



KEYSER MARSTON ASSOCIATES

Residential Nexus Study

*Prepared for:
City of Emeryville*

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INTRODUCTION AND OVERVIEW

Keyser Marston Associates (KMA) has prepared this Residential Nexus Analysis for the City of Emeryville. The report has been prepared to support a housing impact type fee to be levied on new rental housing development in Emeryville. Fee revenues will be used to assist in the development of affordable housing units in Emeryville. The nexus analysis addresses market rate rental projects and quantifies the linkages between new market rate units and the demand generated by the residents of the new units for additional affordable housing in Emeryville.

Background and Context

The City of Emeryville adopted an Affordable Housing Set Aside (AHSA) Ordinance in 1990, the key terms were embodied in Article 62, Chapter 4 of Title 9 in the Emeryville Municipal Code. The ordinance requires that all new residential units – for rent, for sale and live work – in projects of thirty or more units set aside a portion of the units for low and moderate income households. The percentage of affordable units for for-sale projects is 20% at moderate income level and for rental units is 15% at a mix of very low and moderate income rent levels. Through implementation of the AHSA, substantial numbers of affordable units have been produced in Emeryville since the 1990 adoption.

In 2009, the California Supreme Court ruled in the *Palmer* case (*Palmer/Sixth Street Properties v. the City of Los Angeles*) that any local restrictions on rents must comply with State rent control statutes, most particularly the Costa Hawkins Act which provides that the landlord may set initial and long term rent rates, except in the case of negotiated agreement with the city in which the city provides some form of direct contribution either in the form of financial benefit or regulatory relief.

In summary, the *Palmer* decision precludes jurisdictions from requiring that rental units be set aside at Below Market rent, as with the AHSA, absent some form of financial or regulatory assistance being provided by the local jurisdiction. Since this ruling, many cities and counties have adopted Housing Impact Fees, consistent with the provisions of California Code 66000 et. eq. as a means of requiring rental units to contribute to local affordable housing programs. To meet the provisions of the California Code governing impact fees, a nexus analysis is advisable to demonstrate and quantify the impacts generated by the new rental units. This nexus analysis provides the City of Emeryville the necessary documentation in support of such an impact fee.

In most of the period since the *Palmer* ruling, the apartment development market has been inactive in Emeryville as it has been in most of California, due primarily to the Great Recession. With the apartment market strengthening, City wishes to pursue an impact fee to require rental projects to contribute to affordable housing programs, while for sale projects will continue to be subject to the 1990 AHSA Ordinance.

Historically, a large share of development projects in Emeryville have been developed under California Redevelopment Law with terms negotiated between the City/Agency and developer that address extraordinary costs, such as those associated with site remediation and necessary infrastructure as well as affordable units. Per *Palmer*, the City will be able to continue to negotiate terms for projects pursuant to the provisions of the ruling.

The City of Emeryville is also reexamining and restructuring its affordable housing programs in response to the end of Redevelopment in California. The end of Redevelopment is substantially reducing the financial resources available to jurisdictions for affordable housing in California; in Emeryville the reduction in resources for housing is particularly severe.

The Nexus Concept

At its most simplified level, the underlying nexus concept is that the newly constructed units represent new households in Emeryville. These households represent new income in Emeryville that will consume goods and services, either through purchases of goods and services or by “consuming” governmental services. New consumption translates to new jobs; a portion of the jobs are at lower compensation levels, low compensation jobs translate to lower income households that cannot afford market rate units in Emeryville and therefore need affordable housing.

Methodology and Models Used

The methodology or analysis procedure for this nexus analysis starts with the rental rate of a new market rate rental unit, and moves through a series of linkages to the gross income of the household that rented the unit, the income available for expenditures on goods and services, the jobs associated with the purchases and delivery of those services, the income of the workers doing those jobs, the household income of the workers, and, ultimately, the affordability level of the housing needed by the worker households. The steps of the analysis from household income available for expenditures to jobs generated were performed using the IMPLAN model, a model widely used for the past 35 years to quantify the impacts of changes in a local economy, including employment impacts from changes in personal income. From job generation by industry, KMA used its own jobs housing nexus model to quantify the income of worker households by affordability level.

To illustrate the linkages by looking at a simplified example, we can take an average household that rents an apartment at a certain rent level. From that rent level, we estimate the gross income of the household and the portion of income available for expenditures. Households will “purchase” or consume a range of goods and services, such as purchases at the supermarket or services at the bank. Purchases in the local economy in turn generate employment. The jobs generated are at different compensation levels. Some of the jobs are low paying and as a result, even when there is more than one worker in the household, there are some lower and moderate income households who cannot afford market rate housing in Emeryville.

The IMPLAN model quantifies jobs generated as establishments that serve new residents directly (e.g., supermarkets, banks or schools), jobs generated by increased demand at firms which service or supply these establishments, and jobs generated when the new employees spend their wages in the local economy and generate additional jobs. The IMPLAN model estimates the total impact combined.

Net New Underlying Assumption

An underlying assumption of the analysis is that households that rent new units represent net new households in Emeryville. If renters have relocated from elsewhere in the city, vacancies have been created that will be filled. An adjustment to new construction of units would be warranted if Emeryville were experiencing significant demolitions or loss of existing housing inventory.

Since the analysis addresses net new households in Emeryville and the impacts generated by their consumption expenditures, it quantifies net new demands for affordable units to accommodate new worker households. As such, the impact results do not address nor in any way include existing deficiencies in the supply of affordable housing.

Geographic Area of Impact

The analysis quantifies impacts occurring within Alameda County. The IMPLAN model computes the jobs generated within the County and sorts out those that occur beyond the county boundaries. The KMA Jobs Housing Nexus Model analyzes the income structure of jobs and their worker households, without assumptions as to where the worker households live.

In summary, the KMA nexus analysis quantifies all the job impacts occurring within Alameda County and related workers households. Job impacts, like most types of impacts, occur irrespective of political boundaries. And like other types of impact analyses, such as traffic, impacts beyond city boundaries are experienced, are relevant, and are important. See Addendum for further discussion.

Affordability Tiers

The nexus analysis addresses the following three income or affordability tiers:

- Very Low Income (under 50% of the Area Median Income or AMI)
- Low Income (50% to 80% AMI)
- Moderate Income (80% to 120% AMI)

Report Organization

The report is organized into four sections as follows:

- Section I presents information regarding the new market rate rental units and the estimated household income of the renters of those units.
- Section II describes the IMPLAN model which is used in the nexus analysis to translate household income into the estimated number of jobs in retail, restaurants, healthcare, and other sectors serving new residents.
- Section III presents the linkage between employment growth associated with residential development and the need for new lower income housing units required in each of the three income categories.
- Section IV quantifies the nexus or mitigation cost based on the cost of delivering affordable units to new worker households in each of the three lower income categories.

Disclaimers

This report has been prepared using the best and most recent data available at the time of the analysis. Local data and sources were used wherever possible. Major sources include the U.S. Census Bureau: the American Community Survey, California Employment Development Department and the IMPLAN model. While we believe all sources utilized are sufficiently sound and accurate for the purposes of this analysis, we cannot guarantee their accuracy. Keyser Marston Associates, Inc. assumes no liability for information from these and other sources.

I. MARKET RATE UNITS AND HOUSEHOLD INCOME

This section describes the units in typical market rate apartment projects in Emeryville and the income of the renter households. These units are representative of apartment projects proposed or likely to be built in Emeryville over the next several years. Household income is estimated based on the amount necessary for the rent payments for the new market rate units and becomes the basis for the input to the IMPLAN model described in Section II of this report. This is the starting point of the chain of linkages that connect new market rate rental units to incremental demand for affordable residential units.

This section provides a summary of the typical rental units and household income.

Recent Housing Market Activity and Prototypical Units

The City of Emeryville provided KMA with information on built and proposed apartment projects in Emeryville. KMA also undertook a market survey of projects. The survey was taken in the summer of 2013 when the market was becoming more active and rents were rising.

The results of the market survey are presented in Appendix A and summarized below. The main objective of the survey was to establish current rents per unit and per square foot for the various rental project types recently developed, or expected to be developed in the future.

Emeryville does not experience significant variation in the apartment residential projects built within the city. Unit sizes and rent levels do not vary significantly as they do in larger jurisdictions where there is more variation in density of construction and more variation in market strength from one geographic subarea to another. As a result, we concluded that one apartment prototype would be sufficient.

The typical apartment in Emeryville is identified as:

<i>Unit size</i>	<i>850 sq. ft. / two bedrooms</i>
<i>Unit rent</i>	<i>\$2,465 per month, or \$2.90 sq. ft. per month</i>

Income of Renter Households

The next step in the analysis is to determine the income of the households renting the new units in Emeryville.

Household income for renter households is estimated based on the assumption that rent represents, on average, 30% of gross household income, a percentage that is consistent with the average for Alameda County reported by the Census of 28.9%¹. While slightly above the average from the Census, the 30% factor was selected for consistency with the California

¹ 2009-2011 American Community Survey.

Health and Safety Code standard for relating income to affordable rent levels². Selection of 30% produces a lower estimate of gross household income and lower resulting nexus conclusions than if the exact average from the Census at 28.9% were used; therefore, this represents a conservative approach for purposes of the nexus analysis. While leasing agents and landlords may permit rental payments to represent a slightly higher share of total income, use of the 30% factor, which is representative of the average, is appropriate. Further, many renters will choose to spend less than 30% of their income on rent where possible, since, unlike an ownership situation, the unit is not viewed as an investment with value enhancement potential. The resulting relationship is that annual household income is 3.3 times annual rent.

