Appendix F
Economic Development Inventory and Opportunity Analysis

Memorandum

To: Bill Hurrell and Brian Soland; CDM Smith

From: Ron Golem and Jessica Hitchcock; BAE Urban Economics

Date: December 20, 2013

Re: Economic Development Inventory and Opportunities Analysis

Summary of Key Findings

Between 2010 and 2040, the EBOTS Area is projected to add 24,000 new jobs and 13,000 housing units, according to forecasts from Plan Bay Area, creating a significant need for transit improvements. The land use plans currently in place or in progress will allow for this overall level of growth. This growth will generate circulation impacts, and highlights the importance of commensurate transit improvements and expansion to sustainably accommodate these future changes.

Total development within the EBOTS Area will be determined by land use plans, and their interaction with real estate markets and government initiatives, even though Plan Bay Area forecasts differ in some respects compared to those plans. While the land use plans currently in place or in progress for the entire EBOTS Area will allow an overall level of growth similar to the forecasts in Plan Bay Area, the forecasts do not necessarily align with individual cities' land use plans. Some Plan Bay Area estimates show higher employment and population growth than what is zoned for in existing plans, while other estimates for growth are lower. Local land use plans as well as investment decisions by developers, tenants, and companies will determine how much development occurs in each city.

The EBOTS Area has significant diversity in its existing economic base, which is likely to create differences in the timing and location of future growth. Industrial real estate space users in advanced manufacturing and R&D are currently drawn to West Berkeley and Emeryville because of access to the existing skilled workforce and proximity to similar firms. West Oakland does not currently have the same level of interest from these firms, although it has a strong industrial warehousing base. Current market conditions in Emeryville and West Berkeley, with low vacancy rates and higher rents, have created a near-term market opportunity for West Oakland, however Emeryville and West Berkeley still have the ability to support a substantial amount of new development in the medium-term and beyond for these users. West Oakland, with its lower rents and inventory of available buildings, has the opportunity to compete for these firms, as well as attract those priced out of Emeryville and West Berkeley. This means that the timing and types of development in West Oakland may differ from what occurs in Emeryville and West Berkeley.

The EBOTS cities have distinct and specific goals for their portion of the EBOTS Area. The West Berkeley Specific Plan aims to preserve the city's industrial base and retain a diverse mix of manufacturing, retail, and service jobs. Emeryville's General Plan proposes to accommodate future growth sustainably, pairing transportation investments with increased housing and jobs. The West Oakland Specific Plan is an economic development initiative geared towards targeting employment growth into specific opportunity areas, with plans to utilize investments to attract new businesses to move into the area.

The EBOTS Area is capturing more population growth than the combination of Emeryville, Berkeley, or Oakland, although demographic patterns between the EBOTS area and the combined three cities vary considerably. Population increased faster in the EBOTS Area compared to the overall area of the three cities, although most of the growth occurred in Emeryville and West Oakland, while West Berkeley's population growth rate was much slower. Educational attainment and household income levels also varied considerably among the subareas. Emeryville and West Berkeley exhibit relatively high levels of educational attainment, translating into higher median household incomes, compared to lower levels in West Oakland.

Sectors expected to experience sustained growth include Professional, Scientific, and Technical Services and Other Services, and Clean Technology and Advanced Manufacturing. Currently, the Professional, Scientific, and Technical Services sector is currently the largest sector in the EBOTS Area (18 percent), with Manufacturing second (13 percent), and Leisure & Hospitality (12 percent) and Retail Trade (11 percent) just below it.

Economic development and workforce training are important priorities in West Oakland, while jobs rich areas like West Berkeley and Emeryville are concerned with the impact of job growth on congestion. In West Oakland, there is a mismatch between the jobs available and the types of industries in which resident workers are employed, which suggests opportunities for workforce training and further diversification of jobs. West Berkeley and Emeryville, which have high levels of in-commuting, face the need to accommodate the mobility needs of its existing job base and to cope with increases in congestion from new development.

The differences within the EBOTS Area in economic base, demographic characteristics, and planning objectives is likely to lead to differences in the types, timing, and amount of development, and a potential need for different types of transit improvements. This suggests a flexible and phased approach to planning for transit improvements to better match community planning goals and market activity and growth.

The following sections of this memorandum contains the detailed analysis, with tables and text, that support and expand on these key findings.

Purpose and Approach to the Analysis

This economic development inventory and opportunities analysis seeks to assess demographic and economic trends in the EBOTS Area (Emeryville, West Berkeley, and West Oakland), and their implication for future land use and development activity. The reason for conducting this type of analysis is to identify and assess key factors that shape how transit can generate economic development impacts, as well as how economic trends create the need for transit improvements to increase mobility.

The factors that determine the extent to which new transit improvements can generate economic development and new investment include: (a) public agency planning and implementation programs; (b) market conditions for development; (c) current demographic and employment patterns; (d) the quality of the transit service; and (e) the existing transit and pedestrian orientation of a place. This memorandum assesses the first three of these factors in detail; the other factors will be addressed by others or at a later point in the study.

The approach to the analysis included a review of relevant plans and reports; interviews with City staff from each of the EBOTS cities; review of publicly available real estate market data as well as proprietary data made available for the study; and a quantitative analysis of demographic and economic data from multiple sources. The specific methodologies and data sources used are outlined in the next section.

Methodology

This memorandum analyzes current conditions and opportunities within the EBOTS Area. Specific Plans and relevant economic studies are summarized to provide an overview of current planning and economic development efforts to inform consideration of transit alternatives. A particular focus of this memorandum is on the residents who live in the EBOTS Area and the types of jobs available. Market conditions for industrial, office, housing, and retail uses are presented to illustrate the strength of the market for different real estate types. Finally, the memo concludes with a summary of total projected growth potential and the opportunity areas for growth.

