

Report

Housing Mitigation Nexus and Fee Study

The Economics of Land Use



Prepared for:

City of Sunnyvale

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1. INTRODUCTION AND EXECUTIVE SUMMARY

Background

Incorporated in 1912, the City of Sunnyvale (City) established a Housing Mitigation Policy in 1983 requiring employment-generating development to contribute to the City's ability to provide affordable housing for lower-wage workers. The Housing Mitigation Fee Program was updated in 2008 followed by a new Housing Element adopted in 2009. The Housing Element calls for provision of new housing and home buyer assistance for below market rate housing, as well as provision of housing to meet the diverse needs of Sunnyvale's households of all income levels and maintenance and enhancement of the condition and affordability of existing housing in Sunnyvale.

To address these goals, the City retained EPS to conduct a *Housing Mitigation Nexus and Fee Study* to support and update an affordable housing impact fee for new nonresidential development.

Purpose

The nexus study conducted by Economic & Planning Systems, Inc. (EPS) quantifies the relationship between the growth in nonresidential land uses and the demand for and cost of affordable housing for the local workforce. As a development impact fee, the Housing Mitigation Fee can only be charged to new development and must be based on the impact of new development on the need for resources to subsidize the development of new affordable housing. The purpose of this report is to provide the nexus (or reasonable relationship) between new nonresidential development that occurs in the City and the need for additional affordable housing as a result of this new development.

The fee generated by this program will be used to provide assistance for production, acquisition of at-risk units, or rehabilitation of affordable housing.

Authority

Cities may impose development impact fees to mitigate the effects of development, so long as there is a reasonable relationship, or nexus, between the fee, the impact of the project, and the use of the fee. This study serves as the basis for demonstrating the nexus between the impact of commercial development on the need for affordable housing and supportable affordable housing mitigation fees.

Required Nexus Findings

- Identify the purpose of the fee.
- Identify how the fee is to be used.
- Determine how a reasonable relationship exists between the fee's use and the type of development project on which the fee is imposed.
- Determine how a reasonable relationship exists between the demand for the affordable housing and the type of development project on which the fee is imposed.
- Demonstrate a reasonable relationship between the amount of the fee and the cost of the public benefit attributable to the development on which the fee is imposed.

In 1991, the Ninth Circuit U.S. Court of Appeals upheld the City of Sacramento's nonresidential linkage fee.¹ In that case, the court found that the City's fee program demonstrated a rational relationship between the fee and the need for affordable housing created by commercial development. EPS is using a similar methodology to the nexus study reviewed in that case to develop the City's fee program.

Summary

As new employment-generating development continues to occur in the City, additional affordable housing will be required to house a portion of the new lower wage workforce. The cost to construct new housing units is higher than can be supported by the rents or home prices that many workers will be able to pay. The difference between costs and affordable rent levels is considered an "affordability gap." The costs allocated to new nonresidential development through this fee reflect this affordability gap that would need to be filled in order to provide housing for additional workforce demanded by nonresidential development.

Table 1 summarizes the maximum justifiable fee by employment category. This fee is based on the total number of lower-wage workers generated by growing employment in the City. **Table 1** also includes the City's current Housing Mitigation Fee as a point of reference, and indicates that lodging and retail/restaurant uses are not currently subject to the Housing Mitigation Fee. The City does charge the current fee to office/light industrial/R&D uses to the extent that their proposed square footage exceeds established density thresholds (which vary by use and location). The EPS-calculated fee levels are envisioned to apply to all net new square footage of the building.

¹ *Commercial Builders of Northern California v. City of Sacramento*, 941 F2d 872 (1991).

Table 1
Summary of Maximum Allowable Fees and Current Fee Levels
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Employment Category	Maximum Fee per sq. ft.	Current Fee per sq. ft. [1]
Lodging	\$76.22	N/A
Retail/Restaurants	\$295.23	N/A
Office/Light Industrial/R&D	\$113.99	\$9.49

[1] The City does not charge fees to lodging and retail/restaurant uses currently, and office/light industrial/R&D fees are charged only on square footage that exceeds density thresholds that vary by use and location.

Source: City of Sunnyvale; EPS

Sources

To estimate the fee, EPS relied on numerous sources of data, including the following:

- U.S. Census 2010
- U.S. Bureau of Labor Statistics (BLS) "May 2012 National Industry-Specific Occupational Employment and Wage Estimates".
- State Department of Housing and Community Development (HCD) annual income limits for 2014.
- U.S. Census Bureau American Community Survey (ACS) 2010-2012 estimate.
- Input from City of Sunnyvale's staff.

These and other data sources are identified on the tables provided throughout this report. In addition, EPS generated development and operating cost assumptions by reviewing pro forma materials provided for this and other EPS assignments by various market-rate and affordable housing developers active in the Bay Area.

Organization of Report

Following this **Introduction and Executive Summary**, this study includes the following chapters:

- **Chapter 2** presents the nexus findings based on the methodology.
- **Chapter 3** provides a general discussion of the City's development trends and employment composition.
- **Chapter 4** describes the methodology used to calculate the fee.

2. FINDINGS FOR FEE PROGRAM

Purpose of Fee

The fee program developed through this Nexus Study would fund the development and preservation of affordable housing projects in the City of Sunnyvale as required by the increase in local lower wage workers employed in new nonresidential developments. The businesses that occupy new nonresidential buildings will employ staff, many of whom will have difficulty finding suitable local housing they can afford.

Use of Fee

The funds generated by this fee will be used to provide assistance for production, acquisition of at-risk units, or rehabilitation of affordable housing. The fee also will fund the studies and administration to support the fee program.

Relationship between Use of Fee and Type of Development

The development of new nonresidential land uses in the City will generate need for additional workers. The wages of a significant portion of the new employees will be inadequate to support sufficient rent prices to attract residential developers to provide housing opportunities without further subsidy. The fee will be used to help to fill the “affordability gap” for housing development and increase the number of homes available for the local workforce.

Relationship between Demand for Affordable Housing and Type of Project

The City and EPS have identified three employment categories for which a separate fee has been calculated – lodging, retail/restaurants, and office/light industrial/R&D. The proportion of lower wage workers and the number of square feet per employee for each employment category has been assessed to ensure a proper nexus has been established.

Relationship between Amount of Fee and Cost of Public Benefit Attributed to New Development

EPS estimated the gap between the cost of developing new housing and the achievable value of the new units based on the financial resources available to households at different income levels. To estimate the maximum fee, this gap was multiplied by the number of lower wage workers anticipated by the new development projects and the number of households of various income categories those workers are likely to form. The maximum fee may represent too high a cost burden to sustain development feasibility, and/or may account for housing impacts already addressed in other City programs (such as the City’s affordable housing impact fees), so adjustments downward from the maximum fees may be warranted.

