



KEYSER MARSTON ASSOCIATES

PUBLIC REVIEW DRAFT

AFFORDABLE HOUSING NEXUS STUDIES

Prepared for:
County of Santa Clara

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April 2018

TABLE OF CONTENTS

	<i>Page</i>
I. EXECUTIVE SUMMARY	1
II. INTRODUCTION.....	5
A. Background and Context.....	5
B. Organization of this Report	5
III. SUMMARY OF FINDINGS AND RECOMMENDATIONS	7
A. Countywide Residential Findings and Recommendations	7
B. Countywide Non-Residential Affordable Housing Fees	12
C. Stanford-Specific Affordable Housing Fee Analyses and Context Materials.....	15
IV. SUMMARY OF NEXUS ANALYSES.....	28
A. Countywide Residential Nexus Analysis Summary.....	28
B. Countywide Non-Residential Nexus Analysis Summary.....	32
C. Nexus Addendum Addressing Stanford University Campus.....	34
V. CONTEXT MATERIALS	37
A. Residential Affordable Housing Requirements in Other Jurisdictions	37
B. On-Site Compliance Cost Analysis	45
C. Non-Residential Development Cost Context.....	48
D. Jobs Housing Linkage Fees in Other Jurisdictions	51

LIST OF TABLES

Table I-1:	Maximum Residential Fees
Table I-2:	Maximum Non-Residential Fees
Table I-3:	Maximum Stanford Campus Fees
Table I-4:	Summary of Policy Options – Stanford Fee Levels
Table III-1:	Maximum Supported Residential Fees, County of Santa Clara
Table III-2:	Affordable Housing Requirements in Other Jurisdictions - Ownership Units
Table III-3:	Overview of Single Family Home Permitting Activity
Table III-4:	Maximum Supported Non-Residential Fee per Square Foot by Building Type

- Table III-5: Non-Residential Housing Impact Fees – Other Counties, and Santa Clara County Cities
- Table III-6: Total Development Costs – Non-Residential
- Table III-7: Fees as a Percent of Development Costs
- Table III-8: Maximum Supported Affordable Housing Fee for Academic Space
- Table III-9: Maximum Supported Affordable Housing Fee for Faculty and Staff Housing
- Table III-10: Non-Residential Affordable Housing Fees
- Table III-11: Affordable Housing and Community Amenities - Other University Expansion Projects
- Table III-12: Academic Space Development Costs, University of California Examples
- Table III-13: Relative Fee Burdens
- Table III-14: Fees in Other Jurisdictions Applicable to Rental Housing
- Table III-15: Summary of Campus-specific Fee Considerations
- Table III-16: Summary of Policy Options
-
- Table IV-1: Prototypical Residential Units for County of Santa Clara
- Table IV-2: Household Income, Expenditures, Job Generation, and Net New Worker Households
- Table IV-3: Adjustment from No. of Workers to No. of Households
- Table IV-4: New Worker Households per 100 Market Rate Units
- Table IV-5: Maximum Supported Residential Fees, County of Santa Clara
- Table IV-6: Maximum Supported Fee Per Square Foot
- Table IV-7: Maximum Supported Affordable Housing Fee for Academic Space
- Table IV-8: Maximum Supported Affordable Housing Fee for Faculty and Staff Housing
-
- Table V-1: Comparison of Affordable Housing Requirements – Residential
- Table V-2: Cost of Onsite Compliance and Equivalent In-Lieu Fees
- Table V-2A: Summary of Jobs Housing Linkage Fee Programs, California
- Table V-3: Non-Residential Development Costs, Santa Clara County Participating Jurisdictions
- Table V-4: Relative Fee Burdens
- Table V-5: Potential Market Adjustments to Absorb Every \$1/SF Fee
- Table V-6: Affordable Housing Fee Levels in Selected Communities
- Table V-7: Office Linkage Fees vs. Average Office Rents in Selected Communities
- Table V-8: Summary of Jobs Housing Linkage Fee Programs, California

ATTACHMENT A – RESIDENTIAL NEXUS ANALYSIS REPORT

ATTACHMENT B – NON-RESIDENTIAL NEXUS ANALYSIS REPORT

ATTACHMENT C – AFFORDABLE HOUSING NEXUS ADDENDUM ADDRESSING THE STANFORD UNIVERSITY CAMPUS

I. EXECUTIVE SUMMARY

This report provides an affordable housing impact fee nexus analysis and related policy information to support consideration of affordable housing requirements for new development within the unincorporated area of the County of Santa Clara (“County”). The report is organized based on the following major land use categories:

1. Residential;
2. Non-residential; and
3. Stanford University Campus.

Keyser Marston Associates, Inc. (KMA) completed the residential and non-residential components of the study in 2016 in conjunction with the County’s participation in a multi-jurisdiction study with eleven other jurisdictions in Alameda and Santa Clara counties. Analyses addressing the Stanford Campus were added in 2018 and incorporated as part of this expanded study.

The Stanford Campus has an existing affordable housing requirement established in the 2000 General Use Permit (GUP) that regulates development of the Campus. The requirement is to provide one new affordable housing unit on the Stanford Campus for every 11,763 square feet of academic space constructed or make a cash payment in-lieu of constructing the unit. If the cash option is selected, the amount is determined based on the then current affordable housing fee for commercial development in the City of Palo Alto. The County does not have an existing affordable housing requirement that applies to development in the unincorporated area outside of the Stanford Campus. This report provides nexus analyses and policy information to support an updated requirement for the Stanford Campus and a potential new affordable housing requirement for development throughout the unincorporated area.

1. Residential - Countywide Unincorporated Area

Approximately 30 to 40 new residential units are built each year within the unincorporated area of the County outside of the Stanford Campus. The development activity is primarily single family units within rural areas of the County. The nexus analysis addressing residential development is based on the link between new residential units, demand for services such as retail and restaurants, and the affordable housing needs of workers who provide these services. The nexus analysis maximum fee level conclusions are summarized below:

**Table I-1
Maximum Residential Fees**

	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Per Market Rate Unit	\$83,000	\$48,600
Per Square Foot	\$16.60	\$18.70

Based on the findings of the nexus analysis, development activity in the unincorporated area, and requirements in other counties, KMA recommends affordable housing fees in the range of \$15 - \$16 per square foot (psf) in conjunction with consideration of a new inclusionary policy. Consistent with programs in the counties of Santa Cruz and San Mateo, it is recommended that requirements apply to all new residential units, potentially excepting smaller units below a size threshold. If fees apply to all new units, approximately \$2 million per year is estimated to be generated. Additional program recommendations are provided on page 10.

2. Non-Residential - Countywide Unincorporated Area

Non-residential development is very rare in the unincorporated area outside of the Stanford Campus. Just one new 4,700 square foot building was permitted during the four-year period reviewed. The nexus analysis addressing non-residential development supports consideration of affordable housing fees for non-residential development, also known as commercial linkage fees. The nexus analysis calculates maximum fee levels based on linkages among construction of new non-residential buildings, the employees that work in them, and their demand for affordable housing. The maximum fee level conclusions are summarized below:

**Table I-2
Maximum Non-Residential Fees**

<i>Building Type</i>	<i>Maximum Fee Per Square Foot</i>
Office	\$113.40
Retail	\$213.40
Hotel	\$102.50
Light Industrial	\$118.60
Warehouse	\$37.80

High fee levels are typical for an analysis of this type; however, jurisdictions generally adopt fees well below nexus maximums based on other policy considerations. Because non-residential development in the unincorporated area outside of Stanford is rare, fee revenue is expected to be minimal. If the County adopts a new commercial linkage fee program, KMA recommends consideration of fees in the range of \$3 to \$7 psf for non-residential development outside of the Stanford Campus, which is consistent with other county programs.

3. Stanford University Campus

Stanford is the most significant source of development activity within the unincorporated County. Under the proposed new 2018 General Use Permit for the Stanford Campus, construction of 2,275,000 square feet of new academic space is proposed through 2035. In addition, a combined 3,150 new student beds and faculty and staff housing units are proposed, of which up to 550 units are proposed to be faculty and staff units.

The report calculates maximum affordable housing impact fees based on the impact new development on the Stanford Campus has on the need for affordable housing. The nexus analysis maximum fee level findings are summarized below:

Table I-3 Maximum Stanford Campus Fees	
<i>Building Type</i>	<i>Maximum Fee Per Square Foot</i>
Academic Space	\$143.10
Faculty and Staff Housing	\$69.10

The above findings represent a maximum or ceiling for potential updated fees; however, the County may take other considerations into account in setting requirements anywhere below these levels. Academic space maximum fees reflect the cost of providing affordable housing for on-campus workers with household incomes up to 120% of the Area Median Income (AMI) consistent with the approach for the Countywide residential and non-residential analyses. Maximum fees for faculty and staff housing reflect the cost of providing affordable housing to new workers in retail, restaurants, healthcare, education, and other services to households who will live in these new units, consistent with the methodology for the Countywide residential nexus analysis. Employment that supports the student beds is included as part of the academic space fee analysis as discussed on page 36. The 2000 General Use Permit (2000 GUP) includes a condition requiring Stanford to either construct one affordable housing unit on campus for each 11,763 square feet of academic development or make an appropriate cash payment to the County in lieu of constructing the affordable housing unit. The condition also requires that the cash payment made by Stanford to the County be used to fund housing within a six-mile radius of Stanford's campus.

The study identifies policy options for updated fees based on the findings of the nexus analysis, summarized below:

- For academic space, options include the maximum fee of \$143 psf, sufficient to mitigate all housing impacts through 120% of AMI; and, a fee of \$75 psf, sufficient to mitigate housing impact through 80% of AMI (Extremely Low, Very Low, and Low-Income, omitting Moderate-Income).

- For faculty and staff housing, policy options include full mitigation of impacts, \$69 psf; or, a requirement to include affordable units on-site.

Table I-4 provides a summary of the policy options identified for Stanford Campus fees. The County may take these and / or other considerations into account in selecting fee levels.

Table I-4 Summary of Policy Options – Stanford Fee Levels		
<i>Option</i>	<i>Basis for Option</i>	<i>Affordable Housing Fee (\$ / Sq.Ft.)</i>
Academic Space Fees		
1.	Full Mitigation of Impacts through 120% AMI (Extremely Low, Very Low, Low, and Moderate-Income)	\$143
2.	Full Mitigation of Impacts through 80% of AMI (Extremely Low, Very Low, Low-Income)	\$75
Faculty and Staff Housing Fees		
1.	Full Mitigation	\$69
2.	Require On-Site Units	provide affordable units

II. INTRODUCTION

This report provides an affordable housing impact fee nexus analysis and related policy information to support the potential adoption of affordable housing fees for residential and non-residential development in the County of Santa Clara.

Keyser Marston Associates, Inc. (KMA) completed affordable housing fee nexus studies addressing residential and non-residential development throughout the unincorporated County in 2016 (“Countywide Nexus Study”) to support consideration of new affordable housing requirements. The Countywide Nexus Study was prepared as part of the County’s participation in a coordinated effort that included eleven other jurisdictions in Alameda and Santa Clara counties. The Countywide Nexus Study did not analyze the Stanford University Campus (“Stanford Campus”) because the General Use Permit (2000 GUP) that regulates its development included conditions for inclusionary affordable housing or payment of in-lieu fees. In 2017, Stanford University applied for a subsequent General Use Permit (2018 GUP), which prompted the evaluation of the appropriate level of affordable housing fees associated with the proposed development under the new application. Accordingly, the County engaged KMA to prepare a Stanford Campus-specific affordable housing fee nexus addendum (“Addendum”). The Addendum was completed in 2018 and is included as Attachment C.

A. Background and Context

The County of Santa Clara (“County”) is interested in the impacts of new development on the demand and availability of affordable housing and is considering potential affordable housing fees applicable to residential and / or non-residential development. The nexus analyses and supporting materials summarized in this report will enable the County to consider whether to adopt new affordable housing fees applicable to residential and non-residential development in the unincorporated County. The County program to implement affordable housing fees may come in the form of affordable housing impact fees (commonly referred to as “linkage fees”) or inclusionary housing requirements that provide an in-lieu fee option as an alternative to including required affordable units as part of the development. The analysis in this report supports either approach.

B. Organization of this Report

This report is organized into the following sections:

- Section I is an executive summary;
- Section II provides an introduction;
- Section III presents a summary of KMA’s findings and recommendations;

- Section IV summarizes the nexus analyses;
- Section V presents analyses and materials prepared to provide context for policy decisions, including:
 - A. Residential affordable housing requirements in other jurisdictions – provides a summary of existing inclusionary and in-lieu affordable housing fee requirements for jurisdictions in Alameda and Santa Clara counties;
 - B. On-site inclusionary compliance cost analysis – illustration of the revenue market rate residential projects would forgo if a percentage of units were required to be made affordable;
 - C. Non-Residential Development Costs - Analysis of development costs for various types of non-residential development as context for consideration of potential fee levels for non-residential development; and
 - D. Jobs housing linkage fee programs in other jurisdictions – provides information regarding adopted linkage fee programs in jurisdictions throughout the Bay Area and elsewhere in California.
- Attachment A is the full Residential Nexus Analysis report.
- Attachment B is the full Non-Residential Nexus Analysis report.
- Attachment C is the Affordable Housing Nexus Addendum Addressing the Stanford University Campus.

III. SUMMARY OF FINDINGS AND RECOMMENDATIONS

In this section, KMA provides a summary of the analysis findings and recommendations for the County's consideration should the County choose to move forward with requirements applicable to residential and non-residential development. This section is organized into the following subsections:

- A. Countywide Residential;
- B. Countywide Non-Residential; and,
- C. Stanford University Campus.

Recommendations reflect consideration of the following factors:

1. The findings of the nexus analysis. The nexus study establishes maximum fee levels that may be charged to mitigate the impacts of new development on the need for affordable housing.
2. The current requirements in nearby jurisdictions.
3. Setting a fee high enough to support a meaningful contribution to affordable housing.
4. Setting a fee low enough to not discourage development.

A. Countywide Residential Findings and Recommendations

KMA's findings and recommendations regarding a potential new affordable housing requirement applicable to residential development are presented in this section along with a summary of the factors considered by KMA. Findings specific to the Stanford Campus are presented separately in Section C.

1. Nexus Analysis Findings

The findings of the residential nexus analysis are summarized below. The findings per square foot refer to net residential area (exclusive of parking, corridors and other common areas).

Table III-1 Maximum Supported Residential Fees, County of Santa Clara		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Per Market Rate Unit	\$83,000	\$48,600
Per Square Foot	\$16.60	\$18.70

Source: Attachment A, Residential Nexus Analysis.

The nexus analysis was limited to single family for-sale units based on the expected development activity in the unincorporated county. Development of attached housing contemplated on the Stanford Campus is addressed separately in Section C.

If the County moves forward with a new requirement, it is contemplated that developers would have the choice of including affordable housing in their development or paying an in-lieu fee set by the Board of Supervisors. In-lieu fees would be set at, or below, the maximums supported by the nexus analysis.

2. Affordable Housing Requirements in Other Jurisdictions

KMA assembled and summarized the affordable housing requirements for 18 jurisdictions in Santa Clara and Alameda Counties including those participating in the multi jurisdiction work program plus nine additional cities selected by the participants. Santa Cruz and San Mateo counties were added to provide additional context specific to county programs. Table III-2 briefly summarizes the adopted affordable housing programs of the Santa Clara County cities (+ City of Fremont, and counties of Santa Cruz and San Mateo). The focus of the summary is on ownership unit requirements since few rentals are developed in the unincorporated County outside of the Stanford Campus. In-lieu fee payment as an alternative to building units on-site is permitted only for small projects in most of the city programs, where permitted at all. San Jose and Fremont are exceptions where in-lieu fee payment is allowed on projects of all sizes.

Santa Cruz County has fees applicable down to single units and a fee schedule that increases fees with the size of the unit. Units above 4,000 square feet pay the top rate of \$15 per square foot (psf) along with all project over five units. San Mateo County has fees of \$15 psf that apply to single family projects over 5 units with reduced rates for smaller developments. For single unit projects, fees apply only to the portion of the unit that exceeds 2,500 square feet.

A complete summary is provided in Section V. See also Section C. for a summary of rental unit requirements presented to provide context for potential requirements that would apply to faculty and staff housing proposed for the Stanford Campus.

**Table III-2
Affordable Housing Requirements in Other Jurisdictions - Ownership Units**

<i>City / County</i>	<i>Percent</i>	<i>Affordability Level</i>	<i>Fee</i>	<i>Fee by Right?</i>
Santa Cruz County	15%	Moderate	Projects of 1-4 units, fee varies by unit size: Up to 2,000 SF: \$2 psf 2,001-2,500 SF: \$3 psf 2,501-3,000 SF: \$5 psf 3,001-4,000 SF: \$10 psf 4,001 and up = \$15 psf Projects of 5+ units: \$15 psf of habitable space	Yes
San Mateo County	Multifamily of 5+ units: 20% Single Family: 15%	Multifamily of 5+ units: Extremely Low to Moderate; Single Family: Moderate	Single Family: 1 unit: \$5 psf over 2,500 SF 2-4 units: \$5 psf for 1st 2,500 SF then \$12.50 psf 5+ units: \$15 psf Attached 5+ units: based on gap calculation	Detached projects and multifamily under 9 units only
Los Altos	10%	Low and Moderate	None	N/A
Campbell	15%	Low and Moderate	\$34.50	Only projects 6 du/ ac. or less
Santa Clara	15%	Average 100% AMI	Single Family: \$30 psf Townhome: \$25 psf Condo: \$20 psf	Projects under 10 units only
Cupertino	15%	½ Moderate, ½ Median	\$15 detached; \$16.50 attached \$20 multifamily	Projects under 7 units only
San Jose	15%	Moderate	Affordability gap based on attached unit re-sales.	Yes
Mountain View	10%	Median	3% of sales price	Projects under 10 units only
Sunnyvale	12.5%	Moderate	7% of sales price	Projects under 20 units only
Fremont	Attached 3.5% + fee Detached: 4.5% + fee	Moderate	With on-site units: Attached: \$18.50 psf Detached: \$17.50 psf If no on-site units: Attached: \$27 psf Detached: \$26 psf	Yes

See Table V-1 for more detail.

3. Market Context

Residential development activity in the unincorporated areas of the County outside of Stanford is limited. The activity is predominantly larger custom homes in the hills and, within the ‘County Islands’ that are surrounded by incorporated areas, and some smaller lot subdivisions. Other residential development activity includes guest units and secondary dwellings added to existing properties and the occasional mobile or manufactured home. The County does not anticipate higher density development, such as townhomes, condominiums, or apartment projects, in the unincorporated areas outside of Stanford. The following table provides a summary of residential permitting activity summarized from building permit database information provided by County staff. The County averaged between 30 to 40 dwelling units per year over the period from 2013 to 2015 and an average of 137,000 sq. ft. of habitable space built each year in the unincorporated area outside of Stanford. Based on this level of development activity, a new fee of, say, \$15 per square foot would translate into roughly \$2 million in annual fee revenue, if all new dwelling units were subject to the fee.

Table III-3 Overview of Single Family Home Permitting Activity		
<i>Year</i>	<i>Units</i>	<i>Habitable Sq.Ft.</i>
2013	38	130,000
2014	34	160,000
2015*	39	120,000
Total	111	410,000
Average	37	137,000

Source: County of Santa Clara
2015 data is for January to November (11 months)

4. Program Recommendations

Following are KMA’s recommendations should the County decide to proceed with a new affordable housing requirement for residential development in the unincorporated area of the County. These recommendations are focused on the unincorporated area outside of Stanford and reflect the strong residential market in the unincorporated County, nexus analysis results, a review of development activity and programs in nearby jurisdictions.

- a. *Residential Developments Subject to Program* – Consider a program that applies to all new residential units in the unincorporated County, potentially excepting smaller units under a size threshold. Much of the development activity in the unincorporated area consists of single unit developments and custom homes. Unless requirements are applied to these developments, a potential new inclusionary policy may not produce many affordable units.

- b. *Fee Level* – KMA recommends consideration of fees in the range of \$15 to \$16 psf, which is near the maximums supported by the nexus and consistent with levels recently

adopted by neighboring Santa Cruz and San Mateo counties. A graduated fee schedule that increases with unit size may be appropriate if the County wishes to encourage smaller units. Fees should be charged on a per square foot (psf) basis. Per square foot fees are simple and fair in that larger units pay larger fees, consistent with impacts and on-site equivalent costs.

- c. *On-Site Affordable Unit Percentage* – Consider an on-site affordable unit percentage requirement of 15% to 20% for ownership units and 15% for rental. Set prices at moderate income or below and rents at low-income. Setting rental requirements at more than 15% would allow the State Department of Housing and Community Development (HCD), under AB 1505, to review the program to ensure that the higher inclusionary housing requirement does not diminish overall housing development. A requirement at this level will provide an incentive to utilize one of the other compliance options, such as fee payment or off-site provision of affordable units which appear to align better with the County's policy for development within rural unincorporated areas.

- d. *Provide flexibility on size of affordable units but require parity with market rate units in terms of total square feet* – New homes being built in the unincorporated County tend to be relatively large. While many inclusionary programs require affordable units to be the same size and bedroom count as the market rate project, affordable units need not be the same size as a 5,000 square foot market rate unit typical of the unincorporated area. However, requiring affordable units to maintain parity with the market rate units in aggregate square footage terms will help ensure inclusionary obligations are proportionate to the size of the market rate units and encourage compliance through alternatives such as fees or off-site units. As an example, a project with 7 units would owe one affordable unit based on a 15% requirement. If the average square footage of the market rate units is 5,000 square feet, then the square footage of the affordable units would also need to equal 5,000 square feet. However, multiple smaller affordable units could be provided instead of a single 5,000 square foot unit. For example, five 1,000-square foot units or two 2,500-square foot affordable units. Guidelines or approval procedures addressing affordable unit size, bedroom count and bedroom size will be needed to ensure units are consistent with needs and marketable to qualified buyers.

While requirements for on-site affordable units will need to be specified, it is recognized that many projects will not have a practical ability to provide on-site affordable units due to zoning in rural areas which does not allow multiple units to be constructed on a single residentially zoned parcel. Projects that cannot provide on-site units will need to utilize the fee option or another compliance alternative such as off-site affordable units.

- e. *Off-Site Affordable Units* – Provide an option to build affordable units off-site within incorporated communities nearest to the residential development. If the County would like to encourage utilization of this option, it could be structured to represent a

competitive choice relative to providing affordable units on-site. For example, the requirement to maintain parity with the total square footage of market rate units described above could be modified if units are provided off-site.

- f. *Additions* – The nexus analysis enables the County to consider applying affordable housing fees to additions. If the County applies fees to additions, consider a minimum size threshold for fee application to limit the fee to just those additions that add significantly to the size of the dwelling unit or which add a guest house or other type of secondary dwelling unit.

B. Countywide Non-Residential Affordable Housing Fees

The analysis prepared by KMA will enable the County to consider adoption of a new affordable housing fee applicable to non-residential development in the County. The following section provides KMA’s recommendations regarding a fee range for non-residential development, excluding the Stanford Campus, should the County choose to move forward with a new fee, along with a summary of the factors considered by KMA. Stanford Campus findings are presented in Section C.

1. Nexus Analysis Findings

The KMA non-residential nexus analysis found very high supportable fee levels. The high fee levels supported by the analysis are not unusual for high cost areas such as the County of Santa Clara. The nexus analysis establishes only maximum fee levels. The actual fee would be set based on a number of policy considerations. The table below indicates the nexus analysis results.

Table III-4 Maximum Supported Non-Residential Fee Per Square Foot	
Office	\$113.40
Retail	\$213.40
Hotel	\$102.50
Light Industrial	\$118.60
Warehouse	\$37.80

Note: Nexus findings are not recommended fee levels.
See Attachment B for detail.

Fee levels should be selected based on a combination of the strength of the local real estate for the building types that will pay the fee, and local policy objectives. We also believe it is appropriate to take into account the fee levels in neighboring jurisdictions and jurisdictions that are comparable to the County in real estate demand.

2. Fees in Other Jurisdictions

The chart below summarizes fee levels for other counties as well as the cities within the County of Santa Clara that have adopted non-residential fees. The jurisdictions with the highest fees tend to be in areas with very strong demand for non-residential space, such as Palo Alto, Cupertino, and Mountain View. Fee levels in the East Bay and elsewhere tend to be lower than those found in Santa Clara County and the Peninsula. San Jose, the largest city in the County, does not have a non-residential fee program.

For the programs in other counties, office fees range from just under \$1 per square foot in Sacramento and San Luis Obispo counties to \$25 per square foot in San Mateo County. For Retail, the counties range from \$0.77 psf (Sacramento County) to \$7.50 (Napa County) and with hotel, the range is \$0.92 psf (Sacramento County) to \$10.00 psf (San Mateo County). In neighboring Santa Cruz County, the fee is \$2 for all types of non-residential development. Alameda County, along with ten cities within Santa Clara and Alameda counties may also consider new non-residential fees as part of this multi-jurisdiction effort. Of the participating jurisdictions, thus far, the cities of Fremont and Santa Clara have adopted new non-residential fees. More details can be found in Section V and Table V-8 at the end of this report.

Table III-5 Non-Residential Housing Impact Fees – Other Counties and Cities in County of Santa Clara				
<i>Non-Residential Fees</i>	<i>Office \$/SF</i>	<i>Retail \$/SF</i>	<i>Hotel \$/SF</i>	<i>Industrial \$/SF</i>
<u>County Programs</u>				
San Mateo County	\$25.00	\$5.00	\$10.00	N/A
Marin County	\$7.19	\$5.40	\$3.00	\$3.74
Santa Cruz County	\$2.00	\$2.00	\$2.00	\$2.00
Sonoma County	\$2.64	\$4.56	\$2.64	\$2.72
Napa County	\$5.25	\$7.50	\$9.00	\$4.50
Sacramento County	\$0.97	\$0.77	\$0.92	\$0.61
San Luis Obispo County	\$0.96	\$1.36	\$1.44	\$0.58
<u>Cities within County of Santa Clara</u>				
Palo Alto	\$35.00	\$20.37	\$20.37	\$20.37
Mountain View	\$25.00	\$2.68	\$2.68	\$25.00
City of Santa Clara	\$20.00	\$5.00	\$5.00	\$10.00
Cupertino	\$20.00	\$10.00	\$10.00	\$20.00
Sunnyvale	\$15.00	\$7.50	\$7.50	\$15.00

N/A = No fee or no applicable category

See Table V-8 for more details including features such as exemptions and size thresholds.

3. Total Development Costs

KMA estimated the total development cost associated with each building type and examined fee levels in the context of total costs. Total costs include construction, all permits and fees, land, financing and other. This facilitates an evaluation of whether the amount is likely to affect development decisions. Four non-residential prototype projects were selected for review of total development costs. The prototypes include office, hotel, retail, and light industrial. The cost estimates were prepared based on local information and our firm’s extensive work with real estate projects throughout Silicon Valley and the Bay Area. Cost estimates were prepared in 2016 and have not been updated for subsequent escalation. More detail on the analysis can be found in Section V. The results are summarized below:

Table III-6 Total Development Costs – Non-Residential	
<i>Building Type</i>	<i>Cost</i>
Office	\$525 - \$625 per sq.ft.
Hotel	\$325 - \$425 per sq.ft.
Retail / Restaurant / Service	\$400 - \$500 per sq.ft.
Light Industrial	\$250 - \$300 per sq.ft.

One useful way to evaluate alternative fee levels is to examine them as a percent of total development costs. For example, at 1% to 3% of costs, we would see the following fee levels:

Table III-7 Fees as a Percent of Development Costs			
<i>Building Type</i>	<i>1%</i>	<i>2%</i>	<i>3%</i>
Office	\$6 psf	\$11 psf	\$17 psf
Hotel	\$4 psf	\$7 psf	\$11 psf
Retail / Restaurant	\$4 psf	\$9 psf	\$13 psf
Light Industrial	\$3 psf	\$5 psf	\$8 psf

4. Market Context

Based on a review of building permit activity over the four year period from 2012 to 2015, there is minimal non-residential development in the unincorporated County outside of the Stanford Campus. Two winery buildings were permitted during the period, one a new structure and one a change in use of an existing agricultural structure to a tasting room. Beyond that, virtually all building activity in the unincorporated County has occurred within the Stanford Campus.

5. Recommended Fee Levels for Non-Residential Outside of Stanford

Due to the very limited amount of non-residential development activity that has occurred over the past few years in the unincorporated County outside of Stanford, a new non-residential fee

program could be expected to generate only a minor amount of revenue for affordable housing. If the County decides to proceed with a new non-residential affordable housing fee, KMA recommends consideration of fees within the range of \$3 to \$7 psf applicable to non-residential development within the unincorporated communities outside of the Stanford area. This level is supported by the analysis and would place the County of Santa Clara within the range of other county programs (Table III – 5). Establishing a program would position the County to collect affordable housing fees if development activity increases in the future. A minimum square footage size threshold for application of the fee could be considered so very small non-residential projects would not be subject to the fee.

C. Stanford-Specific Affordable Housing Fee Analyses and Context Materials

This section focuses on the Affordable Housing Nexus Analysis Addendum addressing the Stanford University Campus. The Addendum was prepared to support adoption of affordable housing fees applicable to the Stanford University Campus as part of a proposed new affordable housing requirement applicable to development throughout the unincorporated area of the County. The County program to implement affordable housing fees on the Stanford Campus may come in the form of affordable housing impact fees or inclusionary housing/in-lieu fees on residential and/or non-residential development. The analysis in the Addendum supports either approach. The following section summarizes the findings of the Addendum as well as a series of materials designed to provide context for considering potential fee levels that would be appropriate for the Stanford Campus.

The Addendum analyzes the expansion of the Stanford Campus proposed under the 2018 GUP including addition of 2,275,000 square feet of academic space, 550 faculty and staff housing units and 2,600 student beds. Although a specific development scenario is analyzed, per square foot findings will remain valid even if development levels are modified. The analysis methodology is consistent with the Countywide Nexus Study with adaptations to reflect data that is specific to the Stanford Campus including survey data provided by Stanford on the household incomes of its workforce.

Nexus Analysis Findings for the Stanford Campus

Following is a summary of maximum supported affordable housing fee levels for the Stanford Campus. See Section IV. for an overview of the nexus analysis methodology and Attachment C for full documentation.

1. Academic Space

The maximum supported affordable housing fee level for academic space identified in the Addendum is summarized below. Findings represent the maximum fee that could be charged for construction of new academic space to mitigate the impact on the need for affordable housing.

**Table III-8
Maximum Supported Affordable Housing Fee for Academic Space**

\$143.10 Per Square Foot

Note: Nexus findings are not recommended fee levels.
See Attachment C for supporting analysis.

A \$74.90 psf portion of the maximum fee relates to workers earning up to 80% of AMI (corresponding the Extremely Low, Very Low, and Low-Income categories) and the remaining \$68.20 psf portion of the fee relates to housing needs of Moderate-Income workers between 80% and 120% of AMI.

2. Faculty and Staff Housing

The maximum supported affordable housing fee level for faculty and staff housing identified in the Addendum is \$69.10 per square foot of net residential area (exclusive of parking, corridors and other common areas).

**Table III-9
Maximum Supported Affordable Housing Fee for Faculty and Staff Housing**

\$69.10 Per Square Foot

Note: Nexus findings are not recommended fee levels.
See Attachment C for supporting analysis.

A \$51.80 psf portion of the maximum supported fee relates to workers earning up to 80% of AMI and the remaining \$17.30 psf portion of the fee relates to housing needs of Moderate-Income workers between 80% and 120% of AMI.

Stanford-specific findings are higher on a per square foot basis than those identified in the Countywide nexus study partially due to the smaller average unit size, which usually results in higher nexus findings on a per square foot basis. In addition, the analysis reflects updated data on the cost of delivering affordable units and the higher cost of providing affordable units in the vicinity of the Stanford Campus than in lower land cost locations such as Gilroy or Morgan Hill, which are reflected in the Countywide analysis.

Materials Assembled to Provide Context for Academic Space Fees

The following section presents additional materials designed to provide context for potential fee levels applicable to academic space. The nexus analysis only establishes a maximum; the County is free to consider a range of other factors in setting fees anywhere below the maximums supported by the analysis.

Context materials include a review of:

1. Existing affordable housing requirements for the Stanford Campus established in the 2000 GUP;
2. Non-residential affordable housing fee levels for cities near the Stanford Campus;
3. Affordable housing and community amenities provided in conjunction with other university expansion projects;
4. Provisions for affordable housing as part of Stanford projects in Palo Alto and Redwood City;
5. Applicability of commercial linkage fees adopted in other communities to non-profit educational institutions; and
6. Development costs for academic space relative to other non-residential uses.

1. Existing Affordable Housing Requirements Established in 2000 GUP

Under the existing 2000 GUP, Stanford is required to either construct one affordable housing unit for each 11,763 square feet of academic space or make a cash payment in-lieu of providing the units. If Stanford elects to provide the units, a range of affordability is required with one third each at Very Low (up to 50% of Area Median Income or AMI), Low (up to 80% AMI), and Moderate-Income (up to 120% AMI). If the cash option is selected, the amount due is equal to the then current affordable housing fee for commercial development in the City of Palo Alto. Payments are deposited into a County-administered Affordable Housing Fund dedicated to the creation of affordable housing within a six-mile radius of the Stanford Campus. Priority for occupancy of the units is given to Stanford employees to the extent allowable by law.

2. Affordable Housing Fees in Nearby Jurisdictions

Peninsula and Silicon Valley cities in the vicinity of the Stanford Campus have among the highest affordable housing fees in the Bay Area as well as nationally. High fees adopted by these communities are a reflection of strong demand for non-residential space, which enables development projects to sustain higher fees, and the acute affordable housing challenges confronted by the communities in the heart of Silicon Valley. The chart below shows selected examples. The chart is intended as a general illustration and may not reflect application of annual inflation adjustments since the time the fee survey was originally conducted in all cases. Rates reflect fees applicable to commercial development. As further discussed below, non-profit, educational and institutional uses are commonly exempted.

Table III-10 Non-Residential Affordable Housing Fees	Office \$/SF	Retail \$/SF	Hotel \$/SF
Palo Alto	\$35.00	\$20.37	\$20.37
Mountain View	\$25.00	\$2.68	\$2.68
Menlo Park	\$16.90	\$9.17	\$9.17
San Mateo County	\$25.00	\$5.00	\$10.00
Santa Clara	\$20.00	\$5.00	\$5.00
Sunnyvale	\$15.00	\$7.50	\$7.50
Cupertino	\$20.00	\$10.00	\$10.00
San Mateo	\$25.00	\$10.00	\$5.00
San Bruno	\$12.50	\$6.25	\$12.50
Redwood City	\$20.00	\$5.00	\$5.00
San Francisco	\$25.49	\$23.78	\$19.08

Fees are generally set well below the maximums that are supported by the accompanying nexus study in consideration of economic and / or other policy objectives. For example, Mountain View’s nexus study supported fees of \$243 psf for retail, which is significantly higher than the \$2.68 psf fee that is currently in place. Palo Alto’s nexus study supported fees of \$264 psf for Office/R&D. The City Council ultimately adopted a fee of \$35 psf.

3. Other University Expansion Projects - Affordable Housing and Community Amenities

KMA researched affordable housing provided by other universities in connection with university expansion projects. We identified the following university expansion projects that included provisions for affordable housing:

- Massachusetts Institute of Technology (MIT),
- Columbia University,
- University of Southern California,
- Harvard University,
- University of California San Francisco (UCSF), and
- Yale-New Haven Hospital.

In addition to affordable housing, other community improvements or amenities were also provided for as part of these expansion projects; for example, traffic/transportation, education, and job training or local hiring. Table III-11 presents a summary.

Columbia University and the University of Southern California each provided \$20 million in affordable housing funds, which equates to \$2.94 per square foot and \$6.63 per square foot, respectively. The UCSF expansion project includes a 100% Below Market Rate graduate student housing project. Yale-New Haven Hospital agreed to make a \$1.2 million payment to the City’s Housing & Economic Development department for general use by the City. The MIT

project, which includes new housing, retail and office space, set aside over 20% of the housing units as affordable and paid the City's commercial linkage fee equal to \$15 per square foot for the commercial component of the project. The Harvard University expansion included payment of the City of Boston's housing linkage fee, which is \$8.34 per square foot.

4. *Stanford Projects in Palo Alto and Redwood City*

The following provides a summary of affordable housing funding provided under negotiated development agreements for Stanford projects in Palo Alto and Redwood City.

- *Stanford University Medical Center Expansion* – As part of a 2011 Development Agreement relating to the expansion and upgrade of the Stanford University Medical Center, Stanford agreed to pay \$23.2 million to the City. Funds are permitted to be used for infrastructure, sustainable neighborhoods and communities, and affordable housing. The medical center is not subject to Palo Alto's commercial linkage fee. The \$23.2 million payment equates to approximately \$18 per square foot and approximates what a commercial project would have paid as a commercial linkage fee based on fee levels in place at the time.

- *Stanford Redwood City Campus* – As part of the development agreement for Stanford's new 35-acre, 1.5 million square foot campus which included office, medical clinics and R&D space, Stanford agreed to provide community amenities and improvements valued at \$15 million including bike lanes, educational programming for city residents, a speaker series, among other items. No affordable housing funds were provided.

**Table III-11
Affordable Housing and Community Amenities
Other University Expansion Projects**

	<i>MIT</i>	<i>Yale-New Haven Hospital</i>	<i>Columbia University</i>	<i>University of Southern California</i>	<i>Harvard University</i>	<i>UCSF</i>
Project	Volpe Expansion & Redevelopment	Cancer Center / North Pavilion	Manhattanville Expansion	University Park Campus Specific Plan	Allston Expansion	Dogpatch Expansion
Date	2017	2006	2009	2012	2013	2017
Description	1.7 million sf of commercial; 1,400 housing units.	500,000 sf cancer center; Mixed Use incl. 845-car parking garage, retail, comm'l and hsnq; 165,000 sf medical office building.	6.8 million square foot campus expansion	2.5 million sf academic space; 350,000 sf retail; and 2,135,000 sf student / faculty housing (up to 5,400 student beds). 165,000 sf hotel. 80,000 sf K-8 school.	1.4 million sf Including academic, stadium renovation; athletic facilities; retail and Hotel	274,000 sf academic/ research neuroscience center. 170,000 sf mental health services bldg. (outpatient, research, office space). 595 units student housing.
Affordable Housing	\$26 million comm'l linkage fee (\$15 psf); housing to be 20% affordable with 280 affordable units and 20 middle-income (80-120% AMI) units	\$1.2 million to City's Housing & Economic Development office. Not specifically for housing.	\$20 million Affordable Housing Fund (\$2.94/sf)	\$20 million fund (\$6.63/sf academic, retail, hotel space). Min. 3,000 student beds. If build 4,038 beds & 70% of students on campus, \$5MM waived.	\$11 million. (Boston charges \$8.34/sf in excess of 100,000 sf.)	The 595 units of graduate student housing will be below-market-rate.
Other Community Improvements and Amenities	Community center, traffic improvements, community fund, multi-use path, arts program, community events.	career services, outreach coordinators, traffic improvements, youth initiative, parking management.	benefits fund, legal assistance, in-kind benefits, new public school.	Grocery store, fire Station, park improvements, funding to local schools, transit/ ped / bicycle improvements.	Education / training center; flexible fund for community improvements; public space; education and workforce development.	\$10.5 million of local improvements proposed for transportation, parks, and historic rehab.

5. Treatment of Educational Institutions in Other Affordable Housing Fee Programs

The Stanford Campus is a non-profit educational institution. This section reviews how affordable housing fee programs in other jurisdictions would apply to this type of use.

- *Programs that Would Exempt* – Many affordable housing fee programs include exemptions that would apply to a use like the Stanford Campus. Schools, non-profit organizations and institutional uses are common exemptions that would all generally apply to a use comparable to academic space on the Stanford Campus. Programs in effect in Palo Alto, Menlo Park, Redwood City and San Francisco are all examples of programs with exemptions that likely would apply to a use like the Stanford Campus. New Jersey’s state law governing non-residential development fees, which includes the fees charged in Princeton, NJ, includes an exemption for tax-exempt educational purposes.

- *Programs Where Fees Would Apply* – Some programs apply affordable housing fees to nearly all uses. This includes non-profit institutional uses such as the Stanford Campus. Even government buildings are subject to fees in some communities. The idea is that all employment uses contribute to the need for affordable housing and must share in the responsibility for addressing the problem.
 - Cambridge, Massachusetts recently expanded its fee program and now requires the Massachusetts Institute of Technology, Harvard, and other local institutions to pay an affordable housing fee equal to \$15 per square foot.
 - The City of Boston, where many universities are located, has a fee of \$8.34 per square foot and does not exempt universities or other institutions.
 - Santa Monica has a fee of \$10.46 per square foot applicable to institutional uses and, while K-12 educational uses are exempt, the exemption does not extend to colleges and universities.
 - The City of Los Angeles has a new fee of \$3 to \$5 per square foot (rate varies by zone) that applies to private colleges and universities.
 - Corte Madera has a fee of \$2.39 that applies to schools.
 - Boulder Colorado has a fee of \$4.08 per square foot that applies to institutional uses.

Every jurisdiction takes their local economy, development activity and major land uses into account in tailoring their program to meet local needs and objectives. The County’s circumstances are unique in that a major private university represents a significant share of the non-residential development activity within the unincorporated area where the County has responsibility for land use regulation.

6. Fees in Relationship to Total Development Costs

KMA estimated the total development cost for four non-residential building types as summarized in Section B.3 (page 14). The purpose of providing this information was to enable an understanding of fees in relationship to their impact on the total cost of a project. This section provides similar development cost context information for academic space.

To assist in understanding how development costs for academic space compare to the more typical types of commercial development, KMA reviewed publicly available development cost data from the University of California Office of the President. Table III-12 provides examples of costs applicable to completed laboratory, office, classroom, library, student centers, and athletic facilities on various UC campuses. The most recent examples of newly built facilities were selected in each of several facility categories, using Bay Area examples where possible. As shown, costs span a wide range and can be well above that of commercial development. At the lower end, a faculty office building in the Mission Bay campus of UCSF had a project cost of \$470 per square foot, but that cost does not include the very substantial site acquisition costs for the Mission Bay campus. On the high end, costs were \$1,070 per square foot for seismic replacement of Campbell Hall on the Berkeley campus in 2011. All costs are as of the year indicated without adjustment for subsequent cost increases or other factors and would be higher if built today. In contrast to the commercial cost estimates, academic space costs generally do not include site acquisition costs because they are built on existing university property. High costs are driven by the specialized nature of these buildings, some of which include specialized systems or equipment. Distinctive architecture and materials can also be a contributor to higher costs.

Table III-12 Academic Space Development Costs University of California Examples				
<u>Name</u>	<u>Campus</u>	<u>Facility Type</u>	<u>Cost PSF*</u>	<u>Year</u>
Computational Research and Theory Facility	Berkeley	Lab	\$890	2012
MB Block 25A Academic Building	SF	Faculty offices	\$470	2012
Campbell Hall Seismic Replacement	Berkeley	Office/Lab/Class	\$1,070	2011
Ostin Music Center	LA	Music facility	\$990	2011
Teaching and Learning Center for Health Sciences	LA	Classroom	\$870	2013
Segundo Services Center	Davis	Student center	\$870	2009
C. V. Starr East Asian Library	Berkeley	Library	\$690	2005
Student Athlete High Performance Center	Berkeley	Athletic facility	\$790	2006

Source: University of California Office of the President.

*costs have not been adjusted for subsequent changes in construction cost or other factors and generally do not include site acquisition costs.

This data is useful context in considering the burden various potential fee levels represent. Due to the comparatively high development costs associated with academic space, each dollar of

affordable housing fee will typically have a smaller percentage impact on the total project budget for a new academic building than it would have for a commercial building.

This cost data can be helpful in comparing potential academic space fee levels to fee levels for other uses. For example, office fee levels in the \$25 to \$35 per square foot range translates to approximately 4.3% to 6.1% of total development costs. Based on the higher development costs of academic space compared to office, academic space fees of \$35 to \$49 per square foot would represent a similar cost burden in percentage terms based on the representative cost ranges identified in Table III-13.

Table III-13 Relative Fee Burdens for Affordable Housing Impact Fees*			
	<u>Academic Space</u>	<u>Office</u>	<u>Retail</u>
Representative Cost Range**	\$500 - \$1,100/sf	\$525 - \$625/sf	\$400 - \$500/sf
Midpoint	\$800/sf	\$575/sf	\$450/sf
\$20 fee as percent of cost	2.5%	3.5%	4.4%
\$25 fee as percent of cost	3.1%	4.3%	5.6%
\$30 fee as percent of cost	3.8%	5.2%	6.7%
\$35 fee as percent of cost	4.4%	6.1%	7.8%
\$40 fee as percent of cost	5.0%	7.0%	8.9%
\$50 fee as percent of cost	6.3%	8.7%	11.1%

*Percentages calculated at midpoint of cost range.

** Academic space cost range from prior page. Office and retail ranges per Section B.3. page 14.

It should be noted that commercial cost ranges were intended as representative for Silicon Valley and costs may be somewhat higher in communities near the Stanford Campus due to their higher land costs.

Context for Fees Applicable to Faculty and Staff Housing

The following section presents information regarding fee levels applicable to rental housing in nearby jurisdictions to provide context for potential fees applicable to faculty and staff housing. Since the faculty and staff housing is expected to be rental, the summary of fees is focused on rental fees in other communities. Affordable housing fee requirements in the comparison jurisdictions range from \$17 up to approximately \$26 per square foot. Most of the comparisons are impact fees except for San Jose, which has an in-lieu fee. Two cities have a \$17/sq. ft. fee, three have a \$20/sq. ft. rate, and East Palo Alto has a fee of \$22.70/sq. ft. Cupertino has a rate of \$25 per square foot that applies when projects exceed 35 dwelling units per acre, a density that many new apartments in the Bay Area do exceed. Following enactment of AB 1505, San Jose is replacing its rental housing impact fee of \$17 per square foot with an in-lieu fee of

\$125,000 per affordable unit owed, which converts to approximately \$26 per square foot for a 950 square foot apartment.

Table III-14 Fees in Other Jurisdictions Applicable to Rental Housing	
<i>City</i>	<i>Fee Level</i>
Palo Alto	\$20 / sq.ft.
East Palo Alto	\$22.70 / sq.ft.
Mountain View	\$17 / sq. ft.
Redwood City	\$20 / sq.ft.
Cupertino	\$20 / sq. ft. and \$25 for projects over 35 du/acre
San Jose	Equivalent to approx. \$26 / sq. ft.*
Sunnyvale	\$17 / sq. ft. (\$8.50 for projects with 4 – 7 units)

Note: Fees may not reflect application of annual index.

*Estimate reflects fee of \$125,000 per affordable unit X 20% divided by a 950 square foot average rental unit size.

Summary of Fee Considerations and Policy Options for Stanford Campus

The analyses and context materials assembled to help inform selection of fee levels appropriate for the Stanford Campus are synthesized into a single summary table shown below.

Table III-15 Summary of Stanford Campus Fee Considerations		
<i>Considerations</i>	<i>Affordable Housing Fee or Mitigation (\$ / Sq.Ft.)</i>	<i>Comment</i>
Academic Space Fee Considerations		
Nexus Maximum	\$143	Jurisdictions generally set fees well below nexus maximums
Existing Fee ¹	\$35	Established in 2000 GUP and tied to Palo Alto's fee.
Nearby Jurisdiction Fees for Office Use	\$12.50 - \$35	Palo Alto is highest @\$35. \$20 - \$25 is most common.
Affordable Housing Provided with Other University Expansions	\$0 - \$8.34	Harvard represented top end of range.
Other Stanford Projects - Medical Center - Redwood City Campus	\$18 N/A	Medical center expansion funds can be used for affordable housing or other community needs. Redwood City campus did not include an affordable housing mitigation.
Other jurisdiction fees that would apply to private universities	\$2.39 - \$15	Indicated range is for jurisdictions where fees would apply. Many programs exempt non-profits and / or institutional uses.
Fees Relative to Development Costs for Academic Space	\$35 - \$49 fee represents similar burden to \$25 - \$35 office fee as % of cost	Illustrates a fee range for academic space that would represent a similar percentage of total development costs as a \$25 to \$35 fee applicable to office development. See Table III-13 for additional fee level examples.
Faculty and Staff Housing Fee Considerations		
Nexus Maximum	\$69.10	Fees are commonly set below nexus maximums based on other considerations.
Other Jurisdiction Fees for Rental Housing	\$17 - \$26	Upper end of the range is for San Jose.

Policy Options for Fees Applicable to the Stanford Campus

The following outlines policy options for affordable housing fee levels applicable to the Stanford Campus identified in consultation with County staff. The County is free to take these and / or other considerations into account in selecting fee levels appropriate for the Stanford Campus.

¹ Per County staff, the City of Palo Alto's affordable housing fee for office and R&D development, currently \$35 per square foot, applies for purposes of determining the cash payment in-lieu of providing affordable units under Section F.(6)(c) of the General Use Permit.

Academic Space Policy Options

- (1) **Full Mitigation** – If the County would like to fully mitigate the affordable housing impacts of new academic space, the fee would need to be set at the nexus maximum of **\$143** psf. A fee at this level represents an added cost in the approximate range of 18% of the total cost of development for academic space.
- (2) **Mitigation of Housing Need through 80% of Area Median Income (AMI)** – A fee of **\$75** psf would be sufficient to address affordable housing impacts up to 80% of AMI (Extremely Low-, Very Low- and Low-Income, omitting Moderate-Income). A fee at this level represents an added cost in the approximate range of 9% of the total cost of development for academic space. In November 2016, the County voters approved Measure A authorizing up to \$950 million in general obligation bonds for the creation of affordable housing. The majority of this funding is designated for affordable units that serve vulnerable populations, low income individuals and families earning 80% or less of area median income, and homeless individuals. A fee set at 0% to 80% of AMI would be consistent with Measure A's commitment to addressing affordable housing needs within this income range.

Faculty and Staff Housing Policy Options

- (1) **Full Mitigation** – If the County would like to fully mitigate the affordable housing impacts of new faculty and staff housing, the fee would need to be set at the nexus maximum of **\$69** psf. As with the academic space options described above, an alternative addressing housing need through 80% of AMI could also be considered.
- (2) **Require On-Site Units** – The County could require deed-restricted affordable units on-site in conjunction with a new Countywide inclusionary policy. For example, the policy could require projects over a certain number of units to include affordable units on-site. If faculty and staff units are built as rentals as Stanford anticipates, under AB 1505, the County must provide at least one alternative such as land dedication or off-site affordable units.

These policy options are summarized in Table III-16 below.

Table III-16 Summary of Policy Options		
<i>Option</i>	<i>Basis for Option</i>	<i>Affordable Housing Fee (\$ / Sq.Ft.)</i>
Academic Space Fees		
1.	Full Mitigation of Impacts through 120% AMI (Extremely Low, Very Low, Low, and Moderate-Income)	\$143
2.	Full Mitigation of Impacts through 80% of AMI (Extremely Low, Very Low, Low-Income)	\$75
Faculty and Staff Housing Fees		
1.	Full Mitigation	\$69
2.	Require On-Site Units	provide affordable units

Note: see narrative above for additional description.

Approaches to Indexing Fees

Most affordable housing fee programs include a mechanism for automatic indexing in the years between major updates to help ensure fees keep pace with the cost of providing affordable units. The most common indices are the Consumer Price Index (CPI) published by the Bureau of Labor Statistics and the Building Cost Index (BCI) and Construction Cost Index (CCI), both published by Engineering News Record (ENR). Some inclusionary programs, such as San Jose's, tie changes in fees to an affordability gap calculation that is updated each year in accordance with a prescribed methodology. This approach has the advantage of keeping fees in line with changes in the cost to provide affordable units. Disadvantages are that fee levels can be more volatile from year to year and a technical analysis is required to determine the fee level each year. A more comprehensive update of fees and the underlying nexus analyses typically occurs on a longer cycle of approximately five to ten years.

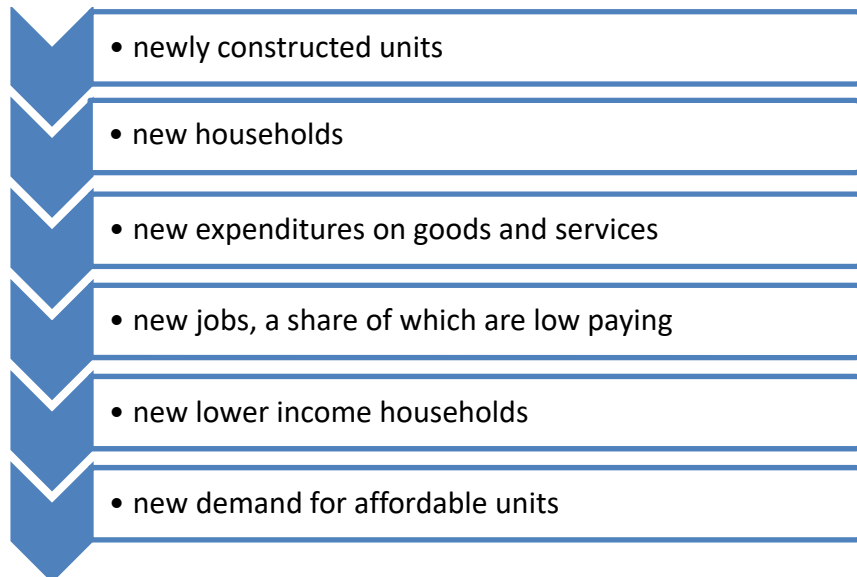
IV. SUMMARY OF NEXUS ANALYSES

This section provides a concise summary of the residential and non-residential nexus analyses prepared for the County of Santa Clara, including the Addendum prepared to address the Stanford Campus. The analyses provide documentation necessary for adoption of new affordable housing fees applicable to residential and non-residential development. The analyses establish maximum supportable fee levels based on the impact new residential and non-residential development has on the need for affordable housing. Findings represent the results of an impact analysis only and are not recommended fee levels. Full documentation of the analyses can be found in the nexus reports included as Attachments A, B and C.

A. Countywide Residential Nexus Analysis Summary

The residential nexus analysis establishes maximum supportable fee levels applicable to residential development. The underlying concept of the residential nexus analysis is that the newly constructed units represent net new households in the County. These households represent new income in the County that will consume goods and services, either through purchases of goods and services or “consumption” of governmental services. New consumption generates new local jobs; a portion of the new jobs are at lower compensation levels; low compensation jobs relate to lower income households that cannot afford market rate units and therefore need affordable housing.

Nexus Analysis Concept



1. Market Rate Residential Prototypes

In collaboration with County staff, two market rate residential prototypes were selected. The selected prototypes were identified to represent new residential units likely to be built in the unincorporated area in the immediate to mid-term future.

A summary of the two residential prototypes is presented below. Market survey and building permit data were used to develop the information. Market sales prices were estimated based on KMA's market research.

Table IV-1 Prototypical Residential Units for County of Santa Clara		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Avg. Unit Size	5,000 SF	2,600 SF
Avg. No. of Bedrooms	4.00	4.00
Avg. Sales Price / Rent Per Square Foot	\$2,000,000 \$400 /SF	\$900,000 \$346 /SF

2. Household Expenditures and Job Generation

Using the sales price applicable to each of the two market rate residential prototypes, KMA estimates the household income of the purchasing household. Household income is then translated to income available for expenditures after deducting taxes, savings and household debt, which becomes the input to the IMPLAN model. The IMPLAN model is used to estimate the employment generated by the new household spending. The IMPLAN model is an economic model widely used for the past 35 years to quantify the impacts of changes in a local economy. For ease of presentation the analysis is conducted based on an assumed project size of 100 market rate units.

A 20% downward adjustment is made to the IMPLAN employment estimates based on the expectation that a portion of jobs may be filled by existing workers who already have housing locally. The 20% adjustment is based upon job losses in declining sectors of the local economy over a historic period. Workers from declining sectors are assumed to fill a portion of the new jobs in sectors that serve residents.

The translation from market rate sales prices for the prototypical units to the estimated number of jobs in sectors such as retail, restaurants, health care and others providing goods and services to new residents is summarized in the table below.

Table IV-2 Household Income, Expenditures, Job Generation, and Net New Worker Households		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Avg. Sales Price / Rent	\$2,000,000	\$900,000
Gross Household Income	\$345,000	\$172,000
Net Annual Income available	\$196,700	\$115,200
Total Jobs Generated [from IMPLAN] (100 Units)	118.6	69.4
Net New Jobs after 20% reduction for declining industries (100 units)	94.9	55.6

See Attachment A: Residential Nexus Analysis report for full documentation.

3. 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 specific to the County from the California Employment Development Department (EDD). The KMA model also converts the number of employees to the number of employee households, recognizing that there is, on average, more than one worker per household, and thus the number of housing units in demand for new workers is reduced. For purposes of the adjustment from jobs to housing units, the average of 1.72 workers per working household in the County is used.

