Draft Report

Commercial Linkage Fee Nexus Study

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VWA

Vernazza Wolfe Associates, Inc.

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I. EXECUTIVE SUMMARY

INTRODUCTION

This report is part of the 21 Elements multi-city nexus study, a collaborative effort to mitigate the impacts of new development on the demand for affordable housing in San Mateo County. In February 2014, 21 cities and the county partnered to hire Strategic Economics and Vernazza Wolfe Associates, Inc. to develop nexus studies for commercial linkage fees and residential impact fees.[1] The project was initiated by 21 Elements, a countywide collaboration among all the cities in San Mateo County on housing issues. Some jurisdictions elected to conduct both fee studies, while others did not. The preparation of these fee studies may result in the adoption of new impact fees on either residential, commercial or both types of developments. This report describes the methodology, data sources, and analytical steps required for the nexus analysis.

BACKGROUND

San Bruno is considering adopting a new commercial linkage fee on commercial development. The purpose of the linkage fee would be to mitigate the impacts of an increase in affordable housing demand from new worker households associated with new commercial development. When a city or county adopts impact fees on new development, it must establish a reasonable relationship or connection between the development project and the fee that is charged. Studies undertaken to demonstrate this connection are called nexus studies. This linkage fee nexus study quantifies the connection between the development of commercial hotel, retail/restaurants/services, and office/R&D/medical office projects and the demand for affordable housing units. The funds raised by the linkage fees are deposited into a housing fund specifically reserved for use by a local jurisdiction to increase the supply of affordable housing for the workforce. Linkage fees are one of several funding sources that jurisdictions can use to help meet the affordable housing needs of new workers.

REPORT ORGANIZATION

This executive summary provides an overview of the commercial linkage fee nexus analysis methodology, results, and policy considerations. The subsequent chapters of the report contain more detailed information regarding the methodology, data sources and analysis. The report is organized into six sections. Following this executive summary, Section II provides an introduction to the purpose of the study, and an overview of the methodology. Section III presents each of the steps of the commercial linkage fee analysis in detail. Section IV covers the housing affordability gap analysis. Section V presents the maximum fee calculation based on the nexus analysis and affordability gap results. The final section, Section VI, discusses financial feasibility and other policy considerations that jurisdictions typically weigh before implementing a nexus fee.

NEXUS ANALYSIS RESULTS

The principal findings of the nexus analysis are presented below. More detail on each step can be found in other sections of this report.

[1] Participating jurisdictions include: Atherton, Belmont, Brisbane, Burlingame, Colma, Daly City, East Palo Alto, Foster City, Half Moon Bay, Hillsborough, Menlo Park, Millbrae, Pacifica, Portola Valley, Redwood City, San Bruno, San Carlos, San Mateo County, San Mateo City, San Mateo County, South San Francisco, and Woodside.

Prototypes

The first step in this nexus analysis is to establish prototypes of typical commercial development in San Bruno. These typical developments are called prototypes. This study examined the jobs-housing linkage for three commercial development prototypes:

1. Hotel - includes full-service hotels, limited-service hotels, motels, and other lodging.

2. Retail/ Restaurants/ Services - includes a range of buildings, including retail stores, restaurants, and personal care spaces accommodating businesses like nail salons and drycleaners.

3. Office/ R&D/ Medical Office - includes a range of office and research and development (R&D) uses, including traditional office buildings, medical offices, and specialized spaces for highly advanced manufacturing and research.

The definition of the commercial prototypes was informed by a review of recently completed and proposed development projects in San Mateo County, as well as discussions with City staff. The prototype information is summarized in Figure I-1.

Figure I-1. Commercial Prototypes

	Hotel	Retail/ Restaurants/ Services	Office/R&D/ Medical Office
Prototype Description			
Gross Building Area (GBA)	100,000	100,000	100,000
Podium Parking Area	11,970	30,000	63,000
Gross Building Area including Podium Parking (SF)	111,970	130,000	163,000
Efficiency Ratio (a)	N/A	0.95	0.9
Net Leasable Sq. Ft. (NSF)	N/A	95,000	90,000
Hotel Rooms	133		
Parking Spaces	160	400	300
Podium Parking	40	100	210
Surface Parking	120	300	90
Floor Area Ratio (b)	1.1	0.5	2.0
Land Area (Acres)	2.3	6.0	1.9
Land Area (SF)	101,791	260,000	81,500

Notes:
(a) Refers to ratio of gross building area to net leasable area. An efficiency ratio of 0.9 means that 90% of the gross building area is leasable.
(b) The floor-area-ratio (FAR) is often used as a measure of density. In this analysis, it is calculated as the gross building area (including podium parking) divided by the total land area.

Sources: Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

Employment Density

The next step is to determine how many employees will work in each of the three prototypes. While these numbers will vary from building to building, there are sources of information that help researchers define employment "densities." The employment density measures the number of employees who work in a given amount of space. For each building prototype, an average employment density was defined based on a review of national survey data for existing commercial buildings and a review of recently completed linkage fee nexus studies in the Bay Area. The densities selected were at the lower end of each range. By using slightly lower employment estimates, the conclusions from this study are more conservative. The study uses a slightly lower number of future employees in calculating affordable housing needs.

Worker Household Incomes

Using these prototypes, the nexus analysis estimates the wages of future workers based on industry and occupation data. After the average wage of workers is calculated, the next step is to compute the average household income of worker households. Assuming that there are multiple wage-earners per household, the household income of worker households is estimated. Each worker-household is then classified into area median income (AMI) categories to determine the number of households that would require affordable housing. Figure I-2 summarizes the estimated worker-household incomes for each prototype.

Figure I-2. Calculation of Worker Household Income by Prototype

Prototype	Number of Employee Households
Hotel	
Very Low Income (<=50% AMI)	16.8
Low Income (51-80% AMI)	30.8
Moderate Income (81-120% AMI)	6.4
Above Moderate (>=120%)	4.9
Total	**58.8**
Retail, Restaurants and Personal Services	
Very Low Income (<=50% AMI)	69.6
Low Income (51-80% AMI)	14.8
Moderate Income (81-120% AMI)	2.3
Above Moderate (>=120%)	1.6
Total	**88.2**
Office, R&D and Medical Office Land Use	
Very Low Income (<=50% AMI)	14.8
Low Income (51-80% AMI)	55.8
Moderate Income (81-120% AMI)	11.8
Above Moderate (>=120%)	94.1
Total	**176.5**

Sources: Vernazza Wolfe Associates, Inc; Strategic Economics, 2015.

Affordability Gap

Many of the new worker households will be unable to afford market-rate housing. In order to measure this shortfall, this study has calculated the housing affordability gap, shown in Figure I-3. The housing affordability gap measures the difference between what very low, low, and moderate income households can afford to pay for housing and the cost of building new, modest rental and for-sale housing units.

Figure I-3. Affordable Housing Gap

Income Level	Rental Gap	Ownership Gap	Average Affordability Gap
Very Low Income (50% AMI)	$280,783	N/A	$280,783
Low Income (70% - 80% AMI) (a)	$240,477	N/A	$240,477
Moderate Income (90% - 110% AMI) (b)	$187,066	$164,049	$175,558

Notes:
(a) Low income households are defined at 70 percent of AMI for renters and 80 percent of AMI for owners.
(b) Moderate income households are defined at 90 percent of AMI for renters and 110 percent AMI for owners.
Acronyms: AMI: Area median income.
Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

Maximum Nexus-Based Fee

The totals presented in the above Figure I-4 present the shortfall between housing costs and what new worker households can afford to pay for housing. To estimate the maximum impact fee, the next step is to calculate the aggregate affordable housing gap for each building prototype and then divide that amount by the number of square feet in the commercial building prototype it represents. The resulting number is the maximum fee needed to mitigate affordable housing impacts. The maximum nexus-based fee per prototype is summarized in Figure I-5.

Figure I-4. Maximum Linkage Fees by Prototype

Prototype	Square Footage	Maximum Fee per SF
Hotel	100,000	$132
Retail, Restaurants and Personal Services	100,000	$235
Office, R&D and Medical Office Land Use	100,000	$196

Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

POLICY CONSIDERATIONS

There are a number of policy considerations that should be taken into account when the City of San Bruno considers whether to adopt commercial linkage fees on new non-residential development. These may include factors such as: the likely financial impact of the proposed linkage fees on development; the additional cost of the new fees on the existing City fee structure; a comparison of the fee scenarios to existing linkage fees in nearby cities; the role of the fee in the City's overall strategy for affordable housing implementation; and the potential overlap with a residential impact fee, if it is adopted. This section provides a discussion of each of these policy questions for the City of San Bruno.

Comparison to Neighboring Jurisdictions – A comparison of the nexus fee scenarios to current commercial linkage fees charged in nearby cities is an important element of the policy analysis (Figure I-5). At this time, many cities in San Mateo County are considering adopting new linkage fees or updating their existing linkage fees. If San Bruno were to adopt the maximum linkage fee levels for each prototype, the City's fees would be considerably higher than those currently in place in other San Mateo County and Santa Clara County cities. However, adopting the recommended fee scenarios would place San Bruno at a somewhat comparable fee level to several neighboring jurisdictions for the hotel and retail prototypes.

- For the hotel and retail prototypes, adopting a fee at $5 per square foot would be somewhat comparable to Menlo Park's current fee of $8 and Sunnyvale's adopted fee of $7.50.

- For the office prototype, adopting a fee at $5 per square foot would place San Bruno's fee at a somewhat lower level than Menlo Park's current fee of $15 and Sunnyvale's adopted fee of $15.

It is important to note that Menlo Park (as well as various other cities in San Mateo County) is currently considering updates to their existing commercial linkage fees.

Figure I-5. Comparison of Commercial Linkage Fees in Other Jurisdictions

Jurisdiction	Hotel	Retail/ Restaurant/ Services	Office/R&D/ Medical Office	Date Fee Was Adopted
Menlo Park (a)	$8	$8	$16	2000
Cupertino	$10	$10	$20	2015
Mountain View (b)	$2.50	$2.50	$25	2015
Palo Alto	$19.31	$19.31	$19.31	2002
San Francisco (c)	$18	$22	$16-$24	2015
Sunnyvale (d)	$7.50	$7.50	$15	2015

Notes:

(a) Churches, schools, public facilities, and commercial buildings of 10,000 SF and under are exempt from fees.

(b) New gross floor area under 25,000 SF pays 50 percent of full fee.

(c) The fee for R&D is $16.01 and the fee for office is $24.03. The fee for a small enterprise is $18.89.

(d) The fee on the first 25,000 SF, for all three commercial uses, is discounted by 50 percent.

Sources: City staff and websites; Nonprofit Housing Association of Northern California, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Financial Feasibility – Financial feasibility is just one of several factors to consider in making a decision regarding updating an existing fee. In order to provide San Bruno with guidance on how proposed fees could influence development, the consultant team conducted a financial feasibility analysis that tested the impact of several fee options on developer profit for all the commercial prototypes.

The fees were tested at four calculated levels. The analysis showed that establishing a fee at the maximum fee would have a negative impact on development feasibility for all prototypes. The hotel prototype was found to be marginally feasible with a linkage fee of $5 per square foot. The retail/ restaurants/ services and office/ R&D/ medical office prototypes were both found infeasible under current market conditions, even without a new linkage fee. For the retail/ restaurants/ services and office/ R&D/ medical office prototypes, the lowest fee scenario of $5 per square foot has a modest impact on the financial feasibility of the project, making up only one percent of total development costs.

The significant increase of hotel room rates and office rental rates in San Mateo County since 2014 may impact the feasibility of the prototypes. Recent data shows that hotel and office revenues have increased in San Mateo County by five to ten percent in the last year. Applying these revenue increases has an impact on the results of the financial feasibility analysis. For hotels, with a revenue increase of five or ten percent, the prototype can support a linkage fee of $20 per square foot. For the office/R&D/medical office prototype, a ten percent increase in revenue would make it feasible for this prototype to support a linkage fee of $20 per square foot (Figure I-6).

Under current market conditions, development of the retail/ restaurants/ services prototype development is not financially feasible. However, it is possible that new retail development could be feasible if land, construction, or soft costs were slightly lower. The ground-floor retail component of a mixed-use project may also have stronger financial feasibility results, because it would share land costs with the residential or office component.

Figure I-6. Financial Feasibility Results for the Hotel and Office/R&D/Medical Office Prototypes with Increased Revenues

Revenue Scenario	Hotels	Office/R&D/ Medical Office
2014 Rents/Prices	$0	$0
5% Increase in Revenues	$20	$0
10% Increase in Revenues	$20	$20

Sources: Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Total Development Costs – Currently, the total development costs (including land, building and onsite improvements, parking, indirect costs, financing costs, and developer profit, but excluding the current linkage fee) are $371 per net square foot for the hotel prototype, $477 per net square foot for the retail/restaurants/services prototype and $442 per net square foot for the office/ R&D/ medical office prototype. The maximum nexus-based linkage fee represents approximately 36 percent of total development costs for the hotel prototype, 49 percent of total development costs for the retail/ restaurants/ services prototype, and 44 percent of total development costs for the office/ R&D/ medical office prototype (Figure I-7). A fee of $5 per square foot would represent a modest cost factor just over 1 percent of total development costs for all three prototypes.

Comparison to Existing City Fees – San Bruno does not have a commercial linkage fee in place. The City's other existing development fees for the commercial prototypes range from $7 per square foot for retail/restaurants/services prototype to almost $9 per square foot for the hotel prototype. If the maximum linkage fees were adopted, the total development fees and permits would be $141 per square foot for hotel, $242 per square foot for retail, and $204 for office, as shown in Figure I-8. Fee scenarios of $5 per square foot for all three prototypes would increase total fees to $14, $12, $13 for hotels, retail/restaurants/services, and office/R&D/medical office, respectively.

Role of Fee in San Bruno's Overall Housing Strategy – Affordable housing in San Bruno is funded through the use of a variety of sources, including funding provided by the City and by San Mateo County, as well as direct and indirect financing provided by the state and federal government. San Bruno currently has a Below Market Rate (BMR) Housing Program in place, and the City prefers that units be constructed under the program rather than in lieu fees paid. Commercial linkage fee revenues (and residential impact fee revenues, if adopted) would augment existing affordable housing funds. It should be noted that revenues from a commercial linkage fee need to be spent on housing that benefits the workforce since the funds stem from affordable housing impacts related to new employment.

Overlap with Residential Impact Fees - In addition to the commercial linkage fee update described in this report, the City of San Bruno is also considering implementing new residential impact fees on housing development. There may be a small share of jobs counted in the residential nexus analysis that are also included in this commercial linkage fee analysis. Thus, the two programs may have some overlap in mitigating the affordable housing demand from the same worker households. In order to reduce the potential for overlap between the two programs, it is advisable to set both the commercial linkage fees and housing impact fees at below 100 percent of the nexus-based maximum. In this way, when combined, the programs would mitigate less than 100 percent of the impact even if there were overlap in the jobs counted in the two nexus analyses.

Figure I-7. Commercial Linkage Fee Scenarios as Percent of Total Development Costs

	Hotel		Retail/Restaurants/Services		Office/R&D/Medical Office	
Fee Scenario	**Fee Amount**	**Fee as % of TDC**	**Fee Amount**	**Fee as % of TDC**	**Fee Amount**	**Fee as % of TDC**
Scenario 1: Max Fee	$132	35.69%	$235	49.23%	$196	44.43%
Scenario 2	$20	5.39%	$20	4.19%	$20	4.52%
Scenario 3	$10	2.70%	$10	2.10%	$10	2.26%
Scenario 4	$5	1.35%	$5	1.05%	$5	1.13%

Sources: Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure I-8. Total Fees and Permits per Square Foot

	Hotel		Retail/Restaurants/Services		Office/R&D/Medical Office	
Fee Scenario	**Linkage Fee per SF**	**Total Permits and Fees**	**Linkage Fee per SF**	**Total Permits and Fees**	**Linkage Fee per SF**	**Total Permits and Fees**
Existing Permits and Fees	$0.00	$8.86	$0.00	$6.96	$0.00	$7.72
Scenario 1 (Maximum Fee)	$132.39	$141.25	$234.96	$241.91	$196.47	$204.19
Scenario 2	$20.00	$28.86	$20.00	$26.96	$20.00	$27.72
Scenario 3	$10.00	$18.86	$10.00	$16.96	$10.00	$17.72
Scenario 4	$5.00	$13.86	$5.00	$11.96	$5.00	$12.72

Sources: Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

II. INTRODUCTION AND METHODOLOGY

A commercial linkage fee is an impact fee that is charged on new, commercial development to address the affordable housing demand from new workers. San Bruno does not currently have a commercial linkage fee in place. The purpose of this study is to provide the necessary nexus analysis for commercial linkage fees in the event that San Bruno decides to adopt them in the future. The funds raised by the linkage fees are deposited into a housing fund specifically reserved for use by a local jurisdiction to increase the supply of affordable housing for the workforce. Linkage fees are one of several funding sources that jurisdictions can use to help meet the affordable housing needs of new workers. For more than thirty years, California cities and counties have imposed commercial linkage fees on new, non-residential developments.

THE NEXUS CONCEPT

In order to adopt a commercial linkage fee, a nexus study is required to determine the reasonable relationship between the fee's use and the impact of the development project on which the fee is imposed. This commercial linkage fee nexus study establishes and quantifies the linkages or “nexus” between new commercial development and the need for additional housing affordable to new workers. Some of the new workers will have household incomes that qualify them for income-restricted affordable housing. This study quantifies the demand for very low income, low income, and moderate income housing that is created by new development of commercial buildings.

METHODOLOGY

When a city or county adopts a development impact fee, it must establish a reasonable relationship between the development project and the fee being charged. Studies undertaken to demonstrate this connection are called nexus studies. Nexus studies for school impact fees, traffic mitigation fees, and parks are common. For commercial linkage fees, a methodology exists that establishes a connection between the development of commercial space and the need to expand the supply of affordable housing. This study is based on this established methodology.

The purpose of a commercial linkage fee nexus analysis is to quantify the increase in demand for affordable housing that accompanies new non-residential development. There will be a net gain in employment when new commercial space is built. The ability of new workers to pay for housing costs is linked to their occupations (and hence salaries). Given anticipated incomes, there may be an affordability "gap" between what worker households can afford to pay (to rent or to buy) and the actual costs of new housing.

A nexus analysis calculates the relationship between new commercial development and household incomes of employees and then determines the employees' need for affordable housing. These steps provide the rationale for calculating the maximum justified commercial linkage fee that could be levied on non-residential development. These steps are presented in more detail below, and the subsequent sections of this report present the results of each of these steps.

Step 1. Define the commercial prototypes that represent new commercial development in San Mateo County.
The prototypes are defined based on recently completed and proposed development projects in San Mateo County. The purpose of defining prototypes is to estimate future employment linked to the new commercial space. Three prototypes were selected and include Hotels (133 rooms or 100,000 SF), Retail/ Restaurants/ Services (100,000 SF), and Office/ R&D/ Medical Office (100,000 SF). The prototype

definitions include information on gross and leasable area, number of rooms (for hotel only), parking, and floor-area-ratio.

Step 2. Estimate the number of workers that will work in the new commercial space.
Based on a national survey data on employment density for commercial land uses, as well as recently completed linkage fee nexus studies in the Bay Area, the estimated employment density in hotels is approximately 0.75 workers per room (average room size of 750 SF), one worker per 667 SF for retail/ restaurants/ services, and one worker per 333 SF for office/ R&D/ medical office. By dividing the prototype developments by employment density figures, the number of workers for each prototype is estimated.