3. EMPLOYMENT AND INCOME TRENDS

This report provides information regarding income categories as commonly defined by State and federal agencies that administer affordable housing programs. **Table 2** presents the income categories that are relevant for this fee program based on the 2014 requirements for Santa Clara County. EPS uses acronyms in several of the tables provided and those acronyms are also included in **Table 2** for reference.

Residential Development Trends

Sunnyvale is located in Santa Clara County, in the southern part of the San Francisco Bay Area and in the heart of the Silicon Valley. Its population is about 146,000 residents with about half of the housing inventory as single-family and half as multifamily uses. The City experienced moderate growth of below one percent a year over the last two decades. It is noteworthy that the vast majority of new housing construction in the City during the late 1990s and 2000s was multifamily, followed by townhomes, while single-family detached growth was modest. As **Table 3** displays, an annual average of about 30 units of single-family detached housing has been constructed over the last 18 years.

Employment and Income Composition

Sunnyvale had roughly 82,000 jobs in 2011 based on the data from the US Census Bureau's "On The Map". The City has evolved into a regional hub for high-tech employment with headquarters of numerous internationally prominent information technology companies such as NetApp, Juniper Networks, and Yahoo!. The City's other large employers include Lockheed Martin, Hewlett Packard, AMD, and Northrop Grumman Marine Systems. Many jobs in these tech and defense-oriented industries pay relatively high salaries. Even with many well-paying jobs, the City still has many jobs that pay much more modest wages in its diverse employment base. According to the US Census Bureau's "On The Map", 28.2 percent of all jobs located in the City of Sunnyvale in 2011 paid less than \$40,000 per year, which is within the "very low income" level for households of two or more people in the County.

According to Costar real estate data, there are currently 36.8 million square feet of office, R&D, and industrial uses, 5.0 million square feet of retail uses, and 2.0 million square feet of lodging uses in Sunnyvale. Over the last eight years, about 375,000 square feet of new retail space was built for an annual average of 46,875 square feet, while 4.5 million square feet of new office space and 145,000 square feet of new R&D space were built in the City. This equals a respective annual growth rate of 562,500 square feet and 18,125 square feet for office and R&D. Office and retail space growth has been relatively consistent over the last eight years, while the R&D space increase is attributed to a single project completed in 2010. Employment has grown slowly over the last decade with the City increasing its jobs by 1 percent between 2002 and 2011 according to the US Census Bureau's "On The Map" data. Based on Projections from the Association of the Bay Area Governments, the City will add about 12,000 jobs or 16 percent of the existing employment base over the next decade.

Table 2
Santa Clara County Income Category Definitions (2014)
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Affordability Category	Acronym	Percentage of County Median	Maximum Income Threshold 3-person household	Source
Very Low Income [1]	VLI	0% - 50%	\$47,750	HCD
Low Income	LI - 80	51% - 80%	\$76,400	HCD
Median Income	Median	81% - 100%	\$94,950	HCD
Moderate Income	Moderate	101% - 120%	\$113,950	HCD

[1] The "Very Low Income" category also captures a combination of extremely low (0% to 30% of median incomes) and very low income (31% to 50% of median incomes) in Santa Clara County.

Source: California HCD and EPS.

Table 3
Residential Construction Trends in Sunnyvale*
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Year	Single-Family Detached	Townhomes	Condos/ Apartments (1)	Total
1996	50	3	80	133
1997	26	15	179	220
1998	18	17	114	149
1999	25	42	225	292
2000	111	14	796	921
2001	42	0	392	434
2002	12	0	256	268
2003	6	0	2	8
2004	51	71	124	246
2005	17	273	1	291
2006	37	117	89	243
2007	16	257	206	479
2008	22	164	54	240
2009	21	121	15	157
2010	27	133	0	160
2011	8	57	388	453
2012	14	2	599	615
2013	<u>49</u>	<u>123</u>	<u>17</u>	<u>189</u>
18-Year Total	552	1,409	3,537	5,498
18-Year Average	31	78	197	305

*Note: figures reflect the net new dwelling units completed (based on finalized building permits).

(1) Include assessory dwelling units on single family lots.

Sources: City of Sunnyvale construction data; EPS.

The City's robust job market offers a diverse mix of professions and pay levels with a high concentration of tech employment that contributes to high incomes and drives up housing costs. The City's median household income has historically been slightly higher than the countywide median. In desirable job-rich communities like Sunnyvale, local workers compete for a limited housing supply with longer-term residents who may have built substantial equity in their homes and/or with higher-income households who have more flexibility regarding where they choose to live. As a result of the strong level of demand for housing in the City, it is difficult for new lower wage and even some moderate income workers to find suitable housing in the City without programs designed to bring the cost of housing down to an affordable range.

4. METHODOLOGY AND FEE CALCULATION

The fee calculation requires an estimate of the number of income-qualified households generated by various types of non-residential development and an estimate of the costs to provide housing for such households. This section of the report also discusses the types of programs and projects that may be pursued by the City to address those housing needs.

Calculation of Affordable Housing Demand

To calculate the demand for affordable housing that is created when new non-residential development occurs in Sunnyvale, this study evaluates the number and wages of employees expected in such new development, and the number of income-qualified households that would be formed by those employees.

Employment Categories

Employment categories utilized in this analysis are displayed in **Table 4** along with a description of the types of businesses that are included in each category. In general, each employment category is intended to be associated with a particular type of building or land use, to which the fees can be applied. EPS separated commercial development into three distinct categories including lodging (hotel/motel), retail/restaurants, and office/light industrial/R&D uses. Separation of these land uses reflects the notion that their tenant types are generally distinct and have various income patterns and distributions that will result in different demands for lower income housing. Employment categories are more discretely associated with a particular type of building, and thus the appropriate fees for such buildings are easier to determine when a building is proposed and constructed. The combined office/light industrial/R&D category reflects the fact that certain building types may include a wide variety of tenants – for instance, low-rise industrial “flex” buildings in the City may include tenants ranging from offices to laboratories to production and repair companies, while multi-story commercial buildings can also include traditional offices or technology companies conducting research and development.