Table IV-3 Adjustment from No. of Workers to No. of Households		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Net New Jobs (100 Units)	94.9	55.6
Divide by No. of Workers per Worker Household	1.72	1.72
Net new worker households (100 Units)	55.2	32.4

The output of the model is the number of new worker households by income level (expressed in relation to the Area Median Income, or AMI) attributable to the new residential units and new households. Four categories of addressed: Extremely Low (under 30% of AMI), Very Low (30% to 50% of AMI), Low (50% to 80% of AMI) and Moderate (80% to 120% of AMI).

Following are the numbers of worker households by income level associated with the County of Santa Clara prototype units.

Table IV-4 New Worker Households per 100 Market Rate Units		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Extremely Low (0%-30% AMI)	9.9	5.8
Very Low (30%-50% AMI)	14.9	8.8
Low (50%-80% AMI)	12.7	7.4
Moderate (80%-120% AMI)	8.1	4.8
Total, Less than 120% AMI	45.6	26.7
Greater than 120% AMI	9.6	5.6
Total, New Households	55.2	32.4

See Attachment A: Residential Nexus Analysis report for full documentation.

Housing demand is distributed across the lower income tiers. The finding that the greatest number of households occurs in the Very Low and Low-Income tiers is driven by the fact that a large share of the jobs most directly associated with consumer spending tend to be low-paying, such as food preparation, administrative, and retail sales occupations.

4. Nexus Supported Maximum Fee Levels

The next step in the nexus analysis takes the number of households in the lower income categories associated with the market rate units and identifies the total subsidy required to make housing affordable. This is done for each of the prototype units to establish the 'total nexus cost,' which is the Maximum Supported Fee conclusion of the analysis. For the purposes of the analysis, KMA assumes that affordable housing fee revenues will be used to subsidize affordable rental units for households earning less than 80% of median income, and to subsidize affordable ownership units for households earning between 80% and 120% of median income.

Affordability gaps, or the needed subsidy amounts, are calculated for each of the income tiers. Then the affordability gaps (which is the difference between total development cost and unit value based on the affordable rent or sales price) are multiplied by the number of households in each income tier to produce the total nexus cost (i.e. mitigation cost.).

The Maximum Supported Fees are calculated at the per-unit level and the per-square-foot level and are shown in the table below.

Table IV-5 Maximum Supported Residential Fees, County of Santa Clara		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Per Market Rate Unit	\$83,000	\$48,600
Per Square Foot*	\$16.60	\$18.70

* Applies to net rentable / sellable area exclusive of garage space, external corridors and other common areas.

These costs express the maximum supported fees for the two residential prototype developments in the County of Santa Clara. These findings are **not** recommended fee levels.

B. Countywide Non-Residential Nexus Analysis Summary

The non-residential nexus analysis quantifies and documents the impact of the construction of new workplace buildings (office, retail, hotels, etc.) on the demand for affordable housing. It is conducted to support the consideration of a new affordable housing fee applicable to non-residential development in the County.

Full documentation of the nexus analysis is contained in the report entitled Non-Residential Nexus Analysis included as Attachment B.

The workplace buildings that are the subject of this analysis represent a cross section of typical commercial buildings developed throughout the County in recent years and expected to be built in the near-term. For purposes of the analysis, the following five building types were identified:

- Office
- Hotel
- Retail / Restaurant / Service
- Light Industrial
- Warehouse

The nexus analysis links new non-residential buildings with new workers; these workers demand additional housing, a portion of which needs to be affordable to the workers in lower income households. The analysis begins by assuming a 100,000 square foot building for each of the five building types and then makes the following calculations:

- The total number of employees working in the building is estimated based on average employment density data.
- Occupation and income information for typical job types in the building are used to calculate how many of those jobs pay compensation at the levels addressed in the

analysis. Compensation data is from California EDD and is specific to the County of Santa Clara. Worker occupations by building type are derived from the 2014 Occupational Employment Survey by the U.S. Bureau of Labor Statistics.

- New jobs are adjusted to new households, using County demographics on the number of workers per household. We know from the Census that many workers are members of households where more than one person is employed and there is also a range of household sizes; we use factors derived from the Census to translate the number of workers into households of various size. Household income is calculated depending on the number of workers per household.
- The number of Extremely Low-, Very Low-, Low-, and Moderate-Income households generated by the new development is calculated and divided by the 100,000 square foot building size to arrive at coefficients of housing units per square foot of building area. The household income categories addressed in the analysis are the same as those in the Residential Nexus Analysis.
- The number of lower income households per square foot is multiplied by the affordability gap, or the cost of delivering housing units affordable to these income groups. This is the Maximum Supported Fee for the non-residential land uses.

The Maximum Supported Fees for the five building types are as follows:

Table IV-6 Maximum Supported Non-Residential Fee Per Square Foot	
Office	\$113.40
Retail	\$213.40
Hotel	\$102.50
Light Industrial	\$118.60
Warehouse	\$37.80

Note: Nexus findings are not recommended fee levels.
See Attachment B for detail

The results of the analysis are heavily driven by the density of employees within buildings in combination with the occupational make-up of the workers in the buildings. Retail has both high employment density and a high proportion of low paying jobs.

These figures express the maximum supported fee per square foot for the six building types. They are not recommended levels for fees; they represent only the maximums established by this analysis, below which fees may be set.

There is a potential for some degree of overlap between jobs counted in the Non-Residential Nexus Analysis and jobs counted in the Residential Nexus Analysis. The potential for overlap exists in jobs generated by the expenditures of County residents, such as expenditures for food, personal services, restaurant meals and entertainment. Retail is the building type that has the

greatest potential for overlap to occur because it is often oriented to serving local residents. On the other hand, the potential for overlap is far less with office, industrial, warehouse and hotel buildings that often house businesses that serve a much broader, sometimes national or international, market and that are not focused on services to local residents. Appendix C to the Non-Residential Nexus Analysis provides additional discussion and an analysis demonstrating that, even in the improbable and theoretical case of complete overlap between jobs counted in the two nexus analyses, fees at the recommended levels would remain below the maximums supported by the nexus.

C. Nexus Addendum Addressing Stanford University Campus

The Addendum to the Countywide Nexus Study provides documentation necessary to support adoption of affordable housing fees applicable to the Stanford Campus. The analyses establish maximum supportable fee levels based on the impact new academic space and faculty and staff housing development has on the need for affordable housing. Findings represent the results of an impact analysis only. Full documentation of the analyses can be found in Attachment C.

Academic Space Affordable Housing Nexus Analysis

The academic space affordable housing nexus analysis quantifies and documents the impact of the construction of new academic space on the demand for affordable housing. The analysis links development of new academic space buildings with new workers; these workers demand additional housing, a portion of which needs to be affordable based on the household incomes of Stanford Campus workers. The analysis uses a similar approach to the Non-Residential Nexus Analysis but is adapted to utilize data specific to the Stanford Campus.

The analysis begins with employment counts identified in the Stanford 2018 GUP application. Employment counts are then translated into an estimated number of new housing units required at all income levels based on Census data on the number of workers per household. The number of housing units needed is then separated into income tiers using survey results provided by Stanford that identify the distribution of household incomes for its employees. The number of housing units needed is identified within four income tiers: Extremely Low-, Very Low-, Low-, and Moderate. The cost of delivering affordable housing units to each income group is determined and used to calculate the cost of mitigating the increased affordable housing need. This results in a maximum supported affordable housing fee of \$143.10 per square foot of Academic Space. This figure represents only the maximum established by the nexus analysis.

**Table IV-7
Maximum Supported Affordable Housing Fee for Academic Space**

\$143.10 Per Square Foot

Note: Nexus findings are not recommended fee levels.
See Attachment C for supporting analysis.

Based on the household income data provided by Stanford, approximately 46% of Stanford’s workforce was found to qualify in one of the four affordable income categories. Combined with the high cost of developing residential units, this results in a high nexus or mitigation cost.

The existing GUP includes a condition requiring that Stanford develop or provide funding for the development of affordable housing within a 6-mile radius of the boundary of the Stanford Campus. The County anticipates that affordable housing fees collected from Stanford would continue to be used to support creation of affordable housing within a similar commute radius. Higher land costs within a 6-mile radius of the Stanford Campus results in higher affordable unit development costs than if units were to be built in lower land cost locations like Morgan Hill or Gilroy where very few Stanford workers currently live. This assumption results in higher maximum supported fee levels than if the County’s policy were to provide units in lower cost locations requiring workers to commute longer distances. The approach used is consistent with the existing GUP condition and the County’s track record of utilizing affordable housing funds collected from Stanford to assist in the creation of affordable units within a six-mile radius of the Campus, where it is most needed.

Maximum supported fee levels reflect the total housing need within commuting distance of the Stanford Campus. This is consistent with the approach used for the Countywide Nexus Study as well as most recent non-residential nexus studies KMA has prepared. However, were the County to seek mitigation for a reduced “County share” of workers, the fee revenue needed would represent approximately 51.8% of the maximum level identified above based on the current percentage of Stanford Campus workers who reside in the County.

Faculty and Staff Housing Affordable Housing Nexus Analysis

The faculty and staff housing affordable housing nexus analysis establishes maximum supportable fee levels applicable to faculty and staff housing. The concept and methodology are the same as the Countywide Residential Nexus Analysis. Newly constructed faculty and staff housing units represent net new households who will consume goods and services, either through purchases or “consumption” of governmental services. New consumption generates new local jobs; a portion of the new jobs are at lower compensation levels; low compensation jobs relate to lower income households that cannot afford market rate units and therefore need affordable housing. Maximum supported affordable housing fees reflect the cost of providing affordable housing to offset the increased need. The maximum supported fee level is \$69.10 per square foot of net residential area (exclusive of parking, corridors and other common areas). Attachment C provides the complete analysis.

Table IV-8
Maximum Supported Affordable Housing Fee for Faculty and Staff Housing
\$69.10 Per Square Foot

Note: Nexus findings are not recommended fee levels.
See Attachment C for supporting analysis.

Impacts of Student Beds are Included with Academic Space Analysis

Affordable housing impacts of the new student beds are not addressed as a separate category in the analysis because janitorial, dining hall, and other on-campus employees that support students residing in campus housing are captured in the analysis of academic space where these jobs are primarily located. This approach avoids the need to allocate employment counts between the academic space and student beds, which would be challenging, while still capturing all added Stanford Campus employees and their affordable housing needs in the analysis. While there will also be affordable housing impacts associated with off-campus spending of students living in the new student housing, this off-campus spending was not included in the analysis as a conservative analysis assumption, due to the challenge in quantifying these impacts and because these off-campus impacts are likely to be small relative to the affordable housing impacts of on-campus employment that are reflected in the analysis.

Conservative assumptions

The nexus studies reference the incorporation of conservative assumptions. This refers to assumptions that will tend to result in a lower calculation of maximum supported fee levels than might otherwise be possible. Conservative assumptions are made selectively where deemed prudent to ensure the results of the study are defensible and to address data limitations. For example, impacts associated with off-campus spending by residents of the student beds, as discussed in the prior paragraph, were not included in the analysis due to data limitations.

V. CONTEXT MATERIALS

The purpose of this section is to provide information that may be useful to policy makers in considering potential amendments to the County's affordable housing requirements for residential development and potential adoption of a new affordable housing fee applicable to non-residential development. The following analyses and summary materials are included:

- **Residential Affordable Housing Requirements in Other Jurisdictions** – Section A. provides a summary of inclusionary and impact fee requirements in other Santa Clara and Alameda county jurisdictions;
- **Cost to Provide Affordable Units On-Site**– Section B analyzes the cost to a market rate residential project of complying with potential onsite inclusionary requirements;
- **Non-Residential Development Cost Context** – Section C. evaluates total development costs associated with four prototypical building types to facilitate an evaluation of whether fee amounts are likely to affect development decisions; and
- **Jobs Housing Linkage Fee Programs in Other Jurisdictions** – Section D. provides information regarding adopted linkage fee programs in jurisdictions throughout the Bay Area and elsewhere in California.

A. Residential Affordable Housing Requirements in Other Jurisdictions

The affordable housing requirements adopted by other jurisdictions are almost always of interest to decision making bodies. Cities and counties inevitably want to know what their neighbors have in place for affordable housing requirements, and often want to examine other cities that are viewed as comparable on some level. The body of information on other programs not only presents what others are adopting, but also illustrates the broad range in program design and customized features available to meet local needs.

The work program design for Multi Jurisdiction Nexus Studies anticipated wide interest in the comparison jurisdictions to be covered. To keep the comparison task manageable, the participating cities and counties voted as to which cities were of greatest interest for inclusion in the comparison survey. For the most part, the participants selected their neighbors and the larger cities of the local region as being of most interest. It was a given that the existing requirements of all participant cities and counties would also be included. Ultimately, eight cities in the County of Santa Clara and ten cities in the County of Alameda were selected for inclusion in the comparison material. Neither of the two participating counties have existing affordable housing requirements for new development; however, information regarding the program in San Mateo County is provided.

A four-page chart summarizes the key features of each program in the survey (Table V-1). The chart was designed to focus on the major components of each city's program that would be most relevant to decision making by the participating jurisdictions, primarily the thresholds, the fee levels and on-site affordable unit requirements.

The chart was originally prepared in 2016 and has been selectively updated to reflect program updates through the end of 2017 in Hayward, Union City, Berkeley, San Jose, and the City of Santa Clara and to add the County of San Mateo.

1. Findings from the Survey

Thresholds for On-Site Affordable Requirement

- Whether or not for-sale development projects have the choice “as of right” between paying a fee or doing on-site units is a critical feature of any program. In the eight Santa Clara jurisdictions, six require on-site units and offer no fee “buy out” without a special City Council procedure. Only San Jose and Milpitas offer the fee choice at this time. In contrast, of the ten Alameda jurisdictions, most offer fee payment “as of right.”
- Most fee options are less costly to the developer than providing on-site units. High fees are necessary if the choice between building units or paying fees is to be at all competitive. The high fee cities, such as Fremont, aim to present a real choice and achieve some on-site compliance units as well as fee revenues.
- With the loss of redevelopment and tax increment resources dedicated to housing, many cities have revised their programs to generate more fee revenues. Programs can be revised so as to alter options or incentives for projects to provide on-site units versus pay a fee based on the City's preferences.
- The loss of redevelopment has also motivated some cities to lower minimum project sizes to collect fees on very small projects, even single units. Several Santa Clara cities in the chart have adjusted their thresholds down to three to five units for fee payment, and the recently updated Cupertino program goes down to single units. The nexus analysis fully demonstrates the impact generated by single units, and as a result, some cities view charging very small projects and single units a matter of fairness and equity in an “everybody contributes” approach to meeting affordable housing challenges.
- Following the *Palmer* decision and until adoption of AB 1505 in September 2017, impact fees were the only avenue for instituting affordable housing requirements on rentals. Many cities adopted affordable housing impact fees applicable to rental units during this period. Following enactment of AB 1505, affordable units may be required on-site as long as at least one alternative is provided, such as in-lieu fees or off-site affordable units.

Fee Levels

- Fee levels for rentals in the cities of north and western part of the County of Santa Clara cluster in the \$15 to \$20 per square foot range for rentals, notably Mountain View, Sunnyvale, and Cupertino.
- Fees on for sale units, where permitted, in the Santa Clara cities reflect a range of approaches and levels. Several Silicon Valley cities charge fees as a percent of sales price, a practice not used much outside of Silicon Valley. The percent of sales prices reflects the higher impacts of higher priced units, borne out in the nexus analysis. The approach also scales fees in proportion to the revenue projects would forgo were a portion of units to be made affordable on-site.
- In the East Bay, Fremont is notable for its higher fees and obligation to provide both units and pay fees. Hayward recently updated its requirements to increase its previously modest fees. Oakland is a new adoption that will phase in fees up to \$23,000 per market rate unit, less than Berkeley but higher than neighbors to the south.
- East of the East Bay hills, some programs like Pleasanton, have been in place for decades but are more modest than most of the newer ones. Dublin is, in many ways, its own special case, with vigorous development activity and affordable unit requirements.

On-Site Requirements

- The Santa Clara cities (excluding Milpitas) have programs in the 10% to 20% range, with 15% most common.
- For cities within Santa Clara County, the affordability level applicable to for-sale projects is usually in the moderate-income range, with pricing of on-site units ranging from 90% to 120% AMI, depending on the city. A few cities do seek some units down to Low-Income.
- In Alameda cities, on-site requirements are most commonly at the 15% level. Berkeley has a 20% requirement, while Hayward and Oakland have lower requirements. The Fremont percentage is lower but a fee is owed in addition to on-site units.

2. Other General Comments

- Impact / in-lieu fees are presented at adopted levels. Where a multi-year phase-in has been adopted, such as the new Oakland program, the full phase in amount is shown with clarification in the bottom comment section of the chart. Fees on rentals were included in the chart only when they are adopted as impact fees based on the *Palmer*

ruling, which precluded on-site requirements and their in-lieu fee alternatives for rentals. Following enactment of AB 1505 in 2017 inclusionary requirements that apply to rentals have become enforceable again; however, in most cases the chart does not reflect these newly enforceable rental inclusionary program requirements.

- Fees are expressed in different ways from one city to the next. Some fees are charged per square foot, some are a flat fee per market rate unit, and some are charged per affordable unit owed, which is almost always over \$100,000 in the Bay Area. To convert per unit owed to per market rate unit, one can multiply the per unit amount by the percentage requirement.
- On-Site Requirement/Option for Rentals. Many city codes include on-site requirement language for rental projects which were not included in the chart as noted above.
- The income levels of the affordable units that are required are summarized in terms of both “eligibility” or “qualifying” levels and the pricing level that is used to establish the purchase price or rent level of the unit. The pricing level is the critical one insofar as the developer’s obligation is concerned. The most typical choice for pricing level is to be consistent with the affordable housing cost definitions in the California Health & Safety Code 50052.5 and 50053.
- Virtually all cities that have on-site requirements for for-sale residential projects without the choice of fee payment, do allow fee payment with special City Council approval. Therefore, the chart notes this feature only by way of a footnote. The City’s practice in granting such approvals may be more consequential than what may be written.

For more complete information on the programs, please consult the website and code language of the individual cities.

**TABLE V-1
COMPARISON OF AFFORDABLE HOUSING REQUIREMENTS - RESIDENTIAL
SANTA CLARA COUNTY CITIES**

	Campbell	Los Altos	Milpitas	Santa Clara City
Year Adopted / Updated	2006	Est. 1995, update 2009	2015	Est. 1991, update 2006 and 2017
Minimum Project Size				
For Fee Payment	FS, <6du/Ac: 10 units FS, >6 du/Ac: n/a	n/a	FS/R: 5 units	FS/R: 3 units
For Build Requirement	FS, <6du/Ac: n/a FS, >6du/Ac: 10 units	FS: 5 units	no build req.	FS/R: 10 units
Impact / In-Lieu Fee	FS: \$34.50 /sf	none	FS/R: 5% building permit value	Single family: \$30 psf Townhome: \$25 psf Condo: \$20 psf Rentals: \$20 psf
Onsite Requirement/Option				
Percent of Total Units	FS: 15%	FS: 10%	FS/R: 5%	FS/R: 15%
Income Level for Qualification	FS: Low and Moderate	FS: Moderate If <10 units, one unit at Low.	FS/R: Low and Very Low	May be at a range of income levels.
Income Level for Pricing(% AMI)	FS: Moderate @ 110% Low @ 70%	Not Specified.	Not specified.	May be at a range of income levels but must average to 100% AMI or below.
Fractional Units	<0.5: round down, >0.5: round up	provide unit	not specified	pay fee or provide unit
Comments	code does not specify allocation between Low and Moderate; staff indicates approximately 50/50 allocation has been the experience.	<4 du/Ac: no requirement. Also, requirements may be waived by City Council for projects of 9 units or less.	In-lieu/impact fee introduced as temporary measure while City prepares formal nexus study. Fee has not yet been assessed.	

Abbreviations:

R = Rental
du = Dwelling Unit

FS = For Sale
Ac = Acre

/sf = per square foot
AMI =Area Median Income

MF = Multi-Family
SF = Single Family

1. Santa Clara County and Saratoga do not currently have an inclusionary housing requirement.

Notes: This chart presents an overview, and as a result, terms are simplified. For use other than general comparison, please consult the code and staff of the jurisdiction. Virtually all cities that do not allow fee payment by right allow developers to seek Council approval of fee payment instead of on-site units, in addition to providing options for off-site construction and land dedication.

**TABLE V-1
COMPARISON OF AFFORDABLE HOUSING REQUIREMENTS - RESIDENTIAL
SANTA CLARA COUNTY CITIES (PLUS SAN MATEO COUNTY)**

	Cupertino	Mountain View	San Jose	Sunnyvale	San Mateo County
Year Adopted / Updated	Est. 1992, update 2015	Est. 1999, rental impact fee in 2012, update 2015	Est. 2010.	Update 2015	Est. 2004; update 2016
Minimum Project Size					
For Fee Payment	FS/R: 1 unit	FS: 3 units R: 5 units	FS/R: 20 units	FS: 8 units R: 4 units	FS/R: 1 unit
For Build Requirement	FS: 7 units	Mixed FS/R: 6 units FS: 10 units	no build req.	FS: 20 units	MF: 10 units; SF: no build rgrmt.
Impact / In-Lieu Fee	FS: <i>Detached</i> \$15/sf, <i>Attached</i> \$16.50/sf, <i>MF</i> \$20/sf R: <35 du/Ac \$20/sf, >35 du/Ac \$25/sf	FS: 3% of sales price R: \$17/sf	FS: based on affordability gap R: \$125,000 SF per affordable unit owed	FS: 7% of sales price R: \$8.50/sf (4-7 units), \$17/sf (8+ units)	FS: 1 unit: \$5 psf above 2,500 SF 2-4 units: \$5 psf, 1st 2,500 SF then \$12.50 SF 5+ units: \$15 MF 5+ units: based on gap calculation R: \$10
Onsite Requirement/Option					
Percent of Total Units	FS/R: 15%	FS/R: 10%	FS: 15%	FS: 12.5% R: On-site credits (see below)	MF 5+ units: 20%; SF: 15%
Income Level for Qualification	FS: 1/2 Median 1/2 Moderate R: 40% Low, 60% Very Low	FS: Median R: Low	FS: Moderate R: 9% Moderate 6% Very Low	FS: Moderate	MF 5+ units: FS: ELI to Mod, <= 50% @ Mod; R: ELI to Low, <= 50% @ Low; SF: Mod
Income Level for Pricing(% AMI)	FS: Moderate @ 110%, Median @ 90% R: Low @ 60%, Very Low @ 50% AMI	FS: One unit: 90% AMI Multiple units: 80 - 100% AMI R: Ranges btwn 50-80% AMI	Moderate @ 110% AMI Rental @ 80% and 50% of AMI	Moderate @ 100% AMI	State H&S code standards
Fractional Units	<.5 unit owed: pay fee .5+ unit owed: round up	pay fee or provide unit	<.5 unit owed: round down .5+ unit owed: round up	pay fee or provide unit	pay fee
Comments			Inclusionary program reinstated in 2016 following litigation. Rental requirements automatically apply following AB 1505	On-site rental: developer credited \$300,000/du (Very Low), \$150,000/du (Low). Projects with fewer than 20 units are eligible to pay in-lieu fee.	Inclusionary program applies to multifamily projects of 5+ units; impact fee program applies to single family and smaller multifamily projects.

Abbreviations: R = Rental /sf = per square foot MF = Multi-Family
du = Dwelling Unit Ac = Acre AMI =Area Median Income SF = Single Family

Notes: This chart presents an overview, and as a result, terms are simplified. For use other than general comparison, please consult the code and staff of the jurisdiction. Virtually all cities that do not allow fee payment by right allow developers to seek Council approval of fee payment instead of on-site units, in addition to providing options for off-site construction and land dedication.

TABLE V-1
COMPARISON OF AFFORDABLE HOUSING REQUIREMENTS - RESIDENTIAL
ALAMEDA COUNTY CITIES

	Albany	Fremont	Hayward	San Leandro	Union City
Year Adopted / Updated	2005	Est. 2002, update 2015, full phase-in 2017	Updated in 2017	2004	Est. 2001, update 2006
Minimum Project Size					
For Fee Payment	FS: 5 units	FS/R: 2 units	FS/R: 2 units	FS: 2 units	FS/R: 1 unit
For Build Requirement	FS: 7 units	no build req.	no build req.	FS: 7 units	no build req.
Impact / In-Lieu Fee	FS: (Market Value - Affordable Price) x units owed	FS: Attached \$27.00 no units, \$18.50 w/ aff units Detached \$26.00 no units, \$17.50 w/ aff units, R: \$17.50 no map, \$27.00 w/ map	FS / R: \$18.18/sf, Condos (35+ DU/acre): \$15 /sf Add 10% if paid at C/O	FS: (Median Sale Price - Affordable Price) x units owed	Council Direction for Updated Ordinance (April 2017): FS: \$22/SF R: \$14/SF
Onsite Requirement/Option					
Percent of Total Units	FS: 15%	FS: Attached 3.5% plus \$18.50/sf Detached 4.5% plus \$17.50/sf R: 12.9%	FS: 10%, Condos (35+ DU/acre): 7.5 % R: 6%	FS: 15%	FS: 15%
Income Level for Qualification	FS: <10 units: Low 10+ units: 50% Low, 50% Very Low	FS: Moderate Income R: 19% Extremely Low, 33% Very Low, 25% Low, 24% Moderate	FS: Moderate Income R: 50% Low, 50% Very Low	FS: 60% Moderate, 40% Low	FS: 60% Moderate, 30% Median, 10% Low.
Income Level for Pricing(% AMI)	Not specified.	FS: Moderate @ 110% AMI (120% w/approval) R: Low @ 60% AMI, Very Low @ 50% AMI, Extremely Low @ 30% AMI	FS: Moderate @ 110% AMI R: Low @ 60% AMI Very Low @ 50% AMI	FS: Moderate @ 110% AMI, Low @ 70% AMI	FS: Moderate @ 110% AMI, Median not specified (80-100%) Low @ 70% AMI
Fractional Units	<0.5: pay fee, >0.5: provide unit	pay fee or provide unit	pay fee or provide unit	<0.5: round down, >0.5: round up	pay fee or provide unit
Comments		Full phase-in levels shown. Rental projects with a subdivision map pay the higher fee. FS projects req. to provide onsite units and pay fee.		Fee calculated based on current median sales price.	Reflects Council direction for updates to ordinance that have not yet been adopted. Fee applies to additions over 500 square feet.

Abbreviations:

R = Rental
du = Dwelling Unit

FS = For Sale
Ac = Acre

/sf = per square foot
AMI =Area Median Income

MF = Multi-Family
SF = Single Family

Notes: This chart presents an overview, and as a result, terms are simplified. For use other than general comparison, please consult the code and staff of the jurisdiction.

Virtually all cities that do not allow fee payment by right allow developers to seek Council approval of fee payment instead of on-site units, in addition to providing options for off-site construction and land dedication.

**TABLE V-1
COMPARISON OF AFFORDABLE HOUSING REQUIREMENTS - RESIDENTIAL
ALAMEDA COUNTY CITIES**

	Alameda (city)	Berkeley	Dublin	Oakland	Pleasanton
Year Adopted / Updated	2003	Est. 1986, rental fee 2011, update adopted 2017	Est. 1997, update 2005	2016	Est. 1978, update 2000.
Minimum Project Size					
For Fee Payment	FS: 5 units	FS/R: 5 units	FS/R: 20 units	FS/R: 1 unit	FS/R: 15 units
For Build Requirement	FS: 10 units	no build req.	FS/R: 20 units (partial)	no build req.	no build req.
Impact / In-Lieu Fee	FS: \$19,076/du	FS: 62.5% x (Sale Price - Affordable Price) x units owed R: \$34,000/du or \$37,000/du if paid at C/O	FS/R: \$127,061 per aff unit owed (in addition to on-site)	FS/R: MF \$12,000-\$22,000, SF Attached \$8,000-\$20,000, SF Detached \$8,000-\$23,000	FS/R: MF \$2,783/du, SF <1,500 sq ft: \$2,783/du, >1,500 sq ft: \$11,228/du
Onsite Requirement/Option					
Percent of Total Units	FS: 15%	FS/R: 20%	FS/R: 7.5%, plus fee (12.5% without fee)	FS/R: Option A 5% or Option B 10%	FS/R: MF 15% SF 20%
Income Level for Qualification	FS: 47% Moderate, 27% Low, 27% Very Low	FS: Low R: Current Very Low Proposed 1/2 Very Low, 1/2 Low	FS: 60% Moderate, 40% Low R: 50% Moderate, 20% Low, 30% Very Low	FS/R: Option A Very Low Option B Low and Moderate	FS: MF Low SF Moderate
Income Level for Pricing(% AMI)	FS: Moderate @ 110%, Low @ 70%, Very Low @ 50%	FS: Low @ 80% R: Low at 81%, Very Low at 50%.	FS: Moderate @ 110%, Low @ 70% R: Moderate @ 110%, Low @ 80%, Very Low @ 50%	FS: Moderate @ 110%, Low @ 70%, Very Low @ 50% R: Moderate 110%, Low @ 60%, Very Low @ 50%	FS: MF 80% AMI SF 120% AMI
Fractional Units	<0.5: round down, >0.5: round up	pay fee	<0.5: round down, >0.5: round up	pay fee or provide unit	<0.5: round down, >0.5: round up
Comments				Fees vary by neighborhood. Fees phased in through 2020. Full fee levels shown. On-site: May choose Option A or B. Based on draft ordinance prepared for April 19, 2016 council meeting.	

Abbreviations: R = Rental du = Dwelling Unit FS = For Sale Ac = Acre /sf = per square foot AMI =Area Median Income MF = Multi-Family SF = Single Family

Notes: This chart presents an overview, and as a result, terms are simplified. For use other than general comparison, please consult the code and staff of the jurisdiction. Virtually all cities that do not allow fee payment by right allow developers to seek Council approval of fee payment instead of on-site units, in addition to providing options for off-site construction and land dedication.

B. On-Site Compliance Cost Analysis

The County of Santa Clara does not currently have an inclusionary housing program. Should the County decide to pursue an inclusionary program, one factor in determining the appropriate program for the County is the cost to the developer of complying with the requirements. Eventually, the land values in the County will adjust to reflect the compliance costs, as developers acquiring land will know how the obligation will affect their project's economics. To assist the County in understanding the cost associated with an onsite obligation, KMA estimated the foregone revenue for the developer when units are sold at affordable prices; this is referred to as the 'onsite compliance cost.' This information is often useful as context when considering potential onsite and fee obligations.

KMA modeled the cost associated with setting aside 1% of units to sell at Moderate prices (affordable to households earning 110% of Area Median Income). With this information, the County can easily estimate the onsite compliance costs of other requirements, such as 10% Moderate or 15% Moderate, by scaling up the cost figures associated with 1%. Table V-2 presents our estimates of onsite compliance costs for ownership units. With current market rate sales prices, the cost to a developer associated with designating 1% of units as affordable to Moderate-Income ranges from \$4,500 to \$15,500 per market rate unit or \$1.73 to \$3.10 per net square foot, depending on the size and price of the unit. A 10% on-site requirement would be equivalent to ten times these levels. KMA notes that the very high market rate sales prices in the County of Santa Clara result in high onsite compliance costs, as each unit sold at affordable prices represents a significant amount of foregone revenue to the developer.

The onsite compliance cost figures should not be interpreted as recommended fee levels.

**TABLE V-2
 COST OF ONSITE COMPLIANCE AND EQUIVALENT IN-LIEU FEES
 RESIDENTIAL NEXUS ANALYSIS
 COUNTY OF SANTA CLARA**

	Prototype 1 Single Family Detached		Prototype 2 Smaller Single Family Detached	
Unit Size ¹	5,000 sq ft		2,600 sq ft	
Number of Bedrooms ¹	4		4	
Market Rate	Per SF	Per Unit	Per SF	Per Unit
Sales Prices ¹	\$400	\$2,000,000	\$346	\$900,000
Affordable Prices²		Per Unit		Per Unit
At Moderate Income (110%)		\$449,600		\$449,600
Affordability Gap³		Per Unit		Per Unit
Per Affordable Moderate Unit		\$1,550,400		\$450,400
Cost of Onsite Compliance⁴	Per SF	Per Unit	Per SF	Per Unit
Inclusionary Percentage @ 1.0% Mod	\$3.10	\$15,504	\$1.73	\$4,504

1. See Residential Nexus Analysis Table A-1.
2. Estimate calculated by KMA based on standard affordable pricing assumptions.
3. The difference between the market rate sales prices and the restricted affordable price.
4. Equivalent cost per market rate unit or square foot.

TABLE V-2A
ESTIMATED AFFORDABLE HOME PRICES - Moderate Income
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA

	SFD
Unit Size	4-Bedroom Unit
Household Size	<u>5-person HH</u>
100% AMI Santa Clara County 2016	\$115,650
Annual Income @ 110%	\$127,215
% for Housing Costs	35%
Available for Housing Costs	\$44,525
(Less) Property Taxes	(\$5,850)
(Less) HOA	\$0
(Less) Utilities	(\$3,552)
(Less) Insurance	(\$900)
(Less) Mortgage Insurance	(\$5,765)
Income Available for Mortgage	<u>\$28,459</u>
Mortgage Amount	\$427,100
Down Payment (homebuyer cash)	\$22,500
Supported Home Price	<u>\$449,600</u>
Key Assumptions	
- Mortgage Interest Rate ⁽¹⁾	5.30%
- Down Payment ⁽²⁾	5.00%
- Property Taxes (% of sales price) ⁽³⁾	1.30%
- HOA (per month) ⁽⁴⁾	\$0
- Utilities (per month) ⁽⁵⁾	\$296
- Mortgage Insurance (% of loan amount)	1.35%

(1) Mortgage interest rate based on 15-year Freddie Mac average; assumes 30-year fixed rate

(2) Down payment amount is an estimate for Moderate Income homebuyers.

(3) Property tax rate is an estimated average for new projects.

(4) Homeowners Association (HOA) dues is an estimate for the average new project.

(5) Utility allowances from Santa Clara County Housing Authority (2016).

C. Non-Residential Development Cost Context

The non-residential development cost context analysis considers the impacts a new affordable housing fee could have on the cost of development for new office, retail, hotel, and light industrial projects. The analysis enables an understanding of the relative cost burdens new fees have on various types of commercial and industrial development projects and can be useful in scaling fees by type of project.

Since non-residential development activity in the unincorporated area of the County, excluding the Stanford Campus, has been minimal, the discussion in this section is more relevant to activity occurring in the incorporated cities that participated in the multi-jurisdiction nexus study effort. Estimates were prepared in 2016 and have not been updated to reflect subsequent cost escalation given the primary purpose is to enable an understanding of fees relative to the development costs of different types of projects.

For commercial and industrial development, the analysis considers the potential fee as a percentage of total development costs rather than a full feasibility analysis. One of the primary reasons a full feasibility analysis is not performed for the commercial land uses is because there is typically greater variation in the cost and rent structures for commercial projects than for housing projects. Development costs and rents can vary widely for office and retail projects due to the specialized nature of tenant improvements and lease terms from one tenant to another. Costs and revenues also vary widely for hotel projects since hotel products range from lower cost limited service and budget hotels to highly amenitized full service and boutique hotels. Finally, affordable housing requirements applicable to non-residential development typically represents a smaller percentage of overall project cost compared to residential requirements. For these reasons, an understanding of total development cost context has generally proved sufficient to guide the selection of fee levels on non-residential projects.

1. Commercial Market Context

Like the residential market, commercial projects in the County have experienced strengthening conditions in recent years due to robust job growth and the strength of the overall regional economy. According to a market report from Newmark Cornish & Carey, as of Q1 2016 there was about 9.5 million square feet of office development in construction in Silicon Valley out of a total office inventory of 75 million square feet. New retail, hotel and industrial projects are also being built or are in the planning stages in various parts of the county. This development activity is occurring within the incorporated cities.

2. Development Cost Analysis

For the development cost analysis, KMA utilized the following four commercial prototypes.

- Office development with structured parking at 1.00 floor area ratio (FAR)

- Hotel development with surface and structured parking at 1.00 FAR
- Retail development with surface parking at 0.30 FAR
- Light industrial development with surface parking at 0.40 FAR

In preparing these prototypes it is acknowledged that there could be some differences in overall density from one jurisdiction to another as these prototypes are intended to reflect averages for the participating jurisdictions in Santa Clara County. However, for purposes of the development cost assessment it is not necessary to analyze every variation of project density or building prototype being built or proposed to be built. The utility of the analysis lies with an understanding of the general range of development costs for new commercial projects and the impact that a new fee can have relative to those costs.

The estimates of total development costs for the commercial prototypes are shown in the following table. The costs include estimates for land acquisition, direct construction costs, and indirect and financing costs of development. In assembling the development cost estimates, KMA utilized a variety of data sources, including the following:

- Land appraisals, CoStar land comps;
- Third party construction cost data sources such as RS Means and Engineering News Record (ENR);
- Pro forma data for current non-residential projects in the Bay Area.

Table V-3 Non-Residential Development Costs Santa Clara County Participating Jurisdictions									
	Office		Hotel		Retail		Light Industrial		
Building Square Feet	100,000		75,000		75,000		100,000		
Hotel Rooms			125 rooms						
Parking	Structure		Surface & Structure		Surface		Surface		
FAR	1.00 FAR		1.00 FAR		0.30 FAR		0.40 FAR		
Land Area	2.30 acres		1.72 acres		5.74 acres		5.74 acres		
	<u>\$/SF</u>	<u>Total</u>	<u>\$/SF</u>	<u>Total</u>	<u>\$/SF</u>	<u>Total</u>	<u>\$/SF</u>	<u>Total</u>	
<u>Land Acquisition</u>	\$115	\$11,500,000	\$45	\$3,380,000	\$200	\$15,000,000	\$88	\$8,750,000	
	\$115 /land sf		\$45 /land sf		\$60 /land sf		\$35 /land sf		
<u>Directs</u>	\$348	\$34,750,000	\$227	\$17,000,000	\$175	\$13,130,000	\$143	\$14,250,000	
<u>Indirects</u>									
A&E	\$21	\$2,090,000	\$14	\$1,020,000	\$11	\$790,000	\$9	\$860,000	
FF&E/Tenant Improvements	\$59	\$5,850,000	\$58	\$4,380,000	\$36	\$2,700,000	\$19	\$1,900,000	
Fees & Permits (excl. Afford)	\$5	\$540,000	\$8	\$590,000	\$7	\$520,000	\$5	\$480,000	
Other Indirects & Financing	\$33	\$3,280,000	\$21	\$1,580,000	\$26	\$1,930,000	\$16	\$1,570,000	
Total Indirects & Financing	\$118	\$11,760,000	\$101	\$7,570,000	\$79	\$5,940,000	\$48	\$4,810,000	
Total Costs	\$580	\$58,010,000	\$373	\$27,950,000	\$454	\$34,070,000	\$278	\$27,810,000	
Total Cost Range	\$525 - \$625/sf		\$325 - \$425/sf		\$400 - \$500/sf		\$250 - \$300/sf		

As shown, total development costs for the non-residential prototypes range from a low of approximately \$250-\$300/square foot for the light industrial prototype to a high of approximately \$525-\$625 for the office prototype.

3. Affordable Housing Fees Supported

In general, affordable housing fees on non-residential projects fall within a range of 1% to 5% of total development costs, with the upper portion of the range generally reserved for cities that have very strong market conditions driving non-residential development projects. As noted in Section D, current affordable housing fees on non-residential projects are as high as \$20-\$35/square foot (for office projects) for jurisdictions within the County that have such fees. Current fees for other non-residential projects, such as retail and hotel, tend to be more in the \$5-\$10 / square foot range.

The table below summarizes the range of potential fees on non-residential projects expressed as a percentage of total development cost. As an example, at 3% of total development cost, a new housing fee would range from approximately \$8 / square foot for light industrial uses to \$17/square foot for office uses. As is common in jobs housing linkage fee programs, light industrial projects tend to have lower fees than higher intensity/higher value projects such as office projects because it is generally more difficult for lower cost projects to absorb new fees. Exceptions include some Silicon Valley cities where distinctions between office and industrial have become blurred and both are charged at the same rate.

Table V-4 Relative Fee Burdens				
	Office	Hotel	Retail	Light Industrial
Total Cost Range	\$525 - \$625/sf	\$325 - \$425/sf	\$400 - \$500/sf	\$250 - \$300/sf
Fee at 1% of Total Cost	\$5.75	\$3.75	\$4.50	\$2.75
Fee at 2% of Total Cost	\$11.50	\$7.50	\$9.00	\$5.50
Fee at 3% of Total Cost	\$17.25	\$11.25	\$13.50	\$8.25
Fee at 4% of Total Cost	\$23.00	\$15.00	\$18.00	\$11.00
Fee at 5% of Total Cost	\$28.75	\$18.75	\$22.50	\$13.75

*Fees calculated at 1-5% of mid-point of cost range.

The following table summarizes how newly adopted fees can be absorbed by relatively minor improvements in development economics over time. For example, a newly added fee of \$20/square foot for the office prototype could be absorbed by a roughly 3% increase in rental income (\$20/square foot x 0.15%), a roughly 6% decrease in direct construction costs (\$20/square foot x 0.29%), or a roughly 17% decrease in land values (\$20/square foot x 0.87%). It is noted however that construction costs and rents tend to move in the same direction. Therefore, increases in rents would need to exceed increases in costs in order to produce a net gain in a project's economics.

**Table V-5
Potential Market Adjustments to Absorb Every \$1/SF Fee**

	Office	Hotel	Retail	Light Industrial
Increase in Rents/Income	0.15%	0.23%	0.19%	0.31%
Decrease in Direct Costs	0.29%	0.44%	0.57%	0.70%
Decrease in Land Values	0.87%	2.22%	0.50%	1.14%

Adjustments are not additive. Each would independently be sufficient to absorb new fees. Depending on the market cycle and other factors, a combination of the above market adjustments would be expected to contribute in absorbing a new fee.

D. Jobs Housing Linkage Fees in Other Jurisdictions

Information on other jobs housing linkage fee programs in nearby or comparable cities is often helpful context in considering new or updated fees. The following section provides information assembled regarding other programs in the Bay Area and elsewhere in California including information on customized features such as size thresholds, exemptions, and build options.

More than 40 cities and counties in California have commercial linkage fees, with the majority of these programs within the Bay Area and greater Sacramento. In Southern California, a few cities have linkage fee program including San Diego and Los Angeles, which adopted a new program at the end of 2017. Several communities in Massachusetts have linkage fees, including Boston and Cambridge. Seattle recently expanded its linkage fee program city-wide. Boulder, Colorado adopted a new city-wide program in 2015. Denver adopted a fee in 2016.

Silicon Valley and the Peninsula, which has some of the strongest real estate market conditions in the Bay Area, is where many of the jurisdictions with the highest fee levels are found. For office, fee levels range from \$15 (Sunnyvale) to \$35 per square foot (Palo Alto). Several cities have recently updated fee levels (Cupertino, Mountain View, Sunnyvale, Palo Alto), or newly adopted fees (Redwood City, Santa Clara, San Mateo, San Bruno). For retail and hotel, fee ranges are much broader as some jurisdictions have adopted similar fee levels across all building types while others have lower fee levels for retail and hotel.

Within the East Bay, fees have been adopted at a more moderate range. For office, fee levels for communities in the inner East Bay (west of the hills) range from \$3.59 (Newark) to \$8 for the newly adopted program in Fremont (as of 2020 full phase in). Retail fees range from \$2.30 (Alameda) to \$8 (Fremont as of full phase in). Oakland's program covers only office and warehouse and exempts other uses such as retail.

The table on the following page provides an overview of fee levels for selected examples in the County of Santa Clara, the Peninsula, and the East Bay. A more complete overview of these programs, and many others, is presented on Table V-8 at the end of this section.

**Table V-6
Affordable Housing Fee Levels in Selected Communities**

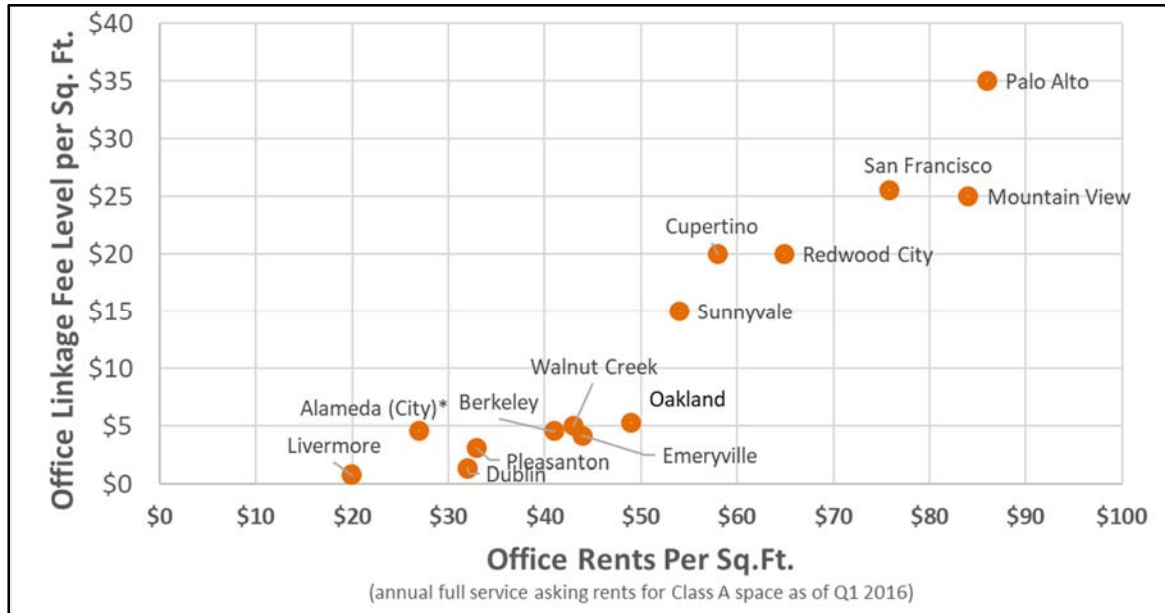
<i>Non-Residential Fees</i>	<i>Office \$/SF</i>	<i>Retail \$/SF</i>	<i>Hotel \$/SF</i>	<i>Industrial \$/SF</i>
<u>Cities in Santa Clara County</u>				
Palo Alto	\$35.00	\$20.37	\$20.37	\$20.37
Mountain View	\$25.00	\$2.68	\$2.68	\$25.00
City of Santa Clara	\$20.00	\$5.00	\$5.00	\$10.00
Cupertino	\$20.00	\$10.00	\$10.00	\$20.00
Sunnyvale	\$15.00	\$7.50	\$7.50	\$15.00
<u>County Programs</u>				
Marin County	\$7.19	\$5.40	\$3.00	\$3.74
Santa Cruz County	\$2.00	\$2.00	\$2.00	\$2.00
Sonoma County	\$2.64	\$4.56	\$2.64	\$2.72
Napa County	\$5.25	\$7.50	\$9.00	\$4.50
Sacramento County	\$0.97	\$0.77	\$0.92	\$0.61
San Luis Obispo County	\$0.96	\$1.36	\$1.44	\$0.58
San Mateo County	\$25.00	\$5.00	\$10.00	N/A
<u>East Bay: West of Hills</u>				
Fremont	\$8.00	\$8.00	\$8.00	\$4.00
Oakland	\$5.24	N/A	N/A	N/A
Berkeley	\$4.50	\$4.50	\$4.50	\$2.25
Alameda (City)	\$4.52	\$4.52	\$1.85	\$0.78
Emeryville	\$4.10	\$4.10	\$4.10	\$4.10
Newark	\$3.59	\$3.59	\$3.59	\$0.69
<u>East Bay: East of Hills</u>				
Walnut Creek	\$5.00	\$5.00	\$5.00	N/A
Pleasanton	\$3.04	\$3.04	\$3.04	\$3.04
Dublin	\$1.27	\$1.02	\$0.43	\$0.49
Livermore	\$0.76	\$1.19	\$1.00	\$0.24

N/A = No fee or no applicable category

As a way to provide context in terms of the market conditions in each of the communities, the chart on the following page shows office linkage fees in selected communities (the building type that usually has the highest fees) in relation to office rents. Office rents are an indicator of market strength and major driver of real estate values.

Table V-7

Office Linkage Fees vs. Average Office Rents in Selected Communities



*Rents for City of Alameda apply to Class B/C space (Class A rents not available)
 Sources: Office rents from market research reports prepared by Colliers International.

Ordinance or Program Features

Linkage fee programs often includes features to address a jurisdiction's policy objectives or specific concerns. The most common are:

- *Minimum Threshold Size* – A minimum threshold sets a building size over which fees are in effect. Programs with low fees often have no thresholds and all construction is subject to the fee. Thresholds, which reduce fees for smaller projects, are more common for programs with more significant fees. Some jurisdictions establish a building size over which the fee applies. Sometimes the fee applies to the whole building over the threshold, and sometimes the fee applies only to the square foot area. Thresholds are often employed to minimize costs for small infill projects in older commercial areas, when such infill is a policy objective. There is also some savings in administrative costs. The disadvantage is lost revenue. Oakland and Berkeley are examples of communities employing thresholds while Alameda, Newark, and others do not. Mountain View has a reduced charge for the first 10,000 square feet of office space and the first 25,000 square feet of retail or hotel development.
- *Geographic Area Variations and Exemptions* – Some cities with linkage fee programs exclude specific areas such as redevelopment areas or have fees that vary based on geography. A geographic area variation can also be used to adjust the fee in jurisdictions where there is a broad difference in economic health from one subarea to

the next. This is generally more common among large cities with a diverse range of conditions.

- *Specific Use Exemptions* – Some cities charge all building types while others choose to exempt specific uses. A common exemption is for buildings owned by non-profits which typically encompasses religious, educational/institutional, and hospital building types. Some programs identify specific uses as exempt such as schools and child care centers.

A more complete listing of the programs surveyed along with information about ordinance features such as exemptions and thresholds is contained in Table V-8 at the end of this section.

TABLE V - 8

SUMMARY OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA

Jurisdiction	Yr. Adopted/ Updated	Fee Level (per Sq.Ft. unless otherwise noted)	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
SAN FRANCISCO, PENINSULA, SANTA CLARA COUNTY						
San Francisco Population: 829,000	1981 Updated 2002, 2007	Retail / Entertainment \$23.78 Hotel \$19.08 Integrated Production /Dist/Repair \$20.04 Office \$25.49 Research and Development \$16.98 Small Enterprise Workspace \$20.04	25,000 gsf threshold Exempt: freestanding pharmacy < 50,000 SF; grocery < 75,000	Yes, may contribute land for housing.	Very Substantial	Fee is adjusted annually based on the construction cost increases.
City of Palo Alto Population: 66,000	1984 Updated 2002	Office & R&D \$35.00 Other Commercial \$20.37	Churches; universities; recreation; hospitals, private educational facilities, day care and nursery school, public facilities are exempt	Yes	Very Substantial	Fee is adjusted annually based on CPI.
City of Menlo Park Population: 33,000	1998	Office & R&D \$16.90 Other com./industrial \$9.17	10,000 gross SF threshold Churches, private clubs, lodges, fraternal orgs, public facilities and projects with few or no employees are exempt.	Yes, preferred. May provide housing on- or off-site.	Very Substantial	Fee is adjusted annually based on CPI.
City of Sunnyvale Population: 146,000	1984 Updated 2003 and 2015.	Industrial, Office, R&D: \$15.00 Retail, Hotel \$7.50	Office fee is 50% on the first 25,000 SF of building area. Exemptions for Child care, education, hospital, non-profits, public uses.	N/A	Very Substantial	Fee is adjusted annually based on CPI.
City of Santa Clara Population: 116,000	2017	Office 20,000 SF + \$20.00 Office, under 20,000 SF \$10.00 Industrial 20,000 SF + \$10.00 Industrial under 20,000 SF \$5.00 Retail, Hotel, Other \$5.00 Low intensity uses \$2.00	Assembly, day care, nursery, schools and hospitals and commercial space in a mixed use project under 20,000 square feet are exempt.	Yes.	Very Substantial	Fee reflects January 2019 full phase in levels. Fee is adjusted annually based on ENR.
San Mateo Population: 101,000	2016	Office \$25.00 Hotel \$10.00 Retail \$5.00	5,000 SF threshold 25% fee reduction for projections paying prevailing wage. Schools, religious, child care centers, public and non-profit uses exempt.		Very Substantial	
San Bruno Population: 43,000	2015	Office and R&D \$12.50 Hotel \$12.50 Retail, Restaurant, Services \$6.25	No minimum threshold	Yes. Program specifies number of units per 100,000 SF.	Very Substantial	Fee is adjusted annually based on ENR.
Redwood City Population: 80,000	2015	Office \$20.00 Hotel \$5.00 Retail & Restaurant \$5.00	5,000 SF threshold 25% fee reduction for projections paying prevailing wage. Schools, child care centers, public uses exempt.	Yes. Program specifies number of units per 100,000 SF.	Very Substantial	Fee is adjusted annually based on ENR.
City of Mountain View Population: 77,000	Updated 2002 / 2012 /2014	Office/High Tech/Indust. \$25.00 Hotel/Retail/Entertainment. \$2.68	Fee is 50% on building area under thresholds: Office <10,000 SF Hotel <25,000 SF Retail <25,000 SF	Yes	Very Substantial	Fee is adjusted annually based on CPI.
City of Cupertino Population: 60,000	1993, 2015	Office/Industrial/R&D \$20.00 Hotel/Commercial/Retail \$10.00	No minimum threshold.	N/A	Very Substantial	Fee is adjusted annually based on CPI.
County of San Mateo Population: 718,000	2016	Office/Medical/R&D \$25.00 Hotel \$10.00 Retail / Restaurant /Services \$5.00	3,500 SF threshold; 25% fee reduction for prevailing wage. public, institutional, childcare, recreational, assisted living exempt.	Yes. Program specifies number of units.	Very Substantial	Fee is adjusted annually based on ENR.

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

**TABLE V - 8
SUMMARY OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA**

Jurisdiction	Yr. Adopted/ Updated	Fee Level (per Sq.Ft. unless otherwise noted)	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
EAST BAY						
City of Walnut Creek Population: 66,000	2005	Office, retail, hotel and medical \$5.00	First 1,000 SF no fee applied.	Yes	Very Substantial	Reviewed every five years.
City of Oakland Population: 402,000	2002	Office/ Warehouse \$5.24	25,000 SF exemption	Yes - Can build units equal to total eligible SF times .00004	Substantial	Fee due in 3 installments. Fee adjusted with an annual escalator tied to residential construction cost increases.
City of Berkeley Population: 116,000	1993 2014	Office \$4.50 Retail/Restaurant \$4.50 Industrial/Manufacturing \$2.25 Hotel/Lodging \$4.50 Warehouse/Storage \$2.25 Self-Storage \$4.37 R&D \$4.50	7,500 SF threshold.	Yes	Substantial	Annual CPI increase. May negotiate fee downward based on hardship or reduced impact.
City of Fremont Population: 225,000	2017	Office, R&D, Hotel, Retail \$8.00 Industrial, Mfg, Warehouse \$4.00	Public uses, additions less than 1,000 SF, manufacturing over 100,000 SF / building exempt. Additional exceptions in initial 2 years.	Yes by formula	Substantial	Fees are as of 2020 full phase in.
City of Emeryville	2014	All Commercial \$4.10	Schools, daycare centers.	Yes	Substantial	Fee adjusted annually.
City of Alameda Population: 76,000	1989	Retail \$2.30 Office \$4.52 Warehouse \$0.78 Manufacturing \$0.78 Hotel/Motel \$1,108	No minimum threshold	Yes. Program specifies # of units per 100,000 SF	Moderate	Fee may be adjusted by CPI.
City of Pleasanton Population: 73,000	1990	Commercial, Office & Industrial \$3.04	No minimum threshold	Yes	Moderate	Fee adjusted annually.
City of Dublin Population: 50,000	2005	Industrial \$0.49 Office \$1.27 R&D \$0.83 Retail \$1.02 Services & Accommodation \$0.43	20,000 SF threshold	N/A	Moderate	
City of Newark Population: 44,000		Commercial \$3.59 Industrial \$0.69	No min threshold Schools, recreational facilities, religious institutions exempt.	Yes	Moderate	Revised annually
City of Livermore Population: 84,000	1999	Retail \$1.19 Service Retail \$0.90 Office \$0.76 Hotel \$583/ rm Manufacturing \$0.37 Warehouse \$0.11 Business Park \$0.76 Heavy Industrial \$0.38 Light Industrial \$0.24	No minimum threshold Church, private or public schools exempt.	Yes; negotiated on a case-by-case basis.	Moderate	
Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.						

