MEMORANDUM

To:	**Members of the San Francisco Planning Commission**
From:	**Sarah Dennis Phillips, OEWD** **Sophie Hayward, MOHCD** **Kearstin Dischinger, Planning Department**
CC:	**Kate Stacey, Deputy City Attorney**
Date:	**November 22, 2016**
Subject:	**2016 Residential Affordable Housing Nexus Analysis**

The City's Inclusionary Affordable Housing Program, which requires certain residential development projects to pay an Affordable Housing Fee, is set forth in Planning Code Section 415 through 415.11. Consistent with the Mitigation Fee Act, Government Code Sections 66000 et seq., the City prepares nexus studies demonstrating that the construction of new residential developments results in the need for affordable housing, and updates such studies periodically. The attached *Residential Affordable Housing Nexus Analysis* for San Francisco has been prepared by Keyser Marston Associates, Inc,[1] as an update to the Residential Nexus Analysis completed in 2007.

Summary of Findings

The attached *Residential Affordable Housing Nexus Analysis* (hereafter, 2016 Nexus Analysis) demonstrates and quantifies the impact of new market rate housing development on the demand for affordable housing for households earning up to 120% of area median income. The 2016 Nexus Analysis establishes the basis for calculating Affordable Housing Fees that could be imposed on a development project containing market rate housing in a manner consistent with the Mitigation Fee Act. The 2016 Nexus Analysis concludes that owner-occupied market rate housing results in a greater demand for affordable housing than renter-occupied market rate housing. The demand for affordable housing is quantified differently for particular housing developments, depending on: (i) whether the affordable housing is to be built on-site, or via an in-lieu fee or off-site, [and (ii) whether the market rate units are owner-occupied or renter-occupied.

Basis for Percentages Used to Calculate Affordable Housing Fee: The 2016 Nexus Analysis findings identify the percentage that, when applied to the number of market rate units in the principal project, would provide affordable units sufficient to mitigate the increased need for housing affordable to households earning up to 120% of area median income, as:

- 37.6 % for owner-occupied market rate housing (condominiums), and
- 31.8% for renter-occupied market rate housing (apartments)[2].

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[1] Keyser Marston is nationally recognized as an expert in jobs-housing linkage and residential nexus analyses. They prepared San Francisco's prior residential nexus analysis in April 2007, and have prepared nexus studies for most of the California cities with inclusionary housing requirements, including San Diego, Sacramento, San Mateo, Cupertino, Fremont, Hayward, Napa County, Mountain View, Emeryville, Daly City, Newark, Fremont, and Rancho Cordova, and a current update for San Jose.

[2] The difference between condominiums and apartments is due to the larger average size of condominiums, which require higher incomes to support, and therefore generate more expenditures on goods and services that generate new jobs at lower income levels.

In recognition of the fact that affordability gaps extend to households making over 120% of median income, the 2016 Nexus Analysis also provides, as an Appendix, information quantifying affordable housing impacts on households making up to 150% of area median income. It finds that when the needs of households from 120-150% of median income are considered, the maximum Affordable Housing Fee percentage increases by:

- 3.7% for owner-occupied market rate housing, to a total of 41.3% and
- 3.1% for renter-occupied market rate housing, to a total of 34.9%.

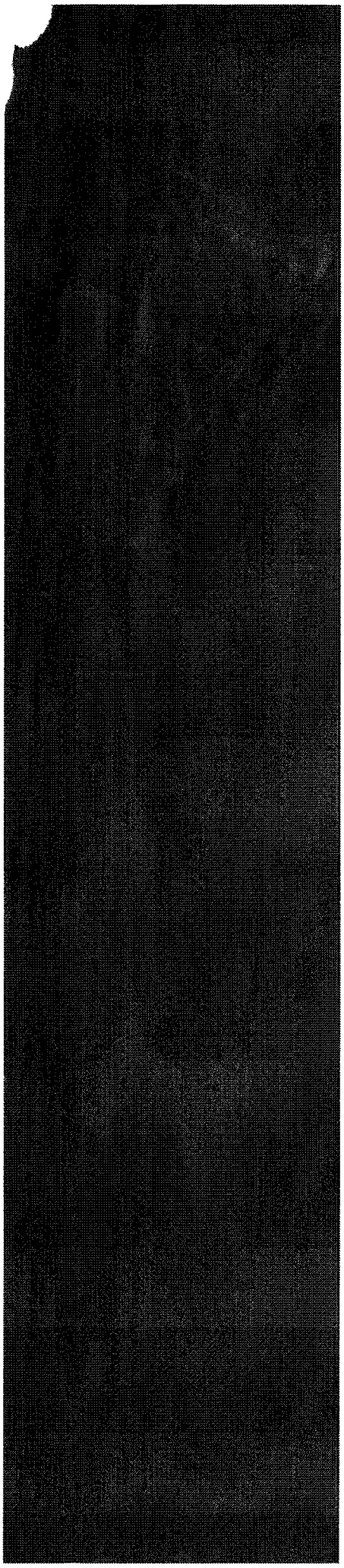
On-Site Affordable Housing Requirement: For informational purposes, the 2016 Nexus Analysis also calculates the percentage of units provided on-site within a project that would address affordable housing needs created by that project:

- 27.3% for owner-occupied market rate housing, and
- 24.1% for renter-occupied market rate housing.

When the needs of households from 120-150% of median income are considered, the percentage of units provided on-site within a project that would address affordable housing needs created by that project increases by:

- 1.9% for owner-occupied market rate housing, to a total of 29.2% and
- 1.8% for renter-occupied market rate housing, to a total of 25.9%.

Please feel free to contact Sarah Dennis Phillips in the Office of Economic and Workforce Development, Sophie Hayward in the Mayor's Office of Housing and Community Development, or Kearstin Dischinger in the Planning Department if you have any questions about this legal document.



KEYSER MARSTON ASSOCIATES

RESIDENTIAL AFFORDABLE HOUSING NEXUS ANALYSIS SAN FRANCISCO, CALIFORNIA

Prepared for:
City and County of San Francisco

Prepared by:
Keyser Marston Associates, Inc.

November 2016

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I. SUMMARY OF ANALYSIS AND FINDINGS

This residential nexus report documents and quantifies the linkages between new market-rate residential development in the City and County of San Francisco ("City") and the demand for additional affordable housing. The nexus analysis has been prepared to determine support for Affordable Housing Fee requirements under the City's Inclusionary Affordable Housing Program ("San Francisco Program"). This Summary contains a concise overview of the residential nexus analysis; full documentation of the analysis is contained in the body of the Report and its Appendices.

Residential Nexus Analysis

This residential nexus analysis has been prepared for the limited purpose of determining nexus support for the San Francisco Program consistent with the requirements of the Mitigation Fee Act (Government Code Section 66000 et. seq.). The analysis establishes the maximum percentage basis for calculating Affordable Housing Fees that could be imposed on a development project containing market rate housing in a manner consistent with the requirements of the Mitigation Fee Act, referred to for purposes of this Report as the "Maximum Fee Percentage." The analysis calculates the demand for affordable housing generated by market rate development as a percentage of the total number of housing units in a development project containing market rate housing. This Maximum Fee Percentage is a multiplier that the City can use to quantify and impose Affordable Housing Fees to address the additional demand for affordable housing units resulting from development of market rate housing.

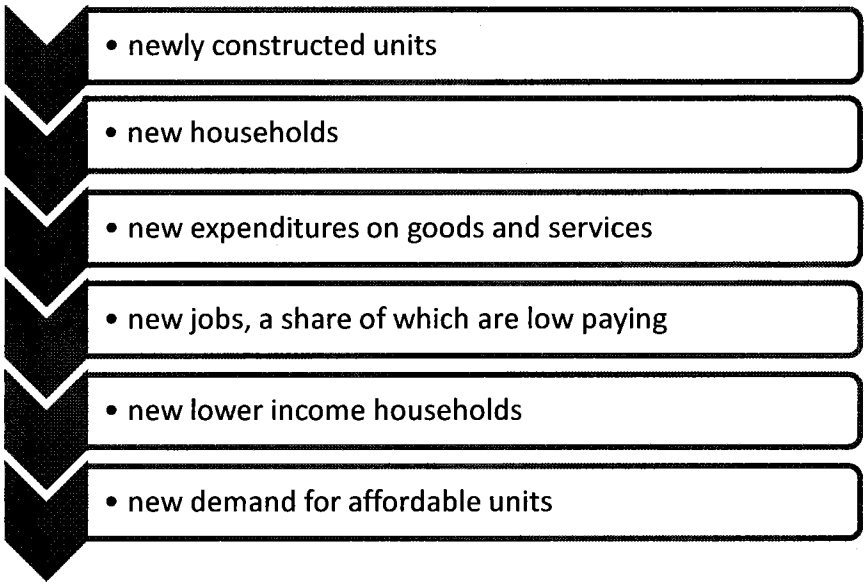
A residential nexus analysis demonstrates and quantifies the impact of new market rate housing development on the demand for affordable housing. The underlying nexus concept is that the newly constructed market rate units represent net new households in San Francisco. These households represent new income in San Francisco that will consume goods and services, either through purchases of goods and services or 'consumption' of government services. New consumption translates into jobs; a portion of the jobs are at lower compensation levels; low compensation jobs relate to lower income households that cannot afford market rate units in San Francisco and therefore need affordable housing.

The analysis quantifies affordable housing impacts from 0% through 120% of Area Median Income ("AMI" or "median income") consistent with the San Francisco Program's purpose to create affordable units for households earning up to a maximum of 120% of median income. The income range analyzed in this report from 0% through 120% of median income is referred to as "Low and Moderate Income."

1. Impact Methodology and Models Used

The analysis is performed using two models. The IMPLAN model is an industry accepted, commercially available model developed over 30 years ago to quantify the impacts of changes in a local economy, including the employment impacts of changes in personal income. The input into the IMPLAN model is the net new personal income that purchasers and renters of new market rate units in San Francisco have available for expenditure on a range of goods and services. The IMPLAN model quantifies the jobs generated within each industry sector that provide goods and services to new residents including retail, restaurants, personal services and others. The number of jobs by sector is then input into the KMA Jobs Housing Nexus model, which was initially developed over 25 years ago to analyze the income structure of job growth, to determine the number of Low and Moderate Income units needed to house the employees holding these jobs.

Nexus Analysis Concept



To illustrate the linkages by looking at a simplified example, we can take an average household that buys a market rate condominium at a certain price. From that price, we estimate the gross income of the household (from mortgage rates and lending practices) 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, many still qualify as Low and Moderate Income and cannot afford market rate housing in San Francisco.

2. *Market Survey and Residential Prototypes*

The first step of the nexus analysis is to identify residential prototypes that are representative of what is generally being built by the private marketplace in San Francisco. KMA developed programmatic assumptions in consultation with the City for two residential prototypes – one owner-occupied prototype (referred to as "Condominium") and one renter-occupied prototype (referred to as "Apartment"). KMA then undertook a market survey of projects covering these prototypes to estimate sales prices and rent levels for the prototype units. The prototypes are designed to be representative of residential development activity occurring in San Francisco as described in the Appendix A market survey. For San Francisco, the prototypical Condominium and Apartment units are in mid-rise projects of up to 85 feet in height, the height / density configuration with the greatest number of projects represented in the market survey. The prototypes are summarized in the following table.

Prototypical Market Rate Residential Units		
	Condominium	*Apartment*
Unit Size (net)	1,000 SF	850 SF
Price/Rent	$1,000,000	$4,250 /mo.
Per Square Foot	$1,000 /SF	$5.00 /SF

From the sales prices and rent levels, household income is determined using assumptions with respect to a share of income spent on housing and housing purchase terms. For Condominiums, KMA assumes 35% of owners' income is spent on housing (including mortgage payments, property taxes, home owner association dues, and insurance). Renters are assumed to spend 30% of their income on housing (including rent, utilities, and parking), a relationship established in the California Health and Safety Code and used throughout housing policy to relate income to affordable rental housing costs[1].

Gross household income is adjusted to a net amount available for expenditures after deducting the portion of income dedicated to income taxes, contributions to Social Security and Medicare, savings, and repayment of household debt. Housing costs are not deducted as part of this adjustment step because they are addressed separately as expenditures within the IMPLAN model. In addition, an adjustment is made to account for a standard rental vacancy allowance of 5%. The adjusted household income available for expenditures becomes the input into the IMPLAN model. As a result, household income and expenditures associated with each of the prototypes are as follows:

[1] While a share of households in San Francisco spend more than 30% of their income on rent, the assumptions used in the analysis are intended to represent the generally higher-incomes of households occupying new market rate units. Anecdotally we know that some households do pay a higher percentage of their income toward rent and some pay a lower percentage, especially at the luxury end of the market. Using a percentage of income spent on rent above 30% would have reduced the nexus findings and using a figure less than 30% would have increased the nexus findings. See also the additional discussion in Section III.

Income Available for Expenditures		
	Condominium	*Apartment*
Gross Household Income	$220,000	$186,000
Percent of Income available for Expenditures	62%	65%
Spending Adjustment / Rental Vacancy	N/A	95%
Household Income Available for Expenditures		
One Unit	$136,000	$115,000
100 Units	$13,640,000	$11,500,000

The nexus analysis is conducted on 100-unit project modules (i.e., 100 new households) for ease of presentation and to avoid awkward fractions.

3. New Services Employment

The IMPLAN model was applied to link household income to job growth occurring in San Francisco. IMPLAN data sets are available for each county in the United States and are tailored to reflect the economic base in each area. The analysis uses the IMPLAN data set for San Francisco. The IMPLAN model distributes spending among various types of goods and services based on data from the Consumer Expenditure Survey and the Bureau of Economic Analysis Benchmark input-output study, to estimate employment generated. Job creation, driven by increased demand for products and services, is projected for each of the industries that will serve the new households. Employment in local government services such as Muni, Police and Fire was separately estimated by KMA and represents approximately 4% of the estimated employment. The employment generated in providing goods and services to new residents is summarized in the following table.

Jobs Generated Per 100 Units		
	Condominium	*Apartment*
Annual Household Expenditures (100 Units)	$13,640,000	$11,500,000
Total Jobs Generated, 100 Units	85.2	72.3

The IMPLAN model quantifies jobs generated at establishments that serve new residents directly (i.e., supermarkets, banks, or schools), jobs generated by increased demand at firms which service or supply these establishments (wholesalers, janitorial contractors, accounting firms, or any jobs down the service/supply chain from direct jobs), and jobs generated when the new employees spend their wages in the local economy and generate additional jobs. Retail, restaurants, and health care represent the largest share of jobs generated by household expenditures.

4. Compensation Levels of Jobs and Household Income

The output of the IMPLAN model – the numbers of jobs by industry – is then entered into the Keyser Marston Associates jobs housing nexus analysis model to quantify the compensation levels of new jobs and the income of the new worker households. The KMA model sorts the jobs by industry into jobs by occupation, based on national data, and then attaches local wage distribution data to the occupations, using recent data for San Francisco from the California Employment Development Department. Further description is provided in Section III-C.

The KMA model makes a conversion from 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 calculation is shown in the table below. For purposes of the adjustment from jobs to housing units, the average of 1.74 workers per worker household in San Francisco is used[2].

Adjustment from Number of Workers to Number of Households		
	Condominium	*Apartment*
Total Jobs Generated, 100 Units	85.2	72.3
Divide by Number of Workers per Worker Household in San Francisco	1.74	1.74
Net New Worker Households	49.0	41.5

The analysis distinguishes the net new worker households by income and determines the number of Low and Moderate Income Households from 0% through 120% of Area Median Income as well as the number above this income threshold as summarized in the table below.

New Worker Households per 100 Market Rate Units by Income		
	Condominium	*Apartment*
Low & Moderate Income Households, 0% to 120% AMI	37.6	31.8
Worker Households Above 120% AMI	11.4	9.7
Total, New Worker Households	49.0	41.5

Based on the lower compensation levels of many workers in retail, restaurants, and other services, many of the worker households are estimated to qualify as Low and Moderate Income. The number of Low and Moderate Income Households shown above represents the number of new affordable units required to offset the new affordable housing demand associated with services to each 100 new market rate residential units. Thus, a development project with 100 owner-occupied market rate Condominiums would result in the demand for just under 38 units affordable to Low and Moderate Income households earning between 0% and 120% of AMI. Likewise, a development project with 100 renter-occupied market rate

[2] The average number of workers per worker household is calculated using data from the 2011-2013 American Community Survey. The ratio of 1.74 results from dividing the reported number of workers living in San Francisco by the number households that have at least one member with wage or salary income (1.74 = 453,656 / 260,621).

Apartments would result in the demand for just under 32 units affordable to Low and Moderate Income households earning between 0% and 120% of AMI.

5. Affordable Housing Fees: Maximum Fee Percentage Supported by Nexus

San Francisco's Affordable Housing Fee is determined by multiplying a required affordable unit percentage by an affordability gap published by the Mayor's Office of Housing and Community Development. Currently, the maximum required affordable unit percentage used in determining the fee is 33% pursuant to Proposition C enacted in June 2016. This percentage is subject to potential adjustment by the Board of Supervisors based upon the findings of a separate Economic Feasibility Study as well as this nexus study.

The nexus analysis identifies the Maximum Fee Percentage supported by the nexus for purposes of determining the Affordable Housing Fees. The Maximum Fee Percentage is the percentage that, when applied to the number of market rate units in the principal project, would result in the number of affordable units sufficient to mitigate the increased need for housing affordable to Low and Moderate Income Households generated by the new market rate Condominiums and Apartments in the principal project. For Condominiums, the Maximum Fee Percentage is 37.6%. For Apartments, the Maximum Fee Percentage is 31.8%.

Maximum Fee Percentage for Determining Affordable Housing Fee Supported by Nexus Analysis

	Condominium	*Apartment*
Maximum Fee Percentage Supported through 120% AMI	37.6%	31.8%

Source: KMA; see Table C-4

The dollar cost of mitigating the affordable housing impacts of the new market rate residential development may be determined by multiplying the Maximum Fee Percentage of 37.6% for Condominiums and 31.8% for Apartments by an affordability gap representing the net cost to produce each new unit of affordable housing. Affordability gaps are published by the Mayor's Office of Housing and Community Development and updated regularly for purposes of the Affordable Housing Fee. Because affordability gaps for San Francisco are published regularly and vary over time with changes in development costs and median income levels, the final step in the fee calculation, multiplication by an affordability gap to determine dollar mitigation cost, was not included in this report.

Analysis findings with respect to Condominiums are supportive of the current 33% requirement applicable to the determination of fees. Analysis findings for the Apartment support a reduced percentage of up to 31.8% for purposes of determining fees. Nexus findings address maximums with respect to determination of the Affordable Housing Fee, the primary requirement under the San Francisco Program. Alternatives to fee payment such as on-site provision of affordable units are not limited based on the findings of this analysis.

6. Additional Findings: On-Site Percentage Requirement Supported

The findings of the nexus analysis can also be used to calculate the percentage of units provided on-site within a project that would mitigate the affordable housing impacts. The percentages are different than the Maximum Fee Percentages provided above (under no. 5.) which relate to nexus support for San Francisco's existing Affordable Housing Fee, which is based on an off-site affordable housing mitigation. The on-site percentages supported are less than the percentages applicable to off-site units because, with on-site provision of affordable units, there are fewer market rate units in the project. This contrasts with off-site mitigation where the residential project is 100% market rate and all affordable units are assumed to be provided in a different building off-site. The on-site percentage calculations include both market rate and affordable units (for example, 37.6 affordable units per 100 market rate condominium units translates into a project of 137.6 units; 37.6 affordable units out of 137.6 units is equal to 27.3%). The table below presents the results of the analysis expressed as a maximum on-site inclusionary percentage supported.

On-site affordable unit percentage supported		
	Condominium	*Apartment*
Affordable Unit On-Site Percentage Supported through 120% AMI	27.3%	24.1%

Source: KMA

The above findings are provided for additional information that may be useful relative to consideration of potential future modifications to requirements.

Affordable housing impacts through 150% AMI were also quantified and, while not relevant to the current San Francisco Program, are provided in Appendix B for additional information.