Occupational Category and Wage Distribution

EPS used U.S. Bureau of Labor Statistics (BLS) *National Industry-Specific Occupational Employment and Wage Estimates* for 2012 to estimate the wages earned by employees in industry sectors related to the employment categories. This BLS data set includes wage data at both the national and Metropolitan Statistical Area (MSA). The San Jose-Sunnyvale-Santa Clara MSA is the geography of the Silicon Valley. Wage data for the MSA are provided for occupations for all industries in aggregate (e.g., all “Management” occupations regardless of industry), while national-level occupational wage data are provided by industry sector (e.g., managers in the Accommodations industry vs. managers in the Finance and Insurance industry). To account for regional wage disparities, EPS calculated wage adjustment factors as displayed in **Table 5**. EPS applied these adjustment factors to the nationwide income level data by industry sector to estimate the typical wages by occupation and industry for the Silicon Valley.

Table 4
Employment Category Descriptions
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Employment Category	Description and Examples
Lodging	Temporary housing for non-residents. Examples include resorts, hotels, motels, and bed and breakfast inns.
Retail/Restaurants	Businesses selling merchandise, entertainment, personal services, and food and beverage to the general public. Examples include grocery stores, drug stores, clothing stores, general merchandise stores, restaurants and bars, beauty salons, movie theaters, auto sales and rentals, and gas stations.
Office/Light Industrial/R&D	Employers engaged in business activity with limited direct access from the general public, businesses focused on assembling, distributing, or repairing products, and businesses focused on the testing and invention of new materials, products, or processes. Examples include finance, insurance, real estate, law, engineering, science and technology, warehouses, auto repair, and self-storage facilities.

Table 5
Adjustment Factors for Converting National Wages to San Jose-Sunnyvale-Santa Clara MSA Wages
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Occupation Category	US Average Wage	San Jose-Sunnyvale- Santa Clara MSA Avg. Wage	San Jose-Sunnyvale- Santa Clara MSA as % of US Average
Management	\$108,570	\$127,520	117.5%
Business and Financial Operations	\$69,550	\$81,770	117.6%
Computer and Mathematical Science	\$80,180	\$94,880	118.3%
Architecture and Engineering	\$79,000	\$96,950	122.7%
Life, Physical, and Social Science	\$68,360	\$81,400	119.1%
Community and Social Services	\$44,240	\$55,370	125.2%
Legal Occupations	\$98,570	\$113,350	115.0%
Education, Training and Library	\$51,210	\$60,300	117.8%
Arts, Design, Entertainment, Sports, and Media	\$54,490	\$58,890	108.1%
Healthcare Practitioner and Technical	\$73,540	\$102,730	139.7%
Healthcare Support	\$27,780	\$36,680	132.0%
Protective Services	\$43,050	\$58,020	134.8%
Food Preparation and Serving	\$21,380	\$22,670	106.0%
Buildings and Grounds Cleaning and Maintenance	\$25,670	\$32,700	127.4%
Personal Care and Service	\$24,550	\$27,800	113.2%
Sales and Related Occupations	\$37,990	\$45,480	119.7%
Office and Administrative Support	\$34,410	\$42,650	123.9%
Farming, Fishing and Forestry	\$24,230	\$26,600	109.8%
Construction and Extraction	\$44,960	\$61,780	137.4%
Installation, Maintenance, and Repair	\$43,870	\$53,830	122.7%
Production	\$34,500	\$40,360	117.0%
Transportation and Material Moving	\$33,590	\$39,990	119.1%

Sources: BLS *National Industry-Specific Occupational Employment and Wage Estimates*, May 2012

EPS used BLS nationwide data regarding industries and occupation categories to estimate the proportion of occupations likely to be represented under each employment category. For example, EPS evaluated the occupation categories for the Accommodation industry to determine the proportional distribution of occupations for the “Lodging” employment category in Sunnyvale. North American Industry Classification System (NAICS) sector 721000 (“Accommodation”) shows that nationwide 4.3 percent of the jobs in the lodging industry are taken by managers while 29.3 percent are in the category of buildings and grounds cleaning and maintenance (see **Table 6** and **B-1**). The occupational and wage distributions for all designated employment categories and building types are provided in **Appendix B**.

To estimate household incomes, the per-worker wages of each occupation were multiplied by 1.53, the average number of workers per working household in Sunnyvale according to the Census 2010 data. The resulting figure is assumed to represent the annual household wage of a worker in each occupation and industry category. Also, according to the American Community Survey, the average household size in Sunnyvale is 2.64 and the average family size is 3.22 people. Rounding these average household and family sizes suggests that a typical working household in Sunnyvale has three people, so EPS compared the estimated household wage with the income thresholds for a 3-person household to identify the income category into which each occupation would fall. An example of this calculation is illustrated in **Table 6**. Key assumptions and their sources are summarized in **Appendix A**.

It is important to note that the income distribution findings of this study are similar to those in the City’s recent studies for housing impact fees that may be charged to residential development, despite some differences in the methodologies employed.² For example, this study finds that 96 percent of the employees in the “Retail/Restaurant” land use category represent low- and very-low-income households in need of housing subsidies. The rental housing impact fee nexus study completed in 2013 found that 94 percent of all retail and service worker households attributable to demand from new residents would be low- and very-low-income households.

Distribution of Workers by Land Use Type

After identifying income ranges for each occupation and employment category, EPS summed the percentages of occupations by income bracket. These proportions of anticipated household income brackets by employment category are presented in **Table 7**.

As shown, a significant majority of households formed by workers in Retail/Restaurants and Lodging are expected to be at the low- and very-low-income levels, while roughly half of all jobs in the Office/Light Industrial/R&D uses are expected to yield household incomes at or above Median income levels.

² EPS’ “Nexus-Based Affordable Housing Fee Analysis for For-Sale Housing” dated July 19, 2012 and “Nexus-Based Affordable Housing Fee Analysis for Rental Housing” for the City of Sunnyvale, dated June 3, 2013.

Table 6
Illustration of Employees' Household Income Calculation
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Item	Source	Example
Employment Category	City of Sunnyvale and EPS	Lodging
Industry	Bureau of Labor Statistics (BLS)	Accommodation (NAICS Code 721000)
Occupation Category	BLS	Buildings and Grounds Cleaning and Maintenance
Nationwide Median Income for Occupation	BLS (2012)	\$22,740
Regional Wage Adjustment Factor for Occupation	BLS and EPS	127.4%
Median Wage Estimate for the San Jose-Sunnyvale-Santa Clara MSA	BLS and EPS	\$28,968
Workers per Household	U.S. Census 2010 est.	1.53
Median Income per Household	Workers per HH Multiplied by Med. Annual Wage	\$44,320
Income Category for 3-person Family	Dept. of Housing and Community Development (HCD)	Very Low Income - (VLI 0%-50%)

Sources: City of Sunnyvale, BLS, American Community Survey, HCD, and EPS.