The estimated gross household incomes of the renter of the typical new unit in Emeryville is:

Annual Household Income of Renter Household: \$99,000

The nexus analysis is conducted on 100-unit building modules for ease of presentation, and to avoid awkward fractions.

Income Available for Expenditures

The input into the IMPLAN model used in this analysis is the net income available for expenditures. To arrive at income available for expenditures, gross income must be adjusted for Federal and State income taxes, contributions to Social Security and Medicare, savings, and payments on household debt. Per KMA correspondence with the producers of the IMPLAN model (IMPLAN Group LLC), other taxes including sales tax, gas tax, and property tax are handled internally within the model as part of the analysis of expenditures. Table I-1 at the end of this section shows the calculation of income available for expenditures.

Income available for expenditures is estimated at approximately 71% of gross income in the case of the rental units and the income of the renter households. The estimate is based on a review of data from the Internal Revenue Service and California Franchise Tax Board tax tables.

After deducting income taxes, Social Security, Medicare, savings, and repayment of other debt, the estimated income available for expenditures is 71% or \$70,300 per year. This is the factor used to adjust from gross income to the income available for expenditures for input into the IMPLAN model. As indicated above, other forms of taxation such as sales tax are handled internally within the IMPLAN model.

The nexus analysis is conducted on 100-unit building modules for ease of presentation, and to avoid awkward fractions. Table I-2 summarizes the conclusions of this section and calculates the household income for the 100-unit building modules. Income available for expenditures for the 100 units is \$7,030,000. This is the input into the IMPLAN model.

² Health and Safety Code Section 50052.5 defines affordable rent levels based on 30% of income.

TABLE I-1
INCOME AVAILABLE FOR EXPENDITURES¹
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

	APARTMENT
Gross Income	100%
(Less) Federal Income Taxes (avg. rate) ²	9.5%
(Less) Average State Income Tax Rate ³	4%
(Less) FICA Tax Rate ⁴	7.65%
(Less) Savings and other deductions ⁵	8%
Percent of Income Available for Expenditures⁶ [Input to IMPLAN model]	71%

Notes:

- ¹ Gross income after deduction of taxes and savings. Income available for expenditures is the input to the IMPLAN model which is used to estimate the resulting employment impacts.
- ² Reflects average tax rates (as opposed to marginal) based on U.S. Internal Revenue Services, Tax Statistics, Table 3.2 Returns with Total Income Tax: Total Income Tax as a Percentage of Adjusted Gross Income, by Selected Marital Status and Size of Adjusted Gross Income, Tax Year 2011 (2011 tax year is the most recent available). Average tax rate of 9.5% applies to AGI of \$75,000 to \$100,000.
- ³ Average tax rate estimated by KMA based on marginal rates per the California Franchise Tax Board and ratios of taxable income to gross income estimated based on U.S. Internal Revenue Service data. The higher average tax rates applicable to single or married filing separately tax filers is applied in the analysis so as to produce a conservative (likely understated) estimate.
- ⁴ For Social Security and Medicare.
- ⁵ Household savings including retirement accounts like 401k / IRA and other deductions such as interest costs on credit cards, auto loans, etc, necessary to determine the amount of income available for expenditures. The 8% rate used in the analysis is based on the average over the past 20 years computed from U.S. Bureau of Economic Analysis data, specifically the National Income and Product Accounts, Table 2.1 "Personal Income and It's Disposition."
- ⁶ Deductions from gross income to arrive at the income available for expenditures are consistent with the way the IMPLAN model and National Income and Product Accounts (NIPA) defines income available for personal consumption expenditures. Income taxes, contributions to Social Security and Medicare, and savings are deducted; however, property taxes and sales taxes are not.

TABLE I-2
NEW MARKET RATE RENTAL HOUSEHOLD SUMMARY
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

	<u>Per Unit</u>	<u>Per Sq.Ft.</u>	<u>100 Unit Building Module</u>
APARTMENT PROTOTYPE			
Units			100 Units
Building Sq.Ft. (net rentable area)	850		85,000
Rent			
Monthly	\$2,465	\$2.90 /SF	\$247,000
Annual	\$29,580	\$34.80 /SF	\$2,958,000
Rent to Income Ratio	3.3		3.3
Gross Household Income	\$99,000		\$9,900,000
Income Available for Expenditure ¹ 71% of gross	\$70,300		\$7,030,000

Notes:

(1) Represents net income available for expenditures after income tax, payroll taxes, and savings. See Table I-1 for derivation.

II. THE IMPLAN MODEL

Consumer spending by residents of new housing units will create jobs, particularly in sectors such as restaurants, health care, and retail, which are closely connected to the expenditures of residents. The widely used economic analysis tool, IMPLAN (IMpact Analysis for PLANning), was used to quantify these new jobs by industry sector.

IMPLAN Model Description

The IMPLAN model is an economic analysis software package now commercially available through the IMPLAN Group, LLC. IMPLAN was originally developed by the U.S. Forest Service, the Federal Emergency Management Agency, and the U.S. Department of the Interior Bureau of Land Management and has been in use since 1979 and refined over time. It has become a widely used tool for analyzing economic impacts for a broad range of applications from major construction projects to natural resource programs.

IMPLAN is based on an input-output accounting of commodity flows within an economy from producers to intermediate and final consumers. The model establishes a matrix of supply chain relationships between industries and also between households and the producers of household goods and services. Assumptions about the portion of inputs or supplies for a given industry likely to be met by local suppliers, and the portion supplied from outside the region or study area are derived internally within the model using data on the industrial structure of the region.

The output or result of the model is generated by tracking changes in purchases for final use (final demand) as they filter through the supply chain. Industries that produce goods and services for final demand or consumption must purchase inputs from other producers, which in turn, purchase goods and services. The model tracks these relationships through the economy to the point where leakages from the region stop the cycle. This allows the user to identify how a change in demand for one industry will affect a list of over 400 other industry sectors. The projected response of an economy to a change in final demand can be viewed in terms of economic output, employment, or income.

Data sets are available for each county and state, so the model can be tailored to the specific economic conditions of the region being analyzed. This analysis utilizes the data set for Alameda County. As will be discussed, much of the employment impact is in local-serving sectors, such as retail, eating and drinking establishments, and medical services. A significant portion of these jobs will be located in Emeryville or nearby. In addition, the employment impacts will extend throughout the County and beyond based on where jobs are located that serve Emeryville residents. In fact, Emeryville is part of the larger Bay Area economy and impacts will likewise extend throughout the region. However, consistent with the conservative approach taken in the nexus analysis, the analysis focuses on the impacts that occur within Alameda County.

Application of the IMPLAN Model to Estimate Job Growth

The IMPLAN model was applied to link income to household expenditures to job growth. Employment generated by the expenditures of residents is analyzed for a module of 100 apartment units to simplify communication of the results and avoid awkward fractions. The IMPLAN model distributes spending among various types of goods and services (industry sectors) based on data from the Consumer Expenditure Survey and the Bureau of Economic Analysis Benchmark input-output study, to estimate employment generated. The Consumer Expenditure Survey published by the Bureau of Labor Statistics tracks expenditure patterns by income level. IMPLAN utilizes this data to reflect the pattern by income bracket.

Job creation, driven by increased demand for products and services, was projected for each of the industries that will serve the new households. The employment generated by this new household spending is summarized below.

<i>Jobs Generated Per 100 Rental Units</i>	
	<i>Apartment</i>
Annual Household Expenditures, 100 Units	\$7,030,000
Total Jobs Generated, 100 Units	47.9

Table II-1 provides a detailed summary of employment generated by industry. The table shows industries sorted by projected employment. Estimated employment is shown for each IMPLAN industry sector representing 1% or more of total employment. The jobs that are generated within the County are heavily retail jobs, jobs in restaurants and other eating establishments, and in services that are provided locally such as health care. The jobs counted in the IMPLAN model cover all jobs, full and part time, similar to the U.S. Census and all reporting agencies (unless otherwise indicated).

**TABLE II-1
IMPLAN MODEL OUTPUT
EMPLOYMENT GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA**

Per 100 Market Rate Units

	APARTMENT	% of Jobs
Gross Income of New Residents (in 100 Market Rate Units) ¹	\$7,030,000	
Jobs Generated by Industry ²		
Retail Stores - Food and beverage	1.7	4%
Retail Stores - General merchandise	1.7	3%
Retail Stores - Motor vehicle and parts	1.0	2%
Retail Stores - Miscellaneous	1.0	2%
Retail Stores - Clothing and accessories	1.0	2%
Retail Stores - Health and personal care	0.7	1%
Retail Stores - Building and garden supply	0.5	1%
Retail Nonstores - Direct and electronic sales	<u>0.5</u>	<u>1%</u>
Subtotal Retail	8.1	17%
Offices of physicians and dentists	3.0	6%
Private hospitals	2.6	5%
Nursing and residential care facilities	1.9	4%
Medical and diagnostic labs and outpatient care	<u>0.7</u>	<u>2%</u>
Subtotal Health Care	8.2	17%
Food services and drinking places	6.7	14%
Real estate including property management	1.7	4%
Private household operations	1.6	3%
Wholesale trade businesses	1.3	3%
Individual and family services	1.2	2%
Civic, social, professional organizations	0.8	2%
Other private educational services	0.8	2%
Elementary and secondary schools	0.8	2%
Personal care services	0.8	2%
Employment services	0.7	2%
Banking and depository credit	0.7	1%
Home health care services	0.6	1%
Securities, investments, and related	0.6	1%
Automotive repair and maintenance	0.5	1%
Services to buildings and dwellings	0.5	1%
Child day care services	0.5	1%
Grantmaking and social advocacy organizations	0.4	1%
Colleges, universities, and professional schools	11.2	23%
All Other		
Total Number of Jobs Generated	47.9	100%

¹ Estimated employment generated by household expenditures within 100 prototypical market rate rental units. Employment estimates are based on the IMPLAN Group's economic model, IMPLAN, for Alameda County.

