$10,000 to \$14,999	4.5%	4.5%
\$15,000 to \$24,999	7.7%	8.2%
\$25,000 to \$34,999	7.7%	6.9%
\$35,000 to \$49,999	10.6%	10.8%
\$50,000 to \$74,999	16.2%	16.1%
\$75,000 to \$99,999	13.3%	11.6%
\$100,000 to \$149,999	17.7%	17.2%
\$150,000 to \$199,999	8.3%	8.9%
\$200,000 or more	8.9%	10.6%

Source: U.S. Census Bureau

One of the more surprising changes in the racial demographic of the East Bay is the 1.8% decrease in the Black/African American population. Alameda County has historically had a large African American population, with the City of Oakland having the highest concentration of that group. Recently, due to gentrifying effects across the San Francisco Bay Area, many African American residents are having difficulty paying for growing rental rates in the Oakland region. What was once an affordable area for low-income earners and particularly for African Americans—whose median household income is only \$32,059 in Oakland²³—has become a relatively expensive area particularly for lower income earners. In fact, the cost of rent in the City of Oakland increased 4.8% in 2013, which slightly trails the cities of San Francisco and San Jose, but outpaces that of Los Angeles and the national average²⁴.

The increasing pressures of gentrification, despite positive effects on the local real estate market, are of concern as lower income residents, primarily Hispanics and African Americans, are displaced and forced to relocate further from work. When this happens, these individuals face longer commute times and increased commute costs, which add a significant

burden to an already struggling income demographic. While the East Bay's economy is benefiting from the immigration of middle to upper income households, that trend is also having an adverse impact on lower income households who are being crowded out by the increased cost of living in what was once an affordable area in both relative and absolute terms.

INCOME AND EDUCATION

Looking at household income by race, whites and Asians far outpace all other household types throughout the San Francisco Bay Area. Educational attainment plays a significant role in household income, which during the last decade, has seen a larger gap develop between households with higher levels of educational attainment and households with lower levels.

The disparities in income between those who hold a bachelor's degree or higher, and those with only a high school diploma or less, are significant. It is imperative that the East Bay continue to pay particular attention to educational attainment as a source of economic growth. **A more educated workforce leads to increased levels of productivity, and generally leads to**

Educational Attainment by Race, East Bay (2012)

Educational Attainment	White	Black	Asian	Hispanic
Less than High School Diploma	10.5%	9.9%	11.8%	34.5%
High School Graduate or Equivalent	18.0%	24.0%	13.6%	25.3%
Some College or Associates Degree	28.3%	43.0%	20.5%	24.5%
Bachelor's Degree	26.4%	15.2%	32.2%	11.0%
Graduate or Professional Degree	16.8%	7.9%	21.9%	4.7%

Source: U.S. Census Bureau

²³ Source: 2012 American Community Survey for the City of Oakland

²⁴ Source: REIS, Inc.

Household Income by Race (2012)

Race	East Bay	San Mateo	Santa Clara	San Francisco
Hispanic or Latino	\$51,892	\$52,035	\$55,220	\$51,719
White	\$78,469	\$84,511	\$89,696	\$91,560
Asian	\$94,456	\$92,907	\$105,088	\$61,673
Black/Afr. American	\$42,829	\$52,271	\$65,347	\$23,818
Two or More	\$67,037	\$83,824	\$82,497	\$65,277
Some Other	\$50,343	\$49,249	\$52,417	\$49,038

higher output and increased income levels for not only individuals, but for cities and municipalities in the form of tax revenues.

Current educational attainment levels indicate that although the East Bay still trails the rest of the Bay Area with respect to its share of population that holds a bachelor's degree or above, the East Bay far outpaces the State of California. And given its population size, the East Bay has more educated residents—with close to 735,000 holding at least a bachelor's degree—than anywhere else in the Bay Area. Considering the East Bay's relatively affordable housing and rental prices, and its variety of universities, research

institutions, and high-tech businesses, the number of well-educated individuals migrating to the region should continue to increase.

The San Francisco Bay Area is considered the global hub for the high tech industry, which has seen exponential growth over the past 20 years. As high tech firms continue to establish offices in the region, they also continue to seek out highly educated individuals with the skills and training they require—training that can only be obtained through post-secondary education. In order to meet the future labor demands of this growing industry, necessary preparations should be made, primarily in STEM education



Given its population size, the East Bay has more educated residents—with close to 735,000 holding at least a bachelor's degree—than anywhere else in the Bay Area.