Table 7
Income Distribution of Worker Households by Employment Category [1]
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Employment Category	VLI	LI - 80	Median	Moderate	Above Mod
Lodging	64.9%	29.1%	1.4%	0.4%	4.2%
Retail/Restaurants	44.4%	50.9%	0.2%	0.2%	4.3%
Office/Light Industrial/R&D	0.9%	49.2%	13.2%	10.0%	26.7%

[1] Designation of household income is based on a 3-person household and 1.53 workers per household, both based on American Community Survey data.

Source: BLS, HCD, EPS, and American Community Survey 2012.

Employment Densities

Commercial operations have varying levels of employment requirements. The number of building square feet anticipated for a certain number of employees is termed the “employment density” of each employment category.

Based on the City business license data and prior assumptions from similar studies, along with input from City staff, EPS estimated the employment density for each employment category as shown in **Table 8**. As shown, employment density assumptions inform the number of employees that would occupy a 100,000-square foot building for each land use. Lodging uses are assumed to have the lowest employment densities, while retail/restaurant and office/light industrial/R&D have more comparable densities.³

Household Formation in Sunnyvale

EPS then estimated the number of households those employees would represent. First, EPS adjusted for the fact that younger workers may not be at the age to form their own households. Data from the Bureau of Labor Statistics indicate that young workers age 16 to 19 represent only about 1.9 percent of the overall workforce. However, the majority of these young workers are in the retail/restaurant industries, where they represent 12.5 percent of the overall industry employment. EPS has assumed that these young workers age 16 to 19 would not form their own households. As noted above, EPS has further assumed that, on average, new households formed in response to growing employment opportunities would have 1.53 wage-earning workers based on the City-average data for “workers” in households that have workers. The combination of these adjustments results in the assumption that roughly six households are formed for every ten new employees.

Potential Housing Programs and Projects

This fee study establishes the relationship between employment growth and demand for affordable housing. The production of net new affordable units can most directly accommodate the housing needs of a growing workforce, and thus serves as the basis for calculating the maximum nexus-based fee. To the extent that other approaches may be available to retain and/or expand the supply of housing affordable to income-qualified households, the City may elect to invest its fee revenues in such programs. Examples of such alternative programs may include, without limitation:

- acquisition of existing (typically older) market-rate units that would then be subject to income restrictions,
- negotiated and compensated extension of income restrictions on affordable units nearing their expiration, and
- down payment assistance or other credit enhancements for income-qualified homebuyers.

³ As noted above, the office/light industrial/R&D category reflects a wide range of potential businesses that may occupy similar buildings, and the employment density assumption in this category represents a blend of traditional densities for office, light industrial, and R&D uses.

Table 8
Household Generation Rates by Employment Category
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Employment Category	Sq.Ft. per Worker [1]	Total Workers per 100k Sq.Ft.	% of Workers Forming Households [2]	Total Households per 100k Sq.Ft. [3]	Households by Income Level [4]				
					VLI	LI - 80	Median	Moderate	Above Mod
Lodging	2,000	50	98.1%	32	21	9	0	0	1
Retail/Restaurants	400	250	87.5%	143	63	73	0	0	6
Office/Light Industrial/R&D	420	238	98.1%	153	1	75	20	15	41

[1] See **Appendix Table A-1** for sources on employment densities in different land uses.

[2] BLS data indicates that 12.5% of retail/restaurant workers are age 16-19, but an average of only 1.9% of workers in other industries. EPS has assumed that workers of age 16-19 do not form their own households.

[3] Assumes 1.53 employees per household based on the Census data for Sunnyvale; rounded.

[4] Figures are rounded to nearest whole number.

Sources: BLS, US Census, On The Map 2011, and EPS.

In the past, Sunnyvale has invested its housing fees in all of these types of projects and programs, plus modest amounts for the administration of its housing programs, though the majority has been spent subsidizing the construction of new affordable rental units.

Housing Development Costs and Affordability Gap

Tables 9 and **10** show the subsidy needed to produce multifamily for-sale and rental housing affordable to very low-, low-, median- and moderate-income households. These tables are based on the Nexus-Based Affordable Housing Fee Analysis for Rental Housing completed by EPS for the City in 2013, updated to reflect more income levels, land, and development costs. This analysis assumed homes for affordable households would be provided in whatever tenure (rental vs. for-sale) required the least subsidy under prevailing market conditions, which was determined to be rental units for low- and very low-income households, and for-sale units for median income households. No subsidy appears to be required for households earning the full "Moderate" income limit of 120 percent of area median income.

Product Type

This analysis assumes that new lower-income worker households would be housed in multifamily developments in Sunnyvale. Developable residential land in Sunnyvale is very expensive, assumed to be approximately \$4.1 million per acre but with other transactions reflecting still higher rates⁴. Constructing single-family detached or even attached housing would require land costs of several hundred thousand dollars per unit, in addition to the costs of actually building the housing units. Multifamily affordable housing is more financially feasible in this market context because the high land costs can be spread over more units per acre, and the overall prices to develop the affordable units can be closer to the prices that income-qualified households can afford. EPS has assumed that these projects will have an average density of 42 units per acre, and be built in woodframe buildings of three to four stories over parking podiums beneath the building (but not fully underground).

In order to determine the average household size of future affordable housing units, EPS used two estimates from the 2010 Census. The American Community Survey indicates that the average household size in Sunnyvale is 2.64 people and the average family size is 3.22 people. Each of these figures rounds to an average of three people per household, so EPS uses this assumption to determine the applicable income limits for the new units.

California State law (California Health and Safety Code Section 50052.5) assumes that a 2-bedroom unit is occupied by a 3-person household, and this assumption is used in this analysis. Typically, a 2-bedroom unit in the Bay Area has a gross size of about 1,100 square feet (accounting for shared lobbies, hallways, etc.) and a net size of 950 square feet.

The funding gap for development of for-sale and rental units by income level under present market conditions is shown in **Tables 9** and **10**. With City input, EPS has assumed that many households at low and very low incomes will not have adequate wealth reserves

⁴ Based on an appraisal of 485 North Wolfe Rd completed in January 2013 and corroborated by a calculation of residual land value (building values based on achievable market pricing less development costs for residential development).