² For Industries representing more than 1% of total employment.

III. THE KMA JOBS HOUSING NEXUS MODEL

This section presents a summary of the analysis linking the employment growth associated with rental development, or the output of the IMPLAN model (see Section II), to the estimated number of lower income housing units required in each of three income categories.

Analysis Approach and Framework

The analysis approach is to examine the employment growth for industries related to consumer spending by residents in the 100-unit apartment buildings. Then, through a series of linkage steps, the number of employees is converted to households and housing units by affordability level. The findings are expressed in terms of numbers of affordable units per 100 market rate units.

The analysis addresses the affordable unit demand associated with rental units in Alameda County. The table below shows the 2013 Alameda County Area Median Income (AMI), as well as the income limits for the three categories that were evaluated: Very Low (up to 50% of AMI), Low (50 to 80% of AMI), and Moderate (80 to 120% of AMI). The income definitions used in the analysis are those published by the California Department of Housing and Community Development (HCD).

2013 Income Limits for Alameda County	Household Size (Persons)					
	1	2	3	4	5	6 +
Very Low (30% - 50% AMI)	\$32,750	\$37,400	\$42,100	\$46,750	\$50,500	\$54,250
Low (50%-80% AMI)	\$46,350	\$53,000	\$59,600	\$66,250	\$71,550	\$76,850
Moderate (80%-120% AMI)	\$78,550	\$89,750	\$101,000	\$112,200	\$121,200	\$130,150
Median (100% of Median)	\$65,450	\$74,800	\$84,150	\$93,500	\$101,000	\$108,450

The analysis is conducted using a model that KMA developed and has applied to similar evaluations in many other jurisdictions. The model inputs are all local data to the extent possible, and are fully documented in the following description.

Analysis Steps

The tables at the end of this section present a summary of the nexus analysis steps for the prototype units. Following is a description of each step of the analysis.

Step 1 – Estimate of Total New Employees

Table III-1 commences with the total number of employees associated with the new market rate rental units. The employees were estimated based on household expenditures of new residents using the IMPLAN model (see Section II).

Step 2 –Changing Industries Adjustment and Net New Jobs

The local economy, like that of the U.S. as a whole, is constantly evolving. In the Oakland – Fremont – Hayward Metropolitan Division (defined as Alameda and Contra Costa Counties), over the past twenty years, employment in manufacturing sectors of the economy has continued to decline along with employment in State and Federal government, telecommunications, and banking. Defense related employment has also declined from around 12,000 jobs twenty years ago to near zero today. Jobs lost over the last decade in these declining sectors were replaced by job growth in other industry sectors.

Step 2 makes an adjustment to take these declines, changes and shifts within all sectors of the economy into account recognizing that jobs added are not 100% net new in all cases. A 25% adjustment is utilized based on the long term shifts in employment that have occurred in some sectors of the local economy and the likelihood of continuing changes in the future. Long term declines in employment experienced in some sectors of the economy mean that some of the new jobs are being filled by workers that have been displaced from another industry and who are presumed to already have housing locally. Existing workers downsized from declining industries are assumed to be available to fill a portion of the new retail, restaurant, health care, and other jobs associated with services to residents. This is a conservative assumption given some displaced workers may exit the workforce entirely by retiring rather than seek a new job in one of the industries serving new residents.

The 25% downward adjustment used for purposes of the analysis was derived from California Employment Development Department data on employment by industry in Alameda and Contra Costa County over the twenty year period from 2012 to 1992. The 2012 data set reflects a higher unemployment rate at 9% than the 6.6% unemployment rate in 1992 which will tend to overstate any long term declines since the 2012 data also reflects some cyclical or short term declines relative to the 1992 employment data. Over this period, approximately 38,000 jobs were lost in declining industry sectors. Over the same period, growing and stable industries added a total of 158,000 jobs. Figures are adjusted to exclude losses in department of defense employment given there are almost no defense jobs left in the area and so continuing declines in this sector is not expected to be a factor in the future. The figures are used to establish a ratio between jobs lost in declining industries to jobs gained in growing and stable industries at 25%³. The 25% factor is applied as an adjustment in the analysis, effectively assuming one in every

³ The 25% ratio is calculated as 38,000 jobs lost in declining sectors excluding defense divided by 158,000 jobs gained in growing and stable sectors = 23.9% (rounded to 25%).

four new jobs is filled by a worker down-sized from a declining industry and who already lives locally.

Step 3 – Adjustment from Employees to Employee Households

This step (Table III-1) converts the number of employees to the number of employee households, recognizing that there is, on average, more than one worker per household, and thus the number of housing units in demand for new workers is reduced. The workers-per-worker-household ratio eliminates from the equation all non-working households, such as retired persons, students, and those on public assistance. The County average of 1.61 workers per worker household (from the U. S. Census Bureau 2010-2012 American Community Survey) is used for this step in the analysis. The number of jobs is divided by 1.61 to determine the number of worker households. This ratio is distinguished from the overall number of workers per household in that the denominator includes only households with at least one worker. If the average number of workers in all households were used, it would have produced a greater demand for housing units. The 1.61 ratio covers all workers, full and part time.

Step 4 – Occupational Distribution of Employees

The occupational breakdown of employees is the first step to arrive at income level. The output from the IMPLAN model provides the number of employees by industry sector, shown in Table II-1. The IMPLAN output is paired with data from the Department of Labor, Bureau of Labor Statistics May 2012 Occupational Employment Survey (OES) to estimate the occupational composition of employees for each industry sector.

Step 4a - Translation from IMPLAN Industry Codes to NAICS Industry Codes

The output of the IMPLAN model is jobs by industry sector using IMPLAN's own industry classification system which consists of 440 industry sectors. The OES occupation data uses the North American Industry Classification System (NAICS). Estimates of jobs by IMPLAN sector must be translated into estimates by NAICS code for consistency with the OES data.

The NAICS system is organized into industry codes ranging from two- to six-digits. Two-digit codes are the broadest industry categories and six-digit codes are the most specific. Within a two-digit NAICS code, there may be several three-digit codes and within each three digit code, several four-digit codes, etc. A chart published by IMPLAN relates each IMPLAN industry sector with one or more NAICS codes, with matching NAICS codes ranging from the two-digit level to the five-digit level. For purposes of the nexus analysis, all employment estimates must be aggregated to the four digit NAICS code level to align with OES data which is organized by four-digit NAICS code. For some industry sectors, an allocation is necessary between more than one four-digit NAICS code. Where required, allocations are made proportionate to total employment at the national level from the OES.

The table below illustrates analysis Step 4a in which employment estimates by IMPLAN Code are translated to NAICS codes and then aggregated at the four digit NAICS code level. The examples used are Child Day Care Centers and Food and Drinking Places. The process is applied to all the industry sectors.

Illustration of Model Step 4a.

A. IMPLAN Output by IMPLAN Industry Sector		B. Link to Corresponding NAICS Code		C. Aggregate at 4-Digit NAICS Code Level		
<u>Jobs</u>	<u>IMPLAN Sector</u>	<u>Jobs</u>	<u>NAICS Code</u>	<u>Jobs</u>	<u>% Total Employment</u>	<u>4-Digit NAICS</u>
0.5	399 - Child day care services	0.5	6244 Child day care services	0.5	100%	6244 Child day care services
6.7	413 - Food and Drinking Places	6.7	722 Food and Drinking Places	6.03	90%	7225 Restaurants and Other Eating Places
				0.40	6%	7223 Special Food Services
				0.27	4%	7224 Drinking Places (Alcoholic Beverages)

Step 4b – Apply OES Data to Estimate Occupational Distribution

Employment estimates by four-digit NAICS code from step 4a are paired with data on occupational composition within each industry from the OES to generate an estimate of employment by detailed occupational category. As shown on Table III-1, new jobs will be distributed across a variety of occupational categories. The three largest occupational categories are office and administrative support (16%), sales (15%), and food preparation and serving (15%). Step 4 of Table III-1 indicates the percentage and number of employee households by occupation associated with 100 market rate rental units.

Step 5 – Estimates of Employee Households Meeting the Lower Income Definitions

In this step, occupations are translated to employee incomes based on recent Alameda County wage and salary information from the California Employment Development Department (EDD). The wage and salary information summarized in Appendix B provided the income inputs to the model.

For each occupational category shown in Table III-1, the OES data provides a distribution of specific occupations within the category. For example, within the Food Preparation and Serving Category, there are Supervisors, Cooks, Bartenders, Waiters and Waitresses, Dishwashers, etc. In total there are over 100 detailed occupation categories included in the analysis as shown

in Appendix B. Each of these over 100 occupation categories has a different distribution of wages which was obtained from EDD and is specific to workers in Alameda County as of 2013.

For each detailed occupational category, the model uses the distribution of wages to calculate the percent of worker households that would fall into each income category. The calculation is performed for each possible combination of household size and number of workers in the household. For households with more than one worker, individual *employee* income data was used to calculate the household income by assuming multiple earner households are, on average, formed of individuals with similar incomes.