II. INTRODUCTION AND OVERVIEW

This residential nexus report documents and quantifies the linkages between new market-rate residential development in the City and County of San Francisco (City) and the demand for additional affordable housing. The report has been prepared to provide an analysis in support of the San Francisco Program and the Affordable Housing Fees required under the San Francisco Program consistent with the requirements of the Mitigation Fee Act (Government Code Section 66000 et. seq.). The nexus analysis has been prepared by Keyser Marston Associates, Inc. (KMA) in accordance with a contractual agreement.

Existing Inclusionary Housing Program Overview

The San Francisco Program is set forth in Planning Code Section 415. The principal requirement under the San Francisco Program is payment of an Affordable Housing Fee. Alternatives to payment of the Affordable Housing Fee are inclusion of affordable units on-site within a project and off-site construction of affordable units. The San Francisco Program applies to projects of 10 units or more. Higher requirements apply to projects with 25 units or more.

The Affordable Housing Fee is calculated based on the number of affordable units that would be owed under the off-site alternative multiplied by an affordability gap. The off-site alternative for projects of 25 units or more is to provide the equivalent of 33% times the number of units in the principal project as affordable units in a separate location off-site. For projects of between 10 and 24 units, the off-site alternative is 20% times the number of units in the principal project. An affordability gap represents the net cost to produce a unit of affordable housing based on the difference between the development cost for a new unit and the value of the unit as restricted to an affordable housing cost. The affordability gap applied in the fee calculation is determined by the Mayor's Office of Housing and Community Development and is updated from time to time and indexed between full updates. This report does not analyze the Mayor's Office of Housing and Community Development's method of fee calculation, and this method of calculation does not factor into this nexus analysis.

The on-site alternative applicable to projects of 25 units or more is to provide 25% of the units in the project as on-site affordable units. For projects of between 10 and 24 units, the on-site alternative is to provide 12% of units as affordable.

Requirements differ for certain Area Plans and use districts but in no case exceed the 33% off-site percentage.

The requirements as described above reflect changes enacted by Proposition C, which voters passed in June 2016, and subsequent modifications to the Proposition C requirements that also took effect in June 2016. Modified requirements are phased in based on when an Environmental Evaluation application was submitted. Full phase in of requirements is

applicable to projects that applied after January 12, 2016. Requirements are subject to potential modification by the Board of Supervisors based on the findings of a separate Economic Feasibility Study as well as this nexus study.

Purpose and Use of This Study

The nexus study has been prepared for the limited purpose of determining nexus support for the San Francisco Program consistent with the requirements of Government Code Section 66000. The analysis establishes the basis for calculating Affordable Housing Fees that could be imposed on a development project containing market rate housing in a manner consistent with the requirements of the Mitigation Fee Act, referred to for purposes of this Report as the "Maximum Fee Percentage." The analysis calculates the demand for affordable housing generated by market rate development as a percentage of the total number of housing units in a development project containing market rate housing. This Maximum Fee Percentage is a multiplier that the City can use to quantify and impose Affordable Housing Fees to address the additional demand for affordable housing units resulting from development of market rate housing.

This analysis has not been prepared as a document to guide policy design in the broader context. We caution against the use of this study, or any impact study for that matter, for purposes beyond the intended use. All nexus studies are limited and imperfect but can be helpful for addressing narrow concerns. The findings presented in this report represent the results of an impact analysis only and <u>are not</u> policy recommendations for changes to the San Francisco Program.

The Nexus Concept

At its most simplified level, the underlying nexus concept is that the newly constructed units represent net new households in San Francisco. These households represent new income in San Francisco that will consume goods and services, either through purchases of goods and services or "consumption" of governmental services. New consumption creates a demand for new jobs; a portion of the jobs are at lower compensation levels; low compensation jobs translate into additional lower income households that cannot afford market rate units in San Francisco and therefore need affordable housing.

Methodology and Models Used

To determine the impact of new market-rate housing on the need for affordable housing, this nexus analysis starts with the sales price or rental rate of a new market rate residential unit, and moves through a series of linkages to the gross income of the household that purchased or 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 and the cost of that housing. The steps of the analysis from household income available for expenditures to jobs generated were performed using the IMPLAN (IMpact Analysis for PLANning) 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. Employment in governmental services such as Muni, Police and Fire is estimated separately based on existing City and County employment levels by department and application of analysis methodology drawn from prior fiscal impact analyses prepared for the City.

The output of the IMPLAN model (the number of jobs in various industries generated by household spending) and the estimated governmental services employment is input into KMA's own jobs housing nexus model. The KMA jobs housing nexus model was developed over 25 years ago and continually used and updated since then. The jobs housing nexus model calculates the income of worker households and sorts them by affordability level.

To illustrate the linkages by looking at a simplified example, we can take an average household that buys a house at a certain price. From that price, we estimate the gross income of the household (from mortgage rates and lending practices) 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 Low and Moderate Income households who cannot afford market rate housing in San Francisco. Subsidies are required if their housing needs are to be met in San Francisco.

The IMPLAN model quantifies jobs generated at establishments that serve new residents directly (e.g., supermarkets, banks or schools), jobs generated by increased demand at firms that 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. The impacts estimated by IMPLAN are entirely attributable to the new household spending.

Market Rate Residential Project Types

Two prototypical residential project types were selected for analysis. The prototypes were intended to be representative of market rate development activity occurring in San Francisco:

- Condominium Unit
- Apartment Unit

Only minor development activity is expected in the future for lower density residential building types such as Single Family, particularly above the 10-unit threshold subject to the San Francisco Program. Additional information on the prototypes can be found in Section III-A.

Low and Moderate Income Worker Households

This analysis addresses the impact of new market rate residential development on the need for housing affordable to worker households with incomes from 0% through 120% of Area Median Income (AMI). This income range is consistent with the range of incomes currently covered by the San Francisco Program. Households within the 0% through 120% of Median Income range are referred to in this report as "Low and Moderate Income". Income limits applied in the analysis are from the schedule published by the Mayor's Office of Housing and Community Development and applicable to the San Francisco Program.

The on-site alternative to payment of the Affordable Housing Fee requires 15% of units be provided at Low-Income and 10% at Moderate / Middle-Income for a combined on-site affordable percentage of 25%. The off-site alternative requires 20% Low-Income and 13% Moderate / Middle Income units for a combined off-site affordable percentage of 33%. For purposes of these requirements, Low-Income is defined as up to 55% of AMI with respect to rental affordable units and up to 80% of AMI with respect to owner-occupied affordable units. Moderate and Middle are defined as up to 100% of AMI for rental affordable units and up to 120% of AMI for owner-occupied affordable units.

In addition to the findings regarding affordable housing impacts through 120% of Area Median Income, Appendix B contains supplemental information on impacts through 150% of Area Median Income.

Geographic Area of Impact

The analysis quantifies impacts occurring within the City and County of San Francisco. The IMPLAN model computes the jobs generated within San Francisco and excludes those that occur outside the City. The analysis result would be higher if jobs located elsewhere in the Bay Area or beyond were included. For the San Francisco located employment, the KMA Jobs Housing Nexus Model is then used to analyze the income structure of jobs and their worker households without assumptions as to where the worker households live. Inclusion of all affordable housing impacts is appropriate for the nexus; however, it is a matter of policy whether to seek mitigation for the affordable housing needs of all workers or a reduced share of workers that are assumed to find housing in the City.

Net New Underlying Assumption

An underlying assumption of the analysis is that households that purchase or rent new units represent net new households in San Francisco. If purchasers or 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 San Francisco were experiencing demolitions or loss of existing housing inventory. However, the rate of housing unit removal is so low as to not

warrant an adjustment or offset[3]. On an individual project basis, if existing units are removed to redevelop a site to higher density, then the findings of this analysis would generally apply to the net increase in units on the site.

Since the analysis addresses net new households in San Francisco and the impacts generated by their need for goods and services, it quantifies net new demand for affordable units to accommodate new worker households. As such, the impact results do not address nor in any way include existing unmet needs or deficiencies in the supply of affordable housing.

Organization of Report

The nexus analysis is presented in Part III of the report, in the following four sections:

- Section A. presents information regarding the prototypical new market rate residential units and the estimated household income of purchases or renters of those units.

- Section B. describes the approach to estimating the number of jobs in retail, restaurants, healthcare, government, and other sectors.

- Section C. describes the impact of employment growth associated with residential development on the need for new housing units affordable to Low and Moderate Income households.

- Section D. provides draft findings consistent with the requirements of the Mitigation Fee Act.

[3] According to annual San Francisco Housing Inventory reports prepared over the five-year period from 2010 to 2014, a total of 103 housing units were demolished, excluding demolitions identified as occurring in relation to specific reconstruction projections resulting in an intensification in the overall number of residential units on the site. In relation to the overall housing stock of 376,942 per the 2010 U.S. Census, this represents a demolition rate of only 0.027%.

III. NEXUS ANALYSIS

A. MARKET RATE UNITS AND HOUSEHOLD INCOME

This section describes the prototypical market rate residential units and the income of the purchaser and renter households. Market rate prototypes are representative of new residential units currently being built in San Francisco or that are likely to be built in San Francisco over the next several years. Household income is estimated based on the amount necessary for the mortgage or rent payments associated with the prototypical new market rate units and becomes the basis for the input to the IMPLAN model described in Section B of this report. These are the starting points of the chain of linkages that connect new market rate units to additional demand for affordable residential units.

Recent Housing Market Activity and Prototypical Units

KMA identified two residential prototypes in consultation with City staff, one Condominium and one Apartment. These prototypes are representative of the types of development that the City is currently seeing and expects to see over the coming years. They are based on projects recently built or in the development pipeline in San Francisco. KMA then undertook a market survey of new residential projects currently being marketed in San Francisco and obtained data on re-sales of units within recently built projects. As another indicator of market values, KMA obtained data on sales of existing but newer homes in San Francisco, focusing on units built since 2010. KMA also assembled data on asking rents in new apartments in San Francisco.

San Francisco has residential development activity occurring at a range of densities from low-rise projects to high-rise. Low-rise projects typically have four stories of wood-frame construction over a concrete podium. Mid-rise projects are generally projects of up to 85 feet in height and have concrete or steel construction. High-rise projects are projects above 85 feet in height. Minimal development activity is expected for lower density housing types such as single family. Appendix A contains the market survey of new residential projects currently marketing or recently completed. Of the ownership projects identified in the market survey, eight were in a low-rise configuration, eleven mid-rise and four high-rise. For rental, four projects identified in the market survey were low-rise, seven mid-rise, and five high-rise.

The results of the market survey and the selection of the two residential prototypes are summarized in the table on the following page. The main objective of the survey was to establish current market sales prices or rents, per unit and per square foot, for new market rate units in San Francisco. A mid-rise unit was selected to represent a typical unit for San Francisco given the greatest number of projects identified in the market survey for both rental and ownership were at the mid-rise density. The selected unit sizes of 1,000 square feet for the Condominium unit and 850 square feet for the Apartment are representative of unit sizes available in recent projects as described in Appendix A.

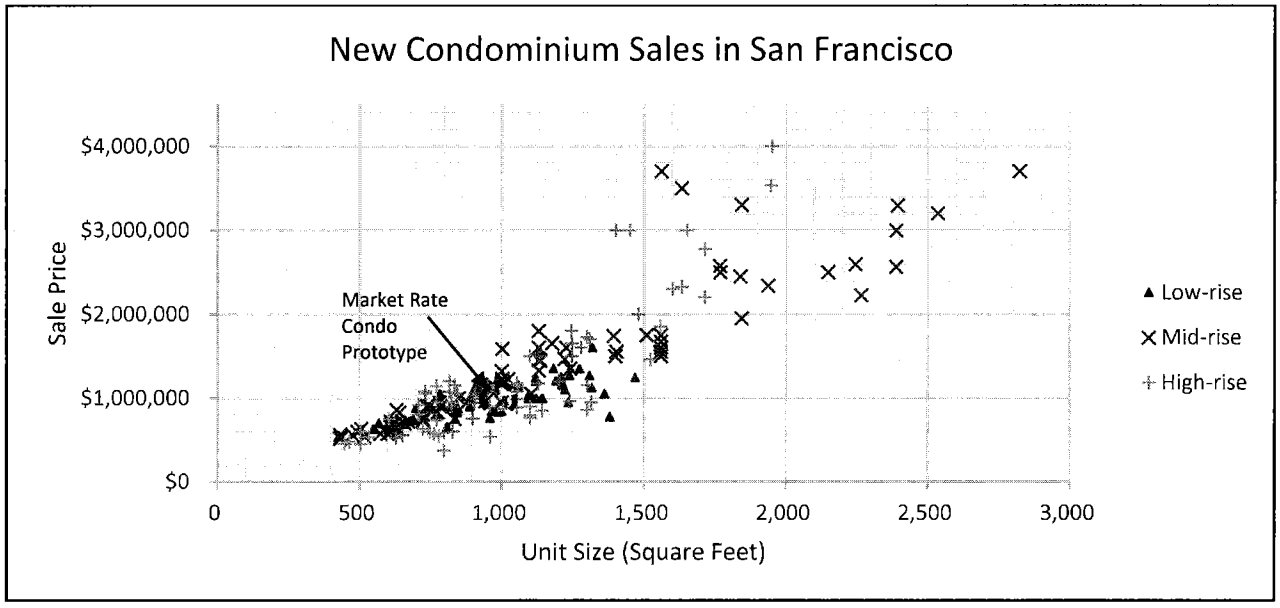
It is important to note that the residential prototypes analysis is intended to reflect typical residential projects in San Francisco rather than any specific project. It would be expected that specific projects would vary to some degree from the residential prototypes analyzed. In summary, the residential prototypes analyzed in the nexus analysis are as follows:

Prototypical Residential Units		
	Condominium	*Apartment*
Unit Size (net)	1,000 SF	850 SF
Price / Rent	$1,000,000	$4,250 /mo.
Per Square Foot	$1,000 /SF	$5.00 /SF

Source: KMA market survey; see Appendix A.

The market survey on which these prices and rents are based was completed in late spring 2015. Following completion of the survey, there are signs that the rental market may have reached a peak with some subsequent softening. However, in our opinion, shifts in the market since the time of the survey have not been substantial enough to necessitate an update.

The Condominium unit size and price of 1,000 net square feet and $1,000,000, while based on a mid-rise unit, is also representative of overall development activity, inclusive of low-, mid- and high-rise units, as illustrated in the chart below.



Source: Appendix A market survey.

More discussion of the prototype selection and the supporting market survey tables are provided in Appendix A.

Income of Housing Unit Purchaser or Renter

After the residential prototypes are established, the next step is to determine the income of the households purchasing or renting the prototypical units.

Condominium Unit

For the ownership unit, a set of mortgage underwriting terms is used to calculate the income necessary to purchase the unit. The calculation is presented in Table A-1 at the end of this section. The terms for the purchase of the Condominium unit used in the analysis are slightly less favorable than what can be achieved at the current time since current terms are not likely to endure.

Purchasers of new units are estimated to make a down payment averaging 20% of the sale price, which is representative for new purchase loans being originated in San Francisco[4].

The interest rate of 5.81% for a non-conforming loan reflects an estimate of the longer term average based on the experience over the past fifteen years[5] and includes an estimated 0.25% premium applicable for loans larger than the conforming loan limit ($625,000 in San Francisco).

The total housing expense for the Condominium purchaser includes the primary mortgage principal and interest payment, homeowners' insurance, homeowner association dues, and property taxes, for purposes of determining mortgage eligibility[6]. The analysis estimates that the total housing expense is 35% of the gross household income. This figure is consistent with data on new purchase loans originated in San Francisco as well as the Health and Safety Code standard for maximum housing costs as a percentage of income[7] and criteria used by lenders to determine mortgage eligibility.[8]

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[4] Based on KMA review of data from Freddie Mac on its portfolio of mortgages within zip codes starting with 941 (includes San Francisco) and specific to principal residence purchase loans originated during the 1st quarter of 2014, the most recent period available at the time the data was accessed.

[5] Conforming loans are those that meet the guidelines for purchase by Fannie Mae and Freddie Mac. The interest rate is based on Freddie Mac Primary Mortgage Market Survey weekly average rates for 30 year fixed rate mortgages during the period from January 2000 through December 2014 in the West Region.

[6] Housing expenses are combined with other debt payments such as credit cards and auto loans to compute a Debt To Income (DTI) ratio which is a key criteria used for determining mortgage eligibility.

[7] New purchase loans in the local area have an average debt to income ratio of 37.7% based on data from Freddie Mac on its portfolio of mortgages within zip codes starting with 941 (includes San Francisco) and specific to principal residence purchase loans originated during the 1st quarter of 2014, the most recent period available at the time the data was accessed. However, the debt to income ratio includes other forms of debt such as student loans, credit cards, and auto loans, and the ratio considering only housing expenses would be less than 37.7%. For purposes of the analysis, a ratio of 35% was selected based upon the standard in California Health and Safety Code Section 50052.5(b)(4) for maximum housing costs as a percentage of gross income.

[8] Fannie Mae mortgage underwriting eligibility criteria establishes a debt to income threshold of 36% above which tighter credit standards apply. A debt to income ratio of up to 45% is permitted for borrowers meeting specified credit

Apartment Units

Household income for renter households is estimated based on the assumption that housing costs represent, on average, 30% of gross household income. The 30% factor was referenced from the California Health and Safety Code Section 50052.5 standard for relating income to affordable rent levels.[9] While this percentage is higher than the overall Census average for San Francisco at 28%[10] and the 22% average specific to households with incomes above $100,000[11], these Census figures reflect the large stock of older units in San Francisco, many of which are subject to rent control, and are therefore not expected to be representative of new units at market rate rents.

In addition to rent, landlord parking charges and utility expenses are also considered as part of housing costs. Parking charges are estimated to average $210 per month which reflects an estimated parking charge of $350 per month per space multiplied by an average parking ratio of 0.6 spaces per unit. Parking charges are based on apartment properties included in the market survey and a recent feasibility study prepared for the City[12]. Utilities include direct-billed utilities and landlord reimbursements and were estimated based upon the San Francisco Housing Authority utility allowance schedule to total $200 monthly.

The resulting relationship is that annual household income is 3.3 times annual housing costs.

The estimated required gross household incomes of the purchasers or renters of the prototype units are calculated in Tables A-1 and A-2 at the end of this section and summarized below.

Household Income		
	Condominium	*Apartment*
Gross Household Income	$220,000	$186,000

Source: KMA; see Tables A-1 and A-2.

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. Payroll deduction for

criteria; however, most households have other forms of debt such as credit cards, student loans, and auto loans that would be considered as part of this ratio.

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

[10] 2011-2013 American Community Survey.

[11] Calculated by KMA based on data from the 2011-2013 American Community Survey.

[12] Seifel Consulting. Transportation Sustainability Fee: Economic Feasibility Study. Spring 2015. Appendix Table C1a and C1b.

medical benefits and pre-tax medical expenditures are also handled internally within the model. Housing costs are addressed separately, as described below, and so are not deducted as part of this adjustment step. Table A-3 at the end of this section shows the calculation of income available for expenditures.

Income available for expenditures is estimated at approximately 62% of gross income in the case of the Condominium prototype and 65% for the Apartment prototype. The estimates are based on a review of data from the Internal Revenue Service (IRS), California Franchise Tax Board tax tables, and data from the Bureau of Economic Analysis. Per the IRS, households earning between $200,000 and $250,000 per year, or the residents of the prototypical Condominium units, who itemize deductions on their returns will pay an average of 16.8% of gross income for federal taxes (average tax rate not marginal). Households earning between $100,000 and $200,000 per year, or the residents of the Apartment units, who do not itemize deductions on their returns will pay an average of 14.1% of gross income for federal taxes[13]. State taxes are estimated to average 6% of gross income based on tax rates per the California Franchise Tax Board[14]. The employee share of FICA payroll taxes for Social Security and Medicare is 7.65% of gross income (conservatively assumes all earners in the household are within the $118,500 ceiling on income subject to Social Security taxes).

