

DRAFT REPORT
Residential Impact Fee
Nexus Study

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prepared for:
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VWA

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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, the local jurisdictions in San Mateo 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. 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 draft report describes the methodology, data sources, and analytical steps required for the nexus analysis.

BACKGROUND

Redwood City is potentially interested in adopting an affordable housing impact fee on new residential development. The purpose of this fee would be to mitigate the impact of an increase in affordable housing demand from new worker households associated with new market-rate residential units. When a city or county adopts a development impact fee, 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 nexus study quantifies the connection between the development of market rate housing and the demand for affordable housing units.

This residential nexus study measures the income and spending generated by the new market rate households renting or buying new units in Redwood City. This new consumption is then translated into new induced job growth. These induced jobs will be at various wage rates; many will be at lower wages, for example in the retail and personal services sectors. Since low-wage households cannot reasonably afford to pay for market rate rental and for-sale housing in Redwood City, a housing impact fee can be justified to bridge the difference between what these new households can afford to pay and the cost of developing modest housing units to accommodate them.

REPORT ORGANIZATION

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

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 City, San Mateo County, South San Francisco, and Woodside.

IMPACT FEE IMPLEMENTATION OPTIONS

The maximum single-family detached impact fee per unit is \$88,139 (\$38 per square foot), the maximum townhouse fee per unit is \$80,543 (\$42 per square foot), the maximum condominium impact fee per unit is \$63,800 (\$46 per square foot), and the maximum apartment fee per unit is \$66,479 (\$67 per square foot). If Redwood City elects to adopt an impact fee on single-family detached housing, the recommended fee level is \$25 per square foot. For townhouses, if the City decides to adopt an impact fee, the recommended level is \$25 per square foot. In the case of a condominium housing impact fee, the City could consider fee levels ranging from \$15 to \$25 per square foot. If the City proceeds with an apartment residential impact fee, the City could consider fee levels ranging from \$15 to \$25 per square foot. These recommendations are based on the findings of the financial feasibility analysis, a comparison of fees in neighboring jurisdictions, and other factors as explained in the Policy Considerations section, below. The maximum and recommended fee levels are shown in Figure I-1.

Figure I-1. Recommended Housing Impact Fees by Residential Prototype

Prototype	Maximum Justified Fee per Unit	Maximum Justified Fee per SF	Recommended Fee per Unit	Recommended Fee per SF
Single-Family Detached	\$88,139	\$38	\$57,500	\$25
Townhouse with Tuck-Under Parking	\$80,543	\$42	\$47,500	\$25
Condominium with Underground Parking	\$63,800	\$46	\$21,000 - \$35,000	\$15 - \$25
Apartments with Podium Parking	\$66,479	\$67	\$14,955 - \$24,925	\$15 - \$25

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

NEXUS ANALYSIS RESULTS

This section describes the steps taken to calculate the nexus-based fee amount per housing unit. More detail on each step can be found in other sections of this report.

Prototypes

The first step in the nexus analysis is developing residential housing prototypes. The prototypes establish the types of market rate housing development that are occurring or are expected to occur in the city that could potentially be subject to the affordable housing impact fee. The fees calculated in this nexus study are only applicable to the housing prototypes defined in this analysis.

Based on historical development trends, market data, broker interviews, and input from city staff, the Consultant Team constructed four housing prototypes that represent the type of development that is likely to occur in Redwood City: for-sale single-family detached units, for-sale townhouses, for-sale condominiums and rental apartments. These development prototypes are not intended to represent specific development projects; rather, they are designed to illustrate the type of projects that are likely to be built in Redwood City in the near future. Figure I-2 provides information on the unit type and size, as well as estimated sales prices and average monthly rents for each prototype.

Figure I-2. Sales Prices and Rental Rates of Residential Prototypes

Prototype	Unit Type	Number of Units	Net Area (SF)	Unit Sales Price/ Monthly Rent	Price or Rent per SF
Single-Family Detached (For-Sale)					
Wood siding wood frame	3 BD/3BA	20	2,300	\$1,235,000	\$537
8 units per acre					
Attached garage					
Net Residential Area (Net SF)			46,000		
Townhouses (For-Sale)					
Type V wood frame	3 BD/3BA	100	1,900	\$776,000	\$408
12 units per acre					
Tuck-under podium parking					
Net Residential Area			190,000		
Condominiums (For-Sale)					
Type V wood frame	2 BD/2 BA	100	1,400	\$566,000	\$404
45 units per acre					
Subterranean parking					
Net Residential Area (Net SF)			140,000		
Apartments (Rental)					
Type V wood frame	Studio	4	600	\$2,500	\$4.17
40 units per acre	1 BD/1 to 2 BA	99	900	\$3,200	\$3.56
Podium parking	2 BD/1 to 2 BA	91	1,100	\$3,900	\$3.55
	3 BD/2 BA	6	1,300	\$4,000	\$3.08
Net Residential Area			199,400		
Average Net SF per Unit			997		

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

Household Income

The next step is to calculate the annual household incomes of the buyers and the renters occupying new units by using the sales prices and rents shown in Figure I-2. Threshold incomes needed to purchase or rent units are based on standards used in the housing industry.² Figures I-3, I-4, I-5 and I-6 show the estimated household income of buyers of single-family detached units, buyers of townhouse units, buyers of condominium units, and renters of apartment units, respectively. Household incomes are a key input to the IMPLAN3 economic impact analysis described in Section IV of this report.

² These standards are presented in Section III of this report.

Figure I-3. Estimated Annual Household Incomes of Buyers of Single-Family Detached Units

Single-Family Detached Unit Type	
3 BR/3 BA	
Number of Households	20
Sales Price	\$1,235,000
Household Income	\$219,110

Source: Applied Development Economics, Inc., 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

Figure I-4. Estimated Annual Household Incomes of Buyers of Townhouse Units

Townhouse Unit Type	
3 BR/3 BA	
Number of Households	100
Sales Price	\$776,000
Household Income	\$146,247

Source: Applied Development Economics, Inc., 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

Figure I-5. Estimated Annual Household Incomes of Buyers of Condominium Units

Condominium Unit Type	
2 BD/2 BA	
Number of Households	100
Sales Price	\$566,000
Household Income	\$115,847

Source: Applied Development Economics, Inc., 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

Figure I-6. Estimated Annual Household Incomes of Renters of Apartment Units

	Apartment Unit Type			
	Studio	1 BR/ 1 to 2 BA	2 BR/ 1 to 2 BA	3 BR/ 2 BA
Number of Households	4	99	91	6
Monthly Rent	\$2,500	\$3,200	\$3,900	\$4,000
Household Income	\$100,000	\$128,000	\$156,000	\$160,000

Source: Applied Development Economics, Inc., 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

Economic Impact Analysis (IMPLAN)

The next step is to determine employment and wage impacts of each prototype based on the incomes of the occupants of new housing units. The buyers and renters of the new market-rate single-family detached units, townhouses, condominiums, and apartments create new spending in the local economy. These new expenditures can be linked to new jobs, many of which pay low wages. The job and wage impacts related to new market-rate housing units are measured using IMPLAN3, an economic impact analysis tool. An economics consulting firm, Applied Development Economics (ADE) undertook the IMPLAN3 analysis.

The results of the IMPLAN analysis indicate that many of the induced jobs generated within San Mateo County are in low-wage sectors like retail and food services (restaurants). However, a

significant proportion of induced jobs are also in higher-paying resident-serving categories such as health care and government.

Demand for Affordable Housing

Recognizing that many households have more than one wage-earner, the next step is to calculate the number of worker households by dividing the total number of new workers by the average number of wage-earners per household in Redwood City. However, not all of the worker households require affordable housing. To estimate the affordable housing demand, the average annual household income of worker households is sorted into income categories that are consistent with area median income (AMI) levels defined for San Mateo County and is specific to the average household size in the jurisdiction. Figure I-7 indicates that of the 9.6 new worker households associated with a single-family detached development, there are 7.7 households that need affordable housing. The comparable figures for townhouse, condominium and apartment developments are 34.8, 27.6 and 57.6 households. In order to directly compare the impact of market rate residential development by prototype, Figure I-8 displays the number of worker households, at various income levels, associated with a 100-unit development project. As shown, a 100-unit single-family detached subdivision, which has the highest sales values of all the prototypes, is linked to 47.9 worker households. Townhouse, condominium, and apartment developments of the same size are linked to 43.4 worker households, 34.3 worker households, and 36.0 worker households, respectively.

Figure I-7. New Worker Households by Income Group for Single-Family Detached, Townhouse, Condominium and Apartment Prototypes

Worker Households by Income Category	Single-Family Detached	Townhouse	Condominium	Apartment
Households Requiring Affordable Housing				
Very Low Income (<=50% AMI)	2.4	11.6	9.2	18.8
Low Income (51-80% AMI)	2.5	11.1	8.8	18.4
Moderate Income (81-120% AMI)	2.8	12.1	9.6	20.4
Subtotal Very Low, Low, Moderate Income	7.7	34.8	27.6	57.6
Above Moderate Income Households	1.9	8.6	6.8	14.3
Total All Worker Households	9.6	43.4	34.3	71.9

Source: Applied Development Economics, Inc., 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

Figure I-8. Number of Worker Households Associated with 100-Unit Prototypes, by Income Level

Worker Households by Income Category	Single-Family Detached	Townhouse	Condominium	Apartment
Households Requiring Affordable Housing				
Very Low Income (<=50% AMI)	12.2	11.6	9.2	9.4
Low Income (51-80% AMI)	12.3	11.1	8.8	9.2
Moderate Income (81-120% AMI)	13.9	12.1	9.6	10.2
Subtotal Very Low, Low, Moderate Income	38.4	34.8	27.6	28.8
Above Moderate Income Households	9.6	8.6	6.8	7.1
Total All Worker Households	47.9	43.4	34.3	36.0

Source: Applied Development Economics, Inc., 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

Affordability Gap

The next step is to quantify the total gap between what very low, low, and moderate income households can afford to pay and the cost of building new, modest rental and for-sale housing units. This housing “affordability gap” number is then multiplied by the number of income-qualified households in each income category for single-family detached, condominium and apartment developments separately in order to estimate the total housing affordability gap for each prototype. Figures I-9 through I-12 present these totals for single-family detached, townhouses, condominiums and apartments.

Figure I-9. Total Affordability Gap for Single-Family Detached

Income Level	Households Requiring Affordable Housing	Average Affordability Gap per Household	Affordability Gap for All Households
Very Low-Income (<50% AMI)	2.4	\$280,783	\$684,201
Low-Income (50-80% AMI)	2.5	\$240,477	\$590,963
Moderate-Income (80-120% AMI)	2.8	\$175,558	\$487,615
Total	7.7		\$1,762,779

Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2014.

Figure I-10. Total Affordability Gap for Townhouses

Income Level	Households Requiring Affordable Housing	Average Affordability Gap per Household	Affordability Gap for All Households
Very Low-Income (<50% AMI)	11.6	\$280,783	\$3,260,514
Low-Income (50-80% AMI)	11.1	\$240,477	\$2,670,283
Moderate-Income (80-120% AMI)	12.1	\$175,558	\$2,123,468
Total	34.8		\$8,054,265

Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2014.

Figure I-11. Total Affordability Gap for Condominiums

Income Level	Households Requiring Affordable Housing	Average Affordability Gap per Household	Affordability Gap for All Households
Very Low-Income (<50% AMI)	9.2	\$280,783	\$2,582,749
Low-Income (50-80% AMI)	8.8	\$240,477	\$2,115,210
Moderate-Income (80-120% AMI)	9.6	\$175,558	\$1,682,061
Total	27.6		\$6,380,021

Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2014.

Figure I-12. Total Affordability Gap for Apartments

Income Level	Households Requiring Affordable Housing	Average Affordability Gap per Household	Affordability Gap for All Households
Very Low-Income (<50% AMI)	18.81	\$280,783	\$5,280,680
Low-Income (50-80% AMI)	18.42	\$240,477	\$4,430,649
Moderate-Income (80-120% AMI)	20.42	\$175,558	\$3,584,454
Total	57.65		\$13,295,783

Sources: Vernazza Wolfe Associates, Inc.; Strategic Economics, 2014.

Maximum Nexus-Based Fee

The final step in calculating the maximum housing impact fee by prototype is to divide the total gap at each income level by the number of units in each prototype (Figure I-13). This maximum fee amount represents the ceiling on the fee that could be charged to mitigate affordable housing impacts from new residential development.

The maximum single-family detached impact fee per unit is \$88,139, the maximum townhouse fee per unit is \$80,543, the maximum condominium impact fee per unit is \$63,800, and the maximum apartment fee per unit is \$66,479. The fees are also calculated on a per-square-foot basis by dividing the unit fee by the average size of the unit. **On a per-square-foot basis, the maximum impact fee is \$38 for single-family detached, \$42 for townhouses, \$46 for condominiums and \$67 for apartments.**

Figure I-13. Maximum Housing Impact Fee by Prototype

Prototype	Single-Family Detached	Townhouse (Tuck-Under Parking)	Condominiums (Underground Parking)	Apartments (Podium Parking)
Total Number of Units	20	100	100	200
Average Unit Size	2,300	1,900	1,400	997
Total Affordability Gap	\$1,762,779	\$8,054,265	\$6,380,021	\$13,295,783
Maximum Fee per Unit	\$88,139	\$80,543	\$63,800	\$66,479
Maximum Fee per SF	\$38	\$42	\$46	\$67

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

POLICY CONSIDERATIONS

There are a number of policy considerations that can be taken into account when jurisdictions consider adopting an affordable housing impact fee on new market-rate development. These may include factors such as: the likely financial impact of the proposed housing impact fees on development; the additional cost of the new fees on the existing city fee structure; a comparison of the fee scenarios to existing housing impact 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 commercial linkage fee. This section provides a discussion of each of these policy questions for Redwood City.

Comparison to Neighboring Jurisdictions – A comparison of the nexus fee scenarios to current housing impact fees charged in nearby cities is an important element of the policy analysis. This comparison is challenging, because most cities in San Mateo County are participating in this multi-city nexus study, and may decide to adopt new fees or update existing fees. In San Mateo and Santa Clara Counties, the single-family detached fees are set between \$15 and \$24 in most cities; the impact fee for townhouses is generally between \$17 and \$23 per square foot (Figure I-14). The recommended single-family and townhouse fee in Redwood City of \$25 per square foot would be at the higher end of existing fees in the region. For condominiums, the recommended fee range of \$15 to \$25 per square foot would be comparable to the adopted housing impact fees in Cupertino, Daly City, East Palo Alto, and San Carlos. For apartments, the recommended fee levels of between \$15 and \$25 per square foot are also similar to the existing housing impact fees in neighboring communities.