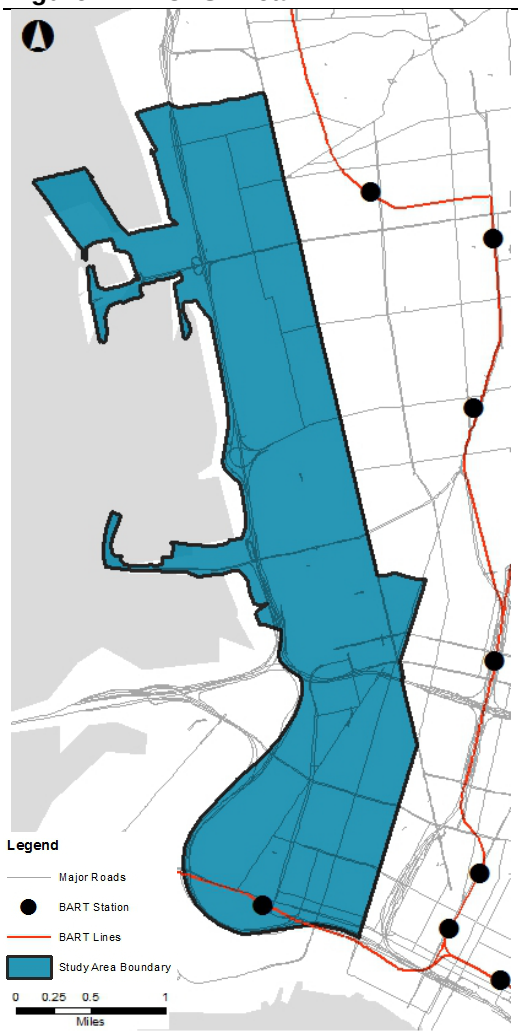
Demographic data for this analysis are drawn from the US Census and the Census Bureau's 2007-2011 American Community Survey (ACS). While the decennial Census describes a specific point in time, the American Community Survey estimates demographic conditions based on statistical sampling conducted continuously between 2007 and 2011. Employment data are derived from the Longitudinal Employer-Household Dynamics (LEHD) program, which is provided by the US Census Bureau. In order to protect the confidentiality of workers and employers, LEHD introduces a small amount of statistical "noise" for smaller geographic units. As a result, LEHD may not match data from other sources.

The real estate analysis provides an overview of market conditions for different product types to illustrate the strength of various markets. Data is presented on existing inventory, lease rates, and

occupancy levels for geographies that most closely resemble the EBOTS Area. Information was obtained from Cassidy Turley, a brokerage firm active in the area, private data vendors, and property listings.

Total build-out scenarios for each city were taken from the current Specific and General Plans. These build-out scenarios were compared to the Plan Bay Area Final Forecast of Jobs, Population, and Housing for the Transportation Analysis Zones (TAZs) that encompass the EBOTS Area to illustrate how the land use plans relate to forecasted growth between 2010 and 2035. Maps of opportunity areas showing the location of future areas of change are presented as a best available predictor of where change is likely to occur within the EBOTS Area.

Figure 1: EBOTS Area



Source: CDM Smith; BAE, 2013.

Current Plans and Programs

This section summarizes each city's plans and policies that will guide the area's development potential for the next 25 years. The analysis draws from the General and Specific Plans in place for West Berkeley and Emeryville, and the forthcoming West Oakland Specific Plan (WOSP). The maximum build-out scenarios are presented in a subsequent section to illustrate the development allowed under these existing land use plans, and these figures are compared to forecasts of future population and employment from Plan Bay Area. The purpose is to illustrate the extent of growth allowed within the EBOTS Area and set the stage for consideration of strategies and investments within each city.

West Berkeley

West Berkeley is the City's historic industrial district and is bounded by Albany to the north, Highway I-80 to the west, San Pablo Avenue to the east, and Emeryville to the south. Historically, West Berkeley was developed around a freight railroad, with factories that located around the transportation network. Since then, many of the heavy industrial uses have been converted to light industrial businesses, including biotechnology, R&D laboratories, and offices.

In 1993, Berkeley passed the West Berkeley Plan to preserve industrial jobs and channel new development into appropriate areas. One fundamental goal of the Plan is to maintain a mixed economy with a healthy mix of manufacturing, retail, and service sectors in order to provide a diverse economic base and provide jobs for all residents of different educational levels. The Plan established new zoning districts for West Berkeley and was projected to add a significant level of new jobs and light industrial development, with most occurring along Seventh Street between Ashby and Dwight. However, the pace of employment growth was significantly less than anticipated, so in 2007, the City began a process to amend the West Berkeley Plan to allow more flexibility in the zoning code. Zoning amendments were passed to add R&D as an allowable use and remove obstacles to the reuse of existing buildings. A concurrent effort (Measure T) to allow larger scale development on specific sites failed at the ballot.

According to the West Berkeley Project EIR, with the zoning amendments West Berkeley is expected to add 1,000,000 square feet of manufacturing and industrial space, 16,000 square feet of commercial space, and 1,651 new residential units by 2030.

In 2007, the City of Berkeley commissioned a study by Wilbur Smith and Associates (WSA) to model existing and future traffic conditions and to develop a comprehensive, long-range plan to guide the transportation improvements in West Berkeley. The West Berkeley Circulation Master Plan Report projected that congestion would continue to worsen in West Berkeley and recommended a series of improvements based on project readiness and funding potential. One of the options relevant to this project was to extend transit or shuttle service to connect North Berkeley BART to Ashby BART along Ashby, 7th, and Cedar Streets with weekday peak hour service on 20-minute headways. The estimated capital cost was $600,000, and although the project was deemed not ready, the Plan suggested the City work with AC Transit to explore service expansion in these areas.

Emeryville

Emeryville is bounded by West Berkeley to the north, Oakland to east and south, and the San Francisco Bay to the west. Like West Berkeley, Emeryville started as an industrial city around a railroad hub. In the last 20 years, the City has embraced the redevelopment of former industrial sites to accommodate office, R&D, retail, and residential development, and has transformed into an employment center with a mix of uses and high-density housing. With twice as many jobs (20,000) as residents (10,000), Emeryville, as of 2011, had among the highest ratio of jobs per employed resident compared to other Bay Area cities.

In 2009, Emeryville adopted a new General Plan to guide the City's future growth. According to the General, Plan, the City is almost built out, with only 40 acres considered vacant land. Almost all new development is expected to occur on infill or other underutilized sites, with non-residential intensities increasing and approved residential projects averaging over 60 units per acre.

According to the City's General Plan, by 2030 the city expects to experience a net gain of 2,000,000 square feet in office, 300,000 square feet of hotel, 640,000 square feet of retail and 3,767 residential units, while shedding a net 800,000 square feet of industrial square feet.

As the city plans for 10,000 new jobs and over 4,000 new residents, Emeryville has identified mobility as an important priority. The Fiscal Year 2012-2013 and 2013-14 Economic Development Strategy Implementation Plan cites improving mobility for employees and residents as a key strategic goal because a financially stable transit operation is necessary to accommodate a sustainable future. The business-funded free Emery-Go-Round shuttle service is reaching capacity, and the system is facing rising ridership demands and seeking additional financial support. With development of large parcels occurring outside of the existing Emery-Go-Round routes, the City is looking to pair strategic transit investments with future projects.

West Oakland

West Oakland is bounded by freeways on all sides, with I-880 to the north and west, I-580 to the east, and I-980 to the south. West Oakland borders the fifth largest U.S. port by volume and provides commercial linkages to national rail lines and international waterways. According to the WOSP, almost 60 percent of West Oakland is devoted to residential uses, and roughly one quarter to industrial, commercial or transportation uses. Prior to the dissolution of redevelopment, most of West Oakland fell within the West Oakland Redevelopment Project Area.