Savings and repayment of household debt represent another necessary adjustment to gross income. Savings includes various IRA and 401(k) type programs as well as non-retirement household savings and investments. Debt repayment includes auto loans, credit cards, and all other non-mortgage debt. Overall, savings and repayment of debt are estimated to represent a combined 8% of gross income based on the 20 year average derived from United States Bureau of Economic Analysis data[15]. Data suggests that savings rate varies by income, with high income households saving a larger percentage of their gross income than the average. Data published by the National Bureau of Economic Research indicate that the average savings rate for households varies by income percentile, with households in the top 10% of income nationwide saving, on average, 20% of their income annually (the average for 2000-2012)[16]. Due to the high cost of housing and other living expenses in San Francisco, it is likely that savings rates do not approach the national average until households are at a much higher income level. For purposes of the nexus analysis, savings rates are estimated based on the national averages from the Bureau of Economic Analysis.

Housing costs are not deducted from gross income prior to running the IMPLAN model. This is for consistency with the IMPLAN model, which defines housing costs as expenditures. The

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[13] Average tax rates with and without itemized deductions were computed by KMA based on data from U.S. Internal Revenue Services, Tax Statistics, Tables 1.1 and 2.1.

[14] Franchise Tax Board. 2014 California Tax Rate Schedules.

[15] U.S. Bureau of Economic Analysis data, National Income and Product Accounts, Table 2.1 "Personal Income and Its Disposition."

[16] Emmanuel Saez and Gabriel Zucman. "Wealth Inequality in the United States Since 1913: Evidence from Capitalized Income Tax Data." National Bureau of Economic Research, Working Paper 20625. October 2014.

IMPLAN model addresses the fact that expenditures on housing do not generate employment to the degree that other expenditures such as retail or restaurants do, but there is some limited maintenance and property management employment generated.

After deducting income taxes, Social Security, Medicare, savings, and repayment of debt, the estimated income available for expenditures is 62% for the Condominium prototype and 65% for the Apartment prototype. These are the factors used to adjust from gross income to the income available for expenditures, which is the input for the IMPLAN model. As indicated above, other forms of taxation such as property tax are handled internally within the IMPLAN model.

For the Apartment, expenditures are also adjusted downward by a 5% allowance for standard operational vacancy. This figure is intended to represent a longer term average vacancy rate. The 5% vacancy assumption is consistent with the average rental vacancy rate for San Francisco per the 2010 Census of 5.4% and is slightly above the average reported by RealFacts as of 2015, Q1 of 4.5%.

Estimates of household income available for expenditures are summarized in the table below with additional detail presented in Tables A-3 and A-4 at the end of this section.

Income Available for Expenditures		
	Condominium	*Apartment*
Gross Household Income	$220,000	$186,000
Percent of Income Available for Expenditures	62%	65%
Spending Adjustment / Rental Vacancy	N/A	95%
Household Income Available for Expenditures		
One Unit	$136,000	$115,000
100 Units	$13,640,000	$11,500,000

The nexus analysis is conducted on 100-unit building modules for ease of presentation, and to avoid awkward fractions. The spending associated with 100 market rate residential units is the input into the IMPLAN model.

TABLE A-1
CONDOMINIUM UNIT
SALES PRICE TO INCOME RATIO
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

			Condo
Sales Price	$1,000 /SF	1,000 SF [1]	$1,000,000 [1]
Mortgage Payment			
Downpayment @ 20%		20% [2]	$200,000
Loan Amount			$800,000
Interest Rate			5.81% [3]
Term of Mortgage			30 years
Annual Mortgage Payment	$4,700 /month		$56,400
Other Costs			
Property Taxes	1.24%	of sales price [4]	$12,415
HOA Dues	$600	per month [5]	$7,200
Homeowner Insurance	0.10%	of sales price [6]	$1,000
Total Annual Housing Cost	$6,400 /month		$77,015
% of Income Spent on Hsg			35% [7]
Annual Household Income Required			**$220,000**
Sales Price to Income Ratio			4.5

Notes
(1) Based on Market Survey.
(2) Representative down payment based upon a review of Freddie Mac data on new purchase loans originated in zip codes corresponding to San Francisco for the 1st Quarter of 2014, the most recent year available.
(3) Average mortgage interest rate derived from Freddie Mac Primary Mortgage Market Survey, West Region. Based on weekly average rates for 30 year fixed rate mortgages during the fifteen year period from 1/2000 through 12/31/2014. Includes a 0.25% premium to reflect the non-conforming nature of the loan (jumbo loan).
(4) Property tax rate is inclusive of ad valorem taxes, fixed charges and assessments. Source: ListSource.
(5) Based on Market Survey.
(6) Estimated from quotes obtained from Progressive Insurance.
(7) Ratio is consistent with Fannie Mae mortgage underwriting eligibility criteria which establishes a debt to income threshold of 36% above which tighter credit standards apply. A debt to income ratio of up to 45% is permitted for borrowers meeting specified credit criteria. Ratio is also consistent with the California Health and Safety Code standard for relating income to housing costs for ownership units. Freddie Mac data on new purchase loans originated in zip codes corresponding to San Francisco for the 1st Quarter of 2014 indicates an average debt to income ratio of 38%; however, most households have other forms of debt such as credit cards, student loans, and auto loans that are considered as part of this ratio and the ratio considering housing costs only would be lower.

TABLE A-2
APARTMENT UNIT
RENT TO INCOME RATIO
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

			Apartment
Housing Costs			
Monthly Rent	$5.00 /SF	850 SF [1]	$4,250 [1]
Parking[2]	$350	0.60 sp/unit	$210
Utilities[3]			$200
Monthly Housing Cost			$4,660
Annual Housing Cost			$55,920
% of Income Spent on Housing			30% [4]
Annual Household Income Required			**$186,000**
Annual Rent to Income Ratio			3.3

Notes

(1) Based on the results of the market survey. Represents rent levels applicable to new units.

(2) Based on survey of parking charges for new apartment properties included in the market survey. Also consistent with parking estimate for mid-rise apartments per Seifel Consulting, Transportation Sustainability Fee: Economic Feasibility Study, Spring 2015, Appendix Table C1a and C1b. Parking ratio estimated based on projects included in the market survey.

(3) Monthly utilities include direct-billed utilities and landlord reimbursements estimated from SFHA utility allowance schedule.

(4) While landlords may permit rental payments to represent a slightly higher share of total income, 30% represents an average.

TABLE A-3
INCOME AVAILABLE FOR EXPENDITURES[1]
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Condo	Apartment
Gross Income	100%	100%
Less:		
Federal Income Taxes [2]	16.8%	14.1%
State Income Taxes [3]	6%	6%
FICA Tax Rate [4]	7.65%	7.65%
Savings & other deductions [5]	8%	8%
Percent of Income Available for Expenditures [6] [Input to IMPLAN model]	***62%***	***65%***

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. Housing costs are not deducted as part of this adjustment step because they are addressed separately as expenditures within the IMPLAN model.

[2] Reflects average tax rates (as opposed to marginal) based on U.S. Internal Revenue Services, Tax Statistics, Tables 1.1 and 2.1. Homeowners are assumed to itemize deductions. Renter households are assumed to take the standard deduction. For the Condo prototype, the average tax rate for AGI of $200,000 to $250,000 for those itemizing deductions is applied at 16.8%. For the Apartment prototype, the average rate for AGI of $100,000 to $200,000 for tax payers not itemizing deductions is applied at 14.1%.

[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 average tax rates are based upon an average of single and married tax schedules weighted based upon the percentage of married households living in San Francisco per the 2009-2013 American Community Survey.

[4] For Social Security and Medicare. Conservatively assumes all income will be subject to Social Security taxes. The current ceiling on applicability of Social Security taxes is $118,500 (ceiling applies per earner not per household).

[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 Its 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. Housing costs are not deducted as part of the adjustment because they are addressed separately as expenditures within the IMPLAN model.

TABLE A-4
HOUSEHOLD INCOME: 100 MARKET RATE UNITS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

		Per Unit	Per Sq.Ft.	100 Unit Building Module
CONDO				
Units				***100 Units***
Unit Square Feet		1,000		100,000
Sales Price		$1,000,000	$1,000	$100,000,000
Sales Price to Income Ratio		4.5		4.5
Gross Household Income		$220,000		$22,000,000
Income Available for Expenditure[1]	62% of gross	$136,000		**$13,640,000**
APARTMENT UNIT				
Units				***100 Units***
Unit Square Feet		850		85,000
Housing Costs				
Monthly (with parking and utilities)		$4,660		$466,000
Annual		$55,920		$5,592,000
Housing Cost to Income Ratio		3.3		3.3
Gross Household Income		$186,000		$18,600,000
Income Available for Expenditure[1]	65% of gross	$121,000		$12,090,000
Income Available for Expenditures after Vacancy Adjustment[2]	5% vacancy	$115,000		**$11,500,000**

Notes:
(1) Represents net income available for expenditures after income tax, payroll taxes, and savings. See Table A-3 for derivation.
(2) Represents the estimated household income available for expenditures in 100 units, as adjusted downward by a factor to account for standard operational vacancy in rental units.
Source: See Tables A-1 through A-3.

B. SERVICES EMPLOYMENT

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 new jobs generated by the consumer expenditures of residents. In addition, residents of new housing units will also utilize public sector services such as MUNI, police and fire/EMS services. Since the IMPLAN results do not reflect employment in local government services, a separate estimate was prepared applying a methodology adapted from fiscal impact analyses and applied to current City and County of San Francisco employment by major service department.

IMPLAN Model

The IMPLAN model is an economic analysis software package now commercially available through the IMPLAN Group, LLC. IMPLAN has been in use since 1979 and refined over time. It is a widely used tool for analyzing economic impacts for a broad range of applications.

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 500 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 San Francisco City and 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 San Francisco. In addition, the employment impacts will extend throughout the Bay Area and beyond based on where jobs are located that serve San Francisco residents. However, consistent with the conservative approach taken in the nexus analysis, only the impacts that occur within San Francisco are included in the analysis.

The IMPLAN model was applied to link income to household expenditures to job growth. Employment generated by the household income of residents is analyzed in modules of 100 residential 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. Both of the San Francisco prototypes are in the $150,000 and up income category. 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).

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

Jobs Generated Per 100 Units		
	Condominium	*Apartment*
Annual Household Expenditures, 100 Units	$13,640,000	$11,500,000
Total Jobs Generated, 100 Units	82.6	69.7

Source: KMA, IMPLAN

Local Government Services Employment

Increased employment associated with local government service provision to new residents was estimated based upon current City and County of San Francisco employment levels and application of a methodology adapted from fiscal impact analyses previously prepared on behalf of the City[17]. The approach results in an estimate of the net increase in local government employment in response to increased demands for service by residents in new market rate units.

The table on the following page summarizes the analysis. Figures presented in the table below are also presented in terms of jobs per 100 market rate units to remain consistent with analyses throughout this report which relate findings to prototypical market rate projects of 100 units in size. Additional supporting detail is provided in Appendix C Tables 1 and 2.

[17] Fiscal impact analyses referenced for purposes of this estimate include: Economic and Planning Systems, A Study of the Economic and Fiscal Impact of the University of California San Francisco, June 2010. Keyser Marston Associates, Inc., Fiscal Impact Analysis - Infrastructure Financing District No. 1 (Rincon Hill Area) DRAFT, December 2010. CBRE, Park Merced Fiscal and Economic Impact Analysis Overview, January 2011.

Estimated Local Government Services Employment		
	City-Wide Total	*Per 100 Residential Units**
1) Total local government services employment, FY 2014-15	33,837	8.95
2) Less: share of employment that would not increase in response to additional service demands	(20,822)	(5.51)
3) Less: portion allocable to businesses / visitors	(3,188)	(0.84)
4) Net estimated local government services employment that serves residents and varies with service demands	9,827	**2.60**

* Calculated by dividing City-Wide Total by the 378,186 residential units in San Francisco per the 2009-2013 American Community Survey and multiplying by 100.

Current local government employment (No. 1 in table above) – For the analysis of public sector employment, the starting point is total City and County employment of 33,837 for FY 2014-15, as identified in the City's annual salary ordinance. Employment is separately identified for each major City service department as shown in Appendix C, Table 2.

Remove share of employment that does not vary based on increased service demands (No. 2 in table above) – Employment associated with specific City facilities such as museums and the airport are not likely to measurably increase in response to increased service demands from new residents. In addition, management and administrative staff would not be expected to increase proportionate to increased service demands. Examples of services that could be expected to vary in response to increased service demands include police, fire/EMS, and MUNI. A set of factors drawn from prior fiscal analyses is used to separate the "non-variable" from the "variable" component of employment within each major service department that would respond to increased service demands. It is estimated that approximately 20,822 employees or 62% of existing local government employment is "non-variable" and would not be subject to increase in proportion to an increase in service demands. The remaining 38% of local government employment is expected to vary in response to increased service demands. See Appendix C Table 2 for detailed estimates by major City service department.

Remove employment allocable to services provided to businesses and visitors (No. 3 in table above) – Since many City departments serve businesses and visitors in addition to residents, an adjustment is necessary to determine the remaining employment allocable to services for residents. Again, an allocation approach adapted from fiscal impact analysis is applied. Departments that service primarily residents, such as parks, are allocated to the residential population. For departments serving both residents and businesses, a "resident equivalent" service population is used to make the allocation. Each resident is weighted as one resident equivalent and each employee is weighted as 0.5 resident equivalents (see Appendix C, Table 1 for supporting calculations). Applying this metric, it is estimated that approximately 75% of the "variable" portion of local government services employment is attributable to residents.

The portion of total local government employment allocable to services provided to residents and that would vary in response to service demands is estimated at 9,827 jobs (line 4 of the table on the prior page), representing 29% of the 33,837 total employees of the City and County. This 9,827 jobs represents 2.6 jobs for each 100 residential units in the City (results are expressed per 100 units for consistency with analyses throughout this Report). The 2.6 jobs per 100 units are included as part of the estimated services employment impacts of new market rate residential units.

As a point of comparison, the overall growth in City and County employment relative to the change in residential units over the past 20 years has been more than four times higher than the estimate of 2.6 employees per 100 units as applied in the analysis[18]; however, a share of the increased public sector employment growth over the past 20 years is likely attributable to service demands from businesses and / or increased overall levels of service and so should not be allocated solely to the new residential units.

This separate analysis of local government services employment was conducted because the IMPLAN results do not include government services employment. The methodology used is adapted from fiscal impact analyses prepared to analyze the cost of providing public services to specific development projects. The resulting number of local government services jobs is based on an estimate of the demand or "need" for public services. The approach differs from that of the IMPLAN model which is based on tracking household expenditures and their impact on the local economy and the resulting number of jobs in various sectors.

Estimated Job Growth

A combined estimate of job growth is summarized below inclusive of estimated employment generated by new household spending from the IMPLAN model and the local government services employment that was separately estimated.

Jobs Generated Per 100 Units		
	Condominium	*Apartment*
Jobs generated from expenditures from IMPLAN	82.6	69.7
Jobs in local government services	2.6	2.6
Total Jobs Generated, 100 Units	85.2	72.3

Source: KMA, IMPLAN

Table B-1 provides a detailed summary of employment generated by industry sector. Estimated employment is shown for each industry sector representing 1% or more of total employment. The jobs that are generated are heavily retail jobs, jobs in restaurants and other eating establishments, and in services that are provided locally such as health care.

[18] Employment with the City and County of San Francisco increased by 3,999 positions over the 20-year period from FY 1994-95 to 2014-15 based upon totals reported in the City's annual salary ordinance. During the same period, the net increase in housing units was 35,278 based on data in the 2014 San Francisco Housing Inventory prepared by the Planning Department, resulting in a ratio of 11.3 jobs for each 100 new residential units; however, presumably much of this growth in public sector employment is attributable to other factors such as growth in service demands from the significant increase in private employment in San Francisco over the period and / or increased levels of service.

TABLE B-1
IMPLAN MODEL OUTPUT[3]
EMPLOYMENT GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Per 100 Market Rate Units	Condo	Apartment	% of Jobs
Household Expenditures (100 Market Rate Units) [1]	$13,640,000	$11,500,000	
Jobs Generated by Industry [2]			
Full-service restaurants	5.0	4.2	6%
Individual and family services	4.8	4.1	6%
Limited-service restaurants	3.8	3.2	4%
All other food and drinking places	2.4	2.0	3%
Subtotal Restaurant	16.1	13.5	19%
Retail - Food and beverage stores	3.0	2.6	4%
Retail - General merchandise stores	1.7	1.5	2%
Retail - Miscellaneious store retailers	1.0	0.9	1%
Retail - Health and personal care stores	1.0	0.8	1%
Retail - Clothing and clothing accessories stores	0.9	0.8	1%
Retail - Nonstore retailers	0.9	0.7	1%
Subtotal Retail	8.6	7.3	10%
Hospitals	3.0	2.5	3%
Offices of physicians	2.4	2.0	3%
Offices of dentists	1.2	1.0	1%
Offices of other health practitioners	0.7	0.6	1%
Subtotal Healthcare	7.3	6.2	9%
Junior colleges, colleges, universities, and professional schools	3.2	2.7	4%
Real estate	3.2	2.7	4%
Wholesale trade	2.9	2.5	3%
Local Government[3]	2.6	2.6	4%
Personal care services	1.8	1.5	2%
Other educational services	1.6	1.4	2%
Elementary and secondary schools	1.6	1.4	2%
Insurance carriers	1.6	1.3	2%
Nursing and community care facilities	1.4	1.1	2%
Monetary authorities and depository credit intermediation	1.3	1.1	1%
Labor and civic organizations	1.2	1.0	1%
Child day care services	1.1	0.9	1%
Automotive repair and maintenance, except car washes	1.0	0.9	1%
Grantmaking, giving, and social advocacy organizations	1.0	0.8	1%
Gambling industries (except casino hotels)	0.9	0.8	1%
Legal services	0.9	0.8	1%
Services to buildings	0.9	0.8	1%
Other financial investment activities	0.8	0.7	1%
Other personal services	0.8	0.7	1%
All Other	23.3	19.7	27%
Total Number of Jobs Generated	**85.2**	**72.3**	**100%**

1 Estimated employment generated by expenditures of households within 100 prototypical market rate units. Employment estimates are based on the IMPLAN Group's economic model, IMPLAN, for San Francisco County. Includes both full- and part-time jobs.

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

3 Employment associated with local govemment services to new residential units estimated by KMA seperately from the IMPLAN model. See Appendix C Table 1 - 2 for supporting analysis.

C. THE KMA JOBS HOUSING NEXUS MODEL

This section presents a summary of the analysis linking the employment growth created by residential development (see Section B) to the number of housing units affordable to Low and Moderate Income households required for the two prototype residential units.

Analysis Approach and Framework

The analysis examines the employment growth created by consumer spending and public services to residents of new market-rate housing (in 100-unit modules). 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 needed to mitigate the impact of 100 market rate units.

The nexus analysis identifies findings for households with Low and Moderate Incomes up to 120% of median income. This is for consistency with the San Francisco Program, which services households earning up to 120% of median income. The 2015 limits published by the San Francisco Mayor's Office of Housing and Community Development for purposes of the San Francisco Program are applied. The 2015 income limits were the most current available at the time the analysis was initiated and are applied for consistency with the time period applicable to other analysis inputs such as compensation data. The table below shows median income for San Francisco and the income limits applicable to the 120% of median category.

2015 Income Limits for San Francisco						
	Household Size (Persons)					
	1	2	3	4	5	6 +
Median Income	$71,350	$81,500	$91,700	$101,900	$110,050	$118,200
120% of Median	$85,600	$97,800	$110,050	$122,300	$132,050	$141,850

Source: Mayor's Office of Housing and Community Development

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 C-1 commences with the total number of employees associated with the new market rate residential units. The employees were estimated based on household expenditures of new residents using the IMPLAN model combined with an estimate of local government services employment (see Section B).

Step 2 – Adjustment from Employees to Employee Households

This step (Table C-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 needed for new workers is less than the number of new workers. The workers-per-worker-household ratio eliminates from the denominator all non-working households, such as retired persons, students, and those on public assistance. If the average number of workers in *all* households were used, it would have resulted in a greater estimated demand for housing units. Excluding the non-worker households, therefore, makes the analysis more conservative.