Figure I-14. Housing Impact Fees in Neighboring Cities

City	Single-Family Detached	Townhouses	Condominiums	Apartments
Cupertino	\$15	\$16.50	\$20	\$25
Daly City	\$14	\$18	\$22	\$25
East Palo Alto	\$24	\$23	\$23-\$44	\$23
Mountain View	N/A	N/A	N/A	\$15
San Carlos	\$24-44	\$21-\$42	\$21-\$42	\$24-\$44
San Jose	N/A	N/A	N/A	\$17
Sunnyvale	N/A	N/A	N/A	\$17

Sources: Baird + Driskell; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Financial Feasibility – Financial feasibility is just one of several factors to consider in making a decision regarding a potential nexus fee. In order to provide Redwood City with guidance on how proposed fees could impact development decisions, the Consultant Team conducted a pro forma analysis that tested the financial impact of the maximum and reduced fee scenarios for each prototype.

- Single-Family Detached - According to the results of the pro forma analysis, the maximum and reduced fee levels for single-family detached prototype are financially feasible.
- Townhouse – The maximum fee and reduced fee levels for the townhouse prototype are financially feasible to implement.
- Apartment - While the maximum nexus fee is not supportable for the apartment prototype, a reduced fee level of \$25 per square foot, as well as lower fee scenarios, are financially feasible.
- Condominium - A residential impact fee of between \$15 and \$25 per square foot could be financially feasible with price increases. The condominium prototype studied in this nexus report is based on sales from 2012-2014, which showed an average unit sales price of \$566,000 (\$400 per square foot). However, the real estate market in San Mateo County has shifted significantly since 2014; the average price of condominiums in San Mateo County increased by 13.6 percent in the last year alone.³ In nearby cities, the average sales price of newly built condominium units is \$1.1 million, or \$739 per square foot.⁴ In 2015, it is reasonable to assume that a new condominium project in Redwood City could achieve an average sales price of \$500 per square foot, equivalent to \$700,000 per unit. Based on this estimated price, a residential impact fee of \$25 per square foot (\$35,000 per unit) is financially feasible (Figure I-15).

Figure I-15: Feasible Residential Impact Fees on Condominiums with 2014 and 2015 Sales Prices

Condominium Sales Price Assumption	Unit Sales Price	Price per SF	Feasible Impact Fee per SF
2014 Sales Price	\$566,000	\$404	\$0
2015 Sales Price	\$700,000	\$500	\$25

Sources: Polaris Pacific, 2015; Strategic Economics, 2015.

³ San Mateo County Housing Indicators, June 30, 2015.

<http://housing.smcgov.org/sites/housing.smcgov.org/files/June%202015%20Indicators.pdf>

⁴ Polaris Pacific, 2015. Based on recent development projects in Mountain View, Sunnyvale, and Los Altos,

Total Development Costs – Currently, the total development costs (including building and onsite improvements, parking, indirect costs, financing costs, and developer profit) are \$224 per net square foot for the single-family detached prototype, \$220 per net square foot for the townhouse prototype, \$368 per net square foot for the condominium prototype and \$360 per net square foot for the apartment prototype. When land costs are added to the project’s development costs, costs increase to between \$259 and \$344 per net square foot for the single-family detached prototype (depending on the land price of the site), between \$255 and \$340 per net square foot for the townhouse prototype, between \$518 and \$618 per net square foot for the condominium prototype, and between \$510 and \$610 per net square foot for the apartment prototype. The maximum housing impact fees represent 14.6 percent, 16.2 percent, 11.0 percent and 15.6 percent of total development cost of the single-family detached, townhouse, condominium and apartment prototypes, respectively (Figure I-16). A fee of \$25 per square foot for represents 10.0 percent of total development costs for single-family detached units, 10.2 percent for townhouses, 6.4 percent for condominiums, and 6.5 percent for apartments.

Comparison to Existing City Fees –Redwood City has existing city permits and fees on new development that would increase with the adoption of a new housing impact fee. The City may wish to consider the amount that total city fees would increase with the addition of a new housing impact fee. Based on the current schedule of fees in Redwood City, existing fees (excluding the nexus fees) for the residential prototypes are estimated to be \$15 per square foot for single-family detached units (\$33,496 per unit), \$14 per square foot for townhouses (\$26,152 per unit), \$17 per square foot for condominiums (\$24,016 per unit) and \$21 per square foot for rental apartments (\$20,508 per unit).⁵ The maximum residential impact fee would more than triple existing city fees on these prototypes, as shown in Figure I-17. A residential impact fee of \$25 per square foot increases the total city permits and fees to \$40 per square foot for single-family detached units, \$39 per square foot for townhouses, \$42 per square foot for condominiums, and \$46 per square foot for apartments.

⁵ The fee estimates presented above represent the best approximations available from Redwood City.

Figure I-16: Housing Impact Fee Scenarios as Percent of Total Development Costs

Residential Impact Fee Scenario	Single-Family Detached		Townhouses		Condominiums		Apartments	
	Fee Amount	Fee as % of TDC	Fee Amount	Fee as % of TDC	Fee Amount	Fee as % of TDC	Fee Amount	Fee as % of TDC
No Fee	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%
Scenario 1: Max Fee	\$38	14.59%	\$42	16.19%	\$46	11.01%	\$67	15.64%
Scenario 2	\$25	10.02%	\$25	10.23%	\$25	6.36%	\$25	6.50%
Scenario 3	\$20	8.18%	\$20	8.35%	\$10	2.64%	\$15	4.00%
Scenario 4	\$10	4.27%	\$10	4.36%	\$5	1.34%	\$5	1.37%

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

Figure I-17: Total City Fees and Permits per Square Foot

Fee Scenario	Single-Family Detached		Single-Family Attached		Condominiums		Apartments	
	Residential Impact Fee	Total Permits and Fees	Residential Impact Fee	Total Permits and Fees	Residential Impact Fee	Total Permits and Fees	Residential Impact Fee	Total Permits and Fees
Existing Permits and Fees	\$0	\$15	\$0	\$14	\$0	\$17	\$0	\$21
Scenario 1 (Maximum Fee)	\$38	\$53	\$42	\$56	\$46	\$63	\$67	\$87
Scenario 2	\$25	\$40	\$25	\$39	\$25	\$42	\$25	\$46
Scenario 3	\$20	\$35	\$20	\$34	\$10	\$27	\$15	\$36
Scenario 4	\$10	\$25	\$10	\$24	\$5	\$22	\$5	\$26

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

II. INTRODUCTION AND METHODOLOGY

Redwood City is considering a housing impact fee on new residential development. The purpose of this fee would be to mitigate the impact of an increase in demand for affordable housing due to employment growth associated with potential new residential development. When a city or county adopts a development impact fee, it must establish a reasonable relationship or connection between the development project and the impacts for which the fee is charged. Studies undertaken to demonstrate this connection are called nexus studies. Nexus studies for school impact fees, traffic mitigation fees, and park fees are common. For housing impact fees, a methodology exists that establishes a connection between the development of market rate housing and the need to expand the supply of affordable housing. This study is based on this methodology.

The approach for this nexus study is to estimate the number of new workers that will be required to provide goods and services to the market rate households that are occupying new units in Redwood City. Although growth in employment will provide jobs at various wage rates, many of the new jobs will be at low-wage rates in retail trade and services, consistent with job patterns in the County. Since low-wage households cannot reasonably afford to pay for market rate rental and for-sale housing in Redwood City, a housing impact fee can bridge the difference between what these new households can afford to pay and the costs of developing new housing units for them.

New market rate housing units in Redwood City create a need for low-wage employees to provide goods and services to residents of the new units. If new market rate housing were not built, there would not be an increase in employment nor the accompanying demand for affordable housing from these new workers. Because housing impact fees are directed related to employment growth, the revenues collected from these fees needs to be spent on workforce housing and not on housing for households that do not participate in the labor force, such as retired seniors, unemployed homeless, and full-time student populations.

BACKGROUND

Cities and counties in California have operated inclusionary zoning programs to increase the supply of affordable housing since the 1970s. An inclusionary program requires that builders of new residential projects provide a specified percentage of units, either on-site or off-site, at affordable prices. Some programs have also allowed developers the option of paying fees “in lieu” of providing inclusionary units.

Inclusionary zoning policies have usually been established based on the police power of cities and counties to enact legislation benefitting public health, safety, and welfare. In its recent decision on *California Building Industry Ass’n v. City of San Jose*, the California Supreme Court upheld this power of cities, finding that the objective of increasing affordable housing supply in economically diverse developments was “unquestionably” permitted by the U.S. Constitution.

However, in 2009, in *Palmer/Sixth Street Properties, L.P. v. City of Los Angeles*, the Court of Appeal held that inclusionary *rental* requirements violate the Costa Hawkins Rental Housing Act, which allows landlords to determine the rents of all new units. Affordable rental housing may still be required if a developer agrees by contract to do so, in exchange for financial assistance or regulatory incentives. However, in the absence of these incentives, restricted rents cannot be *required* of a developer. Consequently, communities have completed nexus studies and imposed rental housing impact fees to mitigate the impact of market-rate rental housing on the need for affordable housing. Although a nexus analysis is not required to adopt inclusionary ordinances and in-lieu fees on for-sale housing, conducting a nexus study provides additional support for these requirements.

The nexus analyses presented in this study are designed to define an upper limit for a housing impact fee to be charged on new rental and for-sale housing to mitigate impacts on affordable housing needs. The maximum fee is not necessarily the recommended fee. Subsequent sections of this report address additional policy considerations to consider when adopting housing impact fees.

THE NEXUS CONCEPT

In a balanced housing market, the development of new market rate housing results in population growth. Residents purchasing and renting these new units now spend money in the city. For example, they go out to eat in local restaurants, shop for food and clothing in local stores, and patronize other local businesses, such as hair salons, dry cleaners, and dental offices. This local spending results in the need to hire new workers to respond to the increased demand for goods and services. A nexus study establishes the connection between the households that purchase new housing units (or rent newly constructed rental units) and the number of new workers that will be hired by local businesses to serve the needs of new residents.

Growth in employment will provide jobs at various wage rates. While some jobs will pay salaries that will allow new workers to rent or purchase market rate housing, many new jobs will also be at lower wages. Since low-wage households cannot reasonably afford to pay for market rate rental and for-sale housing in Redwood City, a housing impact fee addresses the demand for affordable housing.

METHODOLOGY

The first step of the nexus analysis is to estimate the market prices or rents of new housing units. Based on these prices or rents, gross household incomes of buyers and renters are calculated. The gross household incomes of buyers and renters are then translated into direct economic impacts (new spending on retail goods and personal services), and induced impacts (new jobs and wage income) using the IMPLAN3 model. The IMPLAN3 analysis provides information on likely incomes of new workers. These incomes can then be used to estimate the demand for affordable housing from new worker households, and the costs of providing these affordable units.

Each step of the nexus analysis is described in greater detail below.

Step 1. Define the residential prototypes that represent new market rate housing development.

Based on a review of recent development trends, pipeline projects, and market data for the city and county, the residential prototypes are defined. The prototypes represent typical new market-rate development projects likely to occur in the city. The prototype definitions include information on the building characteristics, net residential area, unit mix and sizes, and sales prices or rents.

Step 2. Estimate household income of buyers and renters of new market rate units.

The average gross household income required to purchase or rent new market rate units is estimated based on the market value or rents of new units. For ownership units, the calculation assumes typical mortgage terms and assumes that buyers spend 35 percent of their gross incomes on housing costs. For rental units, it is assumed that renter households spend 30 percent of their gross incomes on housing.

Step 3. Estimate economic impacts of new buyers and renters using IMPLAN3.

The IMPLAN3 model uses Bureau of Labor Statistics Consumer Expenditure Survey data to model the spending patterns of different income groups. The model estimates the increase in expenditures from new households, the number of new (induced) workers related to new households, and the occupations and wages of these new workers.

Step 4. Estimate the number of new worker households and annual household incomes.

The number of new induced workers from the IMPLAN3 analysis is divided by the average number of workers per household in the city (defined by the U.S. Census Bureau) to calculate the total number of worker households associated with each housing prototype. The average worker's wage calculated in the IMPLAN3 analysis is multiplied by the number of workers per household in the city to derive gross household income. This step assumes that the all wage-earners in a household have the same income.

Step 5. Estimate the demand for affordable housing from new worker households.

Based on the calculation of new worker household income, the worker households are categorized by target income group (very low income, low income, moderate income, and above moderate income). Worker households with above-moderate incomes are removed from the nexus analysis, because they would not require affordable housing.

Step 6. 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 7. Estimate nexus-based fees for each prototype.

The number of new households requiring affordable housing is multiplied by the average affordability gap per household to estimate the total affordability gap for each prototype. The maximum per-unit and per-square foot fees are then calculated by dividing the aggregate affordability gap by the number of units or net residential area in each prototype.

III. RESIDENTIAL PROTOTYPES

The first step in the nexus analysis is developing residential housing prototypes. The residential prototypes establish the types of residential development that are occurring or are expected to occur in the city and could potentially be subject to the affordable housing impact fee. The housing prototypes are not intended to represent specific development projects; rather, they are designed to illustrate the type of projects that are likely to be built in Redwood City in the near future. The fees calculated in this nexus study are only applicable to the housing prototypes defined in this analysis.

Based on estimated sales prices and rents of new market-rate units, the household incomes of buyers and renters of new units are estimated. This section of the report describes the methodology for establishing the prototypes and calculating the household incomes of buyers and renters of new market-rate units in Redwood City. The estimated household incomes are then used as inputs to the IMPLAN3 analysis to estimate the employment impacts of the market-rate households, which is described in more detail in Section IV of this report.

RECENT HOUSING DEVELOPMENT TRENDS

In order to ensure that the prototypes accurately reflect current market conditions, the Consultant Team analyzed recently built market rate housing development projects in Redwood City. Redwood City has recently attracted new single-family detached, townhouse, condominium and apartment development.