Step 3. Estimate the number of new households represented by these new workers.
Since there are multiple wage earners in a household, the number of new workers will be higher than the number of new households moving into San Bruno. Therefore, it is necessary to go from projected growth in the number of workers to household growth. This adjustment is based on the average number of wage-earners per worker household for San Bruno (1.7) according to the U.S. Census Bureau American Community Survey 3-Year Estimates, 2010-2012.

Step 4. Estimate wages of new workers.
The first step in calculating employee wages is to establish a list of the industries that can be associated with each prototype. Using industry data from QCEW, industries (defined by NAICS Codes) were identified that are associated with each prototype, or land use. The next step is to identify all the occupations that are associated with each industry based on data provided by the U.S. Bureau of Labor Statistics (BLS). The national BLS occupational matrix is then calibrated to match the county's employment mix by weighting the national employment distribution to reflect the distribution of employment by industry within San Mateo County. Finally, the average wage by worker is calculated using data on average annual wages by occupation in the San Francisco-Redwood City-San Mateo Metro Division from the California Employment Development Department.

Step 5. Estimate household income of worker households.
Worker wage estimates from the previous step are then converted to household incomes. This step assumes that the income of the second wage-earner is similar to the wage of the first wage-earner. According to the U.S. Census Bureau American Community Survey 3-Year Estimates, 2010-2012, there are 1.7 wage-earners per worker household in San Bruno. Individual worker wages are multiplied by 1.7 to represent household incomes.

Step 6. Calculate the number of households that would be eligible for affordable housing divided into three categories: very low, low, and moderate income.
The average household size in San Bruno is estimated to be three, based on the US Census, American Community Survey 5-Year Estimates, 2008-2012. Thus, the income groups are defined for a household size of three persons based on the income categories established by California Department of Housing and Community Development (HCD) for San Mateo County. Households with above-moderate income are removed to determine the number that would require below market rate affordable housing.

Step 7. Estimate the affordability gap of new households requiring affordable housing.
The affordability gap represents the difference between what households can afford to pay for housing and the development cost of a modest housing unit. For very low and low income households, a rental housing gap is used. For moderate income households, the housing affordability gap is calculated separately for renter and owner households, and then the two gaps are combined to derive an average affordability gap for moderate income households.

Step 8. Estimate the total housing affordability gap of new households requiring affordable housing.
The total number of very low, low, and moderate income new worker households for the each land use prototype is multiplied by the corresponding affordable housing gap figure.

Step 9. Calculate maximum commercial linkage fees for each prototype.
The total affordability gap is then divided by 100,000 SF, the size of each commercial prototype to generate a maximum fee per square foot.

III. COMMERCIAL LINKAGE FEE NEXUS ANALYSIS

This section discusses each step of the commercial linkage analysis calculations and the maximum nexus-based fees. The analysis presented in this section should be interpreted within the context of the previous sections establishing the overall methodology for this study.

NEXUS ANALYSIS STEPS

Using the methodology described in Section II, the following describes each of the steps to calculate the linkage fees in more detail.

Commercial Prototypes

This study examined the jobs-housing linkage for three commercial development prototypes, which are described below.

1. Hotel – This building prototype includes full-service hotels, limited-service hotels, motels, and other lodging.

2. Retail/ Restaurants/ Services – This building prototype includes a broad range of buildings, including retail stores, restaurants, and personal care spaces accommodating businesses like nail salons and drycleaners.

3. Office/ R&D/ Medical Office – This category includes a wide range of office and R&D users, including traditional office buildings, open floor-plan offices, medical offices, and specialized spaces for highly advanced manufacturing and research commonly found in San Mateo County.

The prototypes defined above represent the types of new commercial buildings recently constructed or proposed in San Mateo County. Each prototype was assumed to be 100,000 square feet in size. The building size is not prescriptive; it is only averaged to illustrate the overall numbers of workers and households associated with new development projects. Many linkage fee nexus studies use the 100,000 square foot number because it can easily be converted into per-square-foot calculations. The per-square-foot linkage fee can be applied to a project of any size. For example, the small ground-floor retail component in a mixed-use building would be charged the same per-square-foot retail linkage fee as a large “big-box” project.

Figure III-1 below describes the building characteristics of each prototype, including factors like floor-area-ratios (FARs) and parking ratios, which were established based on a review of recent commercial development projects in the county.

Figure III-1. Description of Commercial Prototypes

	Hotel	Retail/ Restaurants/ Services	Office/R&D/ Medical Office
Prototype Description			
Gross Building Area (GBA)	100,000	100,000	100,000
Podium Parking Area	11,970	30,000	63,000
Gross Building Area including Podium Parking (SF)	111,970	130,000	163,000
Efficiency Ratio (a)	N/A	0.95	0.9
Net Leasable Sq. Ft. (NSF)	N/A	95,000	90,000
Hotel Rooms	133		
Parking Spaces	160	400	300
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Land Area (SF)	101,791	260,000	81,500

Notes:
(a) Refers to ratio of gross building area to net leasable area. An efficiency ratio of 0.9 means that 90% of the gross building area is leasable.
(b) The floor-area-ratio (FAR) is often used as a measure of density. In this analysis, it is calculated as the gross building area (including podium parking) divided by the total land area.

Sources: Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

Average Employment Density and Number of Workers

For each building prototype, an average employment density was defined based on a review of national survey data for existing commercial buildings and a review of recently completed linkage fee nexus studies in the Bay Area. The densities selected were at the lower end of each range. While there is some anecdotal evidence that Silicon Valley technology firms occupy office space at higher densities than those selected in this study, these lower employment estimates are based on published data sources and surveys in order to ensure that the calculated nexus fees are more conservative. Furthermore, the office/R&D/medical office prototype includes a range of building types in addition to technology office space, including R&D buildings and medical offices, which typically have a large amount of building space dedicated to labs and clinics, thereby attaining low overall employment densities. Figure III-2 summarizes the building density data that formed the basis for establishing average employment density for each prototype.

Figure III-3 describes the density for each prototype, measured by the average number of square feet per worker for each prototype. This factor is multiplied by the size of the building (100,000 square feet) to calculate the total number of workers in each commercial prototype. The density factors represent the average density for the prototypes; individual projects and buildings may actually be more or less dense. The hotel prototype is assumed to be the lowest density followed by retail/ restaurant/ services and office/ R&D/ medical office. The density assumption generates the total number of direct workers occupying the commercial space in each prototype.

- Hotel – The hotel employment density assumption is 1,000 square feet per worker (or 0.75 workers per room). This density is at the mid-range of the densities shown in Figure III-2, and consistent with the Vallen and Vallen estimate for limited service mid-scale hotels, which are in between full-service "luxury" properties and economy properties. Given that many of the recently constructed and proposed hotel projects in San Mateo County are limited service mid-scale hotels, this density is aligned with market trends. For a 100,000-square-foot hotel (roughly equivalent to 133 rooms), this density assumption results in a total number of 100 workers.

- Retail/ Restaurants/ Services – The average density for retail/ restaurants/ services is estimated at 667 square feet of space per worker. This figure represents a lower density than the figures used in many other commercial linkage fee studies in the Bay Area, but a higher density than national data sources. Using this density, the number of workers in a 100,000 square foot prototype is estimated at 150.

- Office/ R&D/ Medical Office – The average density assumption for office/R&D/medical office is estimated at 333 square feet per worker. This density estimate is slightly lower than some recent linkage fee nexus studies, but higher than the national Energy Information Administration survey. The resulting number of total workers in this prototype is estimated at 300.

Figure III-2. Employment Density Data and Sources

Employee Density Figure	Source
Hotel	
1.5 workers per full-service (luxury) hotel room	Vallen and Vallen, "Chapter 1: The Traditional Hotel Industry," Check-In, Check-Out, 2012
0.5 to 1.0 workers per room for "in-between" hotels	Vallen and Vallen, "Chapter 1: The Traditional Hotel Industry," Check-In, Check-Out, 2012
As few as 0.25 workers per room for "budget" hotels	Vallen and Vallen, "Chapter 1: The Traditional Hotel Industry," Check-In, Check-Out, 2012
2,074 square feet per worker	Energy Information Administration, 2003 Commercial Buildings Energy Consumption Survey, Revised June 2006
720 square feet per worker	A.C. Nelson, "Reshaping Metropolitan America" (based on calculations from EIA survey)
450 square feet per worker	Jobs Housing Impact Fee Draft Nexus Study: City of Napa, CA, Vernazza Wolfe Associates Inc., 2011
2,000 square feet per worker	Housing Impact Fee Nexus Study: Mountain View, CA, KMA, 2012
Retail/ Restaurants/ Services	
528 -1,246 square feet per worker in retail and services	Energy Information Administration, 2003 Commercial Buildings Energy Consumption Survey, Revised June 2006
605 square feet per worker	A.C. Nelson, "Reshaping Metropolitan America," 2013
300 square feet per worker	San Mateo County Housing Needs Study, Economic & Planning Systems, 2006
350 square feet per worker	Jobs Housing Impact Fee Draft Nexus Study: City of Napa, CA, Vernazza Wolfe Associates Inc., 2011
384.6 square feet per worker	Housing Impact Fee Nexus Study: Mountain View, CA, KMA, 2012
Office/ R&D/ Medical Office	
185-340 square feet per employee	Norm Miller, "Estimating Office Space per Worker: Implications for Future Office Space Demand," 2012
306 square feet per worker	Building Owners and Managers Association Survey, 2012
434 square feet per worker	Energy Information Administration, 2003 Commercial Buildings Energy Consumption Survey, Revised June 2006
300 square feet per worker	A.C. Nelson, "Reshaping Metropolitan America," 2013
250-350 square feet per worker	San Mateo County Housing Needs Study, Economic & Planning Systems, 2006
300 square feet per worker	Jobs Housing Impact Fee Draft Nexus Study: City of Napa, CA, Vernazza Wolfe Associates Inc., 2011
312.5 square feet per worker	Housing Impact Fee Nexus Study: Mountain View, CA, KMA, 2012

Figure III-3. Employment Density by Prototype

Commercial Prototype	Prototype Size (SF)	Average Density	Number of Workers in Prototype
Hotel	100,000 SF 133 rooms	1,000 SF per worker 0.75 workers per room	100 workers
Retail/ Restaurant/ Personal Services	100,000 SF	667 square feet per worker	150 workers
Office/ R&D/ Medical Office	100,000 SF	333 square feet per worker	300 workers

Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

Number of Worker Households

Based on the total number of workers directly employed in the prototypes, the total number of worker households is estimated. The number of worker households is calculated by dividing the number of workers by the average number of wage-earners per household in San Bruno. Based on data from the U.S. Census American Community Survey 3-Year Estimates, 2010-2012, there is an average of 1.7 workers per household in San Bruno. The calculation of total new worker households is demonstrated in Figure III-4 below. The number of worker households associated with the prototypes is 59 for hotels, 88 for retail/ restaurants/ services; and 176 for office/R&D/medical office.

Figure III-4. Number of Worker Households by Prototype

Commercial Prototype	Number of New Workers	Workers Per Household	Number of New Worker Households
Office/R&D/Medical Office	300	1.7	176
Retail/Restaurant/Personal Services	150	1.7	88
Hotel	100	1.7	59

Sources: US Census, American Community Survey 3-Year Estimates, 2010-2012; Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

Calculate Worker Wages and Household Income

The first step in calculating employee wages is to establish a list of the industries that can be associated with each prototype. Using industry data from Quarterly Census of Employment and Wages (QCEW), industries (defined by NAICS Codes) were identified that are associated with each prototype, or land use. Figure III-5 below describes the industries that are associated with the hotel, retail/ restaurants/ services and office/ R&D/ medical office prototypes. The hotel category shown in Figure III-5 has only one industry attached to it, while the other land uses are associated with a larger number of industries. The industries associated with the retail/ restaurants/ services prototype are defined in Figure III-6. The office/R&D/ medical office industries are shown in Figure III-7.

Figure III-5. Definition of Industries for Hotel Prototype

NAICS Code	Description	Percent Total Workers in Prototype
721	Accommodation	100%
Total		100%

Note; Unlike other prototypes, the hotel prototype only includes one NAICS industry category.
Source: United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), 2013.

Figure III-6. Definition of Industries for Retail/ Restaurants/ Services Prototype

NAICS Code	Description	Percent Total Workers in Prototype
7225	Restaurants	34.1%
4451	Grocery stores	9.8%
4529	Other general merchandise stores	4.9%
8111	Automotive repair and maintenance	4.0%
4411	Automobile dealers	3.9%
4521	Department stores	3.6%
4441	Building material and supplies dealers	3.5%
8129	Other personal services	3.2%
4481	Clothing stores	3.1%
4461	Health and personal care stores	3.0%
8121	Personal care services	2.3%
5321	Automotive equipment rental and leasing	2.3%
8123	Dry-cleaning and laundry services	2.1%
4511	Sporting goods and musical instrument stores	1.8%
4431	Electronics and appliance stores	1.7%
4471	Gasoline stations	1.6%
4532	Office supplies, stationery, and gift stores	1.4%
4541	Electronic shopping and mail-order houses	1.2%
4421	Furniture stores	1.1%
4452	Specialty food stores	1.1%
4413	Auto parts, accessories, and tire stores	1.0%
4539	Other miscellaneous store retailers	1.0%
5322	Consumer goods rental	0.9%
4422	Home furnishings stores	0.7%
8122	Death care services	0.7%
5615	Travel arrangement and reservation services	0.5%
4237	Hardware and plumbing merchant wholesalers	0.5%
4512	Book, periodical, and music stores	0.4%
4482	Shoe stores	0.4%
4453	Beer, wine, and liquor stores	0.4%
7224	Drinking places, alcoholic beverages	0.4%
8113	Commercial machinery repair and maintenance	0.4%
4483	Jewelry, luggage, and leather goods stores	0.4%
4533	Used merchandise stores	0.4%
4231	Motor vehicle and parts merchant wholesalers	0.4%
4233	Lumber and const. supply merchant wholesalers	0.3%
5324	Machinery and equipment rental and leasing	0.3%
4442	Lawn and garden equipment and supplies stores	0.3%
8114	Household goods repair and maintenance	0.3%
4531	Florists	0.2%
5323	General rental centers	0.2%
4543	Direct selling establishments	0.2%
8112	Electronic equipment repair and maintenance	0.1%
4412	Other motor vehicle dealers	0.1%
4542	Vending machine operators	0.0%
Total		100%

Sources: United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), 2013; Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

Figure III-7. Definition of Industries for Office/ R&D/ Medical Office Prototype

NAICS Code	Description	Percent Total Workers in Prototype
5415	Computer systems design and related services	12.0%
5417	Scientific research and development services	10.1%
5112	Software publishers	8.7%
5613	Employment services	6.3%
5416	Management and technical consulting services	4.6%
5191	Other information services	4.6%
5617	Services to buildings and dwellings	4.4%
523	Securities, commodity contracts, investments	3.9%
5511	Management of companies and enterprises	2.9%
6211	Offices of physicians	2.8%
6214	Outpatient care centers	2.7%
7223	Special food services	2.5%
5616	Investigation and security services	2.4%
6212	Offices of dentists	2.1%
5411	Legal services	2.1%
3341	Computer and peripheral equipment mfg.	2.1%
5222	Non-depository credit intermediation	2.0%
5412	Accounting and bookkeeping services	1.8%
5221	Depository credit intermediation	1.8%
5242	Insurance agencies and brokerages	1.7%
5182	Data processing, hosting and related services	1.6%
5413	Architectural and engineering services	1.5%
3345	Electronic instrument manufacturing	1.4%
5611	Office administrative services	1.2%
5313	Activities related to real estate	1.2%
517	Telecommunications	1.2%
5311	Lessors of real estate	1.0%
5419	Other professional and technical services	0.9%
5121	Motion picture and video industries	0.9%
5111	Newspaper, book, and directory publishers	0.8%
3344	Semiconductor and electronic component mfg.	0.8%
6213	Offices of other health practitioners	0.8%
5418	Advertising, pr, and related services	0.7%
3391	Medical equipment and supplies manufacturing	0.7%
6215	Medical and diagnostic laboratories	0.7%
5312	Offices of real estate agents and brokers	0.5%
5241	Insurance carriers	0.5%
5619	Other support services	0.4%
515	Broadcasting, except internet	0.4%
5614	Business support services	0.4%
5223	Activities related to credit intermediation	0.3%
3353	Electrical equipment manufacturing	0.2%
5414	Specialized design services	0.2%
3342	Communications equipment manufacturing	0.1%
5331	Lessors of nonfinancial intangible assets	0.0%
5612	Facilities support services	0.0%
5122	Sound recording industries	0.0%
5259	Other investment pools and funds	0.0%
Total		100%

Sources: United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), 2013; Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015

The next step is to identify all the occupations that are associated with each industry based on data provided by the U.S. Bureau of Labor Statistics (BLS). National level data on occupations are the best available; state level industry-occupation data exist but do not include all relevant industries. The national BLS occupational matrix is then calibrated to match the county's employment mix by weighting the national employment distribution to reflect the distribution of employment by industry within San Mateo County. Finally, the average wage by worker is calculated using data on average annual wages by occupation in the San Francisco-Redwood City-San Mateo Metro Division (the smallest geographic level at which wage data are available) from the California Employment Development Department.

Figure III-8 below summarizes the results of these calculations, computing the average weighted wages[2] for each prototype. As shown, the Average wage is lowest for workers of retail/ restaurants/ services, since the occupations in these industries tend to have the lowest wages. Hotel workers have a slightly higher Average wage than retail/restaurant/service workers. Office/R&D/medical office employees have the highest Average wage of the three prototypes, due to a larger percentage of occupations in higher wage categories.

Figure III-8. Average Annual Wage by Prototype

Commercial Prototype	Weighted Average Annual Wage (a)
Hotel	$39,935
Retail/ Restaurants/ Services	$29,833
Office/ R&D /Medical Office	$77,342

Notes:
(a) Average wages are weighted to take into account the proportion of jobs in each occupational wage category.
Sources: Bureau of Labor Statistics, Occupational Employment Statistics, 2013 and Quarterly Census of Employment and Wages (QCEW), 2013; California Economic Development Department, OES Employment and Wages by Occupation, 2013; Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

The complete occupational mix, and wage data tables for each prototype are presented in Figure III-9, Figure III-10 and Figure III-11.

[2] The weighted average wage takes into account the proportion of jobs in each occupational category.