Annual Personal Income by Educational Attainment (2012)

Educational Attainment	California	East Bay	San Francisco	San Mateo	Santa Clara
Less than high school graduate	\$18,675	\$20,174	\$18,704	\$21,087	\$20,853
High school graduate (includes equivalency)	\$26,921	\$31,102	\$23,962	\$29,994	\$29,188
Some college or associate's degree	\$35,524	\$40,467	\$36,202	\$40,458	\$40,702
Bachelor's degree	\$53,033	\$61,731	\$61,426	\$61,615	\$71,183
Graduate or professional degree	\$76,648	\$86,528	\$82,402	\$98,365	\$101,279

Source: U.S. Census Bureau

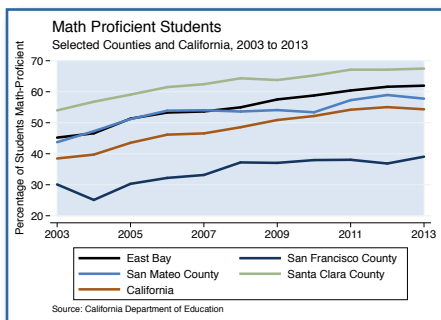
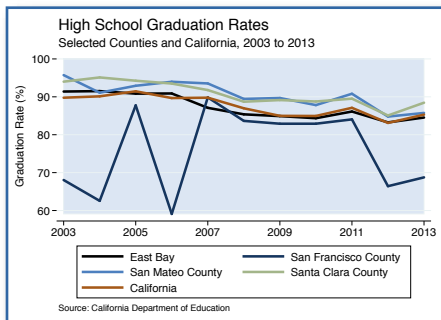
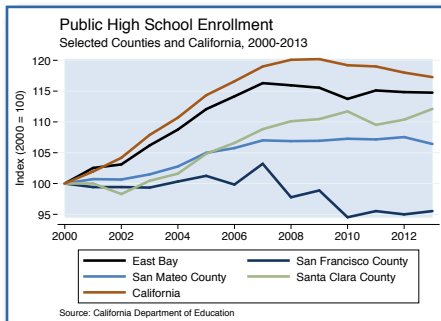
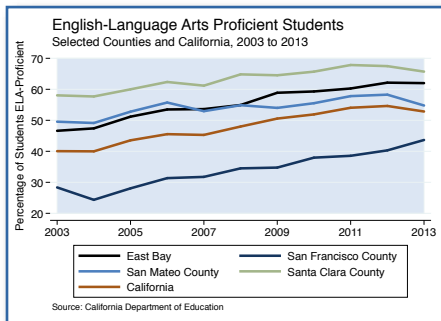
Educational Attainment Levels, 2012 (Share of Population age 25 and Older)

Education Level	California	East Bay	San Francisco	San Mateo	Santa Clara
Less than 9th grade	10.1%	6.1%	8.3%	6.0%	7.3%
9th to 12th grade, no diploma	8.4%	5.6%	5.1%	5.3%	6.6%
High school graduate (includes equivalency)	20.6%	18.4%	13.0%	16.9%	14.8%
Some college, no degree	22.1%	21.6%	14.6%	20.5%	16.8%
Associate's degree	7.9%	7.8%	5.4%	7.0%	7.4%
Bachelor's degree	19.6%	25.1%	32.9%	26.2%	26.1%
Graduate or professional degree	11.3%	16.0%	20.7%	17.5%	21.0%
Total Post-Secondary Education	30.9%	41.1%	53.6%	43.7%	47.1%

Source: U.S. Census Bureau

²⁵ STEM stands for Science, Technology, Engineering, and Mathematics

DEMOGRAPHICS / QUALITY OF LIFE



(Science Technology Engineering Mathematics).²⁵ Several initiatives are ongoing to promote STEM education in the East Bay. The East Bay Economic Development Alliance supported the formation of a public-private consortium at California State University East Bay called Gateways STEM Network, which supports cradle-to-career education and employer engagement.