Figure III-1 summarizes the market data for recently built single-family detached units in Redwood City. The table shows that units sold, on average, for approximately \$1.2 million, and had an average size of about 2,300 square feet. Figure III-2 presents the market data for townhouses recently built and sold in Redwood City. These units had, on average, a size of 1,900 square feet, and a price of approximately \$776,000. Redwood City's most recent condominium project is presented in Figure III-3: units had an average size of 1,400 square feet and an average price of \$566,000. Market data on Redwood City's apartment market is presented in Figure III-4. As shown, average asking monthly rents are approximately \$2,500 for studios, \$3,200 for one bedroom units, \$3,900 for two-bedroom units, and \$3,900 for three-bedroom units.

RESIDENTIAL PROTOTYPES

Based on historical development trends, market data, broker interviews, and input from city staff, the Consultant Team constructed four housing prototypes that represent the type of development that is likely to occur in Redwood City. These development prototypes are not intended to represent specific development projects; rather, they are designed to illustrate the type of projects that are likely to be built in Redwood City in the near future. The prototypes, as shown in Figure III-5, provide information on the building type, number of units, average size by unit type, and average monthly rents or sales prices by unit type.

For-Sale Single-Family Detached Units

The for-sale single-family detached prototype is a wood siding wood-frame building with an attached garage and a net residential area of 46,000 square feet. The estimated density is 8 units per acre. This building type is representative of recently built single-family detached units in Redwood City. These are three bedroom and three bathroom units of a size per unit of 2,300 square feet. The estimated unit sale price is \$1,235,000.

For-Sale Townhouses with Tuck-Under Podium Parking

The for-sale townhouse prototype is a Type V wood-frame building with a tuck-under podium parking and a net residential area of 190,000 square feet. The estimated density is 12 units per acre. This type of building is typical for new townhouses in Redwood City. These are three bedroom units with an average size of 1,900 square feet and a price of \$776,000.

For-Sale Condominiums with Underground Parking

The for-sale condominium prototype is a Type V wood-frame building with an underground parking garage and net residential area of 140,000 square feet. The estimated average density is 45 units per acre. This building type is representative of recently built condominium projects in Redwood City. Units have two bedrooms and an average size of 1,400 square feet. The average estimated price of newly built condominiums is \$566,000.

Rental Apartments

The rental apartment prototype is a Type V wood-frame building with podium parking and net residential area of 199,400 square feet. The estimated density is 40 units per acre. This is a typical building type for new market-rate apartment development in Redwood City. The apartment unit mix consists of mostly one- and two-bedroom units, with a smaller number of studios and three-bedroom units. Estimated monthly rents range from \$2,500 to \$4,000 per unit, depending on unit size and number of bedrooms.

Figure III-1. Sales of Recently Built Single-Family Detached Units in Redwood City*

Address	City	Year Built	Square Feet	Bedrooms	Baths	Sale Date	Sale Amount
58 Avondale Ave	Redwood City	2011	2,712	4	3.5	30-Apr-13	\$1,650,000
1855 Barton St	Redwood City	2011	3,293	4	5.5	6-Jan-12	\$1,900,000
631 Clinton St	Redwood City	2012	1,560	3	2	10-Apr-13	\$798,000
630 Vera Ave	Redwood City	2012	1,750	3	2	1-Nov-12	\$765,000
602 Nevada St	Redwood City	2012	2,020	3	2.5	8-Mar-13	\$1,060,000
35 Ludina Way	Redwood City	2012	2,050	3	3.5	23-Aug-13	\$980,000
1593 Kentfield Ave	Redwood City	2013	1,589	3	2.5	15-May-13	\$915,000
1581 Kentfield Ave #3	Redwood City	2013	1,584	3	2.5	17-Jul-13	\$450,000
3 Ludina Way	Redwood City	2013	1,589	3	2.5	17-Jul-13	\$450,000
17 Ludina Way	Redwood City	2013	1,584	3	2.5	25-Jan-13	\$955,000
219 Cerrito Ave	Redwood City	2013	2,653	3	3.5	14-Jun-13	\$1,710,000
726 Bayview Way	Redwood City	2013	3,755	4	3.5	15-Jul-13	\$2,100,000
20 Rathgar Ct	Redwood City	2013	4,061	5	4.5	11-Jun-13	\$2,320,000
Average			2,323	3.4	3.1		\$1,234,846

*Includes transactions that occurred between 2011 and April 2014, of single-family homes built in or after 2011.

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

Figure III-2. Sales of Recently Built Townhouses in Redwood City*

Address	City	Complex	Bedrooms	Baths	Square Feet	Year Built	Year Sold	Sale Amount
208 Demi Ln	Redwood City	Preserve Townhomes	2	2.5	1,473	2011	2011	\$757,000
208 Demi Ln	Redwood City	Preserve Townhomes	2	2.5	1,473	2011	2011	\$647,500
208 Demi Ln	Redwood City	Preserve Townhomes	2	2.5	1,473	2011	2011	\$875,000
208 Demi Ln	Redwood City	Preserve Townhomes	2	2.5	1,473	2011	2011	\$877,000
208 Demi Ln	Redwood City	Preserve Townhomes	2	2.5	1,473	2011	2012	\$749,000
105 Bennie Dr	Redwood City	Preserve Townhomes	3	2.5	1,812	2011	2011	\$727,000
105 Bennie Dr	Redwood City	Preserve Townhomes	3	2.5	1,812	2011	2011	\$825,500
105 Bennie Dr	Redwood City	Preserve Townhomes	3	2.5	1,812	2011	2011	\$750,000
203 Hartstene Dr	Redwood City		3	2.5	1,812	2011	2013	\$1,013,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$735,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$647,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$750,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$790,000

Address	City	Complex	Bedrooms	Baths	Square Feet	Year Built	Year Sold	Sale Amount
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$855,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$664,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$747,500
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$759,500
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$737,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$779,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$624,500
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$645,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$769,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$745,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$712,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$689,500
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$780,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$744,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$769,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$895,500
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$799,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$808,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$785,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$718,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$815,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2011	\$860,000
217 Keech Dr	Redwood City	Preserve Townhomes	3	2.5	1,924	2011	2013	\$1,005,000
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$884,500
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$771,000
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$869,000
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$730,000
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$750,000
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$809,500
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$674,500
302 Bethel Ln	Redwood City	Preserve Townhomes	3	3.5	2,198	2011	2011	\$794,500
Average			2.9	2.68	1,912	2011		\$775,716

*Includes transactions that occurred between 2011 and April 2013, of townhouses built in or after 2011.

Sources: DataQuick, mid-2013; Strategic Economics & Vernazza Wolfe Associates, Inc., 2014.

Figure III-3. Sales of Recently Built Condominium Units in Redwood City*

Project	Address	City	Year Built	Bdrms	Number of Units	Avg. Size (SF)	Avg. Price	Year Sold
One Marina	650 Bair Island Rd.	Redwood City	2012	2	73	1,406	\$566,204	Feb 2012– May 2014

*Includes all closed condominium sales of recent development projects as reported by Polaris Pacific, May 2014.

Sources: Polaris Pacific, May 2014; Strategic Economics & Vernazza Wolfe Associates, Inc., 2014.

Figure III-4. Asking Rents of Recently Built Apartment Units in Redwood City*

Project	Address	City	Year Built	Bedrooms	Baths	Units	Avg. Size	Avg. Rent
201 Marshall	201 Marshall St	Redwood City	2014	0	1	10	634	\$2,495
201 Marshall	201 Marshall St	Redwood City	2014	1	1 to 2	64	1,030	\$3,378
201 Marshall	201 Marshall St	Redwood City	2014	2	1 to 2	39	1,129	\$4,260
Radius	640 Veteran's Dr	Redwood City	2014	1	1	150	840	\$3,100
Radius	640 Veteran's Dr	Redwood City	2014	2	1 to 2	100	1,132	\$3,845
Radius	640 Veteran's Dr	Redwood City	2014	3	2	14	1,289	\$4,093
Township Apartments	333 Main St	Redwood City	2013	1	1	41	725	\$3,063
Township Apartments	333 Main St	Redwood City	2013	2	2	88	1,080	\$3,600
Township Apartments	333 Main St	Redwood City	2013	3	2	3	1,224	\$3,300
Woodside	885 Woodside Rd	Redwood City	2011	1	1	14	840	\$3,365
Woodside	885 Woodside Rd	Redwood City	2011	2	2	21	1,424	\$5,290

Percent of Total or

Weighted Average by Unit Type

Studio						1.80%	634	\$2,495
1 bedroom						49%	868	\$3,174
2 bedroom						46%	1,138	\$3,945
3 bedroom						3.10%	1,277	\$3,953

*Apartment asking rents from summer 2014, for apartment units built since 2011.

Sources: CoStar, May and June 2014; Leasing Websites, Summer 2014; Strategic Economics & Vernazza Wolfe Associates, Inc., 2014.

Figure III-5. Redwood City Prototypes

Prototype	Unit Type	Number of Units	Net Area (SF)	Unit Sales Price/ Monthly Rent	Price or Rent per SF
Single-Family Detached (For-Sale)					
Wood siding wood frame	3 BD/3BA	20	2,300	\$1,235,000	\$537
8 units per acre					
Attached garage					
Net Residential Area (Net SF)			46,000		
Townhouse (For-Sale)					
Type V wood frame	3 BD/3BA	100	1,900	\$776,000	\$408
12 units per acre					
Tuck-under podium parking					
Net Residential Area			190,000		
Condominiums (For-Sale)					
Type V wood frame	2 BD/2 BA	100	1,400	\$566,000	\$404
45 units per acre					
Subterranean parking					
Net Residential Area (Net SF)			140,000		
Apartments (Rental)					
Type V wood frame	Studio	4	600	\$2,500	\$4.17
40 units per acre	1 BD/1 to 2 BA	99	900	\$3,200	\$3.56
Podium parking	2 BD/1 to 2 BA	91	1,100	\$3,900	\$3.55
	3 BD/2 BA	6	1,300	\$4,000	\$3.08
Net Residential Area			199,400		
Average Net SF per Unit			997		

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

HOUSEHOLD INCOMES OF BUYERS AND RENTERS

Using the sales prices and rents shown in Figure III-5, the next step is to calculate the annual household incomes of the buyers of new for-sale single-family detached units, townhouses, and condominiums, and the renters occupying new apartment units. The household income is a key input to the IMPLAN3 economic impact analysis described in Section IV of this report.

Incomes of Single-Family Detached Units Buyers

To calculate the household income of buyers of new single-family detached units, the analysis used typical mortgage terms for San Mateo County: 20 percent down payment, 30 year fixed rate mortgage, and 4.35 percent interest rate. Redwood City's property tax rate was estimated from recent budget documents. Total housing costs, including monthly payments for mortgage payments, property taxes and insurance, are assumed to be 35 percent of available monthly income. The result of the income estimates for households buying new single-family detached units is shown in Figure III-6. As shown in the calculations, for single-family detached units, household incomes are estimated to be well over \$150,000.

Income of Buyers of Townhouses with Tuck-Under Podium Parking

For buyers of townhouses, the analysis applied the same typical mortgage terms as those used for single-family detached units, and Redwood City's property tax rates. Homeowner association (HOA) fees were based on a review of HOA fees at similar new townhouse developments in San Mateo County. As in the previous case, households are expected to spend 35 percent of available monthly income on total housing costs, including monthly payments for mortgage payments, property taxes, insurance and HOA fees. Figure III-7 shows the result of the income estimates for households buying

new townhouse units. As shown in the calculations, for townhouses, household incomes are estimated to be just under \$150,000.

Incomes of Buyers of Condominiums with Underground Parking

To calculate the household income of buyers of new condominium units, the analysis applied mortgage terms typical for San Mateo County: 20 percent down payment, 30 year fixed rate mortgage, and 4.35 percent interest rate. Property tax rates were estimated from recent budget documents, and homeowner association (HOA) fees were based on a review of HOA fees at similar new condominium developments in San Mateo County. Total housing costs, including monthly payments for mortgage payments, property taxes, insurance, and HOA fees, are assumed to be 35 percent of available monthly income. The result of the income estimates for households buying new condominium units is shown in Figure III-8. As shown in the calculations, for condominium units, household incomes are estimated to be between \$100,000 and \$150,000.

Incomes of Apartment Renters

For renter households, maximum annual housing costs are assumed to be 30 percent of gross household income, a standard established in California's Health and Safety Code Sections 50052.5 and 50053. The estimated household income of renters varies by unit type, as indicated in Figure III-9. Studio renter households have an estimated annual income of \$100,000. One-bedroom, two-bedroom and three-bedroom unit renter households have estimated household incomes of \$128,000, \$156,000 and \$160,000, respectively.

Figure III-6. Estimated Annual Household Incomes of Buyers of Single-Family Detached Units

Single-Family Detached Units	
3 BR/3 BA	
Number of Households	20
Sales Price	\$1,235,000
Down Payment (a)	\$247,000
Loan Amount	\$988,000
Monthly Debt Service (b)	\$4,918
Annual Debt Service	\$59,021
Annual Property Taxes (c)	\$13,345
Fire and Hazard Insurance (d)	\$4,323
Annual Housing Costs (e)	\$76,688
Household Income	\$219,110

Notes:

- (a) Down payment is estimated at 20% of sales price, based on Freddie Mac data for San Mateo County.
- (b) Interest rate is estimated at 4.35% for a 30-year term, based on Freddie Mac data, <http://www.freddiemac.com/pmms/pmms30.htm>.
- (c) Property tax rate is 1.0806% based on Redwood City CAFR.
- (d) Industry standard, estimated at 0.35%.
- (e) Homeownership housing burden is estimated at 35%, based on California Health & Safety Code Sections 50052.5 and 50053.

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

Figure III-7. Estimated Annual Household Incomes of Buyers of Townhouses with Tuck-Under Podium Parking

Townhouses	
3 BR/3 BA	
Number of Households	100
Sales Price	\$776,000
Down Payment (a)	\$155,200
Loan Amount	\$620,800
Monthly Debt Service (b)	\$3,090
Annual Debt Service	\$37,085
Annual Property Taxes (c)	\$8,385
Annual HOA Fees (d)	\$3,000
Fire and Hazard Insurance (e)	\$2,716
Annual Housing Costs (f)	\$51,186
Household Income	\$146,247

Notes:

- (a) Down payment is estimated at 20% of sales price, based on Freddie Mac data for San Mateo County.
- (b) Interest rate is estimated at 4.35% for a 30-year term, based on Freddie Mac data, <http://www.freddiemac.com/pmms/pmms30.htm>.
- (c) Property tax rate is 1.0806% based on Redwood City CAFR.
- (d) Homeownership association (HOA) fees are estimated at \$250 per month, based on fees charged at a sample of recently built projects in San Mateo County.
- (e) Industry standard
- (f) Homeownership housing burden is estimated at 35%, based on California Health & Safety Code Sections 50052.5 and 50053.