The average for San Francisco of 1.74 workers per worker household, whether full or part-time (from the U. S. Census Bureau 2011-2013 American Community Survey), is used for this step in the analysis. The number of jobs created is divided by 1.74 to determine the number of new households.

Step 3 – 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 B-1. The IMPLAN output is paired with data from the Department of Labor, Bureau of Labor Statistics May 2014 Occupational Employment Survey ("OES") to estimate the occupational composition of employees for each industry sector.

For local government services employees, occupations reflect the range of job classifications for City employees based upon the 2013 City and County payroll database information disclosed on the website Transparent California[19].

Step 3a – 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 536 industry sectors. The OES occupation data uses the

[19] Transparent California payroll database information was accessed by KMA in August 2015. http://transparentcalifornia.com/salaries/san-francisco/.

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, or in some cases, five-digit NAICS code level to align with OES data which is organized by four and five-digit NAICS code. For some industry sectors, an allocation is necessary between more than one NAICS code. Where required, allocations are made proportionate to total employment at the national level from the OES.

The table below illustrates analysis Step 3a in which employment estimates by IMPLAN Code are translated to NAICS codes and then aggregated at the four and five digit NAICS code level. The examples used are Child Day Care Centers and Hospitals. The process is applied to all the industry sectors.

Illustration of Model Step 3a.

A. IMPLAN Output by IMPLAN Industry Sector		B. Link to Corresponding NAICS Code		C. Aggregate at 4-Digit NAICS Code Level		
Jobs	IMPLAN Sector	Jobs	NAICS Code	Jobs	% Total	4-Digit NAICS
1.1	487 - Child day care services	1.1	6244 Child day care services	1.1	100%	6244 Child day care services
3.0	482 - Hospitals	3.0	622 Hospitals	2.8	92%	6221 General Medical and Surgical Hospitals
				0.1	4%	6222 Psychiatric and Substance Abuse Hospitals
				0.1	4%	6223 Specialty (except Psychiatric and Substance Abuse) Hospitals

Source: KMA, Bureau of Labor Statistics May 2014 Occupational Employment Survey.

Step 3b – Apply OES Data to Estimate Occupational Distribution

Employment estimates by four and five-digit NAICS code from step 3a 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 C-1, new jobs will be distributed across a variety of occupational categories. The three largest occupational categories are office and administrative support (16%), food preparation and serving (14%), and sales and related (12%). Step 4 of Table C-1 indicates the percentage and number of employee households by occupation associated with 100 market rate units.

Step 4 – Estimates of Employee Households Meeting the Lower Income Definitions

In this step, occupations are translated to employee incomes based on recent San Francisco wage and salary information from the California Employment Development Department (EDD). For local government services employees, employee compensations are based on City and County payroll data for 2013 and include overtime pay, as disclosed on the website Transparent California[20]. The wage and salary information summarized in Appendix D Tables 1 through 3 provide the income inputs to the model.

For each occupational category shown in Table C-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 D Table 2. Each of these over 100 occupation categories has a different distribution of wages which was obtained from EDD and is specific to workers in San Francisco.

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.

At the end of Step 4, the nexus analysis 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 5 – Distribution of Household Size and Number of Workers

In this step, the analysis examines the demographics of San Francisco in order to develop the percentage of households applicable to each potential combination of household size and number of workers. Percentages are calculated from 2011 – 2013 American Community Survey data for San Francisco. Application of this demographic data 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 5 is a distribution of San Francisco working households by number of workers and household size.

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[20] Ibid.

Step 6 – Estimate of Number of Households that Meet Size and Income Criteria

Step 6 is the final step to calculate the number of worker households from 0% to 120% of AMI. The calculation combines the matrix of results from Step 4 on percentage of worker households that would meet the income criteria at each potential household size / no. of workers combination, with Step 5, the percent of worker households having a given household size / number of workers combination. The result is the percent of worker households that are Low and Moderate Income. The percentages are then multiplied by the number of households from Step 2 to arrive at the number of Low and Moderate Income worker households.

Table C-2 shows the result after completing Steps 4, 5, and 6, resulting in a total count of worker households from 0% through 120% of AMI, per 100 market rate units.

Summary of Findings

The table below summarizes the analysis findings regarding the total demand for affordable housing through 120% of Median Income associated with 100 market rate units for the two residential prototypes, summarized from Table C-3 at the end of this section.

New Worker Households per 100 Market Rate Units: 0% to 120% of Median Income		
	Condominium	*Apartment*
New Worker Households 0% to 120% of Median	**37.6**	**31.8**

Source: KMA; see Table C-3

Housing demand for new worker households earning less than 120% of median is estimated at 37.6 units for each 100 market rate Condominiums and 31.8 units for each 100 market rate Apartments. The finding that the jobs associated with consumer spending tend to be low-paying jobs where the workers will require housing affordable at low and moderate income 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.

Maximum Supported Affordable Housing Fees

San Francisco's Affordable Housing Fees are determined by multiplying the number of residential units in the project by:

1) an affordable unit percentage requirement; and
2) an affordability gap.

The affordable unit percentage applied in determining the Affordable Housing Fee is that which would apply in the off-site alternative under Planning Code Section 415.7. Percentages apply to the number of units in the principal project. Affordability gaps used in the determination of fees are those published by the Mayor's Office of Housing and Community Development. The affordability gap represents the net cost to produce a unit of affordable housing and is regularly

updated as required under Planning Code Section 415.5. This Report does not address, assume or include this calculation in its analysis.

The findings of the nexus analysis identify the Maximum Fee Percentage that, when applied to the number of market rate units in the principal project, would mitigate the affordable housing impacts as documented in this nexus analysis. The amounts are determined by converting the nexus findings summarized on the prior page to percentages.

Maximum Fee Percentage for Affordable Housing Fees Supported by Nexus Analysis		
	Condominium	*Apartment*
Maximum Fee Percentage Supported through 120% AMI	37.6%	31.8%

Source: KMA; see Table C-4

These percentages represent the Maximum Fee Percentage supported by the nexus analysis for purposes of determining Affordable Housing Fees in San Francisco. Analysis findings with respect to Condominiums are supportive of the current 33% requirement applicable to the determination of fees. Analysis findings for the Apartment support a reduced percentage of up to 31.8% for purposes of determining fees. Nexus findings address maximums with respect to determination of the Affordable Housing Fee, the primary requirement under the San Francisco Program. Alternatives to fee payment such as on-site and off-site provision of affordable units are not limited based on the findings of this analysis. **These are impact analysis findings only and are not policy recommendations**.

On-Site Percentage Requirement Supported

The findings of the nexus analysis can also be used to calculate the percentage of units provided on-site within a project that would mitigate the affordable housing impacts. The percentages are different than the percentages provided above which relate to nexus support for San Francisco's existing Affordable Housing Fee, which is based on an off-site affordable housing mitigation. The on-site percentages supported are less than the percentages applicable to off-site units because, with on-site provision of affordable units, there are fewer market rate units in the project. This contrasts with off-site mitigation where the residential project is 100% market rate and all affordable units are assumed to be provided in a different building off-site. The on-site percentages are calculated including both market rate and affordable units (for example, 37.6 affordable units per 100 market rate Condominiums translates to a project of 137.6 units; 37.6 affordable units out of 137.6 units equals 27.3%). The table below presents the results of the analysis expressed as a maximum on-site inclusionary percentage supported.

On-site affordable unit percentage supported		
	Condominium	*Apartment*
Affordable Unit On-Site Percentage Supported through 120% AMI	27.3%	24.1%

Source: KMA

Under the current San Francisco Program, on-site compliance is available as an alternative to payment of the fee and does not require separate nexus support. Although not necessary to provide nexus support to the current program, the above findings were included for additional information that may be useful relative to consideration of potential modified requirements.

TABLE C-1
NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION
EMPLOYEE HOUSEHOLDS GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Condo		Apartment	
Step 1 - Employees [1]	85.2		72.3	
Step 2 - Adjustment for Number of Households (1.74)[2]	49.0		41.5	
Step 3 - Occupation Distribution [3]	number	percent	number	percent
Management Occupations	2.2	4.5%	1.8	4.4%
Business and Financial Operations	2.2	4.5%	1.9	4.5%
Computer and Mathematical	0.7	1.5%	0.6	1.5%
Architecture and Engineering	0.2	0.3%	0.1	0.3%
Life, Physical, and Social Science	0.2	0.4%	0.2	0.4%
Community and Social Services	1.3	2.6%	1.1	2.5%
Legal	0.4	0.8%	0.3	0.8%
Education, Training, and Library	2.6	5.2%	2.2	5.2%
Arts, Design, Entertainment, Sports, and Media	0.8	1.6%	0.7	1.6%
Healthcare Practitioners and Technical	3.0	6.2%	2.6	6.2%
Healthcare Support	1.8	3.7%	1.5	3.7%
Protective Service	0.6	1.2%	0.5	1.2%
Food Preparation and Serving Related	7.0	14.4%	5.9	14.3%
Building and Grounds Cleaning and Maint.	1.5	3.2%	1.3	3.1%
Personal Care and Service	3.8	7.7%	3.2	7.6%
Sales and Related	6.1	12.5%	5.2	12.4%
Office and Administrative Support	7.9	16.2%	6.7	16.1%
Farming, Fishing, and Forestry	0.0	0.1%	0.0	0.1%
Construction and Extraction	0.4	0.8%	0.3	0.8%
Installation, Maintenance, and Repair	1.5	3.2%	1.3	3.1%
Production	0.8	1.6%	0.6	1.5%
Transportation and Material Moving	2.4	4.8%	2.0	4.8%
Local Government	1.5	3.0%	1.5	3.6%
Totals	49.0	100.0%	41.5	100.0%

Notes:

[1] Estimated employment generated by expenditures of households within 100 prototypical market rate units from Table B-1.

[2] Adjustment from number of workers to households using average of 1.74 workers per worker household derived from the U.S. Census American Community Survey 2011 to 2013.

[3] See Appendix D Tables 1 through 3 for additional information on Major Occupation Categories.

TABLE C-2
LOW AND MODERATE INCOME EMPLOYEE HOUSEHOLDS GENERATED (0% TO 120% AMI)
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Per 100 Market Rate Units

	Condo	Apartment
Step 5 & 6 - Low & Moderate Income Households (0% to 120% AMI) within Major Occupation Categories[1]		
Management	0.44	0.37
Business and Financial Operations	0.73	0.62
Computer and Mathematical	-	-
Architecture and Engineering	-	-
Life, Physical and Social Science	-	-
Community and Social Services	0.98	0.83
Legal	-	-
Education Training and Library	1.99	1.68
Arts, Design, Entertainment, Sports, & Media	-	-
Healthcare Practitioners and Technical	0.41	0.35
Healthcare Support	1.58	1.34
Protective Service	-	-
Food Preparation and Serving Related	6.74	5.68
Building Grounds and Maintenance	1.43	1.21
Personal Care and Service	3.42	2.88
Sales and Related	5.21	4.39
Office and Admin	6.45	5.44
Farm, Fishing, and Forestry	-	-
Construction and Extraction	-	-
Installation Maintenance and Repair	1.09	0.92
Production	-	-
Transportation and Material Moving	2.17	1.83
Local Government	0.54	0.54
All other occupations	4.38	3.69
Total Low & Moderate Households from 0% to 120% of AMI	**37.6**	**31.8**

[1] See Appendix D Table 1 for additional information on Major Occupation Categories. 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 D Tables 2 and 3. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE C-3
IMPACT ANALYSIS SUMMARY
EMPLOYEE HOUSEHOLDS GENERATED
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

RESIDENTIAL UNIT DEMAND IMPACTS
PER 100 MARKET RATE UNITS

Number of New Households[1]	**Condo**	**Apartment**
Low and Moderate Income Households (0% to 120% AMI)	37.6	31.8
Households Above 120% Area Median Income	11.4	9.7
Total Employee Households	49.0	41.5
Percent of New Households [1]		
Low and Moderate Income Households (0% to 120% AMI)	76.8%	76.5%
Households Above 120% Area Median Income	23.2%	23.5%
Total Employee Households	100.0%	100.0%

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

TABLE C-4
AFFORDABLE UNITS REQUIRED TO MITIGATE AFFORDABLE HOUSING IMPACTS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Condo	Apartment
Affordable Unit Demand Per 100 Market Rate Units	37.6 Units	31.8 Units
Maximum Fee Percentage[1]	37.6%	31.8%

Notes:

[1] San Francisco's Affordable Housing Fee is computed by multiplying the number of market rate units by an affordable unit percentage requirement to determine the number of affordable units to be used in determining the fee amount. The number of affordable units is then multiplied by a published fee that represents the net cost of producing the affordable units (affordability gap). The identified percentage would be sufficient to mitigate the affordable housing impacts of the market rate units.

D. MITIGATION FEE ACT FINDINGS

This section identifies the findings of the Nexus Analysis consistent with the requirements of the Mitigation Fee Act as set forth in Government Code § 66000 et seq:

(1) Identify the purpose of the fee (66001(a)(1)).

The purpose of the Affordable Housing Fee is to fund construction of affordable housing units to address the affordable housing needs of new workers in retail, education, health care and other services provided to new San Francisco residents as a result of the development of new market rate residential units.

(2) Identify the use to which the fee is to be put (66001(a)(2)).

Affordable Housing Fees are used to increase the supply of housing affordable to qualifying Low and Moderate Income households earning from 0% through 120% of median income.

(3) Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed (66001(a)(3)).

The foregoing residential nexus analysis has demonstrated that there is a reasonable relationship between the use of the fee, which is to increase the supply of affordable housing in San Francisco, and the development of new market rate residential units, which increases the need for affordable housing. Residents of new market rate residential units demand an array of goods and services including retail, restaurants, and health care resulting in added employment in these services as quantified in the nexus analysis. Based on compensation levels for the jobs needed to produce these goods and services, a share of the new workers will have household incomes that qualify as Low and Moderate Income and result in an increased need for affordable housing.

(4) Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed (66001(a)(4)).

The analysis has demonstrated that there is a reasonable relationship between the development of market rate Condominium and Apartment units and the need for additional affordable units. Development of new market rate units results in additional households in San Francisco that generate demand for retail, health care and other goods and services that in turn generates a need for housing affordable to the workers who provide these goods and services (as documented in Table B-1 and the table on page 26). Based on the compensation levels for the new workers in these jobs, a

significant share of the need is for housing affordable at Low and Moderate Income levels (as summarized in Table C-3).

(5) Determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed. (66001(b)).

There is a reasonable relationship between the amount of the fee and the cost of the needed affordable housing attributable to the new market rate residential development. The nexus analysis has quantified, by type of new market rate unit, the increased need for affordable units in relation to the new market rate unit being developed. Two different development types were analyzed (Condominiums and Apartments). The nexus analysis concludes that for every 100 new Condominium units developed, 37.6 incremental affordable units are needed and, for every 100 new Apartment units developed, 31.8 incremental affordable units are needed. The amount of the Affordable Housing Fee is determined based in part on a required percentage of affordable units. Affordable Housing Fees based on application of an affordable unit percentage not in excess of the Maximum Fee Percentages established in this analysis and multiplied by the cost of providing each affordable unit as determined by the Mayor's Office of Housing and Community Development and regularly updated, are not in excess of the documented affordable housing need attributable to the new development.

(6) A fee shall not include the costs attributable to existing deficiencies in public facilities (66001(g)).

The nexus analysis quantifies only the net new affordable housing needs generated by net new market rate units and households in San Francisco. Existing deficiencies with respect to housing conditions in San Francisco are not considered nor in any way included in the analysis.

IV. ADDENDUM: ADDITIONAL BACKGROUND AND NOTES ON SPECIFIC ASSUMPTIONS

No Excess Supply of Affordable Housing

The residential nexus analysis assumes there is no excess supply of affordable housing available to absorb or offset new demand; therefore, new affordable units are needed to mitigate the new affordable housing demand generated by development of new market rate residential units. The adopted 2014-22 General Plan Housing Element documents that conditions in San Francisco are consistent with this underlying assumption. As documented in the Housing Element, market rents in San Francisco exceed affordable levels across all neighborhoods of San Francisco. The waitlist maintained by the San Francisco Housing Authority indicates an unfilled need of 17,000 units for low-income families in San Francisco.

Effect of Unit Size on Nexus Findings

The nexus findings are based on prototype unit sizes of 1,000 square feet for the Condominium and 850 square feet for the Apartment. Smaller or larger prototypes would have produced findings indicating a smaller or larger impact on the number of households within affordable income limits respectively. This is because households that purchase or rent smaller units on average have lower incomes than those that purchase or rent larger units. The structure of the Affordable Housing Fee addresses this issue by varying the mitigation requirements based on unit size. Affordable Housing Fees are varied based upon the sizes of the market rate units and reflect the cost of delivering an affordable unit of comparable bedroom count to the market rate unit. Affordable Housing Fees are higher for larger market rate units with more bedrooms and lower for smaller market rate units with few bedrooms.

Non-Resident Buyers

At the current time, some of the condominium sales activity is to foreign and other non-resident buyers as investment properties and second homes or city "pied a terre" units. For example, news articles have reported non-local buyers have represented as much as a 20% share of sales for a condominium development currently in the marketing phase.[21] This non-local sales activity appears concentrated toward the luxury price ranges, particularly in new high rise towers. Non-resident buyers may occupy the unit part of the time or hold it as an investment property and rent it out. The prototype unit used in this analysis reflects a lower price than the units attracting most foreign and non-resident buyers. Even considering a share of units with non-resident buyers who do not occupy the unit year-round or who rent out the unit, all impacts attributable to the higher priced units would be higher than the impacts attributable to the more modest priced unit used in the analysis. Therefore, based on the use of a more modest-priced

[21] San Francisco Business Times. June 4, 2015. "Tallest tower at luxury condo complex Lumina to start sales."

unit that is well below the pricing of many luxury units where off-shore sales activity appears concentrated, no adjustment to the analysis is warranted.

Impacts Under Alternative Scenarios to Construction of New Market Rate Units

If new market rate units are not built, would-be residents of the new units may instead compete for limited existing housing stock. While this does not add new households, it could result in an incremental increase in income and spending power if higher income residents displace lower income residents throughout the existing housing stock.

The KMA analysis incudes impacts reasonably related to the net new households in the new market rate units. The analysis does not address the results of alternative scenarios to development of the new market rate units. No offset or reduction in the analysis findings is reflected for impacts that may occur in an alternative scenario.

Excess Capacity of Labor Force

In the context of economic downturns such as the recent severe recession, the question is sometimes raised as to whether there is excess capacity in the labor force and therefore consumption impacts generated by new households will be, in part, absorbed by existing jobs and workers, thus resulting in fewer net new jobs. In response, an impact fee is a one-time requirement that addresses impacts generated over the life of the project. Recessions are temporary conditions; a healthy economy will return and the impacts will be experienced. Development of new residential units is not likely to occur until conditions improve or there is confidence that improved conditions are imminent. When this occurs, the improved economic condition of the households in the local area will absorb the current underutilized capacity of existing workers, employed and unemployed. By the time new units become occupied, economic conditions will have likely improved.

The Burden of Paying for Affordable Housing

The San Francisco Program does not place the entire burden for increasing the supply of affordable housing on new residential construction. The City has a number of programs that are also aimed at increasing and preserving the supply of affordable housing in San Francisco. The City levies a jobs housing linkage fee on new non-residential development and has dedicated significant General Fund resources to affordable housing through the Housing Trust Fund established pursuant to Proposition C passed by the voters in 2012. In November 2015, San Francisco voters approved issuance of $310 million in general obligation bonds repaid by an additional property tax levy with proceeds used to finance creation of new affordable housing and the preservation of existing affordable housing. San Francisco's Hope SF initiative will also invest billions of dollars over time in revitalization of several public housing sites through a partnership between the San Francisco Housing Authority, Mayor's Office of Housing and Community Development and private developers.

The burden of affordable housing is borne by many other sectors of the economy and society as well. A most important source in recent years of funding for affordable housing development comes from the federal government in the form of tax credits (which result in reduced income tax payment by tax credit investors in exchange for equity funding). Additionally, there are other federal grant and loan programs administered by the United States Department of Housing and Urban Development ("HUD") and other federal agencies. The State of California Department of Housing and Community Development ("HCD") also plays a major role with a number of special financing and funding programs. Much of the state money is funded by voter approved bond measures paid for by all Californians.