One successful project is an annual STEM Careers Awareness Day for companies in the East Bay's innovation corridor. As part of this program, East Bay firms open their doors to local high school students to showcase the kinds of careers and salaries that might be theirs should they pursue STEM majors in community and four-year colleges.²⁶ Students are exposed to groundbreaking work occurring in fields such as biopharmaceuticals, sound engineering, robotics, building efficiency, and forensic science. Students from the Cities of Berkeley, Emeryville, Oakland and Richmond, who may not normally be aware of these opportunities and may not have considered the notion of attending college, let alone of working in a STEM field, are exposed to a range of possibilities. It is important for students, especially low-income students, to be exposed to the career options and benefits associated with entering a STEM field.

In an important recent action, the California State Board of Education approved new science standards designed to prepare elementary, middle, and high school students to thrive in

today's ever-changing economy. These "Next Generation Science Standards" will bring science instruction up to date and will emphasize a deeper focus on understanding concepts within and across scientific disciplines. For example, science curriculums will integrate engineering practices with science practices to help students understand the workings of science and the natural world.²⁷

In addition, the State of California, along with 44 other states have adopted what is known as "Common Core" educational standards for all public school students from kindergarten through high school. According to a survey by the Public Policy Institute of California, upon reading a brief description of the newly adopted common core standards, 69% of California residents were in favor of them.²⁸ **With the implementation of these new educational standards, students, especially those from lower income and minority households, will be afforded the same standard of educational instruction across the state.** This should help prepare these students for college-level coursework, and increase the likelihood of them ultimately enrolling in college.

The East Bay has maintained a strong educational system, which has pushed East Bay schools to near the top in each major measurement of educational progress. Local leaders are aware of the critical importance of education and further opportunities beyond high school. For instance, the Oakland Unified School District is considering a parcel tax to fund college preparatory

²⁶ <http://www.heraldonline.com/2014/04/10/5859768/stem-career-awareness-day-april.html>

²⁷ California Department of Education News Release, Release #13-82, September 4, 2013.

²⁸ Mark Baldassare, Dean Bonner, Sonja Petek, and Jui Shrestha, "Californians & Education", PPIC Statewide Survey, April 2014.

²⁹ Michelle Maitre, "Oakland Unified Considering Parcel Tax to Fund College, Career Prep Programs", East Bay Express, March 31, 2014.

programs that integrate academics with real-world experience in the form of internships and job shadowing.²⁹

The San Francisco Bay Area already has one of the highest concentrations of degree holders in the nation and the local economy has a higher than average demand for degrees, especially in STEM-related fields. **If the East Bay is to maintain and improve its position in the global economic landscape, as well as in the Bay Area's, it will be important to continue to invest heavily in primary and secondary education and to prepare, stimulate, and motivate students to pursue higher education.**

With a growing awareness of the importance of educational attainment among local leaders, and with the implementation of STEM education overall, the East Bay's educational system appears to be prepared for moving forward.

INCOME INEQUALITY AND POVERTY

While the recent expansion in the high tech industry has been beneficial for the San Francisco Bay Area's economy, it has been accompanied by rising income inequality. The most common measurement of income inequality is known as the Gini Index; an index of 0 signifies absolute equality, while an index of 1 signifies absolute inequality.

Throughout the San Francisco Bay Area, the state, and even the nation, income inequality is trending upward. San Francisco, especially, has one of

the highest Gini coefficients in the country, signifying large disparities in income distribution. This is likely due to the recent rise in tech-industry employees taking up residence in San Francisco, which has placed upward pressure on rental rates and housing prices, displacing many low-income residents.

The cost of childcare is also an issue, especially for low-income families. In fact, according to an August 2013 report published by the U.S. Department of Agriculture, for children born in 2012, the average parent is projected to spend approximately \$241,080 to raise that child from birth to age 17, which represents a 2.6% increase over 2011.³⁰

This trend towards rising inequality is also being felt in the East Bay. Proposals to alleviate the income gap such as subsidizing home buying for police officers, firefighters, and teachers, and further co-operation between the private and public sectors could help.³¹ However, other measures should also be taken in order to lessen the severity of rising income inequality.

As the income gap continues to widen across the San Francisco Bay Area, it is no surprise that the percentage of those living below the poverty line has increased as well.³² And although from 2007 to 2012, among all Bay Area regions and California as a whole, the East Bay saw the smallest percentage change in share of population living in poverty, it remains a major concern because a rising share of those living in poverty will increasingly rely on public assistance.