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

Figure III-8. Estimated Annual Household Incomes of Buyers of Condominiums with Underground Parking

Condominium Units	
2 BR/ 2 BA	
Number of Households	100
Sales Price	\$566,000
Down Payment (a)	\$113,200
Loan Amount	\$452,800
Monthly Debt Service (b)	\$2,254
Annual Debt Service	\$27,049
Annual Property Taxes (c)	\$6,116
Annual HOA Fees (d)	\$5,400
Fire and Hazard Insurance (e)	\$1,981
Annual Housing Costs (f)	\$40,546
Household Income	\$115,847

Notes:

- (a) Down payment is estimated at 20% of sales price, based on Freddie Mac data for San Mateo County.
- (b) Interest rate is estimated at 4.35% for a 30-year term, based on Freddie Mac data, <http://www.freddiemac.com/pmms/pmms30.htm>.
- (c) Property tax rate is 1.0806% based on Redwood City CAFR.
- (d) Homeownership association (HOA) fees are estimated at \$450 per month, based on review of new condominiums in San Mateo County.
- (e) Industry standard
- (f) Homeownership housing burden is estimated at 35%, based on California Health & Safety Code Sections 50052.5 and 50053.

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

Figure III-9. Estimated Annual Household Incomes of Renters of Apartment Units

	Apartment Unit Type			
	Studio	1 BR/ 1 to 2 BA	2 BR/ 1 to 2 BA	3 BR/ 2 BA
Number of Households	4	99	91	6
Monthly Rent	\$2,500	\$3,200	\$3,900	\$4,000
Annual Housing Costs	\$30,000	\$38,400	\$46,800	\$48,000
Housing Costs as % of Income (a)	30%	30%	30%	30%
Household Income	\$100,000	\$128,000	\$156,000	\$160,000

Notes:

- (a) Renter housing burden is estimated at 30%, based on California Health & Safety Code Sections 50052.5 and 50053.

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

IV. ECONOMIC IMPACT ANALYSIS (IMPLAN3)

The buyers and renters of the new market-rate single-family detached units, townhouses, condominiums and apartments create new spending in the local economy. These new expenditures can be linked to new jobs, many of which pay low wages. The job and wage impacts related to new market-rate housing units are measured using IMPLAN3, an economic impact analysis tool. An economics consulting firm, Applied Development Economics (ADE) undertook the IMPLAN3 analysis with the information on residential prototypes and associated buyers' and renters incomes provided by Strategic Economics and Vernazza Wolfe Associates Inc. In this section of the report, the methodology and results of the IMPLAN3 analysis are described in detail.

THE IMPLAN3 MODEL

The IMPLAN model is an economic dataset that has been used for over 35 years to measure the economic impacts of new investments and spending using the industrial relationships defined through an Input-Output Model. The IMPLAN model can estimate economic impacts resulting from changes in industry output, employment, income, and other measures. The latest version of this model is referred to as IMPLAN3.

For this analysis, the input-output model used data specific to San Mateo County in order to estimate the multiplier effects resulting from the households that could potentially rent or buy new housing units in Redwood City. In this case, all of the multiplier effects derive from new demand for goods and local services (including government) that new households would generate within San Mateo County. It does not account for economic impacts generated during the construction period, or any economic impacts that would occur outside of the county.

The economic impacts estimated by the model generally fall into one of three categories - direct, indirect, or induced. For this analysis, the direct impacts represent the household income brought into the community by new residents. Indirect impacts would normally result from demand for commodities and services provided by suppliers for business operations. (Because the direct impacts come only from household spending, and not from business activity, the indirect effects were not calculated.) Induced impacts represent the potential effects resulting from household spending at local establishments by the new workers hired as a result of increased household expenditures. These impacts affect all sectors of the economy, but primarily affect retail businesses, health services, personal services providers, and government services. The employment estimates provided by the IMPLAN3 model cover all types of jobs, including full and part time jobs.

The first analysis undertaken by the IMPLAN3 model estimated the household demand for retail goods and personal services. It is assumed that buyers and renters of new housing units in Redwood City increase demand for goods and services within San Mateo County. This demand is based on the projected incomes of renters and owners for each prototype. The IMPLAN3 model's calculations are based on changes in household income, which adjusts the gross income to account for the payment of income taxes and savings.⁶

The second analysis estimated the induced impacts, or multiplier effects of new household spending in terms of jobs and wage income. The jobs and income calculations are focused on the induced jobs that would be created through local spending by the new households. The input-output model

⁶ According to IMPLAN Group LLC, when the economic impact is modeled based on household income change, IMPLAN3 will adjust the input for income taxes and savings.

estimates the job impacts by detailed industry sector. The analysis took the detailed industry impact estimates and distributed them by occupational category. The occupational employment data used in the analysis came from the California Employment Development Department (EDD) Labor Market Information Division, and aggregates together data for all of California. After converting the industry level data into occupational employment, the income distribution was calculated using the occupational wage data for the San Francisco-San Mateo-Redwood City Metropolitan Division (MD) that combines San Francisco, Marin, and San Mateo counties.⁷ The average wage by occupation was used to make this calculation. The 2014 (first quarter) occupational wage data used in the analysis comes from California's EDD.

It should be noted that the figures used in the IMPLAN3 analysis reflect the demand for retail goods and services by net, new San Mateo County households. The multiplier impacts assume that all of this spending will remain in San Mateo County.⁸

HOUSEHOLD INCOME IMPACTS

Since the IMPLAN3 Model bases its household income impacts on Consumer Expenditure Survey data, income categories are used in the model instead of continuous income information. Because of this feature, the analysis sorted the renters and buyers of new market rate units into income groups, and then calculated the economic impacts based on the total income calculated for each income group.

Figure IV-1 below summarizes the household income data for single-family detached and townhouse households. As shown, all 20 single-family detached buyer households are in the income category of \$150,000 or higher, with a total combined household income of \$4.38 million. All 100 townhouse buyer households have an average household income situated between \$100,000 and \$150,000, and an aggregate household income of \$14.62 million. Figure IV-2 demonstrates the same calculation for condominium buyer households and renter households. The 100 households of the condominium prototype have an average household income between \$100,000 and \$150,000, and a combined income of \$11.58 million. The rental prototype has 103 households in the \$100,000-\$150,000 income category, and 97 households in the over \$150,000 income category. The combined total household income for renter households is \$28.23 million. These total income figures, adjusted to account for taxes and savings, were used as inputs for the IMPLAN3 analysis.

EMPLOYMENT AND WAGE IMPACTS

Based on the incomes of the new buyers and renters, the next step is to determine employment and wage impacts from each prototype. Estimated employment and wages are shown in Figure IV-3 for each IMPLAN3 industry sector, indicating the number of induced jobs, the industry's share of total employment growth by prototype, and the average wage by industry. Figure IV-4 provides the same IMPLAN3 output data, organized by occupation rather than industry, for each prototype. As shown in both figures, many of the induced jobs generated within San Mateo County are in low-wage sectors and occupations related to retail and food services (restaurants). However, a significant proportion of induced jobs are in higher-paying resident-serving categories such as health care, engineering and high tech and management.

⁷ The San Francisco – San Mateo – Redwood City Metropolitan Division, which includes Marin, San Francisco and San Mateo Counties, was used because it is the smallest geography including San Mateo County for which certain occupational wage data was available.

⁸ Estimating the retail leakage would require a detailed analysis of retail sales totals for existing businesses in San Mateo County and is beyond the scope of this study.

ESTIMATING WORKER-HOUSEHOLDS

Recognizing that many households have more than one wage-earner, the next step is to calculate the number of worker-households by dividing the total number of new workers by the average number of wage-earners per household in Redwood City. According to the U. S. Census Bureau 2008-2012 American Community Survey 3-Year Estimate, Redwood City has an average of 1.62 workers per household. The number of induced jobs is divided by 1.62 to calculate the total number of worker households. Figure IV-5 illustrates this calculation.

ESTIMATING DEMAND FOR AFFORDABLE HOUSING

To estimate the demand for affordable housing, it is first necessary to determine the incomes of the new households. Once the average annual household income of worker households is calculated, the next step is to categorize households into area median income (AMI) levels based on the thresholds set by California Department of Housing and Community Development for San Mateo County. The average household size in Redwood City is 2.7 (rounded to 3.0), according to the US Census American Community Survey 5-Year Estimates 2008-2012. The income threshold for a three-person household in San Mateo County was therefore used to determine the AMI categories of each new worker household.⁹ Figure IV-6 indicates that of the 9.6 new worker households associated with a single-family detached development, there will be 7.7 households that need affordable housing. The comparable figures for townhouse, condominium and apartment developments are, respectively, 34.8, 27.6 and 57.6 households.

⁹ The average Redwood City household size is 2.7, according to the US Census, American Community Survey 5 Year Estimates, 2008-2012. This figure was rounded to 3.0 persons.

Figure IV-1. Estimated Incomes by Income Categories for Buyers of Single-Family Detached and Townhouse Units

Income Category	Single-Family Detached Prototype			Townhouse Prototype		
	New Households	Aggregate Household Incomes	Average Household Income	New Households	Aggregate Household Incomes	Average Household Income
Less than \$10,000	0	\$0	n/a	0	0	n/a
\$10,000-\$15,000	0	\$0	n/a	0	0	n/a
\$15,000-\$25,000	0	\$0	n/a	0	\$0	n/a
\$25,000-\$35,000	0	\$0	n/a	0	\$0	n/a
\$35,000-\$50,000	0	\$0	n/a	0	\$0	n/a
\$50,000-\$75,000	0	\$0	n/a	0	\$0	n/a
\$75,000-\$100,000	0	\$0	n/a	0	\$0	n/a
\$100,000-\$150,000	0	\$0	n/a	100	\$14,624,698	\$146,247
Over \$150,000	20	\$4,382,199	\$219,110	0	\$0	n/a
Total	20	\$4,382,199	\$219,110	100	\$14,624,698	\$146,247

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

Figure IV-2. Estimated Incomes by Income Categories for Buyers of Condominiums Units and Renters of Apartment Units

Income Category	Condominium Prototype			Apartment Prototype		
	New Households	Aggregate Household Incomes	Average Household Income	New Households	Aggregate Household Incomes	Average Household Income
Less than \$10,000	0	\$0	n/a	0	0	n/a
\$10,000-\$15,000	0	\$0	n/a	0	0	n/a
\$15,000-\$25,000	0	\$0	n/a	0	\$0	n/a
\$25,000-\$35,000	0	\$0	n/a	0	\$0	n/a
\$35,000-\$50,000	0	\$0	n/a	0	\$0	n/a
\$50,000-\$75,000	0	\$0	n/a	0	\$0	n/a
\$75,000-\$100,000	0	\$0	n/a	0	\$0	n/a
\$100,000-\$150,000	100	\$11,584,656	\$115,847	103	\$13,072,000	\$126,913
Over \$150,000	0	\$0	n/a	97	\$15,156,000	\$156,247
Total	100	\$11,584,656	\$115,847	200	\$28,228,000	\$141,140

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

Figure IV-3. Estimated Job and Wage Impacts of Prototypes by Industry

Industry (NAICS code)	Average Wage	Single-Family Detached Prototype		Townhouse Prototype		Condominium Prototype		Apartment Prototype	
		Jobs	% Of Jobs	Jobs	% Of Jobs	Jobs	% Of Jobs	Jobs	% Of Jobs
11 Forestry, fishing, hunting, and agriculture	\$38,309	0.01	0%	0.04	0%	0.03	0%	0.07	0%
21 Mining	\$70,505	0.01	0%	0.03	0%	0.02	0%	0.05	0%
22 Utilities	\$74,144	0.03	0%	0.13	0%	0.11	0%	0.21	0%
23 Construction	\$68,376	0.34	2%	1.33	2%	1.06	2%	2.38	2%
31 Manufacturing	\$66,946	0.04	0%	0.19	0%	0.15	0%	0.31	0%
42 Wholesale trade	\$62,797	0.19	1%	0.88	1%	0.70	1%	1.45	1%
44 Retail trade	\$54,808	2.39	15%	11.09	16%	8.78	16%	18.19	16%
48 Transportation & warehousing	\$49,308	0.35	2%	1.46	2%	1.15	2%	2.52	2%
51 Information	\$77,312	0.20	1%	0.98	1%	0.77	1%	1.57	1%
52 Finance & insurance	\$71,830	0.77	5%	3.54	5%	2.80	5%	5.82	5%
53 Real estate & rental & leasing	\$66,316	0.73	5%	3.62	5%	2.87	5%	5.76	5%
54 Professional, scientific & technical services	\$91,389	0.48	3%	2.02	3%	1.60	3%	3.44	3%
55 Management of companies & enterprises	\$88,955	0.02	0%	0.09	0%	0.07	0%	0.15	0%
56 Admin, support, waste mgt, remediation services	\$54,197	0.64	4%	2.95	4%	2.33	4%	4.86	4%
61 Educational services	\$62,584	0.70	4%	2.40	3%	1.90	3%	4.55	4%
62 Health care and social assistance	\$68,778	2.76	18%	13.94	20%	11.04	20%	22.01	19%
71 Arts, entertainment & recreation	\$49,614	0.54	3%	2.34	3%	1.85	3%	3.94	3%
72 Accommodation & food services	\$31,520	2.19	14%	10.77	15%	8.53	15%	17.22	15%
81 Other services (except public administration)	\$53,217	1.57	10%	7.33	10%	5.81	10%	11.98	10%
91 Government	\$70,961	1.57	10%	5.13	7%	4.06	7%	10.01	9%
Total		15.53	100%	70.25	100%	55.64	100%	116.49	100%

Note: Average wage is calculated based on the mean occupational wages, and the average statewide distribution of occupations for each industry.
 Sources: Applied Development Economics, Inc, 2015; Vernazza Wolfe Associates, Inc. and Strategic Economics, 2015.