Local governments play a large role in affordable housing. In addition, private sector lenders play an important role, some voluntarily and others less so with the requirements of the Community Reinvestment Act. Then there is the non-profit sector, both sponsors and developers that build much of the affordable housing.

In summary, all levels of government and many private parties, for profit and non-profit contribute to supplying affordable housing. Residential developers are not asked to bear the burden alone any more than they are assumed to be the only source of demand or cause for needing affordable housing in our communities. Based on past experience, the San Francisco Program satisfies only a small percentage of the affordable housing needs in San Francisco.

Non-Duplication: Residential and Non-Residential Fees

San Francisco has adopted a separate Jobs Housing Linkage Fee for non-residential development and is preparing a separate nexus analysis with a similar analytical framework as this residential nexus analysis. Under certain circumstances the two analyses could count some of the same jobs. As part of the work program for the Jobs Housing Nexus analysis, KMA will be conducting an analysis of potential double-counting of jobs with maximum supported fee levels under the Jobs Housing Nexus analysis adjusted accordingly.

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's American Community Survey, California Employment Development Department ("EDD") 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.

APPENDIX A: MARKET SURVEY

I. INTRODUCTION

One of the underlying components of the Residential Nexus Study is the identification of residential building prototypes that are expected to be developed in the City and County of San Francisco, both today and in the future, and what the market prices for those prototypes will be. These market prices are then used to estimate the incomes of new households that will live in those units and a quantification of the number and types of new jobs that will be created in services to those households. In this Appendix, KMA describes the residential building prototypes utilized for the analysis, summarizes the residential market data researched, and describes the market price point conclusions drawn therefrom.

II. RESIDENTIAL PROTOTYPES

The residential market in San Francisco has been very active recently, fueled by a strengthening economy and rapidly increasing sales prices and rents. In 2014, the pace of residential construction in San Francisco reached a five-year high, and surpassed the pre-recession levels of 2009.[22] Units authorized for construction in 2014 were up 21% from 2013. New development is primarily condominiums and rental apartments. KMA conducted a market survey in order to understand current market conditions and to establish market sales prices or rents, per unit and per square foot, for new market rate units in San Francisco.

To conduct the market survey, KMA utilized many data sources. The City's Planning Department publishes annual housing inventories, which provide overviews of new residential construction in the city. Two real estate firms, The Mark Company and Vanguard Properties, publish periodic summaries of condominium projects that are currently being marketed or have recently closed in San Francisco. Vanguard Properties also includes data on new apartment buildings. The summaries provide project level information as well as sales data or asking prices for particular units. KMA gathered data from those published reports and supplemented with data from public record searches using ListSource, and websites that publish Multiple Listing Source (MLS) data, such as realtor.com and RedFin.com. For new apartments, KMA reviewed data compiled by RealFacts, data published on websites that advertise new apartment units (for example, Apartment Guide, craiglist.org), and the individual websites of the new apartment projects. More detail is provided in the Appendix tables.

KMA identified two residential prototypes in consultation with City staff (Appendix A Table 1), one owner-occupied Condominium and one renter-occupied Apartment. These prototypes are representative of the types of development that the City and County of San Francisco is currently seeing and expects to see over the coming years. Based on the market survey, KMA selected a mid-rise project as representative of the typical residential projects in San Francisco.

[22] 2014 San Francisco Housing Inventory, SF Planning Department, 2015.

KMA then selected typical unit sizes based on the findings of the market survey; for the Condominium, the unit size is 1,000 square feet and for the Apartment, 850 square feet.

Prototypical Residential Units		
	Condominium	*Apartment*
Building Type	Mid-Rise	Mid-Rise
Height	Up to 85 ft.	Up to 85 ft.
Unit Size (net)	1,000 SF	850 SF

Source: KMA in consultation with City of San Francisco.

The Condominium prototype unit size of 1,000 net square feet is reflective of the mid-rise projects from the market survey summarized in Appendix A Table 5 which average approximately 1,030 net square feet. The Park Lane condominium project is not included in the average given it consists of an older building converted from a tenancy in common and not representative of new construction. An additional consideration in the selected unit size was consistency with a mid-rise condominium prototype developed for purposes of a 2015 analysis regarding the Transportation Sustainability Fee with an average unit size of 997 square feet.[23] A unit size of 1,000 square feet is also representative for low-rise condominiums which average 983 net square feet in the sales data summarized in Appendix A Table 4. High-rise condominiums have somewhat larger units with sales on Appendix A Table 6 averaging 1,120 net square feet. Reflection of larger average unit sizes and higher sales prices per square foot associated with high-rise projects would have driven higher nexus findings; however, a mid-rise unit was selected to make findings more broadly representative.

The Apartment prototype unit size of 850 net square feet is reflective of the mid-rise properties included in the market survey on Appendix A, Table 8. The average unit size for the mid-rise projects in the survey is estimated at 860 net square feet, which is rounded to 850 square feet for purposes of the prototypical unit size. The average unit size calculation for projects in the market survey reflects a weighting based on number of units by project and unit mix by number of bedrooms. The 1190 Mission at Trinity Place project was not included in the average because the project's smaller average units are a function of a unique arrangement to replace 360 rent-controlled units previously occupying the site and is not expected to be representative of future development activity. Inclusion of both low-rise and mid-rise units in the average would yield a similar result. The high-rise rentals included in the survey have an estimated average unit size of approximately 930 square feet, somewhat above that of the mid-rise prototype. Again, while the larger average unit sizes and higher rents associated with high-rise projects would have driven higher nexus findings, a mid-rise unit was selected as more broadly representative of development activity occurring in the City.

[23] Seifel Consulting. Transportation Sustainability Fee: Economic Feasibility Study. Spring 2015. See Appendix Table A-2 applicable to "Prototype 2."

The table below provides a summary of unit sizes based on the projects included in the Market Survey.

Average Unit Size (Net Square Feet)		
	Condominiums	*Apartments*
Low-rise	980	830
Mid-rise	1,030	860
High-rise	1,120	930

Based on projects identified in Appendix A Tables 4, 5, 6, and 8. 1190 Mission at Trinity Place and Park Lane are not included in averages for the reasons described above. Condo averages reflect the identified sales. Apartment averages have been estimated by KMA using available project specific data on unit square foot size by number of bedrooms, number of units by project, and unit mix. Unit mix by number of bedrooms has been estimated by KMA where project-specific data was not available.

III. MARKET SURVEY & PRICING ESTIMATES

KMA reviewed the findings of the market survey to establish market sales prices or rents, per unit and per square foot, for new market rate units in San Francisco. An overview is presented below.

Overview of For-Sale Market

The for-sale market in San Francisco continues to strengthen and reach new highs. Appendix A Table 2 shows the median sales price per square foot for homes in San Francisco. Sales prices increased steadily from the late 1990s until the recession in 2008. Between the beginning of 2012 and the end of 2014, the median price per square foot almost doubled, from $535 per square foot to $991 per square foot. In 2015, prices continued to rise.

San Francisco has residential development activity occurring at a range of densities from low-rise projects to high-rise. Minimal development activity is expected for lower density housing types such as single family. Development activity in recent years is concentrated in the northeast quadrant of the city; a map of the condominium projects in the market survey is shown in Appendix A Table 3.

Appendix A Table 4 shows sales data for eight new low-rise projects. Low-rise projects typically have four stories of wood-frame construction over a concrete podium. In general, units in low-rise buildings tend to sell for less per square foot than units in taller buildings. There are several reasons for this trend, including location, level of amenities, and views. The average sales prices for the low-rise projects range from approximately $870 to over $1,100 per square foot.

Appendix A Table 5 shows sales data for eleven new or recent mid-rise projects. Mid-rise projects are generally projects of up to 85 feet in height and have concrete or steel construction. Within the mid-rise projects in the market survey, there is significant variation in the size of the

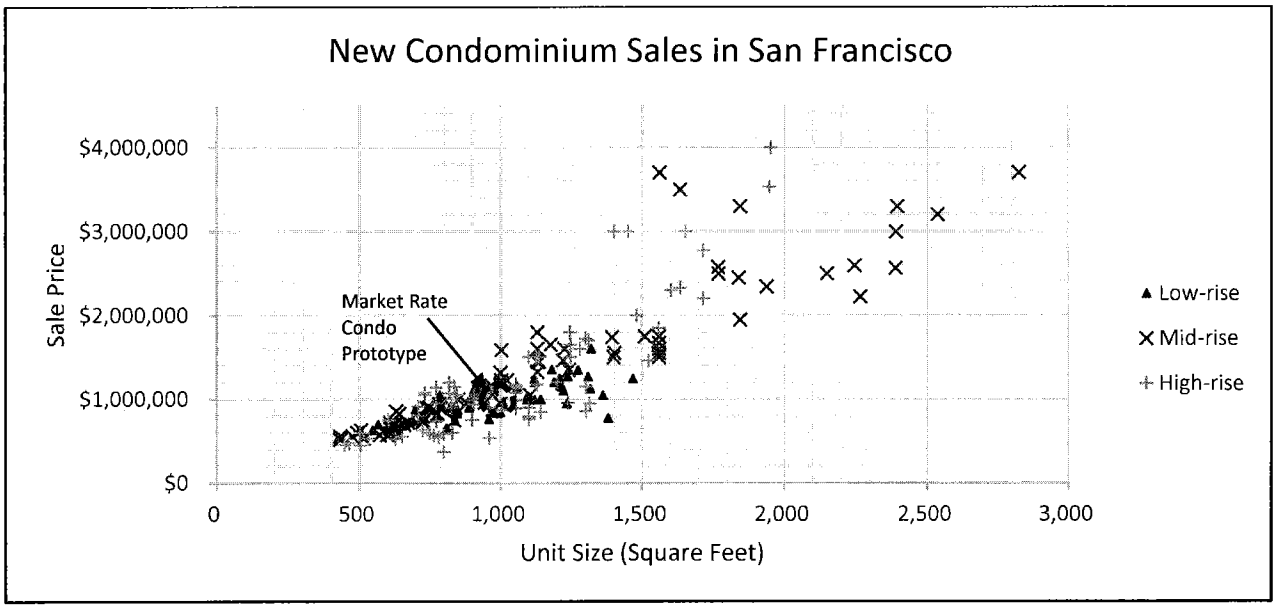
units, from less than 600 square foot to almost 2,000 square feet. Sales price per square foot, however, is consistently over $1,000 for new units in mid-rise projects.

Appendix A Table 6 shows resale data for four recently built high-rise projects. High-rise projects are projects above 85 feet in height. KMA notes that in general, new units sell for a premium over resale units, suggesting that a new high-rise condominium project could achieve even higher sales prices than shown. The average sales prices for the high-rise projects range from around $1,000 to $1,500 per square foot.

a) For-Sale Prototype Price Estimate

It is clear that today's for-sale residential market in San Francisco is very strong, supporting a significant amount of new development. For the purposes of the nexus analysis, KMA selected a market rate sales price of $1,000 per square foot, or $1,000,000 for a 1,000 square foot unit. While many projects are achieving more than this in today's market, the selected prototype was selected as a conservative estimate of the for-sale market for new units in San Francisco.

While based on a unit in a mid-rise building, the selected pricing and unit size are also representative of the new condominium market overall, inclusive of low-, mid- and high-rise units, as illustrated in the chart below.



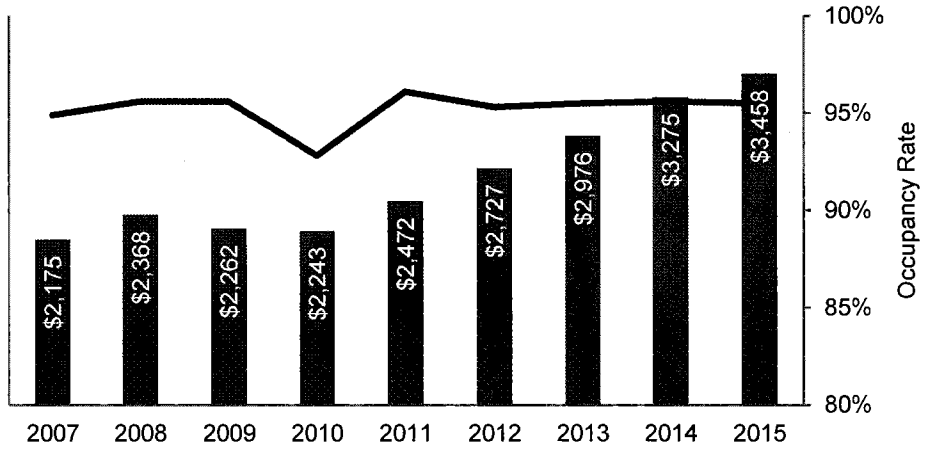
Source: sales are drawn from Appendix A Tables 4, 5 and 6 and include new unit sales and resales.

b) Rental Housing Market

In general, the apartment market throughout the Bay Area has enjoyed increasingly healthy conditions in the last few years, evidenced by rising rents and high occupancy rates. This has been particularly true in San Francisco, as rents have increased steadily since 2010. According

to apartment market data source RealFacts, which tracks rental projects with 50 or more units, average apartment rents in San Francisco increased 54% between 2010 and 2015.

Average Apartment Rent & Occupancy Rate
City of San Francisco



Source: RealFacts

KMA notes that the average rent levels shown above represent a diverse mix of buildings in terms of location, age of building, level of amenities, etc. The rent levels in new apartment buildings in San Francisco are significantly higher.

In the last few years, San Francisco has seen substantial activity in apartment development, particularly at the higher densities such as mid-rise and high-rise. Appendix A Table 7 presents a map of new apartment development in the City. Appendix A Table 8 provides rent data for the new or recently built projects identified in the market survey. Notable new apartment projects include Jasper, a 40-story tower on Rincon Hill, and several mid-rise projects including Mosso, MB360 and 333 Fremont. There has been little activity in low-rise apartment development; 1266 9th and 2175 Market are two examples of new low-rise apartments (although 2175 Market is partially mid-rise).

It should be noted that the vast majority of new "apartments" built in San Francisco actually have condominium subdivision maps. This provides the ability to sell off units as condominiums at a later point in time even if projects are rented for an initial period. In some cases, the decision as to whether units will be sold as condominiums or rented for an initial period is not made until very late in the development process in order to optimize returns in response to evolving market conditions.

Asking rents at the new apartment buildings in the market survey have a wide range, depending on unit size, location, type of building, level of amenities, and the age of the project (new

buildings tend to command a premium). Per square foot, rents at buildings in the market survey range from around $3.50 to over $7.00, with the majority in the $4.50 - $6.00 range.

c) Rental Prototype Rent Estimates

The rental market in San Francisco continues to be very strong, with steadily rising rents and a significant amount of new development. For the purposes of the nexus analysis, KMA selected a market rate rent of $5.00 per square foot, or $4,250 per month for the 850 square foot unit. While many projects are achieving more than this in today's market, the estimate is intended as a conservative estimate of the rental market.

IV. MARKET SURVEY CONCLUSIONS

A full description of the prototypes, including unit sizes, parking ratios, and sales prices or rent levels, is shown in Appendix A Table 1. They are summarized below. The prototypes are the starting point of the nexus analysis.

Prototypical Residential Units		
	Condominium	*Apartment*
Unit Size (net)	1,000 SF	850 SF
Sales Price / Rent	$1,000,000	$4,250 /mo.
Per Square Foot	$1,000 /SF	$5.00 /SF

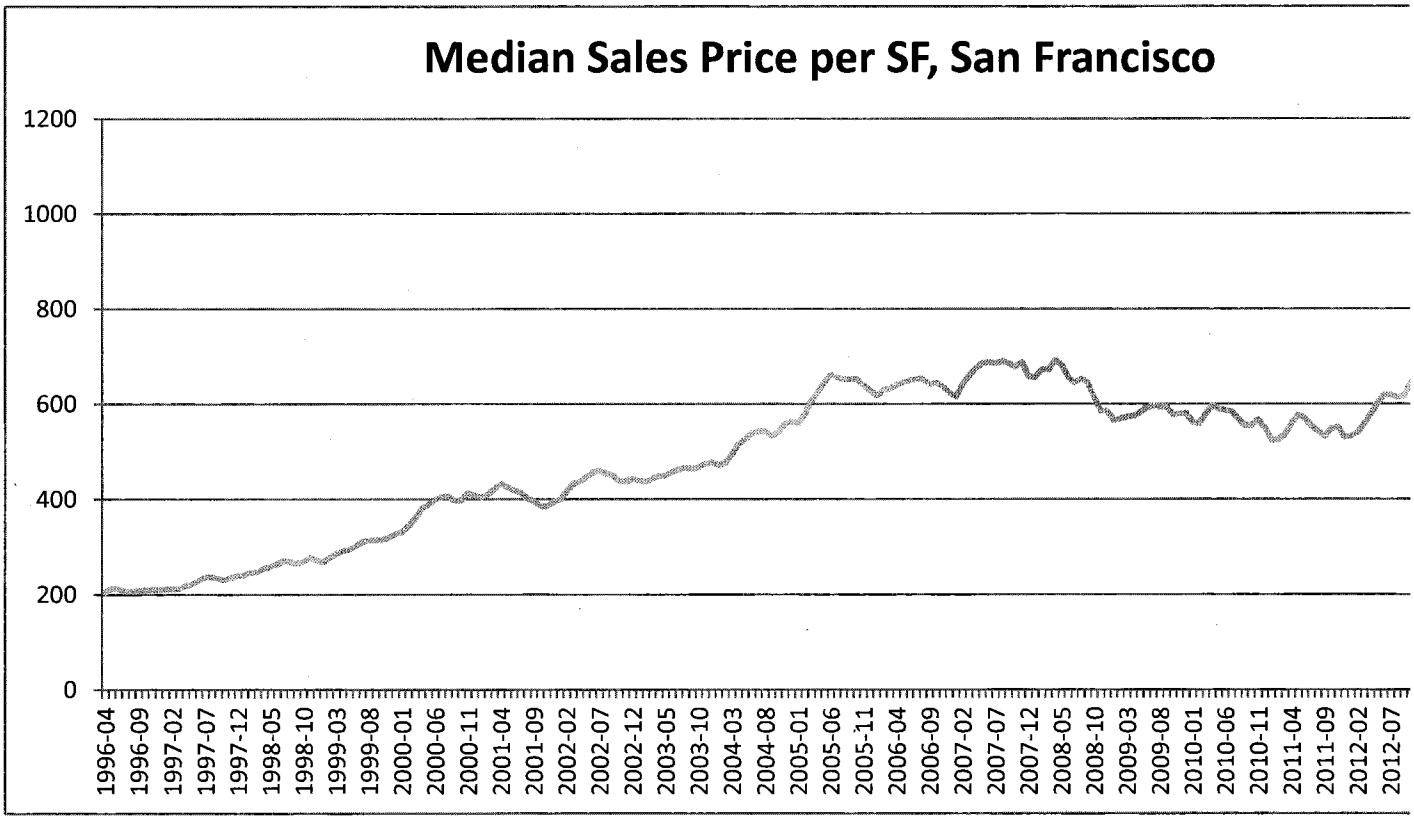
APPENDIX A, TABLE 1
SUMMARY OF PROTOTYPES
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Prototype	Condominium	Apartment
Building Type	Mid-Rise	Mid-Rise
Maximum Height	65 - 85 feet	65 - 85 feet
Average Unit Size	1,000 sf	850
Residential Parking Ratio	0.75 - 1 space per unit	0.6 spaces per unit
Parking Construction Type	underground, one level	underground, one level
Market Sales Price / Rent	$1,000,000	$4,250
per square foot	$1,000	$5.00
Parking Cost	included in sales price	$350/sp

Sources: City of San Francisco and KMA Market Survey.