The table below illustrates Step 5 as applied to food preparation and serving workers. Annual compensation for food preparation and serving workers in Alameda County as of 2013 is distributed⁴ around a mean of \$21,500. For households with one worker, 100% are estimated to qualify as Very Low. For households with two or more workers between 37% and 100% are estimated to qualify as Very Low depending on the household size. For households with three or more workers, only larger households with than six or more people are estimated to qualify as Very Low.

Step 5 Illustration for Food Preparation and Serving Worker Households

Percent Qualifying as Very Low for Each Possible Household Size / No. of Workers Combination

HH Size Limit	Percent of Worker Households That Would Qualify as Very Low For Each Possible Combination of Household Size and No. of Workers Applying 2013 Income Limits for Alameda County					
	1 Person \$32,750	2 Person \$37,400	3 Person \$42,100	4 Person \$46,750	5 Person \$50,500	6 Person \$54,250
<u>No. Workers in Household</u>						
1	100%	100%	100%	100%	100%	100%
2	N/A	37%	61%	77%	100%	100%
3 or more ⁵	N/A	N/A	0%	0%	0%	21%

The step illustrated above is repeated around 300 times for each of the over 100 detailed occupations and at each of the three affordable income tiers. At the end of Step 5, the nexus model has established a matrix indicating the percentages of households that would qualify in the affordable income tiers for every detailed occupational category and every potential combination of household size and number of workers in the household.

Step 6 – Distribution of Household Size and Number of Workers

In this step, the model examines the demographics of Alameda County in order to develop probability factors for each potential combination of household size and number of workers.

⁴ In addition to the mean compensation, EDD reported 25th, 50th, and 75th percentile compensations are utilized.

⁵ Census data aggregates households with three or more workers; therefore, a corresponding aggregation is necessary for purposes of the analysis.

The table below presents the probability factors used in the model. The factors represent the probability that a worker is a member of a household of a given size and number of workers.

Step 6: Probability Factors for Combinations of Number of Workers and Household Size

	Household Size (Persons)					
	1	2	3	4	5	6+
No. Workers in Household						
1	0.190781	0.148746	0.084114	0.060346	0.027678	0.023864
2	N/A	0.147885	0.095065	0.071567	0.032824	0.028302
3 or more	N/A	N/A	0.024071	0.034927	0.016019	0.013812

Note: probability factors sum to 1.00000

Probability factors are specific to Alameda County and are derived from the 2010 – 2012 American Community Survey. Application of these probability factors accounts for the following:

- Households have a range in size and a range in the number of workers.
- Large households generally have more workers than smaller households.

The result of Step 6 is a distribution of Alameda County working households by number of workers and household size.

Step 7 – Estimate of Number of Households that Meet Size and Income Criteria

Step 7 is the final step to calculate the number of worker households meeting the size and income criteria for the three affordability tiers. The calculation combines the matrix of results from Step 5 on percentage of worker households that would meet the income criteria at each potential household size / no. of workers combination, with Step 6, the probability of a worker household having a given household size / number of workers combination. The result is the percentage of households that fall into each affordability tier. The percentages are then multiplied by the number of households from Step 3 to arrive at number of households in each affordability tier.

Tables III-2a through III-2d show the result after completing Steps 5, 6, and 7 for each income tier.

Summary Findings

Table III-3 indicates the results of the analysis. The table presents the number of households generated in each affordability category and the total number over 120% of Area Median Income.

The findings in Table III-3 are presented below. The table shows the total demand for affordable housing units associated with 100 market rate rental units.

<i>New Worker Households by Income Level per 100 Market Rate Apartment Units</i>	
Very Low (Under 50% AMI)	8.6
Low Income (50%-80% AMI)	4.6
Moderate (80%-120% AMI)	5.0
Total, Less than 120% AMI	18.2
Greater than 120% AMI	4.2
Total, New Households	22.3

Housing demand for new worker households earning less than 120% of AMI is 18.2 units for every 100 market rate apartments in Emeryville. Housing demand is distributed across the lower income tiers with the greatest number of households in the under 50% of AMI tier. The finding that the jobs associated with consumer spending tend to be low-paying jobs where the workers will require housing affordable at the lower income levels is not surprising. As noted above, direct consumer spending results in employment that is concentrated in lower paid occupations including food preparation, administrative, and retail sales. See Appendix B for detail.

TABLE III-1
NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION
EMPLOYEE HOUSEHOLDS GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

	APARTMENT
Step 1 - Employees ¹	47.9
Step 2 - Adjustment for Changing Industries (25%)	35.9
Step 3 - Adjustment for Number of Households (1.61) ²	22.3
Step 4 - Occupation Distribution	
Management Occupations	4.0%
Business and Financial Operations	3.5%
Computer and Mathematical	1.2%
Architecture and Engineering	0.3%
Life, Physical, and Social Science	0.3%
Community and Social Services	2.0%
Legal	0.6%
Education, Training, and Library	3.3%
Arts, Design, Entertainment, Sports, and Media	1.6%
Healthcare Practitioners and Technical	8.3%
Healthcare Support	4.8%
Protective Service	1.3%
Food Preparation and Serving Related	15.1%
Building and Grounds Cleaning and Maint.	5.8%
Personal Care and Service	5.5%
Sales and Related	15.1%
Office and Administrative Support	15.6%
Farming, Fishing, and Forestry	0.1%
Construction and Extraction	0.8%
Installation, Maintenance, and Repair	3.6%
Production	1.7%
Transportation and Material Moving	<u>5.4%</u>
Totals	100.0%
Management Occupations	0.9
Business and Financial Operations	0.8
Computer and Mathematical	0.3
Architecture and Engineering	0.1
Life, Physical, and Social Science	0.1
Community and Social Services	0.4
Legal	0.1
Education, Training, and Library	0.7
Arts, Design, Entertainment, Sports, and Media	0.4
Healthcare Practitioners and Technical	1.9
Healthcare Support	1.1
Protective Service	0.3
Food Preparation and Serving Related	3.4
Building and Grounds Cleaning and Maint.	1.3
Personal Care and Service	1.2
Sales and Related	3.4
Office and Administrative Support	3.5
Farming, Fishing, and Forestry	0.0
Construction and Extraction	0.2
Installation, Maintenance, and Repair	0.8
Production	0.4
Transportation and Material Moving	<u>1.2</u>
Totals	22.3

Notes:

¹ Estimated employment generated by household expenditures within 100 prototypical market rate units. Employment estimates based on economic model, IMPLAN.

² Adjustment from number of workers to households using average of 1.61 workers per worker household derived from the U.S. Census American Community Survey 2010 to 2012.

TABLE III-2a
VERY LOW-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Per 100 Market Rate Units

APARTMENT

Step 5 & 6 - Very Low Income Households (under 50% AMI) within Major Occupation Categories ²

Management	0.01
Business and Financial Operations	0.01
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	-
Legal	-
Education Training and Library	0.13
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	0.01
Healthcare Support	0.41
Protective Service	-
Food Preparation and Serving Related	2.46
Building Grounds and Maintenance	0.57
Personal Care and Service	0.74
Sales and Related	1.72
Office and Admin	0.91
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	0.12
Production	-
Transportation and Material Moving	0.51
<hr/>	
Very Low Income Households - Major Occupations	7.59
Very Low Inc. Households ¹ - all other occupations	1.05
<hr/>	
Total Very Low Income Households¹	8.64

¹ Includes households earning from zero through 50% of Alameda County Area Median Income.

² See Appendix B for additional information on occupations and wage data. Note that the model places individual employees into households. Many households have multiple income sources and therefore household income is higher than the wages shown in Appendix B Table 1. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE III-2b
LOW-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Per 100 Market Rate Units

APARTMENT

Step 5 & 6 - Low Income Households (50% - 80% AMI) within Major Occupation Categories ²

Management	0.03
Business and Financial Operations	0.06
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	-
Legal	-
Education Training and Library	0.16
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	0.06
Healthcare Support	0.28
Protective Service	-
Food Preparation and Serving Related	0.67
Building Grounds and Maintenance	0.35
Personal Care and Service	0.29
Sales and Related	0.74
Office and Admin	0.89
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	0.16
Production	-
Transportation and Material Moving	0.32
<hr/>	
Low Income Households - Major Occupations	4.01
Low Inc. Households ¹ - all other occupations	0.55
<hr/>	
Low Income Households¹	4.57

¹ Includes households earning from 50% through 80% of Alameda County Area Median Income.

² See Appendix B for additional information on occupations and wage data. Note that the model places individual employees into households. Many households have multiple income sources and therefore household income is higher than the wages shown in Appendix B Table 1. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE III-2c
MODERATE INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Per 100 Market Rate Units

APARTMENT

Step 5 & 6 - Moderate Income Households (80-120% AMI) within Major Occupation Categories²

Management	0.18
Business and Financial Operations	0.25
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	-
Legal	-
Education Training and Library	0.27
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	0.33
Healthcare Support	0.31
Protective Service	-
Food Preparation and Serving Related	0.16
Building Grounds and Maintenance	0.30
Personal Care and Service	0.15
Sales and Related	0.66
Office and Admin	1.16
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	0.31
Production	-
Transportation and Material Moving	0.28
<hr/>	
Moderate Income Households - Major Occupations	4.35
Moderate Inc. Households ¹ - all other occupations	0.60
<hr/>	
Total Moderate Income Households¹	4.96

¹ Includes households earning from 80% through 120% of Alameda County Area Median Income.