Table 9
Affordability Gap Analysis – For-Sale Affordable Housing Unit Type
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Item	3-4 Stories Multifamily Building With Podium Parking	
	Median Income (100% AMI)	Moderate Income (120% AMI)
Development Program Assumptions		
Density/Acre	42	42
Gross Unit Size	1,100	1,100
Net Unit Size	950	950
Number of Bedrooms	2	2
Number of Persons per 2-bedroom Unit [1]	3	3
Parking Spaces/Unit	2.00	2.00
Cost Assumptions		
Land/Acre [2]	\$4,094,000	\$4,094,000
Land/Unit	\$97,476	\$97,476
Direct Costs		
Direct Construction Costs/Net SF [3]	\$195	\$195
Direct Construction Costs/Unit	\$184,832	\$184,832
Parking Construction Costs/Space	\$15,084	\$15,084
Parking Construction Costs/Unit	\$30,167	\$30,167
Subtotal, Direct Costs/Unit	\$214,999	\$214,999
Indirect Costs as a % of Direct Costs [4]	40%	40%
Indirect Costs/Unit	\$86,000	\$86,000
Developer Profit Margin (% of all costs)	10%	10%
Developer Profit	\$39,847	\$39,847
Total Cost/Unit	\$438,322	\$438,322
Maximum Supported Home Price		
Household Income [5]	\$94,950	\$113,950
Income Available for Housing Costs/Year [6]	\$33,233	\$39,883
Less Annual HOA Fees and Insurance [7]	\$3,826	\$3,826
Less Property Taxes (1.1738%) [8]	\$4,465	\$5,500
Income Available for Mortgage	\$24,942	\$30,557
Mortgage Interest Rate [9]	5.0%	5.0%
Mortgage Repayment Period (years)	30	30
Down Payment [10]	\$42,601	\$52,192
Total Supportable Unit Value	\$426,014	\$521,921
Affordability Gap	\$12,309	\$0

[1] An average of 3 persons is used for this analysis based on Census data indicating the average family and household size in Sunnyvale is approximately 3 persons, and State law (Health and Safety Code Section 50052.5) indicates that a 2-bedroom unit should be assumed to be occupied by a 3-person household. Thus, EPS has assumed an average unit for income-qualified worker households would be 2-bedrooms.

[2] Based on an appraisal of 485 North Wolfe Rd completed in January of 2013 and corroborated by a calculation of residual land value. Asking prices of recent listings of residential land tend to be higher, so this estimate is considered conservative. For example, 1103 E. El Camino Real is a 1.02 acre developable parcel was recently appraised for \$4.45 million.

[3] Includes on-site work, offsite work, vertical construction, general requirements, overhead and developer fees. Assumes a for-profit builder of moderate-income homes can build a unit for 10% less per square foot than can a non-profit builder. The cost estimate from 2013 is adjusted by a one-year inflation factor reported by ENR.

[4] Includes costs for architecture and engineering; entitlement and fees; project management, marketing, commissions, and general administration; financing and charges; insurance; and contingency

[5] Based on 2014 income limits for a three-person household in Santa Clara County at 100% and 120% of AMI, respectively.

[6] Assumes housing costs to be 35% of gross household income.

[7] Assumes HOA dues of \$275 per month and insurance costs of 0.12% of the total cost/unit.

[8] Includes special assessment districts in addition to the base tax rate of 1.00%, and is applied to total cost/unit.

[9] Based on typical 30-year fixed rate mortgage terms.

[10] Assumes a 10% down payment.

Source: City of Sunnyvale; HUD; Economic & Planning Systems, Inc.

Table 10
Affordability Gap Analysis – Rental Product Type
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Item	3 - 4 Stories Multifamily Building With Podium Parking			
	Very Low Income (50% AMI)	Low Income (80% AMI)	Median Income (100% AMI)	Moderate Income (120% AMI)
Development Program Assumptions				
Density/Acre	42	42	42	42
Gross Unit Size	1,100	1,100	1,100	1,100
Net Unit Size	950	950	950	950
Number of Bedrooms	2	2	2	2
Number of Persons per 2-bedroom Unit [1]	3	3	3	3
Parking Spaces/Unit	2.00	2.00	2.00	2.00
Cost Assumptions				
Land/Acre [2]	\$4,094,000	\$4,094,000	\$4,094,000	\$4,094,000
Land/Unit	\$97,476	\$97,476	\$97,476	\$97,476
Direct Costs				
Direct Construction Costs/Net SF [3]	\$210	\$210	\$189	\$189
Direct Construction Costs/Unit	\$199,424	\$199,424	\$179,968	\$179,968
Parking Construction Costs/Space	\$16,500	\$16,500	\$15,500	\$15,500
Parking Construction Costs/Unit	\$33,000	\$33,000	\$31,000	\$31,000
Subtotal, Direct Costs/Unit	\$232,424	\$232,424	\$210,968	\$210,968
Indirect Costs as a % of Direct Costs [4]				
Indirect Costs/Unit	\$92,970	\$92,969.60	\$84,387	\$84,387
Total Cost/Unit	\$422,870	\$422,870	\$392,831	\$392,831
Maximum Supported Home Price				
Household Income [5]	\$47,750	\$76,400	\$94,950	\$117,400
Income Available for Housing Costs/Year [6]	\$14,325	\$22,920	\$28,485	\$35,220
Less Utility Costs [7]	\$1,620	\$1,620	\$1,620	\$1,620
Income Available for Rent Payments	\$12,705	\$21,300	\$26,865	\$33,600
Operating Expenses per Unit/Year	\$6,000	\$6,000	\$10,611	\$10,611
Net Operating Income [8]	\$6,705	\$15,300	\$16,254	\$22,989
Capitalization Rate [9]	5.5%	5.5%	5.5%	5.5%
Total Supportable Unit Value [10]	\$121,909	\$278,182	\$295,526	\$417,981
Affordability Gap	\$300,961	\$144,688	\$97,305	\$0

[1] An average of 3 persons is used for this analysis based on Census data indicating the average family and household size in Sunnyvale is approximately 3 persons, and State law (Health and Safety Code Section 50052.5) indicates that a 2-bedroom unit should be assumed to be occupied by a 3-person household. Thus, EPS has assumed an average unit for income-qualified worker households would be 2-bedrooms

[2] Based on an appraisal of 485 North Wolfe Rd completed in January of 2013 and corroborated by a calculation of residual land value. Asking prices of recent listings of residential land tend to be higher, so this estimate is considered conservative. For example, 1103 E. El Camino Real is a 1.02 acre developable parcel was recently appraised for \$4.45 million.