Figure III-9. Occupational Mix and Average Wages for Hotel Industry

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
11-0000	Management Occupations		
11-9081	Lodging Managers	$74,498	1.586%
11-1021	General and Operations Managers	$150,628	0.964%
11-9051	Food Service Managers	$63,767	0.487%
11-2022	Sales Managers	$161,570	0.376%
11-3031	Financial Managers	$169,227	0.201%
11-3011	Administrative Services Managers	$110,659	0.165%
11-9199	Managers, All Other	$141,691	0.125%
11-3121	Human Resources Managers	$136,986	0.092%
11-1011	Chief Executives	$207,735	0.064%
11-9141	Property, Real Estate, and Community Association Managers	$85,117	0.056%
11-2021	Marketing Managers	$175,141	0.054%
11-2011	Advertising and Promotions Managers	$119,666	0.039%
11-3061	Purchasing Managers	$146,940	0.026%
11-3021	Computer and Information Systems Managers	$165,650	0.025%
11-2031	Public Relations and Fundraising Managers	$133,651	0.008%
11-3111	Compensation and Benefits Managers	$143,112	0.007%
11-9151	Social and Community Service Managers	$78,548	0.006%
11-3131	Training and Development Managers	$152,542	0.003%
11-9041	Architectural and Engineering Managers	$168,643	0.003%
11-3071	Transportation, Storage, and Distribution Managers	$119,656	0.003%
11-9021	Construction Managers	$138,900	0.002%
	Weighted Average Annual Wage	**$112,338**	**4.293%**
13-0000	Business and Financial Operations Occupations		
13-1121	Meeting, Convention, and Event Planners	$63,284	0.475%
13-2011	Accountants and Auditors	$86,991	0.457%
13-1071	Human Resources Specialists	$80,583	0.197%
13-1199	Business Operations Specialists, All Other	$94,719	0.094%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	$79,939	0.081%
13-1161	Market Research Analysts and Marketing Specialists	$87,374	0.068%

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
13-1151	Training and Development Specialists	$82,770	0.027%
13-1141	Compensation, Benefits, and Job Analysis Specialists	$81,621	0.018%
13-2051	Financial Analysts	$124,663	0.017%
13-2099	Financial Specialists, All Other	$118,407	0.012%
13-1041	Compliance Officers	$87,616	0.012%
13-1131	Fundraisers	$59,012	0.011%
13-1075	Labor Relations Specialists	$83,656	0.009%
13-1111	Management Analysts	$119,726	0.006%
13-1022	Wholesale and Retail Buyers, Except Farm Products	$60,856	0.004%
13-2031	Budget Analysts	$86,457	0.002%
13-2041	Credit Analysts	$101,611	0.002%
	Weighted Average Annual Wage	**$79,133**	**1.493%**
15-0000	Computer and Mathematical Occupations		
15-1151	Computer User Support Specialists	$70,345	0.036%
15-1199	Computer Occupations, All Other	$97,276	0.025%
15-1142	Network and Computer Systems Administrators	$95,860	0.023%
15-1152	Computer Network Support Specialists	$82,738	0.015%
15-1121	Computer Systems Analysts	$104,935	0.009%
15-1134	Web Developers	$91,692	0.005%
15-1141	Database Administrators	$105,451	0.005%
15-1131	Computer Programmers	$100,716	0.003%
15-1132	Software Developers, Applications	$115,740	0.002%
	Weighted Average Annual Wage	**$88,477**	**0.124%**
17-0000	Architecture and Engineering Occupations		
17-3023	Electrical and Electronics Engineering Technicians	$68,604	0.004%
17-2051	Civil Engineers	$108,648	0.003%
17-2141	Mechanical Engineers	$100,372	0.003%
	Weighted Average Annual Wage	**$91,281**	**0.011%**

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
19-0000	Life, Physical, and Social Science Occupations	$96,012	0.006%
	Weighted Average Annual Wage	**$96,012**	**0.006%**
21-0000	Community and Social Service Occupations		
21-1099	Community and Social Service Specialists, All Other	$53,338	0.003%
	Weighted Average Annual Wage	**$53,338**	**0.003%**
23-0000	Legal Occupations		
23-1011	Lawyers	$171,324	0.002%
23-2011	Paralegals and Legal Assistants	$71,528	0.002%
	Weighted Average Annual Wage	**$128,554**	**0.004%**
25-0000	Education, Training, and Library Occupations		
25-3021	Self-Enrichment Education Teachers	$46,984	0.034%
25-3099	Teachers and Instructors, All Other, Except Substitute Teachers	$69,029	0.004%
25-2011	Preschool Teachers, Except Special Education	$37,039	0.003%
25-9031	Instructional Coordinators	$71,751	0.002%
	Weighted Average Annual Wage	**$49,878**	**0.043%**
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations		
27-4011	Audio and Video Equipment Technicians	$58,639	0.149%
27-2022	Coaches and Scouts	$45,133	0.074%
27-3031	Public Relations Specialists	$83,345	0.053%
27-3099	Media and Communication Workers, All Other	$60,146	0.021%
27-4099	Media and Communication Equipment Workers, All Other	$97,539	0.013%
27-1024	Graphic Designers	$72,419	0.009%
27-1023	Floral Designers	$36,644	0.008%
27-4014	Sound Engineering Technicians	$49,190	0.008%
27-2012	Producers and Directors	$95,971	0.002%

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
27-1025	Interior Designers	$76,587	0.002%
	Weighted Average Annual Wage	**$61,155**	**0.339%**
29-0000	Healthcare Practitioners and Technical Occupations		
29-1141	Registered Nurses	$129,166	0.006%
29-2041	Emergency Medical Technicians and Paramedics	$57,354	0.006%
29-9011	Occupational Health and Safety Specialists	$98,501	0.004%
	Weighted Average Annual Wage	**$95,944**	**0.016%**
31-0000	Healthcare Support Occupations		
31-9011	Massage Therapists	$45,586	0.425%
	Weighted Average Annual Wage	**$45,586**	**0.425%**
33-0000	Protective Service Occupations		
33-9032	Security Guards	$32,013	1.558%
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	$29,746	0.392%
33-1099	First-Line Supervisors of Protective Service Workers, All Other	$54,040	0.137%
33-9099	Protective Service Workers, All Other	$56,801	0.062%
33-9021	Private Detectives and Investigators	$86,255	0.003%
	Weighted Average Annual Wage	**$33,786**	**2.152%**
35-0000	Food Preparation and Serving Related Occupations		
35-3031	Waiters and Waitresses	$25,413	7.428%
35-2014	Cooks, Restaurant	$29,161	3.335%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	$24,284	2.633%
35-3011	Bartenders	$30,119	2.106%
35-3041	Food Servers, Nonrestaurant	$33,434	1.813%
35-9021	Dishwashers	$23,035	1.735%
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	$40,256	1.268%
35-2021	Food Preparation Workers	$23,942	1.015%
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	$26,673	0.900%

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$23,509	0.819%
35-1011	Chefs and Head Cooks	$60,066	0.733%
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	$23,710	0.541%
35-2012	Cooks, Institution and Cafeteria	$38,049	0.322%
35-2015	Cooks, Short Order	$29,030	0.314%
35-9099	Food Preparation and Serving Related Workers, All Other	$32,386	0.276%
35-2019	Cooks, All Other	$36,487	0.094%
35-2011	Cooks, Fast Food	$25,514	0.086%
	Weighted Average Annual Wage	**$28,537**	**25.418%**
37-0000	Building and Grounds Cleaning and Maintenance Occupations		
37-2012	Maids and Housekeeping Cleaners	$35,419	24.068%
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$28,396	2.545%
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	$50,352	1.736%
37-3011	Landscaping and Groundskeeping Workers	$42,100	1.036%
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	$62,696	0.117%
37-3019	Grounds Maintenance Workers, All Other	$28,819	0.047%
	Weighted Average Annual Wage	**$36,023**	**29.549%**
39-0000	Personal Care and Service Occupations		
39-3011	Gaming Dealers	$20,999	2.029%
39-6011	Baggage Porters and Bellhops	$31,257	1.334%
39-6012	Concierges	$44,649	0.684%
39-3091	Amusement and Recreation Attendants	$24,899	0.665%
39-1011	Gaming Supervisors	$55,441	0.617%
39-9032	Recreation Workers	$29,101	0.600%
39-1021	First-Line Supervisors of Personal Service Workers	$49,758	0.232%
39-9099	Personal Care and Service Workers, All Other	$37,948	0.210%
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	$29,867	0.133%
39-3031	Ushers, Lobby Attendants, and Ticket Takers	$27,761	0.087%
39-5094	Skincare Specialists	$47,632	0.082%

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
39-3012	Gaming and Sports Book Writers and Runners	$30,159	0.061%
39-9041	Residential Advisors	$29,887	0.060%
39-5012	Hairdressers, Hairstylists, and Cosmetologists	$39,520	0.058%
39-5092	Manicurists and Pedicurists	$23,005	0.057%
39-7011	Tour Guides and Escorts	$31,761	0.047%
39-9011	Childcare Workers	$31,540	0.039%
39-2011	Animal Trainers	$45,123	0.003%
	Weighted Average Annual Wage	**$31,928**	**7.056%**
41-0000	Sales and Related Occupations		
41-3099	Sales Representatives, Services, All Other	$85,023	0.890%
41-2011	Cashiers	$26,859	0.790%
41-2031	Retail Salespersons	$30,457	0.309%
41-1011	First-Line Supervisors of Retail Sales Workers	$47,883	0.130%
41-2021	Counter and Rental Clerks	$31,919	0.075%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	$96,139	0.070%
41-3041	Travel Agents	$44,829	0.033%
41-9041	Telemarketers	$29,198	0.029%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$65,591	0.020%
41-9022	Real Estate Sales Agents	$68,040	0.007%
41-3011	Advertising Sales Agents	$72,989	0.005%
	Weighted Average Annual Wage	**$53,482**	**2.358%**
43-0000	Office and Administrative Support Occupations		
43-4081	Hotel, Motel, and Resort Desk Clerks	$35,774	12.525%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	$66,668	1.466%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	$50,052	1.084%
43-9061	Office Clerks, General	$39,997	0.551%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$43,612	0.485%
43-4051	Customer Service Representatives	$45,657	0.444%
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	$35,784	0.442%

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
43-2011	Switchboard Operators, Including Answering Service	$37,607	0.361%
43-4171	Receptionists and Information Clerks	$37,546	0.244%
43-5081	Stock Clerks and Order Fillers	$32,149	0.215%
43-6011	Executive Secretaries and Executive Administrative Assistants	$69,716	0.190%
43-5071	Shipping, Receiving, and Traffic Clerks	$36,220	0.123%
43-3051	Payroll and Timekeeping Clerks	$53,413	0.092%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	$44,634	0.074%
43-3021	Billing and Posting Clerks	$47,723	0.063%
43-3061	Procurement Clerks	$49,322	0.031%
43-5061	Production, Planning, and Expediting Clerks	$57,140	0.019%
43-4041	Credit Authorizers, Checkers, and Clerks	$44,847	0.011%
43-4151	Order Clerks	$41,890	0.011%
43-3011	Bill and Account Collectors	$49,221	0.009%
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	$34,184	0.008%
43-4199	Information and Record Clerks, All Other	$48,826	0.007%
43-4071	File Clerks	$39,187	0.005%
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	$31,056	0.005%
43-9011	Computer Operators	$48,685	0.005%
43-9071	Office Machine Operators, Except Computer	$32,747	0.004%
43-3099	Financial Clerks, All Other	$43,338	0.003%
	Weighted Average Annual Wage	**$40,271**	**18.649%**
45-0000	Farming, Fishing, and Forestry Occupations		
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	$26,179	0.032%
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$25,936	0.003%
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	$78,486	0.002%
	Weighted Average Annual Wage	**$29,280**	**0.037%**
47-0000	Construction and Extraction Occupations		
47-2141	Painters, Construction and Maintenance	$47,652	0.077%
47-2031	Carpenters	$63,165	0.057%

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
47-2111	Electricians	$84,223	0.030%
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$85,954	0.011%
47-2152	Plumbers, Pipefitters, and Steamfitters	$82,675	0.010%
47-2061	Construction Laborers	$48,816	0.009%
47-2073	Operating Engineers and Other Construction Equipment Operators	$77,565	0.008%
47-2041	Carpet Installers	$53,208	0.003%
47-4051	Highway Maintenance Workers	$56,618	0.002%
	Weighted Average Annual Wage	**$62,281**	**0.208%**
49-0000	Installation, Maintenance, and Repair Occupations		
49-9071	Maintenance and Repair Workers, General	$50,605	4.446%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	$90,340	0.391%
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	$38,422	0.092%
49-9099	Installation, Maintenance, and Repair Workers, All Other	$51,032	0.043%
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$56,193	0.027%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	$48,488	0.023%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	$45,302	0.011%
49-9041	Industrial Machinery Mechanics	$70,075	0.010%
49-3023	Automotive Service Technicians and Mechanics	$55,124	0.008%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	$58,707	0.007%
49-9043	Maintenance Workers, Machinery	$42,351	0.007%
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	$59,633	0.002%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	$65,933	0.002%
	Weighted Average Annual Wage	**$53,515**	**5.070%**
51-0000	Production Occupations		
51-6011	Laundry and Dry-Cleaning Workers	$28,552	1.573%
51-3011	Bakers	$29,436	0.175%
51-8021	Stationary Engineers and Boiler Operators	$75,624	0.053%
51-1011	First-Line Supervisors of Production and Operating Workers	$67,828	0.049%
51-6052	Tailors, Dressmakers, and Custom Sewers	$35,179	0.017%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$42,183	0.011%

Figure III-9. Occupational Mix and Average Wages for Hotel Industry, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Hotel Workers (c)
51-3021	Butchers and Meat Cutters	$34,265	0.008%
51-6031	Sewing Machine Operators	$26,245	0.006%
51-6021	Pressers, Textile, Garment, and Related Materials	$24,822	0.006%
51-6093	Upholsterers	$40,577	0.004%
51-3092	Food Batchmakers	$28,450	0.002%
51-6051	Sewers, Hand	$26,031	0.002%
51-9198	Helpers--Production Workers	$31,286	0.002%
	Weighted Average Annual Wage	**$31,128**	**1.907%**
53-0000	Transportation and Material Moving Occupations		
53-6021	Parking Lot Attendants	$28,363	0.453%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$30,670	0.290%
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	$59,643	0.033%
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	$51,208	0.018%
53-3033	Light Truck or Delivery Services Drivers	$41,869	0.017%
53-7061	Cleaners of Vehicles and Equipment	$26,168	0.008%
53-7199	Material Moving Workers, All Other	$58,830	0.005%
53-6031	Automotive and Watercraft Service Attendants	$26,859	0.004%
53-6061	Transportation Attendants, Except Flight Attendants	$40,660	0.003%
53-5021	Captains, Mates, and Pilots of Water Vessels	$83,149	0.003%
53-7051	Industrial Truck and Tractor Operators	$43,099	0.003%
53-3031	Driver/Sales Workers	$33,058	0.002%
53-3032	Heavy and Tractor-Trailer Truck Drivers	$46,595	0.002%
	Weighted Average Annual Wage	**$31,621**	**0.840%**
	Total, Land Use	**$39,935**	**100.000%**

Notes:
(a) Occupational mix by industry was obtained from US Bureau of Labor Statistics, Occupational Employment Statistics, 2013.
(b) Wage data for the San Francisco-Redwood City-San Mateo Metro Division obtained from California Economic Development Department, OES Employment and Wages by Occupation, 2013.
(c) Distribution of workers is calculated based on the existing distribution of employment by industry in San Mateo County, provided by Quarterly Census of Employment and Wages (QCEW), 2013.
Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

Figure III-10. Occupational Mix and Average Wages for Retail/ Restaurants/ Services

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Retail/ Restaurants/ Services Workers (c)
11-0000	Management Occupations		
11-9051	Food Service Managers	$63,767	1.301%
11-1021	General and Operations Managers	$150,628	0.820%
11-2022	Sales Managers	$161,570	0.081%
	Weighted Average Annual Wage	**$99,709**	**2.202%**
13-0000	Business and Financial Operations Occupations		
13-2011	Accountants and Auditors	$86,991	0.045%
13-1199	Business Operations Specialists, All Other	$94,719	0.038%
13-1022	Wholesale and Retail Buyers, Except Farm Products	$60,856	0.037%
13-1071	Human Resources Specialists	$80,583	0.023%
13-1151	Training and Development Specialists	$82,770	0.022%
13-1121	Meeting, Convention, and Event Planners	$63,284	0.020%
13-1051	Cost Estimators	$87,676	0.020%
13-1161	Market Research Analysts and Marketing Specialists	$87,374	0.016%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	$79,939	0.012%
13-2072	Loan Officers	$99,586	0.010%
	Weighted Average Annual Wage	**$81,548**	**0.243%**
15-0000	Computer and Mathematical Occupations		
15-1151	Computer User Support Specialists	$70,345	0.009%
15-1142	Network and Computer Systems Administrators	$95,860	0.003%
15-1132	Software Developers, Applications	$115,740	0.003%
15-1134	Web Developers	$91,692	0.002%
15-1131	Computer Programmers	$100,716	0.002%
15-1152	Computer Network Support Specialists	$82,738	0.002%
15-1121	Computer Systems Analysts	$104,935	0.001%
15-1133	Software Developers, Systems Software	$118,614	0.001%
15-1199	Computer Occupations, All Other	$97,276	0.001%
	Weighted Average Annual Wage	**$89,553**	**0.026%**

Figure III-10. Occupational Mix and Average Wages for Retail/ Restaurants/ Services (Continued)

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Retail/ Restaurants/ Services Workers (c)
17-0000	Architecture and Engineering Occupations		
17-3011	Architectural and Civil Drafters	$67,421	0.001%
17-2072	Electronics Engineers, Except Computer	$105,947	0.000%
17-2141	Mechanical Engineers	$100,372	0.000%
17-3023	Electrical and Electronics Engineering Technicians	$68,604	0.000%
17-2112	Industrial Engineers	$107,849	0.000%
17-2071	Electrical Engineers	$108,982	0.000%
17-2061	Computer Hardware Engineers	$121,274	0.000%
17-3019	Drafters, All Other	$62,261	0.000%
17-2199	Engineers, All Other	$113,444	0.000%
	Weighted Average Annual Wage	**$87,823**	**0.002%**
19-0000	Life, Physical, and Social Science Occupations		
19-4099	Life, Physical, and Social Science Technicians, All Other	$42,118	0.000%
19-1032	Foresters	$85,449	0.000%
	Weighted Average Annual Wage	**$50,019**	**0.000%**
21-0000	Community and Social Service Occupations		
21-1019	Counselors, All Other	$54,835	0.000%
21-1091	Health Educators	$74,644	0.000%
	Weighted Average Annual Wage	**$63,741**	**0.000%**
23-0000	Legal Occupations		
23-2093	Title Examiners, Abstractors, and Searchers	$76,809	0.000%
23-2099	Legal Support Workers, All Other	$64,021	0.000%
23-1011	Lawyers	$171,324	0.000%
23-2011	Paralegals and Legal Assistants	$71,528	0.000%
	Weighted Average Annual Wage	**$87,762**	**0.001%**
25-0000	Education, Training, and Library Occupations		
25-3021	Self-Enrichment Education Teachers	$46,984	0.004%
25-3099	Teachers and Instructors, All Other, Except Substitute Teachers	$69,029	0.000%

Figure III-10. Occupational Mix and Average Wages for Retail/Restaurants/Services (Continued)

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Retail/ Restaurants/ Services Workers (c)
	Weighted Average Annual Wage	**$47,770**	**0.004%**
27-0000	Arts, Design, Entertainment, Sports, and Medial Occupations		
27-1023	Floral Designers	$36,644	0.025%
27-1026	Merchandise Displayers and Window Trimmers	$38,931	0.025%
27-3031	Public Relations Specialists	$83,345	0.008%
27-1024	Graphic Designers	$72,419	0.006%
27-1025	Interior Designers	$76,587	0.004%
27-3012	Public Address System and Other Announcers	$31,566	0.003%
	Weighted Average Annual Wage	**$47,673**	**0.071%**
29-0000	Healthcare Practitioners and Technical Occupations		
29-2052	Pharmacy Technicians	$46,326	0.291%
29-1051	Pharmacists	$137,654	0.210%
29-2081	Opticians, Dispensing	$38,051	0.033%
	Weighted Average Annual Wage	**$81,749**	**0.534%**
31-0000	Healthcare Support Occupations		
31-9095	Pharmacy Aides	$28,446	0.046%
31-9011	Massage Therapists	$45,586	0.024%
31-9099	Healthcare Support Workers, All Other	$44,780	0.003%
	Weighted Average Annual Wage	**$34,717**	**0.073%**
33-0000	Protective Service Occupations		
33-9032	Security Guards	$32,013	0.047%
33-9099	Protective Service Workers, All Other	$56,801	0.011%
33-1099	First-Line Supervisors of Protective Service Workers, All Other	$54,040	0.007%
	Weighted Average Annual Wage	**$38,701**	**0.065%**
35-0000	Food Preparation and Serving Related Occupations		
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$23,509	23.920%
35-3031	Waiters and Waitresses	$25,413	19.241%
35-2014	Cooks, Restaurant	$29,161	8.873%