TABLE V - 8

SUMMARY OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA

Jurisdiction	Yr. Adopted/ Updated	Fee Level (per Sq.Ft. unless otherwise noted)	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
MARIN, NAPA, SONOMA, SANTA CRUZ						
County of Santa Cruz Population: 267,000	2015	All Non-Residential \$2.00	No minimum threshold. Governmental and institutional uses exempt	N/A	Substantial	
County of Marin Population: 257,000	2003	Office/R&D \$7.19 Retail/Rest. \$5.40 Warehouse \$1.94 Hotel/Motel \$1,745/rm Manufacturing \$3.74	No minimum threshold	Yes, preferred.	Substantial	
San Rafael Population: 59,000	2005	Office/R&D \$7.64 Retail/Rest./Pers. Services \$5.73 Manufacturing/LI \$4.14 Warehouse \$2.23 Hotel/Motel \$1.91	5,000 SF threshold. Mixed use projects that provide affordable housing are exempt.	Yes. Program specifies number of units per 1,000 SF.	Substantial	
Town of Corte Madera Population: 9,000	2001	Office \$4.79 R&D lab \$3.20 Light Industrial \$2.79 Warehouse \$0.40 Retail \$8.38 Com Services \$1.20 Restaurant \$4.39 Hotel \$1.20 Health Club/Rec \$2.00 Training facility/School \$2.39	No minimum threshold	N/A	Substantial	
City of St. Helena Population: 6,000	2004	Office \$4.11 Comm./Retail \$5.21 Hotel \$3.80 Winery/Industrial \$1.26	Small childcare facilities, churches, non-profits, vineyards, and public facilities are exempt.	Yes, subject to City Council approval.	Substantial	
City of Petaluma Population: 59,000	2003	Commercial \$2.19 Industrial \$2.26 Retail \$3.78	N/A	Yes, subject to City Council approval.	Moderate/ Substantial	Fee adjusted annually by ENR construction cost index.
County of Sonoma Population: 492,000	2005	Office \$2.64 Hotel \$2.64 Retail \$4.56 Industrial \$2.72 R&D Ag Processing \$2.72	First 2,000 SF exempt Non-profits, redevelopment areas exempt	Yes. Program specifies number of units per 1,000 SF.	Moderate	Fee adjusted annually by ENR construction cost index.
City of Cotati Population: 7,000	2006	Commercial \$2.08 Industrial \$2.15 Retail \$3.59	First 2,000 SF exempt Non-profits exempt.	Yes. Specifies No. of units per 1,000 SF	Moderate	Fee adjusted annually by ENR construction cost index.
County of Napa Population: 139,000	Updated 2014	Office \$5.25 Hotel \$9.00 Retail \$7.50 Industrial \$4.50 Warehouse \$3.60	No minimum threshold Non-profits are exempt	Units or land dedication; on a case by case basis.	Moderate / Substantial	
City of Napa Population: 79,000	1999	Office \$1.00 Hotel \$1.40 Retail \$0.80 Industrial, Wine Pdn \$0.50 Warehouse (30-100K) \$0.30 Warehouse (100K+) \$0.20	No minimum threshold Non-profits are exempt	Units or land dedication; on a case by case basis.	Moderate/ Substantial	Fee has not changed since 1999. Increases under consideration.

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V - 8

SUMMARY OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA

Jurisdiction	Yr. Adopted/ Updated	Fee Level (per Sq.Ft. unless otherwise noted)	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
SACRAMENTO AREA						
City of Sacramento Population: 476,000	1989 Most recent update, 2005	Office \$2.25 Hotel \$2.14 R&D \$1.91 Commercial \$1.80 Manufacturing \$1.41 Warehouse/Office \$0.82	No minimum threshold Mortuary, parking lots, garages, RC storage, Christmas tree lots, B&Bs, mini-storage, alcoholic beverage sales, reverse vending machines, mobile recycling, and small recyclable collection facilities	Pay 20% fee plus build at reduced nexus (not meaningful given amount of fee)	Moderate	North Natomas area has separate fee structure
City of Folsom Population: 73,000	2002	Office, Retail, Lt Industrial, and Manufacturing \$1.54 Up to 200,000 SF, 100% of fee; 200,000-250,000 SF, 75% of fee; 250,000-300,000 SF, 50% of fee; 300,000 and up, 25% of fee.	No minimum threshold Select nonprofits, small child care centers, churches, mini storage, parking garages, private garages, private schools exempt.	Yes Provide new or rehab housing affordable to very low income households. Also, land dedication.	Moderate/ Substantial	Fee is adjusted annually based on construction cost index
County of Sacramento Population: 1,450,000	1989	Office \$0.97 Hotel \$0.92 R&D \$0.82 Commercial \$0.77 Manufacturing \$0.61 Indoor Recreational Centers \$0.50 Warehouse \$0.26	No minimum threshold Service uses operated by non-profits are exempt	N/A	Moderate	
City of Elk Grove Population: 158,000	1989 (inherited from County when incorporated)	Office none Hotel \$1.87 Commercial \$0.64 Manufacturing \$0.72 Warehouse \$0.77	No minimum threshold Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt	N/A	Moderate	Office fee currently waived due to market conditions.
Citrus Heights Population: 85,000	1989 (inherited from County when incorporated)	Office \$0.97 Hotel \$0.92 R&D \$0.82 Commercial \$0.77 Manufacturing \$0.61 Indoor Recreational Centers \$0.50 Warehouse \$0.26	No minimum threshold Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt	N/A	Moderate	
Rancho Cordova Population: 67,000	1989 (inherited from County when incorporated)	Office \$0.97 Hotel \$0.92 R&D \$0.82 Commercial \$0.77 Manufacturing \$0.61 Indoor Recreational Centers \$0.50 Warehouse \$0.26	No minimum threshold Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt	N/A	Moderate	

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V - 8

SUMMARY OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA

Jurisdiction	Yr. Adopted/ Updated	Fee Level (per Sq.Ft. unless otherwise noted)	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
SOUTHERN CALIFORNIA						
City of Los Angeles Population: 3,793,000	2017	Non-Residential - fee varies by zone Low \$3.00 Medium \$4.00 High \$5.00	15,000 SF threshold Governmental and public institutional uses developed for governmental or community use, private elementary or high school, hospitals, grocery stores not located within 1/3 mile of existing grocer stores, Central City West Specific Plan Area, South LA Transit Empowerment Zone.	N/A	Diverse Market Conditions	Fees adjusted annually based on CPI.
City of Santa Monica Population: 92,000	1984 Updated 2002, 2015	Retail \$9.75 Office \$11.21 Hotel/Lodging \$3.07 Hospital \$6.15 Industrial \$7.53 Institutional \$10.23 Creative Office \$9.59 Medical Office \$6.89	1,000 SF threshold Private K-12 schools, city projects, places of worship, commercial components of affordable housing developments exempt.	N/A	Very Substantial	Fees adjusted annually based on construction cost index.
City of West Hollywood Population: 35,000	1986	Non-Residential \$8.00 (per staff increase from \$4 to \$8 anticipated for FY16-17)	N/A	N/A	Substantial	Fees adjusted by CPI annually
City of San Diego Population: 1,342,000	1990 Updated 2014	Office \$1.76 Hotel \$1.06 R&D \$0.80 Retail \$1.06	No minimum threshold Industrial/ warehouse, non-profit hospitals exempt.	Can dedicate land or air rights in lieu of fee	Substantial	
CENTRAL COAST						
County of San Luis Obispo Population: 277,000	2009	Retail \$1.36 Office \$0.96 Hotel/Motel \$1.44 Industrial / Warehouse \$0.58 Commercial Greenhouses \$0.03 Other Non-Residential \$1.26	5,000 gsf threshold educational, religious, public, institutional, and residential care uses	Yes equivalent to what fees would produce	Moderate	Fees indicated are 40% of full phase-in level and are indexed annually based on the construction cost increases.
City of San Luis Obispo Population: 46,000	2007	5% of building permit valuation	2,500 gsf threshold	Yes. 2 aff. units per acre.	Moderate	
Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.						



KEYSER MARSTON ASSOCIATES

ATTACHMENT A

RESIDENTIAL NEXUS ANALYSIS

Prepared for:
Santa Clara County

Prepared by:
Keyser Marston Associates, Inc.

December 2016

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION.....	1
II. RESIDENTIAL NEXUS ANALYSIS	7
A. Market Rate Units and Household Income	7
B. The IMPLAN Model	17
C. The KMA Jobs Housing Nexus Model.....	20
D. Mitigation Costs	32
III. ADDENDUM: ADDITIONAL BACKGROUND AND NOTES ON SPECIFIC ASSUMPTIONS.....	43
APPENDIX A: RESIDENTIAL MARKET SURVEY.....	46
APPENDIX B: WORKER OCCUPATIONS AND COMPENSATION LEVELS.....	50

I. INTRODUCTION

The following report is a Residential Nexus Analysis, an analysis of the linkages between the development of new residential units in the unincorporated areas of Santa Clara County and the need for additional affordable housing. The report has been prepared by Keyser Marston Associates, Inc. (KMA) for the County of Santa Clara, pursuant to contracts both parties have with the Silicon Valley Community Foundation.

The analysis was prepared as part of a coordinated work program for twelve jurisdictions in Alameda and Santa Clara Counties. Silicon Valley Community Foundation with Baird + Driskell Community Planners organized and facilitated this multi-jurisdiction effort. Silicon Valley Community Foundation, which engaged KMA to prepare the analyses, serves as the main contracting entity with each participating jurisdiction, and has provided funding support for coordination and administration of the effort. Analyses in support of affordable housing impact fees on non-residential development were also prepared as part of the multi-jurisdiction work program.

Background, Context and Use of the Analysis

The analysis addresses market rate residential projects in Santa Clara County. The nexus analysis quantifies the linkages between new market rate units in the unincorporated areas of Santa Clara County and the demand for affordable housing.

The County of Santa Clara has always been a participant in the county-wide efforts to support an increase in the supply of affordable housing. In the future, the County is considering an increased role by adopting measure to generate revenues to help assist in the development of affordable projects throughout the county. To that end, the County is considering affordable housing impact fees applicable to both residential and non-residential development.

The nexus analysis provided herein enables the County to proceed with enactment of affordable housing impact fees applicable to residential development occurring in the unincorporated areas of Santa Clara County. The conclusions of the analysis represent maximum supportable impact fee levels based on the impact of new residential development on the need for affordable housing. Findings are not recommended fee levels.

Background on Key Inclusionary Housing Legal Cases

The following provides background regarding two key legal cases pertaining to inclusionary programs which in recent years have motivated many California cities to undertake residential nexus studies. This section is intended as general background only; nothing in this report should be interpreted as providing specific legal guidance, which KMA is not qualified to provide.

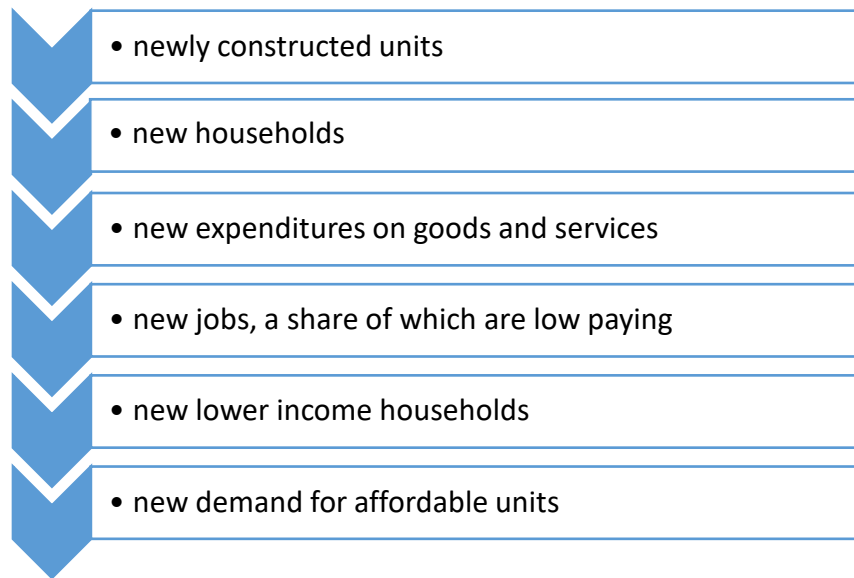
The *Palmer* case (Palmer/Sixth Street Properties L.P. v. City of Los Angeles [2009] 175 Cal. App. 4th 1396) was decided in 2009 and precluded California cities from requiring long term rent restrictions or inclusionary requirements on rental units. Since the *Palmer* ruling, many California cities have adopted affordable housing impact fees on rental projects supported by residential nexus studies similar to this one. This could change if future state legislation restores the ability by to implement inclusionary requirements for rental projects.

In *C.B.I.A.*, (California Building Industry Association v. City of San Jose, California Supreme Court Case No. S212072, June 15, 2015), also referred to as the San Jose Case, the California Building Industry Association challenged the City of San Jose's newly adopted inclusionary program. A core contention of C.B.I.A. was that the City's inclusionary program constituted an exaction that required a nexus study to support it. The case was pending in the courts from 2010 through February 2016. Ultimately, the case was decided by the California Supreme Court in favor of the City of San Jose, finding San Jose's inclusionary program to be a valid exercise of the City's power to regulate land use and not an exaction. The U.S. Supreme Court denied C.B.I.A.'s petition to review the case. While the case was pending, there was speculation that the courts would rule in favor of C.B.I.A. and this possibility was one of the motivations for cities to prepare residential nexus studies as an additional "backup" support measure for inclusionary programs.

The Nexus Concept

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 the unincorporated areas of Santa Clara County. These households represent new income in the unincorporated areas of the County that will consume goods and services, either through purchases of goods and services or 'consumption' of government services. New consumption translates to 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 the unincorporated areas of Santa Clara County and therefore need affordable housing.

Nexus Analysis Concept



Methodology and Models Used

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

To illustrate the linkages by looking at a simplified example, we can take an average household that 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 lower and middle-income households who cannot afford market rate housing in Santa Clara County.

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 which service or supply these establishments, and jobs generated when the new employees spend their wages in the local economy and generate additional jobs. The IMPLAN model estimates the total impact combined.

Net New Underlying Assumption

An underlying assumption of the analysis is that households that purchase new units represent net new households in Santa Clara County. If purchasers have relocated from elsewhere in the county, vacancies have been created that will be filled. An adjustment to new construction of units would be warranted if Santa Clara County 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.

On an individual project basis, if existing units are removed to redevelop a site to higher density, then there could be a need for recognition of the existing households in that all new units might not represent net new households, depending on the program design and number of units removed relative to new units.

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

Geographic Area of Impact

The analysis quantifies impacts occurring within Santa Clara County. While much of the impact will occur within the County, some impacts will be experienced beyond the County's boundaries. The IMPLAN model computes the jobs generated within the county and sorts out those that occur beyond the county boundaries. The KMA Jobs Housing Nexus Model analyzes the income structure of jobs and their worker households, without assumptions as to where the worker households live.

In summary, the KMA nexus analysis quantifies all the job impacts occurring within Santa Clara County and related worker households. Job impacts, like most types of impacts, occur irrespective of political boundaries. And like other types of impact analyses, such as traffic, impacts beyond political boundaries are experienced, are relevant, and are important. See the Addendum: Additional Background and Notes on Specific Assumptions at the end of this report for further discussion.

Market Rate Residential Project Types

Two prototypical residential project types were selected by the County and KMA for analysis in this nexus study. The prototypes were intended to represent the range of product types currently being built in the unincorporated areas of Santa Clara County or which are expected in the future including:

- Single Family Detached;
- Smaller Single Family Detached (County Island).

The prototypical residential units do not include unit types applicable to Stanford because it is governed by a General Use Permit which separately addresses affordable housing needs applicable to Stanford.

Affordability Tiers

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

- Extremely Low Income: households earning up to 30% Area Median Income (AMI);
- Very Low Income: households earning over 30% AMI up to 50% of AMI;
- Low Income: households earning over 50% AMI up to 80% of AMI; and,
- Moderate Income: households earning over 80% AMI up to 120% of AMI.

Report Organization

The report is organized into the following sections:

- Section A presents information regarding the prototypical new market rate residential units and the estimated household income of purchases of those units.
- Section B describes the IMPLAN model, which is used in the nexus analysis to translate household income into the estimated number of jobs in retail, restaurants, healthcare, and other sectors serving new residents.
- Section C presents the linkage between employment growth associated with residential development and the need for new lower income housing units required in each of the four income categories.
- Section D quantifies the nexus or mitigation cost based on the cost of delivering affordable units to new worker households in each of the four income categories.
- An Addendum section provides a supplemental discussion of specific factors in relation to the nexus concept.

- Appendix A contains the market survey.
- Appendix B includes detailed tables on worker occupations and compensation levels that are a key input into the analysis.

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.

II. RESIDENTIAL NEXUS ANALYSIS

A. Market Rate Units and Household Income

This section describes the prototypical market rate residential units and the income of the purchaser households. Market rate prototypes are representative of new residential units currently being built in the unincorporated areas of Santa Clara County or that are likely to be built in the unincorporated areas of the County over the next five to ten years. Household income is estimated based on the amount necessary for the mortgage payments associated with the prototypical new market rate units and becomes the basis for the input to the IMPLAN model. These are the starting points of the chain of linkages that connect new market rate units to additional demand for affordable residential units.

This section presents a summary of the market rate prototypes and the estimated household income of purchasers of the market rate units.

Recent Housing Market Activity and Prototypical Units

KMA worked with County staff to select two representative development prototypes envisioned to be developed in the unincorporated areas of Santa Clara County in the future. KMA then undertook a market survey of residential projects to estimate current pricing. More details on the market survey can be found in Appendix A. KMA notes that this residential nexus analysis and the selected market rate prototypes do not cover Stanford, which is governed by a General Use Permit that already addresses affordable housing needs.

In general, the County expects continued development of large custom homes in the hills. In addition, there are a few areas within the County with the potential for new homes on smaller lots; these are located in 'County Islands' surrounded by incorporated areas. The County does not anticipate higher density development, such as townhomes, condominiums, or apartment projects, in the unincorporated areas outside of Stanford.

To estimate current market prices, KMA gathered new and resales data for recently built single family homes in the unincorporated areas including San Martin, and the areas surrounding Los Gatos and Los Altos. These homes tend to be custom built and located on large lots. In addition, KMA gathered recent sales prices for the Porter Court project that was identified by County staff as an example of a smaller-lot single family detached project.

The two residential prototypes are summarized in the table below. More detail can be found on Table A-1 at the end of this section. The main objective of the survey was to review current market sales prices, per unit and per square foot, for the residential project types in the unincorporated areas of Santa Clara County.

In summary, the residential prototypes analyzed in the nexus analysis are as follows:

Prototypical Residential Units for County of Santa Clara		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Avg. Unit Size	5,000 SF	2,600 SF
Avg. No. of Bedrooms	4.00	4.00
Avg. Sales Price / Rent Per Square Foot	\$2,000,000 /SF	\$900,000 /SF

Source: KMA market study; see Appendix A.

It is important to note that the residential prototypes analysis is intended to reflect average or typical residential projects in the local market rather than any specific project. It would be expected that specific projects would vary to some degree from the residential prototypes analyzed.

Income of Housing Unit Purchaser

After the prototypes are established, the next step in the analysis is to determine the income of the purchasing households in the prototypical units.

To make the determination for ownership units, terms for the purchase of residential units 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. A down-payment of 20%¹ is estimated for the smaller single family detached prototypes. A 30%² down-payment is estimated for the single family prototype, reflective of local data on down-payments for units valued over \$1.5 million. A 30-year fixed rate loan at a 5% interest is assumed. A 30-year fixed rate loan at a 5% interest is assumed. The interest rate at 5% reflects a longer term average rate based on data for the last fifteen years from 2001 to 2015.³ A premium of 0.25% is added to reflect the non-conforming nature of the loans (jumbo loan). Tables A-2 and A-3 at the end of this section provide the details.

¹ Down payment of 20% reflects the median for new purchase loans originated in zip codes corresponding to Alameda and Santa Clara Counties derived from Freddie Mac dataset for loans issued in the 1st Quarter of 2015.

² Down payment of 30% is based on Listsource data on mortgages for homes valued over \$1.5 Million that sold within Santa Clara County from Dec. 2015 to March 2016.

³ Based on Freddie Mac Primary Mortgage Market Survey. Reflects weekly average rates for 30 year fixed rate mortgages during the period from 1/2001 through 12/2015 applicable to the West Region and rounded to the nearest whole percentage.

All ownership product types include an estimate of homeowners' insurance and property taxes. These are included along with the mortgage payment as part of housing expenses for purposes of determining mortgage eligibility.⁴ The analysis estimates gross household income based on the assumption that these housing costs represent, on average, approximately 35% of gross income. The assumption that housing expenses represent 35% of gross income is reflective of the local average for new purchase loans⁵ and is consistent with criteria used by lenders to determine mortgage eligibility.⁶

The estimated gross household incomes of the purchasers of the prototype units are calculated in Tables A-2 and A-3 and summarized below.

Gross Household Income		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Gross Household Income	\$345,000	\$172,000

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 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

⁴ 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.

⁵ Freddie Mac data on new purchase loans originated in zip codes corresponding to Santa Clara and Alameda Counties for the 1st Quarter of 2015 indicates an average debt to income ratio of 37%; however, most households have other forms of debt such as credit cards, student loans, and auto loans that are included as part of this ratio and the ratio considering housing costs only would be lower. While many purchasers of higher value homes such as the single family prototype may spend less than 35% of their income on housing, the analysis conservatively assumes 35% of income is spent on housing for these households also. Selection of a lower percentage of income spent on housing would have resulted in a higher estimate of household income and greater impacts from expenditures. Application of a 35% ratio is also consistent with the California Health and Safety Code standard for relating income to housing costs for ownership units.

⁶ 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 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.

of this adjustment step. Table A-4 at the end of this section shows the calculation of income available for expenditures.

Income available for expenditures is estimated at approximately 57% to 67% of gross income, depending on the market rate prototype. The estimates are based on a review of data from the Internal Revenue Service and California Franchise Tax Board tax tables. Per the Internal Revenue Service, households earning between \$100,000 and \$200,000 per year, or the residents of the smaller single family units, who itemize deductions on their tax returns will pay an average of 12.4% of gross income for federal taxes. Households in the larger single family units are estimated to pay 19.5% of gross income for federal taxes, the average for households in the \$200,000 - \$500,000 range who itemize their deductions. State taxes are estimated to average 5% to 6% of gross income based on tax rates per the California Franchise Tax Board. The employee share of FICA payroll taxes for Social Security and Medicare is 7.65% of gross income. A ceiling of \$118,500 per employee applies to the 6.2% Social Security portion of this tax rate.

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. For residents of the smaller single family homes, 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. Households in the larger single family prototype are assumed to save 12% of their income based on savings rates applicable to higher income households drawn from data published by the National Bureau of Economic Research, "Wealth Inequality in the United States Since 1913: Evidence from Capitalized Income Tax Data," October 2014.

The percentage of income available for expenditure for input into the IMPLAN model is prior to deducting housing costs. The reason is for consistency with the IMPLAN model which defines housing costs as expenditures. The IMPLAN model addresses the fact that expenditures on housing do not generate employment to the degree 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, for purchasers of one of the new ownership prototypes, the estimated income available for expenditures is 57% - 67%. These are the factors used to adjust from gross income to the income available for expenditures for input into the IMPLAN model. As indicated above, other forms of taxation such as property tax are handled internally within the IMPLAN model.

Estimates of household income available for expenditures are presented below:

Income Available for Expenditures		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Gross Household Income	\$345,000	\$172,000
Percent Income available for Expenditures	57%	67%
Household Income Available for Expenditure ⁽¹⁾		
One Unit	\$196,700	\$115,200
100 Units [input to IMPLAN]	\$19,670,000	\$11,520,000

(1) Calculated as gross household income X percent available for expenditures. Result includes the share of income spent on housing as the required input to the IMPLAN model is income after taxes but before deduction of housing costs as described above.

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-5 summarizes the conclusions of this section and calculates the household income for the 100-unit building modules.

**TABLE A-1
MARKET RATE RESIDENTIAL PROTOTYPES
RESIDENTIAL NEXUS ANALYSIS
UNINCORPORATED SANTA CLARA COUNTY**

Example Projects	<u>Single Family Detached</u>	<u>Smaller Single Family Detached (County Island)</u>
	34 homes from 2014	Porter Court
<hr/>		
Density / Lot Size	n/a	5,000 - 8,000 sf lots
Building Type	Two -story homes	Two-story
Unit Mix	3, 4, and 5 BR	3, 4, and 5 BR
Average Unit Size	5,000 sf	2,600 sf
Average No. of Bedrooms	4.0 BR	4.0 BR
Parking Type	Attached garage	Attached garage
Average Parking Spaces	2.0	2.0
Sales Price/Rent per square foot	\$2,000,000 \$400	\$900,000 \$346

**TABLE A-2
 PROTOTYPE 1 : SINGLE FAMILY DETACHED
 SALES PRICE TO INCOME RATIO
 RESIDENTIAL NEXUS ANALYSIS
 COUNTY OF SANTA CLARA, CA**

**Prototype 1
Single Family Detached**

Sales Price	\$400 /SF	5,000 SF ¹	\$2,000,000 ¹
Mortgage Payment			
Downpayment @ 30%		30% ²	\$600,000
Loan Amount			\$1,400,000
Interest Rate			5.25% ³
Term of Mortgage			30 years
Annual Mortgage Payment	\$7,700 /month		\$92,800
Other Costs			
Property Taxes	1.30% of sales price ⁴		\$26,000
Homeowner Insurance	0.10% of sales price ⁵		\$2,000
Total Annual Housing Cost	\$10,100 /month		\$120,800
% of Income Spent on Hsg			35% ⁶
Annual Household Income Required			\$345,000
Sales Price to Income Ratio			5.8

Notes

(1) Based on KMA Market Survey.

(2) Down payment percentages are estimated based on Listsource data on mortgages for homes valued over \$1.5 Million that sold within Santa Clara County from Dec. 2015 to March 2016.

(3) Average mortgage interest rate for prior 15 years derived from Freddie Mac Primary Mortgage Market Survey, West Region (rounded to nearest whole percentage). Based on weekly average rates for 30 year fixed rate mortgages during the period from 1/2001 through 12/2015. 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 and applicable voter approved rates, fixed charges, and assessments for the jurisdiction indicated. Source: ListSource.

(5) Estimated from quotes obtained from Progressive Insurance.

(6) While most purchasers of high value homes likely spend less than 35% of their income on housing, the analysis conservatively assumes 35% of income is spent on housing. Selection of a lower percentage of income spent on housing would have resulted in a higher estimate of household income and greater impacts from expenditures.

**TABLE A-3
 PROTOTYPE 2: SMALLER SINGLE FAMILY DETACHED (COUNTY ISLAND)
 SALES PRICE TO INCOME RATIO
 RESIDENTIAL NEXUS ANALYSIS
 COUNTY OF SANTA CLARA, CA**

		Prototype 2 Smaller Single Family Detached (County Island)	
Sales Price	\$346 /SF	2,600 SF ¹	\$900,000 ¹
Mortgage Payment			
Downpayment @ 20%		20% ²	\$180,000
Loan Amount			\$720,000
Interest Rate			5.25% ³
Term of Mortgage			30 years
Annual Mortgage Payment	\$4,000 /month		\$47,700
Other Costs			
Property Taxes	1.30% of sales price ⁴		\$11,700
Homeowner Insurance	0.10% of sales price ⁵		\$900
Total Annual Housing Cost	\$5,000 /month		\$60,300
% of Income Spent on Hsg			35% ⁶
Annual Household Income Required			\$172,000
Sales Price to Income Ratio			5.2

Notes

(1) Based on KMA Market Survey.

(2) Reflects the median down payment for new purchase loans originated in zip codes corresponding to Alameda and Santa Clara Counties derived from Freddie Mac dataset for loans issued in the 1st Quarter of 2015.

(3) Average mortgage interest rate for prior 15 years derived from Freddie Mac Primary Mortgage Market Survey, West Region (rounded to nearest whole percentage). Based on weekly average rates for 30 year fixed rate mortgages during the period from 1/2001 through 12/2015. 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 and applicable voter approved rates, fixed charges, and assessments for the jurisdiction indicated. Source: ListSource.

(5) Estimated from quotes obtained from Progressive Insurance.

(6) 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 Santa Clara and Alameda Counties for the 1st Quarter of 2015 indicates an average debt to income ratio of 37%; however, most households have other forms of debt such as credit cards, student loans, and auto loans that are included as part of this ratio and the ratio considering housing costs only would be lower.

TABLE A-4
INCOME AVAILABLE FOR EXPENDITURES¹
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA

	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)
Gross Income	100%	100%
<u>Less:</u>		
Federal Income Taxes ²	19.5%	12.4%
State Income Taxes ³	6%	5%
FICA Tax Rate ⁴	5.11%	7.65%
Savings & other deductions ⁵	12%	8%
Percent of Income Available for Expenditures⁶ [Input to IMPLAN model]	57%	67%

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 for 2013. Homeowners are assumed to itemize deductions. Renter households are assumed to take the standard deduction. Tax rates reflect averages for applicable income range.
- 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.
- ⁴ For Social Security and Medicare. Social Security taxes estimated based upon the current ceiling on applicability of Social Security taxes of \$118,500 (ceiling applies per earner not per household) and the average number of earners 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 for households earning less than \$225,000 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." Households earning more than \$225,000 are assumed to save a higher percentage of their income, based on savings rates for the last 20 years from data published by the National Bureau of Economic Research, "Wealth Inequality in the United States Since 1913: Evidence From Capitalized Income Tax Data," October 2014.
- 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-5
FOR SALE PROTOTYPES: SALES PRICE TO INCOME SUMMARY
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA**

	<u>Per Unit</u>	<u>Per Sq.Ft.</u>	<u>100 Unit Building Module</u> <i>(Per 100 Units)</i>
PROTOTYPE 1 : SINGLE FAMILY DETACHED			
Building Sq.Ft. (excludes garage)	5,000		500,000
Sales Price	\$2,000,000	\$400	\$200,000,000
Sales Price to Income Ratio	5.8		5.8
Gross Household Income	\$345,000		\$34,500,000
Income Available for Expenditure ¹ 57% of gross	\$196,700		\$19,670,000
PROTOTYPE 2 : SMALLER SINGLE FAMILY DETACHED (COUNTY ISLAND)			
Building Sq.Ft. (excludes garage)	2,600		260,000
Sales Price	\$900,000	\$346	\$90,000,000
Sales Price to Income Ratio	5.2		5.2
Gross Household Income	\$172,000		\$17,200,000
Income Available for Expenditure ¹ 67% of gross	\$115,200		\$11,520,000

Notes:

(1) Represents net income available for expenditures after income tax, payroll taxes, and savings. See Table A-4 for derivation.

Source: See Table A-1 through Table A-4.

B. The IMPLAN Model

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

IMPLAN Model Description

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

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

The output or result of the model is generated by tracking changes in purchases for final use (final demand) as they filter through the supply chain. Industries that produce goods and services for final demand or consumption must purchase inputs from other producers, which in turn, purchase goods and services. The model tracks these relationships through the economy to the point where leakages from the region stop the cycle. This allows the user to identify how a change in demand for one industry will affect a list of over 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 Santa Clara 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. The employment impacts will extend throughout the county and beyond based on where jobs are located that serve residents of the unincorporated areas of Santa Clara County. In fact, Santa Clara County is part of the larger Bay Area economy and impacts will likewise extend throughout the region. However, consistent with the conservative approach taken in the nexus analysis, only the impacts that occur within Santa Clara County are included in the analysis.

Application of the IMPLAN Model to Estimate Job Growth

The IMPLAN model was applied to link income to household expenditures to job growth. Employment generated by the 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.

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

Jobs Generated Per 100 Units		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Annual Household Expenditures (100 Units)	\$19,670,000	\$11,520,000
Total Jobs Generated (100 Units)	118.6	69.4

Table B-1 provides a detailed summary of employment generated by industry. The table shows industries sorted by projected employment. 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. Estimated employment is shown for each IMPLAN 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. The jobs counted in the IMPLAN model cover all jobs, full and part time, similar to the U.S. Census and all reporting agencies (unless otherwise indicated).

TABLE B-1
IMPLAN MODEL OUTPUT
EMPLOYMENT GENERATED
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA

<i>Per 100 Market Rate Units</i>	<i>Prototype 1</i>		<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)	% of Jobs
Household Expenditures <i>(100 Market Rate Units)</i>	\$19,670,000	\$11,520,000	
Jobs Generated by Industry ¹			
Full-service restaurants	7.2	4.2	6%
Individual and family services	5.9	3.4	5%
Limited-service restaurants	6.1	3.5	5%
All other food and drinking places	<u>3.8</u>	<u>2.2</u>	3%
Subtotal Restaurant	22.9	13.4	19%
Retail - Food and beverage stores	4.3	2.5	4%
Retail - General merchandise stores	3.4	2.0	3%
Personal care services	2.7	1.6	2%
Retail - Health and personal care stores	1.7	1.0	1%
Retail - Miscellaneous store retailers	1.7	1.0	1%
Retail - Building material and garden	1.6	1.0	1%
Other personal services	1.5	0.9	1%
Retail - Clothing and accessories	1.5	0.8	1%
Retail - Motor vehicle and parts dealers	1.3	0.8	1%
Retail - Nonstore retailers	<u>0.5</u>	<u>0.3</u>	<u>0%</u>
Subtotal Retail and Service	20.2	11.9	17%
Hospitals	5.5	3.2	5%
Nursing and community care facilities	2.6	1.5	2%
Home health care services	1.1	0.7	1%
Offices of physicians	3.2	1.8	3%
Offices of dentists	1.4	0.8	1%
Offices of other health practitioners	<u>1.8</u>	<u>1.0</u>	<u>1%</u>
Subtotal Healthcare	15.5	9.1	13%
Other educational services	3.7	2.1	3%
Colleges, universities	3.6	2.1	3%
Elementary and secondary schools	<u>2.2</u>	<u>1.3</u>	<u>2%</u>
Subtotal Education	9.5	5.6	8%
Real estate	4.3	2.5	4%
Wholesale trade	3.0	1.8	3%
Other financial investment activities	2.7	1.6	2%
Child day care services	2.6	1.5	2%
Services to private households	2.1	1.2	2%
Services to buildings	2.0	1.2	2%
Automotive repair and maintenance	1.8	1.0	1%
All Other	31.8	18.6	27%
Total Number of Jobs Generated	118.6	69.4	100%

¹ Estimated employment generated by expenditures of households within 100 prototypical market rate units for Industries representing more than 1% of total employment. Employment estimates are based on the IMPLAN Group's economic model, IMPLAN, for Santa Clara County (uses 2014 IMPLAN data set, the most recent available as of March 2016). Includes both full- and part-time jobs.

C. The KMA Jobs Housing Nexus Model

This section presents a summary of the analysis linking the employment growth associated with residential development, or the output of the IMPLAN model (see Section B), to the estimated number of lower income housing units required in each of four income categories, for each of the two residential prototype units.

Analysis Approach and Framework

The analysis approach is to examine the employment growth for industries related to consumer spending by residents in the 100-unit 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 per 100 market rate units. The analysis addresses the affordable unit demand associated with single family detached units.

The table below shows the 2016 Area Median Income (AMI) for Santa Clara County, as well as the income limits for the four categories that were evaluated: Extremely Low (30% of AMI), Very Low (50% of AMI), Low (80% of AMI), and Moderate (120% of AMI). The income definitions used in the analysis are those published by the California Department of Housing and Community Development (HCD).

2016 Income Limits for Santa Clara County

	Household Size (Persons)					
	1	2	3	4	5	6 +
Extr. Low (Under 30% AMI)	\$23,450	\$26,800	\$30,150	\$33,500	\$36,200	\$38,900
Very Low (30%-50% AMI)	\$39,100	\$44,650	\$50,250	\$55,800	\$60,300	\$64,750
Low (50%-80% AMI)	\$59,400	\$67,900	\$76,400	\$84,900	\$91,650	\$98,450
Moderate (80%-120% AMI)	\$89,950	\$102,800	\$115,650	\$128,500	\$138,800	\$149,050
Median (100% of Median)	\$74,950	\$85,700	\$96,400	\$107,100	\$115,650	\$124,250

Source: California Department 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 units. The employees were estimated based on household expenditures of new residents using the IMPLAN model (see Section B).

Step 2 – Changing Industries Adjustment and Net New Jobs

The local economy, like that of the U.S. as a whole, is constantly evolving, with job losses in some sectors and job growth in others. Over the past decade employment in manufacturing sectors of the local economy have declined along with governmental employment, farming, construction and financial activities employment. Jobs lost over the last decade in these declining sectors were replaced by job growth in other industry sectors.

Step 2 makes an adjustment to take ongoing changes in the economy into account recognizing that jobs added are not 100% net new in all cases. A 20% adjustment is utilized based on the long term shifts in employment that have occurred in some sectors of the local economy and the likelihood of continuing changes in the future. Long term declines in employment experienced in some sectors of the economy mean that some of the new jobs are being filled by workers that have been displaced from another industry and who are presumed to already have housing locally. Existing workers downsized from declining industries are assumed to be available to fill a portion of the new retail, restaurant, health care, and other jobs associated with services to residents.

The 20% downward adjustment used for purposes of the analysis was derived from California Employment Development Department data on employment by industry in the San Jose-Sunnyvale-Santa Clara and Oakland-Hayward-Berkeley Metropolitan Districts which encompasses the jurisdictions included in the multi-jurisdiction nexus effort. Over the ten-year period from 2005 to 2015, approximately 55,000 jobs were lost in declining industry sectors. Over the same period, growing and stable industries added a total of 268,000 jobs. The figures are used to establish a ratio between jobs lost in declining industries to jobs gained in growing and stable industries at 20%⁷. The 20% factor is applied as an adjustment in the analysis, effectively assuming one in every five new jobs is filled by a worker down-sized from a declining industry and who already lives locally.

The discount for changing industries is a conservative analysis assumption that may result in an understatement of impacts. The adjustment assumes workers down-sized from declining sectors of the local economy are available to fill a portion of the new service sector jobs documented in a residential nexus analysis. In reality, displaced workers from declining industry sectors of the economy are not always available to fill these new service jobs because they may retire or exit the

⁷ The 20% ratio is calculated as 55,000 jobs lost in declining sectors excluding defense divided by 268,000 jobs gained in growing and stable sectors = 20.5% (rounded to 20%).

workforce or may be competitive for and seek employment in one of the other growing sectors of the local economy that is not oriented towards services to local residents.

Step 3 – 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 in demand for new workers is reduced. The workers-per-worker-household ratio eliminates from the equation all non-working households, such as retired persons, students, and those on public assistance. The County average of 1.72 workers per worker household (from the U. S. Census Bureau 2011-2013 American Community Survey) is used for this step in the analysis. The number of jobs is divided by 1.72 to determine the number of worker households. This ratio is distinguished from the overall number of workers per household in that the denominator includes only households with at least one worker. If the average number of workers in all households were used, it would have produced a greater demand for housing units. The 1.72 ratio covers all workers, full and part time.

Step 4 – Occupational Distribution of Employees

The occupational breakdown of employees is the first step to arrive at income level. The output from the IMPLAN model provides the number of employees by industry sector, shown in Table 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.

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

The output of the IMPLAN model is jobs by industry sector using IMPLAN's own industry classification system, which consists of 536 industry sectors. The OES occupation data uses the North American Industry Classification System (NAICS). Estimates of jobs by IMPLAN sector must be translated into estimates by NAICS code for consistency with the OES data.

The NAICS system is organized into industry codes ranging from two- to six-digits. Two-digit codes are the broadest industry categories and six-digit codes are the most specific. Within a two-digit NAICS code, there may be several three-digit codes and within each three-digit code, several four-digit codes, etc. A chart published by IMPLAN relates each IMPLAN industry sector with one or more NAICS codes, with matching NAICS codes ranging from the two-digit level to the five-digit level. For purposes of the nexus analysis, all employment estimates must be aggregated to the four, 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 4a 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 4a.						
A. IMPLAN Output by IMPLAN Industry Sector		B. Link to Corresponding NAICS		C. Aggregate at 4-Digit NAICS Code Level		
<u>Jobs</u>	<u>IMPLAN Sector</u>	<u>Jobs</u>	<u>NAICS Code</u>	<u>Jobs</u>	<u>% Total</u>	<u>4-Digit NAICS</u>
2.6	487 - Child day care services	2.6	6244 Child day care services	2.6	100%	6244 Child day care services
5.5	482 - Hospitals	5.5	622 Hospitals	5.1	92%	6221 General Medical and Surgical Hospitals
				0.2	4%	6222 Psychiatric and Substance Abuse Hospitals
				0.2	4%	6223 Specialty (except Psychiatric and Substance Abuse) Hospitals

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

Step 4b – Apply OES Data to Estimate Occupational Distribution

Employment estimates by four and five-digit NAICS code from step 4a are paired with data on occupational composition within each industry from the OES to generate an estimate of employment by detailed occupational category. As shown on Table C-1, new jobs will be distributed across a variety of occupational categories. The three largest occupational categories are office and administrative support (15%), food preparation and serving (15%), and sales and related (13%). Step 4 of Table C-1 indicates the percentage and number of employee households by occupation associated with 100 market rate units.

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

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

For each occupational category shown in Table 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 the Appendix B tables. Each of these over 100 occupation categories has a different distribution of wages which was obtained from EDD and is specific to workers in Santa Clara County as of 2015.

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 5, the nexus model has established a matrix indicating the percentages of households that would qualify in the affordable income tiers for every detailed occupational category and every potential combination of household size and number of workers in the household.

Step 6 – Distribution of Household Size and Number of Workers

In this step, we account for the distribution in household sizes and number of workers for Santa Clara County households using local data obtained from the U.S. Census. Census data is used to develop a set of percentage factors representing the distribution of household sizes and number of workers within working households. The percentage factors are specific to Santa Clara County and are derived from the 2011 – 2013 American Community Survey. Application of these percentage factors accounts for the following:

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

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

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

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

Table C-2A shows the result after completing Steps 5, 6, and 7 for the Extremely Low Income Tier. Tables C-2B, C-2C, C-2D show results for the Very Low, Low, and Moderate Income tiers.

Summary Findings

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

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

<i>New Worker Households per 100 Market Rate Units</i>		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Extremely Low (0%-30% AMI)	9.9	5.8
Very Low (30%-50% AMI)	14.9	8.8
Low (50%-80% AMI)	12.7	7.4
Moderate (80%-120% AMI)	8.1	4.8
Total, Less than 120% AMI	45.6	26.7
Greater than 120% AMI	9.6	5.6
Total, New Households	55.2	32.4

Housing demand for new worker households earning less than 120% of AMI ranges from 45.6 units per 100 market rate units for larger single family detached units to 26.7 per 100 market rate units for smaller single family detached units. Housing demand is distributed across the lower income tiers with the greatest numbers of households in the Very Low and Low tiers. The finding that the jobs associated with consumer spending tend to be low-paying jobs where the workers will require housing affordable at the lower income levels is not surprising. As noted above, direct consumer spending results in employment that is concentrated in lower paid occupations including food preparation, administrative, and retail sales.

TABLE C-1
NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION
EMPLOYEE HOUSEHOLDS GENERATED
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA

	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)
Step 1 - Employees ¹	118.6	69.4
Step 2 - Adjustment for Changing Industries (20%) (2)	94.9	55.6
Step 3 - Adjustment for Number of Households (1.72) (3)	55.2	32.4
Step 4 - Occupation Distribution ⁴		
Management Occupations	4.2%	4.2%
Business and Financial Operations	4.1%	4.1%
Computer and Mathematical	1.2%	1.2%
Architecture and Engineering	0.3%	0.3%
Life, Physical, and Social Science	0.4%	0.4%
Community and Social Services	2.3%	2.3%
Legal	0.6%	0.6%
Education, Training, and Library	5.8%	5.8%
Arts, Design, Entertainment, Sports, and Media	1.5%	1.5%
Healthcare Practitioners and Technical	7.2%	7.2%
Healthcare Support	4.2%	4.2%
Protective Service	1.1%	1.1%
Food Preparation and Serving Related	15.1%	15.1%
Building and Grounds Cleaning and Maint.	5.4%	5.4%
Personal Care and Service	7.5%	7.5%
Sales and Related	13.4%	13.4%
Office and Administrative Support	15.2%	15.2%
Farming, Fishing, and Forestry	0.1%	0.1%
Construction and Extraction	0.9%	0.9%
Installation, Maintenance, and Repair	3.3%	3.3%
Production	1.5%	1.5%
Transportation and Material Moving	<u>4.6%</u>	<u>4.6%</u>
Totals	100.0%	100.0%
Management Occupations	2.3	1.4
Business and Financial Operations	2.2	1.3
Computer and Mathematical	0.6	0.4
Architecture and Engineering	0.2	0.1
Life, Physical, and Social Science	0.2	0.1
Community and Social Services	1.3	0.7
Legal	0.4	0.2
Education, Training, and Library	3.2	1.9
Arts, Design, Entertainment, Sports, and Media	0.8	0.5
Healthcare Practitioners and Technical	4.0	2.3
Healthcare Support	2.3	1.4
Protective Service	0.6	0.4
Food Preparation and Serving Related	8.4	4.9
Building and Grounds Cleaning and Maint.	3.0	1.8
Personal Care and Service	4.1	2.4
Sales and Related	7.4	4.3
Office and Administrative Support	8.4	4.9
Farming, Fishing, and Forestry	0.0	0.0
Construction and Extraction	0.5	0.3
Installation, Maintenance, and Repair	1.8	1.1
Production	0.8	0.5
Transportation and Material Moving	<u>2.5</u>	<u>1.5</u>
Totals	55.2	32.4

Notes:

- ¹ Estimated employment generated by expenditures of households within 100 prototypical market rate units from Table B-1.
- ² The 20% adjustment is based upon job losses in declining sectors of the local economy over the past 10 years. "Downsized" workers from declining sectors are assumed to fill a portion of new jobs in sectors serving residents. 20% adjustment calculated as 54,700 jobs lost in declining sectors divided by 267,700 jobs gained in growing and stable sectors = 20%.
- ³ Adjustment from number of workers to households using county-wide average of 1.72 workers per worker household derived from the U.S. Census American Community Survey 2011 to 2013.
- ⁴ See Appendix B Tables 1 - 2 for additional information on Major Occupation Categories.

TABLE C-2A
EXTREMELY LOW-INCOME (ELI) EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA

Per 100 Market Rate Units

	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)
Step 5 & 6 - Extremely Low Income Households (under 30% AMI) within Major Occupation Categories ²		
Management	0.00	0.00
Business and Financial Operations	-	-
Computer and Mathematical	-	-
Architecture and Engineering	-	-
Life, Physical and Social Science	-	-
Community and Social Services	0.04	0.02
Legal	-	-
Education Training and Library	0.32	0.18
Arts, Design, Entertainment, Sports, & Media	-	-
Healthcare Practitioners and Technical	0.01	0.01
Healthcare Support	0.36	0.21
Protective Service	-	-
Food Preparation and Serving Related	3.29	1.93
Building Grounds and Maintenance	0.72	0.42
Personal Care and Service	1.22	0.71
Sales and Related	1.70	0.99
Office and Admin	0.58	0.34
Farm, Fishing, and Forestry	-	-
Construction and Extraction	-	-
Installation Maintenance and Repair	0.04	0.03
Production	-	-
Transportation and Material Moving	0.58	0.34
ELI Households - Major Occupations	8.85	5.19
ELI Households ¹ - all other occupations	1.01	0.59
Total ELI Households¹	9.87	5.78

(1) Includes households earning from zero through 30% of Santa Clara County Area Median Income.

(2) See Appendix B Tables 1 - 2 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 B Table 2. 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-2B
VERY LOW-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA

Per 100 Market Rate Units

	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)
Step 5 & 6 - Very Low Income Households (30%-50% AMI) within Major Occupation Categories ²		
Management	0.04	0.02
Business and Financial Operations	0.04	0.02
Computer and Mathematical	-	-
Architecture and Engineering	-	-
Life, Physical and Social Science	-	-
Community and Social Services	0.25	0.15
Legal	-	-
Education Training and Library	0.80	0.47
Arts, Design, Entertainment, Sports, & Media	-	-
Healthcare Practitioners and Technical	0.08	0.05
Healthcare Support	0.80	0.47
Protective Service	-	-
Food Preparation and Serving Related	3.07	1.80
Building Grounds and Maintenance	1.11	0.65
Personal Care and Service	1.49	0.87
Sales and Related	2.34	1.37
Office and Admin	2.16	1.27
Farm, Fishing, and Forestry	-	-
Construction and Extraction	-	-
Installation Maintenance and Repair	0.36	0.21
Production	-	-
Transportation and Material Moving	0.88	0.52
Very Low Households - Major Occupations	13.41	7.85
Very Low Households ¹ - all other occupations	1.54	0.90
Total Very Low Inc. Households¹	14.95	8.75

(1) Includes households earning from 30% through 50% of Santa Clara County Area Median Income.

(2) See Appendix B Tables 1 - 2 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 B Table 2. 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-2C
LOW-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA

Per 100 Market Rate Units

	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)
Step 5 & 6 - Low Income Households (50%-80% AMI) within Major Occupation Categories ²		
Management	0.15	0.09
Business and Financial Operations	0.28	0.16
Computer and Mathematical	-	-
Architecture and Engineering	-	-
Life, Physical and Social Science	-	-
Community and Social Services	0.36	0.21
Legal	-	-
Education Training and Library	0.85	0.50
Arts, Design, Entertainment, Sports, & Media	-	-
Healthcare Practitioners and Technical	0.26	0.15
Healthcare Support	0.68	0.40
Protective Service	-	-
Food Preparation and Serving Related	1.54	0.90
Building Grounds and Maintenance	0.72	0.42
Personal Care and Service	0.96	0.56
Sales and Related	1.83	1.07
Office and Admin	2.55	1.49
Farm, Fishing, and Forestry	-	-
Construction and Extraction	-	-
Installation Maintenance and Repair	0.54	0.32
Production	-	-
Transportation and Material Moving	0.64	0.38
Low Households - Major Occupations	11.38	6.66
Low Households ¹ - all other occupations	1.30	0.76
Total Low Inc. Households¹	12.68	7.43

(1) Includes households earning from 50% through 80% of Santa Clara County Area Median Income.

(2) See Appendix B Tables 1 - 2 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 B Table 2. 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-2D
MODERATE-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA

Per 100 Market Rate Units

	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)

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

Management	0.35	0.21
Business and Financial Operations	0.51	0.30
Computer and Mathematical	-	-
Architecture and Engineering	-	-
Life, Physical and Social Science	-	-
Community and Social Services	0.33	0.19
Legal	-	-
Education Training and Library	0.67	0.39
Arts, Design, Entertainment, Sports, & Media	-	-
Healthcare Practitioners and Technical	0.77	0.45
Healthcare Support	0.37	0.22
Protective Service	-	-
Food Preparation and Serving Related	0.20	0.12
Building Grounds and Maintenance	0.34	0.20
Personal Care and Service	0.27	0.16
Sales and Related	0.81	0.47
Office and Admin	1.86	1.09
Farm, Fishing, and Forestry	-	-
Construction and Extraction	-	-
Installation Maintenance and Repair	0.48	0.28
Production	-	-
Transportation and Material Moving	0.30	0.18
Moderate Households - Major Occupations	7.28	4.26
Moderate Households ¹ - all other occupations	0.83	0.49
Total Moderate Inc. Households¹	8.11	4.75

(1) Includes households earning from 80% through 120% of Santa Clara County Area Median Income.

(2) See Appendix B Tables 1 - 2 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 B Table 2. 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
COUNTY OF SANTA CLARA, CA**

RESIDENTIAL UNIT DEMAND IMPACTS - PER 100 MARKET RATE UNITS

Number of New Households¹	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)
Under 30% AMI	9.9	5.8
30% to 50% AMI	14.9	8.8
50% to 80% AMI	12.7	7.4
80% to 120% AMI	8.1	4.8
Subtotal through 120% AMI	45.6	26.7
Over 120% AMI	9.6	5.6
Total Employee Households	55.2	32.4

RESIDENTIAL UNIT DEMAND IMPACTS - PER EACH (1) MARKET RATE UNIT

Number of New Households¹	<i>Prototype 1</i>	<i>Prototype 2</i>
	Single Family Detached	Smaller Single Family Detached (County Island)
Under 30% AMI	0.10	0.06
30% to 50% AMI	0.15	0.09
50% to 80% AMI	0.13	0.07
80% to 120% AMI	0.08	0.05
Subtotal through 120% AMI	0.46	0.27
Over 120% AMI	0.10	0.06
Total Employee Households	0.55	0.32

Notes

¹ Households of retail, education, healthcare and other workers that serve residents of new market rate units.
AMI = Area Median Income

D. Mitigation Costs

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

A key component of the analysis is the size of the gap between what households can afford and the cost of producing new housing for Santa Clara County, known as the ‘affordability gap.’ Affordability gaps are calculated for each of the four categories of Area Median Income (AMI): Extremely Low (under 30% of median), Very Low (30% to 50%), Low (50% to 80%), and Moderate (80% to 120%). The following summarizes the analysis of mitigation cost which is based on the affordability gap or net cost to deliver units that are affordable to worker households in the lower income tiers.

Because of the variation of real estate values and housing densities that exist in the different geographic areas of Santa Clara County, the affordability gaps can vary significantly from one part of the County to another. For example, land values and densities will generally be lower in South County than they are in the heart of Silicon Valley in the northern parts of the County. Because Santa Clara County can elect to subsidize affordable housing projects in both South County as well as the more urbanized northern parts of the County, the affordability gaps in this Nexus Study utilize an average of the estimated gaps in these areas.

County Assisted Affordable Unit Prototypes

For estimating the affordability gap, there is a need to match a household of each income level with a unit type and size according to governmental regulations and County practices and policies. The analysis assumes that the County will assist Moderate Income households earning between 80% and 120% of Area Median Income with ownership units. The prototype affordable unit should reflect a modest unit consistent with what the County is likely to assist and appropriate for housing the average Moderate Income worker household. The typical project assumed for South County is a three-bedroom townhome unit at approximately 18 units per acre (averaging 1,300 square feet) and the typical project assumed for North County is a two-bedroom condominium unit at approximately 30 units per acre (averaging 1,100 square feet per unit).

For Low-, Very Low-, and Extremely Low-Income households, it is assumed that the County will assist in the development of multi-family rental units at a density of 30-35 units per acre in the South County and 60-90 units per acre in the North County. This represents the approximate density range of affordable housing projects the County would likely subsidize.

Development Costs

KMA prepared an estimate of the total development cost for the affordable housing prototypes described above (inclusive of land acquisition costs, direct construction costs, indirect costs of development, and financing) based on a review of development pro formas for recent affordable projects, recent residential land sale comps, and other construction data sources such as RS Means. The following table summarizes the South County per-unit development cost, the North County per-unit development cost, and the average per-unit cost.

Development Costs for Affordable Units

Income Group	Unit Tenure / Type	South County Cost	North County Cost	Average Cost
Under 30% AMI	Rental	\$407,000	\$517,000	\$462,000
30% to 50% AMI	Rental	\$407,000	\$517,000	\$462,000
50% to 80% AMI	Rental	\$407,000	\$517,000	\$462,000
80% to 120% AMI	Ownership	\$476,000	\$584,000	\$530,000

Development cost estimates were informed by KMA's review of pro forma information for over a dozen local multi-family affordable housing projects. Direct construction costs from these projects were adjusted to account for such factors as time, unit size, housing type, and project density to appropriately reflect the multi-family prototypes assumed in the analysis. Other costs, such as land acquisition costs, are more site and area specific than direct construction costs and therefore the inputs for those costs were derived from other sources. Prevailing wages are assumed in the construction of both affordable housing prototypes, as it is assumed that public funds will be used to subsidize the projects. Tables D-1, D-1a, D-3 and D-3a provide further details.

The list below identifies some of the multi-family affordable projects for which KMA had pro forma information. In addition to the following projects, KMA also had access to the pro formas for several other active, pending projects, which are not listed due to their preliminary nature.

- Ashland-Kent, Alameda County
- Downtown Hayward Senior, Hayward
- Hayward Senior II, Hayward
- Laguna Commons, Fremont
- Marea Alta, San Leandro
- Onizuka Crossing, Sunnyvale
- Dublin Veterans Housing, Dublin
- Sequoia Belle Haven, Menlo Park
- South Hayward BART, Hayward
- San Lorenzo Senior, San Lorenzo
- South Second St Studios, San Jose
- Station Center 1 & 2, Union City
- University Ave Senior, East Palo Alto

Unit Values

For affordable ownership units, unit values are based on an estimate of the restricted affordable purchase price for a qualifying Moderate Income household. It is noted that the purchase price

for South County required a downward adjustment due to the fact that the calculated maximum Moderate Income purchase price, which is based on the county-wide area median income (AMI), was too close to the market rate price in South County. Because of the appreciation limits that are associated with deed-restricted affordable for-sale homes, Moderate Income purchase prices need to be set at a substantial discount relative to market rate prices. Details of the calculations are presented in Table D-2.