[3] Includes on-site work, offsite work, vertical construction, general requirements, overhead and developer fees. Assumes a for-profit builder of moderate-income homes can build a unit for 10% less per square foot than can a non-profit builder. The cost estimate from 2013 is adjusted by a one-year inflation factor reported by ENR.

[4] Includes costs for architecture and engineering; entitlement and fees; project management; appraisal and market study; marketing, commissions, and general administration; financing and charges; insurance; developer fee and contingency.

[5] Based on 2014 income limits for a three person household in Santa Clara County at the four income-levels shown.

[6] Assumes housing costs to be 30% of gross household income based on maximum rents established under Sunnyvale's current BMR rental program.

[7] Based on Santa Clara County Authority 2012 Utility Allowance Table assuming a low-rise apartment and natural gas service.

[8] Moderate income units generate rents similar to market-rate units, so EPS assumes that any moderate income units would be subject to property tax (1.0% of unit cost). Units for lower income levels are assumed to be produced by non-profit builders and thus not taxable

[9] The capitalization rate is used to determine the current value of a property based on estimated future operating income, and is typically a measure of estimated operating risk. Capitalization rate assumptions are based on recent PwC Real Estate Investor Surveys.

[10] The total supportable unit value is determined by dividing the net operating income by the capitalization rate.

Sources: City of Sunnyvale; Affordable housing developers; HUD; ENR, PwC; Economic & Planning Systems, Inc.

for down payments on homeownership units, and may have further difficulty absorbing the ongoing costs of homeownership (taxes, repairs, etc.) that they can effectively avoid by renting their homes rather than buying. Median and moderate-income households may not face the same financial challenges, so EPS has compared the subsidy costs of rental and for-sale housing at these income levels to determine which requires less subsidy.

Development Cost Assumptions

Affordable housing development costs include land costs, direct costs (e.g. labor and materials), indirect or “soft” costs (e.g., architecture, entitlement, marketing, etc.), and developer profit. For rental projects, operating costs also must be incorporated into the analysis. While specific costs for any given project can vary significantly, EPS has worked with the City and vetted assumptions with locally active developers to establish development costs that represent reasonable estimates for a typical project in Sunnyvale. For the 2013 nexus study for affordable housing fees for rental development, EPS combined cost data from recent Sunnyvale development and recent land transactions with EPS’s information from various market-rate and affordable housing developers to determine appropriate development cost assumptions for use in Sunnyvale, and those costs were reviewed by developers and subject to a peer review study by another consultant retained by the Building Industry Association. For this 2014 study, EPS inflated direct construction costs from its original 2013 estimates based on the Engineering News Record index to reflect construction cost escalation since the original analysis. These assumptions are shown on **Tables 9 and 10**.

The land value is estimated based on a recent appraisal for residential land in Sunnyvale of \$4.1 million per acre, located at 485 North Wolfe Road. EPS believes this figure is conservative (i.e., low) for two reasons: 1) current asking prices for developable residential land in Sunnyvale are as high as \$4.7 million per acre, and 2) a “residual land value analysis” suggests that developers of market-rate apartments can afford to pay more than \$4.1 million per acre for developable land.

Revenue Assumptions

To calculate the values of the affordable units, assumptions must be made regarding the applicable income level (moderate, median, LI, and VLI) and the percentage of income spent on housing costs. In addition, translating these assumptions into unit prices and values requires estimates of operating expenses, capital reserves, and capitalization rates. The following assumptions were used in these calculations:

- *Income Levels*—The maximum allowable incomes used in each affordable housing income category are consistent with those set forth by both the federal government (U.S. Department of Housing and Urban Development [HUD]) and State government (California Department of Housing and Community Development [HCD]): VLI = 50 percent of Area Median Income (AMI), LI = 80 percent of AMI, Median Income = 100 percent of AMI, and Moderate Income = 120 percent of AMI.
- *Percentage of Gross Household Income Available for Housing Costs*—HCD generally considers housing to be affordable when renters spend no more than 30 percent of gross household income on housing costs (rent and utilities), or when homeowners pay not more than 35 percent of gross income for mortgage principal and interest, taxes, insurance, and homeowner association dues. For this analysis, EPS has assumed that VLI, LI, median, and

moderate-income households may spend 35 percent of their gross income on housing costs. All units are assumed to be two-bedroom multifamily dwellings for the purpose of this analysis.

- *Other Costs Included for Rental Units*—In addition to rent payments, the analysis assumes approximately \$135 per month in utility costs based on the Santa Clara County Housing Authority 2012 utility allowance table. This amount is subtracted from the total available housing costs (30 percent of household income) to determine the net amount available for rent payments.
- *Operating Costs for Rental Units*—The analysis assumes that apartment operators incur annual costs of \$6,000 per unit for LI and VLI units and \$10,300 for Median Income and Moderate units. EPS has assumed the Median and Moderate income units would be built by for-profit builders and subject to property taxes, while units for lower-income households would be built and operated by nonprofit organizations and thus tax-exempt.

Affordability Gap Results

Tables 9 and 10 show the subsidies for construction of for-sale condominiums and for-rent apartments for VLI through moderate-income households. The affordability gap ranges from \$0 for moderate-income households (i.e., moderate-income households can afford home prices adequate to cover the costs of construction) to \$300,961 for VLI households. The affordability gap for VLI households is much higher because these households have significantly less income available for housing costs, while construction costs remain essentially fixed.

These affordability gaps then were used to calculate the justified nexus-based fees by multiplying this required subsidy by the number of units required to house workers providing goods and services to new market-rate housing development. This methodology is discussed in more detail in the following section.

Maximum Fee Calculation

Tables 11 through 13 provide the maximum nonresidential housing fee calculations for each of the three employment categories. Assuming a 100,000-square foot nonresidential building prototype for each employment category, the number of new households by income category is multiplied by the per-unit affordability gap to determine the level of subsidy required to provide housing for the new worker households. The adjusted affordability gap is then divided by the size of the assumed building or land to determine a maximum fee per building square foot.

As shown, the EPS maximum fees for office/light industrial/R&D are calculated at \$113.99 per square foot, substantially above the City's current \$9.49 fee for these uses (the City's current fee applies only to square footage above an established density threshold that varies by use and location). EPS also has calculated the maximum supportable fees as \$76.22 per square foot for lodging uses and \$295.23 for retail/restaurant uses. These uses currently are not subject to Housing Mitigation Fees in Sunnyvale, though the majority of their workers qualify as lower-wage employees potentially in need of affordable housing.