Figure III-10. Occupational Mix and Average Wages for Retail/Restaurants/Services (Continued)

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Retail/ Restaurants/ Services Workers (c)
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	$40,256	5.919%
35-2011	Cooks, Fast Food	$25,514	4.716%
35-2021	Food Preparation Workers	$23,942	4.395%
35-9021	Dishwashers	$23,035	3.592%
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	$26,673	3.111%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	$24,284	2.560%
	Weighted Average Annual Wage	**$26,226**	**76.327%**
37-0000	Building and Grounds Cleaning and Maintenance Occupations		
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$28,396	0.485%
37-2012	Maids and Housekeeping Cleaners	$35,419	0.041%
	Weighted Average Annual Wage	**$28,945**	**0.527%**
39-0000	Personal Care and Service Occupations		
39-5012	Hairdressers, Hairstylists, and Cosmetologists	$39,520	0.214%
39-2021	Nonfarm Animal Caretakers	$35,348	0.064%
39-5092	Manicurists and Pedicurists	$23,005	0.046%
39-3091	Amusement and Recreation Attendants	$24,899	0.031%
39-1021	First-Line Supervisors of Personal Service Workers	$49,758	0.019%
39-5094	Skincare Specialists	$47,632	0.017%
	Weighted Average Annual Wage	**$36,583**	**0.390%**
41-0000	Sales and Related Occupations		
41-2011	Cashiers	$26,859	6.363%
41-2031	Retail Salespersons	$30,457	3.344%
41-1011	First-Line Supervisors of Retail Sales Workers	$47,883	1.214%
	Weighted Average Annual Wage	**$30,298**	**10.921%**
43-0000	Office and Administrative Support Occupations		
43-5081	Stock Clerks and Order Fillers	$32,149	2.065%
43-4051	Customer Service Representatives	$45,657	0.446%
43-9061	Office Clerks, General	$39,997	0.363%

Figure III-10. Occupational Mix and Average Wages for Retail/Restaurants/Services (Continued)

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Retail/ Restaurants/ Services Workers (c)
43-3031	Bookkeeping, Accounting, and Auditing Clerks	$50,052	0.356%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	$66,668	0.265%
43-5071	Shipping, Receiving, and Traffic Clerks	$36,220	0.158%
	Weighted Average Annual Wage	**$39,003**	**3.653%**
45-0000	Farming, Fishing, and Forestry Occupations		
45-2041	Graders and Sorters, Agricultural Products	$34,254	0.005%
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$25,936	0.004%
	Weighted Average Annual Wage	**$30,537**	**0.009%**
47-0000	Construction and Extraction Occupations		
47-2121	Glaziers	$56,415	0.009%
47-2031	Carpenters	$63,165	0.005%
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$85,954	0.002%
47-2041	Carpet Installers	$53,208	0.001%
	Weighted Average Annual Wage	**$61,425**	**0.017%**
49-0000	Installation, Maintenance, and Repair Occupations		
49-3023	Automotive Service Technicians and Mechanics	$55,124	0.521%
49-3021	Automotive Body and Related Repairers	$52,600	0.141%
49-9071	Maintenance and Repair Workers, General	$50,605	0.120%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	$90,340	0.091%
49-3093	Tire Repairers and Changers	$32,447	0.040%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	$55,399	0.039%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	$48,488	0.037%
	Weighted Average Annual Wage	**$56,300**	**0.988%**
51-0000	Production Occupations		
51-3011	Bakers	$29,436	0.392%
51-3021	Butchers and Meat Cutters	$34,265	0.313%
51-1011	First-Line Supervisors of Production and Operating Workers	$67,828	0.071%

Figure III-10. Occupational Mix and Average Wages for Retail/Restaurants/Services (Continued)

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Retail/ Restaurants/ Services Workers (c)
51-6011	Laundry and Dry-Cleaning Workers	$28,552	0.064%
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	$24,425	0.062%
51-3092	Food Batchmakers	$28,450	0.047%
	Weighted Average Annual Wage	**$33,458**	**0.949%**
53-0000	Transportation and Material Moving Occupations		
53-3031	Driver/Sales Workers	$33,058	1.421%
53-7064	Packers and Packagers, Hand	$26,940	0.434%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$30,670	0.370%
53-3033	Light Truck or Delivery Services Drivers	$41,869	0.328%
53-7061	Cleaners of Vehicles and Equipment	$26,168	0.239%
53-6031	Automotive and Watercraft Service Attendants	$26,859	0.107%
53-6021	Parking Lot Attendants	$28,363	0.100%
	Weighted Average Annual Wage	**$31,915**	**2.999%**
	Total, Minor Occupation Grouping	**$29,832.77**	**100.000%**

Notes:

(a) Occupational mix by industry was obtained from US Bureau of Labor Statistics, Occupational Employment Statistics, 2013.

(b) Wage data for the San Francisco-Redwood City-San Mateo Metro Division obtained from California Economic Development Department, OES Employment and Wages by Occupation, 2013.

(c) Distribution of workers is calculated based on the existing distribution of employment by industry in San Mateo County, provided by Quarterly Census of Employment and Wages (QCEW), 2013.

Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
11-0000	Management Occupations		
11-1021	General and Operations Managers	$150,628	2.410%
11-3021	Computer and Information Systems Managers	$165,650	1.436%
11-3031	Financial Managers	$169,227	0.920%
11-9199	Managers, All Other	$141,691	0.499%
11-2022	Sales Managers	$161,570	0.494%
11-2021	Marketing Managers	$175,141	0.469%
11-1011	Chief Executives	$207,735	0.347%
11-3011	Administrative Services Managers	$110,659	0.339%
11-9041	Architectural and Engineering Managers	$168,643	0.336%
	Weighted Average Annual Wage	**$159,380**	**7.251%**
13-0000	Business and Financial Operations Occupations		
13-2011	Accountants and Auditors	$86,991	2.067%
13-1111	Management Analysts	$119,726	1.797%
13-1199	Business Operations Specialists, All Other	$94,719	1.416%
13-1161	Market Research Analysts and Marketing Specialists	$87,374	1.124%
13-1071	Human Resources Specialists	$80,583	1.109%
13-2051	Financial Analysts	$124,663	0.768%
13-2052	Personal Financial Advisors	$125,077	0.660%
13-2072	Loan Officers	$99,586	0.579%
13-1151	Training and Development Specialists	$82,770	0.460%
	Weighted Average Annual Wage	**$99,264**	**9.980%**
15-0000	Computer and Mathematical Occupations		
15-1132	Software Developers, Applications	$115,740	4.510%
15-1121	Computer Systems Analysts	$104,935	2.827%
15-1151	Computer User Support Specialists	$70,345	2.316%
15-1133	Software Developers, Systems Software	$118,614	2.487%
15-1131	Computer Programmers	$100,716	2.286%
15-1142	Network and Computer Systems Administrators	$95,860	1.371%

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
15-1152	Computer Network Support Specialists	$82,738	0.685%
15-1143	Computer Network Architects	$125,331	0.732%
	Weighted Average Annual Wage	**$103,790**	**17.214%**
17-0000	Architecture and Engineering Occupations		
17-2141	Mechanical Engineers	$100,372	0.408%
17-2061	Computer Hardware Engineers	$121,274	0.396%
17-2071	Electrical Engineers	$108,982	0.315%
17-2051	Civil Engineers	$108,648	0.315%
17-2072	Electronics Engineers, Except Computer	$105,947	0.309%
17-2112	Industrial Engineers	$107,849	0.300%
17-2199	Engineers, All Other	$113,444	0.260%
17-3023	Electrical and Electronics Engineering Technicians	$68,604	0.254%
17-2011	Aerospace Engineers	$107,788	0.168%
17-1011	Architects, Except Landscape and Naval	$102,163	0.139%
17-3029	Engineering Technicians, Except Drafters, All Other	$73,531	0.137%
17-3011	Architectural and Civil Drafters	$67,421	0.136%
	Weighted Average Annual Wage	**$102,350**	**3.138%**
19-0000	Life, Physical, and Social Science Occupations		
19-1042	Medical Scientists, Except Epidemiologists	$116,975	0.489%
19-2031	Chemists	$102,011	0.259%
19-4021	Biological Technicians	$66,854	0.250%
19-1021	Biochemists and Biophysicists	$115,416	0.189%
19-2041	Environmental Scientists and Specialists, Including Health	$103,842	0.176%
19-4099	Life, Physical, and Social Science Technicians, All Other	$42,118	0.167%
19-4031	Chemical Technicians	$52,559	0.142%
19-4061	Social Science Research Assistants	$41,288	0.124%
	Weighted Average Annual Wage	**$89,127**	**1.795%**

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
21-0000	Community and Social Service Occupations		
21-1014	Mental Health Counselors	$43,140	0.105%
21-1093	Social and Human Service Assistants	$39,234	0.097%
21-1023	Mental Health and Substance Abuse Social Workers	$54,987	0.097%
21-1011	Substance Abuse and Behavioral Disorder Counselors	$44,900	0.072%
21-1022	Healthcare Social Workers	$79,571	0.059%
21-1021	Child, Family, and School Social Workers	$53,429	0.046%
21-1091	Health Educators	$74,644	0.037%
21-1094	Community Health Workers	$45,861	0.032%
21-1099	Community and Social Service Specialists, All Other	$53,338	0.029%
21-1015	Rehabilitation Counselors	$36,442	0.022%
21-1012	Educational, Guidance, School, and Vocational Counselors	$63,516	0.022%
	Weighted Average Annual Wage	**$51,827**	**0.618%**
23-0000	Legal Occupations		
23-1011	Lawyers	$171,324	1.165%
23-2011	Paralegals and Legal Assistants	$71,528	0.572%
23-2093	Title Examiners, Abstractors, and Searchers	$76,809	0.090%
	Weighted Average Annual Wage	**$135,415**	**1.827%**
25-0000	Education, Training, and Library Occupations		
25-3098	Substitute Teachers	$36,300	0.247%
25-9041	Teacher Assistants	$34,995	0.057%
25-4021	Librarians	$77,396	0.054%
25-4031	Library Technicians	$53,641	0.037%
25-2021	Elementary School Teachers, Except Special Education	$67,562	0.035%
25-3099	Teachers and Instructors, All Other, Except Substitute Teachers	$69,029	0.033%
25-9099	Education, Training, and Library Workers, All Other	$37,302	0.026%
25-2022	Middle School Teachers, Except Special and Career/Technical Education	$69,808	0.023%
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	$70,729	0.023%
	Weighted Average Annual Wage	**$48,507**	**0.536%**

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations		
27-3042	Technical Writers	$85,935	0.228%
27-3031	Public Relations Specialists	$83,345	0.218%
27-1014	Multimedia Artists and Animators	$84,934	0.114%
27-2012	Producers and Directors	$95,971	0.090%
27-3043	Writers and Authors	$66,197	0.061%
27-3022	Reporters and Correspondents	$53,510	0.053%
27-1011	Art Directors	$127,071	0.048%
27-4011	Audio and Video Equipment Technicians	$58,639	0.033%
	Weighted Average Annual Wage	**$83,997**	**0.845%**
29-0000	Healthcare Practitioners and Technical Occupations		
29-1141	Registered Nurses	$129,166	1.422%
29-2061	Licensed Practical and Licensed Vocational Nurses	$63,060	0.602%
29-1069	Physicians and Surgeons, All Other	$192,701	0.506%
29-2021	Dental Hygienists	$114,294	0.474%
29-1062	Family and General Practitioners	$196,758	0.282%
29-1021	Dentists, General	$167,318	0.231%
29-2071	Medical Records and Health Information Technicians	$54,359	0.222%
29-1171	Nurse Practitioners	$127,193	0.212%
29-1071	Physician Assistants	$112,877	0.199%
	Weighted Average Annual Wage	**$127,464**	**4.150%**
31-0000	Healthcare Support Occupations		
31-9092	Medical Assistants	$44,014	1.318%
31-9091	Dental Assistants	$49,244	0.750%
31-1014	Nursing Assistants	$42,130	0.363%
31-1011	Home Health Aides	$28,587	0.166%
	Weighted Average Annual Wage	**$44,273**	**2.598%**

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
33-0000	Protective Service Occupations		
33-9032	Security Guards	$32,013	2.059%
33-1099	First-Line Supervisors of Protective Service Workers, All Other	$54,040	0.088%
	Weighted Average Annual Wage	**$32,919**	**2.147%**
35-0000	Food Preparation and Serving Related Occupations		
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	$23,509	0.389%
35-3031	Waiters and Waitresses	$25,413	0.305%
35-2021	Food Preparation Workers	$23,942	0.192%
35-2012	Cooks, Institution and Cafeteria	$38,049	0.164%
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	$23,710	0.159%
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	$40,256	0.139%
35-3041	Food Servers, Nonrestaurant	$33,434	0.131%
35-9021	Dishwashers	$23,035	0.113%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	$24,284	0.108%
35-2014	Cooks, Restaurant	$29,161	0.068%
35-3011	Bartenders	$30,119	0.061%
	Weighted Average Annual Wage	**$27,622**	**1.828%**
37-0000	Building and Grounds Cleaning and Maintenance Occupations		
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$28,396	4.662%
37-3011	Landscaping and Groundskeeping Workers	$42,100	2.565%
37-2012	Maids and Housekeeping Cleaners	$35,419	0.784%
37-2021	Pest Control Workers	$53,698	0.316%
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	$50,352	0.307%
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	$62,696	0.303%
	Weighted Average Annual Wage	**$35,758**	**8.938%**

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
39-0000	Personal Care and Service Occupations		
39-9021	Personal Care Aides	$24,476	0.269%
39-3031	Ushers, Lobby Attendants, and Ticket Takers	$27,761	0.096%
39-9011	Childcare Workers	$31,540	0.037%
39-2021	Nonfarm Animal Caretakers	$35,348	0.032%
39-1021	First-Line Supervisors of Personal Service Workers	$49,758	0.022%
39-9032	Recreation Workers	$29,101	0.021%
	Weighted Average Annual Wage	**$27,782**	**0.476%**
41-0000	Sales and Related Occupations		
41-3099	Sales Representatives, Services, All Other	$85,023	1.745%
41-3031	Securities, Commodities, and Financial Services Sales Agents	$140,636	1.096%
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	$100,443	0.666%
41-3021	Insurance Sales Agents	$86,434	0.564%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$65,591	0.388%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	$96,139	0.292%
41-2031	Retail Salespersons	$30,457	0.284%
41-9041	Telemarketers	$29,198	0.256%
	Weighted Average Annual Wage	**$92,201**	**5.290%**
43-0000	Office and Administrative Support Occupations		
43-9061	Office Clerks, General	$39,997	3.754%
43-4051	Customer Service Representatives	$45,657	3.408%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$43,612	2.641%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	$50,052	1.862%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	$66,668	1.612%
43-4171	Receptionists and Information Clerks	$37,546	1.585%
43-6011	Executive Secretaries and Executive Administrative Assistants	$69,716	1.228%
43-3071	Tellers	$31,987	1.057%
43-6013	Medical Secretaries	$44,675	0.919%

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
43-3021	Billing and Posting Clerks	$47,723	0.787%
43-0000	Office and Administrative Support Occupations		
	Weighted Average Annual Wage	**$46,632**	**18.852%**
45-0000	Farming, Fishing, and Forestry Occupations		
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$25,936	0.020%
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	$26,179	0.008%
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	$78,486	0.004%
45-2011	Agricultural Inspectors	$66,342	0.002%
45-4011	Forest and Conservation Workers	$56,628	0.001%
	Weighted Average Annual Wage	**$34,801**	**0.034%**
47-0000	Construction and Extraction Occupations		
47-2031	Carpenters	$63,165	0.122%
47-2111	Electricians	$84,223	0.116%
47-4011	Construction and Building Inspectors	$74,833	0.066%
47-2152	Plumbers, Pipefitters, and Steamfitters	$82,675	0.044%
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	$85,954	0.043%
47-2141	Painters, Construction and Maintenance	$47,652	0.043%
47-2073	Operating Engineers and Other Construction Equipment Operators	$77,565	0.040%
	Weighted Average Annual Wage	**$73,634**	**0.474%**
49-0000	Installation, Maintenance, and Repair Occupations		
49-9071	Maintenance and Repair Workers, General	$50,605	0.826%
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	$59,633	0.254%
49-2011	Computer, Automated Teller, and Office Machine Repairers	$51,460	0.185%
49-9099	Installation, Maintenance, and Repair Workers, All Other	$51,032	0.152%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	$90,340	0.143%
49-9052	Telecommunications Line Installers and Repairers	$68,467	0.129%
49-2098	Security and Fire Alarm Systems Installers	$44,478	0.103%
	Weighted Average Annual Wage	**$56,122**	**1.792%**

Figure III-11. Occupational Mix and Average Wages for Office/ R&D/ Medical Office, Continued

Occupation Code	Occupation Name (a)	Average Annual Wage (b)	% of Total Office/ R&D/ Medical Office Workers (c)
51-0000	Production Occupations		
51-2092	Team Assemblers	$32,811	1.384%
51-9198	Helpers--Production Workers	$31,286	0.925%
51-2099	Assemblers and Fabricators, All Other	$28,796	0.631%
51-9199	Production Workers, All Other	$35,474	0.511%
51-9111	Packaging and Filling Machine Operators and Tenders	$34,458	0.477%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$42,183	0.428%
51-2022	Electrical and Electronic Equipment Assemblers	$38,168	0.323%
51-4041	Machinists	$60,011	0.238%
	Weighted Average Annual Wage	**$34,930**	**4.916%**
53-0000	Transportation and Material Moving Occupations		
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	$30,670	3.512%
53-7064	Packers and Packagers, Hand	$26,940	0.932%
53-7051	Industrial Truck and Tractor Operators	$43,099	0.401%
53-3032	Heavy and Tractor-Trailer Truck Drivers	$46,595	0.270%
53-3033	Light Truck or Delivery Services Drivers	$41,869	0.189%
	Weighted Average Annual Wage	**$32,163**	**5.304%**
	Total, Office/R&D/Medical Office	**$77,342**	**100.000%**

Notes:
(a) Occupational mix by industry was obtained from US Bureau of Labor Statistics, Occupational Employment Statistics, 2013.
(b) Wage data for the San Francisco-Redwood City-San Mateo Metro Division obtained from California Economic Development Department, OES Employment and Wages by Occupation, 2013.
(c) Distribution of workers is calculated based on the existing distribution of employment by industry in San Mateo County, provided by Quarterly Census of Employment and Wages (QCEW), 2013.
Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2015.

Household Incomes

Based on the employee wage calculations discussed above, household incomes are estimated for each prototype. This step assumes that the income of the second wage-earner is similar to the wage of the first wage-earner. In order to calculate the annual household income, the average worker wage is multiplied by the number of wage-earners per household. According to the U.S. Census Bureau American Community Survey 3-Year Estimates, 2010-2012, there is an average of 1.7 wage-earners per household in San Bruno. The average annual wage per employee within each occupation was multiplied by 1.7 in order to determine annual average household income.

Employee households are then categorized as very low, low, moderate, and above moderate income based on the income definitions and cut-offs established by the California Housing and Community Development Department (HCD). According to the U.S. Census Bureau American Community Survey 5-Year Estimates, 2008-2012, the average household size in the City of San Bruno is 2.8. This has been rounded to 3, the nearest whole number, as a conservative estimate, since incomes are higher for three-person households than for two-person households. The income categories for very low, low, moderate, and above moderate income households are therefore based on the household size of three persons, using the California Department of Housing and Community Development's definitions of income thresholds for area median income, as shown in Figure III-12.