The WOSP mirrors the former redevelopment area, and is an economic development initiative to provide a comprehensive set of strategies to facilitate the development of select vacant and underutilized properties. With the exception of the West Oakland BART Station, the Plan focuses primarily on commercial and industrial sites, and calls for a preservation strategy for most existing residential neighborhoods. For the commercial areas, the Plan recommends transportation and infrastructure improvements, and implementation strategies to develop key opportunity sites. The

Plan is aimed at attracting developers, and encourages targeted economic development to boost commercial and industrial jobs to benefit the residents of West Oakland.

By 2035, the Specific Plan predicts a net increase of four million square feet of non-residential uses, approximately 15,000 new jobs, 5,000 new housing units, and over 11,000 new residents as a result of these land use changes. Virtually three-quarters of the area's new employment (10,000 jobs) is expected to come from five million square feet of campus or headquarters buildings for advanced manufacturing companies and other "new economy" ventures within the Mandela Parkway and West Grand Avenue areas. Specific prospective growth sectors include life sciences/biotechnology, clean/green technology, urban manufacturing, construction and information/digital media.[1]

The WOSP also calls for transportation infrastructure investments to support the future projected employment growth. Because the plan anticipates a significant increase in jobs, a phased transportation approach envisions starting with a shuttle service or enhanced AC transit bus service between the West Oakland BART station and new employment centers, with direct connections to retail opportunities at the Oakland/Emeryville border, downtown Oakland BART stations, and Jack London Square. City staff also wants to consider how West Oakland can leverage its assets within the regional Emeryville-Berkeley-Oakland economy to attract light industrial, R&D, and manufacturing businesses to locate in West Oakland.

[1] Based on a report by Hausrath Economics Group, *Market Assessment of Potentials for Business Mix/Light Industrial Uses, West Oakland Specific Plan,* December 2011.

Demographic Analysis

This section analyzes recent demographic data to profile the residents living in the EBOTS Area. The EBOTS Area is compared to a larger market area defined as the combined cities of Berkeley, Emeryville, and Oakland (Three Cities). To illustrate local trends, data is presented for three smaller subregions, which include West Berkeley, Emeryville, and West Oakland.

Population and Household Growth

In 2010, the EBOTS Area contained 35,191 residents living in 15,325 households. Between 2000 and 2010, population in the EBOTS Area grew more rapidly than the Three Cities, increasing by 18.1 percent or 5,405 residents, outpacing the combined cities' growth rate of 0.8 percent.

Among the subareas, Emeryville experienced the fastest rate of population growth, fueled by rapid housing construction in the last decade. Emeryville's population rose by 46.5 percent to 10,080 residents, and West Oakland's population increased by 11.7 percent to 17,876. West Berkeley's population, which was similar to Emeryville's in 2000, increased at a slower rate of 4.8 percent to 7,235 residents. Still, population growth in each subarea exceeded the Three Cities' growth rate.

Table 1: Population and Household Trends, 2000-2010

Population	2000	2010	% Change 2000-2010
West Berkeley	6,902	7,235	4.8%
Emeryville	6,882	10,080	46.5%
West Oakland	16,002	17,876	11.7%
EBOTS Area	29,786	35,191	18.1%
Three Cities (a)	509,109	513,384	0.8%
Households			
West Berkeley	2,797	2,858	2.2%
Emeryville	3,975	5,694	43.2%
West Oakland	5,551	6,773	22.0%
EBOTS Area	12,323	15,325	24.4%
Three Cities (a)	199,720	205,514	2.9%
Average Household Size			
West Berkeley	2.43	2.40	-1.2%
Emeryville	1.71	1.76	2.5%
West Oakland	2.79	2.54	-8.8%
EBOTS Area	2.36	2.22	-5.8%
Three Cities (a)	2.48	2.40	-3.5%

Note:
(a) The Three Cities include Berkeley, Emeryville, and Oakland.
Sources: US Census, 2000, 2010; BAE, 2013.

Between 2000 and 2010, the number of households in the EBOTS Area expanded by 24.4 percent, faster than the rate of the Three Cities (2.9 percent). Of the total households added, Emeryville accommodated most of the household growth (57 percent), followed by West Oakland (41 percent), and West Berkeley (2 percent).

The faster rate of household formation compared to population was driven by rising population coupled with declining household sizes, which fell from 2.36 to 2.22 between 2000 and 2010. All geographies experienced a decline in the average household size except for Emeryville, where the average household size increased slightly to 1.76 persons per household. This was still smaller than the average household size in West Berkeley (2.40) and West Oakland (2.54).

Household Composition and Tenure

The EBOTS Area has a high proportion of non-family households compared to the Three Cities. Non-family households accounted for 55 percent of all households in 2010, compared to 49 percent in the Three Cities.

Within the component geographies, family households make up the majority of households in West Berkeley and West Oakland, while in Emeryville, non-family households were the norm. Family households accounted for 61 percent in West Berkeley, and 63 percent of West Oakland households. The reverse was true in Emeryville, where the share of non-family households was 68 percent. In particular, single-person households dominated the majority of households in Emeryville with over 50 percent.

Table 2: Household Composition, 2010

Household Type	West Berkeley	Emeryville	West Oakland	EBOTS Area	Three Cities (a)
Non-Family Households	**48.9%**	**67.8%**	**47.0%**	**55.1%**	**49.2%**
Single Person	32.8%	50.4%	33.6%	39.7%	35.0%
2+ Persons	16.1%	17.4%	13.4%	15.4%	14.3%
Family Households	**51.1%**	**32.2%**	**53.0%**	**44.9%**	**50.8%**
Married Couple	29.6%	21.8%	20.8%	22.8%	31.9%
Other Family	21.5%	10.4%	32.2%	22.1%	18.8%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Households with Children Under 18	**29.1%**	**12.2%**	**32.8%**	**24.5%**	**26.2%**

Note:
(a) The Three Cities include Berkeley, Emeryville, and Oakland.
Sources: US Census, 2010; BAE, 2013.

Not only do West Berkeley and West Oakland have a higher share of family households, there are also more households with children. Over 29 percent of West Berkeley households and 33 percent of West Oakland households have children, compared to only 12 percent in Emeryville.

Educational Attainment

While the overall educational attainment of the EBOTS Area is comparable to the Three Cities, Emeryville and West Berkeley's educational attainment levels are significantly higher than West Oakland's. In Emeryville, nearly 75 percent of residents over the age of 25 held an AA degree or higher, and this figure was nearly 55 percent in West Berkeley. Higher levels of educational

attainment are an important factor in retaining existing businesses and attracting employers to an area. West Oakland diverges from trends in Emeryville and West Berkeley. Over 22 percent of West Oakland residents did not graduate from high school, and a relatively lower proportion of 29 percent earned an AA degree or higher. This translates into higher rates of population living in poverty and more residents with occupations associated with lower wages.