APPENDIX A TABLE 2
MEDIAN SALES PRICE PER SQUARE FOOT
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

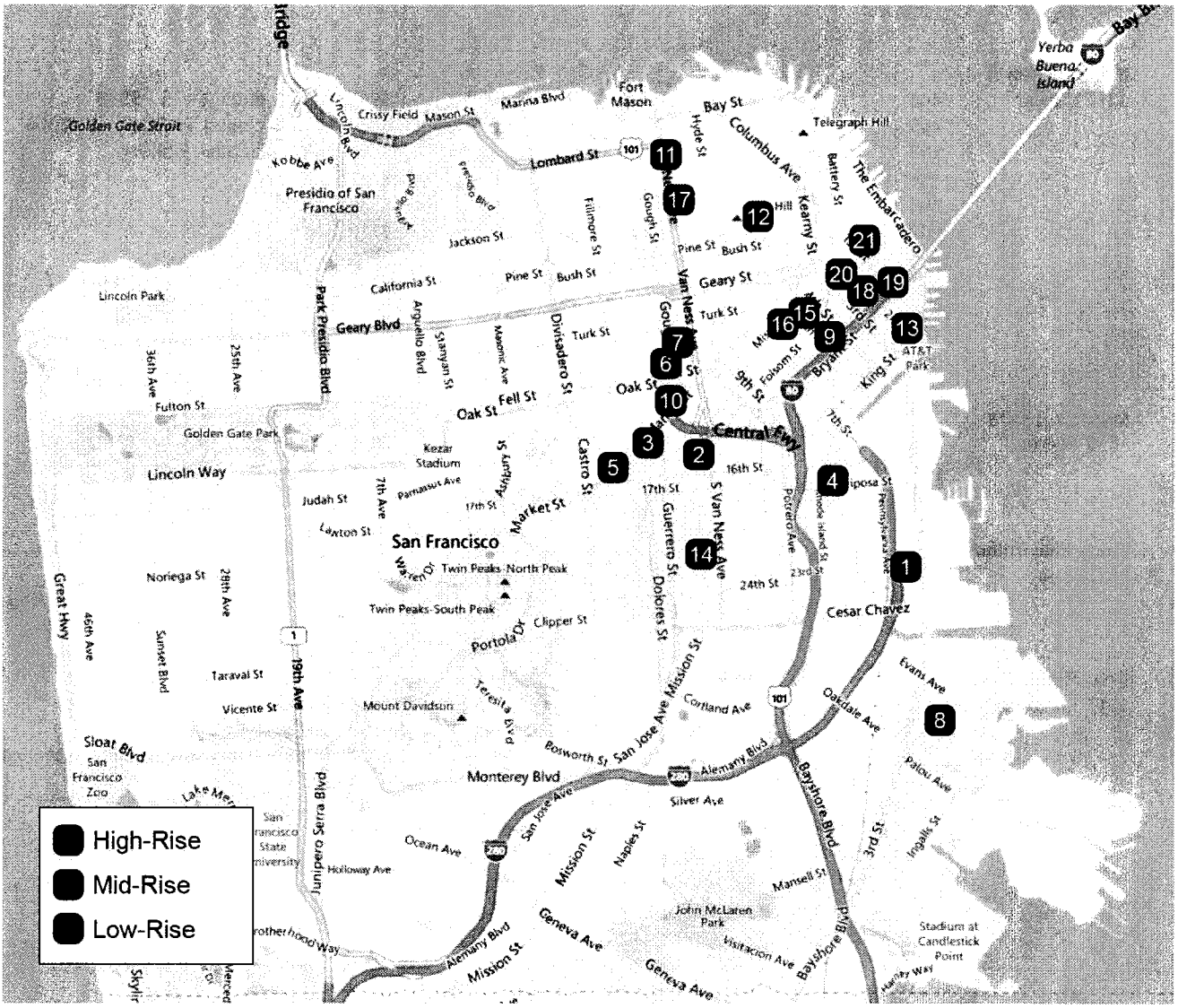
Source: Zillow.com



Prepared by Keyser Marston Associates, Inc.
\\Sf-fs2\wp\19\19061\007\City_MedianSoldPricePerSqft_AllHomes; 10/26/2015; hgr

Appendix A, Table 3
Residential Nexus Analysis
City of San Francisco, CA

Condominiums
San Francisco



Low-Rise	Mid-Rise	High-Rise
1) Millwheel North	9) 870 Harrison Street	18) BLU
2) Mission at 1875	10) 8 Octavia Street	19) One Hawthorne
3) Thirty Five Dolores	11) Amero	20) Millennium
4) Onyx Phase I	12) Park Lane	21) One Rincon Hill
5) The Century	13) Seventy2 Townsend	
6) 300 Ivy	14) Vida	
7) 400 Grove	15) Hales Warehouse & Sliver Bldg	
8) The San Francisco Shipyard	16) The Mint Collection	
	17) 1645 Pacific	

APPENDIX A, TABLE 4
MARKET SALE PRICES: LOW RISE CONDOMINIUM PROJECTS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Source	Project/Address	Unit	Bd.	Ba.	SF	Sales Price	$/SF	Notes
MC	**Millwheel North**							
	1275 Indiana	403	2	2	1,096	$1,045,000	$953	HOA dues: $475 - $546
		405	2	2	1,215	$1,150,000	$947	Units closed 10/2014 - 12/2014.
		103	2	2	1,467	$1,245,000	$849	All units have parking.
		101	2	2	1,360	$1,050,000	$772	
		102	2	2	1,121	$995,000	$888	
		203	2	2	1,233	$949,000	$770	
		206	2	2	1,221	$1,100,000	$901	
		301	2	2	1,316	$1,125,000	$855	
		304	2	2	1,094	$999,000	$913	
		104	2	2	1,142	$999,000	$875	
					1,227	$1,065,700	$872	
MC	**Mission at 1875**[1]					list prices:		
	1875 Mission	Studio			632	$589,000	$933	HOA dues: $360 - $450
		One BR			778	$810,000	$1,042	All units in contract.
		Two Bedroom			840	$869,000	$1,035	One & Two BRs come w parking.
	Thirty Five Dolores							HOA Dues: $300 - 415
MC	35 Dolores	205	1	1	665	$730,000	$1,098	<- Unit closed 1/2015.
Redfin		401	2	2	1,133	$1,550,000	$1,368	<- Unit closed 3/2105. Includes parking.
								BMR Units - parking available for $125,000.
MC	**Onyx Phase I**							
	1717 17th Street	202	1	1	889	$985,000	$1,108	Sold in 2014.
		205	1	1	700	$880,000	$1,257	HOA Dues: $350 - $445
		203	2	2	917	$1,127,000	$1,229	Phase II: Includes parking, $50 monthly fee.
		206	2	2.5	1,237	$1,270,600	$1,027	
		204	2	2.5	1,190	$1,205,000	$1,013	
		302	1	1	889	$899,000	$1,011	
		207	2	2	1,273	$1,350,000	$1,060	
		307	2	2.5	1,319	$1,600,000	$1,213	
		304	2	2.5	1,240	$1,350,000	$1,089	
		305	1	1	730	$789,000	$1,081	
					1,038	1,145,560	1,109	
MC	**The Century**							
	2200 Market Street	304	1	1.5	849	$875,000	$1,031	55 feet; 4 stories over retail.
		504	1	1.5	789	$949,000	$1,203	Sold in 2014.
		202	1	1.5	847	$829,000	$979	HOA Dues: $430 - 490
		203	2	2	1,059	$1,150,000	$1,086	
		502	1	1.5	786	$1,050,000	$1,336	<--- resale unit, includes parking space.
		405	2	2	1,120	$1,200,000	$1,071	
		502	1	1.5	786	$949,000	$1,207	
		402	1	1.5	823	$895,000	$1,087	
		205	2	2	1,120	$1,240,000	$1,107	
		301	2	2	1,181	$1,355,000	$1,147	
					936	$1,049,200	$1,125	

APPENDIX A, TABLE 4
MARKET SALE PRICES: LOW RISE CONDOMINIUM PROJECTS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

MC	**300 Ivy**	507	2	2	916	$1,210,000	$1,321	<--- resale unit; includes parking space.
		215	2	2	1,010	$967,000	$957	Sold in 2014.
		200	2	2	1,308	$1,270,000	$971	HOA Dues: $412 - $650
		414	2	2	970	$1,120,000	$1,155	BMR Units - parking available for $75,000.
		100	1	1	839	$748,000	$892	
		201	1	1	658	$687,000	$1,044	
		104	2	2	1,208	$1,249,000	$1,034	
		511	1	1	692	$737,000	$1,065	
		513	1	1	677	$723,000	$1,068	
		102	2	2	1,210	$1,167,000	$964	
					949	$987,800	$1,047	
VG	**400 Grove**					List Prices		Five stories (four over retail)
			Jr 1		428	$550,000	$1,285	HOA dues: $600 - $950
			1		570	$700,000	$1,228	
			2		905	$1,100,000	$1,215	
VG	**The San Francisco Shipyard - Thayer Condominiums**					List Prices		
	Innes Avenue		1		550	$630,000	$1,145	Units sold but not closed.
			1		811	$655,000	$808	HOA: $250 - $505
			2		960	$760,000	$792	
			2		1,380	$775,000	$562	

1. Average of range of unit sizes.

Source: The Mark Company (MC), March 2015, redfin.com, Vanguard Properties May 2015 (VG).

APPENDIX A, TABLE 5
MARKET SALE PRICES: MID RISE CONDOMINIUM PROJECTS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Source	Project / Address	Unit	Bd.	Ba.	SF	Sales Price	$/SF	Notes
MC	**870 Harrison Street**	402	1	1	612	$650,000	$1,062	HOA dues: $400 - $550
		602	1	1	612	$720,000	$1,176	Units closed 1/2015.
		604	2	1	880	$950,000	$1,080	BMR units - parking for $96,000.
		301	1	1	612	$685,000	$1,119	
		503	1	1	575	$578,000	$1,005	
		202	1	1	612	$595,000	$972	
		403	1	1	575	$575,000	$1,000	
		203	1	1	575	$575,000	$1,000	
		204	1	1	600	$575,000	$958	
		206	1	1	518	$535,000	$1,033	
					617	$643,800	$1,041	
MC	**8 Octavia Street**	608	2	2	1,001	$1,165,000	$1,164	HOA dues: $580 - 840
		303	1	1	726	$729,000	$1,004	24 parking spaces (47 units)
		601	2	2.5	968	$1,150,000	$1,188	Units closed 11/2014 - 1/2015
		705	1	1	726	$799,000	$1,101	
		505	1	1	726	$749,000	$1,032	
		501	2	2.5	968	$1,125,000	$1,162	
		506	2	2	1,001	$1,320,000	$1,319	
		701	2	2.5	968	$1,165,000	$1,204	
		406	2	2	1,001	$950,000	$949	
		806	2	2.5	1,225	$1,600,000	$1,306	
					931	$1,075,200	$1,143	
MC	**Amero**	5C	2	2	1,130	$1,600,000	$1,416	HOA dues: $561 - $765
	1501 Filbert	5G	2	2	1,770	$2,500,000	$1,412	Units closed 11/2014 - 1/2015.
		6C	2	2.5	1,130	$1,799,000	$1,592	Six stories.
		5E	2	2.5	1,840	$2,450,000	$1,332	All units include parking.
		5D	2	2.5	1,768	$2,575,000	$1,456	
		PH7F	2	2	1,634	$3,500,000	$2,142	
		3C	2	2	1,130	$1,325,000	$1,173	
		6A	2	2.5	1,220	$1,464,000	$1,200	
		4C	2	2	1,130	$1,450,000	$1,283	
		PH7D	2	2.5	1,562	$3,700,000	$2,369	
					1,431	$2,236,300	$1,537	
MC	**Park Lane**	804	2	2.5	1,938	$2,340,000	$1,207	Converted TIC
	1100 Sacramento	504	3	3	2,245	$2,595,000	$1,156	HOA dues: $860 - $4,400
		802	3	3	2,497	$5,100,000	$2,042	Units closed 1/2014 - 1/2015.
		402	3	3.5	2,395	$3,295,000	$1,376	
		302	3	3.5	2,390	$2,995,000	$1,253	
		208	3	3.5	2,537	$3,200,000	$1,261	
		304	3	3	2,265	$2,225,000	$982	
		808	3	3.5	2,825	$3,700,000	$1,310	
		904	3	3	2,148	$2,500,000	$1,164	
		202	3	3.5	2,389	$2,565,000	$1,074	
					2,363	$3,051,500	$1,283	

APPENDIX A, TABLE 5
MARKET SALE PRICES: MID RISE CONDOMINIUM PROJECTS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Source	Project / Address	Unit	Bd.	Ba.	SF	Sales Price	$/SF	Notes
						List Prices		
RC	**Seventy2 Townsend**	403	1	2	785	$949,000	$1,209	All units come w/parking.
	72 Townsend St	506	2	2	1,176	$1,650,000	$1,403	HOA: $653 - $1,257
		409	2	2	1,136	$1,445,000	$1,272	
		407	1	2	851	$999,000	$1,174	
		505	1	1	632	$856,000	$1,354	
					916	$1,179,800	$1,282	
MC	**Vida**	415	1	1	494	$599,000	$1,213	Eight stories.
	2558 Mission St	509	2	2	1,003	$1,195,000	$1,191	HOA dues: $430 - $620
		313	1	1	631	$654,000	$1,036	Units closed 1/2015.
							$1,181	All 1.5 and 2BR units come w/parking.
						List Price		
		Jr. One BR			507	$632,000	$1,247	
		One BR			631	$706,000	$1,119	
		Two BR			943	$960,000	$1,018	
							$1,141	
MC	**Hales Warehouse & Sliver Bldg**					Resale Price		
	2 and 10 Mint Plaza	2	1	2	1,559	$1,550,000	$994	8 and 10 floors.
		1	1	2	1,559	$1,500,000	$962	Resales: 6/2014 - 11/2014.
		4	1	2	1,559	$1,675,000	$1,074	
		5	1	2	1,559	$1,750,000	$1,123	
		6	4	4	3,321	$3,995,000	$1,203	
		3	2	2	1,559	$1,600,000	$1,026	
		801	2	1	1,240	$1,350,000	$1,089	
		305	0	1	433	$515,000	$1,189	
		405	0	1	433	$525,000	$1,212	
		306	1	1	674	$725,000	$1,076	
		308	1	1	727	$735,000	$1,011	
		703	1	1	1,104	$1,050,000	$951	
		205	0	1	433	$560,000	$1,293	
					1,243	$1,348,462	$1,093	
VG	**Mint Collection**					List Price		
	6 Mint Plaza		1		661	$695,000	$1,051	Eight stories.
			2		973	$875,000	$899	
MC	**1645 Pacific**					Resale Price		
		2G	2	2.5	1,510	$1,750,000	$1,159	Six stories.
		3D	2	2	1,402	$1,550,000	$1,106	HOA dues: $475 - $625.
		2D	2	2	1,399	$1,500,000	$1,072	Resales: 8/2014 - 10/2014.
		6D	2	2	1,393	$1,740,000	$1,249	Parking Spaces: $80,000.
		3F	2	2.5	1,509	$1,750,000	$1,160	
		5A	2	2	1,003	$1,228,000	$1,224	
		3G	2	3	1,845	$1,950,000	$1,057	
		6E	2	3	1,845	$3,300,000	$1,789	
		1A	2	2	1,003	$1,585,000	$1,580	
		2C	1	1	642	$825,000	$1,285	
					1,355	$1,717,800	$1,268	

APPENDIX A, TABLE 5
MARKET SALE PRICES: MID RISE CONDOMINIUM PROJECTS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Source	Project / Address	Unit	Bd.	Ba.	SF	Sales Price	$/SF	Notes
VG	**Linea**							
	8 Buchanan at Market							Nine stories
		312	1	1	836	$749,000	$896	HOA dues: $450 - $675
		601	2	1	787	$899,000	$1,142	Unit 312 does not include
		813	2	2	963	$1,090,000	$1,132	parking space.
		406	1	1	778	$829,000	$1,066	
					841	$891,750	$1,059	
VG	**The Hayes**							
	55 Page Street at Gough							Eight Stories
		726	2	2	1,023	$1,225,000	$1,197	HOA dues: $300 - $500
		310	1	1	739	$899,000	$1,217	Includes parking.
		514	0	1	476	$564,000	$1,185	
		515	1	1	750	$905,000	$1,207	
					747	$898,250	$1,201	

Source: The Mark Company (MC), March 2015, Realtor.com (RC), Vanguard Properties May 2015 (VG).

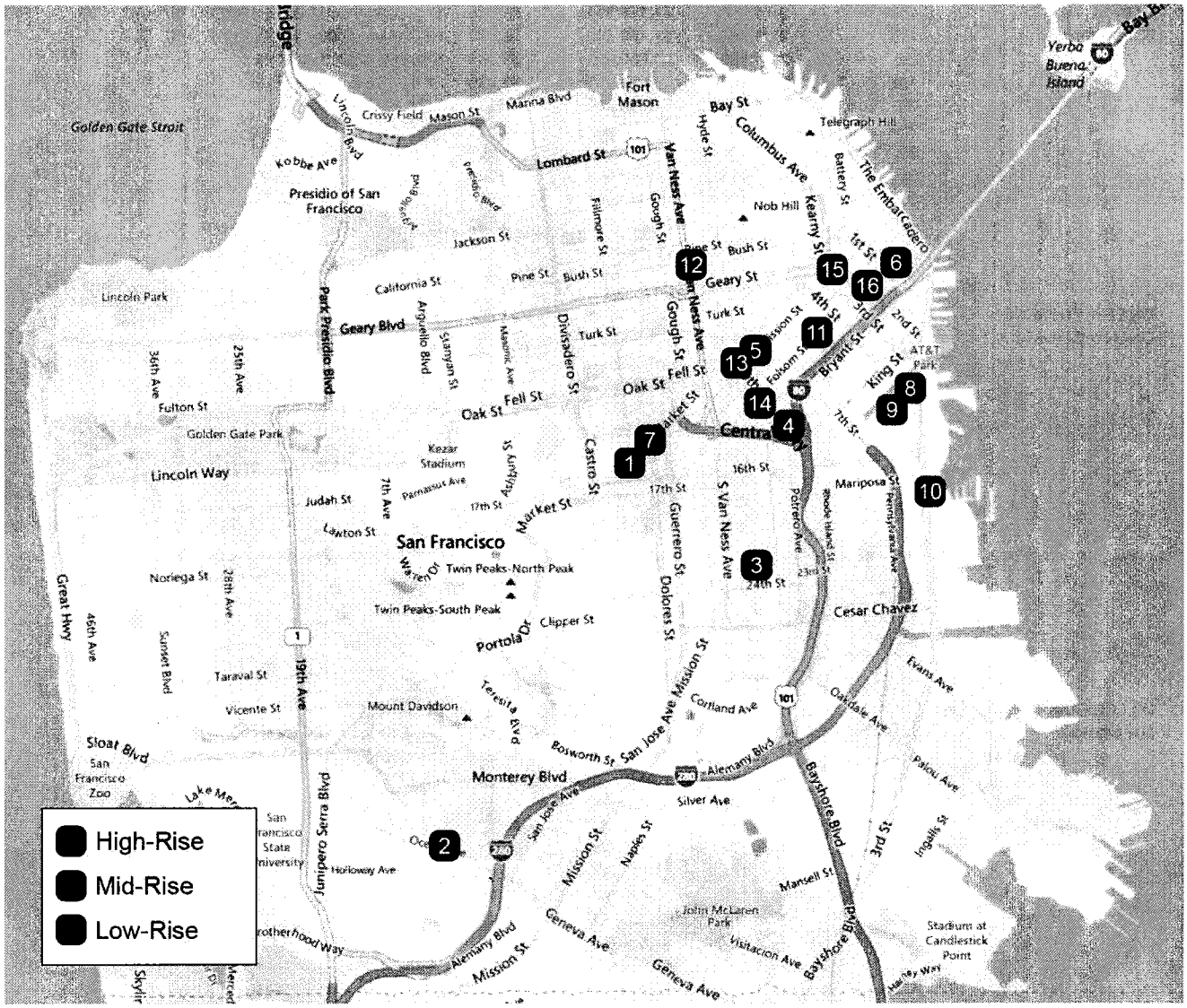
APPENDIX A, TABLE 6
MARKET SALE PRICES: HIGH-RISE CONDOMINIUM PROJECTS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