For the Extremely Low, Very Low, and Low-Income rental units, unit values are based upon the funding sources assumed to be available for the project. The funding sources include tax-exempt permanent debt financing supported by the project’s operating income, a deferred developer fee, and equity generated by 4% federal low income housing tax credits. The highly competitive 9% federal tax credits are not assumed because of the extremely limited number of projects that receive an allocation of 9% tax credits in any given year per geographic region. Other affordable housing subsidy sources such as CDBG, HOME, AHP, Section 8, and various Federal and State funding programs are also limited and difficult to obtain and therefore are not assumed in this analysis as available to offset the cost of mitigating the affordable housing impacts of new development.

The South County unit values, North County values, and average values are summarized below. Details for these calculations are presented in Table D-3 and D-3a.

Unit Values for Affordable Units

Income Group	Unit Tenure / Type	South County Unit Value	North County Unit Value	Average Unit Value
Under 30% AMI	Rental	\$205,500	\$215,500	\$210,500
30% to 50% AMI	Rental	\$281,500	\$291,500	\$286,500
50% to 80% AMI	Rental	\$320,500	\$330,500	\$325,500
80% to 120% AMI	Ownership	\$330,000	\$367,000	\$348,500

Affordability Gap

The affordability gap is the difference between the cost of developing the affordable units and the unit value based on the restricted affordable rent or sales price.

The resulting affordability gaps are as follows:

Affordability Gap Calculation

	Average Unit Value	Average Cost	Affordability Gap
<i>Affordable Rental Units</i>			
Extremely Low (Under 30% AMI)	\$210,500	\$462,000	\$251,500
Very Low (30% to 50% AMI)	\$286,500	\$462,000	\$175,500
Low (50% to 80% AMI)	\$325,500	\$462,000	\$136,500
<i>Affordable Ownership Units</i>			
Moderate (80% to 120% AMI)	\$348,500	\$530,000	\$181,500

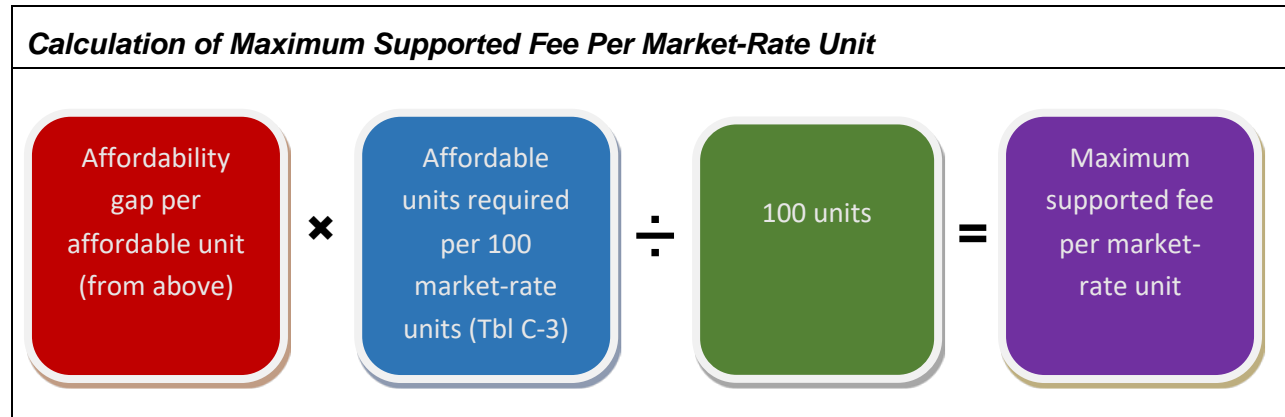
AMI = Area Median Income

Tables D-1 through D-3a present the detailed affordability gap calculations. Note that the affordability gaps are the same as those assumed in the non-residential nexus analysis.

Total Nexus Cost / Maximum Fee Levels

The last step in the linkage fee analysis marries the findings on the numbers of households in each of the lower income ranges associated with the two prototypes to the affordability gaps, or the costs of delivering housing to them in the unincorporated areas of Santa Clara County.

Table D-4 summarizes the analysis. The Affordability Gaps are drawn from the prior discussion. The “Total Nexus Cost per Market Rate Unit” shows the results of the following calculation:



The total nexus costs or maximum supported fee per market rate unit for each of the prototypes are as follows:

Total Nexus Cost Per Market Rate Unit, County of Santa Clara		
<i>Income Category</i>	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Extremely Low (0%-30% AMI)	\$24,800	\$14,500
Very Low (30%-50% AMI)	\$26,200	\$15,400
Low (50%-80% AMI)	\$17,300	\$10,100
Moderate (80%-120% AMI)	\$14,700	\$8,600
Total Supported Fee/ Nexus Costs	\$83,000	\$48,600

The Total Nexus Costs, or Mitigation Costs, indicated above, may also be expressed on a per square foot level. The square foot area of the prototype unit used throughout the analysis becomes the basis for the calculation (the per unit findings from above are divided by unit size to get the per square foot findings). The results per square foot of building area (based on net rentable or sellable square feet excluding parking areas, external corridors and other common areas) are as follows:

Total Nexus Cost Per Sq. Ft., County of Santa Clara		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
<i>Unit Size (Sq Ft)</i>	<i>5,000 SF</i>	<i>2,600 SF</i>
Extremely Low (0%-30% AMI)	\$5.00	\$5.60
Very Low (30%-50% AMI)	\$5.20	\$5.90
Low (50%-80% AMI)	\$3.50	\$3.90
Moderate (80%-120% AMI)	\$2.90	\$3.30
Total Nexus Costs	\$16.60	\$18.70

These costs express the total linkage or nexus costs for the two prototype developments in the unincorporated areas of Santa Clara County. These total nexus costs represent the ceiling for any requirement placed on market rate development. **The totals are not recommended levels for fees; they represent only the maximums established by the analysis, below which impact fee levels may be set.**

Table D-1
 Affordability Gap Calculation for Moderate Income
 Jobs Housing Nexus Analysis
 North Santa Clara County

I. Affordable Prototype

Tenure	For-Sale
Density	30 du/acre
Unit Size	1,100 SF
Bedrooms	2-Bedrooms
Construction Type	Condominiums (Type V)

II. Development Costs Per Unit

Land Acquisition	\$138,000
Directs	\$319,000 ^[1]
Indirects	\$111,000
Financing	\$16,000
Total Costs	<u>\$584,000</u>

III. Affordable Sales Price Per Unit

Household Size	3 person HH
110% of Median Income ^[2]	\$106,040
Maximum Affordable Sales Price	\$367,000 ^[3]

IV. Affordability Gap Per Unit

Affordable Sales Price	\$367,000
(Less) Development Costs	<u>(\$584,000)</u>
Affordability Gap - Moderate Income	(\$217,000)

^[1] Construction costs include prevailing wages.

^[2] Per California Health and Safety Code Section 50052.5, the affordable sale price for a Moderate Income household is to be based on 110% of AMI, whereas qualifying income can be up to 120% of AMI.

^[3] See Table D-2 for Moderate Income home price estimate.

Table D-2
 Estimated Affordable Home Prices - Moderate Income
 Jobs Housing Nexus Analysis
 North Santa Clara County

Unit Size Household Size	2-Bedroom Unit <u>3-person HH</u>	3-Bedroom Unit <u>4-person HH</u>	4-Bedroom Unit <u>5-person HH</u>
100% AMI Santa Clara County 2016	\$96,400	\$107,100	\$115,650
Annual Income @ 110%	\$106,040	\$117,810	\$127,215
% for Housing Costs	35%	35%	35%
Available for Housing Costs	\$37,114	\$41,234	\$44,525
(Less) Property Taxes	(\$4,392)	(\$4,884)	(\$5,232)
(Less) HOA	(\$2,700)	(\$2,820)	(\$2,940)
(Less) Utilities	(\$1,416)	(\$1,776)	(\$2,208)
(Less) Insurance	(\$700)	(\$800)	(\$900)
(Less) Mortgage Insurance	(\$4,698)	(\$5,211)	(\$5,603)
Income Available for Mortgage	\$23,208	\$25,743	\$27,643
Mortgage Amount	\$348,300	\$386,300	\$414,800
Down Payment (homebuyer cash)	\$18,300	\$20,350	\$21,800
Supported Home Price	\$366,600	\$406,650	\$436,600
Key Assumptions			
- Mortgage Interest Rate ⁽¹⁾	5.30%	5.30%	5.30%
- Down Payment ⁽²⁾	5.00%	5.00%	5.00%
- Property Taxes (% of sales price) ⁽³⁾	1.20%	1.20%	1.20%
- HOA (per month) ⁽⁴⁾	\$225	\$235	\$245
- Utilities (per month) ⁽⁵⁾	\$118	\$148	\$184
- Mortgage Insurance (% of loan amount)	1.35%	1.35%	1.35%

(1) Mortgage interest rate based on 15-year Freddie Mac average; assumes 30-year fixed rate mortgage.

(2) Down payment amount is an estimate for Moderate Income homebuyers.

(3) Property tax rate is an estimated average for new projects.

(4) Homeowners Association (HOA) dues is an estimate for the average new project.

(5) Utility allowances from Santa Clara County Housing Authority (2016).

Table D-3
 Affordability Gaps for Extremely Low, Very Low, and Low Income
 Jobs Housing Nexus Analysis
 North Santa Clara County

Extremely Low

Very Low

Low Income

I. Affordable Prototype			
Tenure	Rental		
Average Unit Size	800 square feet		
Density	~60-90 du/acre		
II. Development Costs ^[1]			
	Per Unit	Per Unit	Per Unit
Land Acquisition	\$55,000	\$55,000	\$55,000
Directs	\$328,000	\$328,000	\$328,000
Indirects	\$115,000	\$115,000	\$115,000
Financing	\$19,000	\$19,000	\$19,000
Total Development Costs	\$517,000	\$517,000	\$517,000
III. Supported Financing			
	Per Unit	Per Unit	Per Unit
<u>Affordable Rents</u>			
Average Number of Bedrooms	2 Bedrooms	2 Bedrooms	2 Bedrooms
Maximum TCAC Rent ^[2]	\$753	\$1,256	\$1,507
(Less) Utility Allowance ^[3]	(\$74)	(\$74)	(\$74)
Maximum Monthly Rent	\$679	\$1,182	\$1,433
<u>Net Operating Income (NOI)</u>			
Gross Potential Income	<u>Per Unit</u>	<u>Per Unit</u>	<u>Per Unit</u>
Monthly	\$679	\$1,182	\$1,433
Annual	\$8,148	\$14,184	\$17,196
Other Income	\$250	\$250	\$250
(Less) Vacancy 5.0%	(\$420)	(\$722)	(\$872)
Effective Gross Income (EGI)	\$7,978	\$13,712	\$16,574
(Less) Operating Expenses	(\$5,600)	(\$5,600)	(\$5,600)
(Less) Property Taxes ^[4]	\$0	\$0	\$0
Net Operating Income (NOI)	\$2,378	\$8,112	\$10,974
<u>Permanent Financing</u>			
Permanent Loan (tax exempt) 5.0%	\$32,000	\$108,000	\$147,000
Deferred Developer Fee	\$2,500	\$2,500	\$2,500
4% Tax Credit Equity	\$181,000	\$181,000	\$181,000
Total Sources	\$215,500	\$291,500	\$330,500
IV. Affordability Gap			
	Per Unit	Per Unit	Per Unit
Supported Permanent Financing	\$215,500	\$291,500	\$330,500
(Less) Total Development Costs	(\$517,000)	(\$517,000)	(\$517,000)
Affordability Gap	(\$301,500)	(\$225,500)	(\$186,500)

^[1] Development costs estimated by KMA based on affordable project pro formas in Santa Clara County (includes prevailing wages) and residential land sale comps.

^[2] Maximum rents per Tax Credit Allocation Committee (TCAC) for projects utilizing Low Income Housing Tax Credits.

^[3] Utility allowances from Santa Clara County Housing Authority (2016).

^[4] Assumes tax exemption for non-profit general partner.

Table D-1a
 Affordability Gap Calculation for Moderate Income
 Jobs Housing Nexus Analysis
 South Santa Clara County

I. Affordable Prototype

Tenure	For-Sale
Density	18 du/acre
Unit Size	1,300 SF
Bedrooms	3-Bedrooms
Construction Type	Townhomes

II. Development Costs Per Unit

Land Acquisition	\$73,000
Directs	\$299,000 ^[1]
Indirects	\$90,000
Financing	\$14,000
Total Costs	<u>\$476,000</u>

III. Affordable Sales Price Per Unit

Household Size	4 person HH
110% of Median Income ^[2]	\$117,810
Maximum Affordable Sales Price	\$407,000 ^[3]

IV. Affordability Gap Per Unit

Affordable Sales Price	\$330,000 ^[4]
(Less) Development Costs	<u>(\$476,000)</u>
Affordability Gap - Moderate Income	(\$146,000)

^[1] Construction costs includes prevailing wages.

^[2] Per California Health and Safety Code Section 50052.5, the affordable sale price for a Moderate Income household is to be based on 110% of AMI, whereas qualifying income can be up to 120% of AMI.

^[3] See Table D-2 for Moderate Income home price estimate.

^[4] Moderate income home price in South County adjusted from maximums to reflect appropriate discount from unrestricted market rate prices.

Table D-3a
 Affordability Gaps for Extremely Low, Very Low, and Low Income
 Jobs Housing Nexus Analysis
 South Santa Clara County

	Extremely Low	Very Low	Low Income
I. Affordable Prototype			
Tenure	Rental		
Average Unit Size	900 square feet		
Density	~30-40 du/acre		
II. Development Costs ^[1]			
	Per Unit	Per Unit	Per Unit
Land Acquisition	\$37,000	\$37,000	\$37,000
Directs	\$261,000	\$261,000	\$261,000
Indirects	\$91,000	\$91,000	\$91,000
Financing	\$18,000	\$18,000	\$18,000
Total Costs	\$407,000	\$407,000	\$407,000
III. Supported Financing			
<u>Affordable Rents</u>			
Average Number of Bedrooms	2 Bedrooms	2 Bedrooms	2 Bedrooms
Maximum TCAC Rent ^[2]	\$753	\$1,256	\$1,507
(Less) Utility Allowance ^[3]	(\$74)	(\$74)	(\$74)
Maximum Monthly Rent	\$679	\$1,182	\$1,433
<u>Net Operating Income (NOI)</u>			
Gross Potential Income	<u>Per Unit</u>	<u>Per Unit</u>	<u>Per Unit</u>
Monthly	\$679	\$1,182	\$1,433
Annual	\$8,148	\$14,184	\$17,196
Other Income	\$250	\$250	\$250
(Less) Vacancy 5.0%	(\$420)	(\$722)	(\$872)
Effective Gross Income (EGI)	\$7,978	\$13,712	\$16,574
(Less) Operating Expenses	(\$5,600)	(\$5,600)	(\$5,600)
(Less) Property Taxes ^[4]	\$0	\$0	\$0
Net Operating Income (NOI)	\$2,378	\$8,112	\$10,974
<u>Permanent Financing</u>			
Permanent Loan (tax exempt)	\$32,000	\$108,000	\$147,000
Deferred Developer Fee	\$2,500	\$2,500	\$2,500
4% Tax Credit Equity	\$171,000	\$171,000	\$171,000
Total Sources	\$205,500	\$281,500	\$320,500
IV. Supported Financing			
Supported Permanent Financing	\$205,500	\$281,500	\$320,500
(Less) Total Development Costs	(\$407,000)	(\$407,000)	(\$407,000)
Affordability Gap	(\$201,500)	(\$125,500)	(\$86,500)

^[1] Development costs estimated by KMA based on affordable project pro formas in Santa Clara County (includes prevailing wages) and residential land sale comps.

^[2] Maximum rents per Tax Credit Allocation Committee (TCAC) for projects utilizing Low Income Housing Tax Credits.

^[3] Utility allowances from Santa Clara County Housing Authority (2016).

^[4] Assumes tax exemption for non-profit general partner.

**TABLE D-4
SUPPORTED FEE / NEXUS SUMMARY
RESIDENTIAL NEXUS ANALYSIS
COUNTY OF SANTA CLARA, CA**

TOTAL NEXUS COST PER MARKET RATE UNIT

		Nexus Cost Per Market Rate Unit³	
		Prototype 1	Prototype 2
Affordability Gap Per Unit		Single Family Detached	Smaller Single Family Detached (County Island)
Household Income Level			
Under 30% AMI	\$251,500 ¹	\$24,800	\$14,500
30% to 50% AMI	\$175,500 ¹	\$26,200	\$15,400
50% to 80% AMI	\$136,500 ¹	\$17,300	\$10,100
80% to 120% AMI	\$181,500 ²	\$14,700	\$8,600
Total Supported Fee Per Unit		\$83,000	\$48,600

TOTAL NEXUS COST PER SQUARE FOOT⁴

		Nexus Cost Per Square Foot⁴	
		Prototype 1	Prototype 2
Avg. Unit Size (SF)		Single Family Detached	Smaller Single Family Detached (County Island)
Household Income Level			
		5,000 SF	2,600 SF
Under 30% AMI		\$5.00	\$5.60
30% to 50% AMI		\$5.20	\$5.90
50% to 80% AMI		\$3.50	\$3.90
80% to 120% AMI		\$2.90	\$3.30
Total Supported Fee Per Sq.Ft.		\$16.60	\$18.70

Notes:

¹ Assumes affordable rental units. Affordability gaps represent the remaining affordability gap after tax credit financing. See affordability gap section for details.

² Affordability gap for moderate income households based on ownership unit.

³ Nexus cost per unit calculated by multiplying the affordable unit demand from Table C-3 by the affordability

⁴ Nexus cost per square foot computed by dividing the nexus cost per unit from above by the average unit size.

III. ADDENDUM: ADDITIONAL BACKGROUND AND NOTES ON SPECIFIC ASSUMPTIONS

No Excess Supply of Affordable Housing

An assumption of this residential nexus analysis is that 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. Based on a review of the current Census information for Santa Clara County, conditions are consistent with this underlying assumption. According to the Census (2010 to 2014 ACS), approximately 41% of all households in the County were paying thirty percent or more of their income on housing. In addition, housing vacancy is minimal.

Geographic Area of Impact

The analysis quantifies impacts occurring within Santa Clara County. While many of the impacts will occur within the County, some impacts will be experienced beyond the County's boundaries. The IMPLAN model computes the jobs generated within the county and sorts out those that occur beyond the county boundaries. The KMA Jobs Housing Nexus Model analyzes the income structure of jobs and their worker households, without assumptions as to where the worker households live.

In summary, the nexus analysis quantifies all the jobs impacts occurring within the county and related worker households. Job impacts, like most types of impacts, occur irrespective of political boundaries. And like other types of impact analyses, such as traffic, impacts beyond jurisdictional boundaries are experienced, are relevant, and are important.

For clarification, counting all impacts associated with new housing units does not result in double counting, even if all jurisdictions were to adopt similar programs. The impact of a new housing unit is only counted once, in the jurisdiction in which it occurs. Obviously, within a metropolitan region such as the Bay Area, there is much commuting among jurisdictions, and cities house each other's workers in a very complex web of relationships. The important point is that impacts of residential development are only counted once.

Affordability Gap

The use of the affordability gap for establishing a maximum fee supported from the nexus analysis is grounded in the concept that a jurisdiction will be responsible for delivering affordable units to mitigate impacts. The nexus analysis has established that units will be needed at one or more different affordability levels and the type of unit to be delivered depends on the income/affordability level. The County is anticipated to assist in the development of rental units for households with incomes up to 80% of AMI and ownership units for moderate income households with incomes from 80% to 120% of AMI.

The units assisted by the public sector for affordable households are usually small in square foot area (for the number of bedrooms) and modest in finishes and amenities. As a result, in some communities these units are similar in physical configuration to what the market is delivering at market rate; in other communities (particularly very high income communities), they may be smaller and more modest than what the market is delivering. Parking, for example, is usually the minimum permitted by the code. Where there is a wide range in land cost per acre or per unit, it may be assumed that affordable units are built on land parcels in the lower portion of the cost range. KMA tries to develop a total development cost summary that represents the lower half of the average range, but not so low as to be unrealistic.

Excess Capacity of Labor Force

In the context of economic downturns such as the last recession, the question is sometimes raised as to whether there is excess capacity in the labor force to the extent that 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 analysis of this nature is a one-time impact requirement to address impacts generated over the life of the project. Recessions are temporary conditions; a healthy economy will return and the impacts will be experienced. The economic cycle also self-adjusts. Development of new residential units is likely to be reduced 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 burden of affordable housing is also borne by many sectors of the economy and society, including but not limited to residential developers. 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 Department of Housing and Urban Development and other federal agencies. The State of California 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 being 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, affordable housing requirements placed on residential development will satisfy only a small percentage of the affordable housing needs in Santa Clara County.

APPENDIX A: RESIDENTIAL 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 unincorporated areas for Santa Clara County 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 the new households that will live in the new units and quantify the number and types of jobs created as a result of their demand for goods and services. In this Appendix A, 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

KMA worked with County staff to select representative development prototypes envisioned to be developed in the unincorporated areas of Santa Clara County in the future. KMA notes that this residential nexus analysis does not cover Stanford, which is governed by a General Use Permit that already addresses affordable housing needs.

In general, the County expects continued development of large custom homes in the hills. In addition, there are a few areas within the County with the potential for new homes on smaller lots; these are located in 'County Islands' surrounded by incorporated areas. The County does not anticipate higher density development, such as townhomes, condominiums, or apartment projects, in the unincorporated areas outside of Stanford.

The prototypes are presented on Appendix A Table 1 and summarized below.

Santa Clara County Residential Prototypes

	<i>Lot Size / Density</i>	<i>Average Unit Size</i>
<i>For-Sale Prototypes</i>		
1) Single Family Detached	n/a	5,000 sq. ft.
2) Smaller Single Family Detached (County Island location)	5,000 – 8,000 sq. ft.	2,600 sq. ft.

Source: KMA in collaboration with Santa Clara County. See Appendix A, Table 1 for more information.

III. MARKET SURVEY & PRICING ESTIMATES

A. Residential Building Activity

The County has limited opportunities for new residential units. KMA reviewed residential building permits issued in 2014 to calculate the average size of new custom homes in the County. Per input from County staff, the most recent example of a smaller lot housing

development is the Porter Court project; KMA reviewed sales data on this project to inform the smaller prototype.

Home prices in the unincorporated areas of Santa Clara County vary significantly by location. The median home price in San Martin, for example, was \$825,000 in 2014, while the median in Alviso was \$482,500. Other areas are significantly more expensive, such as Mt. Hamilton and the unincorporated areas bordering Los Altos and Los Gatos.

B. Recent Home Prices of Newer Residential Units

KMA gathered new and resales data for recently built single family homes in the unincorporated areas including San Martin, and the areas surrounding Los Gatos and Los Altos. These homes tend to be custom built and located on large lots. Appendix A Table 2 presents market sales prices for these units. In addition, KMA gathered recent sales prices for the Porter Court project that was identified by County staff as an example of a smaller-lot single family detached project.

C. For-Sale Prototype Price Estimates

The current pricing for new homes and the resale pricing of newer home developments formed the basis for KMA's prototype price estimates. The prototype pricing estimates took into consideration that, in general, newly built homes sell for a premium over re-sales, all else being equal.

The table below summarizes KMA's conclusions regarding current for-sale prototype unit size and pricing.

	<i>Unit Size</i>	<i>Price</i>	<i>Price PSF</i>
Single Family Detached	5,000 sq. ft.	\$2,000,000	\$400
Smaller Single Family Detached (County Island location)	2,600 sq. ft.	\$900,000	\$346

Source: KMA market study in collaboration with the County of Santa Clara.

IV. MARKET SURVEY CONCLUSIONS

A full description of the prototypes, including examples of recent developments, average unit sizes, bedroom mix, parking ratios, and densities are shown in Appendix A Table 1. The prototypes are the starting point of the nexus analysis.

**APPENDIX A TABLE 1
MARKET RATE RESIDENTIAL PROTOTYPES
RESIDENTIAL NEXUS ANALYSIS
UNINCORPORATED SANTA CLARA COUNTY**

Example Projects	<u>Single Family Detached</u>	<u>Smaller Single Family Detached (County Island)</u>
	34 homes from 2014	Porter Court
<hr/>		
Density / Lot Size	n/a	5,000 - 8,000 sf lots
Building Type	Two -story homes	Two-story
Unit Mix	3, 4, and 5 BR	3, 4, and 5 BR
Average Unit Size	5,000 sf	2,600 sf
Average No. of Bedrooms	4.0 BR	4.0 BR
Parking Type	Attached garage	Attached garage
Average Parking Spaces	2.0	2.0
Sales Price/Rent per square foot	\$2,000,000 \$400	\$900,000 \$346

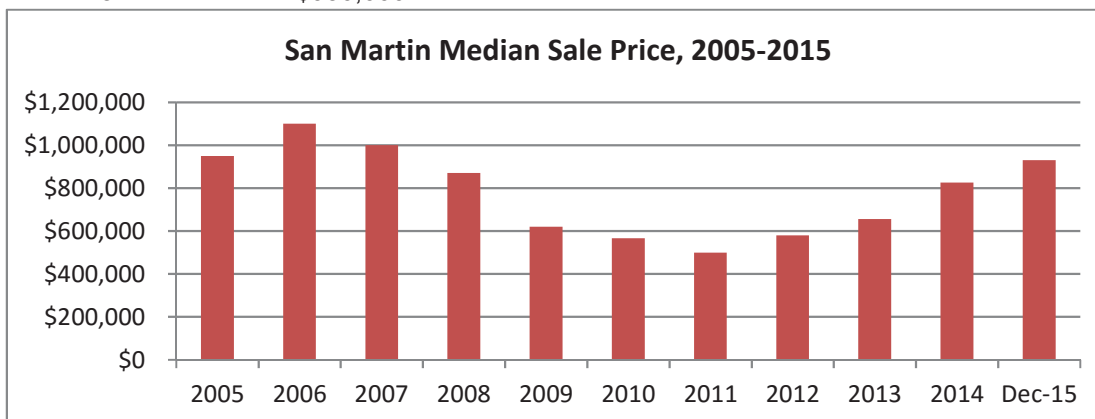
Appendix A, Table 2
Median Home Prices
Unincorporated Santa Clara County, CA

Median Home Prices, Santa Clara County Jurisdictions

	<u>2014</u>	<u>2013</u>	<u>% Change</u>
Los Altos	\$2,351,000	\$2,016,000	17%
Palo Alto	\$2,100,000	\$1,720,000	22%
Saratoga	\$1,876,500	\$1,610,000	17%
Cupertino	\$1,428,500	\$1,200,000	19%
Los Gatos	\$1,410,000	\$1,265,000	11%
Mountain View	\$975,050	\$805,000	21%
Sunnyvale	\$875,000	\$764,750	14%
San Martin	\$825,000	\$655,000	26%
Campbell	\$820,000	\$702,500	17%
Santa Clara	\$745,000	\$638,000	17%
Santa Clara County	\$710,000	\$648,000	10%
Milpitas	\$652,000	\$585,000	11%
Morgan Hill	\$650,500	\$635,000	2%
San Jose	\$630,000	\$572,000	10%
Gilroy	\$575,000	\$500,000	15%
Alviso	\$482,500	\$472,500	2%

San Martin Median Home Sale Price, 2005-Present

<u>Year</u>	<u>Median Price</u>	<u>%Change</u>
2005	\$950,000	
2006	\$1,100,000	16%
2007	\$1,000,000	-9%
2008	\$870,750	-13%
2009	\$620,000	-29%
2010	\$566,000	-9%
2011	\$498,500	-12%
2012	\$580,000	16%
2013	\$655,000	13%
2014	\$825,000	26%
Dec-15	\$930,000	



Appendix A, Table 2
Median Home Prices
Unincorporated Santa Clara County, CA

Alviso Median Home Sale Price, 2005-2014

<u>Year</u>	<u>Median Price</u>	<u>%Change</u>
2005	\$545,000	
2006	\$710,000	30%
2007	\$683,500	-4%
2008	\$298,000	-56%
2009	\$347,500	17%
2010	\$325,000	-6%
2011	\$330,000	2%
2012	\$370,000	12%
2013	\$472,500	28%
2014	\$482,500	2%
Dec-15	data not available	

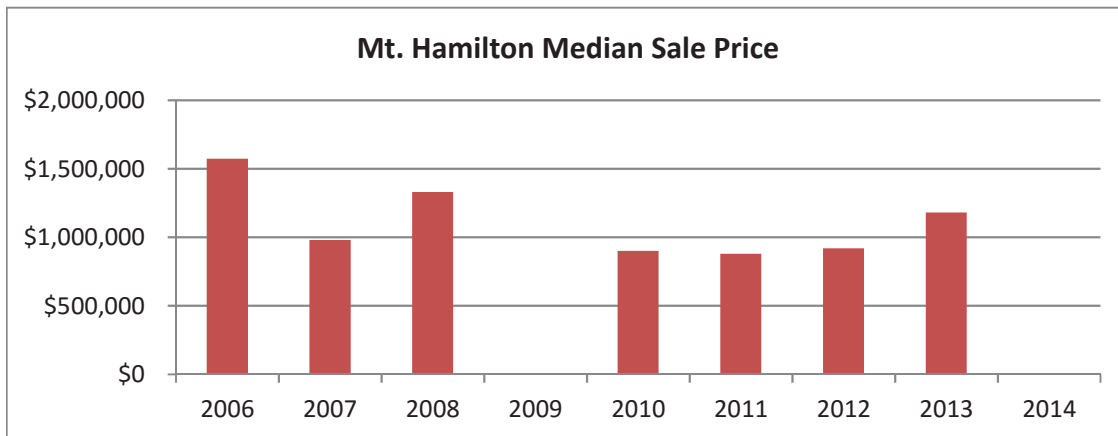


Appendix A, Table 2
Median Home Prices
Unincorporated Santa Clara County, CA

Mt. Hamilton Median Home Sale Price, 2006-Present

* very few sales each year.

<u>Year</u>	<u>Median Price</u>	<u>%Change</u>
2006	\$1,572,500	
2007	\$980,000	-38%
2008	\$1,330,000	36%
2009	no data	
2010	\$900,000	
2011	\$880,000	-2%
2012	\$918,000	4%
2013	\$1,180,000	29%
2014	no data	
Dec-15	no data	



Stanford Median Home Sale Price

* very few sales each year.

<u>Year</u>	<u>Median Price</u>	<u>Percent Change</u>
2006	\$2,150,000	
2007	no data	
2008	\$1,400,000	
2009	no data	
2010	no data	
2011	no data	
2012	\$2,530,000	
2013	\$3,450,000	36%
2014	no data	
Dec-15	no data	

Source: DataQuick. Includes single family and attached homes; includes new homes and resales.

**APPENDIX A TABLE 3
RECENT HOME SALES
RESIDENTIAL NEXUS ANALYSIS
UNINCORPORATED SANTA CLARA COUNTY**

Units Built Since 2000 and Sold Since November 2013

Single Family Units	Yr. Built	Unit	BD	BA	Net SF	Lot SF	Sale Price	\$/SF	Sale Date
SAN MARTIN									
12890 Foothill Ave	2003		4	5	4,171	198,065	\$1,450,000	\$348	06/25/2015
13150 Santa Teresa Blvd	2011		5	5	6,089	150,120	\$1,300,000	\$213	04/28/2015
2035 Vincent Dr	2002		4	5	4,415	89,319	\$1,730,000	\$392	03/30/2015
1100 Vintage Ct	2002		5	5	4,835	182,964	\$2,350,000	\$486	02/05/2015
12660 New Ave	2000		2	3	2,521	220,212	\$863,000	\$342	06/30/2014
1435 Lakeview Ct	2006		4	3	5,104	132,419	\$2,350,000	\$460	06/05/2014
1275 Lions Peak Ln	2011		6	5	6,604	101,267	\$3,250,000	\$492	05/15/2014
1405 Lakeview Ct	2002		6	5	4,654	138,849	\$1,950,000	\$419	05/12/2014
13085 Harding Ave	2000		3	4	4,209	211,164	\$1,825,000	\$434	05/01/2014
15185 Center Ave	2006		3	3	2,005	90,896	\$910,000	\$454	03/27/2014
1110 Vintage Ct	2009		6	4	5,822	142,322	\$2,125,000	\$365	03/25/2014
2030 Vincent Dr	2006		4	4	4,650	89,136	\$1,425,000	\$306	11/06/2013
Average					4,590	145,561	\$1,794,000	\$393	
Unincorporated Los Altos									
1571 Fairway Drive	2015		5	5	3,950	21,780	\$4,450,000	\$1,127	2/26/2015
11662 Par Ave	2014		4	3.5	2,267	6,271	\$2,498,000	\$1,102	3/1/2015
11650 Par Ave	2014		4	3.5	3,070	6,447	\$2,588,000	\$843	2/17/2015
1380 Country Club Rd	2003		4	3	2,973		\$3,100,000	\$1,043	10/13/2015
975 Lundy Lane	2015		4	3.5	3,246	10,701	\$2,979,000	\$918	6/3/2015
Unincorporated Los Gatos									
19268 Skyline Blvd.	2015		4	5.5	5,000	47,480	\$1,750,000	\$350	2/1/2015
San Jose									
4534 Porter Ct	2013		5	3	2,334	6,237	\$935,000	\$401	10/13/2015
4503 Porter Ct	2012		5	4	2,735	6,263	\$932,500	\$341	01/22/2014
4510 Porter Ct	2012		5	3	2,334	6,027	\$734,000	\$314	03/18/2013
4626 Porter Ct	2013		5	4	2,735	6,085	\$814,500	\$298	05/28/2013
4511 Porter Ct	2012		5	4	2,735	6,709	\$812,000	\$297	03/18/2013
4545 Porter Ct	2013		4	3	2,431	7,477	\$894,000	\$368	11/06/2013
4541 Porter Ct	2013		4	3	2,431	6,208	\$849,000	\$349	11/06/2013
4546 Porter Ct	2013		5	3	2,334	6,081	\$805,500	\$345	08/12/2013
4522 Porter Ct	2012		5	4	2,735	6,249	\$827,000	\$302	03/18/2013
4507 Porter Ct	2012		5	3	2,334	6,211	\$735,000	\$315	12/06/2012
4538 Porter Ct	2013		5	4	2,735	6,047	\$884,500	\$323	08/16/2013
4542 Porter Ct	2013		5	3	2,334	6,254	\$775,500	\$332	09/09/2013
4537 Porter Ct	2013		5	3	2,334	6,027	\$834,000	\$357	11/06/2013
4502 Porter Ct	2012		5	4	2,735	7,903	\$775,500	\$284	11/08/2012
4506 Porter Ct	2012		5	4	2,735	6,001	\$797,000	\$291	12/06/2012
4530 Porter Ct	2013		5	3	2,334	6,001	\$752,500	\$322	05/28/2013
Average					2,522	6,361	\$822,344	\$328	

TEAR-DOWNS

Sampling of 6 tear-down purchases for 2015 building permits:
Average purchase price of \$1.69 million, ranging from \$990,000 to \$2,600,000.
Locations include unincorporated Los Gatos, San Jose and Los Altos.

Sources: ListSource, Redfin.com, zillow.com, November 2015.

APPENDIX B: WORKER OCCUPATIONS AND COMPENSATION LEVELS

**RESIDENTIAL NEXUS APPENDIX B TABLE 1
 WORKER OCCUPATION DISTRIBUTION, 2014
 SERVICES TO HOUSEHOLDS EARNING \$100 - \$150K, RESIDENT SERVICES
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA**

Working Draft

Major Occupations (2% or more)	Worker Occupation Distribution¹ Services to Households Earning \$100,000 to \$150,000
Management Occupations	4.0%
Business and Financial Operations Occupations	3.8%
Community and Social Service Occupations	2.2%
Education, Training, and Library Occupations	4.0%
Healthcare Practitioners and Technical Occupations	7.9%
Healthcare Support Occupations	4.7%
Food Preparation and Serving Related Occupations	15.7%
Building and Grounds Cleaning and Maintenance Occupations	5.2%
Personal Care and Service Occupations	7.1%
Sales and Related Occupations	12.9%
Office and Administrative Support Occupations	14.8%
Installation, Maintenance, and Repair Occupations	3.4%
Transportation and Material Moving Occupations	4.3%
All Other Worker Occupations - Services to Households Earning \$100,000 to \$150,000	<u>10.1%</u>
INDUSTRY TOTAL	100.0%

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

RESIDENTIAL NEXUS APPENDIX B TABLE 2
 AVERAGE ANNUAL WORKER COMPENSATION, 2015
 SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA

Occupation ³	2015 Avg. Compensation ¹	% of Total Occupation Group ²	Working Draft % of Total No. of Service Workers
Page 1 of 4			
<i>Management Occupations</i>			
Chief Executives	\$232,600	3.2%	0.1%
General and Operations Managers	\$157,600	34.7%	1.4%
Sales Managers	\$167,900	4.6%	0.2%
Administrative Services Managers	\$122,400	4.1%	0.2%
Financial Managers	\$168,700	9.3%	0.4%
Food Service Managers	\$57,200	6.1%	0.2%
Medical and Health Services Managers	\$159,700	7.1%	0.3%
Property, Real Estate, and Community Association Managers	\$74,600	9.5%	0.4%
Social and Community Service Managers	\$79,300	4.3%	0.2%
All other Management Occupations (Avg. All Categories)	<u>\$139,700</u>	<u>17.1%</u>	<u>0.7%</u>
Weighted Mean Annual Wage	\$139,700	100.0%	4.0%
<i>Business and Financial Operations Occupations</i>			
Human Resources Specialists	\$89,400	5.1%	0.2%
Management Analysts	\$111,500	5.2%	0.2%
Training and Development Specialists	\$95,300	3.9%	0.2%
Market Research Analysts and Marketing Specialists	\$110,200	6.7%	0.3%
Business Operations Specialists, All Other	\$98,100	10.6%	0.4%
Accountants and Auditors	\$94,200	22.2%	0.9%
Financial Analysts	\$109,600	10.5%	0.4%
Personal Financial Advisors	\$104,400	14.3%	0.5%
Loan Officers	\$89,100	5.3%	0.2%
All Other Business and Financial Operations Occupations (Avg. All Categories)	<u>\$100,200</u>	<u>16.3%</u>	<u>0.6%</u>
Weighted Mean Annual Wage	\$100,200	100.0%	3.8%
<i>Community and Social Service Occupations</i>			
Substance Abuse and Behavioral Disorder Counselors	\$38,300	4.8%	0.1%
Educational, Guidance, School, and Vocational Counselors	\$69,900	6.1%	0.1%
Mental Health Counselors	\$59,300	8.1%	0.2%
Rehabilitation Counselors	\$44,200	5.9%	0.1%
Child, Family, and School Social Workers	\$52,000	14.1%	0.3%
Healthcare Social Workers	\$77,300	7.7%	0.2%
Mental Health and Substance Abuse Social Workers	\$52,400	6.3%	0.1%
Social and Human Service Assistants	\$42,100	23.5%	0.5%
Community and Social Service Specialists, All Other	\$48,600	4.4%	0.1%
Clergy	\$56,300	4.5%	0.1%
All Other Community and Social Service Occupations (Avg. All Categories)	<u>\$52,300</u>	<u>14.6%</u>	<u>0.3%</u>
Weighted Mean Annual Wage	\$52,300	100.0%	2.2%

RESIDENTIAL NEXUS APPENDIX B TABLE 2
 AVERAGE ANNUAL WORKER COMPENSATION, 2015
 SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA

Occupation ³	2015 Avg. Compensation ¹	% of Total Occupation Group ²	Working Draft % of Total No. of Service Workers
<i>Education, Training, and Library Occupations</i>			
Vocational Education Teachers, Postsecondary	\$56,500	4.8%	0.2%
Preschool Teachers, Except Special Education	\$37,700	13.9%	0.6%
Elementary School Teachers, Except Special Education	\$72,500	5.9%	0.2%
Secondary School Teachers, Except Special and Career/Technical Educatio	\$76,100	4.1%	0.2%
Self-Enrichment Education Teachers	\$47,700	10.7%	0.4%
Teachers and Instructors, All Other, Except Substitute Teachers	\$55,900	7.6%	0.3%
Substitute Teachers	\$40,700	3.1%	0.1%
Teacher Assistants	\$32,700	13.9%	0.6%
All Other Education, Training, and Library Occupations (Avg. All Categories)	<u>\$47,600</u>	<u>35.9%</u>	<u>1.4%</u>
	Weighted Mean Annual Wage	\$47,600	100.0%
<i>Healthcare Practitioners and Technical Occupations</i>			
Pharmacists	\$141,300	4.0%	0.3%
Physicians and Surgeons, All Other	\$153,300	3.9%	0.3%
Physical Therapists	\$103,000	3.5%	0.3%
Registered Nurses	\$123,500	30.9%	2.5%
Dental Hygienists	\$96,500	3.8%	0.3%
Pharmacy Technicians	\$45,900	5.4%	0.4%
Licensed Practical and Licensed Vocational Nurses	\$60,400	8.3%	0.7%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Cate)	<u>\$108,000</u>	<u>40.2%</u>	<u>3.2%</u>
	Weighted Mean Annual Wage	\$108,000	100.0%
<i>Healthcare Support Occupations</i>			
Home Health Aides	\$27,400	22.2%	1.0%
Nursing Assistants	\$35,100	30.0%	1.4%
Massage Therapists	\$44,200	4.9%	0.2%
Dental Assistants	\$44,100	9.9%	0.5%
Medical Assistants	\$44,100	15.8%	0.7%
All Other Healthcare Support Occupations (Avg. All Categories)	<u>\$36,400</u>	<u>17.2%</u>	<u>0.8%</u>
	Weighted Mean Annual Wage	\$36,400	100.0%
<i>Food Preparation and Serving Related Occupations</i>			
First-Line Supervisors of Food Preparation and Serving Workers	\$36,900	6.9%	1.1%
Cooks, Fast Food	\$21,300	4.2%	0.7%
Cooks, Restaurant	\$27,500	8.7%	1.4%
Food Preparation Workers	\$24,400	6.8%	1.1%
Bartenders	\$26,300	6.9%	1.1%
Combined Food Preparation and Serving Workers, Including Fast Food	\$23,000	25.0%	3.9%
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	\$23,100	3.6%	0.6%
Waiters and Waitresses	\$25,500	19.8%	3.1%
Dining Room and Cafeteria Attendants and Bartender Helpers	\$21,300	3.1%	0.5%
Dishwashers	\$20,300	4.0%	0.6%
All Other Food Preparation and Serving Related Occupations (Avg. All Cate)	<u>\$25,200</u>	<u>11.0%</u>	<u>1.7%</u>
	Weighted Mean Annual Wage	\$25,200	100.0%

RESIDENTIAL NEXUS APPENDIX B TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2015
SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
RESIDENTIAL NEXUS ANALYSIS
CITY OF SANTA CLARA, CA

Occupation ³	2015 Avg. Compensation ¹	% of Total Occupation Group ²	Working Draft % of Total No. of Service Workers
<i>Building and Grounds Cleaning and Maintenance Occupations</i>			
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$53,600	3.5%	0.2%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$29,000	45.5%	2.4%
Maids and Housekeeping Cleaners	\$31,100	11.9%	0.6%
Landscaping and Groundskeeping Workers	\$33,400	30.4%	1.6%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Categories)	<u>\$31,700</u>	<u>8.8%</u>	<u>0.5%</u>
Weighted Mean Annual Wage	\$31,700	100.0%	5.2%
<i>Personal Care and Service Occupations</i>			
First-Line Supervisors of Personal Service Workers	\$42,800	3.7%	0.3%
Nonfarm Animal Caretakers	\$32,400	5.7%	0.4%
Hairdressers, Hairstylists, and Cosmetologists	\$24,600	17.6%	1.2%
Manicurists and Pedicurists	\$21,900	4.3%	0.3%
Childcare Workers	\$30,300	12.0%	0.8%
Personal Care Aides	\$26,300	32.7%	2.3%
Fitness Trainers and Aerobics Instructors	\$44,200	5.4%	0.4%
Recreation Workers	\$31,100	4.4%	0.3%
All Other Personal Care and Service Occupations (Avg. All Categories)	<u>\$28,800</u>	<u>14.2%</u>	<u>1.0%</u>
Weighted Mean Annual Wage	\$28,800	100.0%	7.1%
<i>Sales and Related Occupations</i>			
First-Line Supervisors of Retail Sales Workers	\$51,400	9.3%	1.2%
Cashiers	\$26,600	27.2%	3.5%
Counter and Rental Clerks	\$35,600	4.5%	0.6%
Retail Salespersons	\$29,200	35.9%	4.6%
Securities, Commodities, and Financial Services Sales Agents	\$91,800	4.0%	0.5%
Sales Representatives, Services, All Other	\$89,500	4.2%	0.5%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Precious Metals	\$77,000	3.9%	0.5%
Real Estate Sales Agents	\$64,600	2.8%	0.4%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$39,600</u>	<u>8.2%</u>	<u>1.1%</u>
Weighted Mean Annual Wage	\$39,600	100.0%	12.9%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$70,600	6.7%	1.0%
Bookkeeping, Accounting, and Auditing Clerks	\$50,300	7.7%	1.1%
Customer Service Representatives	\$48,200	9.4%	1.4%
Receptionists and Information Clerks	\$36,600	8.8%	1.3%
Stock Clerks and Order Fillers	\$31,300	10.6%	1.6%
Executive Secretaries and Executive Administrative Assistants	\$67,200	3.4%	0.5%
Medical Secretaries	\$48,100	4.4%	0.7%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$45,000	11.5%	1.7%
Office Clerks, General	\$40,900	14.2%	2.1%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$45,700</u>	<u>23.3%</u>	<u>3.4%</u>
Weighted Mean Annual Wage	\$45,700	100.0%	14.8%

**RESIDENTIAL NEXUS APPENDIX B TABLE 2
 AVERAGE ANNUAL WORKER COMPENSATION, 2015
 SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA**

Occupation ³	2015 Avg. Compensation ¹	% of Total Occupation Group ²	Working Draft % of Total No. of Service Workers
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$80,600	7.8%	0.3%
Telecommunications Equipment Installers and Repairers, Except Line Install	\$65,800	3.3%	0.1%
Automotive Body and Related Repairers	\$46,400	7.0%	0.2%
Automotive Service Technicians and Mechanics	\$52,700	21.1%	0.7%
Maintenance and Repair Workers, General	\$47,300	33.5%	1.1%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categor	<u>\$53,200</u>	<u>27.3%</u>	<u>0.9%</u>
Weighted Mean Annual Wage	\$53,200	100.0%	3.4%
<i>Transportation and Material Moving Occupations</i>			
Bus Drivers, School or Special Client	\$38,000	5.5%	0.2%
Driver/Sales Workers	\$34,400	7.8%	0.3%
Heavy and Tractor-Trailer Truck Drivers	\$47,200	11.7%	0.5%
Light Truck or Delivery Services Drivers	\$39,300	10.6%	0.5%
Taxi Drivers and Chauffeurs	\$29,300	3.6%	0.2%
Parking Lot Attendants	\$21,500	9.3%	0.4%
Automotive and Watercraft Service Attendants	\$25,700	3.0%	0.1%
Cleaners of Vehicles and Equipment	\$25,800	8.6%	0.4%
Laborers and Freight, Stock, and Material Movers, Hand	\$31,700	19.9%	0.9%
Packers and Packagers, Hand	\$25,300	6.9%	0.3%
All Other Transportation and Material Moving Occupations (Avg. All Categor	<u>\$32,900</u>	<u>13.3%</u>	<u>0.6%</u>
Weighted Mean Annual Wage	\$32,900	100.0%	4.3%
			<hr/> <hr/> 89.9%

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

² Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Santa Clara County updated by the California Employment Development Department to 2015 wage levels.

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

**RESIDENTIAL NEXUS APPENDIX B TABLE 3
 WORKER OCCUPATION DISTRIBUTION, 2014
 SERVICES TO HOUSEHOLDS EARNING \$150K+, RESIDENT SERVICES
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA**

Working Draft

Major Occupations (2% or more)	Worker Occupation Distribution¹ Services to Households Earning \$150,000 and up
Management Occupations	4.1%
Business and Financial Operations Occupations	4.0%
Community and Social Service Occupations	2.2%
Education, Training, and Library Occupations	5.6%
Healthcare Practitioners and Technical Occupations	7.0%
Healthcare Support Occupations	4.1%
Food Preparation and Serving Related Occupations	14.7%
Building and Grounds Cleaning and Maintenance Occupations	5.3%
Personal Care and Service Occupations	7.2%
Sales and Related Occupations	13.0%
Office and Administrative Support Occupations	14.7%
Installation, Maintenance, and Repair Occupations	3.3%
Transportation and Material Moving Occupations	4.5%
All Other Worker Occupations - Services to Households Earning \$150,000 and up	<u>10.3%</u>
INDUSTRY TOTAL	100.0%

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

RESIDENTIAL NEXUS APPENDIX B TABLE 4
 AVERAGE ANNUAL WORKER COMPENSATION, 2015
 SERVICES TO HOUSEHOLDS EARNING \$150,000 AND UP
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA

Occupation ³	2015 Avg. Compensation ¹	Working Draft	
		% of Total Occupation Group ²	% of Total No. of Service Workers
Page 1 of 4			
<i>Management Occupations</i>			
Chief Executives	\$232,600	3.3%	0.1%
General and Operations Managers	\$157,600	34.7%	1.4%
Sales Managers	\$167,900	4.5%	0.2%
Administrative Services Managers	\$122,400	4.2%	0.2%
Financial Managers	\$168,700	9.2%	0.4%
Food Service Managers	\$57,200	5.6%	0.2%
Medical and Health Services Managers	\$159,700	6.0%	0.2%
Property, Real Estate, and Community Association Managers	\$74,600	8.5%	0.3%
Social and Community Service Managers	\$79,300	4.3%	0.2%
All other Management Occupations (Avg. All Categories)	<u>\$140,800</u>	<u>19.7%</u>	<u>0.8%</u>
	Weighted Mean Annual Wage	\$140,800	100.0%
<i>Business and Financial Operations Occupations</i>			
Human Resources Specialists	\$89,400	5.0%	0.2%
Management Analysts	\$111,500	5.2%	0.2%
Training and Development Specialists	\$95,300	4.3%	0.2%
Market Research Analysts and Marketing Specialists	\$110,200	6.6%	0.3%
Business Operations Specialists, All Other	\$98,100	10.9%	0.4%
Accountants and Auditors	\$94,200	21.8%	0.9%
Financial Analysts	\$109,600	10.4%	0.4%
Personal Financial Advisors	\$104,400	14.2%	0.6%
Loan Officers	\$89,100	5.2%	0.2%
All Other Business and Financial Operations Occupations (Avg. All Categories)	<u>\$100,200</u>	<u>16.4%</u>	<u>0.6%</u>
	Weighted Mean Annual Wage	\$100,200	100.0%
<i>Community and Social Service Occupations</i>			
Substance Abuse and Behavioral Disorder Counselors	\$38,300	4.4%	0.1%
Educational, Guidance, School, and Vocational Counselors	\$69,900	8.0%	0.2%
Mental Health Counselors	\$59,300	7.6%	0.2%
Rehabilitation Counselors	\$44,200	5.8%	0.1%
Child, Family, and School Social Workers	\$52,000	14.6%	0.3%
Healthcare Social Workers	\$77,300	7.0%	0.2%
Mental Health and Substance Abuse Social Workers	\$52,400	5.8%	0.1%
Social and Human Service Assistants	\$42,100	23.5%	0.5%
Community and Social Service Specialists, All Other	\$48,600	4.5%	0.1%
Clergy	\$56,300	4.5%	0.1%
All Other Community and Social Service Occupations (Avg. All Categories)	<u>\$52,500</u>	<u>14.5%</u>	<u>0.3%</u>
	Weighted Mean Annual Wage	\$52,500	100.0%

RESIDENTIAL NEXUS APPENDIX B TABLE 4
 AVERAGE ANNUAL WORKER COMPENSATION, 2015
 SERVICES TO HOUSEHOLDS EARNING \$150,000 AND UP
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA

Occupation ³	2015 Avg. Compensation ¹	% of Total Occupation Group ²	Working Draft % of Total No. of Service Workers
<i>Education, Training, and Library Occupations</i>			
Vocational Education Teachers, Postsecondary	\$56,500	5.0%	0.3%
Preschool Teachers, Except Special Education	\$37,700	13.3%	0.7%
Elementary School Teachers, Except Special Education	\$72,500	5.7%	0.3%
Secondary School Teachers, Except Special and Career/Technical Education	\$76,100	4.0%	0.2%
Self-Enrichment Education Teachers	\$47,700	10.5%	0.6%
Teachers and Instructors, All Other, Except Substitute Teachers	\$55,900	7.7%	0.4%
Substitute Teachers	\$40,700	3.0%	0.2%
Teacher Assistants	\$32,700	13.3%	0.7%
All Other Education, Training, and Library Occupations (Avg. All Categories)	<u>\$47,800</u>	<u>37.5%</u>	<u>2.1%</u>
	Weighted Mean Annual Wage	100.0%	5.6%
<i>Healthcare Practitioners and Technical Occupations</i>			
Pharmacists	\$141,300	4.5%	0.3%
Physicians and Surgeons, All Other	\$153,300	3.8%	0.3%
Physical Therapists	\$103,000	3.4%	0.2%
Registered Nurses	\$123,500	30.2%	2.1%
Dental Hygienists	\$96,500	3.6%	0.3%
Pharmacy Technicians	\$45,900	6.1%	0.4%
Licensed Practical and Licensed Vocational Nurses	\$60,400	8.1%	0.6%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories)	<u>\$107,500</u>	<u>40.3%</u>	<u>2.8%</u>
	Weighted Mean Annual Wage	100.0%	7.0%
<i>Healthcare Support Occupations</i>			
Home Health Aides	\$27,400	23.5%	1.0%
Nursing Assistants	\$35,100	29.3%	1.2%
Massage Therapists	\$44,200	4.9%	0.2%
Dental Assistants	\$44,100	9.6%	0.4%
Medical Assistants	\$44,100	15.2%	0.6%
All Other Healthcare Support Occupations (Avg. All Categories)	<u>\$36,200</u>	<u>17.5%</u>	<u>0.7%</u>
	Weighted Mean Annual Wage	100.0%	4.1%
<i>Food Preparation and Serving Related Occupations</i>			
First-Line Supervisors of Food Preparation and Serving Workers	\$36,900	6.9%	1.0%
Cooks, Fast Food	\$21,300	4.1%	0.6%
Cooks, Restaurant	\$27,500	8.6%	1.3%
Food Preparation Workers	\$24,400	6.9%	1.0%
Bartenders	\$26,300	7.0%	1.0%
Combined Food Preparation and Serving Workers, Including Fast Food	\$23,000	25.0%	3.7%
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	\$23,100	3.7%	0.5%
Waiters and Waitresses	\$25,500	19.6%	2.9%
Dining Room and Cafeteria Attendants and Bartender Helpers	\$21,300	3.2%	0.5%
Dishwashers	\$20,300	4.0%	0.6%
All Other Food Preparation and Serving Related Occupations (Avg. All Categories)	<u>\$25,200</u>	<u>11.1%</u>	<u>1.6%</u>
	Weighted Mean Annual Wage	100.0%	14.7%

RESIDENTIAL NEXUS APPENDIX B TABLE 4
 AVERAGE ANNUAL WORKER COMPENSATION, 2015
 SERVICES TO HOUSEHOLDS EARNING \$150,000 AND UP
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA

Occupation ³	2015 Avg. Compensation ¹	% of Total Occupation Group ²	Working Draft % of Total No. of Service Workers
<i>Building and Grounds Cleaning and Maintenance Occupations</i>			
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$53,600	3.5%	0.2%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$29,000	46.1%	2.4%
Maids and Housekeeping Cleaners	\$31,100	11.0%	0.6%
Landscaping and Groundskeeping Workers	\$33,400	30.5%	1.6%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All C	<u>\$31,700</u>	<u>8.9%</u>	<u>0.5%</u>
Weighted Mean Annual Wage	\$31,700	100.0%	5.3%
<i>Personal Care and Service Occupations</i>			
First-Line Supervisors of Personal Service Workers	\$42,800	3.7%	0.3%
Nonfarm Animal Caretakers	\$32,400	6.0%	0.4%
Hairdressers, Hairstylists, and Cosmetologists	\$24,600	15.3%	1.1%
Manicurists and Pedicurists	\$21,900	3.7%	0.3%
Childcare Workers	\$30,300	15.2%	1.1%
Personal Care Aides	\$26,300	31.5%	2.3%
Fitness Trainers and Aerobics Instructors	\$44,200	5.8%	0.4%
Recreation Workers	\$31,100	4.4%	0.3%
All Other Personal Care and Service Occupations (Avg. All Categories)	<u>\$29,100</u>	<u>14.4%</u>	<u>1.0%</u>
Weighted Mean Annual Wage	\$29,100	100.0%	7.2%
<i>Sales and Related Occupations</i>			
First-Line Supervisors of Retail Sales Workers	\$51,400	9.4%	1.2%
Cashiers	\$26,600	27.2%	3.5%
Counter and Rental Clerks	\$35,600	4.2%	0.5%
Retail Salespersons	\$29,200	36.2%	4.7%
Securities, Commodities, and Financial Services Sales Agents	\$91,800	4.1%	0.5%
Sales Representatives, Services, All Other	\$89,500	4.2%	0.5%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scier	\$77,000	3.9%	0.5%
Real Estate Sales Agents	\$64,600	2.5%	0.3%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$39,600</u>	<u>8.2%</u>	<u>1.1%</u>
Weighted Mean Annual Wage	\$39,600	100.0%	13.0%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$70,600	6.6%	1.0%
Bookkeeping, Accounting, and Auditing Clerks	\$50,300	7.8%	1.1%
Customer Service Representatives	\$48,200	9.5%	1.4%
Receptionists and Information Clerks	\$36,600	8.3%	1.2%
Stock Clerks and Order Fillers	\$31,300	10.8%	1.6%
Executive Secretaries and Executive Administrative Assistants	\$67,200	3.6%	0.5%
Medical Secretaries	\$48,100	3.8%	0.6%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$45,000	11.9%	1.7%
Office Clerks, General	\$40,900	14.5%	2.1%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$45,700</u>	<u>23.3%</u>	<u>3.4%</u>
Weighted Mean Annual Wage	\$45,700	100.0%	14.7%

RESIDENTIAL NEXUS APPENDIX B TABLE 4
 AVERAGE ANNUAL WORKER COMPENSATION, 2015
 SERVICES TO HOUSEHOLDS EARNING \$150,000 AND UP
 RESIDENTIAL NEXUS ANALYSIS
 CITY OF SANTA CLARA, CA

Occupation ³	2015 Avg. Compensation ¹	% of Total Occupation Group ²	Working Draft % of Total No. of Service Workers
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$80,600	7.8%	0.3%
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$65,800	2.8%	0.1%
Automotive Body and Related Repairers	\$46,400	6.8%	0.2%
Automotive Service Technicians and Mechanics	\$52,700	20.9%	0.7%
Maintenance and Repair Workers, General	\$47,300	33.2%	1.1%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	<u>\$53,100</u>	<u>28.5%</u>	<u>0.9%</u>
Weighted Mean Annual Wage	\$53,100	100.0%	3.3%
<i>Transportation and Material Moving Occupations</i>			
Bus Drivers, School or Special Client	\$38,000	6.6%	0.3%
Driver/Sales Workers	\$34,400	7.3%	0.3%
Heavy and Tractor-Trailer Truck Drivers	\$47,200	11.7%	0.5%
Light Truck or Delivery Services Drivers	\$39,300	10.4%	0.5%
Taxi Drivers and Chauffeurs	\$29,300	3.8%	0.2%
Parking Lot Attendants	\$21,500	9.6%	0.4%
Automotive and Watercraft Service Attendants	\$25,700	2.7%	0.1%
Cleaners of Vehicles and Equipment	\$25,800	8.0%	0.4%
Laborers and Freight, Stock, and Material Movers, Hand	\$31,700	19.5%	0.9%
Packers and Packagers, Hand	\$25,300	6.8%	0.3%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	<u>\$33,000</u>	<u>13.5%</u>	<u>0.6%</u>
Weighted Mean Annual Wage	\$33,000	100.0%	4.5%
			89.7%

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 2014 Occupational Employment Survey data applicable to Santa Clara County updated by the California Employment Development Department to 2015 wage levels.