² See Appendix B for additional information on occupations and wage data. Note that the model places individual employees into households. Many households have multiple income sources and therefore household income is higher than the wages shown in Appendix B Table 1. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE III-2d
ABOVE MODERATE INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Per 100 Market Rate Units

APARTMENT

Step 5 & 6 - Above Moderate Income Households (over 120% AMI) within Major Occupation Categories ²

Management	0.66
Business and Financial Operations	0.46
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	-
Legal	-
Education Training and Library	0.15
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	1.40
Healthcare Support	0.04
Protective Service	-
Food Preparation and Serving Related	0.00
Building Grounds and Maintenance	0.03
Personal Care and Service	0.02
Sales and Related	0.18
Office and Admin	0.45
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	0.19
Production	-
Transportation and Material Moving	0.06
Above Moderate Inc. Households - Major Occupations	<hr/> 3.67
Above Moderate Inc. Households ¹ - all other occupations	0.51
Total Above Moderate Income Households¹	<hr/> 4.17

¹ Includes households earning above 120% of Alameda County Area Median Income.

² See Appendix B for additional information on occupations and wage data. Note that the model places individual employees into households. Many households have multiple income sources and therefore household income is higher than the wages shown in Appendix B Table 1. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE III-3
IMPACT ANALYSIS SUMMARY
EMPLOYEE HOUSEHOLDS GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

RESIDENTIAL UNIT DEMAND IMPACTS
PER 100 MARKET RATE UNITS

Number of New Households¹	APARTMENT
Under 50% Area Median Income	8.6
50% to 80% Area Median Income	4.6
80% to 120% Area Median Income	5.0
Subtotal through 120% of Median	18.2
Over 120% Area Median Income	4.2
Total Employee Households	22.3

Percent of New Households ¹	
Under 50% Area Median Income	39%
50% to 80% Area Median Income	20%
80% to 120% Area Median Income	22%
Subtotal through 120% of Median	81%
Over 120% Area Median Income	19%
Total Employee Households	100%

Notes

¹ Households of retail, education, healthcare and other workers that serve residents of new market rate units.

IV. MITIGATION COSTS

This section takes the conclusions of the previous section on the number of households in the lower income categories associated with the market rate units and identifies the total cost of assistance required to make housing affordable. This section puts a cost on the units for each income level to produce the “total nexus cost.”

A key component of the analysis is the size of the gap between what households can afford and the cost of producing new housing in Emeryville known as the ‘affordability gap.’ Affordability gaps are calculated for each of the three categories of area median income: Very Low (under 50% of median), Low (50% to 80%), and Moderate (80% to 120%). The following summarizes the analysis of mitigation cost which is based on the affordability gap or net cost to deliver units that are affordable to worker households in the lower income tiers. Detailed affordability gap calculations are presented in Tables IV-1 through IV-3 at the end of this section.

For housing impact fee application, or any kind of fee in lieu of onsite units within a project, the concept is that the units will be built in Emeryville with assistance from the City by an affordable housing developer, mostly likely a non-profit housing developer. As a result, the unit and development cost may not be exactly the same as the market rate product in the same city.

City Assisted Affordable Unit Prototypes

For estimating the affordability gap, there is a need to match a household of each income level with a unit type and size according to governmental regulations and City practices and policies. For the Very Low and Low Income tiers, the assumption is that households would be accommodated in rental units. Moderate Income households are assumed to be accommodated in condominiums or other type of ownership unit.

KMA reviewed the development program for several recent affordable rental developments assisted by the cities of Emeryville and Oakland, and concluded that, on average, the new affordable rental units have 2.0 bedrooms. The affordable ownership units are assumed to be small condominium units with a mix of unit sizes averaging 1.5 bedrooms per unit.

The analysis assumes 4% tax credit financing for the Very Low income units only. The City of Emeryville recently assisted with the development of the Ambassador, a 68-unit apartment project targeted to Very Low income households completed by Resources for Community Development in early 2014. KMA reviewed the development pro forma for this project to inform the affordability gap analysis. In addition, KMA reviewed the development cost experience of several recent affordable developments in Oakland. KMA also drew from our extensive experience with affordable housing development throughout the Bay Area to ensure that the development program and costs experienced by the Ambassador project are fairly typical, and therefore appropriate for use as a prototype going forward.

Affordable Rent Levels

Affordable rent levels are a function of the income level for which the unit is aimed to be affordable; affordable rent levels are estimated by KMA in accordance with the City's methodology and the tax credit program, as appropriate

For the Very Low income unit, the maximum rents published by the California Tax Credit Allocation Committee were utilized. The published rents include utilities, so KMA subtracted out a utility allowance based on those utilized in the Ambassador project. The two-bedroom Very Low Income unit is assumed to rent for \$959 per month, after utilities. See Table IV-1 for more detail on the calculation of this rent level.

For the Low Income unit, the maximum affordable rent was calculated based on the City's standard of 30% of household income available for rent and utilities. Per the City's direction, household income for the purposes of setting the rent is assumed to equal 80% of median, which is the maximum income for the Low Income category (this creates a conservative estimate of the affordability gap).

Household size is determined by the number of bedrooms plus one, so the two-bedroom unit is assumed to be occupied by a three-person household. KMA calculated the gross rents based on the 2013 California Housing and Community Development Department's (HCD) income limits, and used the same utility allowance as the Very Low income units.

In the table below, the affordable rents for the Low Income category are calculated.

<i>Calculation of Affordable Rents: Low Income</i>	
	2 Bedroom
Area Median Income (AMI), 3-Person Household	\$84,150
Household Income @ 80% of AMI	\$67,320
Maximum Housing Cost (30% of Monthly Household Income)	\$1,683
Utility Allowance	\$ (44)
Affordable Rent Net of Utilities	\$1,639

For more information on the calculation of this rent level, see Table IV-2. The rent level as defined above (by unit size and income category) governs what the building owner may charge for a particular Low Income unit.

Affordable Sales Price

For the condominium affordable to Moderate Income households, KMA calculated the affordable sales price for the average 1.5 bedroom unit using the City of Emeryville's 2013 affordable sales prices. Per the City's direction, the affordable sales price is targeted to a household earning 110% of median; this is less than the maximum income level for the

Moderate Income category (120% of median) but consistent with many state and local programs, including the former redevelopment program.

The City calculates the affordable sales prices by bedroom size. Because the condominium units average 1.5 bedrooms, KMA took the midpoint between the 1-bedroom and the 2-bedroom sales price. The maximum affordable sales price for a 1.5 bedroom unit at 110% of Area Median Income is \$285,000.

Affordability Gaps

In a nexus study, the affordability gap is the amount of subsidy dollars required to bridge the difference between total development costs and the value of the affordable unit. The unit value of an affordable rental unit is calculated by capitalizing the net operating income generated by the unit. The unit value of an affordable ownership unit is the affordable sales price.

For the Very Low income units, the affordability gap is calculated slightly differently because we assume that these units will receive tax credit financing. For these units, KMA estimates the total sources of funds (including permanent debt, tax credits and a deferred developer fee) and compares that to the total development costs; the difference is the affordability gap, or the amount of additional subsidy dollars necessary to make the project feasible.

a. Development Costs

For the purposes of the nexus analysis, KMA prepared an estimate of total development cost for typical affordable rental units. Total development costs include land, direct construction, all fees and permits, financing and other indirect costs, including profit. KMA drew this estimate from the development pro forma for the Ambassador project, a recent affordable rental development in Emeryville with total development costs of \$400,000 per unit. KMA also reviewed the development cost experience of several recent affordable housing projects in Oakland; those projects all had higher development costs, in the \$450,000 - \$550,000 range per unit. KMA concluded that the experience of the Ambassador project is a reasonable, and perhaps conservative, estimate of total development costs.

The City has not recently assisted with the development of affordable condominium units. For the purposes of this analysis, therefore, KMA uses an estimate of the market rate sales price for new condominium units in Emeryville as a proxy for total development costs. However, no new market rate condominiums have been developed recently in Emeryville (the Bridgewater project is the only condominium project currently being marketed, although that project is a conversion from rental units). KMA reviewed the development program for two recent condominium projects in Oakland – Uptown Place and Broadway Grand – to approximate a new condominium in Emeryville. In addition, KMA gathered resale data for the Vue 46 project in Emeryville, which are condominiums that were built in 2008. From this market research, KMA estimates that a 1.5-bedroom condominium unit in Emeryville would have a development cost of \$400,000.

For many new developments, particularly City-assisted developments, total development costs could be higher than those estimated here. The conservative estimate of development costs results in a lower supportable nexus amount.

b. Unit Values

To calculate the value of the restricted rental units, KMA first estimated the Net Operating Income generated by the units. The first step is to convert monthly gross rent to an annual gross rent by multiplying by 12. Annual gross rent is then adjusted for vacancy rates during turnover, and then operating costs are netted out. Lost income due to vacancy is estimated at 5% of gross rents. Operating costs cover management, property taxes, and certain other expenses. Based on KMA's experience reviewing operating budgets for affordable apartment projects proposed or built in the local area, the operating expenses are estimated at \$6,000 per unit per year including replacement reserves but excluding property taxes. Property taxes are estimated at 1.25% of the unit's capitalized value (Very Low income units are assumed to be owned by a non-profit general partner and therefore exempt from property taxes). Net Operating Income is calculated by netting out vacancy, operating costs and property taxes from the gross income generated by the unit.