Table 11
Fee Calculation - Lodging
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
<i>Table references:</i>			
	<i>Table 8</i>	<i>Tables 9 and 10</i>	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
VLI	21	\$300,961	\$6,320,175
LI - 80	9	\$144,688	\$1,302,192
Median	0	\$12,309	\$0
Moderate	0	\$0	\$0
Above Moderate	1	\$0	\$0
Total	31	n/a	\$7,622,366
Fee Calculation			
		<i>formula</i>	
Total Financing Gap		<i>a</i>	\$7,622,366
Total Building Sq. Ft.		<i>b</i>	100,000
Maximum Fee per Sq. Ft.		<i>c = a / b</i>	\$76.22

Table 12
Fee Calculation - Retail/Restaurant
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
<div> <div>Table references:</div> <div>Table 8</div> <div>Tables 9 and 10</div> </div>			
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
VLI	63	\$300,961	\$18,960,524
LI - 80	73	\$144,688	\$10,562,222
Median	0	\$12,309	\$0
Moderate	0	\$0	\$0
Above Moderate	6	\$0	\$0
Total	142	n/a	\$29,522,746
Fee Calculation			
		<i>formula</i>	
Total Financing Gap		<i>a</i>	\$29,522,746
Total Building Sq. Ft.		<i>b</i>	100,000
Maximum Fee per Sq. Ft.		<i>c = a / b</i>	\$295.23

Table 13
Fee Calculation - Office/Light Industrial/R&D
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Item	Worker Households per 100k sq. ft.	Affordability Gap per household	Total Gap
<i>Table references:</i>			
	<i>Table 8</i>	<i>Tables 9 and 10</i>	
Aggregate Financing Gap per 100K Sq. Ft			
Affordability Level			
VLI	1	\$300,961	\$300,960.70
LI - 80	75	\$144,688	\$10,851,598
Median	20	\$12,309	\$246,174
Moderate	15	\$0	\$0
Above Moderate	41	\$0	\$0
Total	152	n/a	\$11,398,733
Fee Calculation			
		<i>formula</i>	
Total Financing Gap		<i>a</i>	\$11,398,733
Total Building Sq. Ft.		<i>b</i>	100,000
Maximum Fee per Sq. Ft.		$c = a / b$	\$113.99



APPENDIX A:

Assumptions and Sources

Table A-1
Assumptions and Sources
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Item	Total	Unit	Source
Demographic Assumptions			
Workers per Household with Workers	1.53 persons		U.S. Census 2010
Persons per Household	2.64 persons		American Community Survey Estimate 2010-2012
Persons per Family	3.22 persons		American Community Survey Estimate 2010-2012
Employment Density Assumptions			
Lodging	2,000 sq. ft. per employee		Keyser Marston Associates report for Mountain View
Retail/Restaurants	400 sq. ft. per employee		San Jose Transportation Department Study
Office/Light Industrial/R&D [1]	420 sq. ft. per employee		San Jose Transportation Department Study

[1] The office/light industrial/R&D category reflects a wide range of potential businesses that may occupy similar buildings, and the employment density assumption in this category represents a blend of typical densities for such tenants.

Sources: U.S. Census Bureau; Keyser Marston Associates; San Jose Transportation Department; City of Sunnyvale; and EPS.



APPENDIX B:
Occupation Distribution and Wages
by Building Type

Table B-1
Occupation and Wage Distribution - Hotels/Lodging
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Lodging

Occupation Category	Lodging [1]					Income Category
	US Total Jobs by Occ. in Industry	US Avg. Wage by Occ. in Industry	San Jose-Sunnyvale-Santa Clara MSA Wage Est. [2]	% of Industry Jobs in Occ. Category	HH Income at 1.53 workers/HH	
Management	76,470	\$71,950	\$84,508	4.26%	\$129,298	Above Mod
Business and Financial Operations	25,400	\$49,460	\$58,150	1.42%	\$88,970	Median
Computer and Mathematical Science	2,160	\$54,730	\$64,764	0.12%	\$99,089	Moderate
Architecture and Engineering	400	\$58,790	\$72,148	0.02%	\$110,386	Moderate
Life, Physical, and Social Science	0	\$55,510	\$66,099	0.00%	\$101,131	Moderate
Community and Social Services	230	\$34,320	\$42,954	0.01%	\$65,720	LI - 80
Legal Occupations	70	\$90,320	\$103,863	0.00%	\$158,910	Above Mod
Education, Training and Library	700	\$32,500	\$38,269	0.04%	\$58,551	LI - 80
Arts, Design, Entertainment, Sports, and Media	8,340	\$46,170	\$49,898	0.47%	\$76,344	LI - 80
Healthcare Practitioner and Technical	320	\$46,770	\$65,334	0.02%	\$99,961	Moderate
Healthcare Support	1,740	\$36,400	\$48,062	0.10%	\$73,534	LI - 80
Protective Services	41,520	\$28,380	\$38,249	2.31%	\$58,521	LI - 80
Food Preparation and Serving	450,280	\$25,860	\$27,420	25.11%	\$41,953	VLI
Buildings and Grounds Cleaning and Maintenance	524,940	\$22,740	\$28,968	29.27%	\$44,320	VLI
Personal Care and Service	130,810	\$25,910	\$29,340	7.29%	\$44,890	VLI
Sales and Related Occupations	45,350	\$35,200	\$42,140	2.53%	\$64,474	LI - 80
Office and Administrative Support	335,120	\$25,600	\$31,730	18.68%	\$48,547	LI - 80
Farming, Fishing and Forestry	730	\$26,370	\$28,949	0.04%	\$44,292	VLI
Construction and Extraction	3,580	\$47,560	\$65,353	0.20%	\$99,990	Moderate
Installation, Maintenance, and Repair	88,750	\$33,450	\$41,044	4.95%	\$62,798	LI - 80
Production	33,870	\$24,160	\$28,264	1.89%	\$43,243	VLI
Transportation and Material Moving	22,760	\$24,820	\$29,549	1.27%	\$45,210	VLI
Total or Weighted Average	1,793,540		\$33,299	100.00%	\$50,948	

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[1] Includes NAICS Sector: 721000 - Accommodation.

[2] Adjusted using factors calculated in Table 5.

Source: BLS and EPS.