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



KEYSER MARSTON ASSOCIATES

ATTACHMENT B

NON-RESIDENTIAL NEXUS ANALYSIS

Prepared for
County of Santa Clara

Prepared by:
Keyser Marston Associates, Inc.

December 2016

TABLE OF CONTENTS

- I. INTRODUCTION 1**
 - Purpose 1
 - Analysis Scope 2
 - Report Organization..... 3
 - Data Sources and Qualifications 3
- II. THE NEXUS CONCEPT 4**
 - Background 4
 - The Nexus Methodology 4
 - Discount for Changing Industries 5
 - Other Factors and Assumptions..... 6
- III. JOBS HOUSING NEXUS ANALYSIS 7**
 - Analysis Approach and Framework..... 7
 - Household Income Limits..... 7
 - Analysis Steps 7
 - Summary by Income Level 11
 - Summary by Square Foot Building Area 12
- IV. TOTAL HOUSING NEXUS COSTS.....21**
 - County Assisted Affordable Unit Prototypes.....21
 - Development Costs22
 - Unit Values22
 - Affordability Gap23
 - Maximum Fees to Mitigate Impacts.....24
 - Conservative Assumptions25

- Appendix A: Discussion of Various Factors in Relation to Nexus Concept 33**
- Appendix B: Supporting Nexus Tables 37**
- Appendix C: Non-Duplication between Potential Residential and Non-Residential Impact Fee Programs 55**

I. INTRODUCTION

The following report is a Jobs Housing Nexus Analysis, an analysis of the linkages between non-residential development and the need for additional affordable housing in Santa Clara County. This Jobs Housing Nexus Analysis has been prepared in support of affordable housing impact fees that may be levied on non-residential development. The report has been prepared by Keyser Marston Associates, Inc. (KMA) for Santa Clara County, pursuant to contracts both parties have with the Silicon Valley Community Foundation.

The analysis was prepared as part of a coordinated work program for twelve jurisdictions in Santa Clara and Alameda Counties. Silicon Valley Community Foundation with Baird + Driskell Community Planners organized and facilitated this multi-jurisdiction effort. Silicon Valley Community Foundation, which engaged KMA to prepare the analyses, serves as the main contracting entity with each participating jurisdiction, and has provided funding support for coordination and administration of the effort. Analyses in support of affordable housing impact fees on residential development were also prepared as part of the multi-jurisdiction work program.

The County of Santa Clara has always been a participant in countywide efforts to support an increase in the supply of affordable housing. In the future, the County is considering an increased role by adopting measure to generate additional revenues to help assist in the development of affordable projects. To that end, the County is considering affordable housing impact fees on both residential and non-residential. The nexus analysis contained in this report will provide documentation enabling the County to adopt a fee on non-residential development.

Purpose

The purpose of a Jobs-Housing Nexus Analysis is to quantify and document the impact of the development of new workplace buildings (commercial and industrial) and the employees that work in them, on the demand for affordable housing. Because jobs in all buildings cover a range of compensation levels, there are housing needs at all affordability levels. This analysis quantifies the need for lower and moderate income housing created by each type of workplace building.

The analysis may be used as the foundation for enacting an affordable housing impact fee or “commercial linkage fee” to be levied on non-residential development in Santa Clara County. The conclusions of the analysis represent maximum supportable impact fee levels based on the impact of new non-residential development on the need for affordable housing. Findings are not recommended fee levels. The County is free to take a range of policy considerations into account in setting fees anywhere below the maximums identified in this report.

The relationships established in this analysis may also be useful for other applications such as negotiation of an affordable housing component as part of a development agreement for a large commercial project.

Analysis Scope

This analysis examines five types of workplace buildings, per direction of County staff.

- Office, which includes traditional office users such as law firms, accountants, real estate and insurance agencies, as well as high tech, research & development (R&D), and medical office space.
- Hotel, which covers the range from full service hotels to minimum service extended stay lodging.
- Retail, which includes all types of retail, restaurants, and personal services.
- Light Industrial, which includes light manufacturing and maintenance and repair industries, such as auto service and body repair businesses. This category also includes research & development, to reflect the fact that some R&D occurs in light industrial-type buildings instead of in office buildings.
- Warehouse, or large structures primarily devoted to storage, typically with a small amount of office space.

The household income categories addressed in the analysis are:

- Extremely Low Income: households earning up to 30% Area Median Income (AMI);
- Very Low Income: households earning over 30% AMI up to 50% of AMI;
- Low Income: households earning over 50% AMI up to 80% of AMI; and,
- Moderate Income: households earning over 80% AMI up to 120% of AMI.

Report Organization

The report is organized into four sections and three appendices, as follows:

- Section I provides an introduction and describes the purpose and organization of this report.
- Section II presents a summary of the nexus concept and some of the key issues and underlying assumptions in the analyses linking jobs and housing demand.
- Section III presents an analysis of the jobs and housing relationships associated with each workplace building type and concludes with a quantification of the number of households at each income level associated with each building type.
- Section IV contains a summary of the costs of delivering housing units affordable to households at the income levels under study, allocated to each square foot of building area, and provides the conclusions regarding maximum supported fee levels.
- Appendix A provides a discussion of various specific factors and assumptions in relation to the nexus concept to supplement the overview provided in Section II.
- Appendix B contains support information on worker occupations and incomes and an identification of the industry categories represented within each building type.
- Appendix C provides an analysis to address the potential for overlap between jobs counted in the Residential and Non-Residential Nexus Analyses.

Data Sources and Qualifications

The analyses in this report have been prepared using the best and most recent data available. Local and current data were used whenever possible. Sources such as the American Community Survey of the U.S. Census, the 2010 Census, Bureau of Labor Statistics and California Employment Department (EDD) data were used extensively. Other sources and analyses used are noted in the text and footnotes. While we believe all sources utilized are sufficiently accurate for the purposes of the analyses, we cannot guarantee their accuracy. KMA assumes no liability for information from these or other sources.

II. THE NEXUS CONCEPT

This section outlines the nexus concept and some of the key issues surrounding the impact of new non-residential development on the demand for affordable housing units in Santa Clara County. The nexus analysis and discussion focus on the relationships among development, growth, employment, income of workers and demand for affordable housing. The analysis describes the impact of new construction of workplace buildings and the need for additional affordable housing, quantified both in terms of number of units and the justified fee to provide those affordable units.

Background

The first jobs-housing linkage fee programs were adopted by the cities of San Francisco and Boston in the mid-1980s. To support the fees, the City of San Francisco commissioned an early version of a nexus analysis.

In 1987, the California legislature enacted AB 1600, the Mitigation Fee Act, which requires local agencies proposing an impact fee on a development project to identify the purpose and use of the fee, and to determine that there is a reasonable relationship between the fee's use and the development project on which the fee is imposed. The local agency must also demonstrate that there is a reasonable relationship between the fee amount and the cost of mitigating the problem that the fee addresses. Studies by local governments designed to fulfill the requirements of AB 1600 are often referred to as "nexus" studies. While commercial linkage fees for affordable housing are not clearly "fees" as defined by the Mitigation Fee Act, the methodology and findings specified by the Act are appropriate for any nexus study.

Commercial linkage fees were upheld in *Commercial Builders of Northern California v. City of Sacramento*. Commercial builders in Sacramento sued the City following the City's adoption of a housing linkage fee. Both the U.S. District Court and the Ninth Circuit Court of Appeals upheld the commercial linkage fees adopted by the City of Sacramento. The Supreme Court of the United States denied the builders' petition to hear the case, allowing the ruling of the Ninth Circuit to stand.

The Nexus Methodology

An overview of the basic nexus concept and methodology is helpful to understand the discussion and concepts presented in this section. The nexus analysis links new commercial buildings with new workers; these workers demand additional housing in proximity to the jobs, a portion of which needs to be affordable to the workers in lower income households.

Below is a description of the major calculations of the analysis. For analysis purposes, buildings of 100,000 square feet are assumed and then the following calculations are made:

- The total number of employees working in the building is estimated based on average employment density data.
- Occupation and income information for typical job types in the building is used to calculate how many of those jobs pay compensation at the various income levels (Extremely Low, Very Low, Low, and Moderate) addressed in the analysis. Compensation data is from the California Employment Development Department (EDD) and is specific to Santa Clara County. Worker occupations by building type are derived from the 2014 Occupational Employment Survey by the U.S. Bureau of Labor Statistics and weighted to reflect the industry mix in Santa Clara County.
- Census data indicate that many workers are members of households where more than one person is employed and that there is a range of household sizes; factors derived from the Census are used to translate the workers in the building into Extremely Low, Very Low, Low, and Moderate-income households of various sizes.
- Then, the Extremely Low, Very Low-, Low- and Moderate-Income households are divided by the building size to arrive at the number of housing units per square foot of building area, for each income category.
- In the last step, the number of households per square foot in each income category is multiplied by the costs of delivering housing units affordable to these income groups.

Discount for Changing Industries

The local economy, like that of the U.S. as a whole, is constantly evolving, with job losses in some sectors and job growth in others. Over the past decade employment in manufacturing sectors of the local economy have declined along with governmental employment, farming, construction and financial activities employment. Jobs lost over the last decade in these declining sectors were replaced by job growth in other industry sectors.

The analysis makes an adjustment to take these declines, changes and shifts within all sectors of the economy into account, recognizing that jobs added are not 100% net new in all cases. A 20% adjustment is utilized based on the long term shifts in employment that have occurred in some sectors of the local economy and the likelihood of continuing changes in the future. Long term declines in employment experienced in some sectors of the economy mean that some of the new jobs are being filled by workers that have been displaced from another industry and who are presumed to already have housing locally. The analysis makes the assumption that existing workers downsized from declining industries are available to fill a portion of jobs in new workplace buildings built in Santa Clara County.

The 20% downward adjustment used for purposes of the analysis was derived from California Employment Development Department data on employment by industry in the San Jose-Sunnyvale-Santa Clara and Oakland-Hayward-Berkeley Metropolitan Districts, where the jurisdictions included in the multi-jurisdiction nexus effort are located. Over the ten-year period

from 2005 to 2015, approximately 55,000 jobs were lost in declining industry sectors. Over the same period, growing and stable industries added a total of 268,000 jobs. The figures are used to establish a ratio between jobs lost in declining industries to jobs gained in growing and stable industries at 20%¹. The 20% factor is applied as an adjustment in the analysis, effectively assuming one in every five new jobs is filled by a worker down-sized from a declining industry and who already lives locally.

The discount for changing industries represents a conservative assumption because many displaced workers may exit the workforce entirely by retiring. In addition, development of new workspace buildings will typically occur only to the extent there is positive net demand after re-occupancy of buildings vacated by businesses in declining sectors of the economy. To the extent existing buildings are re-occupied, the discount for changing industries is unnecessary because new buildings would represent net new growth in employment. The 20% adjustment is conservative in that it is mainly necessary to cover a special case in which buildings vacated by declining industries cannot be readily occupied by other users due to their special purpose nature or because of obsolescence.

Other Factors and Assumptions

Appendix A provides a discussion of other specific factors in relation to the nexus concept including housing needs of the existing population, multiplier effects (indirect and induced jobs), and economic cycles.

¹ The 20% ratio is calculated as 55,000 jobs lost in declining sectors excluding defense divided by 268,000 jobs gained in growing and stable sectors = 20.5% (rounded to 20%).

III. JOBS HOUSING NEXUS ANALYSIS

This section presents a summary of the analysis linking the development of the five types of workplace buildings to the estimated number of lower income housing units required in each of four income categories. This section should not be read or reproduced without the narrative presented in the previous sections.

Analysis Approach and Framework

The analysis establishes the jobs housing nexus for individual commercial land use categories, quantifying the connection between employment growth in Santa Clara County and affordable housing demand.

The analysis examines the employment associated with the development of workplace building prototypes. Then, through a series of steps, the number of employees is converted to households and housing units by income level. The findings are expressed in terms of numbers of households per 100,000 square feet, for ease of presentation. In the final step, we convert the numbers of households for an entire building to the number of households per square foot.

Household Income Limits

The analysis estimates demand for affordable housing in four household income categories: Extremely Low, Very Low, Low and Moderate Income. Household incomes for these affordability categories are published by the California Department of Housing and Community Development (HCD). The income limits are shown below.

2016 Income Limits for Santa Clara County

	Household Size (Persons)					
	1	2	3	4	5	6 +
Extr. Low (Under 30% AMI)	\$23,450	\$26,800	\$30,150	\$33,500	\$36,200	\$38,900
Very Low (30%-50% AMI)	\$39,100	\$44,650	\$50,250	\$55,800	\$60,300	\$64,750
Low (50%-80% AMI)	\$59,400	\$67,900	\$76,400	\$84,900	\$91,650	\$98,450
Moderate (80%-120% AMI)	\$89,950	\$102,800	\$115,650	\$128,500	\$138,800	\$149,050
Median (100% of Median)	\$74,950	\$85,700	\$96,400	\$107,100	\$115,650	\$124,250

Source: California Department of Housing and Community Development.

Analysis Steps

The analysis is conducted using a model that KMA has developed for application in many jurisdictions for which the firm has conducted similar analyses. The model inputs are all local data to the extent possible, and are fully documented.

Tables 1 through 4 at the end of this section summarize the nexus analysis steps for the five building types. Following is a description of each step of the analysis:

Step 1 – Estimate of Total New Employees

The first step in Table 1 identifies the total number of direct employees who will work in the building type being analyzed. Average employment density factors are used to make the calculation.

The employment density estimates are drawn from several sources, including local information, KMA experience in other jurisdictions, some survey data, and other sources, tailored to the character of development in Santa Clara County and the types of tenancies expected in the commercial buildings in the County.

- *Office* – 300 square feet per employee. This represents an average of a range that includes traditional office uses, high tech activities, research & development (R&D) space, and medical offices. There is some variation within this range, with high tech at the high end and some R&D and medical office at the lower end.
- *Retail* – 400 square feet per employee. This reflects a mix of retail and restaurant space and also a whole range of personal services. Restaurant space typically has a higher employment density, while retail space ranges widely depending on the type of retail, with furniture stores, for example, representing the lower end. The density range within this category is wide, with some types of retail as much as five times as dense as other types.
- *Hotel* – 800 square feet per employee. The 800 square feet per employee average covers a range from higher service hotels, which are far more employment intensive, to minimal service extended stay hotels which have very low employment density.
- *Light Industrial* – 400 square feet per employee. This density covers flex space, typically leased to a mix of office, light manufacturing, R&D and storage uses. This designation may also be applied to auto related servicing and other activities of a semi-industrial character.
- *Warehouse* – 2,000 square feet per employee. This reflects that the primary activity in the building is assumed to be storage. A small amount of office or administrative space is assumed within warehouse structures. The warehouse category, for fee purposes, is often defined as structures over a threshold size, such as 50,000 square feet. Also some cities use this category to cover heavy manufacturing when the density of employment is similarly low.

KMA conducted the analysis on 100,000 square foot buildings. This facilitates the presentation of the nexus findings, as it allows jobs and housing units to be presented in whole numbers that can be more readily understood. At the conclusion of the analysis, the findings are divided by building size to express the linkages per square foot, so that the findings can be applied to buildings of any size.

Step 2 – Adjustment for Changing Industries

This step is an adjustment to take into account any declines, changes and shifts within all sectors of the economy and to recognize that new space is not always 100% equivalent to net new employees. A 20% downward adjustment is utilized to recognize long-term employment shifts and the likelihood of continuing changes in the local economy (see Section II discussion).

Step 3 – Adjustment from Employees to Employee Households

This step (Table 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 equation all non-working households, such as retired persons and students.

The number of workers per household in a given geographic area is a function of household size, labor force participation rate and employment availability, as well as other factors. According to the 2011-2013 ACS, the number of workers per worker household in Santa Clara County was 1.72, including full- and part-time workers. The total number of jobs created is divided by 1.72 to determine the number of new households. This is a conservative estimate because it excludes all non-worker households (such as students and the retired). If the average number of workers in all households was used, it would have produced a greater demand for housing units.

Step 4 – Occupational Distribution of Employees

Estimating the occupational breakdown of employees is the first step to arrive at income levels. The Bureau of Labor Statistics publishes data on the distribution of occupations within industries. The industries included in the analysis vary by building type.

- For office buildings, the mix of industries was customized based on employment by industry sector in Santa Clara County using California Employment Development Department (EDD) data. This category is inclusive of research and development, software development firms and other high tech users, medical and dental offices along with small firms such as realtors, insurance agents, employment services, legal and business services.
- For retail space, the industries include a mix of retail, restaurant and personal service uses tailored to Santa Clara County based on current employment levels reported by EDD.
- For hotel buildings, the industry includes Hotels, Motels and other accommodations, excluding casino hotels.

- For light industrial buildings, the industries include light manufacturing, research and development, and automotive and other maintenance and repair services. The categories are weighted to reflect the mix of these industries within Santa Clara County.
- For warehouse buildings, the applicable industry category is Warehouse & Storage.

Once the industries are selected, the May 2014 National Industry-Specific Occupational Estimates, published by the Bureau of Labor Statistics (BLS), are used to translate industries to occupations. At the end of this step, the occupational composition of employees in the five types of buildings has been estimated. The occupational compositions that reflect the expected mix of activities in the new buildings are presented in the tables in Appendix B.

- Office employment in Santa Clara County includes a range of computer and mathematical (23%), administrative support (21%), business and financial (11%), and management occupations (9%), among others.
- Retail employment consists of predominantly food preparation and serving occupations (41%) and sales related occupations (32%), with office and administrative support occupations making up an additional 9%.
- Hotels employ workers primarily from three main occupation categories: building and grounds cleaning and maintenance (maid service, etc.), food preparation and serving related, and office and administrative support, which together make up 77% of Hotel workers. Other Hotel occupations include personal care, management, sales, production and maintenance and repair.
- Light industrial occupations consist of scientific occupations (15%), production jobs (15%), maintenance and repair jobs (11%), office and administrative (11%), and others.
- Warehouse workers are largely engaged in transportation and material moving (60%), followed by office and administrative support.

The results of Step #4 are shown on Table 1 at the end of this section; the table shows both the percentage of total employee households and the number of employee households in the prototype buildings.

Step 5 – Estimated Employee Household Income

In this step, occupations are translated to employee incomes based on recent Santa Clara County wage and salary information from EDD. The wage and salary information summarized in the tables in Appendix B provided the income inputs to the analysis. Worker compensation used in the analysis assumes full time employment (40 hours per week) based on EDD's convention for reporting annual compensation.

In the even numbered Appendix B tables, EDD 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. 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 occupations with the lowest compensation levels are in Retail and Hotel buildings.

The calculation is performed for each possible combination of household size and number of workers in the household. For households with more than one worker, individual *employee* income data was used to calculate the household income by assuming multiple earner households are, on average, formed of individuals with similar incomes. The model recognizes that many, but not all households have multiple incomes.

Step 6 – Distribution of Household Size and Number of Workers

In this step, the model examines the demographics of Santa Clara County in order to identify the percentage of households applicable to each potential combination of household size and number of workers. Percentages are calculated using data from the 2011-2013 American Community Survey. This data enables the analysis to account for the following:

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

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

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

This is the final step to calculate the number of worker households meeting the size and income criteria for the four affordability tiers. The calculation combines the matrix of results from Step 5 on percentage of worker households that would meet the income criteria at each potential household size/number of workers combination, with Step 6, the percentage of worker households that have each given household size/number of workers combination. The result is the percentage of households that fall into each affordability tier. The percentages are then multiplied by the number of households from Step 3 to arrive at the number of households in each affordability tier.

Table 2-A shows the results after completing Steps 5, 6, and 7 for the Extremely Low Income Tier. The methodology is repeated for each of the lower income tiers (Tables 2-B, 2-C, and 2-D), resulting in a total count of worker households per 100 units.

Summary by Income Level

Table 3 at the end of this section indicates the results of the analysis for each of the five building types, for all of the income categories. The table presents the number of households in each

affordability category, the total number up to 120% of median, and the remaining households earning over 120% of median associated with a 100,000 square foot building.

The findings in Table 3 are summarized below:

New Worker Households by Income Level per 100,000 square feet

	Office	Retail	Hotel	Light Industrial	Warehouse
Extremely Low (0%-30% AMI)	2.6	36.0	15.1	6.5	3.7
Very Low Income (30%-50% AMI)	12.0	40.8	19.6	16.7	7.3
Low Income (50%-80% AMI)	22.0	26.2	13.7	22.1	6.2
Moderate Income (80%-120% AMI)	30.7	8.5	6.2	23.5	3.9
Subtotal through 120% AMI	67.3	111.5	54.6	68.8	21.2
Above Moderate (over 120% AMI)	88.0	5.0	3.6	47.6	2.1
Total	155.3	116.5	58.2	116.5	23.3

The table below summarizes the percentage of total new worker households that falls into each income category. As indicated, over 90% of Retail / Restaurant, Hotel and Warehouse worker households are below the 120% of median income level. By contrast, in Office buildings, only approximately 40% of worker households fall below 120% of the median.

Nexus Analysis Result: Affordable Housing Need by Income Tier

	Office	Retail	Hotel	Light Industrial	Warehouse
Extremely Low (0%-30% AMI)	1.7%	30.9%	26.0%	5.6%	15.9%
Very Low Income (30%-50% AMI)	7.7%	35.0%	33.6%	14.4%	31.5%
Low Income (50%-80% AMI)	14.2%	22.5%	23.5%	19.0%	26.8%
Moderate Income (80%-120% AMI)	19.8%	7.3%	10.7%	20.2%	16.7%
Subtotal through 120% AMI	43.4%	95.7%	93.8%	59.1%	90.9%
Above Moderate (over 120% AMI)	56.6%	4.3%	6.2%	40.9%	9.1%
Total	100%	100%	100%	100%	100%

Summary by Square Foot Building Area

The analysis thus far has used 100,000 square foot buildings. In this step, the conclusions are translated to households per square foot by income level (see Table 4).

For example, for office buildings, household generation per square foot is as follows:

New Worker Households Per Square Foot of New Office Space	
Extremely Low (0%-30% AMI)	0.00002634
Very Low Income (30%-50% AMI)	0.00012013
Low Income (50%-80% AMI)	0.00022013
Moderate Income (80%-120% AMI)	0.00030683
Total, Less than 120% AMI	0.00067343

This is the summary of the housing nexus analysis, or the linkage from buildings to employees to housing demand, by income level. We believe that it is a conservative approximation that most likely understates the households at each income level generated by these building types.

TABLE 1
NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION BY BUILDING TYPE
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA

<i>Per 100,000 Sq.Ft. of Building Area</i>	Office	Retail	Hotel	Light Industrial	Warehouse
Step 1 - Estimate of Number of Employees					
Employment Density (SF/Employee)	300	400	800	400	2,000
Number of Employees Per 100,000 SF Building A	333	250	125	250	50
Step 2 - Net New Employees after Declining Industries Adjustment (20%)	267	200	100	200	40
Step 3 - Adjustment for Number of Households (1.72)	155.3	116.5	58.2	116.5	23.3
Step 4 - Occupation Distribution ⁽¹⁾					
Management Occupations	9.0%	2.3%	4.5%	8.8%	3.5%
Business and Financial Operations	11.2%	0.5%	1.5%	6.4%	2.0%
Computer and Mathematical	23.4%	0.1%	0.1%	7.1%	0.5%
Architecture and Engineering	4.9%	0.0%	0.0%	9.5%	0.2%
Life, Physical, and Social Science	2.8%	0.0%	0.0%	15.2%	0.0%
Community and Social Services	0.2%	0.0%	0.0%	0.3%	0.0%
Legal	1.9%	0.0%	0.0%	0.3%	0.0%
Education, Training, and Library	1.1%	0.0%	0.0%	0.4%	0.0%
Arts, Design, Entertainment, Sports, and Media	2.7%	0.4%	0.3%	1.1%	0.1%
Healthcare Practitioners and Technical	4.2%	1.9%	0.0%	1.6%	0.1%
Healthcare Support	2.4%	0.3%	0.5%	0.4%	0.0%
Protective Service	0.3%	0.3%	1.6%	0.3%	0.7%
Food Preparation and Serving Related	0.2%	40.7%	24.7%	0.5%	0.1%
Building and Grounds Cleaning and Maint.	0.9%	0.7%	31.9%	0.6%	1.0%
Personal Care and Service	0.3%	2.8%	4.0%	0.1%	0.0%
Sales and Related	6.5%	31.6%	2.2%	3.3%	1.7%
Office and Administrative Support	20.9%	9.3%	20.3%	11.1%	22.3%
Farming, Fishing, and Forestry	0.0%	0.0%	0.0%	0.3%	0.1%
Construction and Extraction	0.6%	0.1%	0.1%	0.3%	0.1%
Installation, Maintenance, and Repair	2.0%	2.3%	5.0%	11.1%	3.2%
Production	2.3%	2.1%	2.2%	15.1%	4.0%
Transportation and Material Moving	<u>2.1%</u>	<u>4.5%</u>	<u>1.1%</u>	<u>6.2%</u>	<u>60.3%</u>
Totals	100.0%	100.0%	100.0%	100.0%	100.0%
Management Occupations	14.0	2.7	2.6	10.2	0.8
Business and Financial Operations	17.5	0.6	0.9	7.5	0.5
Computer and Mathematical	36.4	0.1	0.0	8.2	0.1
Architecture and Engineering	7.6	0.0	0.0	11.1	0.1
Life, Physical, and Social Science	4.3	0.0	0.0	17.7	0.0
Community and Social Services	0.3	0.0	0.0	0.3	0.0
Legal	2.9	0.0	0.0	0.3	0.0
Education, Training, and Library	1.7	0.0	0.0	0.4	0.0
Arts, Design, Entertainment, Sports, and Media	4.3	0.4	0.1	1.2	0.0
Healthcare Practitioners and Technical	6.5	2.2	0.0	1.9	0.0
Healthcare Support	3.7	0.4	0.3	0.5	0.0
Protective Service	0.5	0.3	0.9	0.4	0.2
Food Preparation and Serving Related	0.4	47.4	14.4	0.6	0.0
Building and Grounds Cleaning and Maint.	1.3	0.8	18.6	0.7	0.2
Personal Care and Service	0.5	3.2	2.3	0.1	0.0
Sales and Related	10.1	36.8	1.3	3.9	0.4
Office and Administrative Support	32.4	10.8	11.8	13.0	5.2
Farming, Fishing, and Forestry	0.1	0.0	0.0	0.3	0.0
Construction and Extraction	0.9	0.2	0.1	0.4	0.0
Installation, Maintenance, and Repair	3.1	2.7	2.9	13.0	0.7
Production	3.6	2.4	1.3	17.6	0.9
Transportation and Material Moving	<u>3.3</u>	<u>5.2</u>	<u>0.6</u>	<u>7.2</u>	<u>14.1</u>
Totals	155.3	116.5	58.2	116.5	23.3

Notes:

(1) Appendix B Tables 1 through 10 contain additional information regarding worker occupation categories.

TABLE 2-A
ESTIMATE OF QUALIFYING HOUSEHOLDS - EXTREMELY LOW INCOME
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA

Analysis for Households Earning from 0% to 30% of Median

	Office	Retail	Hotel	Light Industrial	Warehouse
<i>Per 100,000 Sq.Ft. of Building Area</i>					
Step 5, 6, & 7 - Households Earning from 0% to 30% of Median⁽¹⁾					
Management	0.00	0.01	0.01	0.00	0.00
Business and Financial Operations	0.00	0.00	0.00	0.00	0.00
Computer and Mathematical	0.00	0.00	0.00	0.00	0.00
Architecture and Engineering	0.00	0.00	0.00	0.00	0.00
Life, Physical and Social Science	0.00	0.00	0.00	0.02	0.00
Community and Social Services	0.00	0.00	0.00	0.00	0.00
Legal	0.00	0.00	0.00	0.00	0.00
Education Training and Library	0.00	0.00	0.00	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00	0.00	0.00	0.00
Healthcare Practitioners and Technical	0.01	0.00	0.00	0.00	0.00
Healthcare Support	0.00	0.00	0.00	0.00	0.00
Protective Service	0.00	0.00	0.00	0.00	0.00
Food Preparation and Serving Related	0.00	19.15	5.50	0.00	0.00
Building Grounds and Maintenance	0.00	0.00	4.50	0.00	0.00
Personal Care and Service	0.00	1.24	0.71	0.00	0.00
Sales and Related	0.41	10.54	0.19	0.47	0.00
Office and Admin	1.69	1.53	2.91	0.65	0.69
Farm, Fishing, and Forestry	0.00	0.00	0.00	0.00	0.00
Construction and Extraction	0.00	0.00	0.00	0.00	0.00
Installation Maintenance and Repair	0.00	0.10	0.13	0.30	0.03
Production	0.00	0.51	0.41	2.65	0.14
Transportation and Material Moving	0.00	1.32	0.00	2.03	2.68
HH earning up to 30% of Median - major occupations	2.11	34.40	14.36	6.11	3.53
HH earning from 0% to 30% of Median - all other occupatio	0.52	1.63	0.78	0.40	0.17
Total Households Earning from 0% to 30% of Median	2.6	36.0	15.1	6.5	3.7

Notes:

(1) Appendix B Tables 1 through 10 contain additional information on worker occupation categories and compensation levels.

**TABLE 2-B
ESTIMATE OF QUALIFYING HOUSEHOLDS - VERY LOW INCOME
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA**

Analysis for Households Earning 30% to 50% of Median

	Office	Retail	Hotel	Light Industrial	Warehouse
<i>Per 100,000 Sq.Ft. of Building Area</i>					
Step 5, 6, & 7 - Households Earning from 30% to 50% of Median⁽¹⁾					
Management	0.00	0.13	0.26	0.00	0.00
Business and Financial Operations	0.15	0.00	0.00	0.08	0.01
Computer and Mathematical	0.36	0.00	0.00	0.05	0.00
Architecture and Engineering	0.06	0.00	0.00	0.07	0.00
Life, Physical and Social Science	0.00	0.00	0.00	1.24	0.00
Community and Social Services	0.00	0.00	0.00	0.00	0.00
Legal	0.00	0.00	0.00	0.00	0.00
Education Training and Library	0.00	0.00	0.00	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00	0.00	0.00	0.00
Healthcare Practitioners and Technical	0.18	0.00	0.00	0.00	0.00
Healthcare Support	0.00	0.00	0.00	0.00	0.00
Protective Service	0.00	0.00	0.00	0.00	0.00
Food Preparation and Serving Related	0.00	17.90	5.45	0.00	0.00
Building Grounds and Maintenance	0.00	0.00	6.68	0.00	0.00
Personal Care and Service	0.00	1.22	0.90	0.00	0.00
Sales and Related	1.13	13.09	0.27	0.73	0.00
Office and Admin	7.75	3.37	3.86	2.99	1.60
Farm, Fishing, and Forestry	0.00	0.00	0.00	0.00	0.00
Construction and Extraction	0.00	0.00	0.00	0.00	0.00
Installation Maintenance and Repair	0.00	0.54	0.66	2.46	0.15
Production	0.00	0.81	0.49	5.53	0.29
Transportation and Material Moving	0.00	1.87	0.00	2.56	4.95
HH earning from 30%-50% of Median - major occupations	9.62	38.94	18.57	15.71	7.00
HH earning from 30% to 50% of Median - all other occupati	2.39	1.84	1.01	1.03	0.34
Total Households Earning from 30% to 50% of Median	12.0	40.8	19.6	16.7	7.3

Notes:

(1) Appendix B Tables 1 through 10 contain additional information on worker occupation categories and compensation levels.

**TABLE 2-C
ESTIMATE OF QUALIFYING HOUSEHOLDS - LOW INCOME
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA**

Analysis for Households Earning from 50% to 80% of Median

	Office	Retail	Hotel	Light Industrial	Warehouse
<i>Per 100,000 Sq.Ft. of Building Area</i>					
Step 5, 6, & 7 - Households Earning from 50% to 80% of Median⁽¹⁾					
Management	0.21	0.28	0.46	0.14	0.03
Business and Financial Operations	2.06	0.00	0.00	0.95	0.07
Computer and Mathematical	1.95	0.00	0.00	0.34	0.00
Architecture and Engineering	0.53	0.00	0.00	0.58	0.00
Life, Physical and Social Science	0.00	0.00	0.00	3.17	0.00
Community and Social Services	0.00	0.00	0.00	0.00	0.00
Legal	0.00	0.00	0.00	0.00	0.00
Education Training and Library	0.00	0.00	0.00	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00	0.00	0.00	0.00
Healthcare Practitioners and Technical	0.64	0.00	0.00	0.00	0.00
Healthcare Support	0.00	0.00	0.00	0.00	0.00
Protective Service	0.00	0.00	0.00	0.00	0.00
Food Preparation and Serving Related	0.00	9.03	2.85	0.00	0.00
Building Grounds and Maintenance	0.00	0.00	4.41	0.00	0.00
Personal Care and Service	0.00	0.62	0.56	0.00	0.00
Sales and Related	1.89	9.32	0.26	0.77	0.00
Office and Admin	10.35	3.01	3.20	4.08	1.50
Farm, Fishing, and Forestry	0.00	0.00	0.00	0.00	0.00
Construction and Extraction	0.00	0.00	0.00	0.00	0.00
Installation Maintenance and Repair	0.00	0.78	0.94	3.83	0.23
Production	0.00	0.66	0.33	5.14	0.27
Transportation and Material Moving	0.00	1.31	0.00	1.73	3.85
HH earning from 50% to 80% of Median - major occupator	17.63	25.01	12.99	20.73	5.94
HH earning from 50% to 80% of Median - all other occupati	4.38	1.18	0.70	1.36	0.29
Total Households Earning from 50% to 80% of Median	22.0	26.2	13.7	22.1	6.2

Notes:

(1) Appendix B Tables 1 through 10 contain additional information on worker occupation categories and compensation levels.

**TABLE 2-D
ESTIMATE OF QUALIFYING HOUSEHOLDS - MODERATE INCOME
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA**

Analysis for Households Earning from 80% to 120% of Median

	Office	Retail	Hotel	Light Industrial	Warehouse
<i>Per 100,000 Sq.Ft. of Building Area</i>					
Step 5, 6, & 7 - Households Earning from 80% to 120% of Median⁽¹⁾					
Management	1.12	0.47	0.55	0.81	0.13
Business and Financial Operations	4.11	0.00	0.00	1.84	0.12
Computer and Mathematical	6.30	0.00	0.00	1.35	0.00
Architecture and Engineering	1.55	0.00	0.00	2.10	0.00
Life, Physical and Social Science	0.00	0.00	0.00	4.74	0.00
Community and Social Services	0.00	0.00	0.00	0.00	0.00
Legal	0.00	0.00	0.00	0.00	0.00
Education Training and Library	0.00	0.00	0.00	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00	0.00	0.00	0.00
Healthcare Practitioners and Technical	1.29	0.00	0.00	0.00	0.00
Healthcare Support	0.00	0.00	0.00	0.00	0.00
Protective Service	0.00	0.00	0.00	0.00	0.00
Food Preparation and Serving Related	0.00	1.18	0.55	0.00	0.00
Building Grounds and Maintenance	0.00	0.00	2.53	0.00	0.00
Personal Care and Service	0.00	0.13	0.16	0.00	0.00
Sales and Related	2.43	2.71	0.22	0.72	0.00
Office and Admin	7.79	2.02	1.15	3.21	0.99
Farm, Fishing, and Forestry	0.00	0.00	0.00	0.00	0.00
Construction and Extraction	0.00	0.00	0.00	0.00	0.00
Installation Maintenance and Repair	0.00	0.70	0.69	3.53	0.19
Production	0.00	0.34	0.06	3.08	0.16
Transportation and Material Moving	0.00	0.59	0.00	0.66	2.12
HH earning from 80% to 120% of Median - major occupatic	24.58	8.13	5.91	22.05	3.71
HH earning from 80% to 120% of Median - all other occupa	6.10	0.38	0.32	1.45	0.18
Total Households Earning from 80% to 120% of Median	30.7	8.5	6.2	23.5	3.9

Notes:

(1) Appendix B Tables 1 through 10 contain additional information on worker occupation categories and compensation levels.

**TABLE 3
WORKER HOUSEHOLDS BY AFFORDABILITY LEVEL
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA**

Per 100,000 Sq.Ft. of Building Area

	Office	Retail	Hotel	Light Industrial	Warehouse
NUMBER OF HOUSEHOLDS BY INCOME TIER ⁽¹⁾					
Extremely Low (0% - 30% AMI)	2.6	36.0	15.1	6.5	3.7
Very Low Income (30% - 50% AMI)	12.0	40.8	19.6	16.7	7.3
Low Income (50% to 80% AMI)	22.0	26.2	13.7	22.1	6.2
Moderate Income (80% to 120% AMI)	30.7	8.5	6.2	23.5	3.9
Subtotal - Affordable Categories	67.3	111.5	54.6	68.8	21.2
Above Moderate Income (> 120% AMI)	88.0	5.0	3.6	47.6	2.1
Total New Worker Households	155.3	116.5	58.2	116.5	23.3
PERCENTAGE OF HOUSEHOLDS BY INCOME TIER					
Extremely Low (0% - 30% AMI)	1.7%	30.9%	26.0%	5.6%	15.9%
Very Low Income (30% - 50% AMI)	7.7%	35.0%	33.6%	14.4%	31.5%
Low Income (50% to 80% AMI)	14.2%	22.5%	23.5%	19.0%	26.8%
Moderate Income (80% to 120% AMI)	19.8%	7.3%	10.7%	20.2%	16.7%
Subtotal - Affordable Categories	43.4%	95.7%	93.8%	59.1%	90.9%
Above Moderate Income (> 120% AMI)	56.6%	4.3%	6.2%	40.9%	9.1%
Total	100%	100%	100%	100%	100%

Notes:

(1) Appendix B Tables 1 through 10 for information regarding worker compensation levels.

TABLE 4
HOUSING DEMAND NEXUS FACTORS PER SQ.FT. OF BUILDING AREA
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA

	Number of Housing Units per Square Foot of Building Area ⁽¹⁾				
	Office	Retail	Hotel	Light Industrial	Warehouse
Extremely Low (0% - 30% AMI)	0.00002634	0.00036032	0.00015136	0.00006512	0.00003708
Very Low Income (30% - 50% AMI)	0.00012013	0.00040780	0.00019575	0.00016744	0.00007346
Low Income (50% to 80% AMI)	0.00022013	0.00026196	0.00013698	0.00022089	0.00006236
Moderate Income (80% to 120% AMI)	0.00030683	0.00008511	0.00006229	0.00023495	0.00003889
Total	0.00067343	0.00111520	0.00054638	0.00068840	0.00021179

Notes:

⁽¹⁾Calculated by dividing number of households in Table 3 by 100,000 square feet to convert to households per square foot of building.

IV. TOTAL HOUSING NEXUS COSTS

This section takes the conclusions of the previous section on the number of households in the Extremely Low, Very Low, Low, and Moderate Income categories associated with each building type, and identifies the total cost of assistance required to make housing affordable. This section puts a cost on the units at each income level to produce the “total nexus cost.”

A key component of the analysis is the size of the gap between what households can afford and the cost of producing new housing for Santa Clara County, known as the ‘affordability gap.’ Affordability gaps are calculated for each of the four categories of Area Median Income (AMI): Extremely Low (under 30% of median), Very Low (30% to 50%), Low (50% to 80%), and Moderate (80% to 120%). The following summarizes the analysis of mitigation cost which is based on the affordability gap or net cost to deliver units that are affordable to worker households in the lower income tiers.

Because of the variation of real estate values and housing densities that exist in the different geographic areas of Santa Clara County, the affordability gaps can vary significantly from one part of the County to another. For example, land values and densities will generally be lower in South County than they are in the heart of Silicon Valley in the northern parts of the County. Because Santa Clara County can elect to subsidize affordable housing projects in both South County as well as the more urbanized northern parts of the County, the affordability gaps in this Nexus Study utilize an average of the estimated gaps in these areas.

County Assisted Affordable Unit Prototypes

For estimating the affordability gap, there is a need to match a household of each income level with a unit type and size according to governmental regulations and County practices and policies. The analysis assumes that the County will assist Moderate Income households earning between 80% and 120% of Area Median Income with ownership units. The prototype affordable unit should reflect a modest unit consistent with what the County is likely to assist and appropriate for housing the average Moderate Income worker household. The typical project assumed for South County is a three-bedroom townhome unit at approximately 18 units per acre (averaging 1,300 square feet) and the typical project assumed for North County is a two-bedroom condominium unit at approximately 30 units per acre (averaging 1,100 square feet per unit).

For Low-, Very Low-, and Extremely Low-Income households, it is assumed that the County will assist in the development of multi-family rental units at a density of 30-35 units per acre in the South County and 60-90 units per acre in the North County. This represents the approximate density range of affordable housing projects the County would likely subsidize.

Development Costs

KMA prepared an estimate of the total development cost for the affordable housing prototypes described above (inclusive of land acquisition costs, direct construction costs, indirect costs of development, and financing) based on a review of development pro formas for recent affordable projects, recent residential land sale comps, and other construction data sources such as RS Means. The following table summarizes the South County per-unit development cost, the North County per-unit development cost, and the average per-unit cost.

Development Costs for Affordable Units

Income Group	Unit Tenure / Type	South County Cost	North County Cost	Average Cost
Under 30% AMI	Rental	\$407,000	\$517,000	\$462,000
30% to 50% AMI	Rental	\$407,000	\$517,000	\$462,000
50% to 80% AMI	Rental	\$407,000	\$517,000	\$462,000
80% to 120% AMI	Ownership	\$476,000	\$584,000	\$530,000

Development cost estimates were informed by KMA's review of pro forma information for over a dozen local multi-family affordable housing projects. Direct construction costs from these projects were adjusted to account for such factors as time, unit size, housing type, and project density to appropriately reflect the multi-family prototypes assumed in the analysis. Other costs, such as land acquisition costs, are more site and area specific than direct construction costs and therefore the inputs for those costs were derived from other sources. Prevailing wages are assumed in the construction of both affordable housing prototypes, as it is assumed that public funds will be used to subsidize the projects. Tables 5, 5A, 7 and 7A provide further details.

The list below identifies some of the multi-family affordable projects for which KMA had pro forma information. In addition to the following projects, KMA also had access to the pro formas for several other active, pending projects, which are not listed due to their preliminary nature.

- Ashland-Kent, Alameda County
- Downtown Hayward Senior, Hayward
- Hayward Senior II, Hayward
- Laguna Commons, Fremont
- Marea Alta, San Leandro
- Onizuka Crossing, Sunnyvale
- Dublin Veterans Housing, Dublin
- Sequoia Belle Haven, Menlo Park
- South Hayward BART, Hayward
- San Lorenzo Senior, San Lorenzo
- South Second St Studios, San Jose
- Station Center 1 & 2, Union City
- University Ave Senior, East Palo Alto

Unit Values

For affordable ownership units, unit values are based on an estimate of the restricted affordable purchase price for a qualifying Moderate Income household. It is noted that the purchase price for South County required a downward adjustment due to the fact that the calculated maximum

Moderate Income purchase price, which is based on the county-wide area median income (AMI), was too close to the market rate price in South County. Because of the appreciation limits that are associated with deed-restricted affordable for-sale homes, Moderate Income purchase prices need to be set at a substantial discount relative to market rate prices. Details of the calculations are presented in Table 6.

For the Extremely Low, Very Low, and Low-Income rental units, unit values are based upon the funding sources assumed to be available for the project. The funding sources include tax-exempt permanent debt financing supported by the project's operating income, a deferred developer fee, and equity generated by 4% federal low income housing tax credits. The highly competitive 9% federal tax credits are not assumed because of the extremely limited number of projects that receive an allocation of 9% tax credits in any given year per geographic region. Other affordable housing subsidy sources such as CDBG, HOME, AHP, Section 8, and various Federal and State funding programs are also limited and difficult to obtain and therefore are not assumed in this analysis as available to offset the cost of mitigating the affordable housing impacts of new development.

The South County unit values, North County values, and average values are summarized below. Details for these calculations are presented in Table 7 and 7A.

Unit Values for Affordable Units

Income Group	Unit Tenure / Type	South County Unit Value	North County Unit Value	Average Unit Value
Under 30% AMI	Rental	\$205,500	\$215,500	\$210,500
30% to 50% AMI	Rental	\$281,500	\$291,500	\$286,500
50% to 80% AMI	Rental	\$320,500	\$330,500	\$325,500
80% to 120% AMI	Ownership	\$330,000	\$367,000	\$348,500

Affordability Gap

The affordability gap is the difference between the cost of developing the affordable units and the unit value based on the restricted affordable rent or sales price.

The resulting affordability gaps are as follows:

Affordability Gap Calculation

	Average Unit Value	Average Cost	Affordability Gap
<i>Affordable Rental Units</i>			
Extremely Low (Under 30% AMI)	\$210,500	\$462,000	\$251,500
Very Low (30% to 50% AMI)	\$286,500	\$462,000	\$175,500
Low (50% to 80% AMI)	\$325,500	\$462,000	\$136,500
<i>Affordable Ownership Units</i>			
Moderate (80% to 120% AMI)	\$348,500	\$530,000	\$181,500

AMI = Area Median Income

Tables 5 through 7A present the detailed affordability gap calculations. Note that the affordability gaps are the same as those assumed in the residential nexus analysis.

Maximum Fees Supported by Analysis

The last step in the nexus analysis calculates the cost of delivering affordable housing to the households created by new non-residential development.

Table 8 summarizes the analysis. The demand for affordable units in each income range that is generated per square foot of building area is drawn from Table 4 in the previous section. The “Maximum Fee per Square Foot” represents the results of the following calculation:

Affordability Gap (from above)	X	No. affordable units generated per square foot of building area. (from Table 4)	=	Maximum Fee Per Square Foot of Building Area
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The maximum impact fees for the five building types in Santa Clara County are as follows:

Maximum Fee Per Square Foot of Building Area

Building Type	Maximum Supported Fee Per Square Foot
Office	\$113.40
Retail	\$213.40
Hotel	\$102.50
Light Industrial	\$118.60
Warehouse	\$37.80

Note: Nexus findings are not recommended fee levels. See Table 8 for detail.

These totals represent the maximum impact fee that could be charged for new non-residential construction to mitigate its impacts on the need for affordable housing. The totals are not recommended fee levels; they represent only the maximums established by this analysis.

These total nexus or mitigation costs are high due to the low compensation levels of many jobs, coupled with the high cost of developing residential units. Higher employment densities also contribute to higher nexus costs. These factors are especially pronounced with the Retail category, yielding a very high nexus cost.

EDD data for 2015 indicates compensation for Retail workers in Santa Clara County averages approximately \$33,000 per year. This means many workers qualify as Very Low Income (four-person households earning \$55,800 and below²); as shown in Table 3, approximately two-thirds of Retail workers fall in the Extremely Low or Very Low Income categories. Virtually all Retail employee households earn less than 120% of the median income. Hotel workers have similar compensation levels (averaging \$36,000 annually); however, since there are fewer employees per square feet of building area, the resulting mitigation costs are much lower on a per square foot basis.

Conservative Assumptions

In establishing the maximum impact fee, many conservative assumptions were employed in the analysis that result in a cost to mitigate affordable housing needs that may be considerably understated. These conservative assumptions include:

- Only direct employees are counted in the analysis. Many indirect employees are also associated with each new workspace. Indirect employees in an office building, for example, include security, delivery personnel, building cleaning and maintenance personnel, and a whole range of others. Hotels do have many of these workers on staff, but hotels also “contract out” a number of services that are not taken into account in the analysis. In addition, there are ‘induced’ employment effects when the direct employees spend their earnings in the local economy. It would certainly be appropriate to include the affordable housing demand generated by the indirect and induced jobs in this nexus analysis. For simplicity, however, and because the results using only direct employees are significantly higher than the fee levels that are typically considered for adoption, we limit it to direct employees only.

- A downward adjustment of 20% has been reflected in the analysis to account for declining industries and the potential that displaced workers from declining sectors of the economy will fill a portion of jobs in new workplace buildings. This is a conservative assumption because many displaced workers may exit the workforce entirely by retiring. In addition, development of new workspace buildings will typically occur only to the

² Income criteria vary by household size.

extent net new demand exists after space vacated by businesses in declining sectors of the economy has been re-occupied. The 20% adjustment is conservative in that it is mainly necessary to cover a special case scenario in which buildings vacated by declining industries cannot be readily occupied by other users due to their special purpose nature or due to obsolescence.

- Annual incomes for workers reflect full time employment based upon EDD's convention for reporting the compensation information. In fact, many workers work less than full time; therefore, annual compensations used in the analysis are probably overstated, especially for Retail and Hotel, which tend to have a high number of part time employees.
- Affordability gaps are based upon the assumption that 4% Low Income Housing Tax Credit financing will be available. This reduces the affordability gap that needs to be filled if affordable units are to be made available.

In summary, many less conservative assumptions could be made that would justify a much higher maximum linkage fee.

Table 5.
 Affordability Gap Calculation for Moderate Income
 Jobs Housing Nexus Analysis
 North Santa Clara County (for unincorporated)

I. Affordable Prototype

Tenure	For-Sale
Density	30 du/acre
Unit Size	1,100 SF
Bedrooms	2-Bedrooms
Construction Type	Condominiums (Type V)

II. Development Costs	Per Unit
------------------------------	----------

Land Acquisition	\$138,000
Directs	\$319,000 ^[1]
Indirects	\$111,000
Financing	\$16,000
Total Costs	<u>\$584,000</u>

III. Affordable Sales Price	Per Unit
------------------------------------	----------

Household Size	3 person HH
110% of Median Income ^[2]	\$106,040
Maximum Affordable Sales Price	\$367,000 ^[3]

IV. Affordability Gap	Per Unit
------------------------------	----------

Affordable Sales Price	\$367,000
(Less) Development Costs	<u>(\$584,000)</u>
Affordability Gap - Moderate Income	(\$217,000)

^[1] Construction costs include prevailing wages.

^[2] Per California Health and Safety Code Section 50052.5, the affordable sale price for a Moderate Income household is to be based on 110% of AMI, whereas qualifying income can be up to 120% of AMI.

^[3] See Table 6 for Moderate Income home price estimate.

Table 5-A
 Affordability Gap Calculation for Moderate Income
 Jobs Housing Nexus Analysis
 South Santa Clara County (for unincorporated)

I. Affordable Prototype

Tenure	For-Sale
Density	18 du/acre
Unit Size	1,300 SF
Bedrooms	3-Bedrooms
Construction Type	Townhomes

II. Development Costs Per Unit

Land Acquisition	\$73,000
Directs	\$299,000 ^[1]
Indirects	\$90,000
Financing	\$14,000
Total Costs	<u>\$476,000</u>

III. Affordable Sales Price Per Unit

Household Size	4 person HH
110% of Median Income ^[2]	\$117,810
Maximum Affordable Sales Price	\$407,000 ^[3]

IV. Affordability Gap Per Unit

Affordable Sales Price	\$330,000 ^[4]
(Less) Development Costs	<u>(\$476,000)</u>
Affordability Gap - Moderate Income	<u>(\$146,000)</u>

^[1] Construction costs includes prevailing wages.

^[2] Per California Health and Safety Code Section 50052.5, the affordable sale price for a Moderate Income household is to be based on 110% of AMI, whereas qualifying income can be up to 120% of AMI.

^[3] See Table 6 for Moderate Income home price estimate.

^[4] Moderate income home price in South County adjusted from maximums to reflect appropriate discount from unrestricted market rate prices.

Table 6.
 Estimated Affordable Home Prices - Moderate Income
 Jobs Housing Nexus Analysis
 North Santa Clara County (for unincorporated)

Unit Size Household Size	2-Bedroom Unit 3-person HH	3-Bedroom Unit 4-person HH	4-Bedroom Unit 5-person HH
100% AMI Santa Clara County 2016	\$96,400	\$107,100	\$115,650
Annual Income @ 110%	\$106,040	\$117,810	\$127,215
% for Housing Costs	35%	35%	35%
Available for Housing Costs	\$37,114	\$41,234	\$44,525
(Less) Property Taxes	(\$4,392)	(\$4,884)	(\$5,232)
(Less) HOA	(\$2,700)	(\$2,820)	(\$2,940)
(Less) Utilities	(\$1,416)	(\$1,776)	(\$2,208)
(Less) Insurance	(\$700)	(\$800)	(\$900)
(Less) Mortgage Insurance	(\$4,698)	(\$5,211)	(\$5,603)
Income Available for Mortgage	\$23,208	\$25,743	\$27,643
Mortgage Amount	\$348,300	\$386,300	\$414,800
Down Payment (homebuyer cash)	\$18,300	\$20,350	\$21,800
Supported Home Price	\$366,600	\$406,650	\$436,600
Key Assumptions			
- Mortgage Interest Rate ⁽¹⁾	5.30%	5.30%	5.30%
- Down Payment ⁽²⁾	5.00%	5.00%	5.00%
- Property Taxes (% of sales price) ⁽³⁾	1.20%	1.20%	1.20%
- HOA (per month) ⁽⁴⁾	\$225	\$235	\$245
- Utilities (per month) ⁽⁵⁾	\$118	\$148	\$184
- Mortgage Insurance (% of loan amount)	1.35%	1.35%	1.35%

(1) Mortgage interest rate based on 15-year Freddie Mac average; assumes 30-year fixed rate mortgage.