Source	Project/Address	Unit	Bd.	Ba.	SF	Sales Price	$/SF	Notes
						Resale Prices		21 stories; 214'
MC	**BLU**	15B	2	2	1,054	$1,175,000	$1,115	Project sold out in 2013.
	631 Folsom St.	11B	2	2	1,054	$1,130,000	$1,072	HOA dues: $650 - $900
		2E	2	2	906	$1,030,000	$1,137	Resales: 5/2013 - 8/2014
		18E	2	2	906	$990,000	$1,093	
		7B	2	2	1,054	$985,000	$935	
		20B	2	2	1,054	$1,150,000	$1,091	
		2F	2	2	1,200	$1,200,000	$1,000	
		6B	2	2	1,054	$889,000	$843	
		16E	2	2	906	$940,000	$1,038	
		16B	2	2	1,054	$1,076,314	$1,021	
					1,024	$1,056,531	$1,034	
						Resale Prices		
MC	**ONE HAWTHORNE**	11E	2	2	1,246	$1,500,000	$1,204	25 stories. Built 2010.
	One Hawthorne St.	15A	1	1	909	$1,060,000	$1,166	HOA dues: $500 - 720
		14G	1	1	950	$1,150,000	$1,211	Project sold out 2013.
		22A	2	2	1,558	$1,850,000	$1,187	Resales: 12/2013 - 2/2015.
		16D	1	1	845	$1,050,000	$1,243	Valet Parking - $273/mo.
		4D	1	1	826	$950,000	$1,150	
		2E	1	1	828	$900,000	$1,087	
		23G	1	1	951	$1,125,000	$1,183	
		19G	1	1	950	$1,087,000	$1,144	
		5F	1	1	504	$600,000	$1,190	
					957	$1,127,200	$1,177	
LS		21C			1,243	$1,800,100	$1,448	Feb. 2015
		3E			1,313	$949,000	$723	Apr. 2015
		9C			1,298	$1,725,000	$1,329	Apr. 2015
MC/VG	**MILLENNIUM**					Resale Prices		60 stories.
	301 Mission	22H	1	1	733	$1,080,000	$1,473	HOA dues: $774 - $1,750
		15A	2	2	1,479	$2,000,000	$1,352	valet parking - $190/mo.
		16H	1	1	773	$950,000	$1,229	
		12E	2	2	1,098	$1,500,000	$1,366	
		11G	2	2	1,246	$1,650,000	$1,324	
		25H	1	1	773	$1,137,500	$1,472	
		18H	1	1	733	$1,050,000	$1,432	
		36B	2	2.5	1,652	$3,000,000	$1,816	
		29H	2	2	1,601	$2,300,000	$1,437	
		9J	2	2	1,127	$1,500,000	$1,331	
		5E	2	2	1,136	$1,500,000	$1,320	
		1004	2	2	1,400	$3,000,000	$2,143	
		32E	2	2	1,714	$2,775,000	$1,619	
		36D	2	3	1,952	$4,000,000	$2,049	
		406	1	2	1,633	$2,325,000	$1,424	
		30E	2	2	1,714	$2,200,000	$1,284	
					1,298	$1,997,969	$1,504	
MC	**ONE RINCON HILL**					Resale Prices		
	425 First St.	5204	3	3	1,947	$3,530,000	$1,813	Project sold out 2013.
		4207	1	1	819	$1,200,000	$1,465	Resales: 8/2014 - 1/2015.
		2107	1	1	819	$1,075,000	$1,313	Valet parking.
		4101	1	1	837	$1,149,000	$1,373	
		4805	1	1	710	$915,000	$1,289	
		2704	1	1	605	$750,000	$1,240	
		1605	1	1	710	$799,000	$1,125	
		3402	2	2	1,309	$1,700,000	$1,299	
		4103	2	2	1,278	$1,600,000	$1,252	
		5402	2	2	1,449	$3,000,000	$2,070	
					1,048	$1,571,800	$1,424	

Source: The Mark Company (MC), March 2015, Vanguard Properties, May 2015 (VG) and ListSource (LS), April 2015.

Appendix A Table 7
Residential Nexus Analysis
City of San Francisco, CA

Apartments
San Francisco



Low-Rise
1) 2175 Market
2) Avalon Ocean Avenue
3) 2652 Harrison
4) 1266 9th Street

Mid-Rise
5) 1190 Mission at Trinity Place
6) 333 Fremont
7) 38 Dolores
8) Channel Mission Bay
9) MB360
10) The Gantry
11) Mosso

High-Rise
12) Etta
13) Ava, 55 Ninth
14) NEMA
15) The Paramount
16) Jasper

APPENDIX A, TABLE 8
ASKING RENTS, NEW APARTMENT BUILDINGS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Net Sq. Ft.	Low Rent	High Rent	Low $/SF	High $/SF
Low Rise					
2175 Market	*Built 2014*	(Four stories over retail, up to 65')			
One Bedroom	484	$3,838		$7.93	
One Bedroom	505	$2,833	$3,508	$5.61	$6.95
One Bedroom	509	$3,528	$3,538	$6.93	$6.95
One Bedroom	513	$2,958	$3,433	$5.77	$6.69
One Bedroom	517	$3,388		$6.55	
One Bedroom	520	$2,858	$3,588	$5.50	$6.90
One Bedroom	536	$3,356	$3,644	$6.26	$6.80
One Bedroom	635	$3,333		$5.25	
One Bedroom	637	$3,783		$5.94	
One Bedroom	649	$3,338	$3,813	$5.14	$5.88
Two Bedroom	708	$3,988		$5.63	
Two Bedroom	722	$4,383		$6.07	
Two Bedroom	724	$3,988		$5.51	
Two Bedroom	747	$3,757	$4,377	$5.03	$5.86
Two Bedroom	762	$3,538	$3,588	$4.64	$4.71
Two Bedroom	777	$3,449	$3,499	$4.44	$4.50
Two Bedroom	802	$3,573		$4.46	
Two Bedroom	805	$3,523		$4.38	
Two Bedroom	807	$4,643		$5.75	
Two Bedroom	817	$4,757	$5,358	$5.82	$6.56
Two Bedroom	819	$3,981	$4,806	$4.86	$5.87
Two Bedroom	829	$4,070	$4,870	$4.91	$5.87
Two Bedroom	845	$5,538	$6,141	$6.55	$7.27
Avalon Ocean Avenue	*1200 Ocean Avenue (Built 2012)*				
Studio	567	$2,865		$5.05	
Studio	595	$2,840		$4.77	
One Bedroom	762	$3,125		$4.10	
One Bedroom	761	$3,125		$4.11	
One Bedroom	761	$3,125		$4.11	
One Bedroom	834	$3,175		$3.81	
Two Bedroom	1,136	$3,840		$3.38	
Two Bedroom	1,181	$3,680		$3.12	
Two Bedroom	1,136	$3,770		$3.32	
Two Bedroom	1,236	$3,835		$3.10	
Two Bedroom	1,117	$3,630		$3.25	

APPENDIX A, TABLE 8
ASKING RENTS, NEW APARTMENT BUILDINGS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Net Sq. Ft.	Low Rent	High Rent	Low $/SF	High $/SF
2652 Harrison	*Four stories (Built 2013)*				
Two Bedroom		$4,295			
1266 9th St	*Four stories (Built 2014)*				
One Bedroom	891	$4,195		$4.71	
Two Bedroom	1,256	$5,295		$4.22	
Two Bedroom	1,218	$5,295		$4.35	
Two Bedroom	1,284	$5,295		$4.12	
Two Bedroom	1,348				
Two Bedroom	1,362				
Three Bedroom	1,818	$6,495		$3.57	
Three Bedroom	1,863				
Mid-Rise					
1190 Mission at Trinity Place	*Built 2013*				
Studio	475	$2,549		$5.37	
Junior One Bedroom	500	$2,429		$4.86	
Junior One Bedroom	650	$2,800		$4.31	
One Bedroom	700	$2,885		$4.12	
One Bedroom	800	$3,300		$4.13	
Two Bedroom	900	$3,791		$4.21	
Two Bedroom	1,050	$4,200		$4.00	
333 Fremont	*Built 2014*				
One Bedroom	670	$3,350		$5.00	
One Bedroom	940	$3,795		$4.04	
One Bedroom	703	$3,600		$5.12	
One Bedroom	862	$4,300		$4.99	
One Bedroom	712	$3,750		$5.27	
Two Bedroom	1,300	$5,300		$4.08	
Two Bedroom	1,253	$5,300		$4.23	
Two Bedroom	1,253	$4,692		$3.74	
38 Dolores	*Built 2013*				
One Bedroom	714	$4,475		$6.27	
Two Bedroom	848	$4,400		$5.19	
Two Bedroom	1,053	$5,195		$4.93	
Three Bedroom	1,651	$8,675		$5.25	

APPENDIX A, TABLE 8
ASKING RENTS, NEW APARTMENT BUILDINGS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Net Sq. Ft.	Low Rent	High Rent	Low $/SF	High $/SF
Channel Mission Bay	*185 Channel Street (Built 2013, 6 stories)*				
Studio	587	$3,960		$6.75	
Studio	607	$3,850		$6.34	
One Bedroom	787	$4,413	$4,564	$5.61	$5.80
One Bedroom	748	$4,470	$4,382	$5.98	$5.86
One Bedroom	932	$4,582		$4.92	
One Bedroom	671	$4,009		$5.97	
One Bedroom	644	$4,471		$6.94	
One Bedroom	609	$4,510		$7.41	
One Bedroom	948	$5,102		$5.38	
One Bedroom	1,091	$5,163		$4.73	
One Bedroom	1,105	$5,375		$4.86	
Two Bedroom	963	$5,688		$5.91	
Two Bedroom	1,102	$5,775		$5.24	
MB360	*701 China Basin Street (Built 2014, 6 Stories)*				
Studio	548	$3,201	$3,639	$5.84	$6.64
Studio	911	$3,739	$4,258	$4.10	$4.67
One Bedroom	761	$3,542	$4,096	$4.65	$5.38
One Bedroom	785	$3,835	$4,345	$4.89	$5.54
One Bedroom	807	$4,194		$5.20	
One Bedroom	823	$3,697	$4,123	$4.49	$5.01
One Bedroom	873	$3,722	$3,855	$4.26	$4.42
One Bedroom	976	$3,842	$4,130	$3.94	$4.23
Two Bedroom	980	$4,284	$4,726	$4.37	$4.82
Two Bedroom	1,057	$4,513	$5,074	$4.27	$4.80
Two Bedroom	1,095	$4,256	$5,006	$3.89	$4.57
Two Bedroom	1,164	$4,533	$4,867	$3.89	$4.18
The Gantry	*2121 Third Street (Built 2014)*				
Studio	487	$3,150		$6.47	
One BR (estimated average)	*628*	$3,200	$3,800	$5.10	$6.05
One BR (particular unit)	602	$3,695		$6.14	
Two Bedroom (particular unit)	831	$4,450	$4,495	$5.35	$5.41
Two Bedroom (particular unit)	922	$4,565	$4,950	$4.95	$5.37
Three Bedroom (particular unit)	987	$5,895	$5,995	$5.97	$6.07

APPENDIX A, TABLE 8
ASKING RENTS, NEW APARTMENT BUILDINGS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Net Sq. Ft.	Low Rent	High Rent	Low $/SF	High $/SF
Mosso[1]	*900 Folsom Street (Built 2014, 8 stories)*				
Studio	453	$2,845	$3,046	$6.29	$6.73
Studio	567	$3,195	$3,256	$5.63	$5.74
One Bedroom	623	$3,673	$5,048	$5.90	$8.10
One Bedroom	695	$3,648	$6,214	$5.25	$8.94
One Bedroom	660	$3,857	$4,409	$5.85	$6.69
One Bedroom	727	$3,450	$5,181	$4.75	$7.13
One Bedroom	672	$4,097		$6.10	
One Bedroom	716	$3,657		$5.11	
Two Bedroom	945	$4,042	$4,285	$4.28	
Two Bedroom	1,188	$5,237		$4.41	
Two Bedroom	1,061	$5,048		$4.76	
Two Bedroom	1,070	$4,583	$4,841	$4.29	
Two Bedroom	904	$4,188	$4,438	$4.63	$4.91
Two Bedroom	1,082	$4,687	$5,048	$4.33	$4.67
Two Bedroom	1,165	$4,562	$4,797	$3.92	$4.12
Two Bedroom	1,593	$5,087	$7,955	$3.19	$5.00
Three Bedroom	1,917	$8,192		$4.27	
High-Rise					
Etta	*1285 Sutter Street (Built 2013, 13 stories)*				
Studio	533	$2,983		$5.60	
One Bedroom	880	$3,710		$4.22	
One Bedroom	926	$3,810		$4.11	
One Bedroom	850	$3,620		$4.26	
One Bedroom	698	$3,540		$5.07	
One Bedroom	706	$3,710		$5.25	
One Bedroom	764	$3,475		$4.55	
One Bedroom	598	$3,275		$5.48	
Two Bedroom	1,496	$5,260		$3.52	
Two Bedroom	1,112	$5,359		$4.82	
Two Bedroom	1,241	$5,900		$4.75	
Two Bedroom	1,100	$5,260		$4.78	
Two Bedroom	1,137	$4,723		$4.15	
Two Bedroom	990	$4,465		$4.51	
Two Bedroom	1,133	$4,761		$4.20	
Two Bedroom	1,453	$5,710		$3.93	
Two Bedroom	1,474	$7,360		$4.99	
Two Bedroom	1,521	$7,370		$4.85	
Two Bedroom	1,783	$7,460		$4.18	
Two Bedroom	1,910	$7,470		$3.91	

APPENDIX A, TABLE 8
ASKING RENTS, NEW APARTMENT BUILDINGS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Net Sq. Ft.	Low Rent	High Rent	Low $/SF	High $/SF
Ava, 55 Ninth Avenue	*55 Ninth Avenue (Built 2014, 17 Stories)*				
Studio	528	$3,145		$5.96	
Studio	528	$2,940		$5.57	
One Bedroom	750	$4,015		$5.35	
One Bedroom	750	$3,945		$5.26	
One Bedroom	704	$3,745		$5.32	
Two Bedroom	855	$4,735		$5.54	
Two Bedroom	946	$4,870		$5.15	
Two Bedroom	950	$4,906		$5.16	
Two Bedroom	986	$4,730		$4.80	
Two Bedroom	1,195	$4,905		$4.10	
NEMA	*8 10th Street (Built 2013, 25 and 40-story towers)*				
Studio	604	$3,765		$6.23	
Studio	786	$3,460		$4.40	
Studio	463	$3,335		$7.20	
Studio	583	$3,645	$3,665	$6.25	$6.29
Studio	471	$3,400	$3,410	$7.22	$7.24
Studio	463	$3,315	$3,385	$7.16	$7.31
Studio	470	$3,505		$7.46	
Studio	754	$3,895		$5.17	
Studio	722	$3,910		$5.42	
One Bedroom	852	$4,825		$5.66	
One Bedroom	969	$4,935	$5,045	$5.09	$5.21
One Bedroom	810	$4,525		$5.59	
One Bedroom	902	$4,265		$4.73	
One Bedroom	879	$4,255	$4,515	$4.84	$5.14
One Bedroom	752	$4,525		$6.02	
One Bedroom	788	$4,205		$5.34	
One Bedroom	771	$4,400		$5.71	
One Bedroom	704	$4,400		$6.25	
One Bedroom	691	$4,620		$6.69	
Two Bedroom	1,442	$6,550	$6,680	$4.54	$4.63
Two Bedroom	1,376	$6,400		$4.65	

APPENDIX A, TABLE 8
ASKING RENTS, NEW APARTMENT BUILDINGS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Net Sq. Ft.	Low Rent	High Rent	Low $/SF	High $/SF
Jasper	*Rincon Hill (2015, 40-story tower)*				
Studio	539	$3,875		$7.19	
Studio	543	$3,675		$6.77	
Studio	546	$3,520	$3,780	$6.45	$6.92
Studio	568	$3,195		$5.63	
Studio	594	$3,325		$5.60	
Studio	598	$3,740		$6.25	
Studio	603	$3,370		$5.59	
Studio	611	$3,805		$6.23	
Studio	615	$3,430		$5.58	
Studio	620	$3,455		$5.57	
Studio	851	$3,827		$4.50	
Studio	1,114	$5,474		$4.91	
One Bedroom	711	$3,610		$5.08	
One Bedroom	625	$4,065		$6.50	
One Bedroom	619	$4,185		$6.76	
One Bedroom	860	$4,358	$4,718	$5.07	$5.49
One Bedroom	879	$4,961	$5,456	$5.64	$6.21
One Bedroom	1,128	$5,369		$4.76	
One Bedroom	1,218	$5,445		$4.47	
Two Bedroom	1,129	$6,268		$5.55	
Two Bedroom	1,131	$6,282		$5.55	
Two Bedroom	1,196	$6,838	$6,868	$5.72	$5.74
Two Bedroom	1,242	$5,894	$6,389	$4.75	$5.14
Two Bedroom	1,245	$6,226	$6,286	$5.00	$5.05
Two Bedroom	1,321	$6,084		$4.61	
Two Bedroom	1,328	$6,159		$4.64	
Two Bedroom	1,389	$6,510	$6,785	$4.69	$4.88
Two Bedroom	1,578	$6,946		$4.40	
Three Bedroom	1,452	$6,961	$7,231	$4.79	$4.98
Three Bedroom	1,491	$7,424	$7,484	$4.98	$5.02
Three Bedroom	1,506	$6,729	$6,999	$4.47	$4.65
The Paramount[1]	*680 Mission St. (Built 2001, 43 stories)*				
Studio	550	$3,225	$3,405	$5.86	$6.19
One Bedroom	790	$3,980	$4,560	$5.04	$5.77
Two Bedroom	1,250	$5,700	$6,185	$4.56	$4.95

1. Unit sizes are the midpoint of the range of unit sizes for each apartment configuration.
Sources: RealFacts, Apartment Guide, Developer websites, zillow.com, craigslist.org, curbed.com, apartments.com.

APPENDIX B: SUPPLEMENTAL ANALYSIS FINDINGS FOR 0% THROUGH 150% OF MEDIAN INCOME

Supplemental Information on Impacts Through 150% of Median

This Appendix provides information quantifying affordable housing impacts from 0% through 150% of median income to supplement the findings presented in the main body of this nexus report (which apply to 0% through 120% of median income).

The table below summarizes the analysis results regarding the total demand for affordable housing from 0% to 150% of median income associated with 100 market rate units for the two residential prototypes analyzed in the nexus analysis. The findings are based on the same analysis methodology as described in the body of this report, but expanded to include an additional income category of up to 150% of median.

New Worker Households per 100 Market Rate Units by Income		
	Condominium	*Apartment*
Worker Households		
0% to 120% AMI	37.6	31.8
120% to 150% AMI	3.7	3.1
Subtotal through 150% AMI	41.3	34.9
Total, greater than 150% AMI	7.7	6.6
Total	49.0	41.5

Based upon the compensation levels of many of the retail, restaurant and other service jobs, a significant portion of worker households are under 120% of median income. Expanding the analysis to cover all affordable housing impacts through 150% of median income results in only a 10% increase in the number of worker households included in the results.

Supplemental findings through 150% of median are also presented in terms of the supported affordable unit percentage consistent with the structure of San Francisco's Affordable Housing Fee. The findings represent the affordable unit percentage that, when applied to the number of market rate units in the principal project, would mitigate the affordable housing impacts through 150% of median income. The amounts are determined by converting the findings from the table above into percentages.

Maximum Percentage Basis for Affordable Housing Fees, with Inclusion of Affordable Housing Impacts to 150% of AMI		
	Condominium	*Apartment*
Affordable Unit Percentage Supported through 150% AMI	41.3%	34.9%

The findings of the nexus analysis can be used to calculate the percentage of units provided on-site within a project that would mitigate the affordable housing impacts. As discussed in Section III, the percentages are different than for an off-site affordable housing mitigation.