Figure IV-4. Estimated Job and Wage Impacts of Prototypes by Occupation

SOC Code	Occupational Title	Average Annual Wage	Single-Family Detached Jobs	Townhouse Jobs	Condominium Jobs	Apartment Jobs
11-0000	Management Occupations	\$146,537	0.72	3.23	2.56	5.37
13-0000	Business and Financial Operations Occupations	\$95,505	0.75	3.21	2.54	5.47
15-0000	Computer and Mathematical Occupations	\$104,996	0.26	1.12	0.89	1.91
17-0000	Architecture and Engineering Occupations	\$100,605	0.14	0.53	0.42	0.96
19-0000	Life, Physical, and Social Science Occupations	\$96,012	0.13	0.52	0.41	0.92
21-0000	Community and Social Services Occupations	\$54,663	0.35	1.56	1.24	2.61
23-0000	Legal Occupations	\$140,841	0.10	0.38	0.30	0.69
25-0000	Education, Training, and Library Occupations	\$59,459	0.60	2.28	1.80	4.10
27-0000	Arts, Design, Entertainment, Sports, Media Occupations	\$70,952	0.24	1.05	0.83	1.75
29-0000	Healthcare Practitioners and Technical Occupations	\$111,876	0.99	4.86	3.85	7.78
31-0000	Healthcare Support Occupations	\$41,374	0.47	2.32	1.84	3.69
33-0000	Protective Service Occupations	\$61,618	0.41	1.49	1.18	2.73
35-0000	Food Preparation and Serving-Related Occupations	\$27,076	2.33	11.28	8.93	18.12
37-0000	Building and Grounds Cleaning and Maintenance	\$33,575	0.49	2.22	1.75	3.68
39-0000	Personal Care and Service Occupations	\$33,716	1.11	5.25	4.16	8.55
41-0000	Sales and Related Occupations	\$54,767	2.05	9.54	7.56	15.62
43-0000	Office and Administrative Support Occupations	\$46,720	2.40	10.69	8.47	17.84
45-0000	Farming, Fishing, and Forestry Occupations	\$34,770	0.02	0.07	0.05	0.12
47-0000	Construction and Extraction Occupations	\$63,327	0.30	1.16	0.92	2.07
49-0000	Installation, Maintenance, and Repair Occupations	\$58,564	0.56	2.52	1.99	4.19
51-0000	Production Occupations	\$41,105	0.30	1.34	1.06	2.22
53-0000	Transportation and Material Moving Occupations	\$42,255	0.82	3.64	2.88	6.10
	Total all occupations		15.53	70.25	55.64	116.49

Sources: Applied Development Economics, 2015; IMPLAN3 input-output model, 2015; California Labor Market Information Division, 2015.

Figure IV-5. Induced Employment Impacts, Redwood City

Project Prototype	Single-Family Detached	Townhouse	Condominium	Apartment
Number of Units	20	100	100	200
Induced Employment (Workers)	16	70	56	116
Average Number of Workers per Household	1.62	1.62	1.62	1.62
New Worker Households	9.58	43.36	34.35	71.91

Source: Applied Development Economics, 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

Figure IV-6. New Worker Households by Income Group for Single-Family Detached, Townhouse, Condominium and Apartment Prototypes

Worker Households by Income Category	Income Thresholds (3-Person Household)	Single-Family Detached	Townhouse	Condominium	Apartment
Households Requiring Affordable Housing					
Very Low Income (<=50% AMI)	\$50,900	2.4	11.6	9.2	18.8
Low Income (51-80% AMI)	\$81,450	2.5	11.1	8.8	18.4
Moderate Income (81-120% AMI)	\$111,250	2.8	12.1	9.6	20.4
Subtotal Very Low, Low, Moderate Income		7.7	34.8	27.6	57.6
Above Moderate Income Households (>120% AMI)	>\$111,250	1.9	8.6	6.8	14.3
Total All Worker Households		9.6	43.4	34.3	71.9

Source: Applied Development Economics, Inc., 2015; Strategic Economics & Vernazza Wolfe Associates, Inc. 2015.

V. AFFORDABILITY GAP ANALYSIS

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.¹⁰ 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 difference 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.

¹⁰ Although there is a single housing affordability gap estimate for all jurisdictions in the county, the subsequent steps in the fee calculation considers market and household characteristics for Redwood City, generating a unique maximum fee for each jurisdiction in the county, as described in Section V.

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.¹¹

Figure V-1 and Figure V-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 V-3 and Figure V-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 V-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.¹²

¹¹ 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.

¹² 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 V-1 and Figure V-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 low 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 (see Figure V-3 and Figure V-4). 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.**¹³ 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.¹⁴ 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.¹⁵ 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.¹⁶
- **Mortgage terms and costs included 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.¹⁷ In addition to mortgage payments and utilities,

¹³ 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.

¹⁴ The assumption that homebuyers spend 35 percent of gross household income on housing results in a lower affordability gap than if 30 percent of gross household income were used instead.

¹⁵ U.S. Department of Housing and Urban Development, "Allowances for Tenant-Furnished Utilities and Other Services: Housing Authority of San Mateo County," November 2013.

¹⁶ 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."

¹⁷ 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.

monthly ownership housing costs include homeowner association (HOA) dues,¹⁸ property taxes,¹⁹ private mortgage insurance,²⁰ and hazard and casualty insurance.²¹

¹⁸ 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.

¹⁹ 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.

²⁰ 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.

²¹ The annual hazard and casualty insurance rate is assumed to be 0.35 percent of the sales price, consistent with standard industry practice.

Figure V-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 V-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. See Figure V-1.

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 V-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 V-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. See Figure V-3.

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 V-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 V-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.²² Finally, on average, land acquisition costs accounted for 20 percent or less of these total adjusted costs.

²² 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 V-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 V-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 V-5) represent the lower range of current land values.

Figure V-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.²³ 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 V-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 V-8.²⁴ Land costs were estimated based on recent DataQuick land transactions shown in Figure V-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

²³ 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.

²⁴ 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 V-7. Condominium Sales: Average Unit Characteristics and Prices for Selected Cities 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 V-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 V-7) were analyzed.

Figure V-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 V-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 V-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 V-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 V-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 V-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 V-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 V-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 V-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 V-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 V-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 V-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.

VI. NEXUS FEES AND REQUIREMENTS

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

MAXIMUM FEE CALCULATION

To derive the maximum nexus-based fee, the housing affordability gap 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 number of units in the development prototype to calculate a single maximum fee per unit.

Figure VI-1 presents the results of the nexus fee calculation for the single-family detached prototype. The per unit housing affordability gap number is multiplied by the number of income-qualified worker households linked to the prototype to estimate the total gap. The total affordability gap is then divided by the number of units in the prototype to derive the maximum fee per unit, estimated at \$88,139 per unit. The same steps are taken for the townhouse, condominium and apartment prototypes to estimate the maximum fee per unit, as shown in Figures VI-2 through VI-4. The calculated maximum fees are \$80,543 per townhouse unit, \$63,800 per condominium unit, and \$66,479 per apartment unit.

The fees can also be calculated on per-square-foot basis by dividing the total gap by the net residential area for each prototype. The maximum fee per square foot is \$38 for the single-family detached prototype (Figure VI-5), \$42 for the townhouse prototype (Figure VI-6), \$46 per square foot for the condominium prototype (Figure VI-7), and \$67 for the apartment prototype (Figure VI-8).

The per-unit and per-square-foot fees shown in the tables below express the total nexus-based fees for new market-rate single-family detached, townhouse, condominium and rental apartment development in Redwood City. They represent the maximum justified fees based on the nexus analysis that could be imposed on new development. The city may adopt fees or require mitigations at a lower level than these justified fees, depending on financial feasibility and other policy considerations.

Figure VI-1. Maximum Per-Unit Fee for Single-Family Detached Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Number Units in Prototype	Total Fee Per Unit
Very Low Income (<=50% AMI)	\$280,783	2.4	\$684,201		
Low Income (51-80% AMI)	\$240,477	2.5	\$590,963		
Moderate Income (81-120% AMI)	\$175,558	2.8	\$487,615		
Total			\$1,762,779	20	\$88,139

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-2. Maximum Per-Unit Fee for Townhouse Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Number Units in Prototype	Total Fee Per Unit
Very Low Income (<=50% AMI)	\$280,783	11.6	\$3,260,514		
Low Income (51-80% AMI)	\$240,477	11.1	\$2,670,283		
Moderate Income (81-120% AMI)	\$175,558	12.1	\$2,123,468		
Total			\$8,054,265	100	\$80,543

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-3. Maximum Per-Unit Fee for Condominium Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Number Units in Prototype	Total Fee Per Unit
Very Low Income (<=50% AMI)	\$280,783	9.2	\$2,582,749		
Low Income (51-80% AMI)	\$240,477	8.8	\$2,115,210		
Moderate Income (81-120% AMI)	\$175,558	9.6	\$1,682,061		
Total			\$6,380,021	100	\$63,800

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-4. Maximum Per-Unit Fee for Apartment Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Number Units in Prototype	Total Fee Per Unit
Very Low Income (<=50% AMI)	\$280,783	18.8	\$5,280,680		
Low Income (51-80% AMI)	\$240,477	18.4	\$4,430,649		
Moderate Income (81-120% AMI)	\$175,558	20.4	\$3,584,454		
Total			\$13,295,783	200	\$66,479

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-5. Maximum Fee per SF for Single-Family Detached Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Net Residential Area (SF)	Total Fee Per SF
Very Low Income (<=50% AMI)	\$280,783	2.4	\$684,201		
Low Income (51-80% AMI)	\$240,477	2.5	\$590,963		
Moderate Income (81-120% AMI)	\$175,558	2.8	\$487,615		
Total			\$1,762,779	46,000	\$38

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-6. Maximum Fee per SF for Townhouse Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Net Residential Area (SF)	Total Fee Per SF
Very Low Income (<=50% AMI)	\$280,783	11.6	\$3,260,514		
Low Income (51-80% AMI)	\$240,477	11.1	\$2,670,283		
Moderate Income (81-120% AMI)	\$175,558	12.1	\$2,123,468		
Total			\$8,054,265	190,000	\$42

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-7. Maximum Fee per SF for Condominium Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Net Residential Area (SF)	Total Fee Per SF
Very Low Income (<=50% AMI)	\$280,783	9.2	\$2,582,749		
Low Income (51-80% AMI)	\$240,477	8.8	\$2,115,210		
Moderate Income (81-120% AMI)	\$175,558	9.6	\$1,682,061		
Total			\$6,380,021	140,000	\$46

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

Figure VI-8. Maximum Fee per SF for Apartment Prototype

Income Category	Average Affordability Gap (per Household)	Number Worker Households	Maximum Fee Revenues for Prototype	Net Residential Area (SF)	Total Fee Per SF
Very Low Income (<=50% AMI)	\$280,783	18.8	\$5,280,680		
Low Income (51-80% AMI)	\$240,477	18.4	\$4,430,649		
Moderate Income (81-120% AMI)	\$175,558	20.4	\$3,584,454		
Total			\$13,295,783	199,400	\$67

Sources: California Housing and Community Development; Individual lenders; Affordable and market-rate project pro formas; DataQuick, 2014; RS Means, 2014; IMPLAN 3 via Applied Development Economics, 2015; Vernazza Wolfe Associates, Inc. & Strategic Economics, 2015.

SUMMARY OF CONSERVATIVE ASSUMPTIONS

The housing impact fee nexus analysis methodology utilizes conservative assumptions that result in a lower estimate of the nexus-supported maximum fee. Some of the conservative assumptions undertaken in the analysis include the following:

- **Prices and rental rates for new development.** Because there has been little new housing development completed in the aggregate in San Mateo County (though particular jurisdictions such as Redwood City and San Mateo have seen substantial housing developments), the sale prices and rental rates for new market-rate housing are based on older market data. The rental rates and sale prices for projects that are coming on the market today are significantly higher. The use of lower prices and rents results reduces the total nexus fee calculation.
- **Economic impact analysis model.** The IMPLAN3 model only measures the impacts of new market-rate housing development in San Mateo County. It does not measure any of the impacts that could be occurring in other Bay Area counties. The economic impact analysis is modeled on a household income change approach, which adjusts for income taxes and savings when calculating the employment impacts of new households.
- **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 market-rate housing 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. The results of financial analysis informed the final recommendations on the housing impact fee.
- **Comparison to other cities.** The Consultant Team researched existing impact fees and BMR policies in other nearby cities to determine the competitiveness of the maximum fee and reduced fee levels. The fee recommendations in this report incorporate the findings from the comparative analysis.
- **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.

VII. FEASIBILITY AND POLICY CONSIDERATIONS

There are a number of policy considerations that can be taken into account when jurisdictions consider adopting an affordable housing impact fee on new market-rate development. These may include factors such as the likely impact of the proposed fee levels on local housing development, the competitiveness of the city in attracting development relative to neighboring jurisdictions, the impact of the proposed fee on existing city fee level, and the role of the proposed fee in meeting the city's overall affordable housing objectives. This section provides a discussion of some of the key financial and policy questions for Redwood City.

FINANCIAL FEASIBILITY ANALYSIS

Summary of Residential Prototypes

As discussed in more detail in Section III of this report, this nexus analysis is based on four residential prototypes: single-family detached units, townhouse units, ownership condominiums and rental apartments. Figure VII-1 summarizes the characteristics of the four development prototypes that were tested for financial feasibility. These prototypes are representative of the types of market rate housing development projects that can reasonably be expected in Redwood City. The single-family detached units are wood siding wood frame buildings with an attached garage and a density of 8 units per acre. The average net residential area is 2,300 square feet per unit. The townhouse units are Type V wood frame buildings with a tuck-under parking, a density of 12 units per acre, and an average net area per unit of 1,900 square feet. The condominiums are Type V wood frame buildings with underground parking and a density of 45 units per acre. The average net residential area is 1,400 square feet per unit. The apartment prototype building is Type V wood frame construction, with podium parking and a density of 40 units per acre. The average net area per unit is 997 square feet. Most of the apartment units are one and two bedrooms, with a smaller number of studios and three bedroom units.

