



**ECONOMIC EVALUATION OF CITY OF CUPERTINO HOUSING  
PROGRAM TO INCENTIVIZE THE PRODUCTION OF AFFORDABLE  
HOUSING**

*A Report to*  
**THE CITY OF CUPERTINO**

*Prepared by*  
**HAUSRATH ECONOMICS GROUP**

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# ECONOMIC EVALUATION OF CITY OF CUPERTINO HOUSING PROGRAM TO INCENTIVIZE THE PRODUCTION OF AFFORDABLE HOUSING

## Introduction

Hausrath Economics Group (HEG) has been asked to evaluate the housing program recently adopted by the City of Cupertino to incentivize the production of affordable housing by allowing for density bonuses up to 40 percent (City Council Resolution 20-141, December 15, 2020). The program was developed in compliance with Government Code Section 65915(s), a provision of AB 2345 (Chapter 197, Statutes of 2020), which allows cities to adopt their own program to incentivize the construction of affordable housing, as an alternative to the program included in AB 2345. AB 2345 exempts from certain of its requirements cities that have a “housing program” or ordinance or both that incentivizes development of affordable housing by allowing bonuses that exceed the prior maximum 35 percent density bonus.

The City’s program maintains the same incremental increase in bonus density codified in prior density bonus legislation (Government Code 65915): 2.5 percent for every 1 percent increase in very low-income units; 1.5 percent increase for every 1 percent increase in low-income units, and 1 percent increase for every 1 percent increase in moderate-income units. This evaluation is undertaken to determine whether or not the housing program adopted in December by the City of Cupertino incentivizes the production of affordable housing by offering density bonuses up to 40 percent.

## Approach and Background Research

### *Sources*

In addition to the staff report and resolution mentioned above, HEG reviewed other background documents to complete this evaluation: AB 2345 legislative history and letters from both supporters and opponents; information describing the City of San Diego’s 2018 housing program—*HousingSD*—that was the model for AB 2345 (City Council Staff Report, *HousingSD—Amendments to the City’s Affordable Housing Density Bonus Regulations*, December 5, 2017; and *Good Bargain: An Updated Evaluation of San Diego’s Affordable Homes Bonus Program*, Circulate San Diego, May 2020); and *Revisiting California’s Density Bonus Law: Analysis of SB 1085 and AB 2345*, Turner Center for Housing Innovation, July 2020.

### *2019 Economic Feasibility Analysis of the Cupertino Below Market Rate Housing Program Provides Feasibility Framework*

To prepare a quantitative evaluation of whether or not the increase in the density bonus from a maximum of 35 percent up to a maximum of 40 percent would incentivize the production of affordable housing by generating sufficient development revenue to offset the additional cost of providing more affordable housing, HEG relied on the financial feasibility framework presented in a July 16, 2019 report prepared for the City of Cupertino by Strategic Economics: *Economic Feasibility Analysis – Cupertino Below Market Rate Housing Program* (July 2019 Economic Feasibility Analysis). This analysis evaluated changes to the City’s Below Market Rate (BMR) Housing Program, focusing on the potential to increase the inclusionary requirements (percentage of BMR housing required to be provided on-site).

The July 2019 Economic Feasibility Analysis defined representative residential development prototypes and developed a static real estate development pro forma model for each to evaluate how changes in the BMR inclusionary requirements would change the net revenue from new development, thereby determining whether or not a development project was financially feasible. The pro forma models were also used to test the sensitivity of the feasibility conclusions to changes in project revenues and costs, for example, how much higher would rents have to be to generate a return that met or exceeded the feasibility threshold.

A similar approach was applied in this evaluation of Cupertino's housing program to incentivize affordable housing production and to answer the following question: Do increases in the percentage of affordable units provided (increases in costs) and associated increases in the number of market rate units (increases in density) allowed under different density bonus assumptions result in higher net revenue and increases in the return or yield on new development, thereby incentivizing the production of affordable housing?

These questions are evaluated for three of the prototypes analyzed in the July 2019 Economic Feasibility Analysis:

- ◆ a three-story multi-family rental building with a density of 35 units per acre and parking in an above-ground podium;
- ◆ a higher-density 6-story multi-family rental building with a density of 76 units per acre; parking in an above-ground podium, and
- ◆ a three-story multi-family condominium building with a density of 35 units per acre and parking in an above-ground podium.

The conclusions of the July 2019 Economic Feasibility Analysis formed the basis for the City Council's decision to increase the inclusionary requirement for ownership housing from 15 percent to 20 percent—a BMR Housing Program change adopted in 2020. Although developed in 2018 and 2019, the data and information used to define the prototypes and the pro forma model assumptions remain relevant for this current analysis. First, the prototypes were defined to represent the range of typical residential development expected in Cupertino (this expectation has not changed), and the prototypes were based on recently completed projects or development proposals in the pipeline. The building characteristics for each prototype were based on prototypes analyzed in the City's 2015 Nexus Study.<sup>1</sup> At least two important recent housing policy analyses in Cupertino have also based economic evaluations on these prototypes.

Although market conditions may have changed since the 2019 Economic Feasibility Analysis was written, it is nevertheless valid to use the report's pro forma models to evaluate how changes in the parameters of the project (number of affordable and market rate units) change the calculation of profit to the developer. The analysis can appropriately conclude that, under this set of market conditions, these

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<sup>1</sup> Keyser Marston Associates, *Residential Below Market Rate Housing Nexus Analysis*, prepared for the City of Cupertino, March 2015.

changes to project development parameters result in either an increase or decrease in project net revenue or net operating income compared to base case project parameters.

