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

- newly constructed units
- new households
- new expenditures on goods and services
- new jobs, a share of which are low paying
- new lower income households
- new demand for affordable units

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 are not 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.