Table 3: Educational Attainment

Educational Attainment (a)	West Berkeley	Emeryville	West Oakland	EBOTS Area	Three Cities (b)
Less than 9th Grade	8.3%	0.2%	9.7%	6.2%	9.6%
9th to 12th Grade, No Diploma	6.5%	3.6%	13.1%	8.6%	7.5%
High School Graduate (incl. Equivalency)	14.2%	8.4%	20.5%	15.2%	15.9%
Some College, No Degree	16.5%	13.1%	28.0%	20.7%	17.4%
Associate Degree	5.4%	2.7%	9.2%	6.2%	5.2%
Bachelor's Degree	26.8%	35.3%	16.1%	24.7%	23.5%
Graduate/Professional Degree	22.3%	36.7%	3.4%	18.4%	20.8%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Population 25+ with Bachelor's Degree or Higher	**49.1%**	**72.0%**	**19.5%**	**43.1%**	**44.4%**

Note:
(a) The American Community Survey (ACS) publishes demographic estimates based on statistical sampling conducted continuously between 2007 and 2011.
(b) The Three Cities include Berkeley, Emeryville, and Oakland.
Sources: ACS, 2007-2011; BAE, 2013.

Household Income

Household incomes are correlated with educational attainment levels. Emeryville's median household income was the highest at $68,173, while the median income in West Berkeley ($46,061) and West Oakland ($30,354) were lower compared to the Three Cities ($53,531). Looking at income distributions, a high proportion (43 percent) of West Oakland households and earned below $25,000 per year. A similar pattern was observed in West Berkeley, where nearly 32 percent of households earned below $25,000 per year.

Table 4: Household Income

Income Category (a)	West Berkeley	Emeryville	West Oakland	EBOTS Area	Three Cities (b)
Less than $15,000	13.6%	6.1%	16.5%	12.2%	8.3%
$15,000-$24,999	18.1%	16.9%	26.5%	21.5%	18.4%
$25,000-$34,999	6.2%	5.0%	12.4%	8.6%	9.2%
$35,000-$49,999	15.0%	9.5%	12.8%	12.0%	11.6%
$50,000-$74,999	11.4%	17.4%	13.1%	14.4%	15.5%
$75,000-$99,999	14.3%	13.4%	8.2%	11.2%	10.8%
$100,000-$149,999	12.8%	16.0%	7.9%	11.7%	12.5%
$150,000-$199,999	6.7%	5.3%	1.9%	4.0%	5.9%
$200,000 or more	2.0%	10.4%	0.6%	4.5%	7.8%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Median HH Income (c)	**$46,061**	**$68,173**	**$30,354**	**$44,407**	**$53,581**

Notes:
(a) The American Community Survey (ACS) publishes demographic estimates based on statistical sampling conducted continously between 2007 and 2011.
(b) The Three Cities include Berkeley, Emeryville, and Oakland.
(c) All incomes adjusted to 2011 dollars.
Sources: ACS, 2007-2011; BAE, 2013.

Resident Employment by Occupation and Industry

The occupational profiles of residents in West Berkeley and Emeryville are similar, while West Oakland residents exhibited greater diversity in occupations. Management, professional and related jobs accounted for the majority of residents' occupations in West Berkeley (51 percent) and Emeryville (70 percent), followed by sales and office jobs. In total, these two occupational types comprised 70 to 90 percent of all occupations for residents living in West Berkeley and Emeryville, respectively. In contrast, West Oakland residents held a greater diversity of jobs, exhibiting an equal split among management (28 percent), service (28 percent), and sales jobs (27 percent).

Table 5: Occupation and Industry, Civilian Employed Population Age 16+

Occupation (a)	**West Berkeley**	**Emeryville**	**West Oakland**	**EBOTS Area**	**Three Cities** (b)
Management, Professional & Related	51.1%	69.7%	27.8%	48.2%	47.5%
Service	13.4%	6.1%	28.0%	16.9%	17.1%
Sales & Office	22.0%	19.0%	26.5%	22.8%	20.4%
Construction, Natural Resources & Maintenance	9.0%	3.0%	7.1%	5.9%	7.0%
Production, Transport. & Material Moving	4.6%	2.2%	10.6%	6.3%	8.1%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Industry (b)					
Agriculture, Forestry, Fishing/Hunting & Mining	0.6%	0.0%	0.6%	0.4%	0.3%
Construction	6.9%	2.2%	5.4%	4.5%	5.9%
Manufacturing	5.6%	7.4%	4.9%	6.0%	6.1%
Wholesale Trade	3.8%	2.7%	2.4%	2.8%	2.2%
Retail Trade	7.1%	11.3%	9.1%	9.5%	8.9%
Transportation, Warehousing & Utilities	3.9%	2.9%	9.3%	5.8%	4.5%
Information	3.5%	3.7%	3.5%	3.6%	3.6%
Finance, Insurance, Real Estate & Rental/Leasing	4.5%	8.3%	4.8%	6.1%	5.7%
Professional, Scientific, Management & Administrative	18.6%	19.5%	11.3%	15.8%	16.1%
Educational, Health & Social Services	29.1%	26.6%	20.8%	24.7%	27.4%
Leisure and Hospitality	9.2%	9.6%	12.1%	10.6%	9.7%
Other Services (Except Public Administration)	6.1%	3.1%	10.9%	7.0%	5.6%
Public Administration	1.3%	2.7%	4.8%	3.3%	4.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Note:
(a) The American Communities Survey (ACS) publishes demographic estimates based on statistical sampling conducted continuously between 2007 and 2011.
(b) The Three Cities include Berkeley, Emeryville, and Oakland.
Sources: ACS, 2007-2011; BAE, 2013.

Looking at employment by industry sector, residents in the three geographies worked in similar industries, primarily Education and Health, Professional, Scientific, Management & Administration, Leisure and Hospitality, and Retail Trade. Unfortunately, ACS data does not distinguish between jobs in Professional & Scientific fields from Management & Administration, which tend to have different wage and educational attainment characteristics. In West Berkeley, residents were mostly employed in Education and Health, Professional, Scientific, Management and Administration, and Leisure and Hospitality. Emeryville residents mostly worked in Education and Health, Professional, Scientific, Management and Administration, and Retail Trade. West Oakland residents were mainly employed in Education and Health, Leisure and Hospitality, and Professional, Scientific, Management, and Administration.

Employment Analysis

This section presents information on jobs within the EBOTS Area, and shows the types of jobs available, their physical location, and industries that are expanding or shrinking. The section starts with a summary of regional economic opportunities and trends taken from a regional assessment conducted by the Bay Area Council. After presenting data on jobs available within the EBOTS Area, the analysis focuses on the subareas and shows the major sectors and types of jobs available by wages and educational attainment. This section concludes with data on employment flows to highlight the relationship between jobs and transportation.