Gini Coefficient for Income Inequality

Region	2007	2012	% Change
East Bay	0.4545	0.4685	3.1%
San Francisco	0.5190	0.5225	0.7%
San Mateo	0.4700	0.4849	3.2%
Santa Clara	0.4520	0.4663	3.2%
California	0.4690	0.4822	2.8%
United States	0.4670	0.4757	1.9%

Source: U.S. Census Bureau

% Living Below Poverty Line

Region	2007	2012	% Change
East Bay	10.1%	12.3%	21.2%
San Francisco	10.5%	15.0%	42.9%
San Mateo	5.9%	8.4%	42.4%
Santa Clara	8.3%	10.8%	30.1%
California	12.4%	17.0%	37.1%

Source: U.S. Census Bureau

³⁰ <http://www.cnpp.usda.gov/Publications/CRC/2012CRCPressRelease.pdf>

³¹ Mollie Reilly, "Hillary Clinton Confronts Silicon Valley On Income Disparity, Immigration Reform", Huffington Post, April 8, 2014.

³² The 2012 Federal poverty guideline for a typical family of four is \$23,050.



Education should be at the center of the debate as state and local governments consider the most effective ways to combat rising income inequality and poverty.

The Self-Sufficiency Standard is a more effective means of measuring a typical household's ability to meet its minimum expenses based on local costs rather than national averages. For Alameda County, a typical household consisting of two adults and two infants would require a self-sufficiency wage of \$91,180 per year in 2014 to meet all basic expenses (i.e., housing, food, childcare, healthcare, transportation, and taxes) without public or private assistance.³³ This self-sufficiency wage does, however, decrease as the child/children increase in age. It is of particular concern that the East Bay, as well as the entire San Francisco Bay Area region, requires such a large income to meet the minimum requirements of living, especially if the household or individual belong to a lower income or educational demographic.

Education should be at the center of the debate as state and local governments consider the most effective ways to combat rising income inequality and poverty. Unemployment rates trend downward as educational attainment levels increase. STEM education, coupled with private sector partnerships and other innovations within the current educational system, are paramount to future economic growth in the East Bay and should aid in lessening the income gap in the future. In a recent Forbes article, Dr. Daniel R.

Porterfield reiterates the importance of STEM education and advocates for underprivileged students to pursue STEM-related careers.³⁴

As the San Francisco Bay Area continues to gravitate towards more highly skilled and more technical occupations, it is important that growing changes in labor market dynamics should be met with changes in how the future workforce is trained. **The importance of education, particularly STEM education, in the East Bay should continue to be emphasized as a primary catalyst for both future economic growth and improvement in income equality.** The United States, as a whole, currently has a shortage of college graduates from STEM-related majors.

The private sector has played a significant role in motivating both high school students and college undergraduates to pursue STEM majors. For instance, Raytheon has joined industry, government, and education leaders to address the issue surrounding the lack of STEM graduates. To spotlight the attractiveness of STEM-related fields, Raytheon has sponsored the nation's largest cyber defense competition for undergraduate and graduate students, where students from across the country compete to defend their own commercial network against cyber attacks.³⁵ Raytheon has even hired former participants

Unemployment Rate by Educational Attainment (Population Age 25 to 64)

Educational Attainment	California	East Bay	San Francisco	San Mateo	Santa Clara
Less than High School Graduate	13.2%	13.3%	14.1%	6.8%	12.6%
High School Graduate (Includes Equivalency)	12.8%	12.3%	10.2%	11.4%	13.3%
Some College or Associate's Degree	10.1%	9.6%	9.8%	8.0%	9.5%
Bachelor's Degree or Higher	5.7%	5.3%	4.7%	5.0%	4.8%

Source: U.S. Census Bureau

Occupation Composition, Civilian Employed Population Age 16 and Over

Occupation Type	East Bay 2007	East Bay 2012
Management, Business, Science, and Arts	41.7%	45.2%
Service	15.2%	16.5%
Sales and Office	25.8%	22.7%
Natural Resources, Construction, and Maintenance	8.7%	7.1%
Production, Transportation, and Material Moving	8.6%	8.5%

Source: U.S. Census Bureau

of this competition, which should spark interest among high school and college students who are yet undecided about their career path.