Figure III-12. Household Income Categories

Income Category	3-Person Household
Very Low Income (<=50% AMI)	$50,900
Low Income (51-80% AMI)	$81,450
Moderate Income (81-120% AMI)	$111,250
Above Moderate Income (>=120%)	>$111,250

Source: California Department of Housing and Community Development, "State Income Limits for 2014", February 28, 2014.

Using the income categories described above, the new worker households were sorted into income groups. As shown in Figure III-13 below, most hotel worker households are in very low and low income categories, the vast majority of retail/ restaurants/ services worker households are in the very low income categories, and less than half of office/ R&D/ medical office workers are in very low, low, and moderate income categories. Above moderate income households were removed from the subsequent steps of the nexus analysis, as it is determined that these income groups would be able to afford market-rate housing.

Figure III-13. Number of Worker Households by Income Category

Prototype	Number of Employee Households
Hotel	
Very Low Income (<=50% AMI)	16.8
Low Income (51-80% AMI)	30.8
Moderate Income (81-120% AMI)	6.4
Above Moderate (>=120%)	4.9
Total	**58.8**
Retail, Restaurants and Personal Services	
Very Low Income (<=50% AMI)	69.6
Low Income (51-80% AMI)	14.8
Moderate Income (81-120% AMI)	2.3
Above Moderate (>=120%)	1.6
Total	**88.2**
Office, R&D and Medical Office Land Use	
Very Low Income (<=50% AMI)	14.8
Low Income (51-80% AMI)	55.8
Moderate Income (81-120% AMI)	11.8
Above Moderate (>=120%)	94.1
Total	**176.5**

Sources: Vernazza Wolfe Associates, Inc; Strategic Economics, 2015.

IV. HOUSING AFFORDABILITY GAP

Estimating the housing affordability gap is necessary to calculate the maximum potential housing impact fee. This affordability gap analysis was conducted at the county-wide level so that it can be applied to all the jurisdictions in San Mateo County participating in the multi-city nexus study.[3] This section summarizes the approach to calculating the housing affordability gap and the results of the analysis.

METHODOLOGY

The housing affordability gap is defined as the difference between what very low, low, and moderate income households can afford to pay for housing and the development cost of new, modest housing units. Calculating the housing affordability gap involves the following three steps:

1. Estimating affordable rents and housing prices for households in target income groups.

2. Estimating development costs of building new, modest housing units, based on current cost and market data.

3. Calculating the different between what renters and owners can afford to pay for housing and the cost of development of rental and ownership units.

The housing affordability gap is estimated at a countywide level, and assumed to be the same for all the jurisdictions participating in the multi-city nexus studies, for the following reasons:

- Both the California Department of Housing and Community Development Department (HCD) and U.S. Housing and Urban Development Department (HUD) define the ability to pay for housing at the county (rather than the city) level. Existing affordable housing studies and policies in most jurisdictions rely on these countywide area median income (AMI) estimates published by HCD or by HUD. This analysis uses 2014 income limits published by California Department of Housing and Community Development (HCD).

- Construction costs for housing and commercial development do not vary dramatically between different jurisdictions in San Mateo County, because the cost of labor and materials is regional in nature.

Although land costs vary widely in San Mateo County, the study estimated a single land value for the county based on data provided by developers of recently built projects. These costs are at the low end of recent land sales, as described below. Additionally, because the land costs used in the analysis are from 2012 and 2013, and land values have escalated rapidly since then, the resulting affordability gap will be slightly lower than if the analysis incorporated 2014 land costs, providing a conservative estimate of the affordability gap.

[3] Although there is a single housing affordability gap estimate for all jurisdictions participating in the multi-city nexus studies, the subsequent steps in the fee calculations considers market and household characteristics for San Bruno, generating a unique maximum fee for each jurisdiction in the county, as described in Section V of this report.

ESTIMATING AFFORDABLE RENTS AND SALES PRICES

The first step in calculating the housing affordability gap is to determine the maximum amount that households at the targeted income levels can afford to pay for housing. For eligibility purposes, most affordable housing programs define very low income households as those earning approximately 50 percent or less of area median income (AMI), low income households as those earning between 51 and 80 percent of AMI, and moderate income households as those earning between 81 and 120 percent of AMI. In order to ensure that the affordability of housing does not use the top incomes in each category, the analysis uses a point within the income ranges for the low and moderate income groups.[4]

Figure IV-1 and Figure IV-2 show the calculations for rental housing. The maximum affordable monthly rent is calculated as 30 percent of gross monthly household income, minus a deduction for utilities. For example, a very low income, three-person household could afford to spend $1,273 on total monthly housing costs. After deducting for utilities, $1,220 a month is available to pay for rent. Figure IV-3 and Figure IV-4 demonstrate housing affordability for homeowners. Homeowners are assumed to pay a maximum of 35 percent of gross monthly income on total housing costs, depending on income level. The maximum affordable price for for-sale housing is then calculated based on the total monthly mortgage payment that a homeowner could afford, using standard loan terms used by CalHFA programs and many private lenders for first-time homebuyers, including a five percent down payment (Figure IV-3). For example, a moderate income, three-person household could afford to spend $2,974 a month on total housing costs, allowing for the purchase of a $348,526 home.

Key assumptions used to calculate the maximum affordable rents and housing prices are discussed below.

- **Unit types:** For rental housing, the analysis included studios, one-, two-, and three-bedroom units. For for-sale housing, one-, two-, and three-bedroom units were included. These unit types represent the affordable and modest market-rate apartment and condominium units available in San Mateo County. Condominiums were used to represent modest for-sale housing because single-family homes in San Mateo County tend to be significantly more expensive than condominiums.
- **Occupancy and household size assumptions.** Because income levels for affordable housing programs vary by household size, calculating affordable unit prices requires defining household sizes for each unit type. Consistent with California Health and Safety Code Section 50052.5(h), unit occupancy was generally estimated as the number of bedrooms plus one. For example, a studio unit is assumed to be occupied by one person, a one bedroom unit is assumed to be occupied by two people, and so on. Several adjustments to this general assumption were made in order to capture the full range of household sizes. In particular, it is assumed that one-bedroom condominiums could be occupied by one- or two-person households, and three-bedroom apartments and condominiums could be occupied by four- or five-person households.[5]

[4] For rental housing, 70 percent of AMI is used to represent low income households and 90 percent of AMI is used to represent moderate income households. For ownership housing, it is assumed that moderate income homebuyers may earn slightly less than the maximum for that income category (110 percent of AMI). Higher income limits are used for ownership than for rental housing because ownership housing is more expensive to purchase and maintain.

[5] For these unit types, the maximum affordable home price (or rent) is calculated as the average price (or rent) that the relevant household sizes can afford to pay. For example, the maximum affordable home price for a one-bedroom condominium is calculated as the average of the maximum affordable home price for one- and two-person households.

- **Targeted income levels for rental housing:** For rental housing, affordable rents were calculated for very low income, low income, and moderate income households (see Figure IV-1 and Figure IV-2). For eligibility purposes, most affordable housing programs define very low income households as those earning 50 percent or less of area median income (AMI), low income households as those earning between 51 and 80 percent of AMI, and moderate income households as those earning between 81 and 120 percent of AMI. However, defining affordable housing expenses based at the top of each income range would result in prices that are not affordable to most of the households in each category. Thus, this analysis does not use the maximum income level for all of the income categories. Instead, for rental housing, 70 percent of AMI is used to represent moderate income households and 90 percent of AMI is used to represent moderate income households.

- **Targeted income levels for ownership housing** For ownership housing, affordable home prices were calculated only for moderate income households. Higher income limits are used for ownership than for rental housing because ownership housing is more expensive to purchase and maintain. It is assumed that moderate income homebuyers may earn slightly less than the maximum for that income category (110 percent of AMI).

- **Maximum monthly housing costs.**[6] For all renters, maximum monthly housing costs are assumed to be 30 percent of gross household income. For homebuyers, 35 percent of gross income is assumed to be available for monthly housing costs, reflecting the higher incomes of this group.[7] These standards are based on California's Health & Safety Code Sections 50052.5 and 50053.

- **Utilities.** The monthly utility cost assumptions are based on utility allowances calculated by the U.S. Department of Housing and Urban Development for San Mateo County.[8] Both renters and owners are assumed to pay for heating, cooking, other electric, and water heating. In addition, owners are assumed to pay for water and trash collection.[9]

- **Mortgage terms & costs included for ownership housing.** For ownership housing, the mortgage calculations are based on the terms typically offered to first-time homebuyers (such as the terms offered by the California Housing Finance Authority), which is a 30-year mortgage with a five percent down payment. A five percent down payment standard is also used by many private lenders for first-time homebuyers. Based on recent interest rates to first-time buyers, the analysis assumes a 5.375 percent annual interest rate.[10] In addition to mortgage payments and

[6] The calculation of homeowner affordability is conservative in that the model accounts for additional costs for buyers (such as utility costs) that might not be considered by all lenders.

[7] The assumption that homebuyers spend 35 percent of gross household income on housing results in a reduced affordability gap than if 30 percent of gross household income were used instead.

[8] U.S. Department of Housing and Urban Development, "Allowances for Tenant-Furnished Utilities and Other Services: Housing Authority of San Mateo County," November 2013.

[9] Units are assumed to have natural gas heating, cooking, and water heating systems, as natural gas is the most common fuel for units located in San Mateo County. Sources: U.S. Census Bureau, 2012 American Community Survey, "Table B25117: Tenure by House Heating Fuel," San Mateo County; U.S. Census Bureau, 2011 American Housing Survey, "Table C-03-AH-M, San Francisco-San Mateo-Redwood City: Heating, Air Conditioning, and Appliances – All Housing Units."

[10] Sources: CalHFA Mortgage Calculator, accessed March 2014; Zillow.com, "Current Mortgage Rates and Home Loans," accessed March 2014; interviews with California Housing Finance Agency (CalHFA) Preferred Loan Officers, March 2014.

utilities, monthly ownership housing costs include homeowner association (HOA) dues,[11] property taxes,[12] private mortgage insurance,[13] and hazard and casualty insurance.[14]

[11] HOA fees are estimated at $300 per unit per month, based on common HOA fees in San Mateo County as reported in: Polaris Pacific, "Silicon Valley Condominium Market," February 2014.

[12] The annual property tax rate is estimated at 1.18 percent of the sales price, based on the average total tax rate for San Mateo County (calculated from County of San Mateo, 2008-09 Property Tax Highlights http://www.co.sanmateo.ca.us/Attachments/controller/Files/PTH/PTH_2009.pdf) and discussions with Preferred Loan Officers.

[13] The annual private mortgage insurance premium rate is estimated at 0.89 percent of the total mortgage amount, consistent with standard requirements for conventional loans with a five percent down payment. Sources: Genworth, February 2014; MGIC, December 2013; Radian, April 2014.

[14] The annual hazard and casualty insurance rate is assumed to be 0.35 percent of the sales price, consistent with standard industry practice.

Figure IV-1. Calculation of Affordable Rents in San Mateo County by Household Size, 2014

Persons per Household (HH)	1	2	3	4	5
Very Low Income (50% AMI)					
Maximum Household Income at 50% AMI	$39,600	$45,250	$50,900	$56,550	$61,050
Maximum Monthly Housing Cost (a)	$990	$1,131	$1,273	$1,414	$1,526
Utility Deduction	$29	$40	$53	$68	$68
Maximum Available for Rent (HH Size) (b)	$961	$1,091	$1,220	$1,346	$1,458
Low Income (70% AMI)					
Maximum Household Income at 70% AMI	$50,470	$57,680	$64,890	$72,100	$77,875
Maximum Monthly Housing Cost (a)	$1,262	$1,442	$1,622	$1,803	$1,947
Utility Deduction	$29	$40	$53	$68	$68
Maximum Available for Rent (HH Size) (b)	$1,233	$1,402	$1,569	$1,735	$1,879
Moderate Income (90% AMI)					
Maximum Household Income at 90% AMI	$64,890	$74,160	$83,430	$92,700	$100,125
Maximum Monthly Housing Cost (a)	$1,622	$1,854	$2,086	$2,318	$2,503
Utility Deduction	$29	$40	$53	$68	$68
Maximum Available for Rent (HH Size) (b)	$1,593	$1,814	$2,033	$2,250	$2,435

Notes:

(a) 30 percent of maximum monthly household income.

(b) Maximum monthly housing cost minus utility deduction.

Acronyms:

AMI: Area median income

HH: Household

Sources: California Department of Housing and Community Development, 2014; U.S. Department of Housing and Urban Development, 2013; Vernazza Wolfe Associates, Inc.; Strategic Economics, 2014.

Figure IV-2. Calculation of Affordable Rents in San Mateo County by Unit Type, 2014

Affordable Rents by Unit Type (a)	Studio (1 person)	1 Bedroom (2 persons)	2 Bedroom (3 persons)	3 Bedroom (4 and 5 persons)
Very Low Income (50% AMI)	$961	$1,091	$1,220	$1,402
Low Income (70% AMI)	$1,233	$1,402	$1,569	$1,807
Moderate Income (90% AMI)	$1,593	$1,814	$2,033	$2,342

Notes:
(a) Affordable rents are calculated as follows: Studios are calculated as one-person households; One-bedroom units are calculated as two-person households; Two-bedroom units are calculated as three-person households; Three-bedroom units are calculated as an average of four and five person households.

Sources: California Department of Housing and Community Development, 2014; U.S. Department of Housing and Urban Development, 2013; Vernazza Wolfe Associates, Inc.; Strategic Economics, 2014.

Figure IV-3. Calculation of Affordable Sales Prices in San Mateo County by Household Size, 2014

Persons per Household (HH)	1	2	3	4	5
Moderate Income (110% AMI)					
Maximum Household Income at 110% AMI (a)	$79,310	$90,640	$101,970	$113,300	$122,375
Maximum Monthly Housing Cost (b)	$2,313	$2,644	$2,974	$3,305	$3,569
Monthly Deductions					
Utilities	$106	$106	$130	$156	$156
HOA Dues	$300	$300	$300	$300	$300
Property Taxes and Insurance (c)	$517	$607	$690	$773	$844
Monthly Income Available for Mortgage Payment (d)	$1,390	$1,631	$1,854	$2,076	$2,269
Maximum Mortgage Amount (e)	$248,195	$291,274	$331,100	$370,795	$405,155
Maximum Affordable Sales Price - HH Size (f)	$261,258	$306,604	$348,526	$390,311	$426,479

Notes:

(a) Calculated as 110 percent of the median household income reported by HCD for each household size.

(b) Maximum housing cost is estimated at 35 percent of household income for homebuyers.

(c) Assumes annual property tax rate of 1.18 percent of sales price; annual private mortgage insurance premium rate of 0.89 percent of mortgage amount; annual hazard and casualty insurance rate of 0.35 percent of sales price.

(d) Maximum monthly housing cost minus deductions

(e) Assumes 5.375 percent interest rate and 30 year loan term

(f) Assumes 5 percent down payment (75 percent loan-to-value ratio)

Acronyms:

AMI: Area median income

HH: Household

HOA: Home owners association

Sources: California Department of Housing and Community Development, 2014; U.S. Department of Housing and Urban Development, 2013; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2014.

Figure IV-4. Calculation of Affordable Sales Prices in San Mateo County by Unit Type, 2014

Affordable Sales Price by Unit Type (a)	1 Bedroom (1 and 2 persons)	2 Bedroom (3 persons)	3 Bedroom (4 and 5 persons)
Moderate Income (110% AMI)	$283,931	$348,526	$408,395

Notes:
(a) Affordable sales prices are calculated as follows: One-bedroom units are calculated as an average of one- and two-person households; Two-bedroom units are calculated as three-person households; Three-bedroom units are calculated as an average of four and five person households.

Sources: California Department of Housing and Community Development, 2014; U.S. Department of Housing and Urban Development, 2013; Vernazza Wolfe Associates, Inc.; Strategic Economics, 2014.

ESTIMATING HOUSING DEVELOPMENT COSTS

The second step in calculating the housing affordability gap is to estimate the cost of developing new, modest housing units. Modest housing is defined slightly differently for rental and ownership housing. For rental housing, the costs and characteristics of modest housing are similar to recent projects developed in San Mateo County by the affordable rental housing sector. Modest for-sale housing is assumed to be non-luxury multifamily (condominium) development because single-family homes in San Mateo County tend to be significantly more expensive than condominiums; many of the new single-family homes in the county are custom-built luxury units that are too costly to meet the standard for modest housing.

The calculation of housing development costs used in the housing affordability gap requires several steps. Because the gap covers both rental housing and for-sale housing, it is necessary to estimate costs for each. The following describes the data sources used to calculate rental and for-sale housing development costs.

Rental Housing

Rental housing development costs were based on pro forma data obtained from three recent affordable housing projects in San Mateo County. Figure IV-5 shows the location and description of these projects and summarizes the information that was used to generate a per-square-foot cost of $410 used in the cost analysis. These costs include site acquisition costs, hard costs (on- and off-site improvements), soft costs (such as design, city permits and fees, construction interest, and contingencies), and developer fees. The costs from the rental housing pro formas were also cross-referenced against proprietary pro formas available to the consultant team from other private development projects in order to ensure accuracy.

Since these projects assumed state and federal funding, the labor costs included in the original pro formas reflect the prevailing wage requirement imposed by state and local governments. The costs shown in Figure IV-5 have been adjusted to subtract out the prevailing wage requirement because the development cost model used in the housing affordability gap analysis does not assume receipt of government subsidies. A rule of thumb used by local economists who assist affordable housing developers in obtaining public financing, is to estimate that, under the prevailing wage requirement, labor costs are 25 percent higher than would otherwise be the case. Therefore, on-site and off-site improvement costs obtained from the original pro formas are reduced by 25 percent to reflect actual labor costs that would apply to construction projects that do not have these requirements.[15] Finally, on average, land acquisition costs accounted for 20 percent or less of these total adjusted costs.

[15] These prevailing wage requirements refer only to labor cost requirements on construction projects that receive funding from the state or federal government. These are not the same as minimum wage requirements that individual cities may adopt.

Figure IV-5. Affordable Housing Project Pro Forma Data

Project Description	Project 1	Project 2	Project 3
Location	San Mateo	San Mateo	San Bruno
Year Built	2013	2010	2011
Land Area (acres)	1.05	1.0	0.63
Gross Building Area (SF)	106,498	127,718	42,688
Net Building Area (SF)	56,075	67,850	33,297
Number of Units	60	68	42
Parking Type	Podium	Underground	Structure
Parking Spaces/ Unit	1.82	1.55	1.0
Land Acquisition Costs	$3,157,000 ($69 per SF of land)	$5,543,600 ($127 per SF of land)	$2,096,500 ($76 per SF of land)
Project Costs per SF of Net Building Area			
Land Cost (a)	$56	$82	$63
Hard Costs (b)	$228	$216	$187
Soft Costs (c)	$93	$99	$114
Developer Fees	$25	$21	$39
Total Project Costs (d)	$402	$417	$403

Notes:
(a) Calculated per square foot of net building area.
(b) Excludes prevailing wage requirements for on-site and off-site hard costs.
(c) Includes design, engineering, city permits and fees, construction interest, contingencies, legal, etc.
(d) Total costs include developer fees.
Acronyms:
SF: Square feet
Source: Confidential Pro Forma Data; Vernazza Wolfe Associates, Inc; Strategic Economics, 2014.