For the Low Income units, the Net Operating Income is capitalized at 7.5% to estimate the value of the restricted units. The Low Income two-bedroom unit has a capitalized value of \$145,000.

For the Very Low Income units, the Net Operating Income is used to estimate the amount of permanent debt the project can support, given conservative underwriting assumptions. Additional sources of funds include the market value of 4% tax credits (estimated based on the Ambassador project in Emeryville) and the deferred developer fee. Altogether, these Sources of Funds total \$187,500.

For the Moderate Income units, the unit value is the affordable sales price, or \$285,000.

The results are summarized below and shown in Tables IV-1, IV-2 and IV-3.

Supported Unit Values/Affordable Price		
	<i>Net Operating Income</i>	<i>Unit Value</i>
Very Low Income	\$5,218 per year	\$187,500
Low Income	\$10,880 per year	\$145,000
Moderate Income	n/a	\$285,000

**Total Sources of Funds, which includes permanent debt, tax credits, and deferred developer fee*

The affordable units do not generate enough value to cover the total development costs of the unit. The resulting gap between unit value and development costs is referred to as the Affordability Gap.

c. Affordability Gaps

The affordability gap conclusions are presented in Tables IV-1, IV-2 and IV-3, and summarized below.

Affordability Gaps			
<i>Income Level</i>	<i>Unit Value</i>	<i>Development Cost</i>	<i>Affordability Gap</i>
Very Low Income	\$187,500	\$400,000	\$212,500
Low Income	\$145,000	\$400,000	\$255,000
Moderate Income	\$285,000	\$400,000	\$115,000

These affordability gaps represent the mitigation cost to the City per affordable unit, by income level. They are entered into the nexus analysis to calculate the maximum supported impact fees.

Total Linkage Costs

The last step in the linkage fee analysis marries the findings on the numbers of households in each of the lower income ranges associated with the 100 market rate apartment units to the affordability gaps, or the costs of delivering housing to them in Emeryville.

Table IV-4 summarizes the analysis. The Affordability Gaps are drawn from the prior discussion. The “Total Nexus Cost per Market Rate Unit” shows the results of the following calculation: the affordability gap times the number of affordable units demanded per market rate unit. (Demand for affordable units for each of the income ranges is drawn from Table III-3 in the previous section and is adjusted to a per-unit basis from the 100 unit building module.)

The total nexus costs for apartment rental units are as follows:

Nexus Per Market Rate Unit and for 100 Units				
<i>Income Category</i>	<i>Affordability Gap</i>	<i>Number of Units</i>	<i>Per Unit</i>	<i>100 Units Total</i>
Very Low (0% - 50% AMI)	\$212,500	8.6	\$18,300	\$1,830,000
Low (50%-80% AMI)	\$255,000	4.6	\$11,600	\$1,160,000
Moderate (80%-120% AMI)	\$115,000	5.0	\$5,700	\$570,000
Total Nexus Costs			\$35,600	\$3,560,000

The Total Nexus Costs, or Mitigation Costs, indicated above, may also be expressed on a per square foot level. The square foot area of the prototype unit used throughout the analysis becomes the basis for the calculation. The results per square foot are as follows:

Total Nexus Cost Per Net Sq. Ft.		
<i>Income Category</i>	<i>Affordability Gap</i>	<i>Apartment</i>
<i>Prototype Size</i>		<i>850 SF</i>
Very Low (0% - 50% AMI)	\$212,500	\$21.53
Low (50%-80% AMI)	\$255,000	\$13.65
Moderate (80%-120% AMI)	\$115,000	\$6.71
Total Nexus Costs		\$41.88

Note: Costs presented are based on net rentable square footage. To convert the findings from net rentable square feet to gross building area, a building efficiency factor would need to be applied to account for exterior hallways and other non-rentable areas.

These costs express the total linkage or nexus costs for the new market rate apartment developments in the City of Emeryville. These total nexus costs represent the ceiling for any requirement placed on market rate rental development. **The totals are not recommended levels for fees; they represent only the maximums established by this analysis, below which fees or other requirements may be set.**

TABLE IV-1
AFFORDABILITY GAP: VERY LOW-INCOME HOUSEHOLDS
AFTER 4% TAX CREDIT FINANCING
RESIDENTIAL AND NON RESIDENTIAL NEXUS ANALYSES
CITY OF EMERYVILLE, CA

		<u>50% AMI</u>
I. Affordable Rent		
Average Number of Bedrooms ⁽¹⁾		2 Bedrooms
Maximum Rent per CTCAC		\$1,003
(Less) Utility Allowance ⁽²⁾		<u>(\$44)</u>
Maximum Monthly Rent per CTCAC		\$959
II. Net Operating Income (NOI)		<u>Per Unit</u>
Gross Scheduled Income (GSI)		
Monthly		\$959
Annual		\$11,508
Other Income		\$300
(Less) Vacancy	5%	<u>(\$590)</u>
Effective Gross Income (EGI)		\$11,218
(Less) Operating Expenses ⁽³⁾		<u>(\$6,000)</u>
(Less) Property Taxes	1.25%	<u>exempt ⁽⁴⁾</u>
Net Operating Income (NOI)		\$5,218
III. Capitalized Value and Affordability Gap		
I. Net Operating Income (NOI)		\$5,218
II. Sources of Funds		
Supportable Debt		\$63,000
Market Value of 4% Tax Credits		\$121,000
Deferred Developer Fee		<u>\$3,500</u>
III. Total Sources of Funds		\$187,500
IV. (Less) Total Development Costs ⁽⁵⁾		<u>(\$400,000)</u>
V. Affordability Gap		<u>(\$212,500)</u>

⁽¹⁾ Average unit size based on the Ambassador project.

⁽²⁾ Utility allowances from Alameda County Housing Authority.

⁽³⁾ Includes replacement reserves.

⁽⁴⁾ Assumes non-profit general partner.

⁽⁵⁾ Development costs based on the Ambassador affordable project (includes prevailing wages).

TABLE IV-2
AFFORDABILITY GAP: LOW-INCOME HOUSEHOLDS
RESIDENTIAL AND NON RESIDENTIAL NEXUS ANALYSES
CITY OF EMERYVILLE, CA

		60% AMI ⁽¹⁾	80% AMI
I. Affordable Rent			
Average Number of Bedrooms ⁽²⁾		2 Bedrooms	2 Bedrooms
Average Household Size		3 Persons per HH	3 Persons per HH
Household Income		\$50,490	\$67,320
Income Allocation to Housing		30%	30%
Monthly Housing Cost		\$1,262	\$1,683
(Less) Utility Allowance		(\$44)	(\$44) ⁽³⁾
Maximum Monthly Rent		\$1,218	\$1,639
II. Net Operating Income (NOI)			
Gross Scheduled Income (GSI)		Per Unit	Per Unit
Monthly		\$1,218	\$1,639
Annual		\$14,619	\$19,668
Other Income		\$300	\$300
(Less) Vacancy	5%	(\$746)	(\$998)
Effective Gross Income (EGI)		\$14,173	\$18,970
(Less) Operating Expenses ⁽⁴⁾		(\$6,000)	(\$6,000)
(Less) Property Taxes	1.25%	(\$1,320)	(\$2,090)
Net Operating Income (NOI)		\$6,853	\$10,880
III. Capitalized Value and Affordability Gap			
I. Net Operating Income (NOI)		\$6,853	\$10,880
II. Target Return on Investment		7.50%	7.50%
III. Total Capitalized Value		\$91,000	\$145,000
IV. (Less) Total Development Costs ⁽⁵⁾		(\$400,000)	(\$400,000)
V. Affordability Gap		(\$309,000)	(\$255,000)
		gap with rents @80% AMI used in the analysis	

⁽¹⁾ The California Health and Safety code standard sets rent levels for Low Income households at 60% of AMI. The Emeryville nexus analysis calculates the affordability gap assuming rents are set at 80% of AMI. This is a conservative assumption, as it results in a lower affordability gap and lower resulting maximum supported fee levels.

⁽²⁾ Average unit size based on the Ambassador project.

⁽³⁾ Utility allowances from Alameda County Housing Authority.

⁽⁴⁾ Includes replacement reserves.

⁽⁵⁾ Development costs based on the Ambassador affordable project (includes prevailing wages).

TABLE IV-3
AFFORDABILITY GAP: MODERATE INCOME HOUSEHOLDS
RESIDENTIAL AND NON RESIDENTIAL NEXUS ANALYSES
CITY OF EMERYVILLE, CA

I. City-Assisted Affordable For-Sale Prototype

Building Type	Multi-family Condominiums
Density	80 du/ac
Number of Bedrooms	1.5
Unit Size	1,000 SF
Market Rate Sale Price	\$400,000

II. Affordable Sales Price

Household Size	2.5 person HH
110% of Median Income	\$79,475
Maximum Affordable Sales Price ⁽¹⁾	\$285,000

III. Affordability Gap

Market Rate Sale Price	\$400,000
(Less) Affordable Price	(\$285,000)
Affordability Gap	\$115,000

⁽¹⁾ Based on City of Emeryville's methodology and assumptions, adjusted for household size.