Table B-2
Occupation and Wage Distribution - Retail
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Retail/Restaurants

Occupation Category	RETAIL [1]					
	US Total Jobs by Occ. in Industry	US Avg. Wage by Occ. in Industry	San Jose-Sunnyvale-Santa Clara MSA Wage Est. [2]	% of Industry Jobs in Occ. Category	HH Income at 1.53 workers/HH	Income Category
Management	606,720	\$81,565	\$95,801	2.28%	\$146,576	Above Mod
Business and Financial Operations	48,100	\$54,857	\$64,495	0.18%	\$98,678	Moderate
Computer and Mathematical Science	57,090	\$67,589	\$79,981	0.21%	\$122,371	Above Mod
Architecture and Engineering	4,560	\$72,702	\$89,221	0.02%	\$136,507	Above Mod
Life, Physical, and Social Science	490	\$50,900	\$60,610	0.00%	\$92,733	Median
Community and Social Services	1,430	\$43,352	\$54,259	0.01%	\$83,016	Median
Legal Occupations	1,370	\$89,466	\$102,881	0.01%	\$157,409	Above Mod
Education, Training and Library	7,540	\$31,632	\$37,247	0.03%	\$56,987	LI - 80
Arts, Design, Entertainment, Sports, and Media	116,970	\$33,364	\$36,059	0.44%	\$55,170	LI - 80
Healthcare Practitioner and Technical	500,980	\$62,505	\$87,315	1.89%	\$133,592	Above Mod
Healthcare Support	84,390	\$29,453	\$38,889	0.32%	\$59,501	LI - 80
Protective Services	83,000	\$28,102	\$37,874	0.31%	\$57,947	LI - 80
Food Preparation and Serving	9,433,370	\$20,846	\$22,104	35.52%	\$33,819	VLI
Buildings and Grounds Cleaning and Maintenance	215,170	\$22,966	\$29,255	0.81%	\$44,760	VLI
Personal Care and Service	681,510	\$26,660	\$30,189	2.57%	\$46,189	VLI
Sales and Related Occupations	8,958,170	\$26,226	\$31,396	33.73%	\$48,036	LI - 80
Office and Administrative Support	2,842,670	\$26,419	\$32,745	10.70%	\$50,100	LI - 80
Farming, Fishing and Forestry	19,990	\$23,321	\$25,602	0.08%	\$39,172	VLI
Construction and Extraction	42,270	\$38,465	\$52,855	0.16%	\$80,869	Median
Installation, Maintenance, and Repair	783,340	\$37,835	\$46,424	2.95%	\$71,029	LI - 80
Production	630,330	\$26,893	\$31,461	2.37%	\$48,136	LI - 80
Transportation and Material Moving	1,438,650	\$24,271	\$28,895	5.42%	\$44,210	VLI
Total or Weighted Average	26,558,110		\$31,303	100.00%	\$47,894	

[1] Includes NAICS Sectors: 44 and 45 - Retail Trade; 532000 - Rental and Leasing Services; 722000 - Food Services and Drinking Places, and 812000 - Personal and Laundry Services

[2] Adjusted using factors calculated in Table 5.

Source: BLS and EPS.

Table B-3
Occupation and Wage Distribution - Office/Light Industrial/R&D
Sunnyvale Housing Mitigation Nexus and Fee Study; EPS #131119

Office/Light Industrial/R&D

Occupation Category	Office/Light Industrial/R&D [1]					
	US Total Jobs by Occ. in Industry	US Avg. Wage by Occ. in Industry	San Jose-Sunnyvale-Santa Clara MSA Wage Est. [2]	% of Industry Jobs in Occ. Category	HH Income at 1.53 workers/HH	Income Category
Management	3,761,970	\$121,644	\$142,876	6.61%	\$218,601	Above Mod
Business and Financial Operations	4,497,450	\$72,321	\$85,027	7.90%	\$130,092	Above Mod
Computer and Mathematical Science	2,989,280	\$83,153	\$98,398	5.25%	\$150,550	Above Mod
Architecture and Engineering	2,073,720	\$78,708	\$96,592	3.64%	\$147,785	Above Mod
Life, Physical, and Social Science	653,300	\$72,300	\$86,091	1.15%	\$131,720	Above Mod
Community and Social Services	51,660	\$44,738	\$55,994	0.09%	\$85,670	Median
Legal Occupations	746,830	\$103,214	\$118,691	1.31%	\$181,597	Above Mod
Education, Training and Library	48,890	\$51,420	\$60,547	0.09%	\$92,637	Median
Arts, Design, Entertainment, Sports, and Media	1,029,390	\$59,726	\$64,549	1.81%	\$98,759	Moderate
Healthcare Practitioner and Technical	453,530	\$62,191	\$86,876	0.80%	\$132,920	Above Mod
Healthcare Support	185,640	\$26,653	\$35,192	0.33%	\$53,844	LI - 80
Protective Services	855,980	\$28,279	\$38,113	1.50%	\$58,313	LI - 80
Food Preparation and Serving	202,960	\$22,591	\$23,954	0.36%	\$36,649	VLI
Buildings and Grounds Cleaning and Maintenance	2,077,330	\$25,364	\$32,310	3.65%	\$49,435	LI - 80
Personal Care and Service	228,180	\$24,233	\$27,441	0.40%	\$41,984	VLI
Sales and Related Occupations	4,658,740	\$59,484	\$71,212	8.18%	\$108,954	Moderate
Office and Administrative Support	12,028,480	\$33,990	\$42,129	21.12%	\$64,457	LI - 80
Farming, Fishing and Forestry	81,650	\$26,172	\$28,732	0.14%	\$43,960	VLI
Construction and Extraction	4,037,120	\$44,816	\$61,582	7.09%	\$94,221	Median
Installation, Maintenance, and Repair	3,404,620	\$44,587	\$54,710	5.98%	\$83,706	Median
Production	7,590,250	\$34,851	\$40,770	13.33%	\$62,378	LI - 80
Transportation and Material Moving	5,282,650	\$35,053	\$41,731	9.28%	\$63,849	LI - 80
Total or Weighted Average	56,939,620		\$63,119	100.00%	\$96,572	

[1] Includes NAICS Sectors: 51 - Information; 52 - Finance and Insurance; 53 - Real Estate and Rental and Leasing (excluding 532000 -Rental and Leasing Services); 54 - Professional, Scientific, and Technical Services (excluding 541700 - Scientific Research and Development Services); 55 - Management of Companies and Enterprises; 561000 - Admin. and Support Services; 22 - Construction; 23 - Utilities; 31, 32, and 33 - Manufacturing; 42 - Wholesale Trade; 48 and 49 - Transportation & Warehousing; 541700 - Scientific R&D Services; and 811000 - Repair and Maintenance.

[2] Adjusted using factors calculated in Table 5.

Source: BLS and EPS.