To ensure that the land value assumptions used in the rental development cost estimates (ranging from $69 to $127 per square foot of land) were reasonable, the consultant team analyzed recent sales of vacant properties in San Mateo County using DataQuick, a commercial vendor that tracks real estate transactions. Cities with fewer than three vacant land transactions were excluded from the analysis. As shown below in Figure IV-6, land values in San Mateo County are highly variable from city to city, ranging from $45 to $300 per square foot; the average sales price for the selected sites in the County was $189 per square foot. The analysis demonstrates the land cost assumptions used to calculate rental housing costs (in Figure IV-5) represent the lower range of current land values.

Figure IV-6. Sales of Vacant Lands in San Mateo County, 2014

Jurisdiction	Number Transactions	Average Sales Price	Average Site Size (SF)	Average Sales Price/ SF Land
Belmont	4	$920,000	6,383	$165
Menlo Park	6	$1,239,500	5,802	$220
Pacifica	4	$487,000	7,221	$111
San Bruno	13	$933,769	3,259	$295
San Mateo	8	$1,314,188	5,424	$300
Unincorporated San Mateo County	4	$224,250	5,194	$45
Average of Records		$853,118	5,547	$189

Notes: Includes data from cities with 3 or more transactions of vacant land in San Mateo County from January through May 2014. Records with missing sales or land area information were eliminated.
Acronyms:
SF: Square feet

Sources: DataQuick, January-May 2014; Vernazza Wolfe Associates, Inc; Strategic Economics, 2014.

For-Sale Housing

Since affordable housing developers do not typically build for-sale housing in San Mateo County, the cost of developing new, modest for-sale housing was estimated using two data methods: the first method used price data for recently built condominium units as a proxy for development costs; the second approach estimated development costs based on published market and cost data for similar projects in San Mateo County. Each of these cost estimate approaches is described in more detail below.

Review of condominium sales data – In this approach, average sales prices from condominium units built in San Mateo County between 2008 and 2012 are used as a proxy for development costs. [16] This approach assumes that construction costs, land costs, soft costs, and developer profit are all included in the unit sales price. Using data provided by DataQuick, the consultant team analyzed sales prices of condominium units of various sizes in the seven cities that experienced condominium development that exceeded 10 units in the aggregate between 2008 and 2012. These seven cities included Brisbane, East Palo Alto, Millbrae, Redwood City, San Carlos, San Mateo City, and South San Francisco. The other jurisdictions in San Mateo County experienced little or no condominium development during this time period. Figure IV-7 summarizes the information that was used to generate a per-square-foot cost for condominium development of $420.

Cost estimate of hypothetical condominium project - The second approach relied on published industry data sources and recent financial feasibility studies to estimate the development costs of a hypothetical condominium project, as described in Figure IV-8.[17] Land costs were estimated based on recent DataQuick land transactions shown in Figure IV-6. RS Means cost data, adjusted for the Bay Area's construction costs, was used to calculate hard costs. Based on a review of recent financial

[16] Ideally, cost estimates would be based only on projects built in the last year or two. However, the decline in new construction after 2007 necessitated that the analysis use several years' worth of data in order to estimate for-sale housing costs. Since costs are not adjusted for inflation, they may be slightly lower than actual costs required for a new project to be built in 2014 or 2015. This approach is more conservative – and likely more accurate – than applying across-the-board inflation factors to historic costs. Furthermore, the increasing cost of residentially zoned, high density parcels is the main source of development cost increase. Adjusting land costs for inflation is not easily done.

[17] The hypothetical condominium building type is a Type V building with underground parking and floor-area ratio of 1.7. The building characteristics are described in Figure IV-8.

feasibility analyses in the Bay Area, soft costs were estimated at 30 percent of hard costs, and developer fees and profits were estimated at 12 percent of hard and soft costs. Using this second method, the development costs are estimated at $495 per net square foot of building area. In order to ensure that the results of the affordability gap analysis are conservative, the lower development cost estimate of $420 per net square foot was selected for ownership units.

Figure IV-7. Recent Condominium Sales in San Mateo County (2008-2012)

Jurisdiction	Average Number of Bathrooms	Average Number of Bedrooms	Average Square Feet	Average Price per Square Foot	Average Unit Price
Brisbane	1.2	1.5	892	$413	$368,625
East Palo Alto	1.8	1.3	1,029	$340	$349,991
Millbrae	1.9	2	1,290	$429	$553,893
Redwood City	2.7	2.9	1,933	$402	$776,655
San Carlos	1.8	1.8	1,066	$508	$541,932
San Mateo City	2.3	2.2	1,545	$439	$677,430
South San Francisco	1.7	1.8	981	$427	$418,740
Average	1.9	1.9	1,248	$423	$527,401

Sources: DataQuick, Vernazza Wolfe Associates, Inc. & Strategic Economics, 2014.

Figure IV-8. Estimate of Development Costs of Hypothetical Condominium Project

Building Characteristics	
Land Area (SF)	110,727
Gross Building Area (SF)	188,235
Net Building Area (SF)	160,000
Number of Units	100
Parking Type	Underground
Floor-area ratio (FAR)	1.7
Density (units per acre)	39
Average Unit Size	1,600
Land Acquisition Costs per Square Foot (a)	$189
Development Cost	**Cost per Net SF**
Land Cost (b)	$131
Hard Costs	$250
Soft Costs (c)	$75
Developer Fees (d)	$39
Total Development Costs	$495

Notes:

(a) Land value is calculated based on DataQuick records of vacant land transactions in the county. See Figure IV-6.
(b) Calculated based on RS Means cost estimates per square foot of net building area.
(c) Estimated at 30 percent of hard costs. Includes design, engineering, city permits and fees, construction interest, contingencies, legal, etc.
(d) Estimated at 12 percent of hard costs and soft costs.
Acronyms:
SF: square feet
Sources: RS Means, 2014; DataQuick 2014; Recent financial feasibility studies; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2014.

Cost Estimates by Unit Size

The data sources described above also provided information on estimated unit sizes**.** Unit size information is needed to translate costs/sales prices per square foot to unit costs. Unit sizes are estimated separately for rental and for-sale units. For the rental units, the recent inventory of projects developed by MidPen Housing was analyzed. For ownership units, the average sizes of recently built condominium units (Figure IV-7) were analyzed.

Figure IV-9 provides the unit sizes and development cost estimates for rental units. Per-unit development costs were calculated by multiplying average unit sizes by the per-square foot development costs of $410. Rental unit costs range from $205,000 for studio units to $479,700 for three-bedroom units.

Figure IV-10 summarizes the costs of condominium units. The per-unit costs were derived by multiplying the average unit size by the development cost per square foot of $420. Condominium development costs range from $357,000 for one-bedroom units to $672,000 for three-bedroom units.

Figure IV-9. Rental Housing Unit Sizes and Development Costs

Unit Type	Estimated Cost per Net SF	Unit Size (net SF)	Development Costs
Studio	$410	500	$205,000
One bedroom	$410	700	$287,000
Two bedroom	$410	970	$397,700
Three bedroom	$410	1,170	$479,700

Acronyms:
SF: Square feet
Sources: Confidential Pro Forma Data; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2014.

Figure IV-10. For-Sale Housing Unit Sizes and Development Costs

Unit Type	Estimated Cost per Net SF	Unit Size (net SF)	Development Costs
One bedroom	$420	850	$357,000
Two bedroom	$420	1,200	$504,000
Three bedroom	$420	1,600	$672,000

Acronyms:
SF: Square feet
Sources: DataQuick, 2014; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2014.

CALCULATING THE HOUSING AFFORDABILITY GAP

The final step in the analysis is to calculate the housing affordability gap, or the difference between what renters and owners can afford to pay and the total cost of developing new units. The purpose of the housing affordability gap calculation is to help determine the fee amount that would be necessary to cover the cost of developing housing for very low, low, and moderate income households. The calculation does not assume the availability of any other source of housing subsidy because not all "modest" housing is built with public subsidies, and tax credits and tax-exempt bond financing are highly competitive programs that will not always be available to developers of modest housing units.

Figure IV-11 shows the housing affordability gap calculation for rental units. For each rental housing unit type and income level, the gap is defined as the difference between the per-unit cost of development and the supportable debt per unit. The supportable debt is calculated based on the net operating income generated by an affordable monthly rent, incorporating assumptions about operating expenses (including property taxes, insurance, etc.), reserves, vacancy and collection loss, and mortgage terms based on discussions with local affordable housing developers. Because household sizes are not uniform and the types of units each household may occupy is variable, the average housing affordability gap is calculated by averaging the housing affordability gaps for the various unit sizes.

Figure IV-12 shows the housing affordability gap calculation for ownership units. For each unit type, the gap is calculated as the difference between the per-unit cost of development and the affordable sales price for each income level. As with rental housing, the average housing affordability gap for each income level is calculated by averaging the housing affordability gaps across unit sizes in order to reflect that households in each income group vary in size, and may occupy any of these unit types.

Finally, the tenure-neutral estimates of the housing affordability gap were estimated for very low, low, and moderate income households (Figure IV-13). Because very low and low income households that are looking for housing in today’s market are much more likely to be renters, an ownership gap was not calculated for these income groups. The rental gap represents the overall affordability gap for these two income groups. On the other hand, moderate income households could be either renters or owners. Therefore, the rental and ownership gaps are averaged for this income group to calculate the overall affordability gap for moderate income households. The calculated average affordability gap per unit is $280,783 for very low income households; $240,477 for low income households, and $175,558 for moderate income households. The housing affordability gap is highest for very low income households because those households with higher incomes can afford to pay more for housing.

Figure IV-11. Housing Affordability Gap Calculation for Rental Housing

Income Level and Unit Type	Unit Size (SF)	Maximum Monthly Rent (a)	Annual Income	Net Operating Income (b)	Available for Debt Service (c)	Supportable Debt (d)	Development Costs (e)	Affordability Gap
Very Low Income (50% AMI)								
Studio	500	$961	$11,532	$3,455	$2,764	$36,552	$205,000	$168,448
1 Bedroom	700	$1,091	$13,095	$4,940	$3,952	$52,259	$287,000	$234,741
2 Bedroom	970	$1,220	$14,634	$6,402	$5,122	$67,725	$397,700	$329,975
3 Bedroom	1,170	$1,402	$16,824	$8,483	$6,786	$89,733	$479,700	$389,967
Average Affordability Gap								**$280,783**
Low Income (70% AMI)								
Studio	500	$1,233	$14,793	$6,553	$5,243	$69,323	$205,000	$135,677
1 Bedroom	700	$1,402	$16,824	$8,483	$6,786	$89,733	$287,000	$197,267
2 Bedroom	970	$1,569	$18,831	$10,389	$8,312	$109,902	$397,700	$287,798
3 Bedroom	1,170	$1,807	$21,680	$13,096	$10,477	$138,535	$479,700	$341,165
Average Affordability Gap								**$240,477**
Moderate Income (90% AMI)								
Studio	500	$1,593	$19,119	$10,663	$8,530	$112,796	$205,000	$92,204
1 Bedroom	700	$1,814	$21,768	$13,180	$10,544	$139,417	$287,000	$147,583
2 Bedroom	970	$2,033	$24,393	$15,673	$12,539	$165,796	$397,700	$231,904
3 Bedroom	1,170	$2,342	$28,108	$19,202	$15,362	$203,127	$479,700	$276,573
Average Affordability Gap								**$187,066**

Notes:
(a) Affordable rents are based on State of California Housing and Community Development FY 2014 Income Limits for San Mateo County. See Figure IV-2.
(b) Amount available for debt. Assumes 5% vacancy and collection loss and $7,500 per unit per year for operating expenses and reserves based on recently built (2012-2014) and proposed affordable housing projects in the San Francisco Bay Area.
(c) Assumes 1.25 Debt Coverage Ratio.
(d) Assumes 6.38%, 30 year loan. Calculations based on annual payments.
(e) Assumes $410/SF for development costs based on comparable project pro formas.
(f) Calculated as the difference between development costs and supportable debt.
Acronyms:
SF: Square feet
AMI: Area median income
Sources: Housing and Community Development, 2014; Selected San Mateo Rental Housing Pro Formas; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure IV-12. Housing Affordability Gap Calculation for For-Sale Condominium Housing

Income Level and Unit Type	Unit Size (SF)	Affordable Sales Price (a)	Development Costs (b)	Affordability Gap (c)
Moderate Income (110% of AMI)				
1 Bedroom	850	$283,931	$357,000	$73,069
2 Bedroom	1,200	$348,526	$504,000	$155,474
3 Bedroom	1,600	$408,395	$672,000	$263,605
Average Affordability Gap				**$164,049**

Notes:
(a) See calculation in Figure IV-3.
(b) Assumes $420/SF for development costs, based on recent condominium sales data.
(c) Calculated as the difference between development cost and affordable sales price.
Acronyms:
SF: Square feet
AMI: Area median income
Sources: DataQuick Sales Data, 2008-2012; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure IV-13. Average Housing Affordability Gap by Income Group

Income Level	Rental Gap	Ownership Gap	Average Affordability Gap
Very Low Income (50% AMI)	$280,783	N/A	$280,783
Low Income (70% - 80% AMI) (a)	$240,477	N/A	$240,477
Moderate Income (90% - 110% AMI) (b)	$187,066	$164,049	$175,558

Notes:
(a) Low income households are defined at 70 percent of AMI for renters and 80 percent of AMI for owners.
(b) Moderate income households are defined at 90 percent of AMI for renters and 110 percent AMI for owners.
Acronyms: AMI: Area median income.
Source: Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

V. MAXIMUM LINKAGE FEES

This section builds on the findings of the previous analytical steps to calculate the maximum justified linkage fees for each commercial prototype.

MAXIMUM FEE CALCULATION

To derive the maximum nexus-based fee, the housing affordability gap (see Section IV) is applied to the number of lower-income worker households linked to the prototypes. This is the basis for developing an estimate of the total affordability gap for each prototype. The total gap for each prototype is then divided by the size of each development prototype to calculate a single maximum fee per square foot.

Figure V-1 presents the results of the linkage fee calculations for each prototype. The calculations shown below assume that 100 percent of the very low, low, and moderate income households linked to the new commercial space would be accommodated in San Bruno. The maximum fee results are $132 per square foot for hotel, $235 per square foot for retail/ restaurants/ services, and $196 per square foot for office/ R&D/ medical office.

The calculated linkage fees are high for two reasons: 1) the cost of housing development in San Mateo County is high, creating a large affordability gap for very low, low, and moderate income households; 2) many of the workers associated with new commercial development, especially those in the retail and hotel industries, earn low wages and fall into very low and low income household categories. For these reasons, the highest fees are associated with retail/ restaurant/ personal services, generally referred to as service industries. Occupations in these industries offer workers the lowest average wage; hence the total affordability gap is highest for these employee households. Although average wages for hotel workers are similarly low, the density of workers in hotels is lower than in retail and in office/ R&D/ medical office space; therefore maximum linkage fees for hotels are the lowest among the three prototypes. Finally, while office workers earn the highest Average wage of all three prototypes, the employment density of this prototype is the highest. Therefore, the calculated fees for the category covering office/ R&D/ medical office are higher than those calculated for hotel developments, and lower than the retail/ restaurants/ services.

The maximum fees shown in Figure V-1 are not the recommended fees for adoption. They are the nexus-justified fees that represent the maximum that San Bruno could charge to mitigate affordable housing demand related to commercial development.

Figure V-1. Maximum Commercial Linkage Fees

	Worker Households Requiring Affordable Housing	Total Affordability Gap	Size of Prototype (SF)	Maximum Fee per SF
Hotel	54	$13,238,706	100,000	$132
Retail, Restaurants and Personal Services	87	$23,495,667	100,000	$235
Office, R&D and Medical Office	82	$19,647,088	100,000	$196

Sources: Vernazza Wolfe Associates, Inc; Strategic Economics, 2015.

SUMMARY OF CONSERVATIVE ASSUMPTIONS

- **Employment density assumptions**. For each commercial building prototype, an average employment density was applied based on a combination of national survey data for existing commercial buildings and a review of recently completed linkage fee nexus studies in the Bay Area. In order to create conservative assumptions about the number of jobs associated with new commercial development, the lower range of the density figures were selected for the analysis. Though some office developments in the Bay Area have much higher employment densities, particularly for high-technology tenants, the analysis used a lower estimate of density for the office/R&D/medical office prototype, resulting in a lower maximum fee estimate.

- **Cost estimates for affordability gap analysis**. The affordability gap analysis measures the difference between what households can afford to pay for housing and the cost of new housing units. To ensure that the gap is conservative, the development cost estimates are based on the lower range of land and construction costs in San Mateo County. In many sub-areas of the county, including priority-development areas and downtown locations, land costs for housing sites may be higher, particularly under today's market conditions.

- **Exclusion of extremely low income households**. Although new commercial development could potentially have impacts on affordable housing demand from extremely low income households, those impacts are not included in the analysis, thereby reducing the total fee calculation.

- **Affordability gap for owner households**. The calculation of the affordability gap for ownership households only considers moderate-income households. Low and very low income households are not considered in the calculation. This also results in a lower estimate of the maximum fee.

- **Feasibility analysis**. The analysis takes into account the financial feasibility of adding the maximum impact fee and reduced fee levels to the total cost of new development. The financial feasibility component of the analysis incorporates market-supportable assumptions about revenues, costs, land costs, and developer return expectations based on research on recent development trends.

- **Comparison to other cities**. The Consultant Team researched existing linkage fee in other Bay Area cities to determine the competitiveness of the maximum fee and reduced fee levels.

- **Overlap analysis**. The City is undertaking two impact fee nexus studies at the same time: the commercial linkage fee nexus study and the housing impact fee nexus study. To minimize the potential that some jobs could be double-counted by including the same worker households in both studies, the Consultant Team ensured that the recommended fees for the two programs (commercial linkage and housing fees) would – when combined –mitigate less than 100 percent of the total impact.

VI. FEASIBILITY AND POLICY CONSIDERATIONS

There are a number of policy considerations that can be taken into account when jurisdictions consider whether to adopt a commercial linkage fee on new non-residential development, and if so, what fee levels to adopt. These policy factors include the likely impact of the proposed fee levels on future development, the potential increase to the city's existing fees on commercial development, a comparison of proposed linkage fees with those fees already charged in adjacent jurisdictions, and how potential revenues from new linkage fees can benefit the city's overall affordable housing goals. This section provides a discussion of some of the key financial and policy questions for San Bruno.

PROTOTYPES AND FEE LEVELS

Commercial Prototypes

As described in Section III, the analysis estimates linkage fees for three commercial prototypes: hotel, retail/ restaurants/ services, and office/ R&D/ medical office. The building characteristics, including size, density (floor-area-ratio), and parking assumptions are based on a review of recently built and proposed projects in San Mateo County (Figure VI-1). The financial feasibility of potential fee levels is tested for each of these prototypes.

Figure VI-1. Description of Commercial Prototypes

	Hotel	Retail/ Restaurants/ Services	Office/R&D/ Medical Office
Prototype Description			
Gross Building Area (GBA)	100,000	100,000	100,000
Podium Parking Area	11,970	30,000	63,000
Gross Building Area including Podium Parking (SF)	111,970	130,000	163,000
Efficiency Ratio (a)	N/A	0.95	0.9
Net Leasable Sq. Ft. (NSF)	N/A	95,000	90,000
Hotel Rooms	133		
Parking Spaces	160	400	300
Podium Parking	40	100	210
Surface Parking	120	300	90
Floor Area Ratio (b)	1.1	0.5	2.0
Land Area (Acres)	2.3	6.0	1.9
Land Area (SF)	101,791	260,000	81,500

Notes:
(a) Refers to ratio of gross building area to net leasable area. An efficiency ratio of 0.9 means that 90% of the gross building area is leasable.
(b) The floor-area-ratio (FAR) is often used as a measure of density. In this analysis, it is calculated as the gross building area (including podium parking) divided by the total land area.