Figure VII-1. Residential Prototypes

Building Characteristics	Single-Family			
	Detached	Townhouses	Condominiums	Apartments
Building Type	Wood Siding	Type V	Type V	Type V
Total Residential Units (a)	20	100	100	200
Avg. Size Unit in Square Feet (SF)	2,300	1,900	1,400	997
Net Square Footage (NSF)	46,000	190,000	140,000	199,400
Parking Type	Attached Garage	Tuck-Under	Underground	Podium
Efficiency Factor (b)	85%	85%	85%	65%
Gross Square Footage (GSF)	54,118	223,529	164,706	307,013
Floor Area Ratio (FAR) (c)	0.5	0.6	1.7	1.4
Land Area (SF)	108,235	372,549	96,886	219,295
Land Area (Acres)	2.48	8.55	2.22	5.03
Units per Acre	8	12	45	40

Notes:

(a) Unit characteristics are described in more detail in Section III.

(b) Ratio of leasable square footage to gross square footage.

(c) Floor area ratio (FAR) measures density by dividing gross building area by total site area.

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

Fee Levels

In order to provide Redwood City with guidance on how proposed fees could impact development decisions, the Consultant Team conducted a financial feasibility analysis that tested the impact of proposed fee options on developer profit. The fees were tested for four fee scenarios, which include the maximum nexus-supported fee and three reduced fee levels.

Figure VII-2 demonstrates the calculated fees per unit for each prototype for all four scenarios. The fees can also be calculated on per square foot basis. The per-square-foot fees at different fee levels are shown in Figure VII-3.

Figure VII-2. Fee Levels per Unit for Prototypes

Prototype	Net Residential SF per Unit	Scenario 1 (Maximum Fee)	Scenario 2	Scenario 3	Scenario 4
Single-Family Detached	2,300	\$88,139	\$57,500	\$46,000	\$23,000
Townhouse	1,900	\$80,543	\$47,500	\$38,000	\$19,000
Condominium	1,400	\$63,800	\$35,000	\$14,000	\$7,000
Apartments	997	\$66,479	\$24,925	\$14,955	\$4,985

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

Figure VII-3. Fee Levels per Square Foot for Prototypes

Prototype	Net Residential SF per Unit	Scenario 1 (Maximum Fee)	Scenario 2	Scenario 3	Scenario 4
Single-Family Detached	2,300	\$38	\$25	\$20	\$10
Townhouse	1,900	\$42	\$25	\$20	\$10
Condominium	1,400	\$46	\$25	\$10	\$5
Apartments	997	\$67	\$25	\$15	\$5

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

Methodology

Financial feasibility of the fee options was tested using a pro forma model that measures the residual land value of a given development project. Many pro forma models are structured to solve for the financial return for the developer or investors (internal rate of return). In contrast, the residual land value method of analysis solves for the value of the land. This method recognizes that the value of land is inextricably linked to what can be built on it, and that development potential is heavily influenced by zoning, lot size/configuration, neighborhood context, and other factors. The pro forma model tallies all development costs (minus land) including direct construction costs, indirect costs (including financing), and developer fees. Revenues from unit sales or rental leases are then summed. The total project costs are then subtracted from the total project revenues. The balance is the residual value, representing the price a developer would pay for the land if pursuing that project. The fee levels were then added as an additional development cost to measure the effect on the residual land value.

Revenues

To estimate income from residential development, the analysis uses the sales prices and monthly rents presented in Section III of this report and summarized in Figure VII-4. These revenue assumptions were based on a review of local and regional market data, including information on the type of

development that has been recently constructed or is planned or proposed in Redwood City; and current sales prices and rental rates of recently built (or sold) residential development in Redwood City and neighboring cities. For single-family detached, townhouse and condominium projects, the revenues are calculated by multiplying the unit count by the sales price. Single-family detached units are estimated at \$1,235,000, townhouses at \$776,000, and condominium units at \$566,000. For rental projects, the revenues were estimated using an income capitalization approach. This valuation approach first estimates the annual net operating income (NOI) of the apartment prototype, which is the difference between total project income (annual rents) and project expenses, including operating costs²⁵ and vacancies. The NOI is then divided by the capitalization rate (cap rate) to derive total project value. Figure VII-5 summarizes the calculations and data source used for estimating the value of the apartment prototype.

Figure VII-4. Prototype Sales Prices and Rents

Prototype	Unit Type	Number of Units	Net Area (SF)	Unit Sales Price/ Monthly Rent	Price or Rent per SF
Single-Family Detached (For-Sale)					
Wood siding wood frame	3 BD/3BA	20	2,300	\$1,235,000	\$537
8 units per acre					
Attached garage					
Net Residential Area (Net SF)			46,000		
Townhouse (For-Sale)					
Type V wood frame	3 BD/3BA	100	1,900	\$776,000	\$408
12 units per acre					
Tuck-under podium parking					
Net Residential Area			190,000		
Condominiums (For-Sale)					
Type V wood frame	2 BD/2 BA	100	1,400	\$566,000	\$404
45 units per acre					
Subterranean parking					
Net Residential Area (Net SF)			140,000		
Apartments (Rental)					
Type V wood frame	Studio	4	600	\$2,500	\$4.17
40 units per acre	1 BD/1 to 2 BA	99	900	\$3,200	\$3.56
Podium parking	2 BD/1 to 2 BA	91	1,100	\$3,900	\$3.55
	3 BD/2 BA	6	1,300	\$4,000	\$3.08
Net Residential Area			199,400		
Average Net SF per Unit			997		

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

²⁵ Operating costs were calculated based on the Institute of Real Estate Management Survey of Apartment Buildings in the San Francisco Metropolitan Statistical Area (MSA).

Figure VII-5. Apartment Revenue Calculations

Apartment Revenues	Calculation	Total
Gross Annual Rental Income (a)	Gross annual rents	\$8,468,400
Operating Expenses (b)	30 percent of income	(\$2,540,520)
Vacancy (c)	5 percent of income	(\$423,420)
Annual Net Operating Income (c)	Income less expenses and vacancy	\$5,504,460
Capitalization Rate (d)	5 percent	5.00%
Capitalized Value	Project value	\$110,089,200

Notes:

- (a) Average monthly rents multiplied by 12 months multiplied by unit count for each unit type.
- (b) Institute of Real Estate Management, San Francisco MSA Apartment Properties, 2011.
- (c) Assumes a vacancy rate of 5 percent in a stabilized rental market.
- (d) According to DTZ's San Francisco Real Estate Forecast 2015, the cap rate for apartments is approximately 5 percent.

Sources: IREM, DTZ, Strategic Economics, 2015.

Development Costs

Cost estimates for the residential prototypes include direct construction costs (site work, building costs, and parking), indirect costs, financing costs, and developer overhead and profit. Development cost estimates for the pro forma analysis are distinct from the cost estimates provided in the countywide affordability gap analysis. Direct building construction cost estimates are based on RS Means and project pro formas for recent projects in San Mateo County.²⁶ Soft costs and developer overhead/profit were calculated based on a review of similar project pro formas in the Bay Area. City fee calculations were provided by City staff. Each of the cost factors used in the analysis is summarized in Figure VII-6.

²⁶ The development cost estimates used in the pro forma analysis are slightly different from those used in the affordability gap analysis because they include more recent real estate data, and are more tailored for Redwood City and Central San Mateo County, rather than an overall estimate for the entire county. Furthermore, the market-rate units are generally larger and costlier to build than the "modest" units described in the affordability gap analysis.

Figure VII-6. Development Cost Factors

Development Costs	Metric	
Direct Costs (a)		
Single-Family Subdivision	\$155	Per NSF
Townhouse	\$150	Per NSF
Condominiums	\$225	Per NSF
Apartments	\$210	Per NSF
Indirect Costs (b)		
A&E & Consulting	6.00%	of direct costs
Permits & Fees (Excl. Housing) (c)		estimated by City
Taxes, Insurance, Legal & Accounting	3.00%	of direct costs
Other (d)	3.00%	of direct costs
Contingency	5.00%	of indirect costs
Total Indirect Costs		
Financing Costs (b)		
Loan to Cost Ratio (LTC)	80%	of total costs
Loan Interest Rate	6%	annual rate
Compounding Period	12	months
Construction/Absorption Period (e)	12 to 24	months
Utilization Rate	55%	of loan
Loan Fees	2%	of loan
Developer Overhead & Profit	12%	of total costs (excl. land)

Notes:

(a) Direct costs include site work, building construction, and parking costs of \$30,000 per space for underground parking and \$25,000 per space for podium parking. Costs estimates are based on review of Bay Area pro formas for similar projects and data from RS Means.

(b) Based on review of similar project pro formas in the Bay Area and interviews with developers.

(c) Permits & fees are a generalized estimate of costs based on prototypes, calculated by City staff. Permits and fees for actual projects vary depending on many factors.

(d) Other soft costs include marketing, personal property, environmental studies, etc.

(e) Absorption periods are estimated at 24 months for apartments, condominiums and townhouses; and 18 months for single-family subdivisions.

Sources: RS Means, 2014; Similar pro formas; Redwood City, 2015; Strategic Economics, 2015.

Land Value

In order to understand what the different fee levels indicate regarding financial feasibility, the residual land values for each fee scenario can be compared with the market value of residential land in Redwood City. If the residual value is higher than the market value, the project is feasible. If the residual value is lower than the market price, then the project is infeasible.

To determine the land value of sites zoned for lower density uses (single-family detached and townhouses) and higher density multi-family residential uses (condominiums and rental apartments), the Consultant Team analyzed recent sales transactions in Southern San Mateo County and Northern Santa Clara County, and reviewed third-party property appraisals.²⁷ Figure VII-7 illustrates the results of the land value analysis for lower density single-family detached townhouse residential uses, while Figure VII-8 shows the value of properties zoned for higher density multi-family residential uses. For lower density residential uses, values range considerably depending on location and size, from \$38 per square foot for the lower quartile, to \$119 per square foot for the upper quartile. For higher-density multi-family housing, the range is between \$85 and \$200 per square foot, with the maximum value at \$228 per square foot. For this analysis, the estimated land value is \$35 to \$120 for lower density sites, and between \$150 and \$250 per square foot for higher density multi-family development, including condominiums and apartments. For all prototypes, the market value of land is presented as a range because the land value of properties is likely to vary depending on location, size, and other conditions.

²⁷ The land value assumptions utilized in the pro forma analysis are different from the affordability gap analysis in two ways: 1) they include more recent transactional data than the affordability gap analysis, which was completed in July 2014; and 2) they are tailored to Redwood City and Central San Mateo County, unlike the affordability gap estimate, which is a countywide estimate.

Figure VII-7. Single-Family Vacant Land Sales Transactions in Southern San Mateo County

Site Address	Location	Sale Price	Lot Area	Price/ SF Land
76 Tuscaloosa Ave	Atherton	\$4,150,000	42,253	\$98.22
190 Almendral Ave	Atherton	\$4,550,000	43,560	\$104.45
12 Cowell Ln	Atherton	\$6,350,000	43,580	\$145.71
95 Faxon Rd	Atherton	\$18,900,000	130,680	\$144.63
270 Atherton Ave	Atherton	\$11,000,000	102,366	\$107.46
89 Tuscaloosa Ave	Atherton	\$4,200,000	28,260	\$148.62
81 Faxon Rd	Atherton	\$9,800,000	66,647	\$147.04
77 Fairview Ave	Atherton	\$3,648,000	45,564	\$80.06
97 Santiago Ave	Atherton	\$4,200,000	62,291	\$67.43
237 Atherton Ave	Atherton	\$53,000,000	414,691	\$127.81
70 Elena Ave	Atherton	\$4,450,000	47,916	\$92.87
96 Ridge View Dr	Atherton	\$7,800,000	70,883	\$110.04
1691 Bay Laurel Dr	Menlo Park	\$3,500,000	17,400	\$201.15
1652 Bay Laurel Dr	Menlo Park	\$2,295,000	13,504	\$169.95
1976 Menalto Ave	Menlo Park	\$1,041,000	7,884	\$132.04
205 Cervantes Rd	Portola Valley	\$1,900,000	60,548	\$31.38
5 Buck Meadow Dr	Portola Valley	\$1,205,000	44,431	\$27.12
9 Buck Meadow Dr	Portola Valley	\$1,990,000	75,800	\$26.25
5 Blue Oaks Ct	Portola Valley	\$4,100,000	94,525	\$43.37
4 Blue Oaks Ct	Portola Valley	\$4,100,000	100,188	\$40.92
Ramona Rd	Portola Valley	\$998,000	15,246	\$65.46
130 Golden Hills Dr	Portola Valley	\$2,750,000	86,205	\$31.90
Redberry Rdg	Portola Valley	\$2,750,000	54,600	\$50.37
17 Redberry Rdg	Portola Valley	\$2,350,000	86,086	\$27.30
3038 Oak Knoll Dr	Redwood City	\$1,650,000	11,979	\$137.74
3058 Oak Knoll Dr	Redwood City	\$1,650,000	11,979	\$137.74
Redwood Ave	Redwood City	\$350,000	13,939	\$25.11
65 Palomar Oaks Ln	Redwood City	\$1,135,000	30,003	\$37.83
266 Alameda De Las Pulgas	Redwood City	\$885,000	13,250	\$66.79
N/A	Redwood City	\$320,000	10,868	\$29.44
1525 Connecticut Dr	Redwood City	\$590,000	14,625	\$40.34
3724 Laurel Way	Redwood City	\$305,000	8,200	\$37.20
2155 Greenways Dr	Woodside	\$1,390,000	22,782	\$61.01
215 Grandview Dr	Woodside	\$550,000	25,700	\$21.40
834 W California Way	Woodside	\$1,527,500	14,810	\$103.14
834 W California Way	Woodside	\$1,527,500	14,375	\$106.26
834 W California Way	Woodside	\$1,527,500	19,166	\$79.70
231 Winding Way	Woodside	\$6,200,000	117,176	\$52.91
125 Ware Rd	Woodside	\$576,000	15,682	\$36.73
Summary Statistics				
Lower Quartile (25%)				\$37.51
Median Value				\$67.11
Upper Quartile (75%)				\$118.92

Source: CoreLogic, 2015; Strategic Economics, 2015.