Regional Employment Trends

In October 2012, the Bay Area Council issued a report "The Bay Area, a Regional Economic Assessment" that presented trends and opportunities in the regional economy. Some of the major findings from the report include:

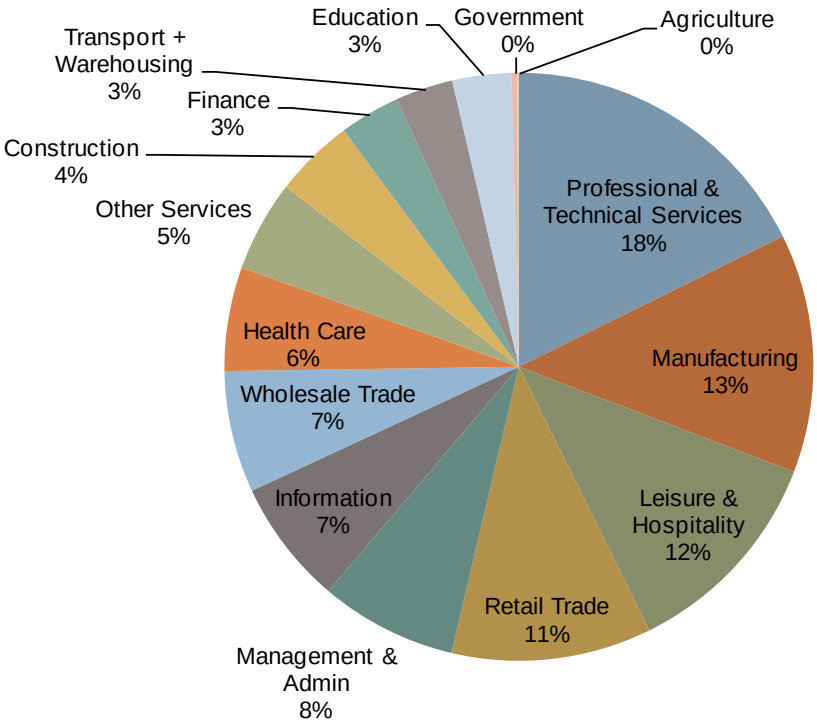
- The Bay Area economy is one of the most prosperous and productive regions in the country, with higher median household incomes compared to the state and country.
- Industry is heavily concentrated in sectors that require a highly-skilled labor force. The region's most concentrated sectors are Professional, Scientific, and Technical Services (PSTS) and Information, followed by Other Services.[2] PSTS and Information are strong sectors because the Bay Area benefits from access to a highly-educated workforce. Other Services, which includes in-home workers, is also robust, reflecting the region's prosperity.
- Within the East Bay, Other Services and PSTS have the highest employment concentrations.
- Transportation, warehousing and wholesale trade do not exhibit high concentrations within the Bay Area, even within subregions with goods movement hubs like the East Bay. These industries have been in decline in the last decade, possibly due to relocation to lower cost areas outside of the region.
- The green economy is an emerging sector with potential to add jobs to the regional economy. According to a July 2011 study by the Brookings Institution, "Sizing the Clean Economy: A National and Regional Green Jobs Assessment," the Bay Area is home to two metropolitan areas in the top ten for clean tech employment, with the San Francisco-Oakland-Fremont metro ranking number one with 13,917 clean jobs in 2010[3]. The Bay Area has also been attracting a rising share of venture capital investment in this sector.
- The region is home to pockets of concentrated low- and moderate-income (LMI) workers. The four industry sectors that provide the most jobs to LMI workers include retail trade, health care, accommodation and food services, and manufacturing.

[2] Job concentration is measured by location quotient, which compares the share of employment in Bay Area industries to the share of employment by industry in the United States as a whole.
[3] Clean or green jobs for this discussion are jobs in clean industries, such as Energy and Resource Efficiency; Greenhouse Gas Reduction and Environmental Management; Renewable Energy; Natural and Resource Conservation, etc.

Employment in the EBOTS Area

In 2011, the four largest industry sectors in the EBOTS Area were Professional and Technical Services (17.7 percent), Manufacturing (13.1 percent), Leisure & Hospitality (11.9 percent), and Retail Trade (11.0 percent). Together, these industries accounted for 53.7 percent of jobs in the EBOTS Area.

Figure 2: Employment by Industry Sector, EBOTS Area, 2011



Source: LEHD OnTheMap, 2011; BAE, 2013.

Between 2007 and 2011, the total number of jobs declined in the EBOTS Area from approximately 46,000 in 2007 to 41,000 jobs in 2011. The sectors that experienced the largest percentage declines were Financial Activities (-38 percent), Construction (-22 percent), Manufacturing (-20 percent), and Professional and Technical Services (-18 percent). Education and Health Care and Leisure and Hospitality were some of the few sectors that experienced moderate employment growth. Most of these losses were attributable to overall job decline due to the Great Recession. Looking forward, it is anticipated that these sectors will experience employment gains in the near future.