Sources: Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

Fee Levels

In order to provide San Bruno with some guidance on how proposed fees could impact development decisions, the Consultant Team conducted a financial feasibility analysis that tested the impact of proposed linkage fee options on developer profit. The fees were tested for four scenarios, which represent different assumptions regarding the number of very low, low, and moderate income new worker households that would be accommodated in San Bruno:

Figure VI-2 illustrates the different fees per square foot for each scenario, by prototype.

Figure VI-2. Linkage Fee Scenarios by Prototype

Fee Scenarios	Hotel	Retail/ Restaurants / Services	Office/ R&D/ Medical Office
Scenario 1 - Maximum Fee	$132.39	$234.96	$196.47
Scenario 2	$20	$20	$20
Scenario 3	$10	$10	$10
Scenario 4	$5	$5	$5

Sources: Vernazza Wolfe Associates, Inc; Strategic Economics, 2015.

METHODOLOGY

Financial feasibility was tested using a pro forma model that measures the return on cost of the commercial prototypes. Return on cost is a commonly used metric indicating the profitability of a commercial project. The pro forma model tallies all development costs, including land, direct construction costs, indirect costs (including financing), and developer fees. Revenues from lease rates or hotel room rates are the basis for calculating annual income from the new commercial development. The total operating costs are subtracted from the total revenues to calculate the annual net operating income. The return on cost is then estimated by dividing the annual net operating income by the total development costs. The fee levels were then added as an additional development cost to measure the resulting change in the developer's return on cost.

KEY INPUTS

The key revenue and cost inputs to the financial pro forma analysis are based on market research and published resources. The data inputs are explained in more detail below.

Revenues

To estimate income from commercial development, the analysis used rental data from Costar for the Southern San Mateo County sub-market for existing retail and office buildings. A 20 percent increase was applied to account for the value premium of new commercial space. Hotel room revenue is estimated based on current revenue per available room (RevPAR) from HVS Consulting and Smith Travel Research for the San Mateo County market area. The revenue inputs are shown in Figure VI-3.

Direct and Indirect Costs

Cost estimates for the commercial prototypes include direct construction costs (site work, building costs, and parking), indirect costs, financing costs, and developer overhead and profit. Direct building construction cost estimates for office/ R&D/ medical office and retail/ restaurants/ services are based on RS Means. Hotel costs were estimated based on recent data from HVS Consulting and Smith Travel Research, and include costs for Furniture, Fixtures, and Equipment (FF&E). Direct and indirect cost inputs for the pro forma analysis are shown in Figure VI-4.

Land Costs

One of the critical cost factors for a commercial development project is land cost. To determine the land value of sites zoned for commercial uses, the Consultant Team analyzed recent sales transactions in the county and reviewed third-party property appraisals, with a focus on the Northern San Mateo County submarket (where San Bruno is located). According to the data, land value for commercially zoned land sold in recent years is $98. However, when the small 5,700-square-foot site in Millbrae is excluded, the average value is lower. Based on this analysis of land transactions, the estimated land value for commercial properties in San Bruno is $90 per square foot (see Figure VI-5). This approximate land cost is an estimate for the purposes of the financial feasibility analysis; the value of any particular site is likely to vary based on its location, amenities, and property owner expectations, among other factors.

Return on Cost Thresholds

In order to understand how the different fee levels impact financial feasibility, the return on cost results can be compared to an investor's expectations for each type of development. The thresholds for this analysis were pegged to investor expectations regarding overall capitalization rates (cap rate) for each product type in the Bay Area. The cap rate, which is measured by dividing net income generated by a property by the total project value, is a commonly used metric to estimate potential returns. Lower cap rates signify high performing markets. In this analysis, the total project value is equivalent to the total development cost. PWC Real Estate Investor Survey (Fourth Quarter 2014) was the primary data source for determining cap rates for office/ R&D/ medical office and retail/restaurant/services uses. For hotel, cap rate data was obtained from HVS, a hotel consulting firm that tracks hotel markets.

To ensure that the financial analysis is conservative and does not reflect peak market conditions, the thresholds selected for determining project feasibility are slightly higher than the published cap rates. It was determined that the threshold for the return on cost is between 6.75 percent and 7.0 percent for office/ R&D/ medical office and retail/ restaurants/ services prototypes, and between 7.0 percent and 7.25 percent for hotel (see Figure VI-6).

Figure VI-3. Pro Forma Revenue Inputs by Prototype

Prototypes	Metric	Input
Hotel		
Gross Annual Room Income (a)	RevPAR	$54,750
Gross Annual Other Revenue	Per Room	$10,950
Less: Vacancy (b)		$0
Less: Operating Expenses (c)	70%	($45,990)
Annual Net Operating Income		$19,710
Retail/Services		
Revenues and Expenses (d)		
Monthly Rent - Triple Net	per NSF	$28
Operating Expenses	% of Gross	10%
Vacancy Rate	% of Gross	3%
Estimates		
Net Square Footage		95,000
Annual Gross Revenues		$2,660,000
Operating Expenses		($266,000)
Vacancy Rate		($79,800)
Annual Net Operating Income		$2,314,200
Office/R&D		
Revenues and Expenses (d)		
Monthly Rent - Gross	per NSF	$47
Operating Expenses	% of Gross	28%
Vacancy Rate	% of Gross	5%
Estimates		
Net Square Footage		90,000
Annual Gross Revenues		$4,230,000
Operating Expenses		($1,184,400)
Vacancy Rate		($211,500)
Net Operating Income		$2,834,100

Notes:

(a) RevPAR is a measure of revenue per room, calculated as occupancy percentage times average daily rate.

(b) Expense ratio for limited service and full-service hotels, based on data from HVS and STR Consulting.

(c)Vacancy is already reflected in RevPAR estimate.

(d) Costar Group average rents in the Northern San Mateo County submarket. A premium of 20% is applied to account for newer product.

Sources: Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

Figure VI-4. Direct and Indirect Cost Inputs

Development Assumptions	Metric	Hotel	Retail/ Restaurants/ Services	Office/R&D/ Medical Office
Direct Costs (a)				
Building & On-Site Improvements (b)	per sq. ft. of GBA	$200	$130	$200
Parking Costs - Podium	per space	$25,000	$25,000	$25,000
Parking Costs - Surface	per space	$2,500	$2,500	$2,500
Indirect Costs (c)				
A&E & Consulting	% of Direct Costs	8%	8%	8%
Tenant Improvements	per NSF	N/A	$30	$40
Permits & Fees (d)	total	vary by city	vary by city	vary by city
Taxes, Insurance, Legal & Accounting	% of Direct Costs	3%	3%	3%
Financing Costs	% of Direct Costs	6%	6%	6%
Developer Overhead &Fee	% of Direct Costs	9%	9%	9%
Contingency	% of Indirect Costs	5%	5%	5%

Notes:

(a) Review of pro formas for similar projects in San Mateo County; RS Means, 2014.

(b) Hotel costs include Furniture, Fixtures & Equipment (FF&E).

(c) Indirect costs (except permits and fees) based on review of pro formas for similar projects in Bay Area.

(d) Permits & Fee provided by City staff.

Sources: Project pro formas; RS Means, 2014; HVS Consulting and Smith Travel Research, 2014; City staff; Strategic Economics, 2015.

Figure VI-5. Recent Commercial Vacant Land Transactions in San Mateo County

Property	City	Site Area	Sale Price/ Appraised Value	Sale Price/ SF	Sale Date
Central San Mateo County					
480 East 4th Ave	San Mateo	50,573	$5,100,000	$101	2013
1804 Leslie Street	San Mateo	13,939	$1,000,000	$72	2011
900 El Camino Real	Belmont	8,400	$655,000	$78	2010
Average		24,304	$2,251,667	$84	
Northern San Mateo County					
480 El Camino Real	Millbrae	5,663	$1,100,000	$194	On Market
1001-1015 E. Market Street	Daly City	37,897	$2,250,000	$59	On Market
6800 Mission Street	Daly City	17,424	$1,350,000	$77	2012
7255 Mission Street	Daly City	20,038	$1,225,000	$61	2012
Average		20,256	1,481,250	$98	
Southern San Mateo County					
3264 Haven Ave	Redwood City	27,000	$3,179,000	$118	On Market
1706 El Camino Real	Menlo Park	27,007	$2,200,000	$81	2011
1300 El Camino Real	Menlo Park	145,490	$24,500,000	$168	2012
Average		27,004	$2,689,500	$122	

Sources: Property appraisals; Loopnet, 2015; Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

Figure VI-6. Feasibility Thresholds for Return on Cost

Prototype	Capitalization Rates	Selected Threshold for Return on Cost
Hotel (a)	6.75% - 7.25%	7.0% - 7.25%
Retail/ Restaurants/ Services (b)	6.21% - 7.05%	6.75% - 7.0%
Office/ R&D/ Medical Office(c)	5.88% - 6.71%	6.75% - 7.0%

Notes:
(a) HVS Consulting, January 2015. Cap rate data was only available at the national level. However, the Bay Area market generally outperforms the rest of the country, so this estimate is likely lower than cap rates for San Mateo County.
(b) PWC Real Estate Investor Survey, National Retail Market, 4th Quarter 2014. Cap rates are lower for regional malls and power centers (under 7%) than for strip shopping centers. The feasibility threshold is set at the higher end of the range to represent smaller retail centers rather than large regional malls.
(c) PWC Real Estate Investor Survey, San Francisco Office Market, 4th Quarter 2014. Because capitalization rates for office may be peaking in the Bay Area market, and R&D and medical office uses have higher cap rates, the financial analysis set the threshold at a higher rate.
Sources: HVS Consulting, January 2015; PWC Real Estate Investor Survey, 4Q2014; Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

RESULTS

The financial feasibility analysis, in addition to considering the effect of the nexus fee scenarios on the developer's return, also measures the fee as a share of total development costs, as an indicator of the financial burden of the fee on new development.

Hotel

The financial analysis shows that without any commercial linkage fees, new hotel projects are just above the feasibility threshold (see Figure VI-8). The annual net operating income is approximately $2.6 million ($19,710 per room). The total development costs, including land, direct and indirect costs total about $37 million. The net operating income divided by total development costs yields a return on costs of 7.07 percent without the linkage fee, just above the required 7.0 percent threshold for feasibility. However, it is possible that a hotel development with higher room rates could be fully financially feasible. Because the financial feasibility results for the hotel prototype may change over time depending on market conditions, the analysis compared the financial feasibility of the linkage fee scenarios with 2014 room rates (which the nexus analysis is based on), and with increased room rates. According to the analysis, a 5 or 10 percent increase in hotel revenues would allow a linkage fee of $20 per square foot to be financially feasible (Figure VII-7 below).

The financial feasibility analysis also measures the fee as a share of total development costs as an indicator of the financial burden of the fee on new development, under current market conditions. For the other fee scenarios, the results are as follows:

- The maximum fee level ($132 per square foot) increases total development costs to $50.3 million. The maximum fee accounts for 35.69 percent of total development costs. This fee scenario generates a calculated return on cost of 5.21 percent, well below the required threshold for financial feasibility.

- Fee scenario 2, a lower nexus fee of $20 per square foot, is equivalent to 5.39 percent of development costs and generates a potential return on costs of 6.71 percent. This return is insufficient to meet the threshold for financial feasibility.

- Scenario 3, a fee of $10 per square foot, would account for 2.70 percent of development costs. At this fee level, the return on cost is estimated at 6.88 percent.

- Scenario 4 is a fee of $5 per square foot. This modest fee is 1.35 percent of the project's total development costs. The return on costs is estimated at 6.97 percent, which is marginally feasible.

Retail/ Restaurant/Services

The feasibility analysis indicates that at current market rents, without the addition of new linkage fees, new retail projects would obtain an annual net operating income of approximately $2.3 million, with a total development cost of $47.7 million. The net operating income divided by total cost results in a return on cost estimate of 4.85 percent (see Figure VI-8). This figure is well below the feasibility threshold for new retail development (6.75 percent), indicating that a new retail project without any linkage fees would likely be unfeasible. It is possible that the prototype could be marginally feasible if land, construction, or soft costs were slightly lower. The ground-floor retail component of a mixed-use project may also have stronger financial feasibility results, because it would share land costs with the residential or office component.

To understand the financial burden of the fee scenarios on overall development costs, the pro forma analysis measures the fees as a percent of total development costs. The financial feasibility results for the retail/ restaurants/services prototype are as follows:

- Scenario 1, the maximum linkage fee ($235 per square foot) reduces the return on cost to 3.25 percent, significantly below the 6.75 percent threshold for financial feasibility. The maximum fee accounts for over 49 percent of total development costs.

- Scenario 2 ($20 per square foot) would correspond to 4.19 percent of development costs. At this fee level, the retail/restaurant/services prototype generates a return on costs of 4.65 percent. This level of financial return is unlikely to attract retail development.

- Scenario 3, a nexus fee of $10 per square foot, would be equivalent to 2.10 percent of total development costs. The calculated return on cost is estimated at 4.75 percent. While this estimate of return is stronger, it is still under the feasibility threshold of 6.75 percent.

- Scenario 4, a fee of $5, would correspond to 1.05 of total development costs. The return on cost with this linkage fee is estimated at 4.80 percent. While this is still under the feasibility threshold with today's rental rates, given that the current retail vacancy rate is under five percent in Northern San Mateo County, it is possible that the retail market will see growth in rental rates over the short term, making new development feasible.

Office/R&D/Medical Office

Under a base scenario with no commercial linkage fees on office/R&D/medical office development, a prototypical project generates an estimated net operating income of $2.8 million, with total development costs estimated at $44.2 million. The net operating income divided by the total development costs results in an estimated return on cost of 6.41 percent, under the minimum threshold for financial feasibility for office/R&D/medical office development, which is currently 6.75 to 7.0 percent (see Figure VI -8). However, it is possible that a different type of office, R&D or medical office development could be financially feasible under certain conditions; for example, if development costs were reduced through lower land costs, increased densities, parking reductions, or other zoning incentives.

Because the results of the feasibility analysis for the office/R&D/medical office prototype may vary over time depending on market conditions, the analysis compared the financial feasibility of the linkage fee scenarios with 2014 revenues (which the nexus analysis is based on), and with increased revenues. According to the analysis, with a ten percent increase in revenues, a linkage fee of $20 per square foot would be financially feasible (Figure VI-7).

The financial feasibility analysis, in addition to considering the effect of the nexus fee scenarios on the developer's return, also measures the fee as a share of total development costs as an indicator of the financial burden of the fee on new development. The following describes the results for each fee scenario.

- Scenario 1, a fee set at the maximum level of $196, would account for over 44 percent of total development costs for the office/R&D/medical office prototype. The return on cost with this fee is estimated at 4.44 percent, which would not be financially feasible.

- Scenario 2, a fee level of $20 per square foot, would be 4.52 percent of total development costs. The calculated return on cost is 6.13 percent, which would not meet the requirement to be feasible.

- Scenario 3, a fee level of $10 per square foot, is equivalent to 2.26 percent of total project development costs. Under this scenario, the office/R&D/medical office project generates a return on cost of 6.27 percent, which is still under the feasibility threshold of 6.75 percent.

- Scenario 4 at $5 per square foot would generate an estimated return on costs is 6.34 percent. While this estimated return is still too low to meet the current feasibility requirements, a fee of $5 per square foot increases costs very slightly, accounting for about 1.13 percent of total project costs.

Figure VI-7. Financial Feasibility Results for the Hotel and Office/R&D/Medical Office Prototypes with Increased Revenues

Revenue Scenario	Hotels	Office/R&D/ Medical Office
2014 Rents/Prices	$0	$0
5% Increase in Revenues	$20	$0
10% Increase in Revenues	$20	$20

Sources: Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-8. Pro Forma Analysis Results

	Hotel		Retail/Restaurants/ Services		Office/R&D/Medical Office	
Development Costs (a)	**per Room**	**Total**	**per SF of GBA**	**Total**	**per SF of GBA**	**Total**
Land	$68,881	$9,161,182	$234	$23,400,000	$73	$7,335,000
Direct Costs						
Building & On-Site Improvements	$150,376	$20,000,000	$130	$13,000,000	$200	$20,000,000
Parking	$9,750	$1,296,750	$33	$3,250,000	$55	$5,475,000
Total Direct Costs	$160,126	$21,296,750	$163	$16,250,000	$255	$25,475,000
Indirect Costs						
A&E & Consulting	$12,810	$1,703,740	$13	$1,300,000	$20	$2,038,000
Tenant Improvements	$0	$0	$29	$2,850,000	$36	$3,600,000
FF&E (b)	$0	$0	$0	$0	$0	$0
Permits & Fees (Excl. Housing Linkage) (c)	$6,663	$886,179	$7	$695,611	$8	$771,711
Taxes, Insurance, Legal & Accounting	$4,804	$638,903	$5	$487,500	$8	$764,250
Financing Costs	$9,608	$1,277,805	$10	$975,000	$15	$1,528,500
Developer Overhead & fee	$13,611	$1,810,224	$14	$1,381,250	$22	$2,165,375
Contingency	$2,375	$315,843	$4	$384,468	$5	$543,392
Total Indirect Costs	$49,870	$6,632,693	$81	$8,073,829	$114	$11,411,228
Total Development Costs (TDC) without Nexus Fees		$37,090,625		$47,723,829		$44,221,228
TDC with Nexus Fees by Fee Scenario	**Linkage Fee per Sq. Ft.**	**TDC incl. Linkage Impact Fee**	**Linkage Fee per Sq. Ft.**	**TDC incl. Linkage Impact Fee**	**Linkage Fee per Sq. Ft.**	**TDC incl. Linkage Impact Fee**
No Fee	$0.00	$37,090,625	$0.00	$47,723,829	$0.00	$44,221,228
Scenario 1: Maximum Fee	$132.39	$50,329,331	$234.96	$71,219,496	$196.47	$63,868,316
Scenario 2	$20.00	$39,090,625	$20.00	$49,723,829	$20.00	$46,221,228
Scenario 3	$10.00	$38,090,625	$10.00	$48,723,829	$10.00	$45,221,228
Scenario 4	$5.00	$37,590,625	$5.00	$48,223,829	$5.00	$44,721,228
Revenues	**Per Room**	**Total**	**per Sq. Ft. of GBA**	**Total**	**per Sq. Ft. of GBA**	**Total**
Annual Net Operating Income (d)	$19,710	$2,621,430	$23	$2,314,200	$28	$2,834,100
Return on Cost by Fee Scenario:	**Nexus Fee per SF**	**Return on Costs**	**Nexus Fee per SF**	**Return on Costs**	**Nexus Fee per SF**	**Return on Costs**
No Fee	$0.00	7.07%	$0.00	4.85%	$0.00	6.41%
Scenario 1: Maximum Fee	$132.39	5.21%	$234.96	3.25%	$196.47	4.44%
Scenario 2	$20.00	6.71%	$20.00	4.65%	$20.00	6.13%
Scenario 3	$10.00	6.88%	$10.00	4.75%	$10.00	6.27%
Scenario 4	$5.00	6.97%	$5.00	4.80%	$5.00	6.34%
Fees as % of TDC	**Nexus Fee per SF**	**Nexus Fee as % of TDC**	**Nexus Fee per SF**	**Nexus Fee as % of TDC**	**Nexus Fee per SF**	**Nexus Fee as % of TDC**
No Fee	$0.00	0.00%	$0.00	0.00%	$0.00	0.00%
Scenario 1: Maximum Fee	$132.39	35.69%	$234.96	49.23%	$196.47	44.43%
Scenario 2	$20.00	5.39%	$20.00	4.19%	$20.00	4.52%
Scenario 3	$10.00	2.70%	$10.00	2.10%	$10.00	2.26%
Scenario 4	$5.00	1.35%	$5.00	1.05%	$5.00	1.13%
Return on Cost - Threshold for Feasibility		7.0-7.25%		6.75-7.0%		6.75-7.0%

Notes:
(a) See Figure VI-4.
(b) Furniture Fixtures & Equipment for hotel is included in the direct costs.
(c) Permit & fee calculations provided by City Staff. These are estimates for the prototypes created in this analysis; specific development projects may have different results.
(d) See Figure VI-3.
Sources: Vernazza Wolfe Associates, Inc; Strategic Economics, 2015.