Figure VII-8. Multi-Family Vacant Land Sales Transactions in Southern San Mateo County and Northern Santa Clara County, 2010-2014

Site Address	Location	Price	Lot Area	Price/ SF Land
3639 Haven Avenue	Menlo Park	\$4,400,000	65,253	\$67
1679 Kentfield Avenue	Redwood City	\$2,250,000	43,574	\$52
755-763 Hamilton Avenue	Menlo Park	\$1,851,300	21,780	\$85
105 5th Avenue	Redwood City	\$1,200,000	18,000	\$67
389 El Camino Real	Menlo Park	\$12,200,000	53,579	\$228
1300 El Camino Real	Menlo Park	\$24,500,000	148,165	\$165
2963 El Camino Real	Redwood City/Unincorporated County	\$2,685,000	11,400	\$236
1275 El Camino Real	Menlo Park	\$3,600,000	17,960	\$200
Page Mill Rd.	Palo Alto	\$3,959,000	26,926	\$147
389 El Camino Real	Menlo Park	\$12,200,000	53,579	\$228
1300 El Camino Real	Menlo Park	\$24,500,000	148,165	\$165
1275 El Camino Real	Menlo Park	\$3,600,000	17,960	\$200
755-763 Hamilton Avenue	Menlo Park	\$1,851,300	21,780	\$85
3639 Haven Avenue	Menlo Park	\$4,400,000	65,253	\$67
3877 El Camino Real	Palo Alto	\$4,450,000	32,825	\$136
536 N Wishman Rd	Mountain View	\$1,050,000	7,000	\$150
1958 Latham St, Mountain View, CA 94040	Mountain View	\$1,600,000	16,600	\$96
Lower Quartile (25%)				\$85
Average Value				\$140
Upper Quartile (75%)				\$200

Source: Property appraisals; DataQuick, 2015; Loopnet, 2015; Strategic Economics, 2015

Financial Feasibility Results

Figures VII-11 and VII-12 provide the pro forma for the single-family detached, townhouse, condominium and apartment prototypes. Below is a discussion of the findings.

Single-Family Detached

The feasibility analysis indicates that at current market prices, without the addition of new impact fees, the single-family detached prototype would have revenues of \$24.7 million, with a total development cost of \$10.3 million. The difference between the revenues and costs is the residual land value, which is estimated at \$133 per square foot. This prototype, with no additional impact fees, yields a residual land value that exceeds the threshold for feasibility in Redwood City, which is between \$35 and \$120 per square foot.

With the addition of the potential housing impact fees at different levels, the financial feasibility results are as follows:

- The maximum impact fee of \$38 per square foot raises development costs from \$10.3 million to \$12.1 million. This cost increase results in a residual land value of \$117 per square foot, a value over the financial feasibility threshold in Redwood City, which was determined to be between \$35 and \$120 per square foot.
- Scenario 2, an impact fee set at \$25 per square foot increases development costs to \$11.5 million. The residual land value under this scenario is \$122 per square foot, which exceeds the requirement to be financially feasible.
- Scenario 3, a fee level of \$20 per square foot increases development costs to \$11.2 million. The residual land value under this fee scenario is \$124 per square foot, which is higher than the threshold for financial feasibility.
- A fee level set at \$10 per square foot results in total development costs of \$10.8 million, and a residual land value of \$129 per square foot. As in the other examined cases, this land value would meet the requirement to be financially feasible.

Townhouses

According to the feasibility analysis, with no added nexus fees, the townhouse prototype would have total development costs of \$41.7 million and a sale value of \$77.6 million. The residual land value, without nexus fees, is estimated at \$96 per square foot. This residual land value is within the range required for financial feasibility, which is defined as between \$35 and \$120 per square foot.

The analysis shows that under current market conditions, the townhouse prototype can also support a maximum impact fee of \$42 per square foot. The maximum housing impact fee level brings development costs from \$41.7 million to \$49.8 million. This cost increase results in a residual land value of \$75 per square foot, which is consistent with the current market value of land in Redwood City. Lower fee levels result in higher residual land values, and are even more economically viable from the perspective of a developer.

Condominiums

The feasibility analysis estimates that under current sales prices, the condominium prototype would have revenues of \$56.6 million, and a total development cost of \$51.5 million. The difference between the revenues and costs is the residual land value, which is estimated at \$52 per square foot.

This residual land value is lower than the current market value of multi-family land in Redwood City, which is between \$150 and \$250 per square foot.

The condominium prototype studied in this nexus report is based on market data from 2012-2014, which showed an average unit sales price of \$566,000 (\$400 per square foot). However, the real estate market in San Mateo County has shifted significantly since 2014; the average price of condominiums in San Mateo County increased by 13.6 percent in the last year alone.²⁸ In nearby cities, the average sales price of newly built condominium units is \$1.1 million, or \$739 per square foot, as shown in Figure VII-9 below. In 2015, it is reasonable to assume that a new condominium project in Redwood City could achieve an average sales price of \$500 per square foot, equivalent to \$700,000 per unit. Based on this estimated price, a housing impact fee of \$25 per square foot (\$35,000 per unit) is financially feasible (Figure VII-10).

Figure VII-9: Recent Condominium Sales in Surrounding Cities, Sold July 2014-July 2015.

Project	Unit Type	Year Built	Number Units	Unit Size	Sold Price	Sold PSF
Mondrian, Mountain View	2 BR	2007	151	1,410	\$1,310,000	\$929
	3 BR			1,602	\$1,192,333	\$744
Gables End, Mountain View	2 BR	2008	108	1,490	\$1,100,000	\$738
Bedford Square, Mountain View	2 BR	2007	106	1,374	\$977,500	\$711
	3 BR			1,843	\$1,480,000	\$803
100 First, Los Altos	1 BR	2015	46	1,156	\$910,000	\$787
	2 BR			1,621	\$1,450,000	\$895
	3 BR			2,281	\$2,383,500	\$1,045
396 First, Los Altos	1 BR	2013	20	891	\$861,000	\$966
	2 BR			1,557	\$1,172,688	\$753
Evelyn Glen, Sunnyvale	2 BR	2008	130	1,251	\$816,888	\$653
	3 BR			1,426	\$865,643	\$607
	4 BR			1,586	\$1,100,000	\$694
Verona, Sunnyvale	2 BR	2009	72	1,392	\$821,000	\$590
	3 BR			1,555	\$895,000	\$576
Fusion, Sunnyvale	4 BR	2012	228	1,882	\$1,060,000	\$563
Average					\$1,149,722	\$739

Source: Polaris Pacific, 2015; Strategic Economics, 2015.

²⁸ San Mateo County Housing Indicators, June 30, 2015.
<http://housing.smcgov.org/sites/housing.smcgov.org/files/June%202015%20Indicators.pdf>

Figure VII-10: Feasible Condominium Impact Fees with 2014 and 2015 Sales Prices

Condominium Revenue Assumption	Unit Sales Price	Price/ SF	Feasible Impact Fee per SF
2014 Sales Price	\$566,000	\$404	\$0
2015 Sales Price	\$700,000	\$500	\$25

Source: Strategic Economics, 2015.

The financial feasibility analysis also measures the impact of the fee levels on total development costs to determine the extent to which the fee would influence overall feasibility. The following summarizes the results for the condominium prototype:

- The maximum justified impact fee of \$46 per square foot raises development costs to \$57.9 million, and accounts for 11 percent of total project costs.
- Scenario 2, a reduced impact fee set at \$25 per square foot raises development costs to \$55 million, making up six percent of total development costs.
- Scenario 3, a fee level of \$10 per square foot results in development costs of \$52.9 million. This fee level would make up 2.6 percent of total development costs.
- Scenario 4, a fee of \$5 per square foot results in a total development cost of \$52.2 million. This fee level is equivalent to 1.3 percent of total development costs.

Source: Strategic Economics, 2015.

Apartments

For apartments, the financial analysis shows that under current market conditions, without a nexus fee on affordable housing, a prototypical apartment development costs approximately \$71.7 million, with a total project value of \$110 million. The residual land value on this prototype, excluding a nexus fee, is estimated at \$175 per square feet, meeting the threshold for financial feasibility, defined as between \$150 to \$250 per square foot.

Scenario 1, the maximum nexus fee of \$67 per square foot, results in a residual land value of \$114 per square foot, which is below the market value of higher density residential land in Redwood City, making the project infeasible to develop under current conditions. The lower fee scenarios of \$25, \$15, and \$5 per square foot are all financially feasible under current rental rates, yielding a residual land value of over \$150 per square foot. The following summarizes the results for the apartment prototype:

- The maximum justified impact fee of \$67 per square foot raises development costs to \$85.0 million, and accounts for 16 percent of total project costs. The residual land value is \$114 per square foot, below the threshold required for financial feasibility.
- Scenario 2, a reduced impact fee set at \$25 per square foot raises development costs to \$76.7 million, making up 6.5 percent of total development costs. This fee scenario is financially feasible under today's market conditions, with a residual land value of \$152 per square foot.
- Scenario 3, a fee level of \$15 per square foot results in development costs of \$74.7 million. This fee level would make up four percent of total development costs. The residual land value is \$161 per square foot.

- Scenario 4, a fee of \$5 per square foot results in a total development cost of \$72.7 million. The fee is 1.4 percent of total development costs, and the residual land value is \$170 per square foot.

Figure VII-11. Pro Forma Model Results for Single-Family Detached and Townhouse Prototypes

	Single-Family Detached		Townhouses	
Development Costs (Excl. Land & Nexus Fee)	per Unit	Total	per Unit	Total
Direct Costs (a)				
Building & On-Site Improvements	\$356,500	\$7,130,000	\$285,000	\$28,500,000
Building & Onsite per NSF		\$155		\$150
Parking	Incl. above	Incl. above	Incl. above	Incl. above
Total Direct Costs	\$356,500	\$7,130,000	\$285,000	\$28,500,000
Total Direct Costs per NSF		\$155		\$150
Indirect Costs (a)				
A&E & Consulting	\$21,390	\$427,800	\$17,100	\$1,710,000
Permits & Fees (Excl. Nexus fee) (b)	\$33,496	\$669,918	\$26,152	\$2,615,162
Taxes, Insurance, Legal & Accounting	\$10,695	\$213,900	\$8,550	\$855,000
Other Indirect Costs	\$10,695	\$213,900	\$8,550	\$855,000
Contingency	\$3,814	\$76,276	\$3,018	\$301,758
Total Indirect Costs	\$80,090	\$1,601,794	\$63,369	\$6,336,920
Financing Costs (a)	\$24,274	\$485,488	\$23,968	\$2,396,780
Developer Overhead & Profit (a)	\$55,304	\$1,106,074	\$44,680	\$4,468,044
Total Development Costs	\$516,168	\$10,323,355	\$417,017	\$41,701,744
Total Development Costs (per NSF)		\$224		\$219
Income				
Gross Income/Sales Proceeds	\$1,235,000	\$24,700,000	\$776,000	\$77,600,000
Less: Operating/Sales Expenses & Vacancy				
Net (Operating or Sales) Income	\$1,235,000	\$24,700,000	\$776,000	\$77,600,000
Capitalized Value/Sales Value (c)	\$1,235,000	\$24,700,000	\$776,000	\$77,600,000
Residual Land Value Analysis				
Total Development Costs (TDC) Except Land With Various Levels of Nexus Fee	Nexus Fee per NSF	TDC incl. Nexus Fee	Nexus Fee per NSF	TDC incl. Nexus Fee
No Fee	\$0	\$10,323,355	\$0	\$41,701,744
Scenario 1: Max Fee	\$38	\$12,086,134	\$42	\$49,756,009
Scenario 2	\$25	\$11,473,355	\$25	\$46,451,744
Scenario 3	\$20	\$11,243,355	\$20	\$45,501,744
Scenario 4	\$10	\$10,783,355	\$10	\$43,601,744
Residual Land Value per Sq. Ft. at Various Nexus Fee Levels	Nexus Fee per NSF	Residual Land Value per SF	Nexus Fee per NSF	Residual Land Value per SF
No Fee	\$0	\$133	\$0	\$96
Scenario 1: Max Fee	\$38	\$117	\$42	\$75
Scenario 2	\$25	\$122	\$25	\$84
Scenario 3	\$20	\$124	\$20	\$86
Scenario 4	\$10	\$129	\$10	\$91
Nexus Fee as Percentage of Total Development Costs	Nexus Fee per NSF	Fee as % of TDC	Nexus Fee per NSF	Fee as % of TDC
No Fee	\$0	0.00%	\$0	0.00%
Scenario 1: Max Fee	\$38	14.59%	\$42	16.19%
Scenario 2	\$25	10.02%	\$25	10.23%
Scenario 3	\$20	8.18%	\$20	8.35%
Scenario 4	\$10	4.27%	\$10	4.36%
Current Land Values/ Threshold for Feasibility		\$35-120		\$35-120

Notes:

(a) See Figure VII-5.

(b) This represents a generalized estimate of the fee and permit costs for each prototype, calculated by city staff. Actual fee and permit costs for development projects will vary depending on many factors.

(c) See Figure VII-4.

(d) Feasibility threshold varies by density of prototype. For single-family and townhomes, the threshold is \$35 - \$120 per square foot. For multi-family rental apartments and condominiums, the threshold is \$170 to \$250 per square foot

Acronyms:

SF: square feet

NSF: net square foot

TDC: total development costs

Source: Strategic Economics, 2015.