TABLE IV-4
SUPPORTED FEE / NEXUS SUMMARY PER UNIT
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

TOTAL NEXUS COST PER MARKET RATE UNIT⁴

	Affordability Gap	APARTMENT
Household Income Level		
Under 50% Area Median Income	\$212,000 ¹	\$18,300
50% to 80% Area Median Income	\$255,000 ²	\$11,600
80% to 120% Area Median Income	\$115,000 ³	\$5,700
Total Supported Fee / Nexus		\$35,600

TOTAL NEXUS COST PER SQUARE FOOT⁵

	APARTMENT
Unit Size (SF)	850 SF
Household Income Level	
Under 50% Area Median Income	\$21.53
50% to 80% Area Median Income	\$13.65
80% to 120% Area Median Income	\$6.71
Total Supported Fee / Nexus	\$41.88

Notes:

¹ Assumes rental units. Represents the remaining affordability gap after 4% tax credits.

² Affordability gap based on rental unit and computed based on rents affordable to the top of the income tier at 80% AMI, producing a lower affordability gap than would result from applying the Health and Safety code standard for setting rents at 60% AMI for Low-Income rental units.

³ Affordability gap for moderate income households based on ownership units priced at 110% AMI.

⁴ Nexus cost per unit computed by multiplying affordable unit demand per 100 units from Table III-4 by the affordability gap and dividing by 100 units.

⁵ Computed by dividing the nexus cost per unit by the square footage of the unit.

APPENDIX TABLES

APPENDIX A
ASKING APARTMENT RENTS
CITY OF EMERYVILLE

	<u>Sq. Ft.</u>	<u>Low Rent</u>	<u>High Rent</u>	<u>Low \$/Sf</u>	<u>High \$/SF</u>
Avenue 64 <i>6399 Christie Avenue</i>					
Studio	545				
1 BD/ 1 BA	714	\$2,127	\$3,237	\$2.98	\$4.53
1 BD/ 1 BA	789	\$2,215	\$3,252	\$2.81	\$4.12
2 BD/ 1 BA	863	\$2,555	\$3,625	\$2.96	\$4.20
2 BD/ 2 BA	1,073				
2 BD/ 2 BA	1,073	\$3,002	\$4,154	\$2.80	\$3.87
3 BD/ 2 BA	1,340				
3 BD/ 2 BA	1,471				
	984	\$2,475	\$3,567	\$2.89	\$4.18
Archstone Emeryville <i>6401 Shellmound St</i>					
Studio	486	\$1,491	\$1,491	\$3.07	\$3.07
Studio	530	\$1,628	\$1,628	\$3.07	\$3.07
Studio	575	\$1,654	\$1,683	\$2.88	\$2.93
Studio	635	\$1,819	\$1,819	\$2.86	\$2.86
1 BD/ 1 BA	695	\$1,965	\$2,085	\$2.83	\$3.00
2 BD/ 1 BA	935	\$2,501	\$2,651	\$2.67	\$2.84
3 BD/ 2 BA	1,204				
3 BD/ 2 BA	1,120	\$2,890	\$2,926	\$2.58	\$2.61
3 BD/ 2 BA	1,168	\$2,972	\$2,972	\$2.54	\$2.54
3 BD/ 2 BA	1,340	\$3,186	\$3,186	\$2.38	\$2.38
	869	\$2,234	\$2,271	\$2.77	\$2.81
Bridgecourt Apartment Homes <i>1325 40th St</i>					
1 BD/ 1 BA	554	\$1,600	\$1,600	\$2.89	\$2.89
1 BD/ 1 BA	788	\$1,700	\$1,700	\$2.16	\$2.16
2 BD/ 2 BA	1,015	\$2,000	\$2,000	\$1.97	\$1.97
2 BD/ 2 BA	1,179	\$2,700	\$2,700	\$2.29	\$2.29
2 BD/ 2 BA	1,088	\$2,000	\$2,000	\$1.84	\$1.84
2 BD/ 2 BA	1,268	\$2,700	\$2,700	\$2.13	\$2.13
	982	\$2,117	\$2,117	\$2.21	\$2.21
Bay Street Apartments by Windsor <i>5684 Bay St</i>					
1 BD/ 1 BA	714	\$2,120	\$3,235	\$2.97	\$4.53
1 BD/ 1 BA	895	\$2,465	\$3,120	\$2.75	\$3.49
2 BD/ 2 BA	1,033	\$2,545	\$3,720	\$2.46	\$3.60
2 BD/ 2 BA	1,039	\$2,790	\$3,390	\$2.69	\$3.26
2 BD/ 2 BA	1,036	\$2,940	\$3,540	\$2.84	\$3.42
2 BD/ 2 BA	1,424	\$3,290	\$4,440	\$2.31	\$3.12
2 BD/ 2 BA	1,250	\$3,315	\$4,140	\$2.65	\$3.31
	1,056	\$2,781	\$3,655	\$2.67	\$3.53

	<u>Sq. Ft.</u>	<u>Low Rent</u>	<u>High Rent</u>	<u>Low \$/Sf</u>	<u>High \$/SF</u>
Icon at Doyle					
	<i>5540 Doyle St</i>				
1 BD/ 1 BA	810	\$2,013	\$2,013	\$2.49	\$2.49
1 BD/ 1 BA	890	\$2,017	\$2,017	\$2.27	\$2.27
1 BD/ 1 BA	1,025	\$2,142	\$2,142	\$2.09	\$2.09
1 BD/ 1 BA	1,275	\$2,100	\$2,100	\$1.65	\$1.65
2 BD/ 2 BA	1,250	\$3,154	\$3,154	\$2.52	\$2.52
2 BD/ 2 BA	1,290	\$3,158	\$3,193	\$2.45	\$2.48
2 BD/ 2 BA	1,450	\$3,190	\$3,190	\$2.20	\$2.20
3 BD/ 2 BA	1,600	\$3,293	\$3,293	\$2.06	\$2.06
	1,199	\$2,633	\$2,638	\$2.21	\$2.22
Icon at Park					
	<i>1401 Park Ave</i>				
1 BD/ 1 BA	735	\$1,981	\$2,081	\$2.70	\$2.83
1 BD/ 1 BA	745	\$2,092	\$2,287	\$2.81	\$3.07
1 BD/ 1 BA	840	\$2,050	\$2,050	\$2.44	\$2.44
1 BD/ 1 BA	1,000	\$2,625	\$2,725	\$2.63	\$2.73
1 BD/ 1 BA	960	\$1,976	\$1,976	\$2.06	\$2.06
1 BD/ 1 BA	1,125	\$2,340	\$2,340	\$2.08	\$2.08
1 BD/ 1 BA	1,380	\$2,349	\$2,349	\$1.70	\$1.70
1 BD/ 1 BA	1,490	\$2,371	\$2,371	\$1.59	\$1.59
1 BD/ 1 BA	1,145	\$2,261	\$2,261	\$1.97	\$1.97
2 BD/ 1.5 BA	1,160	\$2,237	\$2,237	\$1.93	\$1.93
2 BD/ 2 BA	1,240	\$2,456	\$2,456	\$1.98	\$1.98
2 BD/ 2 BA	1,330	\$2,995	\$2,995	\$2.25	\$2.25
3 BD/ 2 BA	1,662	\$3,437	\$3,437	\$2.07	\$2.07
3 BD/ 2 BA	1,850	\$4,053	\$4,053	\$2.19	\$2.19
	1,190	\$2,516	\$2,544	\$2.17	\$2.21

Source:

Project websites; Apartmentguide.com; Forrent.com (July 2013).

**APPENDIX B TABLE 1
WORKER OCCUPATION DISTRIBUTION, 2012
SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA**

Major Occupations (2% or more)	Worker Occupation Distribution ¹ Services to Households Earning \$100,000 to \$150,000
Management Occupations	3.9%
Business and Financial Operations Occupations	3.4%
Education, Training, and Library Occupations	3.2%
Healthcare Practitioners and Technical Occupations	8.1%
Healthcare Support Occupations	4.7%
Food Preparation and Serving Related Occupations	14.8%
Building and Grounds Cleaning and Maintenance Occupations	5.6%
Personal Care and Service Occupations	5.4%
Sales and Related Occupations	14.7%
Office and Administrative Support Occupations	15.3%
Installation, Maintenance, and Repair Occupations	3.5%
Transportation and Material Moving Occupations	5.3%
All Other Worker Occupations - Services to Households Earning \$100,000 to \$150,000	<u>12.1%</u>
INDUSTRY TOTAL	100.0%

¹ Distribution of employment by industry is per the IMPLAN model and the distribution of occupational employment within those industries is based on the Bureau of Labor Statistics Occupational Employment Survey.