Table 6: Annual Employment by Industry, EBOTS Area, 2007-2011

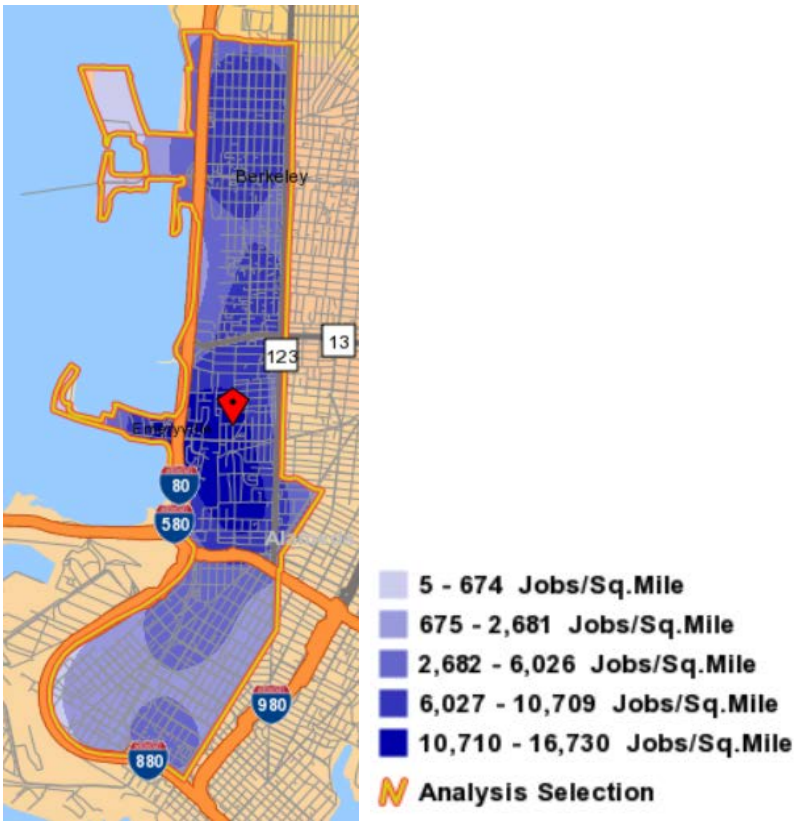
	EBOTS AREA					
	2007		2011		Change	
Industry (a)	#	%	#	%	#	%
Agriculture and Mining	16	0.0%	36	0.1%	20	125.0%
Construction	2,281	5.0%	1,789	4.4%	-492	-21.6%
Manufacturing	6,730	14.6%	5,372	13.1%	-1,358	-20.2%
Wholesale Trade	2,658	5.8%	2,737	6.7%	79	3.0%
Retail Trade	5,331	11.6%	4,492	11.0%	-839	-15.7%
Transport, Warehouse & Utilities	1,380	3.0%	1,300	3.2%	-80	-5.8%
Information	3,061	6.7%	2,818	6.9%	-243	-7.9%
Financial Activities	2,181	4.7%	1,357	3.3%	-824	-37.8%
Professional & Technical Services	8,788	19.1%	7,234	17.7%	-1,554	-17.7%
Management & Administration	3,642	7.9%	3,072	7.5%	-570	-15.7%
Education	1,192	2.6%	1,323	3.2%	131	11.0%
Health Care	2,077	4.5%	2,337	5.7%	260	12.5%
Leisure & Hospitality	4,579	10.0%	4,864	11.9%	285	6.2%
Other Services	1,965	4.3%	2,052	5.0%	87	4.4%
Government	60	0.1%	130	0.3%	70	116.7%
Total	**45,941**	**100.0%**	**40,913**	**100.0%**	**-5,028**	**-10.9%**

Sources: LEHD OnTheMap, 2007, 2011; BAE, 2013.

Employment in Subareas within the EBOTS Area

The figure below shows the distribution of jobs within the EBOTS Area and demonstrates high job density in parts of Emeryville, relatively high job density in West Berkeley, and lower intensities in the northern parts of West Oakland. In 2011, Emeryville contained the most jobs at 18,200, followed by West Berkeley at 16,500 and West Oakland with 6,200 jobs.

Figure 3: Location of Jobs, EBOTS Area, 2011



Sources: LEHD, OnTheMap, 2011; BAE, 2013.

The composition of jobs by industry sector varies considerably in each subarea. In West Berkeley, the largest industries were Manufacturing (19 percent of total jobs), Leisure & Hospitality (16 percent), and Professional, Scientific, and Technical Services (14 percent). Emeryville's supported the most jobs in Professional, Scientific, and Technical Services (26 percent), Information (12 percent), and Retail (10 percent). In West Oakland, the largest sectors were Wholesale Trade (16 percent), Transportation Warehousing (16 percent), and Other Services (13 percent).

The employment data suggests that the EBOTS Area consists of distinct submarkets. For example, West Oakland supports a high percentage of jobs in Wholesale Trade and Transportation and Warehousing, reflecting its proximity to the Port of Oakland. In addition, Professional, Scientific, and Technical Services jobs have a major presence in West Berkeley and Emeryville, which highlights the agglomerations that have formed in these areas, including due to the presence of UC Berkeley and

emergence of high tech and biotech firms. Manufacturing plays a major role in West Berkeley (19 percent) and West Oakland (12 percent). Looking at the EBOTS Area as an economic region, there may be opportunities for West Oakland to capture a larger share of the region's manufacturing sector, especially among companies that have outgrown their space and are looking to expand.

Table 7: Annual Employment by Industry, EBOTS Area, 2011

Industry (a)	West Berkeley #	West Berkeley %	Emeryville #	Emeryville %	West Oakland #	West Oakland %
Agriculture and Mining	3	0.0%	20	0.1%	13	0.2%
Construction	782	4.7%	426	2.3%	576	9.3%
Manufacturing	3,168	**19.2%**	1,468	8.1%	734	11.9%
Wholesale Trade	1,043	6.3%	643	3.5%	995	**16.1%**
Retail Trade	1,827	11.1%	1,786	9.8%	742	12.0%
Transport, Warehouse & Utilities	103	0.6%	244	1.3%	978	**15.8%**
Information	570	3.5%	2,176	**12.0%**	8	0.1%
Financial Activities	387	2.3%	895	4.9%	82	1.3%
Professional & Technical Services	2,358	**14.3%**	4,765	**26.2%**	207	3.4%
Management & Administration	973	5.9%	1,783	9.8%	322	5.2%
Education	499	3.0%	676	3.7%	144	2.3%
Health Care	1,448	8.8%	492	2.7%	419	6.8%
Leisure & Hospitality	2,659	**16.1%**	2,224	**12.2%**	184	3.0%
Other Services	665	4.0%	463	2.5%	772	**12.5%**
Government	28	0.2%	104	0.6%	3	0.0%
Total	**16,513**	**100.0%**	**18,165**	**100.0%**	**6,179**	**100.0%**

Sources: LEHD OnTheMap, 2007, 2011; BAE, 2013.

Jobs per Employed Resident

The table below shows the number of jobs available compared to the number of working residents. This ratio is an indicator of whether there are sufficient local jobs within an area to accommodate all the residents who live in an area and want to work. If the ratio is 1.0 or greater, this means the area is "jobs rich", and there is theoretically a job for each working resident, creating a sufficient job base to employ residents locally. Although the ratio does not account for an exact match between the skill set of the resident workforce and the jobs in a particular place, it helps to illustrate whether an area has a sufficient level of jobs.

West Berkeley and Emeryville are "jobs rich", with a high level of jobs per working resident compared to West Oakland, which is relatively "jobs poor". In West Berkeley, there are approximately 4.9 jobs per working resident, and 2.9 jobs per working resident in Emeryville, which leads to a high level of in-commuting into these job centers. In West Oakland, there are 0.9 jobs per working resident, fewer jobs than employed residents.

Table 8: Jobs per Employed Resident

	West Berkeley	Emeryville	West Oakland	EBOTS Area	Three Cities (c)
Jobs (a)	16,513	18,165	6,179	40,913	267,218
Employed Residents (b)	3,353	6,272	7,063	16,688	241,771
Ratio of Jobs to Employed Residents	**4.92**	**2.90**	**0.87**	**2.5**	**1.1**

Notes:
(a) Total jobs was derived from LEHD OnTheMap for 2011.
(b) Total employed residents data is taken from the American Community Survey (ACS) 5-year estimates from 2007-2011 and includes the civilian employed population over the age of 16.
(c) The Three Cities include Berkeley, Emeryville, and Oakland.
Sources: LEHD OnTheMap, 2011; ACS 2007-2011; BAE, 2013.