(2) Down payment amount is an estimate for Moderate Income homebuyers.

(3) Property tax rate is an estimated average for new projects.

(4) Homeowners Association (HOA) dues is an estimate for the average new project.

(5) Utility allowances from Santa Clara County Housing Authority (2016).

Table 7.
Affordability Gaps for Extremely Low, Very Low, and Low Income
Jobs Housing Nexus Analysis
North Santa Clara County (for unincorporated)

	Extremely Low	Very Low	Low Income
I. Affordable Prototype			
Tenure	Rental 800 square feet ~60-90 du/acre		
Average Unit Size			
Density			
II. Development Costs ^[1]			
	Per Unit	Per Unit	Per Unit
Land Acquisition	\$55,000	\$55,000	\$55,000
Directs	\$328,000	\$328,000	\$328,000
Indirects	\$115,000	\$115,000	\$115,000
Financing	\$19,000	\$19,000	\$19,000
Total Development Costs	\$517,000	\$517,000	\$517,000
III. Supported Financing			
	Per Unit	Per Unit	Per Unit
<u>Affordable Rents</u>			
Average Number of Bedrooms	2 Bedrooms	2 Bedrooms	2 Bedrooms
Maximum TCAC Rent ^[2]	\$753	\$1,256	\$1,507
(Less) Utility Allowance ^[3]	(\$74)	(\$74)	(\$74)
Maximum Monthly Rent	\$679	\$1,182	\$1,433
<u>Net Operating Income (NOI)</u>			
Gross Potential Income	<u>Per Unit</u>	<u>Per Unit</u>	<u>Per Unit</u>
Monthly	\$679	\$1,182	\$1,433
Annual	\$8,148	\$14,184	\$17,196
Other Income	\$250	\$250	\$250
(Less) Vacancy 5.0%	(\$420)	(\$722)	(\$872)
Effective Gross Income (EGI)	\$7,978	\$13,712	\$16,574
(Less) Operating Expenses	(\$5,600)	(\$5,600)	(\$5,600)
(Less) Property Taxes ^[4]	\$0	\$0	\$0
Net Operating Income (NOI)	\$2,378	\$8,112	\$10,974
<u>Permanent Financing</u>			
Permanent Loan (tax exempt) 5.0%	\$32,000	\$108,000	\$147,000
Deferred Developer Fee	\$2,500	\$2,500	\$2,500
4% Tax Credit Equity	\$181,000	\$181,000	\$181,000
Total Sources	\$215,500	\$291,500	\$330,500
IV. Affordability Gap			
	Per Unit	Per Unit	Per Unit
Supported Permanent Financing	\$215,500	\$291,500	\$330,500
(Less) Total Development Costs	(\$517,000)	(\$517,000)	(\$517,000)
Affordability Gap	(\$301,500)	(\$225,500)	(\$186,500)

^[1] Development costs estimated by KMA based on affordable project pro formas in Santa Clara County (includes prevailing wages) and residential land sale comps.

^[2] Maximum rents per Tax Credit Allocation Committee (TCAC) for projects utilizing Low Income Housing Tax Credits.

^[3] Utility allowances from Santa Clara County Housing Authority (2016).

^[4] Assumes tax exemption for non-profit general partner.

Table 7-A.
Affordability Gaps for Extremely Low, Very Low, and Low Income
Jobs Housing Nexus Analysis
South Santa Clara County (for unincorporated)

	Extremely Low	Very Low	Low Income
I. Affordable Prototype			
Tenure	Rental 900 square feet ~30-40 du/acre		
Average Unit Size			
Density			
II. Development Costs ^[1]			
	Per Unit	Per Unit	Per Unit
Land Acquisition	\$37,000	\$37,000	\$37,000
Directs	\$261,000	\$261,000	\$261,000
Indirects	\$91,000	\$91,000	\$91,000
Financing	\$18,000	\$18,000	\$18,000
Total Costs	\$407,000	\$407,000	\$407,000
III. Supported Financing			
<u>Affordable Rents</u>			
Average Number of Bedrooms	2 Bedrooms	2 Bedrooms	2 Bedrooms
Maximum TCAC Rent ^[2]	\$753	\$1,256	\$1,507
(Less) Utility Allowance ^[3]	(\$74)	(\$74)	(\$74)
Maximum Monthly Rent	\$679	\$1,182	\$1,433
<u>Net Operating Income (NOI)</u>			
Gross Potential Income	<u>Per Unit</u>	<u>Per Unit</u>	<u>Per Unit</u>
Monthly	\$679	\$1,182	\$1,433
Annual	\$8,148	\$14,184	\$17,196
Other Income	\$250	\$250	\$250
(Less) Vacancy	5.0% (\$420)	(\$722)	(\$872)
Effective Gross Income (EGI)	\$7,978	\$13,712	\$16,574
(Less) Operating Expenses	(\$5,600)	(\$5,600)	(\$5,600)
(Less) Property Taxes ^[4]	\$0	\$0	\$0
Net Operating Income (NOI)	\$2,378	\$8,112	\$10,974
<u>Permanent Financing</u>			
Permanent Loan (tax exempt)	\$32,000	\$108,000	\$147,000
Deferred Developer Fee	\$2,500	\$2,500	\$2,500
4% Tax Credit Equity	\$171,000	\$171,000	\$171,000
Total Sources	\$205,500	\$281,500	\$320,500
IV. Supported Financing			
Supported Permanent Financing	\$205,500	\$281,500	\$320,500
(Less) Total Development Costs	(\$407,000)	(\$407,000)	(\$407,000)
Affordability Gap	(\$201,500)	(\$125,500)	(\$86,500)

^[1] Development costs estimated by KMA based on affordable project pro formas in Santa Clara County (includes prevailing wages) and residential land sale comps.

^[2] Maximum rents per Tax Credit Allocation Committee (TCAC) for projects utilizing Low Income Housing Tax Credits.

^[3] Utility allowances from Santa Clara County Housing Authority (2016).

^[4] Assumes tax exemption for non-profit general partner.

**TABLE 8
TOTAL HOUSING NEXUS COST
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA**

INCOME CATEGORY	Affordability Gap Per Unit	Nexus Cost Per Sq.Ft. of Building Area ³				
		Office	Retail	Hotel	Light Industrial	Warehouse
Extremely Low (0% - 30% AMI)	\$251,500 ¹	\$6.60	\$90.60	\$38.10	\$16.40	\$9.30
Very Low Income (30% - 50% AMI)	\$175,500 ¹	\$21.10	\$71.60	\$34.40	\$29.40	\$12.90
Low Income (50% to 80% AMI)	\$136,500 ¹	\$30.00	\$35.80	\$18.70	\$30.20	\$8.50
Moderate Income (80% to 120% AMI)	\$181,500 ²	\$55.70	\$15.40	\$11.30	\$42.60	\$7.10
Total		\$113.40	\$213.40	\$102.50	\$118.60	\$37.80

Notes:

⁽¹⁾ Assumes rental units. Affordability Gap reflected is the remaining gap after financing available through 4% tax credits. See Table 7.

⁽²⁾ Assumes ownership unit. See Table 5.

⁽³⁾ Calculated by multiplying housing demand factors from Table 4 by the affordability gap.

APPENDIX A: DISCUSSION OF VARIOUS FACTORS IN RELATION TO NEXUS CONCEPT

This appendix provides a discussion of various specific factors and assumptions in relation to the nexus concept to supplement the overview provided in Section II.

1. Addressing the Housing Needs of a New Population vs. the Existing Population

This 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 workplace buildings.

This nexus study does not address the housing needs of the existing population. Rather, the study focuses exclusively on documenting and quantifying the housing needs created by development of new workplace buildings.

Local analyses of housing conditions have found that new housing affordable to lower income households is not being added to the supply in sufficient quantity to meet the needs of new employee households. If this were not the case and significant numbers of units were being added to the supply to accommodate the low to moderate income groups, or if residential units were experiencing significant long term vacancy levels, particularly in affordable units, then the need for new units would be questionable.

2. No Excess Supply of Affordable Housing

An assumption of this residential nexus analysis is that 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. Based on a review of the current Census information for Santa Clara County, conditions are consistent with this underlying assumption. According to the Census (2010 to 2014 ACS), approximately 41% of all households in the County were paying thirty percent or more of their income on housing. In addition, housing vacancy is minimal.

3. Substitution Factor

Any given new building may be occupied partly, or even perhaps totally, by employees relocating from elsewhere in the region. Buildings are often leased entirely to firms relocating from other buildings in the same jurisdiction. However, when a firm relocates to a new building from elsewhere in the region, there is a space in an existing building that is vacated and occupied by another firm. That building in turn may be filled by some combination of newcomers to the area and existing workers. Somewhere in the chain there are jobs new to the region. The net effect is that new buildings accommodate new employees, although not necessarily inside the new buildings themselves.

4. Indirect Employment and Multiplier Effects

The multiplier effect refers to the concept that the income generated by a new job recycles through the economy and results in additional jobs. The total number of jobs generated is broken down into three categories – direct, indirect and induced. In the case of the nexus analysis, the direct jobs are those located in the new workspace buildings that would be subject to the linkage fee. Multiplier effects encompass indirect and induced employment. Indirect jobs are generated by suppliers to the businesses located in the new workspace buildings. Induced jobs are generated by local spending on goods and services by employees.

Multiplier effects vary by industry. Industries that draw heavily on a network of local suppliers tend to generate larger multiplier effects. Industries that are labor intensive also tend to have larger multiplier effects as a result of the induced effects of employee spending.

Theoretically, a jobs-housing nexus analysis could consider multiplier effects although the potential for double-counting exists to the extent indirect and induced jobs are added in other new buildings in jurisdictions that have jobs housing linkage fees. KMA chose to omit the multiplier effects (the indirect and induced employment impacts) to avoid potential double-counting and make the analysis more conservative.

In addition, the nexus analysis addresses direct “inside” employment only. In the case of an office building, for example, direct employment covers the various managerial, professional and clerical people that work in the building; it does not include the security guards, the delivery services, the landscape maintenance workers, and many others that are associated with the normal functioning of an office building. In other words, any analysis that ties lower income housing to the number of workers inside buildings will continue to understate the demand. Thus, confining the analysis to the direct employees does not address all the lower income workers associated with each type of building and understates the impacts.

5. Economic Cycles

An impact analysis of this nature is intended to support a one-time impact requirement to address impacts generated over the life of a project (generally 40 years or more). Short-term conditions, such as a recession or a vigorous boom period, are not an appropriate basis for estimating impacts over the life of the building. These cycles can produce impacts that are higher or lower on a temporary basis.

Development of new workspace buildings tends to be minimal during a recession and generally remains minimal until conditions improve or there is confidence that improved conditions are imminent. When this occurs, the improved economic condition will absorb existing vacant space and underutilized capacity of existing workers, employed and unemployed. By the time new buildings become occupied, conditions will have likely improved.

To the limited extent that new workspace buildings are built during a recession, housing impacts from these new buildings may not be fully experienced immediately, but the impacts will be experienced at some point. New buildings delivered during a recession can sometimes sit vacant for a period after completion. Even if new buildings are immediately occupied, overall absorption of space can still be zero or negative if other buildings are vacated in the process. Jobs added may also be filled in part by unemployed or underemployed workers who are already housed locally. As the economy recovers, firms will begin to expand and hire again filling unoccupied space as unemployment is reduced. New space delivered during the recession still adds to the total supply of employment space in the region. Though the jobs are not realized immediately, as the economy recovers and vacant space is filled, this new employment space absorbs or accommodates job growth. Although there may be a delay in experiencing the impacts, the fundamental relationship between new buildings, added jobs, and housing needs remains over the long term.

In contrast, during a vigorous economic boom period, conditions exist in which elevated impacts are experienced on a temporary basis. As an example, compression of employment densities can occur as firms add employees while making do with existing space. Compressed employment densities mean more jobs added for a given amount of building area. Boom periods also tend to go hand-in-hand with rising development costs and increasing home prices. These factors can bring market rate housing out of reach of a larger percentage of the workforce and increase the cost of delivering affordable units.

While the economic cycles can produce impacts that are temporarily higher or lower than normal, an impact fee is designed to be collected once, during the development of the project. Over the lifetime of the project, the impacts of the development on the demand for affordable housing will be realized, despite short-term booms and recessions.

APPENDIX B: SUPPORTING NEXUS TABLES

**APPENDIX B TABLE 1
 2014 NATIONAL OFFICE WORKER DISTRIBUTION BY OCCUPATION
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA**

Major Occupations (3% or more)	2014 National Office Industry Occupation Distribution	
Management Occupations	2,478,949	9.0%
Business and Financial Operations Occupations	3,102,766	11.2%
Computer and Mathematical Occupations	6,461,261	23.4%
Architecture and Engineering Occupations	1,358,359	4.9%
Healthcare Practitioners and Technical Occupations	1,152,766	4.2%
Sales and Related Occupations	1,789,343	6.5%
Office and Administrative Support Occupations	5,752,417	20.9%
All Other Office Occupations	<u>5,488,426</u>	<u>19.9%</u>
INDUSTRY TOTAL	27,584,287	100.0%

Industries weighted to reflect Santa Clara County industry mix.

APPENDIX B TABLE 2
 AVERAGE ANNUAL COMPENSATION, 2015
 OFFICE WORKER OCCUPATIONS
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Office Workers</u>
Page 1 of 3			
<i>Management Occupations</i>			
General and Operations Managers	\$157,600	25.0%	2.2%
Marketing Managers	\$190,500	7.0%	0.6%
Sales Managers	\$167,900	6.3%	0.6%
Computer and Information Systems Managers	\$186,700	20.1%	1.8%
Financial Managers	\$168,700	9.1%	0.8%
Architectural and Engineering Managers	\$190,600	4.3%	0.4%
Managers, All Other	\$163,400	5.6%	0.5%
All Other Management Occupations (Avg. All Categories)	<u>\$162,300</u>	<u>22.8%</u>	<u>2.0%</u>
	Weighted Mean Annual Wage	\$170,200	100.0%
<i>Business and Financial Operations Occupations</i>			
Human Resources Specialists	\$89,400	7.2%	0.8%
Management Analysts	\$111,500	13.8%	1.5%
Training and Development Specialists	\$95,300	4.0%	0.5%
Market Research Analysts and Marketing Specialists	\$110,200	12.6%	1.4%
Business Operations Specialists, All Other	\$98,100	12.3%	1.4%
Accountants and Auditors	\$94,200	21.7%	2.4%
Financial Analysts	\$109,600	5.2%	0.6%
All Other Business and Financial Operations (Avg. All Categories)	<u>\$96,400</u>	<u>23.2%</u>	<u>2.6%</u>
	Weighted Mean Annual Wage	\$100,100	100.0%
<i>Computer and Mathematical Occupations</i>			
Computer Systems Analysts	\$110,000	12.4%	2.9%
Computer Programmers	\$95,300	10.2%	2.4%
Software Developers, Applications	\$144,400	28.4%	6.7%
Software Developers, Systems Software	\$140,300	11.5%	2.7%
Web Developers	\$108,100	4.1%	1.0%
Network and Computer Systems Administrators	\$101,500	6.2%	1.4%
Computer User Support Specialists	\$76,500	11.1%	2.6%
All Other Computer and Mathematical Occupations (Avg. All Categories)	<u>\$125,600</u>	<u>16.0%</u>	<u>3.8%</u>
	Weighted Mean Annual Wage	\$120,000	100.0%

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Office Workers</u>
Page 2 of 3			
<i>Architecture and Engineering Occupations</i>			
Architects, Except Landscape and Naval	\$89,500	6.0%	0.3%
Civil Engineers	\$101,200	11.2%	0.6%
Computer Hardware Engineers	\$138,100	8.0%	0.4%
Electrical Engineers	\$130,000	7.6%	0.4%
Electronics Engineers, Except Computer	\$132,400	6.3%	0.3%
Industrial Engineers	\$116,300	5.0%	0.2%
Mechanical Engineers	\$113,300	10.3%	0.5%
Engineers, All Other	\$124,100	4.9%	0.2%
Architectural and Civil Drafters	\$61,900	5.4%	0.3%
Electrical and Electronics Engineering Technicians	\$70,200	4.5%	0.2%
All Other Architecture and Engineering Occupations (Avg. All Categories)	<u>\$113,400</u>	<u>30.8%</u>	<u>1.5%</u>
Weighted Mean Annual Wage	\$111,000	100.0%	4.9%
<i>Healthcare Practitioners and Technical Occupations</i>			
Dentists, General	\$158,300	7.4%	0.3%
Physicians and Surgeons, All Other	\$153,300	6.1%	0.3%
Registered Nurses	\$123,500	12.9%	0.5%
Dental Hygienists	\$96,500	15.6%	0.7%
Veterinary Technologists and Technicians	\$38,700	4.1%	0.2%
Licensed Practical and Licensed Vocational Nurses	\$60,400	5.6%	0.2%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories)	<u>\$111,800</u>	<u>48.4%</u>	<u>2.0%</u>
Weighted Mean Annual Wage	\$111,100	100.0%	4.2%
<i>Sales and Related Occupations</i>			
First-Line Supervisors of Non-Retail Sales Workers	\$115,400	4.5%	0.3%
Advertising Sales Agents	\$78,900	6.9%	0.4%
Insurance Sales Agents	\$75,400	5.9%	0.4%
Securities, Commodities, and Financial Services Sales Agents	\$91,800	4.6%	0.3%
Sales Representatives, Services, All Other	\$89,500	33.6%	2.2%
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Prc	\$118,700	11.8%	0.8%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scier	\$77,000	5.8%	0.4%
Real Estate Sales Agents	\$64,600	5.5%	0.4%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$55,500</u>	<u>21.5%</u>	<u>1.4%</u>
Weighted Mean Annual Wage	\$83,200	100.0%	6.5%

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Office Workers</u>
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$70,600	6.7%	1.4%
Bookkeeping, Accounting, and Auditing Clerks	\$50,300	8.3%	1.7%
Customer Service Representatives	\$48,200	15.5%	3.2%
Receptionists and Information Clerks	\$36,600	5.9%	1.2%
Executive Secretaries and Executive Administrative Assistants	\$67,200	4.8%	1.0%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive Office Clerks, General	\$45,000	10.6%	2.2%
Office Clerks, General	\$40,900	13.6%	2.8%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$48,100</u>	<u>34.5%</u>	<u>7.2%</u>
Weighted Mean Annual Wage	\$48,700	100.0%	20.9%
Weighted Average Annual Wage - All Occupations	\$100,000		80.1%

¹ Including occupations representing 4% or more of the major occupation group.

² 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.

³ 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 2014 Occupational Employment Survey data applicable to Santa Clara County, updated by the California Employment Development Department to 2015 wage levels.

**APPENDIX B TABLE 3
 2014 NATIONAL RETAIL WORKER DISTRIBUTION BY OCCUPATION
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA**

Major Occupations (2% or more)	2014 National Retail Industry Occupation Distribution	
Management Occupations	628,109	2.3%
Food Preparation and Serving Related Occupations	11,168,090	40.7%
Personal Care and Service Occupations	761,400	2.8%
Sales and Related Occupations	8,674,839	31.6%
Office and Administrative Support Occupations	2,539,341	9.3%
Installation, Maintenance, and Repair Occupations	632,209	2.3%
Production Occupations	572,365	2.1%
Transportation and Material Moving Occupations	1,225,101	4.5%
All Other Retail Occupations	<u>1,239,781</u>	<u>4.5%</u>
INDUSTRY TOTAL	27,441,236	100.0%

Industries weighted to reflect Santa Clara County industry mix.

APPENDIX B TABLE 4
 AVERAGE ANNUAL COMPENSATION, 2015
 RETAIL WORKER OCCUPATIONS
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Retail Workers</u>
<i>Page 1 of 2</i>			
<i>Management Occupations</i>			
General and Operations Managers	\$157,600	50.1%	1.1%
Sales Managers	\$167,900	11.9%	0.3%
Food Service Managers	\$57,200	28.3%	0.6%
All Other Management Occupations (Avg. All Categories)	<u>\$162,300</u>	<u>9.8%</u>	<u>0.2%</u>
Weighted Mean Annual Wage	\$130,900	100.0%	2.3%
<i>Food Preparation and Serving Related Occupations</i>			
First-Line Supervisors of Food Preparation and Serving Workers	\$36,900	7.1%	2.9%
Cooks, Fast Food	\$21,300	5.0%	2.0%
Cooks, Restaurant	\$27,500	9.8%	4.0%
Food Preparation Workers	\$24,400	6.5%	2.6%
Combined Food Preparation and Serving Workers, Including Fast Food	\$23,000	28.3%	11.5%
Waiters and Waitresses	\$25,500	21.2%	8.6%
Dishwashers	\$20,300	4.2%	1.7%
All Other Business and Financial Operations (Avg. All Categories)	<u>\$25,300</u>	<u>18.0%</u>	<u>7.3%</u>
Weighted Mean Annual Wage	\$25,300	100.0%	40.7%
<i>Personal Care and Service Occupations</i>			
First-Line Supervisors of Personal Service Workers	\$42,800	4.3%	0.1%
Nonfarm Animal Caretakers	\$32,400	10.8%	0.3%
Hairdressers, Hairstylists, and Cosmetologists	\$24,600	51.9%	1.4%
Manicurists and Pedicurists	\$21,900	12.5%	0.3%
Skincare Specialists	\$30,400	4.7%	0.1%
All Other Personal Care and Service Occupations (Avg. All Categories)	<u>\$29,100</u>	<u>15.8%</u>	<u>0.4%</u>
Weighted Mean Annual Wage	\$26,900	100.0%	2.8%
<i>Sales and Related Occupations</i>			
First-Line Supervisors of Retail Sales Workers	\$51,400	12.0%	3.8%
Cashiers	\$26,600	31.0%	9.8%
Retail Salespersons	\$29,200	50.3%	15.9%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$55,500</u>	<u>6.7%</u>	<u>2.1%</u>
Weighted Mean Annual Wage	\$32,800	100.0%	31.6%

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Retail Workers</u>
Page 2 of 2			
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$70,600	6.4%	0.6%
Bookkeeping, Accounting, and Auditing Clerks	\$50,300	6.9%	0.6%
Customer Service Representatives	\$48,200	11.3%	1.0%
Receptionists and Information Clerks	\$36,600	4.1%	0.4%
Shipping, Receiving, and Traffic Clerks	\$36,500	4.9%	0.5%
Stock Clerks and Order Fillers	\$31,300	47.3%	4.4%
Office Clerks, General	\$40,900	8.2%	0.8%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$48,100</u>	<u>10.9%</u>	<u>1.0%</u>
	Weighted Mean Annual Wage	\$40,100	100.0%
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$80,600	7.9%	0.2%
Computer, Automated Teller, and Office Machine Repairers	\$46,200	6.7%	0.2%
Automotive Service Technicians and Mechanics	\$52,700	37.4%	0.9%
Tire Repairers and Changers	\$32,300	9.4%	0.2%
Maintenance and Repair Workers, General	\$47,300	7.8%	0.2%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	<u>\$55,900</u>	<u>30.8%</u>	<u>0.7%</u>
	Weighted Mean Annual Wage	\$53,100	100.0%
<i>Production Occupations</i>			
First-Line Supervisors of Production and Operating Workers	\$68,400	6.2%	0.1%
Bakers	\$29,200	16.2%	0.3%
Butchers and Meat Cutters	\$35,100	20.5%	0.4%
Meat, Poultry, and Fish Cutters and Trimmers	\$27,500	4.2%	0.1%
Laundry and Dry-Cleaning Workers	\$26,300	15.3%	0.3%
Pressers, Textile, Garment, and Related Materials	\$24,300	6.1%	0.1%
All Other Production Occupations (Avg. All Categories)	<u>\$40,800</u>	<u>31.6%</u>	<u>0.7%</u>
	Weighted Mean Annual Wage	\$35,700	100.0%
<i>Transportation and Material Moving Occupations</i>			
Driver/Sales Workers	\$34,400	18.0%	0.8%
Light Truck or Delivery Services Drivers	\$39,300	16.2%	0.7%
Parking Lot Attendants	\$21,500	6.7%	0.3%
Cleaners of Vehicles and Equipment	\$25,800	6.8%	0.3%
Laborers and Freight, Stock, and Material Movers, Hand	\$31,700	23.6%	1.1%
Packers and Packagers, Hand	\$25,300	13.8%	0.6%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	<u>\$37,300</u>	<u>15.0%</u>	<u>0.7%</u>
	Weighted Mean Annual Wage	\$32,300	100.0%
	Weighted Average Annual Wage - All Occupations	\$33,000	91.0%

¹ Including occupations representing 4% or more of the major occupation group.

² 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.

³ 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 2014 Occupational Employment Survey data applicable to Santa Clara County, updated by the California Employment Development Department to 2015 wage levels.

**APPENDIX B TABLE 5
 2014 NATIONAL HOTEL WORKER DISTRIBUTION BY OCCUPATION
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA**

Major Occupations (2% or more)	2014 National Hotel Industry Occupation Distribution	
Management Occupations	68,960	4.5%
Food Preparation and Serving Related Occupations	379,520	24.7%
Building and Grounds Cleaning and Maintenance Occupations	489,570	31.9%
Personal Care and Service Occupations	61,530	4.0%
Sales and Related Occupations	33,960	2.2%
Office and Administrative Support Occupations	310,980	20.3%
Installation, Maintenance, and Repair Occupations	76,990	5.0%
Production Occupations	34,090	2.2%
All Other Hotel Occupations	<u>78,960</u>	<u>5.1%</u>
INDUSTRY TOTAL	1,534,560	100.0%

**APPENDIX B TABLE 6
AVERAGE ANNUAL COMPENSATION, 2015
HOTEL WORKER OCCUPATIONS
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA**

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Hotel Workers</u>
<i>Page 1 of 2</i>			
<i>Management Occupations</i>			
General and Operations Managers	\$157,600	22.9%	1.0%
Sales Managers	\$167,900	9.3%	0.4%
Financial Managers	\$168,700	4.4%	0.2%
Food Service Managers	\$57,200	11.1%	0.5%
Lodging Managers	\$54,300	40.2%	1.8%
All Other Management Occupations (Avg. All Categories)	<u>\$162,300</u>	<u>12.2%</u>	<u>0.5%</u>
Weighted Mean Annual Wage	\$107,000	100.0%	4.5%
<i>Food Preparation and Serving Related Occupations</i>			
First-Line Supervisors of Food Preparation and Serving Workers	\$36,900	5.3%	1.3%
Cooks, Restaurant	\$27,500	13.8%	3.4%
Bartenders	\$26,300	7.8%	1.9%
Waiters and Waitresses	\$25,500	29.5%	7.3%
Food Servers, Nonrestaurant	\$33,200	8.3%	2.1%
Dining Room and Cafeteria Attendants and Bartender Helpers	\$21,300	10.5%	2.6%
Dishwashers	\$20,300	6.5%	1.6%
All Other Business and Financial Operations (Avg. All Categories)	<u>\$25,300</u>	<u>18.1%</u>	<u>4.5%</u>
Weighted Mean Annual Wage	\$26,300	100.0%	24.7%
<i>Building and Grounds Cleaning and Maintenance Occupations</i>			
First-Line Supervisors of Housekeeping and Janitorial Workers	\$55,800	5.8%	1.9%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$29,000	6.1%	1.9%
Maids and Housekeeping Cleaners	\$31,100	85.1%	27.1%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All C	<u>\$31,900</u>	<u>3.0%</u>	<u>1.0%</u>
Weighted Mean Annual Wage	\$32,400	100.0%	31.9%
<i>Personal Care and Service Occupations</i>			
First-Line Supervisors of Personal Service Workers	\$42,800	4.3%	0.2%
Amusement and Recreation Attendants	\$23,900	15.0%	0.6%
Baggage Porters and Bellhops	\$25,000	34.4%	1.4%
Concierges	\$32,900	17.8%	0.7%
Recreation Workers	\$31,100	9.8%	0.4%
All Other Personal Care and Service Occupations (Avg. All Categories)	<u>\$29,100</u>	<u>18.6%</u>	<u>0.7%</u>
Weighted Mean Annual Wage	\$28,400	100.0%	4.0%

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Hotel Workers</u>
Page 2 of 2			
<i>Sales and Related Occupations</i>			
Cashiers	\$26,600	24.1%	0.5%
Retail Salespersons	\$29,200	11.7%	0.3%
Sales Representatives, Services, All Other	\$89,500	50.6%	1.1%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$55,500</u>	<u>13.5%</u>	<u>0.3%</u>
Weighted Mean Annual Wage	\$62,700	100.0%	2.2%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$70,600	7.5%	1.5%
Bookkeeping, Accounting, and Auditing Clerks	\$50,300	5.2%	1.1%
Hotel, Motel, and Resort Desk Clerks	\$26,300	71.8%	14.5%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$48,100</u>	<u>15.5%</u>	<u>3.1%</u>
Weighted Mean Annual Wage	\$34,300	100.0%	20.3%
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$80,600	8.0%	0.4%
Maintenance and Repair Workers, General	\$47,300	89.8%	4.5%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	<u>\$55,900</u>	<u>2.1%</u>	<u>0.1%</u>
Weighted Mean Annual Wage	\$50,200	100.0%	5.0%
<i>Production Occupations</i>			
Bakers	\$29,200	6.7%	0.1%
Laundry and Dry-Cleaning Workers	\$26,300	85.0%	1.9%
All Other Production Occupations (Avg. All Categories)	<u>\$40,800</u>	<u>8.3%</u>	<u>0.2%</u>
Weighted Mean Annual Wage	\$27,700	100.0%	2.2%
Weighted Average Annual Wage - All Occupations	\$36,000		92.6%

¹ Including occupations representing 4% or more of the major occupation group.

² 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.

³ 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 2014 Occupational Employment Survey data applicable to Santa Clara County, updated by the California Employment Development Department to 2015 wage levels.

**APPENDIX B TABLE 7
 2014 NATIONAL LIGHT INDUSTRIAL WORKER DISTRIBUTION BY OCCUPATION
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA**

Major Occupations (2% or more)	2014 National Light Industrial Industry Occupation Distribution	
Management Occupations	349,650	8.8%
Business and Financial Operations Occupations	256,476	6.4%
Computer and Mathematical Occupations	282,133	7.1%
Architecture and Engineering Occupations	379,825	9.5%
Life, Physical, and Social Science Occupations	605,361	15.2%
Sales and Related Occupations	132,409	3.3%
Office and Administrative Support Occupations	444,439	11.1%
Installation, Maintenance, and Repair Occupations	444,487	11.1%
Production Occupations	602,981	15.1%
Transportation and Material Moving Occupations	245,346	6.2%
All Other Light Industrial Occupations	<u>245,863</u>	<u>6.2%</u>
INDUSTRY TOTAL	3,988,970	100.0%

Industries weighted to reflect Santa Clara County industry mix. Includes Research & Development.

APPENDIX B TABLE 8
AVERAGE ANNUAL COMPENSATION, 2015
LIGHT INDUSTRIAL WORKER OCCUPATIONS
JOBS HOUSING NEXUS ANALYSIS
SANTA CLARA COUNTY, CA

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Light Industrial Workers</u>
Page 1 of 3			
<i>Management Occupations</i>			
General and Operations Managers	\$157,600	25.3%	2.2%
Marketing Managers	\$190,500	4.5%	0.4%
Computer and Information Systems Managers	\$186,700	6.4%	0.6%
Financial Managers	\$168,700	5.4%	0.5%
Industrial Production Managers	\$147,500	4.2%	0.4%
Architectural and Engineering Managers	\$190,600	9.6%	0.8%
Natural Sciences Managers	\$177,200	15.9%	1.4%
Managers, All Other	\$163,400	8.3%	0.7%
All Other Management Occupations (Avg. All Categories)	<u>\$162,300</u>	<u>20.5%</u>	<u>1.8%</u>
	Weighted Mean Annual Wage	100.0%	8.8%
<i>Business and Financial Operations Occupations</i>			
Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$81,100	8.7%	0.6%
Compliance Officers	\$93,800	8.3%	0.5%
Cost Estimators	\$77,900	4.4%	0.3%
Human Resources Specialists	\$89,400	6.2%	0.4%
Management Analysts	\$111,500	11.1%	0.7%
Training and Development Specialists	\$95,300	4.6%	0.3%
Market Research Analysts and Marketing Specialists	\$110,200	9.6%	0.6%
Business Operations Specialists, All Other	\$98,100	18.8%	1.2%
Accountants and Auditors	\$94,200	13.5%	0.9%
Financial Analysts	\$109,600	4.7%	0.3%
All Other Business and Financial Operations (Avg. All Categories)	<u>\$96,400</u>	<u>10.1%</u>	<u>0.6%</u>
	Weighted Mean Annual Wage	100.0%	6.4%
<i>Computer and Mathematical Occupations</i>			
Computer Systems Analysts	\$110,000	10.5%	0.7%
Computer Programmers	\$95,300	6.0%	0.4%
Software Developers, Applications	\$144,400	19.1%	1.4%
Software Developers, Systems Software	\$140,300	18.6%	1.3%
Network and Computer Systems Administrators	\$101,500	9.0%	0.6%
Computer User Support Specialists	\$76,500	7.7%	0.5%
Statisticians	\$152,500	5.0%	0.4%
All Other Computer and Mathematical Occupations (Avg. All Categories)	<u>\$125,600</u>	<u>24.1%</u>	<u>1.7%</u>
	Weighted Mean Annual Wage	100.0%	7.1%

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Light Industrial Workers</u>
Page 2 of 3			
<i>Architecture and Engineering Occupations</i>			
Aerospace Engineers	\$109,700	8.2%	0.8%
Biomedical Engineers	\$119,300	5.3%	0.5%
Computer Hardware Engineers	\$138,100	5.2%	0.5%
Electrical Engineers	\$130,000	9.6%	0.9%
Electronics Engineers, Except Computer	\$132,400	6.8%	0.6%
Industrial Engineers	\$116,300	10.3%	1.0%
Mechanical Engineers	\$113,300	16.3%	1.6%
Engineers, All Other	\$124,100	8.4%	0.8%
Electrical and Electronics Engineering Technicians	\$70,200	4.8%	0.5%
Engineering Technicians, Except Drafters, All Other	\$77,400	4.6%	0.4%
All Other Architecture and Engineering Occupations (Avg. All Categories)	<u>\$113,400</u>	<u>20.4%</u>	<u>1.9%</u>
Weighted Mean Annual Wage	\$115,000	100.0%	9.5%
<i>Life, Physical, and Social Science Occupations</i>			
Biochemists and Biophysicists	\$112,100	9.4%	1.4%
Medical Scientists, Except Epidemiologists	\$103,700	21.7%	3.3%
Chemists	\$84,200	9.4%	1.4%
Biological Technicians	\$59,400	12.5%	1.9%
Chemical Technicians	\$54,900	4.1%	0.6%
Social Science Research Assistants	\$50,800	5.9%	0.9%
All Other Life, Physical, and Social Science Occupations (Avg. All Categories)	<u>\$86,000</u>	<u>37.0%</u>	<u>5.6%</u>
Weighted Mean Annual Wage	\$85,500	100.0%	15.2%
<i>Sales and Related Occupations</i>			
Cashiers	\$26,600	11.5%	0.4%
Counter and Rental Clerks	\$35,600	8.9%	0.3%
Retail Salespersons	\$29,200	12.0%	0.4%
Sales Representatives, Services, All Other	\$89,500	14.9%	0.5%
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Proc	\$118,700	17.8%	0.6%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scient	\$77,000	20.2%	0.7%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$55,500</u>	<u>14.7%</u>	<u>0.5%</u>
Weighted Mean Annual Wage	\$67,900	100.0%	3.3%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$70,600	5.5%	0.6%
Bookkeeping, Accounting, and Auditing Clerks	\$50,300	8.9%	1.0%
Customer Service Representatives	\$48,200	9.3%	1.0%
Production, Planning, and Expediting Clerks	\$66,500	4.3%	0.5%
Shipping, Receiving, and Traffic Clerks	\$36,500	5.9%	0.7%
Executive Secretaries and Executive Administrative Assistants	\$67,200	9.4%	1.0%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$45,000	18.3%	2.0%
Office Clerks, General	\$40,900	18.4%	2.1%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$48,100</u>	<u>19.9%</u>	<u>2.2%</u>
Weighted Mean Annual Wage	\$49,600	100.0%	11.1%

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Light Industrial Workers</u>
Page 3 of 3			
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$80,600	8.3%	0.9%
Computer, Automated Teller, and Office Machine Repairers	\$46,200	4.9%	0.5%
Automotive Body and Related Repairers	\$46,400	13.9%	1.5%
Automotive Service Technicians and Mechanics	\$52,700	33.6%	3.7%
Industrial Machinery Mechanics	\$57,100	6.1%	0.7%
Maintenance and Repair Workers, General	\$47,300	7.4%	0.8%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	<u>\$55,900</u>	<u>25.9%</u>	<u>2.9%</u>
Weighted Mean Annual Wage	\$54,500	100.0%	11.1%
<i>Production Occupations</i>			
First-Line Supervisors of Production and Operating Workers	\$68,400	6.8%	1.0%
Team Assemblers	\$35,200	10.7%	1.6%
Bakers	\$29,200	4.5%	0.7%
Food Batchmakers	\$24,300	4.5%	0.7%
Printing Press Operators	\$38,800	6.7%	1.0%
Inspectors, Testers, Sorters, Samplers, and Weighers	\$47,000	6.0%	0.9%
Dental Laboratory Technicians	\$45,600	7.2%	1.1%
Packaging and Filling Machine Operators and Tenders	\$29,200	7.9%	1.2%
Helpers--Production Workers	\$26,800	4.8%	0.7%
All Other Production Occupations (Avg. All Categories)	<u>\$40,800</u>	<u>41.0%</u>	<u>6.2%</u>
Weighted Mean Annual Wage	\$39,800	100.0%	15.1%
<i>Transportation and Material Moving Occupations</i>			
First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	\$53,500	4.5%	0.3%
Heavy and Tractor-Trailer Truck Drivers	\$47,200	4.8%	0.3%
Light Truck or Delivery Services Drivers	\$39,300	6.8%	0.4%
Automotive and Watercraft Service Attendants	\$25,700	10.5%	0.6%
Industrial Truck and Tractor Operators	\$38,500	5.9%	0.4%
Cleaners of Vehicles and Equipment	\$25,800	36.9%	2.3%
Laborers and Freight, Stock, and Material Movers, Hand	\$31,700	11.2%	0.7%
Packers and Packagers, Hand	\$25,300	9.8%	0.6%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	<u>\$37,300</u>	<u>9.7%</u>	<u>0.6%</u>
Weighted Mean Annual Wage	\$31,500	100.0%	6.2%
Weighted Average Annual Wage - All Occupations	\$80,000		93.8%

¹ Including occupations representing 4% or more of the major occupation group.

² 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.

³ 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 2014 Occupational Employment Survey data applicable to Santa Clara County, updated by the California Employment Development Department to 2015 wage levels.

**APPENDIX B TABLE 9
 2014 NATIONAL WAREHOUSE WORKER DISTRIBUTION BY OCCUPATION
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA**

Major Occupations (2% or more)	2014 National Warehouse Industry Occupation Distribution	
Management Occupations	25,100	3.5%
Business and Financial Operations Occupations	14,700	2.0%
Office and Administrative Support Occupations	161,880	22.3%
Installation, Maintenance, and Repair Occupations	23,190	3.2%
Production Occupations	29,150	4.0%
Transportation and Material Moving Occupations	438,040	60.3%
All Other Warehouse Occupations	<u>34,030</u>	<u>4.7%</u>
INDUSTRY TOTAL	726,090	100.0%

APPENDIX B TABLE 10
 AVERAGE ANNUAL COMPENSATION, 2015
 WAREHOUSE WORKER OCCUPATIONS
 JOBS HOUSING NEXUS ANALYSIS
 SANTA CLARA COUNTY, CA

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ^z	<u>% of Total Occupation Group</u> ³	<u>% of Total Warehouse Workers</u>
<i>Page 1 of 2</i>			
<i>Management Occupations</i>			
General and Operations Managers	\$157,600	37.2%	1.3%
Sales Managers	\$167,900	4.9%	0.2%
Administrative Services Managers	\$122,400	5.3%	0.2%
Transportation, Storage, and Distribution Managers	\$118,800	36.1%	1.2%
All Other Management Occupations (Avg. All Categories)	<u>\$162,300</u>	<u>16.6%</u>	<u>0.6%</u>
Weighted Mean Annual Wage	\$143,000	100.0%	3.5%
<i>Business and Financial Operations Occupations</i>			
Wholesale and Retail Buyers, Except Farm Products	\$66,100	9.9%	0.2%
Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$81,100	7.7%	0.2%
Human Resources Specialists	\$89,400	12.2%	0.2%
Logisticians	\$99,600	15.2%	0.3%
Training and Development Specialists	\$95,300	9.1%	0.2%
Market Research Analysts and Marketing Specialists	\$110,200	5.3%	0.1%
Business Operations Specialists, All Other	\$98,100	18.9%	0.4%
Accountants and Auditors	\$94,200	10.0%	0.2%
All Other Business and Financial Operations (Avg. All Categories)	<u>\$96,400</u>	<u>11.8%</u>	<u>0.2%</u>
Weighted Mean Annual Wage	\$92,600	100.0%	2.0%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$70,600	5.4%	1.2%
Customer Service Representatives	\$48,200	8.5%	1.9%
Shipping, Receiving, and Traffic Clerks	\$36,500	21.2%	4.7%
Stock Clerks and Order Fillers	\$31,300	34.5%	7.7%
Office Clerks, General	\$40,900	6.0%	1.3%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$48,100</u>	<u>24.3%</u>	<u>5.4%</u>
Weighted Mean Annual Wage	\$40,600	100.0%	22.3%

<u>Occupation</u> ¹	<u>2015 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Warehouse Workers</u>
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$80,600	9.1%	0.3%
Bus and Truck Mechanics and Diesel Engine Specialists	\$58,600	7.7%	0.2%
Maintenance and Repair Workers, General	\$47,300	61.6%	2.0%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	<u>\$55,900</u>	<u>21.6%</u>	<u>0.7%</u>
Weighted Mean Annual Wage	\$53,100	100.0%	3.2%
<i>Production Occupations</i>			
First-Line Supervisors of Production and Operating Workers	\$68,400	8.3%	0.3%
Team Assemblers	\$35,200	19.1%	0.8%
Inspectors, Testers, Sorters, Samplers, and Weighers	\$47,000	21.9%	0.9%
Packaging and Filling Machine Operators and Tenders	\$29,200	17.1%	0.7%
Helpers--Production Workers	\$26,800	9.8%	0.4%
All Other Production Occupations (Avg. All Categories)	<u>\$40,800</u>	<u>23.8%</u>	<u>1.0%</u>
Weighted Mean Annual Wage	\$40,000	100.0%	4.0%
<i>Transportation and Material Moving Occupations</i>			
First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	\$53,500	4.9%	2.9%
Heavy and Tractor-Trailer Truck Drivers	\$47,200	8.1%	4.9%
Industrial Truck and Tractor Operators	\$38,500	21.0%	12.7%
Laborers and Freight, Stock, and Material Movers, Hand	\$31,700	42.8%	25.8%
Machine Feeders and Offbearers	\$31,400 ⁴	5.4%	3.2%
Packers and Packagers, Hand	\$25,300	10.4%	6.3%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	<u>\$37,300</u>	<u>7.4%</u>	<u>4.5%</u>
Weighted Mean Annual Wage	\$35,200	100.0%	60.3%
Weighted Average Annual Wage - All Occupations	\$42,000		95.3%

¹ Including occupations representing 4% or more of the major occupation group.

² The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

³ 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 2014 Occupational Employment Survey data applicable to Santa Clara County.

⁴ Wage data not available for Santa Clara County; wages estimated based on Alameda County wages for that occupation.

**APPENDIX C: NON-DUPLICATION BETWEEN POTENTIAL
RESIDENTIAL AND NON-RESIDENTIAL IMPACT FEE PROGRAMS**

The County of Santa Clara is considering establishing an impact fee on non-residential and certain residential construction to help mitigate the impacts of the new buildings on the demand for affordable housing in the County. KMA conducted both a Non-Residential Nexus Analysis and a Residential Nexus to enable the potential adoption of affordable housing impact fees; in this appendix, KMA conducts an 'overlap analysis' to determine whether any double-counting of impacts is possible.

To briefly summarize the Non-Residential Nexus Analysis (which is a jobs-housing nexus analysis), the logic begins with jobs located in new workplace buildings including office buildings, retail spaces and hotels. The nexus analysis then identifies the compensation structure of the new jobs depending on the building type, the income of the new worker households, and the housing affordability level of the new worker households, concluding with the number of new worker households in the lower income affordability levels.

In the Residential Nexus Analysis, the logic begins with the households purchasing or renting new market rate units. The purchasing power of those households generates new jobs in the local economy. The nexus analysis quantifies the jobs created by the spending of the new households and then identifies the compensation structure of the new jobs, the income of the new worker households, and the housing affordability level of the new worker households, concluding with the number of new worker households in the lower income affordability levels.

Some of the jobs that are counted in the Non-Residential Nexus Analysis are also counted in the Residential Nexus Analysis. The overlap potential exists in jobs generated by the expenditures of County residents, such as expenditures for food, personal services, restaurant meals and entertainment. However, many jobs counted in the jobs housing nexus are not addressed in the residential nexus analysis at all. Firms in office, industrial, warehouse and hotel buildings often serve a much broader, sometimes international, market and are generally not focused on providing services to local residents at all. These non-local serving jobs are not counted in the residential nexus analysis. Retail, which typically is primarily local-serving, is the building type that has the greatest potential for overlap between the jobs counted in the residential and non-residential nexus analyses.

Theoretically, there is a set of conditions in which 100% of the jobs counted for purposes of the Non-Residential Nexus are also counted for purposes of the Residential Nexus Analysis. For example, a small retail store or restaurant might be located on the ground floor of a new apartment building and entirely dependent upon customers from the apartments in the floors above. The commercial space on the ground floor pays the non-residential fee and the apartments would pay a residential impact fee. In this special case, the two programs mitigate the affordable housing demand of the very same workers. The combined requirements of the two programs to fund construction of affordable units must not exceed 100% of the demand for affordable units generated by employees in the new commercial space.

Complete overlap between jobs counted in the Non-Residential Nexus Analysis and jobs counted in the Residential Nexus Analysis could occur only in a very narrow set of theoretical circumstances. The following analysis demonstrates that the combined mitigation requirements do not exceed the nexus even if every job counted in the Residential Nexus Analysis is also counted in the Non-Residential Nexus Analysis. As discussed, the theoretical possibility of 100% overlap exists mainly with retail jobs that serve residents of new housing in Santa Clara County; therefore, the overlap analysis is focused on the retail land use.

Recommended Non-Residential Fee as a Percent of Maximum Fee

The Non-Residential Nexus Analysis calculates the maximum mitigation amount supported by the analysis. KMA indicated that if the County moves forward with a program, consideration of a fee in the range of \$3 - \$7 per square foot for non-residential development in the unincorporated County outside of the Stanford Campus was recommended and would place the County within the range of other counties. The overlap analysis is conducted based on this range; if the County ultimately selects a higher fee level, the overlap analysis should be revised to the higher fee level.

Building Type	Maximum Nexus Amount	Maximum Recommended Fee Level	Percent of Maximum
Retail	\$213.40	\$7.00	3%

The conclusion is that the maximum recommended fee level for Santa Clara County represents 3% of the nexus cost. So, at most, the Non-Residential fee would mitigate approximately 3% of the demand for affordable units generated by new non-residential space.

KMA notes that new residents of the unincorporated area of Santa Clara County will also make retail purchases in incorporated cities in Santa Clara County, some of which have non-residential housing impact fee programs in place. However, based on development patterns for the unincorporated area of the County only a minor share of expenditures by residents of new single family units is likely occur within the few cities that have retail fees in excess of the \$7 level tested in this overlap analysis.

Recommended Residential Impact Fee as a Percent of Maximum Fee

KMA has recommended that the County consider a residential affordable housing impact fee in the range of \$15 to \$16 per square foot level. The table below compares the maximum supported fee amounts to the maximum recommended fee of up to \$16 per square foot. Again, if the County ultimately selects a higher fee level, this overlap analysis should be revised.

Maximum Recommended Fee as Percent of Maximum Fee Amount		
	<i>Single Family Detached</i>	<i>Smaller Single Family Detached (County Island)</i>
Maximum Nexus Amount	\$16.60	\$18.70
Max Recommended Fee	\$16.00	\$16.00
Max Fee as Percent of Nexus	96%	86%

The conclusion is that the maximum recommended affordable housing impact fee level represents 86% to 96% of the maximum supported by the Residential Nexus analysis.

Combined Requirements within Nexus Maximums

The highest non-residential fee level recommended mitigates 3% of the maximum supported impact fee amount in Santa Clara County. The maximum recommended impact fee level for residential development represents up to 96% of the maximum supported impact fee amount. Therefore, the combined affordable housing mitigations would not exceed the nexus even if there were 100% overlap in the jobs counted in the two nexus analyses.

Maximum Percent of Housing Demand Mitigated	
	<i>Single Family</i>
Max Residential Fee as Percent of Residential Nexus	96%
Max Non-Res. Fee as Percent of Non-Residential Nexus for Retail	3%
Maximum Percent of Demand Mitigated	99%



KEYSER MARSTON ASSOCIATES

PUBLIC REVIEW DRAFT

ATTACHMENT C

AFFORDABLE HOUSING NEXUS ANALYSIS ADDENDUM

Addressing the

STANFORD UNIVERSITY CAMPUS

Prepared for:

County of Santa Clara

Prepared by:

Keyser Marston Associates, Inc.

April 2018

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION.....	1
A. Analysis Scope.....	1
B. Report Organization	3
C. Data Sources and Qualifications	3
II. ACADEMIC SPACE AFFORDABLE HOUSING NEXUS ANALYSIS	5
Summary by Square Foot Building Area	16
Affordability Gap.....	16
Maximum Supported Fees Per Square Foot of Academic Space.....	17
III. AFFORDABLE HOUSING NEXUS ANALYSIS – FACULTY AND STAFF HOUSING	23
A. Faculty/Staff Units and Household Income	24
B. The IMPLAN Model.....	28
C. The KMA Jobs Housing Nexus Model	29
D. Mitigation Cost	33
IV. AFFORDABILITY GAP ANALYSIS	35
County Assisted Affordable Unit Prototypes	35
Development Costs.....	36
Unit Values.....	37
Affordability Gap.....	37
APPENDIX A: WORKER OCCUPATIONS AND COMPENSATION LEVELS FACULTY AND STAFF HOUSING ANALYSIS	58
APPENDIX B: SUPPORTING ANALYSIS TABLES CONTRACT AND JANITORIAL SERVICE WORKERS.....	64
APPENDIX C: NON-DUPLICATION OF POTENTIAL FEES APPLICABLE TO STANFORD FACULTY AND STAFF HOUSING AND COMMERCIAL LINKAGE FEES IN ADJACENT CITIES	74

I. INTRODUCTION

In 2016, a set of affordable housing nexus studies (“Countywide Nexus Study”) was prepared by Keyser Marston Associates, Inc. (KMA) for the County of Santa Clara (“County”) in support of the potential adoption of affordable housing requirements applicable to new residential and non-residential development throughout the unincorporated area of the County. Due to unique aspects of the Stanford University Campus (“Stanford Campus”) and the special General Use Permit that regulates its development and has historically included provisions for affordable housing, the Stanford Campus was not analyzed as part of the Countywide Nexus Study. This Affordable Housing Nexus Analysis Addendum (“Addendum”) supplements the Countywide Nexus Study by providing analyses in support of adoption of affordable housing requirements applicable to the Stanford Campus.

Purpose

The Addendum addresses linkages between new development on the Stanford Campus, added employment, and added demand for affordable housing. Because Stanford Campus employees have a range of compensation levels and household incomes, there are housing needs at all affordability levels. This analysis quantifies the increased need for affordable housing created by development of the Stanford Campus and determines maximum supported fees based on the cost of mitigating the increased affordable housing need.

Background on Countywide Nexus Study

The Countywide Nexus Study was prepared in 2016 as part of a multi-jurisdiction effort encompassing twelve jurisdictions including Alameda and Santa Clara counties and ten cities (five cities in each county). The Countywide Nexus Study was prepared to support potential adoption of affordable housing requirements applicable to development in the unincorporated County. The Countywide Nexus Study includes a Non-Residential Nexus Analysis addressing affordable housing impacts of office, retail, hotel, light industrial and warehouse uses and a Residential Nexus Analysis addressing market rate residential development in the unincorporated County outside of the Stanford Campus. As explained above, the Stanford Campus was not addressed initially as part of the Countywide Nexus Study.

A. Analysis Scope

The analysis addresses affordable housing impacts from development of the Stanford Campus under the 2018 GUP in two primary components:

- **Academic Space**, a category that includes all types of non-residential campus facilities such as classrooms and lecture halls, laboratory and research facilities, dining halls, office, administrative, service and support space. A total of 2,275,000 square feet of academic space is proposed to be added under the 2018 GUP.

- **Faculty and Staff Housing**, consisting of 550 housing units available primarily to faculty and staff on two sites with a combined 13.5 acres.

At the conclusion of the analysis, impact analysis results are converted to a per square foot and per unit basis so that fees may be charged as individual phases or components are constructed. Impact findings on a per square foot or per unit basis will generally hold even if the total amount of academic space or number of faculty and staff units to be built under the 2018 GUP is adjusted.

In addition to the above, 2,600 student beds encompassing an estimated 1,225,000 net square feet are proposed to accommodate growth in the student population. Affordable housing impacts of the student beds are not addressed as a separate category in the analysis because janitorial, dining hall, and other on-campus employees that support students residing in campus housing are captured in the analysis of academic space where jobs are primarily located. While the student beds will also support some off-campus employment in retail and other services, affordable housing impacts associated with off-campus retail and other services to students are not included in the analysis due to the difficulty in accurately quantifying these impacts, as a conservative analysis assumption, and because it is anticipated that a large share of food service and other needs for students residing on-campus will be met on-campus and therefore is captured in the academic space analysis.

The methodology used for this Addendum is consistent with that applied in the Countywide Nexus Analysis with adaptations to incorporate data specific to the Stanford Campus provided by Stanford. The academic space analysis uses the same approach as the Non-Residential Analysis conducted as part of the Countywide Nexus Study; however, employment and household income data are specific to the Stanford Campus. The faculty and staff housing analysis uses the same approach as the Residential Nexus Analysis completed as part of the Countywide Nexus Study but is customized to reflect rents applicable to these units estimated based on rates applicable to existing Stanford faculty and staff housing.

Household Income Categories

The household income categories addressed in the analysis are the same as those used for purposes of the Countywide Nexus Study and include the following:

- Extremely Low Income: households earning up to 30% Area Median Income (AMI);
- Very Low Income: households earning over 30% AMI up to 50% of AMI;
- Low Income: households earning over 50% AMI up to 80% of AMI; and,
- Moderate Income: households earning over 80% AMI up to 120% of AMI.

The 2017 Income Limits for the County published by the California Department of Housing and Community Development are as follows:

Table I-1

2017 Income Limits for County of Santa Clara						
	Household Size (Persons)					
	1	2	3	4	5	6 +
Extr. Low (Under 30% AMI)	\$25,100	\$28,650	\$32,250	\$35,800	\$38,700	\$41,550
Very Low (30%-50% AMI)	\$41,800	\$47,800	\$53,750	\$59,700	\$64,500	\$69,300
Low (50%-80% AMI)	\$59,400	\$67,900	\$76,400	\$84,900	\$91,650	\$98,450
Moderate (80%-120% AMI)	\$95,150	\$108,750	\$122,350	\$135,950	\$146,850	\$157,700
Median (100% of Median)	\$79,300	\$90,650	\$101,950	\$113,300	\$122,350	\$131,450

Source: California Department of Housing and Community Development

The above 2017 income limits are used for the analysis of faculty and staff housing, some components of the academic space analysis and for the affordability gap calculations. Income limits for 2015 are used for portions of the academic space analysis in which comparisons are made to 2015 household income data provided by Stanford.

B. Report Organization

The report is organized into four sections and three appendices, as follows:

- Section I provides an introduction and describes the purpose and organization of this report.
- Section II presents the Affordable Housing Nexus Analysis for Academic Space, concluding with the maximum supported fee level per square foot of academic space.
- Section III presents the Affordable Housing Nexus Analysis for Faculty and Staff Housing, concluding with the maximum supported affordable housing fee level per unit or square foot of faculty and staff housing.
- Section IV contains the affordability gap analysis representing the net cost of delivering each unit of housing affordable to households at the income levels under study.
- Appendix A contains support information on worker occupations and incomes used in the faculty and staff housing analysis.
- Appendix B provides supporting analysis to identify the household income levels of contract and janitorial service workers as part of the academic space analysis.
- Appendix C provides an analysis to address the potential for overlap between residential and non-residential affordable housing fees.