On-site Percentage Supported, with Inclusion of Affordable Housing Impacts to 150% of AMI		
	Condominium	*Apartment*
Affordable Unit On-Site Percentage Supported through 150% AMI	29.2%	25.9%

APPENDIX C: SUPPORTING TABLES – LOCAL GOVERNMENT SERVICES EMPLOYMENT

APPENDIX C, TABLE 1
ESTIMATED LOCAL GOVERNMENT SERVICES EMPLOYMENT PER 100 RESIDENTIAL UNITS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

1	Local Government Services Employment - City/County of San Francisco, FY 2014-15 [1]	33,837	
2	Less: Estimated "fixed" portion of employment that does not vary with service demands	(20,822)	From Appendix C, Table 2
3	Estimated "Variable" Portion that increases with increased service demands	13,015	From Appendix C, Table 2
4	Less: Allocable Share of Variable Employment for Services to Non-Residential Uses	(3,188)	See below
5	Estimated Local Government Employment that varies with increased service demands and is allocable to population / residential uses	9,827	=29% of total employment
6	Total Number of Residential Units in City[3]	378,186	
7	**Estimated Increase in City/County Employment for Each 100 residential units** *(= Line 5 / Line 6 X 100)*	**2.60**	

Estimated Share of Employment Allocable to Non-Residential Uses

1	Resident Equivalent Service Population [5]		
	Number of Jobs in San Francisco, 2014 [2]	639,400	
	Resident Equivalents @ 0.5 times Employment	319,700	27%
	Residential Population[4]	852,469	73%
	Total Resident Equivalent Service Population [5]	1,172,169	100%
2	Estimated City/County Employment that varies with resident equivalent service population	11,687	From Appendix C, Table 2
3	Estimate of City/County Employment serving non-residential / employment uses	3,188	

Notes
1. Represents Full Time Equivalents (FTEs) based on City and County of San Francisco Fiscal Year 2014/15 Annual Salary Ordinance.
2. State of California Employment Development Division.
3. US Census Bureau American Community Survey 2009 - 2013.
4. U.S. Census Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2014 , 2014 Population Estimates.
5. Resident equivalent service population is a metric used in fiscal impact and level of service analyses prepared for the City and used to allocate municipal service costs between residential and non-residential uses. Each resident is weighted as one resident equivalent and each employee is weighted as 0.5 resident equivalents.

APPENDIX C, TABLE 2
LOCAL GOVERNMENT EMPLOYMENT AND ESTIMATED SHARE THAT VARIES WITH SERVICE DEMANDS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

FY 2014-15 City and County of San Francisco Employment

	2014-15 FTE Employees	Service Population[1]	Estimated Variable Portion of Employment / Increases with Increased Service Demands: Percent	Number
Culture and Recreation				
Museums	259	resident	0%	-
Recreation and Parks	1,043	resident	50%	522
Public Library	708	resident	25%	177
Law Library	3	resident	0%	-
Commissions & Boards				
SF Public Utilities Commission	2,430	service	10%	243
All other boards and commissions	1,830	service	0%	-
General Administration and Finance	3,255	service	30%	976
Public Protection				
Adult Probation	156	resident	90%	141
Emergency Management	279	service	90%	251
Fire	1,826	service	90%	1,644
District Attorney	284	service	90%	255
Juvenile Probation	278	resident	90%	250
Sheriff	1,101	service	90%	991
Public Defender	167	service	90%	151
Police	3,093	service	90%	2,784
Human Welfare and Neighborhood Development				
Children, Youth & Their Families	43	resident	10%	4
Child Support Services	104	resident	10%	10
Human Rights Commission	12	service	10%	1
Public Health (includes SF General)	7,082	service	10%	708
Human Services Agency	2,183	resident	10%	218
Health Service System	52	resident	10%	5
Status of Women	6	service	10%	1
The Port	276	service	0%	-
Public Works, Transportation and Commerce				
Economic & Workforce Development	112	service	50%	56
General Services Agency - Public Works	1,413	service	50%	706
Municipal Transportation Agency	5,840	service	50%	2,920
Total	**33,837**		38%	**13,015**
Portion Varying with Resident Equivalent Service Population[1]				11,687
Portion Varying with Population Alone				1,328

(1) Resident equivalent service population ("service") is a metric used in fiscal impact and level of service analyses prepared for the City and used to allocate municipal service costs between residents and non-residential uses. Each resident is weighted as one resident equivalent and each employee is weighted as 0.5 resident equivalents.

Sources: Fiscal Year 2014/15 Annual Salary Ordinance. Fiscal Impact Analyses prepared for the City by CBRE, KMA, and EPS.

APPENDIX D: WORKER OCCUPATIONS AND COMPENSATION LEVELS

APPENDIX D, TABLE 1
WORKER OCCUPATION DISTRIBUTION, 2014
SERVICES TO HOUSEHOLDS EARNING $150,000 AND ABOVE
RESIDENTIAL NEXUS ANALYSIS
CITY AND COUNTY OF SAN FRANCISCO

Major Occupations (2% or more)	Worker Occupation Distribution[1] Services to Households Earning $150,000 and above
Management Occupations	*4.4%*
Business and Financial Operations Occupations	*4.5%*
Community and Social Service Occupations	*2.5%*
Education, Training, and Library Occupations	*5.2%*
Healthcare Practitioners and Technical Occupations	*6.2%*
Healthcare Support Occupations	*3.7%*
Food Preparation and Serving Related Occupations	*14.3%*
Building and Grounds Cleaning and Maintenance Occupations	*3.1%*
Personal Care and Service Occupations	*7.6%*
Sales and Related Occupations	*12.4%*
Office and Administrative Support Occupations	*16.1%*
Installation, Maintenance, and Repair Occupations	*3.1%*
Transportation and Material Moving Occupations	*4.8%*
All Other Worker Occupations - Services to Households Earning $150,000 and above	*11.8%*
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.

Source: Bureau of Labor Statistics, IMPLAN
Keyser Marston Associates, Inc.
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APPENDIX D, TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2014
SERVICES TO HOUSEHOLDS EARNING $150,000 AND ABOVE
RESIDENTIAL NEXUS ANALYSIS
CITY AND COUNTY OF SAN FRANCISCO

Occupation [3]	2014 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Households Earning $150,000 and above Workers
Page 1 of 4			
Management Occupations			
Chief Executives	$207,700	3.5%	0.2%
General and Operations Managers	$150,600	32.6%	1.4%
Sales Managers	$161,600	4.6%	0.2%
Administrative Services Managers	$110,700	4.2%	0.2%
Computer and Information Systems Managers	$165,700	3.3%	0.1%
Financial Managers	$169,200	9.3%	0.4%
Education Administrators, Postsecondary	$104,800	3.3%	0.1%
Food Service Managers	$63,800	5.0%	0.2%
Medical and Health Services Managers	$134,100	5.1%	0.2%
Property, Real Estate, and Community Association Managers	$85,100	8.2%	0.4%
Social and Community Service Managers	$78,500	5.1%	0.2%
Managers, All Other	$141,700	3.6%	0.2%
All other Management Occupations (Avg. All Categories)	$135,800	12.2%	0.5%
Weighted Mean Annual Wage	***$135,800***	**100.0%**	**4.4%**
Business and Financial Operations Occupations			
Claims Adjusters, Examiners, and Investigators	$80,200	6.2%	0.3%
Human Resources Specialists	$80,600	4.9%	0.2%
Management Analysts	$119,700	5.6%	0.3%
Training and Development Specialists	$82,800	4.0%	0.2%
Market Research Analysts and Marketing Specialists	$87,400	6.8%	0.3%
Business Operations Specialists, All Other	$94,700	11.6%	0.5%
Accountants and Auditors	$87,000	18.6%	0.8%
Financial Analysts	$124,700	7.1%	0.3%
Personal Financial Advisors	$125,100	9.1%	0.4%
Insurance Underwriters	$81,400	3.3%	0.1%
Loan Officers	$99,600	5.1%	0.2%
All Other Business and Financial Operations Occupations (Avg. All Categories)	$97,200	17.6%	0.8%
Weighted Mean Annual Wage	***$97,200***	**100.0%**	**4.5%**
Community and Social Service Occupations			
Substance Abuse and Behavioral Disorder Counselors	$44,900	4.2%	0.1%
Educational, Guidance, School, and Vocational Counselors	$63,500	7.6%	0.2%
Mental Health Counselors	$43,100	7.2%	0.2%
Rehabilitation Counselors	$36,400	6.4%	0.2%
Child, Family, and School Social Workers	$53,400	14.4%	0.4%
Healthcare Social Workers	$79,600	6.0%	0.2%
Mental Health and Substance Abuse Social Workers	$55,000	5.5%	0.1%
Social and Human Service Assistants	$39,200	24.9%	0.6%
Community Health Workers	$45,900	3.1%	0.1%
Community and Social Service Specialists, All Other	$53,300	5.1%	0.1%
Clergy	$63,100	4.3%	0.1%
All Other Community and Social Service Occupations (Avg. All Categories)	$49,900	11.3%	0.3%
Weighted Mean Annual Wage	***$49,900***	**100.0%**	**2.5%**

Sources: U.S. Bureau of Labor Statistics, California Employment Development Department, IMPLAN
Keyser Marston Associates, Inc.
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APPENDIX D, TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2014
SERVICES TO HOUSEHOLDS EARNING $150,000 AND ABOVE
RESIDENTIAL NEXUS ANALYSIS
CITY AND COUNTY OF SAN FRANCISCO

Occupation [3]	2014 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Households Earning $150,000 and above Workers
Page 2 of 4			
Education, Training, and Library Occupations			
Health Specialties Teachers, Postsecondary	$92,700	3.5%	0.2%
Vocational Education Teachers, Postsecondary	$67,000	4.0%	0.2%
Preschool Teachers, Except Special Education	$37,000	10.1%	0.5%
Elementary School Teachers, Except Special Education	$67,600	6.3%	0.3%
Secondary School Teachers, Except Special and Career/Technical Education	$70,700	4.4%	0.2%
Self-Enrichment Education Teachers	$47,000	9.2%	0.5%
Substitute Teachers	$36,300	3.2%	0.2%
Teacher Assistants	$35,000	12.2%	0.6%
All Other Education, Training, and Library Occupations (Avg. All Categories)	$50,700	47.1%	2.5%
Weighted Mean Annual Wage	***$50,700***	**100.0%**	**5.2%**
Healthcare Practitioners and Technical Occupations			
Pharmacists	$137,700	4.4%	0.3%
Physicians and Surgeons, All Other	$192,700	4.2%	0.3%
Registered Nurses	$129,200	29.0%	1.8%
Dental Hygienists	$114,300	5.2%	0.3%
Pharmacy Technicians	$46,300	5.8%	0.4%
Licensed Practical and Licensed Vocational Nurses	$63,100	7.7%	0.5%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories)	$115,600	43.7%	2.7%
Weighted Mean Annual Wage	***$115,600***	**100.0%**	**6.2%**
Healthcare Support Occupations			
Home Health Aides	$28,600	24.5%	0.9%
Nursing Assistants	$42,100	25.8%	1.0%
Massage Therapists	$45,600	4.8%	0.2%
Dental Assistants	$49,200	13.6%	0.5%
Medical Assistants	$44,000	16.3%	0.6%
All Other Healthcare Support Occupations (Avg. All Categories)	$39,900	14.9%	0.6%
Weighted Mean Annual Wage	***$39,900***	**100.0%**	**3.7%**
Food Preparation and Serving Related Occupations			
First-Line Supervisors of Food Preparation and Serving Workers	$40,300	6.9%	1.0%
Cooks, Fast Food	$25,500	4.0%	0.6%
Cooks, Restaurant	$29,200	8.7%	1.2%
Food Preparation Workers	$23,900	6.8%	1.0%
Bartenders	$30,100	7.5%	1.1%
Combined Food Preparation and Serving Workers, Including Fast Food	$23,500	24.5%	3.5%
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	$23,700	3.8%	0.5%
Waiters and Waitresses	$25,400	19.8%	2.8%
Dining Room and Cafeteria Attendants and Bartender Helpers	$24,300	3.2%	0.5%
Dishwashers	$23,000	4.0%	0.6%
All Other Food Preparation and Serving Related Occupations (Avg. All Categories)	$26,500	10.8%	1.5%
Weighted Mean Annual Wage	***$26,500***	**100.0%**	**14.3%**

Sources: U.S. Bureau of Labor Statistics, California Employment Development Department, IMPLAN
Keyser Marston Associates, Inc.
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APPENDIX D, TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2014
SERVICES TO HOUSEHOLDS EARNING $150,000 AND ABOVE
RESIDENTIAL NEXUS ANALYSIS
CITY AND COUNTY OF SAN FRANCISCO

Occupation [3]	2014 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Households Earning $150,000 and above Workers
Page 3 of 4			
Building and Grounds Cleaning and Maintenance Occupations			
First-Line Supervisors of Housekeeping and Janitorial Workers	$50,400	3.6%	0.1%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$28,400	54.8%	1.7%
Maids and Housekeeping Cleaners	$35,400	15.2%	0.5%
Landscaping and Groundskeeping Workers	$42,100	20.2%	0.6%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Cate	$33,300	6.2%	0.2%
Weighted Mean Annual Wage	***$33,300***	**100.0%**	**3.1%**
Personal Care and Service Occupations			
First-Line Supervisors of Personal Service Workers	$49,800	3.7%	0.3%
Nonfarm Animal Caretakers	$35,300	5.1%	0.4%
Amusement and Recreation Attendants	$24,900	3.2%	0.2%
Hairdressers, Hairstylists, and Cosmetologists	$39,500	14.0%	1.1%
Manicurists and Pedicurists	$23,000	3.4%	0.3%
Childcare Workers	$31,500	11.3%	0.9%
Personal Care Aides	$24,500	32.6%	2.5%
Fitness Trainers and Aerobics Instructors	$67,800	6.7%	0.5%
Recreation Workers	$29,100	4.8%	0.4%
All Other Personal Care and Service Occupations (Avg. All Categories)	$33,300	15.3%	1.2%
Weighted Mean Annual Wage	***$33,300***	**100.0%**	**7.6%**
Sales and Related Occupations			
First-Line Supervisors of Retail Sales Workers	$47,900	8.5%	1.1%
Cashiers	$26,900	25.7%	3.2%
Counter and Rental Clerks	$31,900	4.4%	0.5%
Retail Salespersons	$30,500	32.2%	4.0%
Insurance Sales Agents	$86,400	3.8%	0.5%
Securities, Commodities, and Financial Services Sales Agents	$140,600	4.6%	0.6%
Sales Representatives, Services, All Other	$85,000	4.2%	0.5%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific	$65,600	5.6%	0.7%
All Other Sales and Related Occupations (Avg. All Categories)	$44,100	11.1%	1.4%
Weighted Mean Annual Wage	***$44,100***	**100.0%**	**12.4%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$66,700	6.8%	1.1%
Bookkeeping, Accounting, and Auditing Clerks	$50,100	7.3%	1.2%
Customer Service Representatives	$45,700	11.3%	1.8%
Receptionists and Information Clerks	$37,500	7.4%	1.2%
Stock Clerks and Order Fillers	$32,100	9.3%	1.5%
Executive Secretaries and Executive Administrative Assistants	$69,700	3.4%	0.5%
Medical Secretaries	$44,700	3.4%	0.5%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$43,600	11.0%	1.8%
Office Clerks, General	$40,000	13.6%	2.2%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$45,200	26.6%	4.3%
Weighted Mean Annual Wage	***$45,200***	**100.0%**	**16.1%**

Sources: U.S. Bureau of Labor Statistics, California Employment Development Department, IMPLAN
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APPENDIX D, TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2014
SERVICES TO HOUSEHOLDS EARNING $150,000 AND ABOVE
RESIDENTIAL NEXUS ANALYSIS
CITY AND COUNTY OF SAN FRANCISCO

Occupation [3]	2014 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Households Earning $150,000 and above Workers
Page 4 of 4			
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$90,300	7.7%	0.2%
Telecommunications Equipment Installers and Repairers, Except Line Installers	$59,600	3.8%	0.1%
Automotive Body and Related Repairers	$52,600	5.5%	0.2%
Automotive Service Technicians and Mechanics	$55,100	16.3%	0.5%
Bus and Truck Mechanics and Diesel Engine Specialists	$55,400	3.7%	0.1%
Maintenance and Repair Workers, General	$50,600	36.9%	1.2%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	$56,600	26.0%	0.8%
Weighted Mean Annual Wage	***$56,600***	**100.0%**	**3.1%**
Transportation and Material Moving Occupations			
Bus Drivers, School or Special Client	$40,100	8.4%	0.4%
Driver/Sales Workers	$33,100	7.7%	0.4%
Heavy and Tractor-Trailer Truck Drivers	$46,600	11.3%	0.5%
Light Truck or Delivery Services Drivers	$41,900	9.4%	0.4%
Taxi Drivers and Chauffeurs	$30,200	4.6%	0.2%
Parking Lot Attendants	$28,400	7.4%	0.4%
Industrial Truck and Tractor Operators	$43,100	3.1%	0.1%
Cleaners of Vehicles and Equipment	$26,200	6.0%	0.3%
Laborers and Freight, Stock, and Material Movers, Hand	$30,700	19.9%	1.0%
Packers and Packagers, Hand	$26,900	7.3%	0.3%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	$34,800	15.0%	0.7%
Weighted Mean Annual Wage	***$34,800***	**100.0%**	**4.8%**
			88.2%

[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 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2013 Occupational Employment Survey data applicable to San Francisco, updated by the California Employment Development Department to 2014 wage levels.

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

Sources: U.S. Bureau of Labor Statistics, California Employment Development Department, IMPLAN
Keyser Marston Associates, Inc.
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APPENDIX D, TABLE 3
CITY AND COUNTY OF SAN FRANCISCO COMPENSATION LEVELS
RESIDENTIAL NEXUS ANALYSIS
CITY OF SAN FRANCISCO, CA

	Percent of Employees[1]	Average Salary[1]
Job Titles Representing 0.5% or more of employees		
Transit Operator	6.74%	$76,200
Registered Nurse	4.03%	$124,200
Police Officer 3	2.56%	$142,800
Firefighter	2.54%	$158,100
Custodian	2.29%	$54,800
Special Nurse	2.11%	$65,300
Deputy Sheriff	2.11%	$116,900
Police Officer	1.51%	$110,500
Patient Care Assistant	1.42%	$66,600
Police Officer 2	1.28%	$143,600
Sergeant 3	1.22%	$171,300
Attorney (Civil/Criminal)	1.21%	$147,700
General Laborer	0.99%	$63,400
EMT/Paramedic/Firefighter	0.97%	$144,500
Eligibility Worker	0.97%	$56,600
Gardener	0.92%	$63,300
Porter	0.89%	$55,300
Parking Control Officer	0.87%	$62,300
Senior Eligibility Worker	0.85%	$73,900
Senior Clerk	0.79%	$51,800
Senior Clerk Typist	0.72%	$59,100
Electrical Transit System Mech	0.71%	$104,600
Protective Services Worker	0.68%	$90,900
Stationary Engineer	0.67%	$89,300
Senior Administrative Analyst	0.65%	$89,300
Transit Supervisor	0.64%	$114,500
Lieutenant, Fire Suppression	0.63%	$189,700
Nurse Practitioner	0.61%	$120,100
Licensed Vocational Nurse	0.59%	$74,900
Clerk	0.58%	$48,400
Medical Evaluations Assistant	0.56%	$56,600
Assoc Engineer	0.55%	$113,300
Community Police Services Aide	0.55%	$72,100
Pr Administrative Analyst	0.55%	$104,900
Truck Driver	0.54%	$77,600
Engineer	0.52%	$134,100
Asst Engr	0.52%	$92,300
Librarian 1	0.50%	$64,700
Automotive Mechanic	0.50%	$91,000
Public SafetyComm Disp	0.50%	$99,200
Total / Average	48.03%	$99,100
All other positions	51.97%	$93,300
Total / Average [1]	**100.00%**	**$96,100**

(1) Adjusted to exclude employees with compensation below $25,480 (full time at San Francisco minimum wage).

Source: 2013 Annual Wage Data for the City and County of San Francisco downloaded from Transparent California.