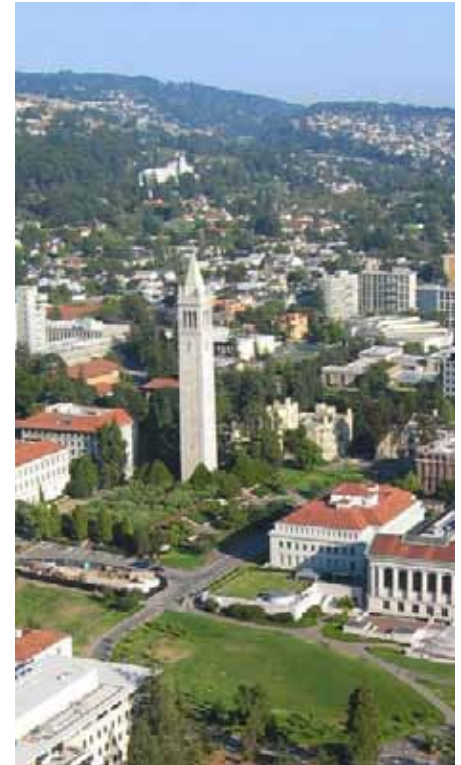
The collaboration between the public and private sector serves as one of many solutions to overcome workforce deficiencies within STEM-related fields.

While it is evident that increased educational attainment, especially in STEM-related fields, will help narrow the income gap throughout the San Francisco Bay Area, the rising cost of college tuition coupled with lower college admissions rates throughout California are deterring many low-income and minority groups from progressing towards higher educational attainment levels. In fact, according to the University of California, the average annual student charges for resident undergraduate students has increased 256% (from \$3,429 in the 2001-2002 academic year to \$12,192 in the 2011-2012 academic year).³⁶

At the University of California, Berkeley, undergraduate tuition for

in-state residents has increased from \$4,122.50 in the 2001-2002 academic year to \$15,221.50 in the 2013-2014 academic year, representing a growth rate of 269%. **With college tuition rates in not only the University of California system but also the California State University system growing faster than the rate of inflation, it will be very difficult for low-income and minority families to send their children to college.**

Affordability is one of the deciding factors that many low-income and minority households face when contemplating sending their children to college. The importance of making higher education more affordable should be vigorously emphasized. The Sacramento Bee writes: "...The rising costs have hurt graduation rates, especially among ethnic minorities. In a 2010 survey, 69% of black students who did not finish college cited the high cost of tuition, compared to 43% of whites."³⁷



The importance of making higher education more affordable should be vigorously emphasized.

³³ <http://www.insightcced.org/communities/besa/besa-ca/calculator.html>

³⁴ Dr. Daniel R. Porterfield, "Bringing Low-Income Students Into STEM Education", Forbes, April 3, 2014.

³⁵ "Raytheon tackles nation's STEM workforce challenge during "STEM Week" in Washington, D.C.", Providence Journal, April 23, 2014.

³⁶ http://budget.ucop.edu/fees/documents/history_fees.pdf

³⁷ Bill Lockyer, "Viewpoints: Do more to help California families save for college", The Sacramento Bee, May 3, 2014.

CONCLUSION



The East Bay's economy is projected to continue growing in 2014 and 2015, based on a wide variety of findings related to recent labor market, business activity, real estate, and demographic trends. Hiring at businesses located in the East Bay, as well as jobs in neighboring Bay Area regions that provide employment for East Bay residents, will supply residents with continued income growth that further supports the local economy. As shown in recently revised employment figures, the East Bay's labor market grew nicely in 2013.

Furthermore, East Bay businesses are well-positioned to serve the greater U.S. economy as indicated by the high-share of venture capital the region receives relative to other parts of the nation, the area's highly educated workforce, and the business synergy that connects a wide-range of industries that have a strong presence in the region.

Growth in the local real estate market will also contribute to the East Bay's economy and to the quality of life of its residents. While Beacon Economics' forecast for home price growth over the next five years is not as robust as the home appreciation already experienced in 2013, the combined gains will give homeowners additional equity, which can be used to fund other investments – including new construction, business investments, infrastructure, and education.

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