Unemployment Rate

While the jobs per working resident ratio shows whether there is a sufficient balance of jobs compared to working residents, it excludes those in the labor force who want to work but are unemployed. According to the California Employment Development Department (EDD), the unemployment rate in July 2013 varied across the cities and was lowest in the City of Emeryville (5.6 percent), followed by Berkeley (7.4 percent), and Oakland (11.9 percent).

Because EDD doesn't provide unemployment data below the place level, ACS 5-year estimates were used to determine the unemployment rate within the EBOTS Area. The table below shows that the EBOTS Area had an unemployment rate of 11.3 percent. West Oakland's unemployment rate was highest at 17.4 percent, followed by West Berkeley at 10.2 percent, and Emeryville at 4.0 percent. In absolute terms, this translated into 1,486 residents in West Oakland who were unemployed, compared to 380 in West Berkeley, and 262 in Emeryville.

Table 9: Resident Employment

	Resident Workers (a)			Unemployment
Geography	In Labor Force	Employed	Unemployed	Rate
West Berkeley	3,733	3,353	380	10.2%
Emeryville	6,534	6,272	262	4.0%
West Oakland	8,549	7,063	1,486	17.4%
EBOTS Area	18,816	16,688	2,128	11.3%
City of Berkeley	57,319	53,222	4,097	7.1%
City of Emeryville	6,534	6,272	262	4.0%
City of Oakland	204,670	182,277	22,393	10.9%

Notes:
(a) The American Community Survey (ACS) publishes demographic estimates based on statistical sampling conducted continously between 2007 and 2011.
Sources: ACS, 2007-2011; BAE, 2013.

Factoring in unemployment figures, West Oakland has fewer employment opportunities than residents in the labor force, while West Berkeley and Emeryville are still jobs rich, even after accounting for unemployment. In West Oakland, there were only 0.72 jobs per residents in the labor force compared to 4.42 in West Berkeley and 2.78 in Emeryville. This implies that strategies to boost the overall employment are important for West Oakland.

Table 10: Jobs per Resident in the Labor Force

	West Berkeley	Emeryville	West Oakland	EBOTS Area	Three Cities (c)
Jobs (a)	16,513	18,165	6,179	40,913	267,218
Labor Force (b)	3,733	6,534	8,549	18,816	268,523
Ratio of Jobs to Employed Residents	**4.42**	**2.78**	**0.72**	**2.2**	**1.0**

Note:
(a) Total jobs was derived from LEHD OnTheMap for 2011.
(b) Consists of total employed and unemployed residents. Data is taken from the American Community Survey (ACS) 5-year estimates from 2007-2011 and includes the civilian employed population over the age of 16.
(c) The Three Cities include Berkeley, Emeryville, and Oakland.
Sources: LEHD OnTheMap, 2011; ACS 2007-2011; BAE, 2013.

West Oakland: Opportunities in Workforce Training and Diversifying Job Sectors

Comparing the industries in which residents are employed to jobs suggests a mismatch between the jobs available and the skills of workers, particularly in West Oakland. The table below shows that in West Oakland, the largest sectors are Wholesale Trade, Transportation and Warehousing, and Other Services. In contrast, working residents are mostly employed in Education and Health Care, Leisure and Hospitality, and Professional, Management, and Administration.

West Oakland residents aren't working in the sectors that are concentrated in the area, which may be attributable to a skills mismatch or a lack of job diversity or other factors. In combination with a high unemployment rate of 17.4 percent, there may be opportunities to expand the types of industries available, or to provide workforce training to align workers' skills better with the jobs in the area. One example of a successful workforce training partnership is the Biotech Partners program, run by Bayer, a biotechnology firm located in West Berkeley. Students from populations underrepresented in the sciences are introduced to a biotechnology curriculum, including job training and internships that lead to careers in biotechnology and opportunities to higher education. Each year, 110 to 125 students are taken from Berkeley High and Oakland Technical High School, and the program has funded 343 paid internships between 1992 and 2011. Of the 142 students who graduated from the program, 92 were hired into biotech jobs, including 48 by Bayer.

Table 11: Working Residents' Jobs by Industry Compared to Jobs Available, 2011

Industry (a)	West Berkeley		Emeryville		West Oakland	
	Jobs (a)	Residents (b)	Jobs (a)	Residents (b)	Jobs (a)	Residents (b)
Agriculture and Mining	0.0%	0.6%	0.1%	0.0%	0.2%	0.6%
Construction	4.7%	6.9%	2.3%	2.2%	9.3%	5.4%
Manufacturing	**19.2%**	5.6%	8.1%	7.4%	11.9%	4.9%
Wholesale Trade	6.3%	3.8%	3.5%	2.7%	**16.1%**	2.4%
Retail Trade	11.1%	7.1%	9.8%	**11.3%**	12.0%	9.1%
Transport, Warehouse & Utilities	0.6%	3.9%	1.3%	2.9%	**15.8%**	9.3%
Information	3.5%	3.5%	**12.0%**	3.7%	0.1%	3.5%
Financial Activities	2.3%	4.5%	4.9%	8.3%	1.3%	4.8%
Professional, Management, Admin	**20.2%**	**18.6%**	**36.0%**	**19.5%**	8.6%	**11.3%**
Education and Health Care	11.8%	**29.1%**	6.4%	**26.6%**	9.1%	**20.8%**
Leisure & Hospitality	**16.1%**	**9.2%**	**12.2%**	9.6%	3.0%	**12.1%**
Other Services	4.0%	6.1%	2.5%	3.1%	**12.5%**	10.9%
Government	0.2%	1.3%	0.6%	2.7%	0.0%	4.8%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Total Jobs	16,513		18,165		6,179	
Total Working Residents	3,353		6,272		7,063	
Ratio of Jobs to Working Residents	**4.92**		**2.90**		**0.87**	

Notes:
(a) Total jobs data from LEHD OnTheMap for 2011.
(b) Total employed residents data is taken from the American Community Survey (ACS) 5-year estimates from 2007-2011 and includes the civilian employed population over the age of 16.
Sources: LEHD OnTheMap, 2011; ACS, 2007-2011; BAE, 2013.