APPENDIX B TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2013
JOB'S GENERATED BY NEW RENTAL HOUSEHOLDS
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Occupation ³	2013 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total Resident Services Workers
Page 1 of 4			
<i>Management Occupations</i>			
Chief Executives	\$199,700	3.8%	0.1%
General and Operations Managers	\$132,900	33.5%	1.3%
Sales Managers	\$141,700	5.2%	0.2%
Administrative Services Managers	\$101,200	3.9%	0.2%
Financial Managers	\$144,800	6.8%	0.3%
Food Service Managers	\$51,200	5.9%	0.2%
Medical and Health Services Managers	\$113,500	7.3%	0.3%
Property, Real Estate, and Community Association Managers	\$85,600	8.6%	0.3%
Social and Community Service Managers	\$74,600	4.0%	0.2%
Managers, All Other	\$134,300	3.1%	0.1%
All other Management Occupations (Avg. All Categories)	<u>\$120,700</u>	<u>17.8%</u>	<u>0.7%</u>
Weighted Mean Annual Wage	\$120,700	100.0%	3.9%
<i>Business and Financial Operations Occupations</i>			
Human Resources Specialists	\$74,600	5.9%	0.2%
Labor Relations Specialists	\$81,200	4.0%	0.1%
Management Analysts	\$103,200	5.8%	0.2%
Training and Development Specialists	\$86,500	4.3%	0.1%
Market Research Analysts and Marketing Specialists	\$86,100	6.9%	0.2%
Business Operations Specialists, All Other	\$89,300	13.2%	0.5%
Accountants and Auditors	\$80,100	16.6%	0.6%
Financial Analysts	\$98,300	4.8%	0.2%
Personal Financial Advisors	\$81,000	5.8%	0.2%
Loan Officers	\$83,100	4.9%	0.2%
All Other Business and Financial Operations Occupations (Avg. All Categories)	<u>\$85,700</u>	<u>27.9%</u>	<u>1.0%</u>
Weighted Mean Annual Wage	\$85,700	100.0%	3.4%
<i>Education, Training, and Library Occupations</i>			
Vocational Education Teachers, Postsecondary	\$57,600	4.7%	0.1%
Preschool Teachers, Except Special Education	\$33,900	13.0%	0.4%
Elementary School Teachers, Except Special Education	\$71,200	9.1%	0.3%
Middle School Teachers, Except Special and Career/Technical Education	\$71,000	4.0%	0.1%
Secondary School Teachers, Except Special and Career/Technical Education	\$71,600	6.2%	0.2%
Self-Enrichment Education Teachers	\$51,100	10.8%	0.3%
Substitute Teachers	\$41,500	4.4%	0.1%
Teachers and Instructors, All Other, Except Substitute Teachers	\$60,400	7.5%	0.2%
Teacher Assistants	\$32,000	15.8%	0.5%
All Other Education, Training, and Library Occupations (Avg. All Categories)	<u>\$50,100</u>	<u>24.5%</u>	<u>0.8%</u>
Weighted Mean Annual Wage	\$50,100	100.0%	3.2%

APPENDIX B TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2013
JOBS GENERATED BY NEW RENTAL HOUSEHOLDS
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Occupation ³	2013 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total Resident Services Workers
Page 2 of 4			
<i>Healthcare Practitioners and Technical Occupations</i>			
Pharmacists	\$131,300	4.1%	0.3%
Physicians and Surgeons, All Other	\$190,500	4.3%	0.4%
Registered Nurses	\$115,100	30.7%	2.5%
Dental Hygienists	\$98,900	3.7%	0.3%
Pharmacy Technicians	\$47,100	5.5%	0.4%
Licensed Practical and Licensed Vocational Nurses	\$60,400	9.4%	0.8%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories)	<u>\$105,500</u>	<u>42.2%</u>	<u>3.4%</u>
Weighted Mean Annual Wage	\$105,500	100.0%	8.1%
<i>Healthcare Support Occupations</i>			
Home Health Aides	\$29,100	21.9%	1.0%
Nursing Assistants	\$35,300	32.6%	1.5%
Dental Assistants	\$40,300	9.9%	0.5%
Medical Assistants	\$37,700	16.7%	0.8%
All Other Healthcare Support Occupations (Avg. All Categories)	<u>\$34,700</u>	<u>18.9%</u>	<u>0.9%</u>
Weighted Mean Annual Wage	\$34,700	100.0%	4.7%
<i>Food Preparation and Serving Related Occupations</i>			
First-Line Supervisors of Food Preparation and Serving Workers	\$31,700	7.0%	1.0%
Cooks, Fast Food	\$19,900	4.8%	0.7%
Cooks, Restaurant	\$26,200	9.0%	1.3%
Food Preparation Workers	\$22,800	6.4%	0.9%
Bartenders	\$22,600	5.0%	0.7%
Combined Food Preparation and Serving Workers, Including Fast Food	\$21,500	26.2%	3.9%
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	\$20,600	3.6%	0.5%
Waiters and Waitresses	\$21,600	20.9%	3.1%
Dining Room and Cafeteria Attendants and Bartender Helpers	\$19,400	3.2%	0.5%
Dishwashers	\$21,600	4.4%	0.6%
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	\$20,900	3.1%	0.5%
All Other Food Preparation and Serving Related Occupations (Avg. All Categories)	<u>\$22,700</u>	<u>6.6%</u>	<u>1.0%</u>
Weighted Mean Annual Wage	\$22,700	100.0%	14.8%
<i>Building and Grounds Cleaning and Maintenance Occupations</i>			
First-Line Supervisors of Housekeeping and Janitorial Workers	\$47,200	3.4%	0.2%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$31,800	51.2%	2.9%
Maids and Housekeeping Cleaners	\$29,600	11.9%	0.7%
Landscaping and Groundskeeping Workers	\$31,600	25.2%	1.4%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Cat	<u>\$32,000</u>	<u>8.3%</u>	<u>0.5%</u>
Weighted Mean Annual Wage	\$32,000	100.0%	5.6%

APPENDIX B TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2013
JOBS GENERATED BY NEW RENTAL HOUSEHOLDS
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Occupation ³	2013 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total Resident Services Workers
Page 3 of 4			
<i>Personal Care and Service Occupations</i>			
First-Line Supervisors of Personal Service Workers	\$42,900	3.6%	0.2%
Nonfarm Animal Caretakers	\$25,500	5.2%	0.3%
Ushers, Lobby Attendants, and Ticket Takers	\$22,300	3.6%	0.2%
Amusement and Recreation Attendants	\$22,700	5.9%	0.3%
Hairdressers, Hairstylists, and Cosmetologists	\$29,500	15.9%	0.9%
Childcare Workers	\$23,600	13.3%	0.7%
Personal Care Aides	\$22,600	25.9%	1.4%
Fitness Trainers and Aerobics Instructors	\$50,600	5.7%	0.3%
Recreation Workers	\$28,200	5.3%	0.3%
All Other Personal Care and Service Occupations (Avg. All Categories)	<u>\$27,300</u>	<u>15.6%</u>	<u>0.8%</u>
Weighted Mean Annual Wage	\$27,300	100.0%	5.4%
<i>Sales and Related Occupations</i>			
First-Line Supervisors of Retail Sales Workers	\$49,500	10.2%	1.5%
Cashiers	\$26,400	26.5%	3.9%
Counter and Rental Clerks	\$33,900	4.0%	0.6%
Retail Salespersons	\$28,700	39.1%	5.8%
Sales Representatives, Services, All Other	\$71,400	3.0%	0.4%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific	\$73,800	4.2%	0.6%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$34,300</u>	<u>13.0%</u>	<u>1.9%</u>
Weighted Mean Annual Wage	\$34,300	100.0%	14.7%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$62,400	6.6%	1.0%
Bookkeeping, Accounting, and Auditing Clerks	\$45,900	7.4%	1.1%
Customer Service Representatives	\$43,200	9.4%	1.4%
Receptionists and Information Clerks	\$34,600	7.7%	1.2%
Stock Clerks and Order Fillers	\$29,100	11.7%	1.8%
Executive Secretaries and Executive Administrative Assistants	\$60,100	3.3%	0.5%
Medical Secretaries	\$41,800	4.5%	0.7%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$43,500	10.0%	1.5%
Office Clerks, General	\$37,400	13.6%	2.1%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$41,700</u>	<u>25.8%</u>	<u>3.9%</u>
Weighted Mean Annual Wage	\$41,700	100.0%	15.3%
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$80,500	7.9%	0.3%
Automotive Body and Related Repairers	\$51,400	5.9%	0.2%
Automotive Service Technicians and Mechanics	\$50,300	21.8%	0.8%
Bus and Truck Mechanics and Diesel Engine Specialists	\$58,500	3.4%	0.1%
Tire Repairers and Changers	\$31,000	3.3%	0.1%
Maintenance and Repair Workers, General	\$45,800	32.1%	1.1%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	<u>\$51,200</u>	<u>25.7%</u>	<u>0.9%</u>
Weighted Mean Annual Wage	\$51,200	100.0%	3.5%

Sources: U.S. Bureau of Labor Statistics, California Employment Development Department, IMPLAN
 Keyser Marston Associates, Inc.

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APPENDIX B TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2013
JOBS GENERATED BY NEW RENTAL HOUSEHOLDS
RESIDENTIAL NEXUS ANALYSIS
CITY OF EMERYVILLE, CA

Occupation ³	2013 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total Resident Services Workers
<i>Transportation and Material Moving Occupations</i>			
Bus Drivers, School or Special Client	\$35,600	7.3%	0.4%
Driver/Sales Workers	\$34,100	7.7%	0.4%
Heavy and Tractor-Trailer Truck Drivers	\$44,800	12.8%	0.7%
Light Truck or Delivery Services Drivers	\$37,300	11.2%	0.6%
Taxi Drivers and Chauffeurs	\$29,100	3.9%	0.2%
Parking Lot Attendants	\$27,400	4.2%	0.2%
Industrial Truck and Tractor Operators	\$43,400	3.2%	0.2%
Cleaners of Vehicles and Equipment	\$24,500	6.4%	0.3%
Laborers and Freight, Stock, and Material Movers, Hand	\$31,400	22.7%	1.2%
Packers and Packagers, Hand	\$23,700	7.1%	0.4%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	<u>\$33,700</u>	<u>13.5%</u>	<u>0.7%</u>
Weighted Mean Annual Wage	\$33,700	100.0%	5.3%
			87.9%

¹ The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

² Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2012 Occupational Employment Survey data for Alameda County, updated by the California Employment Development Department to 2013 wage levels.

³ Including occupations representing 3% or more of the major occupation group