Figure VII-12. Pro Forma Model Results for Condominium and Apartment Prototypes

Development Costs (Excl. Land & Nexus Fee)	Condominiums		Apartments	
	per Unit	Total	per Unit	Total
Direct Costs (a)				
Building & On-Site Improvements	\$315,000	\$31,500,000	\$209,370	\$41,874,000
Building & Onsite per NSF		\$225		\$210
Parking	\$45,000	\$1,575,000	\$37,500	\$2,625,000
Total Direct Costs	\$360,000	\$36,000,000	\$246,870	\$49,374,000
Total Direct Costs per NSF		\$257		\$248
Indirect Costs (a)				
A&E & Consulting	\$21,600	\$2,160,000	\$14,812	\$2,962,440
Permits & Fees (Excl. Nexus fee) (b)	\$24,016	\$2,401,620	\$20,508	\$4,101,603
Taxes, Insurance, Legal & Accounting	\$10,800	\$1,080,000	\$7,406	\$1,481,220
Other Indirect Costs	\$10,800	\$1,080,000	\$7,406	\$1,481,220
Contingency	\$3,361	\$336,081	\$2,507	\$501,324
Total Indirect Costs	\$70,577	\$7,057,700	\$52,639	\$10,527,807
Financing Costs (a)	\$29,624	\$2,962,370	\$20,606	\$4,121,244
Developer Overhead & Profit (a)	\$55,224	\$5,522,408	\$38,414	\$7,682,766
Total Development Costs	\$515,425	\$51,542,479	\$358,529	\$71,705,817
Total Development Costs (per NSF)		\$368		\$360
Income				
Gross Income/Sales Proceeds	\$566,000	\$56,600,000	\$42,342	\$8,468,400
Less: Operating/Sales Expenses & Vacancy			\$14,820	\$2,963,940
Net (Operating or Sales) Income	\$566,000	\$56,600,000	\$27,522	\$5,504,460
Capitalized Value/Sales Value (c)	\$566,000	\$56,600,000	\$550,446	\$110,089,200
Residual Land Value Analysis				
Total Development Costs (TDC) Except Land With Various Levels of Nexus Fee	Nexus Fee per NSF	TDC incl. Nexus Fee	Nexus Fee per NSF	TDC incl. Nexus Fee
No Fee	\$0	\$51,542,479	\$0	\$71,705,817
Scenario 1: Max Fee	\$46	\$57,922,500	\$67	\$85,001,600
Scenario 2	\$25	\$55,042,479	\$25	\$76,690,817
Scenario 3	\$10	\$52,942,479	\$15	\$74,696,817
Scenario 4	\$5	\$52,242,479	\$5	\$72,702,817
Residual Land Value per Sq. Ft. at Various Nexus Fee Levels	Nexus Fee per NSF	Residual Land Value per SF	Nexus Fee per NSF	Residual Land Value per SF
No Fee	\$0	\$52	\$0	\$175
Scenario 1: Max Fee	\$46	-\$14	\$67	\$114
Scenario 2	\$25	\$16	\$25	\$152
Scenario 3	\$10	\$38	\$15	\$161
Scenario 4	\$5	\$45	\$5	\$170
Nexus Fee as Percentage of Total Development Costs	Nexus Fee per NSF	Fee as % of TDC	Nexus Fee per NSF	Fee as % of TDC
No Fee	\$0	0.00%	\$0	0.00%
Scenario 1: Max Fee	\$46	11.01%	\$67	15.64%
Scenario 2	\$25	6.36%	\$25	6.50%
Scenario 3	\$10	2.64%	\$15	4.00%
Scenario 4	\$5	1.34%	\$5	1.37%
Current Land Values/ Threshold for Feasibility		\$150 - \$250		\$150 - \$250

Notes:

(a) See Figure VII-5.

(b) This represents a generalized estimate of the fee and permit costs for each prototype, calculated by city staff. Actual fee and permit costs for development projects will vary depending on many factors.

(c) See Figure VII-4.

(d) Feasibility threshold varies by density of prototype. For single-family and townhomes, the threshold is \$35 - \$120 per square foot. For multi-family rental apartments and condominiums, the threshold is \$170 to \$250 per square foot

Acronyms:

SF: square feet

NSF: net square foot

TDC: total development costs

Source: Strategic Economics, 2015.

ADDITIONAL POLICY CONSIDERATIONS

While the nexus study provides the necessary economic analysis for the residential impact fees, it is up to policymakers to decide what percentage of the maximum fee to be charged on 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 residential fees would increase with a new residential impact fee;
- How a residential impact fee in Redwood City would compare with those in neighboring jurisdictions; and
- How a residential impact fee fits into Redwood City's overall housing strategy.

A discussion of each of these topics is presented below.

Comparison to Existing Fees on Residential Development

Figure VII-13 presents information on current city fees charged on the four residential prototypes included in this nexus analysis. It also demonstrates the effect of the residential impact fee scenarios on overall city permits and fees.

Currently, Redwood City's fees for the residential prototypes are estimated to range from \$14 to \$21 per square foot for the four prototypes.²⁹ Once the nexus-based residential impact fees at various levels are added to existing fees, the total fees increase as presented in Figure VII-13. The maximum fee (Scenario 1) increases total fees by over 300 percent for all prototypes.

²⁹ The fee estimates presented above represent the best approximations available from Redwood City.

Figure VII-13. Redwood City Total Residential Fees Under Selected Fee Scenarios

	Single-Family Detached	Townhouses with Tuck-Under Podium Parking	Condominiums with Underground Parking	Apartments
Number of Units in Prototype	20	100	100	200
Average Unit Size	2,300	1,900	1,400	997
Total Existing City Fees and Permits for Prototype (Excluding Nexus Fees)	\$669,918	\$2,615,162	\$2,401,620	\$4,101,603
Existing Fees and Permits per Unit (Excluding Nexus Fees)	\$33,496	\$26,152	\$24,016	\$20,508
Existing Fees and Permits per SF (Excluding Nexus Fees)	\$15	\$14	\$17	\$21
Fee Scenario 1: Maximum Fees				
Nexus Fee Per Unit	\$88,139	\$80,543	\$63,800	\$66,479
Total Nexus Fees for Prototype	\$1,762,779	\$8,054,265	\$6,380,021	\$13,295,783
Combined Existing and Nexus Fees for Prototype	\$2,432,697	\$10,669,427	\$8,781,641	\$17,397,385
Combined Fees Per Unit	\$121,635	\$106,694	\$87,816	\$86,987
Combined Fees Per SF	\$53	\$56	\$63	\$87
Fee Scenario 2				
Nexus Fee Per Unit	\$57,500	\$47,500	\$35,000	\$24,925
Total Nexus Fees for Prototype	\$1,150,000	\$4,750,000	\$3,500,000	\$4,985,000
Combined Existing and Nexus Fees for Prototype	\$1,819,918	\$7,365,162	\$5,901,620	\$9,086,603
Combined Fees Per Unit	\$90,996	\$73,652	\$59,016	\$45,433
Combined Fees Per SF	\$40	\$39	\$42	\$46
Fee Scenario 3				
Nexus Fee Per Unit	\$46,000	\$38,000	\$14,000	\$14,955
Total Nexus Fees for Prototype	\$920,000	\$3,800,000	\$1,400,000	\$2,991,000
Combined Existing and Nexus Fees for Prototype	\$1,589,918	\$6,415,162	\$3,801,620	\$7,092,603
Combined Fees Per Unit	\$79,496	\$64,152	\$38,016	\$35,463
Combined Fees Per SF	\$35	\$34	\$27	\$36
Fee Scenario 4				
Nexus Fee Per Unit	\$23,000	\$19,000	\$7,000	\$4,985
Total Nexus Fees for Prototype	\$460,000	\$1,900,000	\$700,000	\$997,000
Combined Existing and Nexus Fees for Prototype	\$1,129,918	\$4,515,162	\$3,101,620	\$5,098,603
Combined Fees Per Unit	\$56,496	\$45,152	\$31,016	\$25,493
Combined Fees Per SF	\$25	\$24	\$22	\$26

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

Comparison to Neighboring Jurisdictions

It is challenging to compare the potential residential impact fee in Redwood City to the adopted fees in neighboring jurisdictions, because most cities in San Mateo County are participating in the multi-city nexus studies, and the fee levels may change. However, Figure VII-14 provides the most up-to-date information available to compare Redwood City's potential fee scenarios to existing residential impact fees in jurisdictions in San Mateo and Santa Clara Counties.

If the maximum impact fees calculated for Redwood City were adopted for the four prototypes, they would all exceed the fees charged in neighboring jurisdictions, as listed in Figure VII-14. The recommended fee levels of \$25 per square foot for single-family detached and townhouse prototypes, and a fee range of between \$15 and \$25 per square foot for condominiums and apartments, are comparable to those currently in place in nearby cities.

Figure VII-14. Comparison with Fees in Neighboring Jurisdictions

	Single Family Detached	Townhouses	Condominiums	Apartments	Date Fee Was Adopted
Redwood City Fee Scenarios					
Scenario 1 - Maximum Fee					N/A
Per SF	\$38	\$42	\$46	\$67	
Per Unit	\$88,139	\$80,543	\$63,800	\$66,479	
Scenario 2					N/A
Per SF	\$25	\$25	\$25	\$25	
Per Unit	\$57,500	\$47,500	\$35,000	\$24,925	
Scenario 3					N/A
Per SF	\$20	\$20	\$10	\$15	
Per Unit	\$46,000	\$38,000	\$14,000	\$14,955	
Scenario 4					N/A
Per SF	\$10	\$10	\$5	\$5	
Per Unit	\$23,000	\$19,000	\$7,000	\$4,985	
Impact Fees					
Cupertino	\$15/SF	\$16.50/SF (a)	\$20/SF	\$25/SF	2015
Daly City	\$14/SF	\$18/SF (b)	\$22/SF	\$25/SF	2014
East Palo Alto	\$24/SF	\$23/SF	\$23-\$44/SF (c)	\$23/SF	2014
Mountain View	N/A	N/A	N/A	\$15/SF	2015
San Carlos (d)	\$24-\$44/SF	\$21-\$42/SF	\$21-\$42/SF	\$24-\$44/SF	2010
San Jose	N/A	N/A	N/A	\$17/SF (e)	2014
Sunnyvale	N/A	N/A	N/A	\$17/SF (f)	2015
Inclusionary Policies and In-Lieu Fees					
Mountain View	3% of Sales Price	3% of Sales Price	3% of Sales Price	N/A	2015
	Inclusionary @ 15% or	Inclusionary @ 15% or	Inclusionary @ 15% or		
San Jose (g)	\$17/SF in-lieu fee	\$17/SF in-lieu fee	\$17/SF in-lieu fee	N/A	2014
Sunnyvale	7% of Sales Price	7% of Sales Price	7% of Sales Price	N/A	2015

Notes:

(a) This fee applies to small lot single family and townhomes.

(b) This fee applies to townhomes.

(c) Fee ranges from \$22 per square foot for for-sale housing without structured parking to \$44 per square foot for housing with structured parking.

(d) Fees shown as ranges. Actual fees charged depend on project size.

(e) Fee goes into effect in 2016. Developments approved by July 2016 are exempt with a longer exemption for downtown development.

(f) Fees for projects that are between 4 and 7 units pay 50 percent of this fee.

(g) Inclusionary policy and in-lieu fee apply to for-sale developments of more than 20 units.

Sources: The Non-Profit Housing Association of Northern California; City of San Carlos Municipal Code; Vernazza Wolfe Associates, Inc; Strategic Economics, 2015.

The potential fee scenarios can also be compared with existing residential impact fees in other Bay Area cities outside of San Mateo County and Santa Clara County for regional context. This list is not an exhaustive inventory of all Bay Area cities with residential impact fees, but it provides information about many cities that have fees on housing. As shown in Figure VII-15, housing impact fees in other Bay Area cities vary significantly from city to city.

Figure VII-15. Existing Housing Impact Fees in Bay Area Cities

City	Project Type	Amount
Berkeley	Rental Development	\$28,000 per unit (\$8,000 discount for eligible projects)
Emeryville	Rental Residential Projects	\$20,000 per dwelling unit
Fremont	For-Sale and Rental Development	\$19.50 per habitable SF \$22.50 per habitable SF for single family homes on lots 6,000 SF or greater.
Livermore	For-Sale and Rental Development	Based on type of dwelling produced
Napa	For Sale and Rental Development	Single Family: \$ 2.20 per SF Condo: \$2.20 per SF Rental: \$3.75 per sq.
Pleasanton	For-Sale and Rental Development	Single Family (over 1,500 SF): \$10,880 per unit Single Family (1,500 SF or less) and Multi-family (Apt. or Condo): \$2,696 per unit Adjusted annually based on CPI
San Francisco	Any housing project that consists of five or more units	\$199,698 per studio unit \$270,411 per 1 bedroom unit \$367,711 per 2 bedroom unit \$419,621 per 3 bedroom unit \$522,545 per 4 bedroom unit
Santa Rosa	For-Sale and Rental Development	2.5% of sale price of for-sale units. Based on SF for rentals

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

Role of Fees in Overall Housing Strategy

Redwood City does not currently have an inclusionary housing program or a residential impact fee in place. The revenues to be collected from a residential impact fee 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.

Currently, affordable housing in Redwood City is funded through the use of a variety of sources, including funding provided by Redwood City and San Mateo County, as well as the federal government, e.g., the CDBG and 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.

Residential impact fee revenues (and commercial linkage 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 residential impact 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 commercial linkage nexus study simultaneously, and may soon adopt a commercial linkage fee in a parallel process to the residential impact 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 residential impact fee nexus analysis examines 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 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. However, the recommendations presented in this study (and in the commercial linkage fee study) do not exceed the nexus, even if every job counted in the residential nexus study was duplicated in the commercial linkage fee study.

The calculations below show that the nexus fee levels recommended in both studies represent less than the justified nexus amount.

- First, the recommended linkage fees are less than the maximum justified nexus amount for all prototypes. Therefore, the commercial linkage fee would mitigate less than 100 percent of the demand for affordable units generated by the new non-residential space.
- Secondly, the recommended residential impact fee levels are also less than 100 percent of the maximum fee level supported by the residential nexus analysis. When combined with the commercial linkage fee, the two 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

When adopting a residential impact fee, there are several administrative issues to consider. First, does the City want to encourage smaller units? By charging lower fees for smaller units, it is possible that it could encourage development of smaller units.

Secondly, similar to any impact fee, it will be necessary to adjust the residential impact fees on an annual basis. Adjustments are also needed due to possible changes in the affordability gap. However, the connection between new residential construction and growth in employment derived from the IMPLAN3 Model is unlikely to change in the short run.

It is advisable that the City adjusts its residential impact 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 Redwood City's development costs, including land, specifically, there are a few options to consider.

- The first option is the Consumer Price Index (CPI) Shelter component. The shelter component of the CPI 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 region, the smallest geographical area available for this purpose, is available on an annual basis. The ENR cost index measures inflation in construction costs, but it does not incorporate changes in land costs or public fees charged on new development.

Because these indices are readily available, reliable, and relatively simple to use, it is recommended that Redwood City use these indices for annual adjustments. However, because both understate the magnitude of inflation, it is 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 residential impact 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 ensure that the fee is still based on a cost-revenue structure that remains applicable in the Redwood City housing market. In this way, the fee will more accurately reflect any potential structural changes in the relationships between affordable prices and rents, market-rate prices and rents, and development costs.

VIII. 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.

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.³⁰ 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.

IMPLAN3: A software model that is used to provide a quantitative assessment of the interdependencies between different branches of a regional (or national) economy. The latest model, IMPLAN3, was used in the nexus studies. The major input is household income, and the major output is direct and induced employment reported by industries

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.

³⁰ Mortgage terms for first-time homebuyers typically allow down payment of five percent; these terms require private mortgage insurance.

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.

Prototypes: 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 or 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
TDC:	Total Development Costs