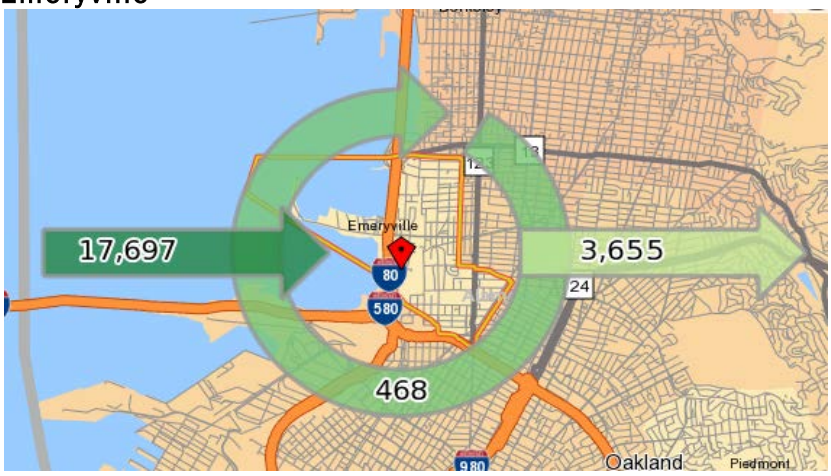
West Berkeley and Emeryville: Jobs and Mobility

West Berkeley and Emeryville both have high concentrations of jobs compared to the residential labor force, which leads to a significant level of in-commuting. The figure below shows commute flows for each of the subareas, and large commuter inflows into West Berkeley and Emeryville, and somewhat similar levels of inflows and outflows in West Oakland.

Figure 4: Commute Flows, 2011

West Berkeley

Emeryville



Note: Overlay arrows do not indicate directionality of worker flow between home and employment locations.

- Employed and Live in Selection Area
- Employed in Selection Area, Live Outside
- Live in Selection Area, Employed Outside

Sources: LEHD, OnTheMap, 2011; BAE, 2013.

The high level of in-commuting into West Berkeley and Emeryville reflects their jobs-rich character, and highlights the importance of mobility especially for workers. On average in 2011, 16,130 workers commuted into West Berkeley daily, while a much smaller number, about 2,200 residents, commuted out for work. Emeryville exhibited a similar pattern, with almost 17,700 workers commuting into the City and about 3,700 residents commuting out daily. In contrast, West Oakland had a more balanced level of inflows and outflows, with over 5,800 commuters coming into the area and 6,620 commuting out for work.

The Emeryville Transportation Management Association's Emery Go-Round is a shuttle system that links major employment centers, retail destinations, and residential areas to the MacArthur BART station. The Emery Go-Round is a free shuttle with 15 minute headways on weekdays and 20 minute headways on weekends. According to its 2012 Annual Report, annual ridership increased by 15 percent between 2011 and 2012 to over 1.5 million passenger trips. Since the shuttle began operations in 1995, the system has increased ridership by serving a wide range of users and being` known for its dependability. Based on a survey conducted in 2011, 57 percent of riders took the Emery Go-Round to work, while 12 percent used the shuttle for shopping, 4 percent for hotel/events, and the rest for other purposes. In addition, 51 percent of surveyed riders said they rode the shuttle daily, while another 38 percent claimed they took the shuttle at least one to four times per week. Reliability was also a key asset; 94 percent of riders rated the system as either reliable or very reliable.

Given the shuttle's success, one of the long-term challenges for the system is that as the economy grows, demand for the service is expected to climb, and the City must find ways to meet this rising demand with limited resources. The shuttle is funded by a property-based business improvement district (PBID), where all commercial, industrial, and residential property owners in the City are assessed a fee to pay for the service. The current PBID comes up for renewal in 2016, and securing a long-term funding source for the Emery Go-Round is vital in order to sustain long-term mobility for all users of the system. The Emery Go-Round is also seeking additional sources of funding beyond the PBID in order to sustain future service.

The West Berkeley Shuttle runs from Ashby BART to major employers in West Berkeley, but unlike the Emery Go-Round, has low ridership and competes with other public transit routes. The shuttle is intended to provide a last-mile connection to major employers and serves destinations including Bayer and Wareham Development. Headways are 30 minutes during peak commute hours on weekdays only. Unlike the Emery Go-Round's more extensive routes, the West Berkeley shuttle only goes as far north as Dwight and 7th Street, and does not connect to the Fourth Street shopping district or retail on Gilman Street. Funding is provided by assessments collected by the Berkeley Gateway Transportation Management Association (BGTMA), mostly from major biotech employers. According to the West Berkeley Circulation Master Plan Report published in 2009, among the transit services available in West Berkeley, which include AC Transit, the West Berkeley Shuttle, and the Capitol Corridor commuter rail, average daily ridership on the West Berkeley Shuttle was only 100 riders, compared to 140 riders for the Capitol Corridor, and over 3,700 riders for AC Transit.

One of the challenges facing the West Berkeley shuttle is to consider whether to expand the service beyond the current operations serving major employers, to a system that provides access to a more diverse base, including retail and residential uses in West Berkeley. This would require an expansion of its assessment district and the route, perhaps with connections to other BART stations, which may impact existing AC Transit bus operations. The daily commute inflows in West Berkeley suggest that there are a sufficient number of commuter inflows to justify a more robust system, assuming funding can be secured for operations.

Real Estate Market Analysis

The real estate analysis provides an overview of conditions for different product types to illustrate the strength of various markets. Data is presented on inventory, lease rates, and occupancy levels for geographies that most closely resemble the EBOTS Area. This analysis includes a summary of trends in manufacturing, research and development (R&D), warehousing, office, retail, and housing.

Manufacturing

The East Bay manufacturing real estate market, which stretches along I-80 and I-880 from Richmond to Fremont, contains over 88 million square feet of inventory. According to Cassidy Turley, Berkeley and Emeryville accounted for a small fraction of the East Bay's regional manufacturing space, while Oakland contained a larger inventory. In the Third Quarter of 2013 (Q3 2013), Berkeley's 4.6 million square feet of manufacturing space translated into a 5 percent market share, which was higher than Emeryville, which had 1.2 million square feet or 1 percent of the entire market. In contrast, Oakland's share of the manufacturing space market was 29 percent, or 25.2 million square feet.

The East Bay manufacturing sector has posted strong growth in 2013, buoyed by growth in advanced manufacturing. Vacancy rates have fallen to their lowest levels since 2007, and according to Cassidy Turley, 2013's year to date 2.1 million square feet of positive net absorption represents more positive absorption than in any year since 1997. According to the SF Business Times, the resurgence in manufacturing is driven by advanced manufacturing, one of the fastest growing sectors in the East Bay, that includes high technology, medical, pharmaceutical, and other specialized manufacturing.[4] Companies like Penumbra Inc., a medical device maker, cite benefits from local engineering talent and proximity to other large medical device manufacturers, including Abbott Diabetes Care and NanoVasc, Inc., who are located in Alameda. Advanced technology and medical manufacturers have realized the benefits of locating in the East Bay, with relatively low rents compared to the Peninsula, access to a skilled labor force, and proximity to advanced transportation networks at the Port of Oakland and Oakland Airport.

[4] San Francisco Business Times, *Manufacturers See Advantages in East Bay Sites*, March 30, 2012, Accessed November 4, 2013, http://www.bizjournals.com/sanfrancisco/print-edition/2012/03/30/manufacturers-see-advantages-in-east.html?page=all