C. Data Sources and Qualifications

The analyses in this report have been prepared using the best and most recent data available. Local and current data were used whenever possible. Employment estimates reflect the figures identified by Stanford in its GUP application submittal. Household income estimates for academic space workers are based on survey results provided by Stanford. Other sources include the American Community Survey of the U.S. Census, the 2010 Census, Bureau of Labor Statistics and California Employment Department (EDD), and data sets for the economic modeling software IMPLAN. Additional sources are noted in the text and footnotes. While we believe all sources utilized are sufficiently accurate and reliable for the purposes of the analyses, we cannot guarantee their accuracy. KMA assumes no liability for information from these or other sources.

II. ACADEMIC SPACE AFFORDABLE HOUSING NEXUS ANALYSIS

This section presents the analysis linking development of new academic space on the Stanford University Campus to the estimated number of affordable housing units required in each of four income categories. The analysis is the same in concept as the Non-Residential Nexus Analysis prepared by Keyser Marston Associates, Inc. in December 2016 (“Non-Residential Nexus”) addressing development of non-residential space Countywide. The specific data sources and some analysis steps used in this Addendum differ from the Non-Residential Nexus due to use of data provided by Stanford specific to Campus employees.

Following is a brief overview of the major steps of the analysis:

- A. Number of Workers** – Identify number of employees associated with development of new academic space on the Stanford Campus. Data contained in the Stanford General Use Permit application is used for this purpose.
- B. Number of Households** – Adjust from the number of workers to the number of households recognizing many workers are members of households where more than one person is employed. Data from the U.S. Census is used to make this adjustment.
- C. Household Income** – The number of worker households within each of the four income categories addressed in the analysis (Extremely Low, Very Low, Low, and Moderate) is estimated based on survey data on household incomes for Stanford workers. For contract workers, published data on worker occupations and compensation levels from the Bureau of Labor Statistics and California Employment Development Department is used to estimate household incomes.
- D. Mitigation Cost and Maximum Fee Level** – The final step is to determine the cost of providing affordable housing to the new worker households qualifying in one of the four affordability tiers. This represents the full mitigation cost for the affordable housing impacts of expansion of the Stanford Campus and the ceiling for any affordable housing fee that may be imposed. Maximum fee level findings are expressed on a per square foot basis.

Section II is organized into subsections that address each of the above major steps. The analysis and discussion are focused on the Stanford Campus; however, findings may be used to support affordable housing fees that apply to private universities more generally.

A. Number of Workers

The first step in the analysis is to identify the number of workers added by the expansion of Academic Space on the Stanford Campus under the proposed 2018 GUP.

Total Number of Workers

The estimated number of new workers to be added to the Stanford Campus is identified in the 2018 GUP Application prepared by Stanford. In total, it is estimated that 5,556 workers will be added by buildout of academic space under the 2018 GUP within the following seven categories:

- **Staff** – regular employees in non-academic positions;
- **Faculty** – professors and other academic positions such as lecturers and coaches;
- **Postdoctoral Scholars** – have a doctoral degree and work under the mentorship of a Stanford faculty member;
- **Contract** – includes employees of restaurants, dining and childcare facilities operated by third parties (most food service workers are direct employees of Stanford and included in the staff category);
- **Janitorial** – workers for contract janitorial service providers;
- **Casual and Temporary** – summer camp, summer grounds, special academic project staff, and other workers who are less than 50% of a Full Time Equivalent (FTE) and / or work no longer than six months of the year; and
- **Contingent** – workers in an academic or teaching position that are employed less than 50% of FTE and/or for less than six months.

Table II-1 summarizes the employment counts by category. Non-employee academic affiliates such as adjunct professors and visiting scholars are not included in the analysis of workforce housing needs because Stanford is not their employer.

Considerations Regarding Students and Postdoctoral Scholars

Students are excluded from the analysis since the analysis is focused on the housing needs of workers. In addition, much of the increased student population will be housed in on-campus student housing to be constructed as part of the 2018 GUP. New student beds sufficient to house all 1,700 additional undergraduate students and 918 of the 1,200 projected additional

graduate students is proposed to be constructed as part of the 2018 GUP. This results in a net increase in off-campus housing need for 282 units for graduate students out of a total proposed new student population of 2,900.

Postdoctoral scholars are included in the analysis because they create a demand for housing. Research universities such as Stanford depend on postdoctoral scholars to serve an essential function in the operation of the university and the conduct of research. Postdoctoral scholars are commonly hired to complete specific research projects or tasks and to fulfill commitments under grants awarded to faculty. Postdoctoral scholars are compensated for their work and rely on that compensation to meet housing and other expenses. Stanford classifies postdoctoral scholars as “non-matriculated, non-degree seeking students” in their written policies, a status that allows for deferral of student loan repayment; however, their role resembles that of an employee. The specific classification that is applied is not important to the analysis because inclusion of the housing needs of postdoctoral scholars would be appropriate in either case. Of course, postdoctoral scholars typically accept positions with longer term academic careers in mind and often anticipate higher pay as they advance. However, as they move on to other positions, new postdoctoral scholars replace them at similar pay levels. The notion of career advancement is no different for postdoctoral scholars than for workers in other positions and fields who hope to advance over time. As workers advance in their careers, prior positions are filled by more junior workers. Therefore, even if the compensation level of an individual worker increases, it does not necessarily change the compensation structure of the organization overall. For these reasons, postdoctoral scholars are included in the analysis with household incomes estimated based on data provided by Stanford.

Adjustments to Employee Counts for Analysis of Housing Impacts

Two adjustments to employee counts are made for purposes of the analysis of housing impacts to remove workers who are not fully attributable to Stanford or who do not result in a net increase in housing need:

- *Part time worker adjustment* – Casual, temporary and contingent employees working less than 50% time and / or less than six months of the year are adjusted to reflect the fact that housing needs for these workers may not be fully attributable to Stanford because employment at Stanford represents supplemental or temporary income or because they hold multiple jobs. Housing needs for workers employed more than 50% FTE is assumed to be 100% attributable to Stanford; for workers employed from 20% to 50% FTE, housing needs are assumed to be 50% attributable to Stanford; and for workers at 20% of FTE or less, housing needs are not assumed to be attributable to Stanford at all because it may represent supplemental income or temporary employment as opposed to a primary job for that worker. The part time worker adjustments reduce the count of employees whose housing needs are considered attributable to Stanford by 992 workers.

- *Declining industries adjustment* – This adjustment recognizes the possibility that not all jobs added by the 2018 GUP will be net new to the local economy. Long term declines in employment experienced in some sectors of the economy mean some jobs may be filled by workers displaced from another industry and who are presumed to already have housing locally. A 20% adjustment is utilized in the analysis based on long term shifts in employment that have occurred in some sectors of the local economy and the likelihood of continuing changes in the future. See the Non-Residential Nexus Analysis for additional information about how this adjustment was derived.

The declining industries adjustment is not applied to faculty, postdoctoral scholars and contingent workers given these jobs are not likely to be filled by existing local workers downsized from a job in a declining industry. Efforts to fill academic positions are not focused on or limited to workers already living in the local area. Stanford regularly attracts top faculty and researchers from throughout the U.S. and positions are often filled through an extremely competitive search process in which workers downsized from other local industries are unlikely to participate.

As shown in Table II-1, the number of workers considered in the analysis of housing impacts is 4,010 after adjustments for part time workers and declining industries.

Table II-1 Workers Added with 2018 GUP and Adjustments for Analysis of Housing Impacts								
	Staff	Faculty	Post- Doc	Contract	Janitorial	Casual and Temp	Contingent	Total
No. of Workers ⁽¹⁾	2,438	789	961	72	57	966	273	5,556
Remove workers 20% FTE or less ⁽²⁾	0	0	0	0	0	(596)	(197)	(793)
Adjust workers 20%- 50% FTE ⁽²⁾	0	0	0	0	0	(163)	(36)	(199)
Workers after part time adjustment	2,438	789	961	72	57	207	40	4,564
Adjust for Declining Industries @20%	(488)	N/A	N/A	(14)	(11)	(41)	N/A	(554)
Net New Workers After Adjustments	1,950	789	961	58	46	166	40	4,010

(1) From Tables 2 and 5, Chapter 5, GUP Application, Stanford University.

(2) Adjustments are based on data provided by Stanford.

B. Number of Households

The number of workers from the prior step is converted to the number of 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 equation all non-working households, such as retired persons and students.

The number of workers per household in a given geographic area is a function of household size, labor force participation rate and employment availability, as well as other factors. According to the 2011-2015 ACS, the number of workers per worker household in the County was 1.77, including full- and part-time workers. For post-doctoral scholars, the adjustment from number of workers to number of households uses a different factor derived from the Stanford Annual Transportation Survey of 2.14. The total number of jobs created is divided by the number of workers per worker household to determine the number of new households.

Table II-2 New Employee Households, 2018-2035								
	Staff	Faculty	Post- Doc	Contract	Janitorial	Casual and Temp	Contingent	Total
Net New Workers	1,950	789	961	58	46	166	40	4,010
Workers Per Worker Household	1.77	1.77	2.14	1.77	1.77	1.77	1.77	
Net New Households	1,102	446	449	33	26	94	23	2,172

C. Household Incomes

Household incomes for workers to be added by the 2018 GUP are estimated using data collected as part of Stanford's Annual Transportation Survey conducted in 2015. The survey provides data on household income by category of employee. The data was compared to income criteria published by the California Housing and Community Development Department (HCD) to determine the percentage of workers who qualify within each of the four income categories (Extremely Low, Very Low, Low and Moderate). For contract and janitorial services workers, published sources on worker occupations and incomes are used given the survey does not address contract and third-party workers.

Survey Data

Stanford conducts an annual survey as part of a program to evaluate the performance of transportation demand measures. The survey is primarily conducted online but is supplemented by in-person surveys conducted on mobile devices to ensure employees who do not have

access to computers have a means to participate. The response rate by category of employee was estimated by KMA and summarized in Table II-3 below based on the reported number of responses and the campus population figures as of 2015 indicated in the GUP application. Response rates were highest for staff and lowest for faculty and casual and temporary employees.

Table II-3 Survey Response Rate by Category of Worker					
	Staff	Faculty	Post-Doc	Casual and Temp	Total
Number of Campus Workers, 2015	8,612	2,959	2,264	3,470	17,305
Number of Survey Responses	4,023	367	738	311	5,439
Response Rate	47%	12%	33%	9%	31%

The survey covers staff, faculty, postdoctoral scholars, casual and temporary employees. The survey is not a random sample of the Stanford Campus workforce and is potentially subject to systematic bias if employees who chose to participate have characteristics different from those who elected not to participate in the survey. While imperfect, the data is the best data source available on the household incomes of Stanford workers and is deemed sufficiently reliable for purposes of the analysis. A cross-check of the Stanford data against publicly available data from the U.S. Census was performed, as described on page 14, which provided confirmation as to the reliability of the Stanford data.

The survey provides the number of households within a series of income ranges which have been converted to percentages in Table II-4 below.

Table II-4 Percent of Survey Respondents by Household Income Range				
Household Income	Staff	Faculty	Post-Doc	Casual and Temp
\$300,000 and over	6%	43%	1%	4%
\$250,000 to \$299,999	5%	16%	1%	3%
\$200,000 to \$249,999	9%	16%	1%	6%
\$150,000 to \$199,999	13%	13%	8%	11%
\$130,000 to \$149,999	7%	4%	5%	6%
\$115,000 to \$129,999	7%	2%	4%	5%
\$100,000 to \$114,999	9%	2%	7%	6%
\$80,000 to \$99,999	11%	3%	10%	9%
\$65,000 to \$79,999	13%	0%	7%	7%
\$50,000 to \$64,999	15%	0%	38%	8%
\$35,000 to \$49,999	3%	0%	17%	10%
\$25,000 to \$34,999	0%	0%	0%	8%
\$15,000 to \$24,999	0%	0%	0%	9%
\$10,000 to \$14,999	0%	0%	1%	3%
Under \$10,000	0%	0%	0%	5%
Total	100%	100%	100%	100%

Percent of Households by Income Category

The percentage of worker households within each of the four income categories was estimated by comparing the survey data summarized above to published income limits from the California Department of Housing and Community Development (HCD) shown below in Table II-5. 2015 income limits are used for this component of the analysis to be consistent with the year applicable to the household income data.

Table II-5 2015 Income Limits for Santa Clara County						
	Household Size (Persons)					
	1	2	3	4	5	6 +
Extr. Low (Under 30% AMI)	\$22,350	\$25,550	\$28,750	\$31,900	\$34,500	\$37,050
Very Low (30%-50% AMI)	\$37,250	\$42,550	\$47,850	\$53,150	\$57,450	\$61,700
Low (50%-80% AMI)	\$59,400	\$67,900	\$76,400	\$84,900	\$91,650	\$98,450
Moderate (80%-120% AMI)	\$89,300	\$102,050	\$114,800	\$127,550	\$137,750	\$147,950
Median (100% of Median)	\$74,400	\$85,050	\$95,650	\$106,300	\$114,800	\$123,300

Source: California Department of Housing and Community Development

The income ranges from the survey do not align with HCD income categories. To estimate how many worker households fall within each of the four income categories, it was necessary to estimate the distribution of worker incomes within each of the reported income ranges. For purposes of the estimates, an even distribution within the income ranges is assumed.

Tables II-12 through II-15 at the end of Section II. provide additional survey results on household income by household size and the percentage of worker households estimated to fall into one of the four income tiers for each household size category.

Contingent employees

The survey data did not include contingent employees which are estimated to represent around 1% of total housing demand. Stanford indicates contingent employees are primarily academic and other teaching staff who work less than six months of the year, or less than half time. Since contingent employees have a role that is most comparable to faculty, household incomes for the 23 contingent worker households is estimated based on the household income data for faculty. It is likely that contingent workers have somewhat lower household incomes than faculty, especially considering some may not work full time. For part-time contingent workers, it is impractical to assess potential supplemental income from non-Stanford sources. In the absence of better data, data on faculty household incomes was deemed to be the most applicable basis for estimating the household incomes of contingent workers. Since contingent workers represent a relatively small share of overall housing demand, even if this approach overstates their household incomes somewhat, it would be unlikely to have a material effect on the findings of the analysis.

Third Party Contract and Janitorial Workers

For contract and janitorial service workers, household incomes are estimated using published sources because they were not covered by the Stanford survey. Published sources used to estimate incomes for contract workers include 2017 compensation data from the California Employment Development Department (EDD) and data on worker occupations from the Bureau of Labor Statistics Occupational Employment Survey. The data sources and methodology are the same as used in the Non-Residential Nexus.

The following steps are used to estimate household incomes for contract and janitorial workers:

1. *Worker Occupations* – The occupational breakdown of workers is estimated using data from the Bureau of Labor Statistics on the distribution of occupations within industries. For contract workers, the distribution of occupations is based on the industry sector for restaurants. For janitorial service workers, the mix of occupations reflects KMA's selection of representative occupations applicable to janitorial services from within a broader industry category for services to buildings and dwellings.
2. *Worker Income* – Employee incomes are estimated using EDD data for the County on wage and salaries by individual occupation. The distribution of wages reported by EDD is used to estimate the percent of worker households that would fall into each of the four HCD income categories for every potential combination of household size and number of workers in the household. For households with more than one worker, individual

employee income data is used to estimate household income by assuming multiple earner households are, on average, formed of individuals with similar incomes.

3. *Household Size and Number of Workers* – The percentage of households applicable to each potential household size and number of workers combination is calculated using data from the 2011-2015 American Community Survey.
4. *Household Income Category* – The percentage of worker households qualifying as Extremely Low, Very Low, Low, or Moderate is estimated by multiplying the results of the two prior steps (percent of worker households that fall into each income category for every potential combination of household size and number of workers and the percent of households applicable to each household size and number of workers combination).

This approach was applied for purposes of the 59 contract and janitorial service worker households which represent approximately 3% of the 2,172 total worker households addressed in the analysis.

For the analysis of contract and janitorial service workers, 2017 income limits are used consistent with the 2017 compensation levels applied. The 2017 income limits are shown in Table II-6.

Table II-6 2017 Income Limits for Santa Clara County						
	Household Size (Persons)					
	1	2	3	4	5	6 +
Extr. Low (Under 30% AMI)	\$25,100	\$28,650	\$32,250	\$35,800	\$38,700	\$41,550
Very Low (30%-50% AMI)	\$41,800	\$47,800	\$53,750	\$59,700	\$64,500	\$69,300
Low (50%-80% AMI)	\$59,400	\$67,900	\$76,400	\$84,900	\$91,650	\$98,450
Moderate (80%-120% AMI)	\$95,150	\$108,750	\$122,350	\$135,950	\$146,850	\$157,700
Median (100% of Median)	\$79,300	\$90,650	\$101,950	\$113,300	\$122,350	\$131,450

Source: California Department of Housing and Community Development

Appendix A Tables 1 through 7 present the analysis supporting the estimated distribution of contract and janitorial employee households by income tier.

Summary by Household Income Level

The estimated percentage of workers by household income category is summarized in Table II-7A. Faculty have the highest household incomes with all but 4% earning over 120% of median income. Contract food service and janitorial service workers are estimated to have the lowest incomes with nearly all earning 120% of AMI or below. Overall, approximately 46% of employee households are estimated to fall into one of the four income tiers through 120% of AMI. This is a similar percentage to office workers as identified in the Countywide Nexus Study.

Table II – 7A								
Estimated Distribution of Employee Households by Income Category								
Income Category	Staff	Faculty	Post-Doc	Contract	Janitorial	Casual and Temp	Contingent	Weighted Average
Extremely Low	0.6%	0.0%	0.9%	33.3%	25.2%	18.2%	0.0%	2.1%
Very Low	3.3%	0.0%	11.1%	36.6%	36.4%	13.3%	0.0%	5.5%
Low	20.0%	0.4%	42.4%	21.9%	20.9%	12.9%	0.4%	20.1%
Moderate	<u>23.6%</u>	<u>3.5%</u>	<u>21.6%</u>	<u>6.8%</u>	<u>14.7%</u>	<u>18.0%</u>	<u>3.5%</u>	<u>18.3%</u>
Subtotal	47.5%	3.9%	75.9%	98.7%	97.3%	62.3%	3.9%	46.0%
Above Moderate	<u>52.5%</u>	<u>96.1%</u>	<u>24.1%</u>	<u>1.3%</u>	<u>2.7%</u>	<u>37.7%</u>	<u>96.1%</u>	<u>54.0%</u>
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Source: Stanford University, California Department of Housing and Community Development, KMA.
See Tables II-12 to II-15 and Appendix B Table 1 to 7 for supporting information.*

The distribution of household incomes from Table II-7A is applied to the number of households from Table II-2 to calculate the number of affordable units needed by income category. It is estimated that a total of 999 affordable units are needed to house all new employee households with incomes from 0% to 120% of AMI. Most of the affordable unit need is at the Low (50% to 80% AMI) and Moderate-Income level (80% to 120% AMI) which together account for 83% of the total affordable unit need.

Table II-7B								
Number of New Employee Households by Income Category								
Income Category	Staff	Faculty	Post-Doc	Contract	Janitorial	Casual and Temp	Contingent	Total
Extremely Low	6	-	4	11	7	17	-	45
Very Low	36	-	50	12	9	12	-	120
Low	220	2	190	7	5	12	0	437
Moderate	260	16	97	2	4	17	1	396
Subtotal	523	18	341	32	25	58	1	999
Above Moderate	579	428	108	0	1	35	22	1,173
Total	1,102	446	449	33	26	94	23	2,172

Cross Check of Stanford Survey Data to Verify Reasonableness

To validate the reasonableness of the survey data provided by Stanford, KMA used U.S. Census data as a secondary cross-check. U.S. Census American Community Survey (ACS) data on the household incomes of workers employed in colleges, universities and professional schools in the County was accessed using the data set available through the Public Use Microdata Sample (PUMS) program. Household incomes were then compared against household income limits to identify the distribution by income category shown in Table II-7C, column A. The Stanford data from Table II-7A is summarized in column B for comparison.

Table II-7C – Cross Check of Stanford Data Against U.S. Census

Household Income Category	A. Census Data Applicable to College and University Workers*	B. Stanford 2015 Survey Data [Used in Analysis]
Extremely Low	5.6%	2.1%
Very Low	5.6%	5.5%
Low	10.5%	20.1%
Moderate	<u>18.5%</u>	<u>18.3%</u>
Total through 120% of AMI	40.2%	46.0%

*Derived from the U.S. Census American Community Survey data for 2011-2016 on the household incomes of workers in the County of Santa Clara in the industry category for Colleges, universities, and professional schools, including junior colleges.

College and university workers within the County as a whole have a 3.5% greater share represented in the Extremely Low-Income category and a 9.6% lower share in the Low-Income category. The share of workers in the Very Low and Moderate-Income categories are approximately the same between the U.S. Census and Stanford data sets. It is expected that there would be some difference between the Stanford data and publicly available data sets to the extent occupations and compensation levels of Stanford workers vary from those of other colleges and universities in the County. Overall, the cross check provides added confidence in the reasonableness of the Stanford-provided survey data. Since the Stanford data is a more accurate reflection of the household incomes of Stanford's workforce than the U.S. Census data would be, the Stanford data is used in the analysis.

Adjustment to Avoid Potential Double Counting with Faculty and Staff Analysis

The affordable housing nexus analysis for faculty and staff housing is based on an estimate of the employment associated with household consumption of goods and services. While most employment associated with expenditures by residents of the faculty and staff housing will occur off-campus, a share of expenditures can be expected to occur on campus. Expenditures on lunch are an obvious example. Childcare is another. To avoid potential double counting of affordable housing needs between the two nexus analyses, an adjustment is made to remove one third of all affordable housing need identified for the faculty and staff housing, as quantified in Section III., from the amount included in the Academic space analysis. While it is likely that less than one third of household spending by residents of the faculty and staff housing will occur on campus, in the absence of specific data on the level of on-campus spending by these households, a conservative adjustment factor is applied.

Table II-8 Adjustment to Avoid Potential Double Counting with Faculty and Staff Analysis			
Income Category	Employee Households: Academic Space	Less: Adjustment to Avoid Potential for Double Counting with Faculty and Staff Housing Analysis	Adjusted Total Employee Households
Extremely Low	45	(7)	38
Very Low	120	(11)	108
Low	437	(9)	429
Moderate	<u>396</u>	<u>(8)</u>	<u>389</u>
Subtotal	999	(35)	964

Summary by Square Foot Building Area

The analysis thus far has identified the employee housing need associated with the entire Stanford Campus expansion under the proposed 2018 GUP. In this section, conclusions are translated to housing need per square foot of building area. The conversion is made by dividing the number of employee housing units that are needed within each income category by the total square feet of academic space proposed to be added under the 2018 GUP. Table II-9 shows the results of this calculation.

Table II-9 Net New Employee Households Per Square Foot of Academic Space		
Income Category	Net New Employee Households	Employee Households Per Square Foot of Academic Space ⁽¹⁾
Extremely Low	38	0.00001662
Very Low	108	0.00004765
Low	429	0.00018839
Moderate	<u>389</u>	<u>0.00017094</u>
Total through 120% of AMI	964	0.00042359

(1) Calculated by dividing the number of households by the 2,275,000 square feet of Academic Space added with the proposed 2018 GUP.

This is the summary of the housing nexus analysis linking expansion of academic space on the Stanford Campus to employees to housing demand by income level. We believe these findings represent a reasonable estimate of the affordable housing demand associated with development of new academic space.

Affordability Gap

A key component of the analysis is the affordability gap, which represents the subsidy required to make the unit affordable to households in each of the four categories of Area Median Income (AMI): Extremely Low (under 30% of median), Very Low (30% to 50%), Low (50% to 80%), and Moderate (80% to 120%). Fees are anticipated to be used to provide financial assistance to affordable projects built by non-profit affordable housing developers. For Extremely Low, Very

Low, and Low Income units, the affordability gap assumes that the County would assist affordable rental units financed with 4% tax credits. For Moderate Income, a for-sale unit is assumed to be assisted. Development costs anticipate that fees applicable to the Stanford Campus will be primarily used to assist in creation of affordable units near the Stanford Campus, consistent with the existing GUP condition, which establishes a six-mile radius for affordable units assisted with the Stanford Affordable Housing Fund. See Section IV. for additional discussion and supporting calculations for the affordability gaps shown below.

Table II-10 Affordability Gaps	
Extremely Low (Under 30% AMI)	(\$402,000)
Very Low (30% to 50% AMI)	(\$321,000)
Low (50% to 80% AMI)	(\$281,000)
Moderate (80% to 120% AMI)	(\$399,000)

AMI = Area Median Income;
See Section IV. for supporting analysis.

Maximum Supported Fees Per Square Foot of Academic Space

The last step in the nexus analysis calculates the cost of delivering affordable housing to the new households. The demand for affordable units in each income range per square foot of building area from Table II-9 is multiplied by the affordability gaps from Table II-10 to determine the mitigation cost per square foot of academic space. The calculation is shown in Table II-11, below:

Table II - 11 Mitigation Costs per Square Foot of Academic Space (Maximum Supported Fee)			
	A.	B.	C.
Income Category	Housing Need Per Square Foot of Academic Space	Mitigation Cost Per Affordable Unit (Affordability Gap)	Mitigation Cost Per Square Foot of Academic Space (= A. X B.)
Extremely Low	0.00001662	\$402,000	\$6.70
Very Low	0.00004765	\$321,000	\$15.30
Low	0.00018839	\$281,000	\$52.90
Moderate	0.00017094	\$399,000	<u>\$68.20</u>
Total Mitigation Cost / Maximum Supported Fee			\$143.10

Note: Nexus findings are not recommended fee levels.

The maximum supported fee level is \$143.10 per square foot of academic space. This represents the maximum fee that could be charged for construction of new academic space to mitigate its impacts on the need for affordable housing. Maximum fee levels are technical analysis findings not policy recommendations.

While a large share of Stanford employees have household incomes high enough to exceed 120% of AMI, approximately 46% still qualify in one of the four affordable income categories.

Combined with the high cost of developing residential units, this results in a high nexus or mitigation cost.

Table II-12
Household Income Distribution - Stanford University Staff
Affordable Housing Nexus Analysis - Academic Space
County of Santa Clara, CA

I. Number of Survey Respondents by Household Income Range and Household Size - Staff

	Household Size						Total All Responses	Percent
	1	2	3	4	5	6+		
Household Income								
\$300,000 and over	5	67	62	94	20	9	257	6%
\$250,000 to \$299,999	5	71	47	55	14	7	199	5%
\$200,000 to \$249,999	20	130	100	96	17	4	367	9%
\$150,000 to \$199,999	26	223	128	113	24	14	528	13%
\$130,000 to \$149,999	27	129	71	45	19	7	298	7%
\$115,000 to \$129,999	40	109	61	43	13	9	275	7%
\$100,000 to \$114,999	67	154	78	53	16	8	376	9%
\$80,000 to \$99,999	111	145	84	63	22	23	448	11%
\$65,000 to \$79,999	155	168	91	70	30	15	529	13%
\$50,000 to \$64,999	140	191	136	72	28	21	588	15%
\$35,000 to \$49,999	34	32	25	20	4	8	123	3%
\$25,000 to \$34,999	4	5	4	3	2	1	19	0%
\$15,000 to \$24,999	2	4	4	2	0	0	12	0%
\$10,000 to \$14,999	0	1	1	0	1	0	3	0%
Under \$10,000	1	0	0	0	0	0	1	0%
Total	637	1,429	892	729	210	126	4,023	100%

Source: 2015 Stanford Annual Transportation Survey.

II. Household Income Category Applicable to Survey Respondents - Staff

Income Category	Household Size						Total All Responses	Percent of Total
	1	2	3	4	5	6+		
Extremely Low	2	5	7	4	3	2	23	0.6%
Very Low	10	21	24	36	18	23	132	3.3%
Low	117	239	209	142	57	41	805	20.0%
Moderate	259	302	183	137	46	25	950	23.6%
Above Moderate	249	862	470	410	87	35	2,113	52.5%
Total	637	1,429	892	729	210	126	4,023	100.0%

Sources: Respondents placed into income category based on the above data on incomes and the 2015 HCD income limits for Santa Clara County. For purposes of estimates, worker household incomes are assumed to be evenly distributed within the individual income ranges identified in the survey data.

Table II-13
Household Income Distribution - Stanford University Faculty
Affordable Housing Nexus Analysis - Academic Space
County of Santa Clara, CA

I. Number of Survey Respondents by Household Income Range and Household Size - Faculty

	Household Size						Total All Responses	Percent
	1	2	3	4	5	6+		
Household Income								
\$300,000 and over	7	59	34	40	12	7	159	43%
\$250,000 to \$299,999	6	26	13	13	1	0	59	16%
\$200,000 to \$249,999	8	27	10	9	5	1	60	16%
\$150,000 to \$199,999	8	19	2	15	2	1	47	13%
\$130,000 to \$149,999	1	7	3	1	1	0	13	4%
\$115,000 to \$129,999	0	4	2	2	0	0	8	2%
\$100,000 to \$114,999	3	4	1	1	0	0	9	2%
\$80,000 to \$99,999	4	4	1	1	0	0	10	3%
\$65,000 to \$79,999	0	0	1	0	0	0	1	0%
\$50,000 to \$64,999	1	0	0	0	0	0	1	0%
\$35,000 to \$49,999	0	0	0	0	0	0	0	0%
\$25,000 to \$34,999	0	0	0	0	0	0	0	0%
\$15,000 to \$24,999	0	0	0	0	0	0	0	0%
\$10,000 to \$14,999	0	0	0	0	0	0	0	0%
Under \$10,000	0	0	0	0	0	0	0	0%
Total	38	150	67	82	21	9	367	100%

Source: 2015 Stanford Annual Transportation Survey.

II. Household Income Category Applicable to Survey Respondents - Faculty

Income Category	Household Size						Total All Responses	Percent of Total
	1	2	3	4	5	6+		
Extremely Low	-	-	-	-	-	-	-	0.0%
Very Low	-	-	-	-	-	-	-	0.0%
Low	1	-	1	0	-	-	2	0.4%
Moderate	2	5	2	3	0	-	13	3.5%
Above Moderate	35	145	64	78	21	9	353	96.1%
Total	38	150	67	82	21	9	367	100.0%

Sources: Respondents placed into income category based on the above data on incomes and the 2015 HCD income limits for Santa Clara County. For purposes of estimates, worker household incomes are assumed to be evenly distributed within the individual income ranges identified in the survey data.

Table II-14
Household Income Distribution - Stanford University Postdoctoral Scholars
Affordable Housing Nexus Analysis - Academic Space
County of Santa Clara, CA

I. Number of Survey Respondents by Household Income Range and Household Size - Postdoc Scholar

	Household Size						Total All Responses	Percent
	1	2	3	4	5	6+		
Household Income								
\$300,000 and over	0	3	1	2	0	0	6	1%
\$250,000 to \$299,999	0	0	1	1	0	2	4	1%
\$200,000 to \$249,999	0	8	1	0	1	1	11	1%
\$150,000 to \$199,999	0	32	14	8	2	0	56	8%
\$130,000 to \$149,999	0	22	8	4	1	1	36	5%
\$115,000 to \$129,999	0	19	7	6	0	1	33	4%
\$100,000 to \$114,999	4	36	10	5	0	0	55	7%
\$80,000 to \$99,999	7	43	14	6	2	1	73	10%
\$65,000 to \$79,999	15	22	8	7	1	0	53	7%
\$50,000 to \$64,999	85	102	47	31	10	6	281	38%
\$35,000 to \$49,999	35	50	21	8	3	5	122	17%
\$25,000 to \$34,999	2	0	0	0	0	0	2	0%
\$15,000 to \$24,999	0	0	1	0	0	0	1	0%
\$10,000 to \$14,999	1	0	2	1	0	0	4	1%
Under \$10,000	1	0	0	0	0	0	1	0%
Total	150	337	135	79	20	17	738	100%

Source: 2015 Stanford Annual Transportation Survey.

II. Household Income Category Applicable to Survey Respondents - Postdoc Scholar

Income Category	Household Size						Total All Responses	Percent of Total
	1	2	3	4	5	6+		
Extremely Low	2	-	3	1	-	1	7	0.9%
Very Low	7	25	18	15	8	9	82	11.1%
Low	83	131	56	33	7	2	313	42.4%
Moderate	50	66	26	15	1	2	159	21.6%
Above Moderate	8	115	32	16	4	3	178	24.1%
Total	150	337	135	79	20	17	738	100.0%

Sources: Respondents placed into income category based on the above data on incomes and the 2015 HCD income limits for Santa Clara County. For purposes of estimates, worker household incomes are assumed to be evenly distributed within the individual income ranges identified in the survey data.

Table II-15
Household Income Distribution - Stanford University Casual and Temporary Workers
Affordable Housing Nexus Analysis - Academic Space
County of Santa Clara, CA

I. No. of Survey Respondents by Household Income and Household Size - Casual and Temporary Workers

	Household Size						Total All Responses	Percent
	1	2	3	4	5	6+		
Household Income								
\$300,000 and over	1	5	2	2	1	2	13	4%
\$250,000 to \$299,999	1	4	2	1	0	0	8	3%
\$200,000 to \$249,999	1	8	3	3	2	1	18	6%
\$150,000 to \$199,999	4	13	10	5	2	0	34	11%
\$130,000 to \$149,999	1	14	0	2	1	0	18	6%
\$115,000 to \$129,999	1	9	2	4	0	0	16	5%
\$100,000 to \$114,999	1	12	4	3	0	0	20	6%
\$80,000 to \$99,999	5	11	8	4	0	0	28	9%
\$65,000 to \$79,999	6	13	2	1	1	0	23	7%
\$50,000 to \$64,999	6	7	4	2	5	2	26	8%
\$35,000 to \$49,999	8	13	3	5	2	1	32	10%
\$25,000 to \$34,999	6	8	4	2	2	2	24	8%
\$15,000 to \$24,999	7	5	8	6	2	1	29	9%
\$10,000 to \$14,999	3	2	0	0	2	1	8	3%
Under \$10,000	2	7	5	0	0	0	14	5%
Total	53	131	57	40	20	10	311	100%

Source: 2015 Stanford Annual Transportation Survey.

II. Household Income Category Applicable to Survey Respondents - Casual Workers

Income Category	Household Size						Total All Responses	Percent of Total
	1	2	3	4	5	6+		
Extremely Low	10	14	15	7	6	4	57	18.2%
Very Low	9	14	5	6	5	2	41	13.3%
Low	11	16	6	4	4	0	40	12.9%
Moderate	11	23	12	9	0	-	56	18.0%
Above Moderate	13	63	19	14	6	3	117	37.7%
Total	53	131	57	40	20	10	311	100.0%

Sources: Respondents placed into income category based on the above data on incomes and the 2015 HCD income limits for Santa Clara County. For purposes of estimates, worker household incomes are assumed to be evenly distributed within the individual income ranges identified in the survey data.

III. AFFORDABLE HOUSING NEXUS ANALYSIS – FACULTY AND STAFF HOUSING

The following section provides an analysis of the linkages between the development of new faculty and staff housing on the Stanford Campus and the need for additional affordable housing. This analysis supplements the findings of the Residential Nexus Analysis conducted as part of the Countywide Nexus Study by providing nexus support for adoption of affordable housing fees that would apply to faculty and staff housing developed on the Stanford Campus.

Faculty and Staff Housing

In its 2018 GUP application, Stanford indicated that it plans to build up to 550 housing units that can be occupied by faculty and staff (Housing, 6.13). Historically, Stanford has built both ownership units (long-term leaseholds) and rental units for its faculty and staff. For the new housing, Stanford has indicated the units are expected to be rental although Stanford would not be precluded from offering the units for sale. For purposes of the nexus analysis, KMA assumes the new units will be rental. If units had been assumed to be for-sale rather than rental, it is likely that maximum affordable housing fees supported by the nexus analysis would have been somewhat higher; therefore, the assumption that the units will be rented is the more conservative approach and consistent with Stanford's stated plans.

Stanford has indicated that rents for the new faculty and staff units will be comparable to existing Stanford faculty and staff housing units, which are offered at rents somewhat below the prevailing market rates in Palo Alto. Stanford has indicated that the units are not proposed to be income restricted and income would not be used as a basis for prioritizing tenants. Units are prioritized primarily according to category of employment at the university with the highest level of priority provided to faculty, senior fellows, and key staff.¹ Data on rents applicable to existing faculty and staff housing is provided in Section A and Table III-7, below. Based on rents applicable to existing faculty and staff housing, KMA estimates households will need to earn an average of 150% of AMI to afford the rents.

Nexus Concept

The underlying concept of the analysis is that newly constructed faculty and staff housing units represent new households in the County who will consume goods and services, either through purchases of goods and services or 'consumption' of government services. New consumption translates to 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 the local area and therefore need affordable housing.

¹ Stanford University Rental Housing Programs Eligibility Criteria accessed at <https://fsh.stanford.edu/brochures/EligibilityRental.pdf>

Methodology

The methodology used for the faculty and staff nexus analysis is the same as the Residential Nexus Analysis included as part of the Countywide Nexus Study. The affordable housing impacts documented in the analysis are for workers in new jobs providing goods and services to residents of the faculty and staff housing. These are new jobs located primarily off-campus in sectors such as retail, restaurants and education that provide goods and services to the new residents.

The nexus analysis starts with the estimated rental rate for the faculty and staff housing, and moves through a series of linkages from the estimated gross income of the household that rents the unit, the income available for expenditures on goods and services, the jobs associated with the purchases and delivery of those services, the income of the workers doing those jobs, the household income of the workers and, ultimately, the affordability level of the housing needed by the worker households.

The steps of the analysis from household income available for expenditures to jobs generated are performed using the IMPLAN model, a model widely used for the past 35 years to quantify the impacts of changes in a local economy, including employment impacts from changes in personal income. From job generation by industry, KMA used its own jobs housing nexus model to quantify the income of worker households by affordability level. The analysis quantifies impacts occurring within the County of Santa Clara. While much of the impact will occur within the County, some impacts will be experienced beyond the County's boundaries. The IMPLAN model computes the jobs generated within the County and sorts out those that occur beyond the County boundaries. In summary, the KMA nexus analysis quantifies all the job impacts occurring within the County of Santa Clara and related worker households. Job impacts, like most types of impacts, occur irrespective of political boundaries. And like other types of impact analyses, such as traffic, impacts beyond jurisdiction boundaries may be mitigated by the jurisdiction where the development creating the impact is located.

A. Faculty/Staff Units and Household Income

This section defines the estimated size and rent levels for the new faculty and staff housing units which is then used to estimate the incomes of the households who will live in the units. Typical unit sizes and rents are based on existing faculty and staff housing owned by Stanford. Household income is estimated based on the amount necessary to afford the rents and becomes the basis for the input to the IMPLAN model. These are the starting points of the chain of linkages that connect new faculty/staff housing units to additional demand for affordable housing.

Rental Rates for Faculty and Staff Housing

KMA researched asking rents at existing Stanford-owned faculty apartments, including Stanford West in Palo Alto and The Colonnade in Los Altos.

Stanford West is a 628-unit apartment complex with a mix of 1 and 2-bedroom units available for rent by Stanford-affiliated households. The units range from 700 square feet to almost 1,400 square feet, with rents in the \$2,400 to \$4,500 range. This translates to between \$3 and \$4 per square foot. Based on the publicly available data, the average unit is around 945 square feet with an asking rent of \$3,382, or \$3.58 per square foot for qualifying Stanford-affiliated households. A share of the (non-BMR) units at Stanford West are offered to Stanford affiliates at rents that fall within the upper end of the range affordable to Moderate Income households; however, priority for occupancy is provided to faculty, senior fellows and key staff who may earn more than 120% of AMI and so cannot be assumed to address a need for Moderate Income housing.

The Colonnade is a 167-unit apartment project in Los Altos purchased by Stanford for use as faculty and staff housing. One-bedroom units range from 547 to 1,024 square feet with asking rents from \$2,391 to \$3,311 per month. Two-bedroom units range from 955 to 1,222 square feet and rent for \$3,458 to \$4,396 per month. More information on rents for these two apartment projects can be found in Table III-7 at the end of this section.

Based on the available data, KMA estimates that the new rental units will average 950 square feet and 1.7 bedrooms and rent for approximately \$3,300 per month, or \$3.47 per square foot.

Table III-1 Prototypical Faculty/Staff Housing Units	
	<i>Faculty/Staff Housing</i>
Avg. Unit Size	950 SF
Avg. No. of Bedrooms	1.70
Average Rent	\$3,300 /mo.
Per Square Foot	\$3.47 /SF

Income of Households in Faculty / Staff Housing

The next step in the analysis is to estimate the income of the households who will live in the faculty/ staff housing based on the rent level. Households living in the units will need to have sufficient income to afford the rents; therefore, their incomes will not reflect the distribution of income for Stanford Campus workers overall. KMA estimated the income required to afford rents in the faculty and staff housing units and used that income level for the analysis.

Household income for renter households is estimated based on the assumption that housing costs, including rent and utilities, represents on average 30% of gross household income. The 30% factor was selected for consistency with the California Health and Safety Code standard for

relating income to affordable rent levels.² The resulting relationship is that the annual household income is 3.3 times annual rent, or \$136,000 per year as shown in Table III-2. While it is recognized that many households do spend more than 30% of their income on rent, based on Census data for the County³, within the highest income category addressed (\$75,000 and above), around 80% of households spend less than 30% of their income on rent. Based on the estimated incomes for residents of the faculty and staff housing, data applicable to higher income households is likely a better representation than the overall average, particularly given rents available to Stanford affiliates are favorable relative to the overall housing market and priority for the units is given to key faculty and staff that may have incomes above the minimum needed to afford the rents. Since use of a figure below 30% would have produced higher maximum supported fees, application of the 30% factor provides a conservative estimate. Supporting calculations are provided in Table III-8 at the end of this section.

Table III – 2 Gross Household Income	
	<i>Faculty/Staff Housing</i>
Gross Household Income	\$136,000

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 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 III-9 at the end of this section shows the calculation of income available for expenditures.

Income available for expenditures is estimated at approximately 66% of gross income, based on a review of data from the Internal Revenue Service and California Franchise Tax Board tax tables. Per the Internal Revenue Service, households earning between \$100,000 and \$200,000 per year who do not itemize deductions on their tax returns will pay an average of 14% of gross income for federal taxes. State taxes are estimated to average 4% of gross income based on tax rates per the California Franchise Tax Board. The employee share of FICA payroll taxes for Social Security and Medicare is 7.65% of gross income. A ceiling of \$127,200 per employee applies to the 6.2% Social Security portion of this tax rate.

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

³ American Community Survey Data for the County of Santa Clara, 2016 1-year sample.

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 student loans, auto loans, credit cards, and all other non-mortgage debt. 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.

The percent of income available for expenditure (which is input into the IMPLAN model) is prior to deducting housing costs. The reason is for consistency with the IMPLAN model, which defines housing as an expenditure. The IMPLAN model addresses the fact that expenditures on housing do not generate employment to the degree 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 66%. This factor is used to adjust from gross income to the income available for expenditures for input into the IMPLAN model. As indicated above, other forms of taxation such as property tax are handled internally within the IMPLAN model.

A final adjustment is made to account for standard operational vacancy in rental units of 5%, a level of vacancy considered average for rental units in a healthy market.

The estimate of household income available for expenditures is presented below:

Table III- 3 Income Available for Expenditures	
	<i>Faculty/Staff Housing</i>
Gross Household Income	\$136,000
Percent Income available for Expenditures	66%
Spending Adjustment / Rental Vacancy	5%
Household Income Available for Expenditure ⁽¹⁾	
One Unit	\$85,300
550 Units [input to IMPLAN]	\$46,900,000

(1) Calculated as gross household income X percent available for expenditures. Result includes the share of income spent on housing as the required input to the IMPLAN model is income after taxes but before deduction of housing costs as described above.

The estimated household spending associated with the 550 faculty and staff housing units is the input into the IMPLAN model. Table III-3 summarizes the conclusions of this section and calculates the household income for the 550 faculty and staff housing units.

B. The IMPLAN Model

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

IMPLAN Model Description

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

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

The output or result of the model is generated by tracking changes in purchases for final use (final demand) as they filter through the supply chain. Industries that produce goods and services for final demand or consumption must purchase inputs from other producers, which in turn, purchase goods and services. The model tracks these relationships through the economy to the point where leakages from the region stop the cycle. This allows the user to identify how a change in demand for one industry will affect a list of over 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 the County of Santa Clara. As will be discussed, much of the employment impact is in local-serving sectors, such as retail, eating and drinking establishments, and medical services. It is likely that most employment impacts will occur in nearby jurisdictions such as Palo Alto however, employment impacts will also extend throughout the county and beyond based on where jobs are located that serve residents of the Stanford Campus. In particular, a share of spending will likely occur in the adjacent cities of Menlo Park and East Palo Alto, located in San Mateo County. Although employment impacts extending to other Bay Area counties could have been considered, consistent with the conservative approach taken in the nexus analysis and the

approach utilized for purposes of the Countywide Nexus Study, only the impacts that occur within the County are included in the analysis.

Application of the IMPLAN Model to Estimate Job Growth

The IMPLAN model was applied to link income to household expenditures to job growth. The estimated annual household spending of the residents of the 550 faculty and staff housing units is the input to the IMPLAN model. The IMPLAN model then 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.

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

Table III - 4 Jobs Generated from Household Spending of 550 Faculty / Staff Units	
	<u>Faculty/Staff Housing</u>
Annual Household Expenditures (550 Units)	\$46,900,000
Total Jobs Generated (550 Units)	282.4

Table III-11 at the end of Section III provides a detailed breakdown of the employment by industry sorted by projected employment. 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. Estimated employment is shown for each IMPLAN 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.

C. The KMA Jobs Housing Nexus Model

This section presents a summary of the analysis linking the employment growth associated with the new faculty and staff housing, or the output of the IMPLAN model (see Section B), to the estimated number of lower income housing units required in each of four income categories.

The analysis uses the same methodology as the Countywide Nexus Study. Analysis inputs are all local data to the extent possible and are fully documented in the following description. The analysis uses 2017 wage levels reported by the California Employment Development

Department and 2017 income limits published by the California Department of Housing and Community Development identified in Table II-1.

Analysis Steps

The tables at the end of Section III. present a summary of the nexus analysis steps for the faculty and staff Housing units. Following is a description of each step of the analysis.

Step 1 – Estimate of Total New Employees

Table III-12 commences with the total number of employees associated with the new faculty and staff housing units. The employees were estimated based on household expenditures of the new residents using the IMPLAN model (see Section B).

Step 2 – Changing Industries Adjustment and Net New Jobs

Step 2 makes an adjustment to recognize that jobs added to the economy are not 100% net new in all cases. Long term declines in employment experienced in some sectors of the economy mean that some of the new jobs are being filled by workers that have been displaced from another industry and who are presumed to already have housing locally. A 20% downward adjustment is utilized consistent with the Countywide Nexus Analysis and the academic space analysis. The 20% factor is based on the relationship between jobs lost in declining sectors of the local economy and jobs gained in growing and stable industries over the last 10 years. See the Non-Residential Nexus Analysis for additional information about how the 20% adjustment factor was derived.

Given the robust economic conditions that are present, it is possible that long term declines in employment within declining sectors of the economy have occurred to a lesser degree near the Stanford Campus than in other areas of the County or region. However, due to the regional nature of the housing and employment markets, workers displaced from a declining sector in say, Alameda County, could potentially be available to fill new jobs near the Stanford Campus. Therefore, the Changing Industries Adjustment reflects consideration of economic shifts that have occurred within a broader area and are not just focused on economic conditions in the immediate vicinity of the Stanford Campus.

Step 3 – Adjustment from Employees to Employee Households

This step (Table III-12) converts the number of employees to the number of employee households, recognizing that there is, on average, more than one worker per household, and thus the number of housing units in demand for new workers is reduced. The workers-per-worker-household ratio eliminates from the equation all non-working households, such as retired persons, students, and those on public assistance. The County average of 1.77 workers per

worker household (from the U. S. Census Bureau 2011-2015 American Community Survey) is used for this step in the analysis. The number of jobs is divided by 1.77 to determine the number of worker households. The 1.77 ratio covers all workers, full and part time.

Step 4 – Occupational Distribution of Employees

The occupational breakdown of employees is the first step to arrive at income level. The output from the IMPLAN model provides the number of employees by industry sector, shown in Table III-11. The IMPLAN output is then paired with data from the Department of Labor, Bureau of Labor Statistics May 2016 Occupational Employment Survey (OES) to estimate the occupational composition of employees for each industry sector. As shown in Table III-12, new jobs will be distributed across a variety of occupational categories. The three largest occupational categories are office and administrative support (15%), food preparation and serving (15%), and sales and related (13%). Step 4 of Table III-12 indicates the percentage and number of employee households by occupation associated with the 550 faculty/staff units.

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

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

For each occupational category shown in Table III-12, 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 the Appendix A tables. Each of these occupation categories has a different distribution of wages, which was obtained from EDD and is specific to workers in the County as of 2017.

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 5, the nexus model has established a matrix indicating the percentages of households that would qualify in the affordable income tiers for every detailed occupational category and every potential combination of household size and number of workers in the household.

Step 6 – Distribution of Household Size and Number of Workers

In this step, we account for the distribution in household sizes and number of workers for County households using local data obtained from the U.S. Census. Census data is used to develop a set of percentage factors representing the distribution of household sizes and number of workers within working households. The percentage factors are specific to the County and are derived from the 2011 – 2015 American Community Survey. Application of these percentage factors accounts for the following:

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

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

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

Step 7 is the final step to calculate the number of worker households meeting the size and income criteria for the four affordability tiers. The calculation combines the matrix of results from Step 5 on percentage of worker households that would meet the income criteria at each potential household size / no. of workers combination, with Step 6, the percentage of worker household having a given household size / number of workers combination. The result is the percent of households that fall into each affordability tier. The percentages are then multiplied by the number of households from Step 3 to arrive at number of households in each affordability tier. Table III-13A at the end of Section III shows the result after completing Steps 5, 6, and 7 for the Extremely Low-Income Tier. Tables III-13B to D show results for the Very Low, Low, and Moderate-Income tiers.

Summary Findings

Table III-5 summarized the total demand for affordable housing units associated with 550 new faculty/staff housing units. The table presents the number of households generated in each affordability category and the total number over 120% of Area Median Income. Table III-14 at the end of this section provides results for each one (1) unit of faculty and staff housing.

Table III - 5 New Worker Households 550 Faculty/Staff Units	
Extremely Low (0%-30% AMI)	21.5
Very Low (30%-50% AMI)	34.3
Low (50%-80% AMI)	26.4
Moderate (80%-120% AMI)	22.6
Total, Less than 120% AMI	104.7
Greater than 120% AMI	22.9
Total, New Households	127.6

The 550 faculty/staff housing units are estimated to create a demand for an additional 105 new affordable housing units (up to 120% AMI) for workers in services such as retail, restaurants and education. Housing demand for new worker households earning less than 120% of AMI is distributed across the lower income tiers with the greatest number of households in the Very Low tier. The finding that the jobs associated with consumer spending tend to be low-paying jobs where the workers will require housing affordable at the lower income levels is not surprising. As noted above, direct consumer spending results in employment that is concentrated in lower paid occupations including food preparation, administrative, and retail sales.

D. Mitigation Cost

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

As with the academic space analysis, mitigation costs are based on an analysis of the affordability gap or net subsidy required to make the unit affordable to households in each of the four categories of Area Median Income: Extremely Low, Very Low, Low, and Moderate. Affordability gaps used for purposes of the faculty and staff housing analysis are the same as those used in the academic space analysis. See Section IV for discussion and calculations used to determine the affordability gaps.

Table III-6 summarizes the analysis of mitigation costs. Affordability gaps are drawn from Section IV. The total nexus cost is calculated by multiplying the number of affordable units needed by the affordability gap and dividing by the number of faculty and staff units to calculate the mitigation cost per unit. The nexus cost per square foot is then computed by dividing the per unit nexus cost by the average square footage size of the units. The resulting maximum affordable housing fee applicable to the faculty and staff housing is \$65,600 per unit or \$69.10 per net square foot. These maximum fee levels are technical analysis findings not policy recommendations.

**Table III – 6
Total Nexus Cost Per Faculty/Staff Housing Unit**

	A.	B.	C.	D.
	<i>Affordable Units Needed / 550 Faculty and Staff Units</i>	<i>Affordability Gap</i>	<i>Total Nexus Cost / Maximum Fee Per Unit</i>	<i>Total Nexus Cost / Maximum Fee Per Square Foot *</i>
			<i>= A. X B / 550</i>	<i>= C. / 950 SF avg unit size</i>
Extremely Low (0%-30% AMI)	21.5	\$402,000	\$15,700	\$16.50
Very Low (30%-50% AMI)	34.3	\$321,000	\$20,000	\$21.10
Low (50%-80% AMI)	26.4	\$281,000	\$13,500	\$14.20
Moderate (80%-120% AMI)	22.6	\$399,000	\$16,400	\$17.30
Total	104.7		\$65,600	\$69.10

*Per net square foot excluding parking, common areas, and corridors exterior to units.

**TABLE III-7
ASKING RENTS AT STANFORD OWNED APARTMENTS
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA**

Asking Rents Available to Stanford Affiliates

Stanford West Apartments, Palo Alto

	<u># of Units</u>	<u>BR</u>	<u>BA</u>	<u>SF</u>	<u>Starting Rent</u>	<u>\$/SF</u>
A1	29	1	1	698	\$2,438	\$3.49
A1	29	1	1	734	\$2,412	\$3.29
A1	29	1	1	725	\$2,529	\$3.49
A2	4	1	1	699	\$2,535	\$3.63
A3	29	1	1	714	\$2,526	\$3.54
A3	29	1	1	756	\$2,641	\$3.49
A4	58	1	1	766	\$2,665	\$3.48
A5	8	1	1	807	\$2,751	\$3.41
A6	58	1	1	877	\$2,707	\$3.09
B1	29	2	2	952	\$3,900	\$4.10
B1	29	2	2	991	\$3,903	\$3.94
B2	38	2	2	994	\$3,914	\$3.94
B2	39	2	2	995	\$3,804	\$3.82
B2	39	2	2	995	\$3,804	\$3.82
B3	6	2	2	1,012	\$4,174	\$4.12
B3	6	2	2	1,013	\$3,987	\$3.94
B4	53	2	1.5	1,066	\$3,950	\$3.71
B4	54	2	1.5	1,105	\$3,919	\$3.55
C1 & C3	33	3	2	1,363	\$4,466	\$3.28
C2	<u>29</u>	<u>3</u>	<u>2</u>	<u>1,333</u>	<u>\$4,380</u>	<u>\$3.29</u>
Average	628	1.7	1.5	945	\$3,382	\$3.58

Source: Stanford West website. <https://stanfordwest.stanford.edu/prospective-residents/living-here/floor-plans>

The Colonnade, Los Altos

One Bedrooms	547 - 1024 sf	\$2,391 - \$3,311	\$3.23 - \$4.37
Two Bedrooms	955 - 1,222 sf	\$3,458 - \$4,396	\$3.60-\$3.62

Source: Colonnade website: <http://www.leasealosalto.com/pricing/>

**TABLE III-8
 FACULTY/STAFF HOUSING
 RENT TO INCOME RATIO
 AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
 COUNTY OF SANTA CLARA, CA**

		<u>Faculty/Staff Housing</u>
Market Rent	<u>Unit Size</u>	
Monthly	950 SF ¹	\$3,300 ¹
Utilities ²		<u>\$105</u>
Monthly housing cost		\$3,405
Annual housing cost		\$40,861
% of Income Spent on Rent		30% ³
Annual Household Income Required		\$136,000
Annual Rent to Income Ratio		3.3

Notes

(1) Estimated based on unit sizes and rents for existing faculty and staff housing.

(2) Monthly utilities include direct-billed utilities and landlord reimbursements estimated based on County Housing Authority utility allowance schedule.

(3) While landlords may permit rental payments to represent a slightly higher share of total income, 30% is used based on the relationship established in the California Health and Safety Code and used throughout housing policy to relate income to affordable rental housing costs.