POLICY CONSIDERATIONS

While the nexus study provides the necessary economic analysis for the linkage fees, it is up to policymakers to decide what percentage of the maximum fee to charge to new development. Financial feasibility is one important factor to examine. In addition, there are a number of other policy issues to consider, such as:

- How much development fees would increase with a new commercial linkage fee;
- How a commercial linkage fee in San Bruno would compare with those in neighboring jurisdictions;
- What options exist for establishing alternatives to the payment of fees; and
- How a commercial linkage fee fits into San Bruno's overall housing strategy.

Existing City Fees on Commercial Development

The new linkage fee can be considered in context of existing city fees on new commercial development. Figure VI-8 presents the existing commercial fees that apply to the three commercial prototypes and the potential linkage fees under four scenarios. As shown, the existing fees range from $7 per square foot for retail/restaurants/services prototype to almost $9 per square foot for the hotel prototype. Each of the linkage fee scenarios would considerably increase the total fees charged to new development for all prototypes.

Figure VI-9. Existing City Fees on Commercial Development by Prototype

Commercial Prototype	Hotel/ Resort/ Other Lodging	Retail/ Restaurants/ Services	Office/ Medical Office/ R&D
Total Existing Permits & Impact Fees per Prototype	$886,179	$695,611	$771,711
Existing Fees per Square Foot	$8.86	$6.96	$7.72
Linkage Fee Scenarios			
Fee Scenario 1 (Maximum Fee)	$132.39	$234.96	$196.47
Fee Scenario 2	$20.00	$20.00	$20.00
Fee Scenario 3	$10.00	$10.00	$10.00
Fee Scenario 4	$5.00	$5.00	$5.00

Sources: San Bruno, Department of Planning and Building, 2014; Vernazza Wolfe Associates, Inc; Strategic Economics, 2015.

Comparison with Fees Charged in Other Jurisdictions

Figure VI-9 provides comparative information for San Bruno and neighboring jurisdictions in San Mateo County and Santa Clara County that charge non-residential housing impact fees. At present, Cupertino's fees are the highest for hotel and retail/restaurant space at $20 per square foot, followed by Palo Alto at $19 per square foot.[18] Mountain View's fees are significantly lower, with the exception of office/R&D/medical office. The lowest fee scenarios (Scenarios 3 and 4) are within a reasonable range of the fees charged in several of the comparison cities, as shown in Figure VI-9.

[18] It is important to note that Menlo Park and Palo Alto are currently conducting new nexus studies that may result in revised commercial linkage fees.

Figure VI-10. Comparison to Linkage Fees in Neighboring Cities

	Hotel	Retail/ Restaurant/ Services	Office/R&D/ Medical Office	Date Fee Was Adopted
Linkage Fee Scenarios (per SF)				
Scenario 1 - Maximum Fee	$132.39	$234.96	$196.47	N/A
Scenario 2	$20	$20	$20	N/A
Scenario 3	$10	$10	$10	N/A
Scenario 4	$5	$5	$5	N/A
Neighboring Jurisdictions (per SF)				
Cupertino	$10	$10	$20	2015
Menlo Park (a)	$8	$8	$15	2014
Mountain View (b)	$2.50	$2.50	$25	2015
Palo Alto (c)	$19	$19	$19	2014
Sunnyvale (d)	$7.50	$7.50	$15	2015

Notes:
(a) Buildings 10,000 SF and under are exempt from fees. A new nexus study is currently underway that may result in an updated fee.
(b) New gross floor area under 25,000 SF pays 50 percent of full fee.
(c) Palo Alto has a single fee of $19.31 per SF for any new gross square footage in commercial and industrial projects. A new nexus study is currently underway that may result in an updated fee.
(d) The fee on the first 25,000 SF, for all three commercial uses, is discounted by 50 percent.

Sources: City staff and websites; Nonprofit Housing Association of Northern California, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Other cities in the Bay Area outside of San Mateo and Santa Clara counties also have commercial linkage fees that can be compared to the potential fee scenarios for San Bruno. A summary of some of these existing fees is shown in Figure VI-10, based on the most current information available. The fee amounts vary significantly by jurisdiction. San Francisco has the highest impact fees on commercial development, ranging from $16 for R&D space to $24 for office space.

Figure VI-11. Existing Linkage Fees in Bay Area Cities

City	Commercial Development Subject to Fees	Fee Amount
Walnut Creek	All development commercially classified i.e. R&D, for-profit medical offices/hospitals, etc.	$5.00 per SF
Oakland	Office and Warehouse/Distribution	$5.24 per SF used for office of warehouse /distribution needs beyond 25,000 SF
San Francisco	Entertainment, Hotel, Office, R&D, Retail, Integrated PDR, Small Enterprise Workspace	Based on type of space and additional gross SF past 25,000 Entertainment/retail: $22.42 per SF Office: $24.03 per SF Integrated PDR/small enterprise: $18.89 per SF Hotel: $17.99 per SF R&D: $16.01 per SF
Dublin	Industrial, Office, R&D, Retail, Services & Accommodations	Industrial: $.048 per SF Office: $1.24 per SF R&D: $0.81 per SF Retail: $1.00 per SF Services & Acc.: $0.42 per SF * Buildings less than 20,000 SF are exempt.
Pleasanton	All commercial office or industrial development projects	$2.87 per SF Adjusted annually based on CPI
Alameda	Retail, Office, Warehousing, Manufacturing, Hotel//Motel	Retail: $2.24 per SF Office: $4.42 per SF Warehouse & Manufacturing: $0.77 per SF Hotel/Motel: $1,108 per room/suite May be adjusted annually based on CPI
Napa	Office, Hotel, Retail, Industrial (Industrial, Warehouse, Wine Production)	Office: $1.00 per SF Hotel: $3.00 per SF Retail: $0.80 per SF Industrial: $0.50 per SF
San Rafael	Office or R&D, Retail, Restaurant, Personal Service, Manufacturing, Light Industrial, Warehouse, Hotel/Motel	5,000 SF or more to provide affordable housing units or pay a fee * $254,599 per unit Office & R&D: 0.03 units Retail, Restaurant or Personal Service: 0.0225 units Manufacturing or Light Industrial: 0.01625 units Warehouse: 0.00875 units Hotel/Motel: 0.0075 units

Figure VI-12. Summary of Existing Linkage Fees in Other Bay Area Cities (Continued)

City	Commercial Development Subject to Fees	Fee Amount
Petaluma	Commercial, Retail, Industrial	Commercial: $2.14 per SF Retail: $3.69 per SF Industrial: $2.21 per SF
Emeryville	Any development of non residential uses for which a discretionary permit or building permit is required	$4.00 per SF
Berkeley	Developments in non-residential and R-4 Zones, except in South Berkeley IX Target Area, over 7,500 SF	Office/Retail/Restaurant/Hotel/Lodging/R&D: $4.50 per SF Industrial/Manufacturing/Warehouse/Storage: $2.25 per sq. ft

Sources: The Non-Profit Housing Association of Northern California, Strategic Economics, and Vernazza Wolfe Associates, Inc, 2015.

Options for Establishing Alternatives to Payment of Fees

When San Bruno designs its ordinance governing commercial linkage fees, it can provide options that developers may choose instead of the payment of fees. For example, one option would be for the developer to provide affordable housing units on- or off-site or to provide a building site for affordable housing. This flexibility is provided to allow development of creative solutions that may provide more affordable housing than would be created by payment of fees. Regardless of whether a commercial developer elects to provide affordable housing or provide a building site, it is necessary to calculate how these alternatives would compare with any fees established by the City.

The first step in establishing options for a specific development project would be for the City to calculate the total fees that are owed by the new development. Then, establishing an alternative compliance method will depend on what is offered by the developer. For example, if the developer offers to provide land for an affordable housing site, a recent site appraisal generally suffices to place a value on a contribution of land. This land value can then be compared with the fees that the developer would normally pay. If, instead of paying a fee, the developer elects to provide affordable housing units, it is also possible to estimate the value of these units by multiplying the number of affordable units to be provided by a current affordability gap estimate per unit. The value of alternative compliance measures needs to be calculated at the time a developer requests one.

Benefit to San Bruno's Overall Affordable Housing Strategy

San Bruno currently has a Below Market Rate (BMR) Housing Program in place, but does not have a residential impact fee program or commercial linkage fee program. The revenues to be collected from a commercial linkage fee would provide an important source of local funding; however, fee revenues do not generally cover the entire funding gap encountered by sponsors of new affordable housing. Additional funding is almost always required.

Affordable housing is funded through the use of a variety of sources, including funding provided by San Bruno and San Mateo County, as well as the federal government, e.g., the HOME Program. In addition, equity is also provided directly by developers and indirectly raised through the allocation and sale of Low Income Housing Tax Credits. Finally, a portion of permanent financing comes from conventional loans obtained from private lending institutions.

San Bruno's Below Market Rate Housing Program requires new residential development of 10 units or more to restrict at least 15 percent of the total units for occupancy by very low, low, and moderate income households. While the City prefers that the units be constructed, the City Council may approve payment of an in lieu fee in some cases. The in-lieu fee is $38,700 per for-sale market rate unit. The developer must also pay for fractional units. Of the below market rate units built, two-thirds are to be affordable at the 120 percent AMI level and the remaining third are to be affordable at the 80 percent AMI level.

Commercial linkage fee revenues (and housing impact fee revenues, if adopted) would augment existing affordable housing funds. The existence of a local revenue source such as nexus fees can also make certain projects more competitive for outside funding. It should be noted that revenues from a commercial linkage fee need to be spent on housing that benefits the workforce since the funds stem from affordable housing impacts related to new employment.

Potential for Overlap Between Residential and Commercial Fees

The City is also undertaking a housing impact nexus study simultaneously, and may soon adopt a housing impact fee in a parallel process to the commercial linkage fee considered in this report. One issue that may arise if a city considers the adoption of both fees is whether there is any overlap between the two impact fees, resulting in potential "double-counting" of impacts.

The commercial linkage fee study examined jobs located in new commercial buildings including office/ R&D/ medical office buildings, retail/ restaurants/ services, and hotels. The nexus analysis then calculated the average wages of the workers associated with each commercial building to derive the annual income of the new worker households. The analysis determines the area median income (AMI) level of the new worker households to identify the number of worker households that would require affordable housing.

The housing impact fee nexus analysis examined households buying or renting new market rate units in the jurisdiction. The household expenditures by these new residents have an economic impact in the county, which can be linked to new jobs. The nexus analysis quantified the jobs linked to new household spending, and then calculated the wages of new workers and the household income of new worker households. Each worker household was then categorized by AMI level to determine the number of households that require affordable housing.

There may be a share of jobs counted in the commercial linkage fee analysis that are also included in the residential nexus analysis, particularly those in the service sector. Other types of jobs counted in the residential nexus analysis are unique to that analysis, and are not included in the commercial linkage fee analysis (for example, public sector employees). The commercial linkage fee analysis is limited to private sector office/ R&D/ medical office buildings, hotels, and retail/ restaurants/ services space.

There is potential that some jobs could be counted in both analyses, and that the two programs may overlap in mitigating the affordable housing demand from the same worker households. Each of the proposed fees is required to mitigate no more than 100 percent of the demand for affordable units by new worker households. In order to reduce the potential for overlap between the two programs, it is advisable to set both the commercial linkage fees and housing impact fees at below 100 percent of the nexus-based maximum. In this way, when combined, the programs would mitigate less than 100 percent of the impact even if there were overlap in the jobs counted in the two nexus analyses.

Administrative Issues

Similar to any impact fee, the fee should be adjusted annually for inflation and increases in construction costs. Adjustments are also needed due to possible changes in the housing affordability gap. However, the connection between new residential construction and growth in employment derived from employment densities is unlikely to change in the short run.

It is advisable that the City adjusts its commercial linkage fee annually by using an annual adjustment mechanism. An adjustment mechanism updates the fees to compensate for inflation in development costs. To simplify annual adjustments, it is recommended that the City select a cost index that is routinely published. While there is no index that tracks changes in San Bruno's development costs, including land, there are a few other options to consider.

- The first option is the Consumer Price Index (Shelter Only). The shelter component of the index covers costs for rent of primary residence, lodging away from home, owner's equivalent rent of primary residence, and household insurance. Of the total shelter index, costs associated with the owner's equivalent rent of primary residence constitute 70 percent of total costs entered into the index.

- A second option to adjust the fee for annual inflation is the construction cost index published in the Engineering News Record (ENR). This index is routinely used to update other types of impact fees. Cost index information for the San Francisco area, the closest geographical area to San Bruno, is available on an annual basis. While this index measures inflation in construction costs, it does not incorporate changes in land costs and public fees charged on new development.

While both indices measure changes in housing costs, both understate the magnitude of inflation for the reasons presented above. However, since these indices are readily available and relatively simple to use, it is recommended, that City uses these indices for annual adjustments. It is further recommended that the City base its annual adjustment mechanism on the higher of the two indices (CPI or ENR), using a five-year moving average as the inflation factor.

In addition to revising the fee annually for inflation, the City is encouraged to update the commercial linkage fee study every five years, or at the very least, update the housing affordability gap used in the basic model. The purpose of these updates is to insure that the fee is still based on a cost/revenue structure that remains applicable in San Bruno housing market. In this way, the fee will more accurately reflect any structural changes between affordable prices/rents and market rate sales prices/development costs.

VII. GLOSSARY OF TERMS AND ACRONYMS

GLOSSARY OF TERMS

Affordable Housing: Under state and federal statutes, housing is defined as affordable if housing costs do not exceed 30 to 35 percent of gross household income.

Annual Adjustment Mechanism: Due to inflation in housing construction costs, it is frequently necessary to adjust impact fees. An index, such as the Consumer Price Index (CPI) or a published construction cost index (for example, from the Engineering News Record) is used to revise housing fees to reflect inflation in housing construction costs.

Assisted Housing: Housing that has received public subsidies (such as low interest loans, density bonuses, direct financial assistance, etc.) from federal, state, or local housing programs in exchange for restrictions requiring a certain number of housing units to be affordable to very low, low, and moderate income households.

Boomerang Funds: Monies returned to the City by the State of California, after dissolution of redevelopment agencies in the State.

Consumer price index (**CPI**)**:** Index that measures changes in the price level of a market basket of consumer goods and services purchased by households.

Employment Densities: The amount of square feet per employee is calculated for each property use that is subject to a commercial development housing linkage fee. Employment densities are used to estimate the number of employees that will work in a new commercial development.

Household: The US Census Bureau defines a household as all persons living in a housing unit whether or not they are related. A single person living in an apartment as well as a family living in a house is considered a household. Households do not include individuals living in dormitories, prisons, convalescent homes, or other group quarters.

Household Income: The total income of all the persons living in a household. Household income is commonly grouped into income categories based upon household size and income, relative to the regional median family income.

Housing Affordability Gap: The affordability gap is defined as the difference between what a household can afford to spend on housing and the market rate cost of housing. Affordable rents and sales prices are defined as a percentage of gross household income, generally between 30 percent and 35 percent of income.

For renters, rental costs are assumed to include the contract rent as well as the cost of utilities, excluding cable and telephone service. The difference between these gross rents and affordable rents is the housing affordability gap for renters. This calculation assumes that 30% of income is paid for gross rent.

For owners, costs include mortgage payments, mortgage insurance, property taxes, property insurance, and homeowner association dues.[19] The difference between these housing expenses and affordable ownership costs is the housing affordability gap for owners. This calculation assumes that 35% of income is paid for housing costs.

Housing Subsidy: Housing subsidies refer to government assistance aimed at reducing housing sales prices or rents to more affordable levels.

Housing Unit: A housing unit can be a room or group of rooms used by one or more individuals living separately from others in the structure, with direct access to the outside or to a public hall and containing separate toilet and kitchen facilities.

Inclusionary Zoning: Inclusionary zoning, also known as inclusionary housing, refers to a planning ordinance that requires that a given percentage of new construction be affordable to households with very low, low, moderate, or workforce incomes.

In-Lieu Fee: A literal definition for an in-lieu fee for inclusionary units would be a fee adopted "in place of" providing affordable units. For the purposes of operating an inclusionary housing program, a public jurisdiction may adopt a fee option for developers that prefer paying fees over providing housing units on- or off-site. A fee study is frequently undertaken to establish the maximum fee that can be charged as an in-lieu fee. This fee study must show that there is a reasonable relationship between the fee and the cost of providing affordable housing.

Market-Rate Housing: Housing which is available on the open market without any public subsidy. The price for housing is determined by the market forces of supply and demand and varies by location.

Nexus Study: In order to adopt a residential housing impact fee or a commercial linkage fee, a nexus study is required. A nexus requires local agencies proposing a fee on a development project to identify the purpose of the fee, the use of the fee, and to determine that there is "a reasonable relationship between the fee's use and the type of development project on which the fee is imposed." A Nexus Study establishes and quantifies a causal link or "nexus" between new residential and commercial development and the need for additional housing affordable to new employees.

[19] Mortgage terms for first-time homebuyers typically allow down payment of five percent; these terms require private mortgage insurance.

Non-Residential Development Housing Impact Fee (or Linkage Fee): A fee or charge imposed on commercial developers to pay for a development's impact on the need for affordable housing. The fee is based on projected household incomes of new employees that will work in newly created space. The fee varies according to the type of property use.

Palmer Case: This civil suit affects rental housing only. It affirmed that the Costa Hawkins Rental Act, passed in 1995 by the California State Legislature, applies to inclusionary rental units. The implication of this finding is that cities or counties cannot require rental property owners to rent inclusionary units that become vacant at below market rents, unless the developer accepted financial assistance (including fee waivers) or received other incentives that lowered development costs.

Patterson Case: This civil suit affects fees for both rental and ownership housing. This decision addressed the way in which in-lieu housing fees were calculated in the City of Patterson, which had been somewhat arbitrary. The Court ruled, that, as long as an in-lieu fee is based on a formula related to the cost of developing inclusionary units, a locality can continue to operate an inclusionary program for for-sale housing that requires either units or payment of an in-lieu fee.

Property Prototypes: Property prototypes are used for residential and commercial developments in order to define housing impact fees. The prototypes generally represent new development projects built in a community and are used to estimate affordable housing impacts associated with new market rate commercial and residential developments. While the prototypes should be "typical" of what is built, for ease of mathematical computation, they are often expressed as larger developments in order to avoid awkward fractions.

Residential Housing Impact Fee: A fee imposed on residential development to pay for a development's impact on the need for affordable housing. The fee is based on projected incomes of new employees associated with the expansion of market rate developments. Two steps are needed to define the fees. The first step is the completion of a nexus study, and the second step entails selection of the actual fee amount, which can be below the amount justified by the fee study, but not above that amount.

RS Means: Data source of information for construction cost data.

DEFINITION OF ACRONYMS

AMI: Area Median Income

CBIA: California Building Industry Association

EDD: State of California Employment Development Department

FAR: Floor-area-ratio

FF&E: Furniture, Fixtures, and Equipment

GBA: Gross Building Area

HCD: Department of Housing and Community Development (State of California)

NAICS: North American Industry Classification System

NSF: Net Square Feet

QCEW: Quarterly Census of Employment and Wages

R&D: Research and development

SF: Square Feet