**TABLE III-9
 INCOME AVAILABLE FOR EXPENDITURES¹
 AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
 COUNTY OF SANTA CLARA, CA**

	Faculty/Staff Housing
Gross Income	100%
<u>Less:</u>	
Federal Income Taxes ²	14.0%
State Income Taxes ³	4%
FICA Tax Rate ⁴	7.65%
Savings & other deductions ⁵	8%
<hr/>	
Percent of Income Available for Expenditures⁶ [Input to IMPLAN model]	66%

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 rate (as opposed to marginal) based on U.S. Internal Revenue Services, Tax Statistics, Tables 1.1 and 2.1 for 2014. Renter households are assumed to take the standard deduction. Tax rates reflect average for income range.
- 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.
- ⁴ For Social Security and Medicare. Social Security taxes estimated based upon the current ceiling on applicability of Social Security taxes of \$127,200 (ceiling applies per earner not per household) and the average number of earners 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 III-10
NEW MARKET RATE RESIDENTIAL HOUSEHOLD SUMMARY
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA**

	<u>Per Unit</u>	<u>Per Sq.Ft.</u>	<u>Total for 550 Units</u>
FACULTY/STAFF HOUSING			
Units			550 Units
Building Sq.Ft.	950		522,500
Rent			
Monthly	\$3,300	\$3.47 /SF	\$1,815,000
Monthly with Utilities	\$3,405		
Annual with Utilities	\$40,861		\$22,474,000
Rent to Income Ratio	3.3		3.3
Gross Household Income	\$136,000		\$74,800,000
Income Available for Expenditure ¹	66% of gross	\$89,800	\$49,370,000
Less: Vacancy ²	5% vacancy	<u>(\$4,500)</u>	<u>(\$2,470,000)</u>
Adjusted Expenditures	\$85,300		\$46,900,000

Notes:

(1) Represents net income available for expenditures after income tax, payroll taxes, and savings. See Table III-9 for derivation.

(2) Allowance to account for standard operational vacancy.

Source: See Table III-8 and III-9.

TABLE III-11
IMPLAN MODEL OUTPUT
EMPLOYMENT GENERATED
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA

Total for 550 Faculty / Staff Units

	<u>Total</u>	% of Jobs
Household Expenditures (550 Faculty / Staff Units)	\$46,900,000	
Jobs Generated by Industry ¹		
Full-service restaurants	17.0	6%
Limited-service restaurants	14.5	5%
All other food and drinking places	<u>9.3</u>	<u>3%</u>
Subtotal Restaurant	40.7	14%
Retail - Food and beverage stores	9.5	3%
Retail - General merchandise stores	8.2	3%
Retail - Clothing and clothing accessories stores	5.1	2%
Retail - Miscellaneous store retailers	4.1	1%
Retail - Health and personal care stores	3.8	1%
Retail - Motor vehicle and parts dealers	3.2	1%
Retail - Building material and garden stores	<u>3.1</u>	<u>1%</u>
Subtotal Retail and Service	37.1	13%
Hospitals	15.3	5%
Offices of physicians	8.5	3%
Nursing and community care facilities	5.4	2%
Offices of other health practitioners	4.5	2%
Offices of dentists	3.8	1%
Home health care services	<u>3.4</u>	<u>1%</u>
Subtotal Healthcare	41.0	15%
Other educational services	5.3	2%
Colleges, universities, and professional schools	5.2	2%
Elementary and secondary schools	<u>4.2</u>	<u>1%</u>
Subtotal Education	14.8	5%
Individual and family services	13.2	5%
Real estate	11.6	4%
Personal care services	7.6	3%
Other financial investment activities	6.9	2%
Wholesale trade	6.4	2%
Religious organizations	6.0	2%
Services to buildings	5.3	2%
Automotive repair and maintenance, except car washes	4.7	2%
Private households	4.2	1%
Child day care services	3.7	1%
Other personal services	3.7	1%
Funds, trusts, and other financial vehicles	3.1	1%
Monetary authorities and depository credit intermediation	2.8	1%
All Other	69.4	25%
Total Number of Jobs Generated	<u>282.4</u>	100%

¹ Estimated employment generated by expenditures of households within 550 Faculty / Staff units for Industries representing more than 1% of total employment. Employment estimates are based on the IMPLAN Group's economic model, IMPLAN, for Santa Clara County (uses 2015 IMPLAN data set, the most recent available as of October 2017). Includes both full- and part-time jobs.

TABLE III-12
NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION
EMPLOYEE HOUSEHOLDS GENERATED
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA

	<u>Faculty/Staff Housing</u>
Step 1 - Employees ¹	282.4
Step 2 - Adjustment for Changing Industries (20%) (2)	225.9
Step 3 - Adjustment for Number of Households (1.77) (3)	127.6
Step 4 - Occupation Distribution ⁴	
Management Occupations	4.4%
Business and Financial Operations	4.7%
Computer and Mathematical	1.3%
Architecture and Engineering	0.3%
Life, Physical, and Social Science	0.3%
Community and Social Services	2.5%
Legal	0.5%
Education, Training, and Library	4.2%
Arts, Design, Entertainment, Sports, and Media	1.4%
Healthcare Practitioners and Technical	8.1%
Healthcare Support	4.5%
Protective Service	1.1%
Food Preparation and Serving Related	15.1%
Building and Grounds Cleaning and Maint.	5.4%
Personal Care and Service	7.4%
Sales and Related	13.0%
Office and Administrative Support	15.3%
Farming, Fishing, and Forestry	0.1%
Construction and Extraction	1.1%
Installation, Maintenance, and Repair	3.6%
Production	1.4%
Transportation and Material Moving	<u>4.5%</u>
Totals	100.0%
Management Occupations	5.6
Business and Financial Operations	6.0
Computer and Mathematical	1.6
Architecture and Engineering	0.4
Life, Physical, and Social Science	0.4
Community and Social Services	3.2
Legal	0.6
Education, Training, and Library	5.3
Arts, Design, Entertainment, Sports, and Media	1.8
Healthcare Practitioners and Technical	10.3
Healthcare Support	5.7
Protective Service	1.4
Food Preparation and Serving Related	19.2
Building and Grounds Cleaning and Maint.	6.9
Personal Care and Service	9.5
Sales and Related	16.6
Office and Administrative Support	19.5
Farming, Fishing, and Forestry	0.1
Construction and Extraction	1.3
Installation, Maintenance, and Repair	4.6
Production	1.8
Transportation and Material Moving	<u>5.7</u>
Totals	127.6

Notes:

¹ Estimated employment generated by expenditures of households within 550 faculty / staff units from Table III-11.

² The 20% adjustment is based upon job losses in declining sectors of the local economy over the past 10 years. "Downsized" workers from declining sectors are assumed to fill a portion of new jobs in sectors serving residents. 20% adjustment calculated as 54,700 jobs lost in declining sectors divided by 267,700 jobs gained in growing and stable sectors = 20%.

³ Adjustment from number of workers to households using county-wide average of 1.77 workers per worker household derived from the U.S. Census American Community Survey 2011 to 2015.

⁴ See Appendix A Tables 1 - 2 for additional information on Major Occupation Categories.

TABLE III-13A

**EXTREMELY LOW-INCOME (ELI) EMPLOYEE HOUSEHOLDS¹ GENERATED
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA**

Total for 550 Faculty / Staff Units

	<u>Faculty/Staf Housing</u>
Step 5 & 6 - Extremely Low Income Households (under 30% AMI) within Major Occupation Categories²	
Management	0.01
Business and Financial Operations	0.00
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	0.13
Legal	-
Education Training and Library	0.37
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	0.04
Healthcare Support	0.75
Protective Service	-
Food Preparation and Serving Related	6.19
Building Grounds and Maintenance	1.65
Personal Care and Service	2.86
Sales and Related	4.38
Office and Admin	1.61
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	0.12
Production	-
Transportation and Material Moving	1.14
ELI Households - Major Occupations	19.25
ELI Households¹ - all other occupations	2.27
Total ELI Households¹	21.52

(1) Includes households earning from zero through 30% of Santa Clara County Area Median Income.

(2) See Appendix A Tables 1 - 2 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 A Table 2. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE III-13B

**VERY LOW-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA**

Total for 550 Faculty / Staff Units

	Faculty/Staff Housing
Step 5 & 6 - Very Low Income Households (30%-50% AMI) within Major Occupation Categories ²	
Management	0.13
Business and Financial Operations	0.12
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	0.69
Legal	-
Education Training and Library	1.31
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	0.21
Healthcare Support	1.86
Protective Service	-
Food Preparation and Serving Related	6.90
Building Grounds and Maintenance	2.51
Personal Care and Service	3.42
Sales and Related	5.52
Office and Admin	5.15
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	0.86
Production	-
Transportation and Material Moving	1.98
Very Low Households - Major Occupations	30.66
Very Low Households ¹ - all other occupations	3.62
Total Very Low Inc. Households¹	34.28

(1) Includes households earning from 30% through 50% of Santa Clara County Area Median Income.

(2) See Appendix A Tables 1 - 2 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 A Table 2. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE III-13C
LOW-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA

Total for 550 Faculty / Staff Units

	<u>Faculty/Staf Housing</u>
Step 5 & 6 - Low Income Households (50%-80% AMI) within Major Occupation Categories ²	
Management	0.36
Business and Financial Operations	0.58
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	0.76
Legal	-
Education Training and Library	1.25
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	0.61
Healthcare Support	1.45
Protective Service	-
Food Preparation and Serving Related	4.18
Building Grounds and Maintenance	1.47
Personal Care and Service	1.92
Sales and Related	3.49
Office and Admin	5.06
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	1.08
Production	-
Transportation and Material Moving	1.37
Low Households - Major Occupations	<hr/> 23.57
Low Households ¹ - all other occupations	2.78
Total Low Inc. Households¹	<hr/> 26.36

(1) Includes households earning from 50% through 80% of Santa Clara County Area Median Income.

(2) See Appendix A Tables 1 - 2 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 A Table 2. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

TABLE III-13D

**MODERATE-INCOME EMPLOYEE HOUSEHOLDS¹ GENERATED
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA**

Total for 550 Faculty / Staff Units

	<u>Faculty/Staf Housing</u>
Step 5 & 6 - Moderate Income Households (80%-120% AMI) within Major Occupation Categories ²	
Management	0.92
Business and Financial Operations	1.36
Computer and Mathematical	-
Architecture and Engineering	-
Life, Physical and Social Science	-
Community and Social Services	0.94
Legal	-
Education Training and Library	1.42
Arts, Design, Entertainment, Sports, & Media	-
Healthcare Practitioners and Technical	2.06
Healthcare Support	1.24
Protective Service	-
Food Preparation and Serving Related	1.24
Building Grounds and Maintenance	0.96
Personal Care and Service	0.87
Sales and Related	1.92
Office and Admin	4.91
Farm, Fishing, and Forestry	-
Construction and Extraction	-
Installation Maintenance and Repair	1.41
Production	-
Transportation and Material Moving	0.92
Moderate Households - Major Occupations	<u>20.18</u>
Moderate Households ¹ - all other occupations	2.38
Total Moderate Inc. Households¹	<u>22.56</u>

(1) Includes households earning from 80% through 120% of Santa Clara County Area Median Income.

(2) See Appendix A Tables 1 - 2 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 A Table 2. The distribution of the number of workers per worker household and the distribution of household size are based on American Community Survey data.

**TABLE III-14
IMPACT ANALYSIS SUMMARY
EMPLOYEE HOUSEHOLDS GENERATED
AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
COUNTY OF SANTA CLARA, CA**

RESIDENTIAL UNIT DEMAND IMPACTS - TOTAL FOR 550 FACULTY / STAFF UNITS

Number of New Households¹	<u>Faculty/Staf Housing</u>
Under 30% AMI	21.5
30% to 50% AMI	34.3
50% to 80% AMI	26.4
80% to 120% AMI	22.6
Subtotal through 120% AMI	<u>104.7</u>
Over 120% AMI	22.9
Total Employee Households	<u>127.6</u>

RESIDENTIAL UNIT DEMAND IMPACTS - PER EACH (1) UNIT

Number of New Households¹	<u>Faculty/Staf Housing</u>
Under 30% AMI	0.04
30% to 50% AMI	0.06
50% to 80% AMI	0.05
80% to 120% AMI	0.04
Subtotal through 120% AMI	<u>0.19</u>
Over 120% AMI	0.04
Total Employee Households	<u>0.23</u>

Notes

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

AMI = Area Median Income

IV. AFFORDABILITY GAP ANALYSIS

A key component of an impact analysis is the mitigation cost. In an affordable housing nexus analysis, the mitigation cost is the 'affordability gap' - the financial gap between what lower income households can afford to pay and the cost of producing new housing. Affordability gaps are calculated for each of the four categories of Area Median Income (AMI): Extremely Low (under 30% of median), Very Low (30% to 50%), Low (50% to 80%), and Moderate (80% to 120%).

Location of Affordable Units to be Assisted

The existing GUP condition requires that Stanford University develop or provide funding for the development of affordable housing within a 6-mile radius of the boundary of the Stanford Campus. The County anticipates that affordable housing fees collected from Stanford would continue to be primarily used to support creation of affordable housing within a similar commute radius to Stanford Campus. Higher land costs within a 6-mile radius of the Stanford Campus results in higher affordable unit development costs than if units were to be built in lower land cost locations like Morgan Hill or Gilroy. This assumption results in higher maximum supported fee levels than if the County's policy were to provide units in lower cost locations requiring workers to commute longer distances. The approach is consistent with the existing GUP condition and the County's track record of using affordable housing funds collected from Stanford to assist in the creation of affordable units within a six-mile radius of the Campus.

County Assisted Affordable Unit Prototypes

For estimating the affordability gap, there is a need to match a household of each income level with a unit type and size according to governmental regulations and County practices and policies. The analysis assumes that the County will assist Moderate-Income households earning between 80% and 120% of Area Median Income with ownership units. The prototype affordable unit should reflect a modest unit consistent with what the County is likely to assist and appropriate for housing the average Moderate-Income worker household. The typical project assumed is a two-bedroom condominium unit at approximately 30 units per acre (averaging 1,100 square feet per unit).

For Low-, Very Low-, and Extremely Low-Income households, it is assumed that the County will assist in the development of multi-family rental units at a density of 40-60 units per acre. This represents the approximate density range of affordable housing projects the County would likely subsidize.

Land Values

KMA reviewed residential multi-family land sales in Palo Alto, Mountain View and other neighboring communities to establish an estimate of the cost of land within a 6-mile radius of the Stanford Campus. There were a limited number of residential land sales. Land values ranged

widely from approximately \$50,000 to \$200,000 per unit and averaged approximately \$160 per square foot of land.

KMA also reviewed indicated land values for two affordable projects near the Stanford Campus built on donated sites, one in Palo Alto and one in Menlo Park. For the recently constructed Mayfield Place apartment project which is located on a Stanford-owned site, the land value was estimated for financing purposes at \$264,000 per unit or \$189 per square foot of land area (the project is built at 40 units to the acre)⁴. The Sequoia Belle Haven project on Willow Road in Menlo Park was built on a donated site with an estimated value of \$67,000 per unit or \$62 per square foot of land.

Based on the available data, KMA estimated the land value at \$175 per square foot. For the apartment units, this translates to \$152,000 per unit and for the condominiums, \$254,000 per unit, based on their densities.

Development Costs

KMA prepared an estimate of the total development cost for the affordable housing prototypes described above (inclusive of land acquisition costs, direct construction costs, indirect costs of development, and financing) based on a review of development pro formas for recent affordable projects, recent residential land sale comps, and the affordability gap analysis conducted for the Countywide Nexus Study. Development cost estimates were informed by review of pro forma information for seven recent and proposed multi-family affordable housing projects listed below:

- Mayfield Place, Palo Alto
- Villas on the Park, San Jose
- Quetzal Gardens, San Jose
- Catalonia, San Jose
- Sequoia Belle Haven, Menlo Park
- Met South, San Jose
- Second Street Studios, San Jose
- Donner Lofts, San Jose

Direct construction costs from these projects were adjusted to account for such factors as time, unit size, housing type, and project density to appropriately reflect the multi-family prototypes assumed in the analysis. Other costs, such as land acquisition costs, are more site and area specific than direct construction costs and therefore the inputs for those costs were derived from other sources, as discussed above. Tables IV-4 and 6 provide further details.

Table IV-1 Total Development Costs			
	<i>Density</i>	<i>Unit Size</i>	<i>Development Cost</i>
Affordable Rental Units	50 dua	800 sf	\$606,000
Affordable Ownership Units	30 dua	1,100 sf	\$791,000

AMI = Area Median Income

⁴ Per California Tax Credit Allocation Committee Staff Report for the project.
<http://www.treasurer.ca.gov/ctcac/meeting/staff/2014/20141210/909.pdf>

Unit Values

For affordable ownership units, unit values are based on an estimate of the restricted affordable purchase price for a qualifying Moderate Income household. Details of the calculations are presented in Table IV-5.

For the Extremely Low, Very Low, and Low-Income rental units, unit values are based upon the funding sources assumed to be available for the project. The funding sources include tax-exempt permanent debt financing supported by the project's operating income, a deferred developer fee, and equity generated by 4% federal low income housing tax credits. The highly competitive 9% federal tax credits are not assumed because of the limited number of projects that receive an allocation of 9% tax credits in any given year per geographic region. Other affordable housing subsidy sources such as CDBG, HOME, AHP, Section 8, and various Federal and State funding programs are also limited and difficult to obtain and therefore are not assumed in this analysis as available to offset the cost of mitigating the affordable housing impacts of new development.

The unit values are summarized below. Details for these calculations are presented in Tables IV-5 and 6.

Table IV-2 Unit Values for Affordable Units		
<i>Income Group</i>	<i>Unit Tenure / Type</i>	<i>Unit Value</i>
Under 30% AMI	Rental	\$204,000
30% to 50% AMI	Rental	\$285,000
50% to 80% AMI	Rental	\$325,000
80% to 120% AMI	Ownership	\$392,000

Affordability Gap

The affordability gap is the difference between the cost of developing the affordable units and the unit value based on the restricted affordable rent or sales price.

The resulting affordability gaps are as follows:

Table IV-3 Affordability Gap Calculation			
	<i>Unit Value</i>	<i>Development Cost</i>	<i>Affordability Gap</i>
<i>Affordable Rental Units</i>			
Extremely Low (Under 30% AMI)	\$204,000	\$606,000	(\$402,000)
Very Low (30% to 50% AMI)	\$285,000	\$606,000	(\$321,000)
Low (50% to 80% AMI)	\$325,000	\$606,000	(\$281,000)
<i>Affordable Ownership Units</i>			
Moderate (80% to 120% AMI)	\$392,000	\$791,000	(\$399,000)

AMI = Area Median Income

**Table IV-4
Affordability Gap Calculation for Moderate Income
Stanford Housing Analysis
County of Santa Clara**

I. Affordable Prototype

Tenure	For-Sale
Density	30 du/acre
Unit Size	1,100 SF
Bedrooms	2.0-Bedrooms
Construction Type	Condominiums (Type V)

II. Development Costs Per Unit

Land Acquisition	\$254,000
Directs	\$385,000 ^[1]
Indirects	\$135,000
Financing	\$17,000
Total Costs	<u>\$791,000</u>

III. Affordable Sales Price Per Unit

Household Size	3.0 person HH
110% of Median Income ^[2]	\$112,145
Maximum Affordable Sales Price	\$392,000 ^[3]

IV. Affordability Gap Per Unit

Affordable Sales Price	\$392,000
(Less) Development Costs	<u>(\$791,000)</u>
Affordability Gap - Moderate Income	(\$399,000)

^[1] Construction costs include prevailing wages.

^[2] Per California Health and Safety Code Section 50052.5, the affordable sale price for a Moderate Income household is to be based on 110% of AMI, whereas qualifying income can be up to 120% of AMI.

^[3] See Table IV-6 for Moderate Income home price estimate.

**Table IV-5
Affordability Gaps for Extremely Low, Very Low, and Low Income
Stanford Housing Analysis
County of Santa Clara**

	Extremely Low	Very Low	Low Income
I. Affordable Prototype			
Tenure	Rental		
Average Unit Size	800 square feet		
Density	50 du/a		
II. Development Costs ^[1]			
	Per Unit	Per Unit	Per Unit
Land Acquisition	\$152,000	\$152,000	\$152,000
Directs	\$320,000	\$320,000	\$320,000
Indirects	\$112,000	\$112,000	\$112,000
Financing	\$22,000	\$22,000	\$22,000
Total Development Costs	\$606,000	\$606,000	\$606,000
III. Supported Financing			
	Per Unit	Per Unit	Per Unit
<u>Affordable Rents</u>			
Average Number of Bedrooms	2.0 Bedrooms	2.0 Bedrooms	2.0 Bedrooms
Maximum TCAC Rent ^[2]	\$806	\$1,343	\$1,612
(Less) Utility Allowance ^[3]	(\$112)	(\$112)	(\$112)
Maximum Monthly Rent	\$694	\$1,231	\$1,500
<u>Net Operating Income (NOI)</u>			
Gross Potential Income	<u>Per Unit</u>	<u>Per Unit</u>	<u>Per Unit</u>
Monthly	\$694	\$1,231	\$1,500
Annual	\$8,328	\$14,772	\$18,000
Other Income	\$250	\$250	\$250
(Less) Vacancy 5.0%	(\$429)	(\$751)	(\$913)
Effective Gross Income (EGI)	\$8,149	\$14,271	\$17,338
(Less) Operating Expenses	(\$7,000)	(\$7,000)	(\$7,000)
(Less) Property Taxes ^[4]	\$0	\$0	\$0
Net Operating Income (NOI)	\$1,149	\$7,271	\$10,338
<u>Permanent Financing</u>			
Permanent Loan (tax exempt) 5.2%	\$15,000	\$96,000	\$136,000
Deferred Developer Fee	\$5,000	\$5,000	\$5,000
4% Tax Credit Equity	\$184,000	\$184,000	\$184,000
Total Sources	\$204,000	\$285,000	\$325,000
IV. Affordability Gap			
	Per Unit	Per Unit	Per Unit
Supported Permanent Financing	\$204,000	\$285,000	\$325,000
(Less) Total Development Costs	(\$606,000)	(\$606,000)	(\$606,000)
Affordability Gap	(\$402,000)	(\$321,000)	(\$281,000)

^[1] Development costs estimated by KMA based on affordable project pro formas in Santa Clara County (includes prevailing wages) and residential land sale comps.

^[2] Maximum rents per Tax Credit Allocation Committee (TCAC) for projects utilizing Low Income Housing Tax Credits.

^[3] Utility allowances from Santa Clara County Housing Authority (2017).

^[4] Assumes tax exemption for non-profit general partner.

Table IV-6
Estimated Affordable Home Prices - Moderate Income
Stanford Housing Analysis
County of Santa Clara

Unit Size Household Size	1-Bedroom Unit 2-person HH	2-Bedroom Unit 3-person HH	3-Bedroom Unit 4-person HH
100% AMI Santa Clara County 2017	\$90,650	\$101,950	\$113,300
Annual Income @ 110%	\$99,715	\$112,145	\$124,630
% for Housing Costs	35%	35%	35%
Available for Housing Costs	\$34,900	\$39,251	\$43,621
(Less) Property Taxes	(\$4,188)	(\$4,692)	(\$5,220)
(Less) HOA	(\$2,580)	(\$2,700)	(\$2,820)
(Less) Utilities	(\$1,068)	(\$1,344)	(\$1,716)
(Less) Insurance	(\$500)	(\$700)	(\$800)
(Less) Mortgage Insurance	(\$4,482)	(\$5,022)	(\$5,576)
Income Available for Mortgage	\$22,082	\$24,793	\$27,489
Mortgage Amount	\$331,000	\$372,000	\$413,000
Down Payment (homebuyer cash)	\$17,000	\$20,000	\$22,000
Supported Home Price	\$348,000	\$392,000	\$435,000
Key Assumptions			
- Mortgage Interest Rate ⁽¹⁾	5.30%	5.30%	5.30%
- Down Payment ⁽²⁾	5.00%	5.00%	5.00%
- Property Taxes (% of sales price) ⁽³⁾	1.20%	1.20%	1.20%
- HOA (per month) ⁽⁴⁾	\$215	\$225	\$235
- Utilities (per month) ⁽⁵⁾	\$89	\$112	\$143
- Mortgage Insurance (% of loan amount)	1.35%	1.35%	1.35%

(1) Mortgage interest rate based on 15-year Freddie Mac average; assumes 30-year fixed rate mortgage.

(2) Down payment amount is an estimate for Moderate Income homebuyers.

(3) Property tax rate is an estimated average for new projects.

(4) Homeowners Association (HOA) dues is an estimate for a new project.

(5) Utility allowances from Santa Clara County Housing Authority (2017).

**APPENDIX A: WORKER OCCUPATIONS AND COMPENSATION LEVELS
FACULTY AND STAFF HOUSING ANALYSIS**

**RESIDENTIAL NEXUS APPENDIX A TABLE 1
 WORKER OCCUPATION DISTRIBUTION, 2016
 SERVICES TO HOUSEHOLDS EARNING \$100 - \$150K, RESIDENT SERVICES
 AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
 COUNTY OF SANTA CLARA, CA**

Major Occupations (2% or more)	Worker Occupation Distribution¹ Services to Households Earning \$100,000 to \$150,000
Management Occupations	4.2%
Business and Financial Operations Occupations	4.5%
Community and Social Service Occupations	2.4%
Education, Training, and Library Occupations	4.0%
Healthcare Practitioners and Technical Occupations	7.8%
Healthcare Support Occupations	4.3%
Food Preparation and Serving Related Occupations	14.6%
Building and Grounds Cleaning and Maintenance Occupation:	5.2%
Personal Care and Service Occupations	7.2%
Sales and Related Occupations	12.6%
Office and Administrative Support Occupations	14.8%
Installation, Maintenance, and Repair Occupations	3.5%
Transportation and Material Moving Occupations	4.3%
All Other Worker Occupations - Services to Households Earning \$100,000 to \$150,000	<u>10.6%</u>
INDUSTRY TOTAL	100.0%

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

RESIDENTIAL NEXUS APPENDIX A TABLE 2
 AVERAGE ANNUAL WORKER COMPENSATION, 2017
 SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
 AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
 COUNTY OF SANTA CLARA, CA

Occupation ³	2017 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total No. of Service Workers
Page 1 of 4			
<i>Management Occupations</i>			
General and Operations Managers	\$164,400	34.1%	1.4%
Sales Managers	\$161,700	4.1%	0.2%
Administrative Services Managers	\$131,000	3.4%	0.1%
Financial Managers	\$180,600	8.9%	0.4%
Food Service Managers	\$56,600	5.2%	0.2%
Medical and Health Services Managers	\$162,600	6.6%	0.3%
Property, Real Estate, and Community Association Managers	\$82,300	9.2%	0.4%
Social and Community Service Managers	\$79,300	3.9%	0.2%
Managers, All Other	\$169,800	3.2%	0.1%
All other Management Occupations (Avg. All Categories)	<u>\$143,800</u>	<u>21.3%</u>	<u>0.9%</u>
	Weighted Mean Annual Wage	100.0%	4.2%
<i>Business and Financial Operations Occupations</i>			
Human Resources Specialists	\$90,000	5.0%	0.2%
Management Analysts	\$125,400	5.0%	0.2%
Training and Development Specialists	\$88,200	3.4%	0.2%
Market Research Analysts and Marketing Specialists	\$113,700	6.5%	0.3%
Business Operations Specialists, All Other	\$102,600	8.9%	0.4%
Accountants and Auditors	\$103,100	18.7%	0.8%
Financial Analysts	\$122,100	8.9%	0.4%
Personal Financial Advisors	\$170,700	12.4%	0.6%
Loan Officers	\$103,600	4.6%	0.2%
All Other Business and Financial Operations Occupations (Avg. All Categories)	<u>\$117,700</u>	<u>26.7%</u>	<u>1.2%</u>
	Weighted Mean Annual Wage	100.0%	4.5%
<i>Community and Social Service Occupations</i>			
Substance Abuse and Behavioral Disorder Counselors	\$40,000	3.9%	0.1%
Educational, Guidance, School, and Vocational Counselors	\$76,500	5.5%	0.1%
Mental Health Counselors	\$43,400	7.5%	0.2%
Rehabilitation Counselors	\$42,600	4.5%	0.1%
Child, Family, and School Social Workers	\$51,100	12.0%	0.3%
Healthcare Social Workers	\$84,500	6.8%	0.2%
Mental Health and Substance Abuse Social Workers	\$55,200	5.0%	0.1%
Social and Human Service Assistants	\$45,500	18.5%	0.4%
Community and Social Service Specialists, All Other	\$43,100	3.6%	0.1%
Clergy	\$61,000	12.2%	0.3%
Directors, Religious Activities and Education	\$48,300	7.4%	0.2%
All Other Community and Social Service Occupations (Avg. All Categories)	<u>\$53,600</u>	<u>13.0%</u>	<u>0.3%</u>
	Weighted Mean Annual Wage	100.0%	2.4%

RESIDENTIAL NEXUS APPENDIX A TABLE 2
 AVERAGE ANNUAL WORKER COMPENSATION, 2017
 SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
 AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
 COUNTY OF SANTA CLARA, CA

Occupation ³	2017 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total No. of Service Workers
<i>Page 2 of 4</i>			
<i>Education, Training, and Library Occupations</i>			
Vocational Education Teachers, Postsecondary	\$68,900	3.8%	0.2%
Preschool Teachers, Except Special Education	\$40,100	14.3%	0.6%
Elementary School Teachers, Except Special Education	\$75,400	6.9%	0.3%
Secondary School Teachers, Except Special and Career/Technical Education	\$80,600	4.5%	0.2%
Self-Enrichment Education Teachers	\$52,800	11.9%	0.5%
Teachers and Instructors, All Other, Except Substitute Teachers	\$48,900	7.5%	0.3%
Substitute Teachers	\$43,700	3.4%	0.1%
Teacher Assistants	\$34,800	13.9%	0.6%
All Other Education, Training, and Library Occupations (Avg. All Categories)	<u>\$50,600</u>	<u>33.7%</u>	<u>1.4%</u>
Weighted Mean Annual Wage	\$50,600	100.0%	4.0%
<i>Healthcare Practitioners and Technical Occupations</i>			
Pharmacists	\$146,200	4.0%	0.3%
Physicians and Surgeons, All Other	\$255,600	4.0%	0.3%
Physical Therapists	\$103,400	3.4%	0.3%
Registered Nurses	\$122,200	31.1%	2.4%
Dental Hygienists	\$98,600	3.8%	0.3%
Pharmacy Technicians	\$46,200	5.5%	0.4%
Licensed Practical and Licensed Vocational Nurses	\$61,500	7.4%	0.6%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories)	<u>\$115,700</u>	<u>40.7%</u>	<u>3.2%</u>
Weighted Mean Annual Wage	\$115,700	100.0%	7.8%
<i>Healthcare Support Occupations</i>			
Home Health Aides	\$30,100	21.9%	1.0%
Nursing Assistants	\$37,900	27.2%	1.2%
Massage Therapists	\$49,200	5.6%	0.2%
Dental Assistants	\$49,100	10.6%	0.5%
Medical Assistants	\$46,200	16.4%	0.7%
All Other Healthcare Support Occupations (Avg. All Categories)	<u>\$39,700</u>	<u>18.2%</u>	<u>0.8%</u>
Weighted Mean Annual Wage	\$39,700	100.0%	4.3%
<i>Food Preparation and Serving Related Occupations</i>			
First-Line Supervisors of Food Preparation and Serving Workers	\$41,200	6.9%	1.0%
Cooks, Fast Food	\$24,200	3.8%	0.6%
Cooks, Restaurant	\$30,400	8.8%	1.3%
Food Preparation Workers	\$27,200	6.5%	0.9%
Bartenders	\$35,300	7.0%	1.0%
Combined Food Preparation and Serving Workers, Including Fast Food	\$25,400	25.9%	3.8%
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	\$27,500	3.5%	0.5%
Waiters and Waitresses	\$33,200	19.2%	2.8%
Dishwashers	\$25,000	3.9%	0.6%
All Other Food Preparation and Serving Related Occupations (Avg. All Categories)	<u>\$29,900</u>	<u>14.5%</u>	<u>2.1%</u>
Weighted Mean Annual Wage	\$29,900	100.0%	14.6%

RESIDENTIAL NEXUS APPENDIX A TABLE 2
 AVERAGE ANNUAL WORKER COMPENSATION, 2017
 SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
 AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
 COUNTY OF SANTA CLARA, CA

Occupation ³	2017 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total No. of Service Workers
<i>Building and Grounds Cleaning and Maintenance Occupations</i>			
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$52,100	3.5%	0.2%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$30,900	45.7%	2.4%
Maids and Housekeeping Cleaners	\$32,200	10.6%	0.6%
Landscaping and Groundskeeping Workers	\$35,400	31.5%	1.6%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Categories)	<u>\$33,400</u>	<u>8.7%</u>	<u>0.5%</u>
Weighted Mean Annual Wage	\$33,400	100.0%	5.2%
<i>Personal Care and Service Occupations</i>			
First-Line Supervisors of Personal Service Workers	\$43,000	3.8%	0.3%
Nonfarm Animal Caretakers	\$32,700	6.0%	0.4%
Hairdressers, Hairstylists, and Cosmetologists	\$30,400	17.7%	1.3%
Manicurists and Pedicurists	\$25,000	4.8%	0.3%
Childcare Workers	\$30,600	10.3%	0.7%
Personal Care Aides	\$27,000	34.1%	2.5%
Fitness Trainers and Aerobics Instructors	\$50,000	5.2%	0.4%
Recreation Workers	\$36,100	4.1%	0.3%
All Other Personal Care and Service Occupations (Avg. All Categories)	<u>\$30,900</u>	<u>14.0%</u>	<u>1.0%</u>
Weighted Mean Annual Wage	\$30,900	100.0%	7.2%
<i>Sales and Related Occupations</i>			
First-Line Supervisors of Retail Sales Workers	\$48,800	9.4%	1.2%
Cashiers	\$26,400	27.1%	3.4%
Counter and Rental Clerks	\$35,700	4.4%	0.6%
Retail Salespersons	\$30,900	37.8%	4.8%
Securities, Commodities, and Financial Services Sales Agents	\$67,700	3.3%	0.4%
Sales Representatives, Services, All Other	\$80,900	4.3%	0.5%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific	\$77,300	3.7%	0.5%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$37,300</u>	<u>10.1%</u>	<u>1.3%</u>
Weighted Mean Annual Wage	\$37,300	100.0%	12.6%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$73,800	6.6%	1.0%
Bookkeeping, Accounting, and Auditing Clerks	\$50,100	7.7%	1.1%
Customer Service Representatives	\$51,100	9.9%	1.5%
Receptionists and Information Clerks	\$38,500	8.9%	1.3%
Stock Clerks and Order Fillers	\$32,200	10.9%	1.6%
Medical Secretaries	\$52,000	4.4%	0.7%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$47,100	12.5%	1.9%
Office Clerks, General	\$44,300	14.8%	2.2%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$46,900</u>	<u>24.3%</u>	<u>3.6%</u>
Weighted Mean Annual Wage	\$46,900	100.0%	14.8%

**RESIDENTIAL NEXUS APPENDIX A TABLE 2
 AVERAGE ANNUAL WORKER COMPENSATION, 2017
 SERVICES TO HOUSEHOLDS EARNING \$100,000 TO \$150,000
 AFFORDABLE HOUSING NEXUS ANALYSIS - FACULTY/STAFF HOUSING
 COUNTY OF SANTA CLARA, CA**

Occupation ³	2017 Avg. Compensation ¹	% of Total Occupation Group ²	% of Total No. of Service Workers
<i>Installation, Maintenance, and Repair Occupations</i>			
First-Line Supervisors of Mechanics, Installers, and Repairers	\$84,900	7.8%	0.3%
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$61,900	3.2%	0.1%
Automotive Body and Related Repairers	\$51,000	6.9%	0.2%
Automotive Service Technicians and Mechanics	\$54,300	20.1%	0.7%
Bus and Truck Mechanics and Diesel Engine Specialists	\$68,200	3.3%	0.1%
Maintenance and Repair Workers, General	\$50,800	34.7%	1.2%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	<u>\$56,500</u>	<u>24.0%</u>	<u>0.8%</u>
Weighted Mean Annual Wage	\$56,500	100.0%	3.5%
<i>Transportation and Material Moving Occupations</i>			
Bus Drivers, School or Special Client	\$40,000	5.6%	0.2%
Driver/Sales Workers	\$33,900	7.7%	0.3%
Heavy and Tractor-Trailer Truck Drivers	\$47,100	11.9%	0.5%
Light Truck or Delivery Services Drivers	\$40,600	10.9%	0.5%
Taxi Drivers and Chauffeurs	\$32,000	3.5%	0.2%
Parking Lot Attendants	\$27,200	9.4%	0.4%
Automotive and Watercraft Service Attendants	\$32,900	3.1%	0.1%
Cleaners of Vehicles and Equipment	\$27,400	9.2%	0.4%
Laborers and Freight, Stock, and Material Movers, Hand	\$35,600	18.9%	0.8%
Packers and Packagers, Hand	\$26,900	6.7%	0.3%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	<u>\$35,300</u>	<u>13.2%</u>	<u>0.6%</u>
Weighted Mean Annual Wage	\$35,300	100.0%	4.3%
			89.4%

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 2016 Occupational Employment Survey data applicable to Santa Clara County updated by the California Employment Development Department to 2017 wage levels.

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

**APPENDIX B: SUPPORTING ANALYSIS TABLES
CONTRACT AND JANITORIAL SERVICE WORKERS**

**APPENDIX B TABLE 1
ESTIMATED OCCUPATION DISTRIBUTION - JANITORIAL AND THIRD PARTY CONTRACT WORKERS
AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
COUNTY OF SANTA CLARA, CA**

	Janitorial Contract	Third-Party Contract
Net New Worker Households (Table III-2)	25.7	32.5
Occupation Distribution ⁽¹⁾		
Management Occupations	3.6%	2.1%
Business and Financial Operations	0.8%	0.1%
Computer and Mathematical	0.1%	0.0%
Architecture and Engineering	0.3%	0.0%
Life, Physical, and Social Science	0.0%	0.0%
Community and Social Services	0.0%	0.0%
Legal	0.0%	0.0%
Education, Training, and Library	0.0%	0.0%
Arts, Design, Entertainment, Sports, and Media	0.0%	0.0%
Healthcare Practitioners and Technical	0.0%	0.0%
Healthcare Support	0.0%	0.0%
Protective Service	0.0%	0.1%
Food Preparation and Serving Related	0.0%	90.5%
Building and Grounds Cleaning and Maint.	73.7%	0.4%
Personal Care and Service	0.0%	0.1%
Sales and Related	3.1%	3.2%
Office and Administrative Support	9.2%	0.6%
Farming, Fishing, and Forestry	0.4%	0.0%
Construction and Extraction	1.7%	0.0%
Installation, Maintenance, and Repair	3.5%	0.1%
Production	1.2%	0.5%
Transportation and Material Moving	<u>2.5%</u>	<u>2.2%</u>
Totals	100.0%	100.0%
Management Occupations	0.9	0.7
Business and Financial Operations	0.2	0.0
Computer and Mathematical	0.0	0.0
Architecture and Engineering	0.1	0.0
Life, Physical, and Social Science	0.0	0.0
Community and Social Services	0.0	0.0
Legal	0.0	0.0
Education, Training, and Library	0.0	0.0
Arts, Design, Entertainment, Sports, and Media	0.0	0.0
Healthcare Practitioners and Technical	0.0	0.0
Healthcare Support	0.0	0.0
Protective Service	0.0	0.0
Food Preparation and Serving Related	0.0	29.4
Building and Grounds Cleaning and Maint.	19.0	0.1
Personal Care and Service	0.0	0.0
Sales and Related	0.8	1.0
Office and Administrative Support	2.4	0.2
Farming, Fishing, and Forestry	0.1	0.0
Construction and Extraction	0.4	0.0
Installation, Maintenance, and Repair	0.9	0.0
Production	0.3	0.2
Transportation and Material Moving	<u>0.6</u>	<u>0.7</u>
Totals	25.7	32.5

Notes:

(1) Appendix B Tables 4 through 7 contain additional information regarding worker occupation categories.

**APPENDIX B TABLE 2A
 JANITORIAL AND THIRD-PARTY CONTRACT WORKERS
 ESTIMATE OF QUALIFYING HOUSEHOLDS - EXTREMELY LOW INCOME
 AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
 COUNTY OF SANTA CLARA, CA**

Analysis for Households Earning up to 30% of Median

	Janitorial Contract	Third-Party Contract
Households Earning up to 30% of Median⁽¹⁾		
Management	0.00	0.02
Business and Financial Operations	0.00	0.00
Computer and Mathematical	0.00	0.00
Architecture and Engineering	0.00	0.00
Life, Physical and Social Science	0.00	0.00
Community and Social Services	0.00	0.00
Legal	0.00	0.00
Education Training and Library	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00
Healthcare Practitioners and Technical	0.00	0.00
Healthcare Support	0.00	0.00
Protective Service	0.00	0.00
Food Preparation and Serving Related	0.00	10.04
Building Grounds and Maintenance	5.23	0.00
Personal Care and Service	0.00	0.00
Sales and Related	0.00	0.41
Office and Admin	0.15	0.00
Farm, Fishing, and Forestry	0.00	0.00
Construction and Extraction	0.00	0.00
Installation Maintenance and Repair	0.00	0.00
Production	0.00	0.00
Transportation and Material Moving	0.00	0.15
HH earning up to 30% of Median - major occupations	5.38	10.63
HH earning up to 30% of Median - all other occupations	1.11	0.21
Total Households Earning up to 30% of Median	6.5	10.8

Notes:

(1) Appendix B Tables 5 and 7 contain additional information regarding worker compensations by detailed occupation category used in combination with published income limits to estimated the number of qualifying households by occupation category.

**APPENDIX B TABLE 2B
 JANITORIAL AND THIRD-PARTY CONTRACT WORKERS
 ESTIMATE OF QUALIFYING HOUSEHOLDS - VERY LOW INCOME
 AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
 COUNTY OF SANTA CLARA, CA**

Analysis for Households Earning from 30% to 50% of Median

	Janitorial Contract	Third- Party Contract
Households Earning from 30% to 50% of Median⁽¹⁾		
Management	0.00	0.09
Business and Financial Operations	0.00	0.00
Computer and Mathematical	0.00	0.00
Architecture and Engineering	0.00	0.00
Life, Physical and Social Science	0.00	0.00
Community and Social Services	0.00	0.00
Legal	0.00	0.00
Education Training and Library	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00
Healthcare Practitioners and Technical	0.00	0.00
Healthcare Support	0.00	0.00
Protective Service	0.00	0.00
Food Preparation and Serving Related	0.00	10.93
Building Grounds and Maintenance	7.17	0.00
Personal Care and Service	0.00	0.00
Sales and Related	0.00	0.39
Office and Admin	0.60	0.00
Farm, Fishing, and Forestry	0.00	0.00
Construction and Extraction	0.00	0.00
Installation Maintenance and Repair	0.00	0.00
Production	0.00	0.00
Transportation and Material Moving	0.00	0.26
HH earning from 30%-50% of Median - major occupations	<u>7.77</u>	<u>11.67</u>
HH earning from 30%-50% of Median - all other occupation:	1.61	0.23
Total Households Earning from 30%-50% of Median	9.4	11.9

Notes:

(1) Appendix B Tables 5 and 7 contain additional information regarding worker compensations by detailed occupation category used in combination with published income limits to estimated the number of qualifying households by occupation category.

**APPENDIX B TABLE 2C
 JANITORIAL AND THIRD-PARTY CONTRACT WORKERS
 ESTIMATE OF QUALIFYING HOUSEHOLDS - LOW INCOME
 AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
 COUNTY OF SANTA CLARA, CA**

Analysis for Households Earning from 50% to 80% of Median

	Janitorial Contract	Third-Party Contract
Step 5, 6, & 7 - Households Earning from 50% to 80% of Median⁽¹⁾		
Management	0.00	0.12
Business and Financial Operations	0.00	0.00
Computer and Mathematical	0.00	0.00
Architecture and Engineering	0.00	0.00
Life, Physical and Social Science	0.00	0.00
Community and Social Services	0.00	0.00
Legal	0.00	0.00
Education Training and Library	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00
Healthcare Practitioners and Technical	0.00	0.00
Healthcare Support	0.00	0.00
Protective Service	0.00	0.00
Food Preparation and Serving Related	0.00	6.50
Building Grounds and Maintenance	3.81	0.00
Personal Care and Service	0.00	0.00
Sales and Related	0.00	0.20
Office and Admin	0.65	0.00
Farm, Fishing, and Forestry	0.00	0.00
Construction and Extraction	0.00	0.00
Installation Maintenance and Repair	0.00	0.00
Production	0.00	0.00
Transportation and Material Moving	0.00	0.16
HH earning from 50%-80% of Median - major occupations	4.46	6.98
HH earning from 50%-80% of Median - all other occupation:	0.92	0.14
Total Households Earning from 50%-80% of Median	5.4	7.1

Notes:

(1) Appendix B Tables 5 and 7 contain additional information regarding worker compensations by detailed occupation category used in combination with published income limits to estimated the number of qualifying households by occupation category.

**APPENDIX B TABLE 2D
 JANITORIAL AND THIRD-PARTY CONTRACT WORKERS
 ESTIMATE OF QUALIFYING HOUSEHOLDS - MODERATE INCOME
 AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
 COUNTY OF SANTA CLARA, CA**

Analysis for Households Earning from 80% to 120% of Median

	Janitorial Contract	Third- Party Contract
Households Earning from 80% to 120% of Median⁽¹⁾		
Management	0.00	0.17
Business and Financial Operations	0.00	0.00
Computer and Mathematical	0.00	0.00
Architecture and Engineering	0.00	0.00
Life, Physical and Social Science	0.00	0.00
Community and Social Services	0.00	0.00
Legal	0.00	0.00
Education Training and Library	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00
Healthcare Practitioners and Technical	0.00	0.00
Healthcare Support	0.00	0.00
Protective Service	0.00	0.00
Food Preparation and Serving Related	0.00	1.85
Building Grounds and Maintenance	2.48	0.00
Personal Care and Service	0.00	0.00
Sales and Related	0.00	0.03
Office and Admin	0.65	0.00
Farm, Fishing, and Forestry	0.00	0.00
Construction and Extraction	0.00	0.00
Installation Maintenance and Repair	0.00	0.00
Production	0.00	0.00
Transportation and Material Moving	0.00	0.13
HH earning from 80%-120% of Median - major occupations	3.13	2.18
HH earning from 80%-120% of Median - all other occupatio	0.65	0.04
Total Households Earning from 80%-120% of Median	3.8	2.2

Notes:

(1) Appendix B Tables 5 and 7 contain additional information regarding worker compensations by detailed occupation category used in combination with published income limits to estimated the number of qualifying households by occupation category.

**APPENDIX B TABLE 3
 JANITOR AND CONTRACT WORKER HOUSEHOLDS BY AFFORDABILITY LEVEL
 AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
 COUNTY OF SANTA CLARA, CA**

	<u>Janitorial Contract</u>	<u>Third-Party Contract</u>
NUMBER OF HOUSEHOLDS BY INCOME TIER ⁽¹⁾		
Extremely Low (0% - 30% AMI)	6.5	10.8
Very Low Income (30% - 50% AMI)	9.4	11.9
Low Income (50% - 80% AMI)	5.4	7.1
Moderate (80% - 120%)	3.8	2.2
Subtotal through 120% AMI	25.0	32.1
Above 120% AMI	0.7	0.4
Total New Worker Households	25.7	32.5

PERCENTAGE OF HOUSEHOLDS BY INCOME TIER		
Extremely Low (0% - 30% AMI)	25.2%	33.3%
Very Low Income (30% - 50% AMI)	36.4%	36.6%
Low Income (50% - 80% AMI)	20.9%	21.9%
Moderate (80% - 120%)	14.7%	6.8%
Subtotal through 120% AMI	97.3%	98.7%
Above 120% AMI	2.7%	1.3%
Total	100%	100%

Notes:

(1) Summarized from Appendix B Tables 2A to 2D.

**APPENDIX B TABLE 4
 2016 NATIONAL JANITORIAL CONTRACT WORKER DISTRIBUTION BY OCCUPATION
 AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
 COUNTY OF SANTA CLARA, CA**

Major Occupations (4% or more)	2016 National Janitorial Contract Industry Occupation Distribution	
Building and Grounds Cleaning and Maintenance Occupations	904,750	73.7%
Office and Administrative Support Occupations	112,360	9.2%
All Other Janitorial Contract Occupations	<u>210,680</u>	<u>17.2%</u>
INDUSTRY TOTAL	1,227,790	100.0%

**APPENDIX B TABLE 5
AVERAGE ANNUAL COMPENSATION, 2017
JANITORIAL CONTRACT WORKER OCCUPATIONS
AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
COUNTY OF SANTA CLARA, CA**

<u>Occupation</u> ¹	<u>2017 Avg. Compensation</u> ²	<u>% of Total Occupational Group</u> ³	<u>% of Total Janitorial Contract Workers</u>
<i>Building and Grounds Cleaning and Maintenance Occupations</i>			
First-Line Supervisors of Housekeeping and Janitorial Workers	\$58,500	5.9%	4.3%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$30,900	94.1%	69.4%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Categories)	<u>\$34,100</u>	<u>0.0%</u>	<u>0.0%</u>
Weighted Mean Annual Wage	\$32,500	100.0%	73.7%
<i>Office and Administrative Support Occupations</i>			
First-Line Supervisors of Office and Administrative Support Workers	\$73,800	5.4%	0.5%
Bookkeeping, Accounting, and Auditing Clerks	\$50,100	13.0%	1.2%
Customer Service Representatives	\$51,100	7.6%	0.7%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$47,100	27.6%	2.5%
Office Clerks, General	\$44,300	34.4%	3.2%
All Other Office and Administrative Support Occupations (Avg. All Categories)	<u>\$50,100</u>	<u>12.0%</u>	<u>1.1%</u>
Weighted Mean Annual Wage	\$48,600	100.0%	9.2%
Weighted Average Annual Wage - All Occupations	\$34,000		82.8%

¹ Including occupations representing 4% or more of the major occupation group.

² 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.

³ Occupation percentages are based on the 2016 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2016 Occupational Employment Survey data applicable to Santa Clara County, updated by the California Employment Development Department to 2017 wage levels.

**APPENDIX B TABLE 6
 2016 NATIONAL THIRD PARTY FOOD SERVICE WORKER DISTRIBUTION BY OCCUPATION
 AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
 COUNTY OF SANTA CLARA, CA**

Major Occupations (2% or more)	2016 National Third Party Food Service Occupation Distribution	
Management Occupations	219,340	2.1%
Food Preparation and Serving Related Occupations	9,312,510	90.5%
Sales and Related Occupations	330,790	3.2%
Transportation and Material Moving Occupations	222,580	2.2%
All Other Third Party Food Service Occupations	<u>201,160</u>	<u>2.0%</u>
INDUSTRY TOTAL	10,286,380	100.0%

**APPENDIX B TABLE 7
AVERAGE ANNUAL COMPENSATION, 2017
THIRD PARTY FOOD SERVICE WORKER OCCUPATIONS
AFFORDABLE HOUSING NEXUS ANALYSIS - ACADEMIC SPACE
COUNTY OF SANTA CLARA, CA**

<u>Occupation</u> ¹	<u>2017 Avg. Compensation</u> ²	<u>% of Total Occupation Group</u> ³	<u>% of Total Food Service Workers</u>
<i>Management Occupations</i>			
General and Operations Managers	\$164,400	32.1%	0.7%
Food Service Managers	\$56,600	65.2%	1.4%
All Other Management Occupations (Avg. All Categories)	<u>\$170,000</u>	<u>2.7%</u>	<u>0.1%</u>
Weighted Mean Annual Wage	\$94,200	100.0%	2.1%
<i>Food Preparation and Serving Related Occupations</i>			
First-Line Supervisors of Food Preparation and Serving Workers	\$41,200	7.2%	6.5%
Cooks, Fast Food	\$24,200	5.3%	4.8%
Cooks, Restaurant	\$30,400	11.2%	10.1%
Food Preparation Workers	\$27,200	4.6%	4.1%
Combined Food Preparation and Serving Workers, Including Fast Food	\$25,400	29.6%	26.8%
Waiters and Waitresses	\$33,200	22.6%	20.5%
Dishwashers	\$25,000	4.0%	3.7%
All Other Business and Financial Operations (Avg. All Categories)	<u>\$29,800</u>	<u>15.6%</u>	<u>14.1%</u>
Weighted Mean Annual Wage	\$29,500	100.0%	90.5%
<i>Sales and Related Occupations</i>			
Cashiers	\$26,400	94.9%	3.1%
All Other Sales and Related Occupations (Avg. All Categories)	<u>\$56,400</u>	<u>5.1%</u>	<u>0.2%</u>
Weighted Mean Annual Wage	\$27,900	100.0%	3.2%
<i>Transportation and Material Moving Occupations</i>			
Driver/Sales Workers	\$33,900	83.3%	1.8%
Light Truck or Delivery Services Drivers	\$40,600	13.6%	0.3%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	<u>\$39,300</u>	<u>3.1%</u>	<u>0.1%</u>
Weighted Mean Annual Wage	\$35,000	100.0%	2.2%
Weighted Average Annual Wage - All Occupations	\$31,000		98.0%

¹ Including occupations representing 4% or more of the major occupation group.

² 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.

³ Occupation percentages are based on the 2016 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2016 Occupational Employment Survey data applicable to Santa Clara County, updated by the California Employment Development Department to 2017 wage levels.

**APPENDIX C: NON-DUPLICATION OF POTENTIAL FEES APPLICABLE
TO STANFORD FACULTY AND STAFF HOUSING
AND COMMERCIAL LINKAGE FEES IN ADJACENT CITIES**

The County of Santa Clara is considering establishing a fee on new faculty and staff housing on the Stanford Campus to help mitigate the impacts on the demand for affordable housing. The nexus analysis supporting fees applicable to faculty and staff housing includes job-impacts of off-campus spending by residents of these new housing units. Adjacent cities, including Palo Alto, also have commercial linkage fees in place to mitigate affordable housing needs of workers in new non-residential buildings. This appendix evaluates the potential for double-counting of impacts or 'overlap' and demonstrates that combined requirements of the County and adjacent cities would not exceed the maximums supported by the nexus even in the event some double-counting does occur. The potential for overlap with requirements applicable to academic space on the Stanford Campus is addressed separately through the adjustment applied in Table II-8.

Affordable housing fees applicable to non-residential development in adjacent cities are supported by a similar analysis to the Non-Residential Nexus Analysis prepared for the County. The logic begins with jobs located in new workplace buildings including office buildings, retail spaces and hotels. The nexus analysis then identifies the compensation structure of the new jobs depending on the building type, the income of the new worker households, and the housing affordability level of the new worker households, concluding with the number of new worker households in the lower income affordability levels.

In the faculty and staff housing nexus analysis incorporated into this Addendum, the logic begins with the households renting new units. The purchasing power of those households generates new jobs in the local economy. The nexus analysis quantifies the jobs created by the spending of the new households and then identifies the compensation structure of the new jobs, the income of the new worker households, and the housing affordability level of the new worker households, concluding with the number of new worker households in the lower income affordability levels.

Since some of the jobs counted in the faculty and staff housing nexus analysis could be located within non-residential buildings in adjacent cities that are also subject to separate commercial linkage fees, there is a potential for some degree of overlap in mitigations applicable to faculty and staff housing and the commercial linkage fees in place in adjacent cities. The overlap potential exists primarily in retail uses where the jobs generated by faculty and staff housing expenditures on food, personal services, restaurant meals and entertainment would primarily be located.

The City of Palo Alto has the highest affordable housing fee in the County for retail uses. The following compares Palo Alto's fee to the maximum supported by the nexus for retail. Findings for the Countywide study are applied for this calculation because Palo Alto does not have an updated nexus study for retail and the Countywide findings represent a conservative estimate of the nexus cost for Palo Alto based on the higher cost of delivering affordable units in the City of Palo Alto relative to other locations in the County. As shown, Palo Alto's retail fee, which is the

highest in the County, represents approximately 10% of the nexus cost. So, at most, existing commercial linkage fees in the County would mitigate approximately 10% of the demand for affordable units generated by new retail space.

Building Type	Maximum Nexus Amount	Palo Alto Existing Retail Fee Level	Percent of Maximum
Retail	\$213.40	\$20.37	10%

Overlap would only occur to the extent new retail in adjacent cities is supported by spending of residents in the faculty and staff housing. The faculty and staff housing would be located near the El Camino, a major thoroughfare, and Downtown Palo Alto which has many other sources of demand for retail from existing residents of the City, the workplace population, students and visitors. Therefore, it is unlikely any new retail built in Palo Alto (or other cities) would derive more than a fraction of its customer base from the faculty and staff housing. Given Palo Alto's commercial fees represent only 10% of the maximum supported by the nexus, combined mitigation requirements would only exceed nexus maximums to the extent retail subject to Palo Alto's commercial linkage fees derived more than 90% of its business from customers residing in the faculty and staff housing. Based on the location of the faculty and staff housing near a major thoroughfare in a built out urban environment with many other sources of demand for retail space, it is extremely improbable that the faculty and staff housing would represent over 90% of the customer base for any off-campus retail establishment. Therefore, the potential for combined mitigation requirements to exceed the nexus is negligible even if fees applicable to faculty and staff housing were set at the \$69.10 nexus maximum.