### **Revenue and Cost Assumptions for the Feasibility Analysis**

HEG used the per-unit revenue and cost factors from the July 2019 Economic Feasibility Analysis to create new pro forma models and feasibility analyses evaluating the implications of different affordability and density bonus scenarios. As in the 2019 analysis, some of the prototype revenue and cost estimates remain constant across all scenarios: the amount of retail space and associated revenue/value and cost estimates, land cost, and site preparation and demolition costs. Some costs (soft costs and financing) are calculated as a percentage of hard and/or soft costs. HEG adjusted the city fee cost estimate for affordable units assuming that the parkland dedication fee would be waived for below market rate units and that these units would be exempt from the construction tax. For estimating the cost of off-street parking, HEG assumed the reduced off-street parking maximums allowed under state density bonus law: one space per bedroom for studio and one-bedroom units and 1.5 spaces per bedroom for two- and three-bedroom units.

### **Rental Apartment Development Scenarios Evaluated**

HEG defined a range of housing development scenarios to determine how more affordable housing units combined with higher density bonus allowances providing for more market rate units would change the calculation of project feasibility as measured by yield on cost (total project net operating income divided by total development cost). All of the scenarios start with the base program defined in the July 2019 Economic Feasibility Analysis: 100 market rate units at the base development density for each prototype. As in the July 2019 Economic Feasibility Analysis, this analysis evaluates different assumptions about the number of affordable units in the project and, for current purposes, the number of market rate units added through density bonus allowances. **Appendix Table A.1** shows the scenarios analyzed for each rental apartment prototype, detailing the total number of units, the count of market rate and affordable units, and the mix of affordable units by income category.

For rental apartment development the scenarios are:

- ◆ Base Case Inclusionary: 30 percent density bonus for 9 percent very low-income and 6 percent low-income units
- ◆ Prior Law Maximum: 35 percent density bonus for 11 percent very low-income and 4 percent low-income units
- ◆ Case A under Cupertino's December 2020 Housing Program: 40 percent maximum density bonus for 13 percent very low-income and 2 percent low-income units

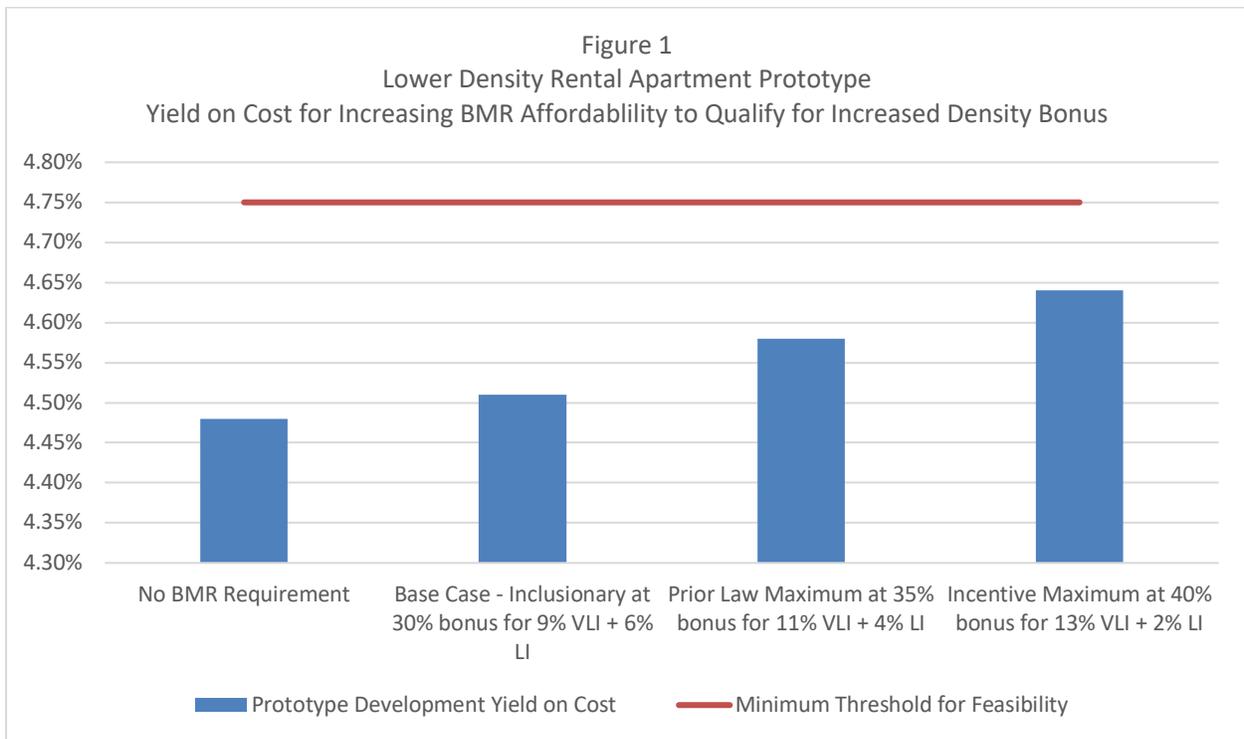
### **Higher Density Bonus Allowances Incentivize Affordable Rental Housing Development**

The results of the feasibility analysis of the housing scenarios for each rental apartment prototype are presented in below. **Appendix Tables A.2 and A.3** present the detailed pro forma analysis for each prototype.

*Lower Density Rental Apartment Development*

For the lower density rental apartment prototype, assuming the lowest number of BMR units are provided (15 percent of the base units), but more provided at the very low-income level, the 40 percent maximum density bonus offers a higher yield on cost than both the base case inclusionary requirement and the prior density bonus maximum of 35 percent. The difference is small, but the direction of the feasibility trend is clear (**Figure 1**).

Under the market conditions analyzed, the lower-density rental apartment prototype remains below the minimum threshold for feasibility in all cases, however. The July 2019 Economic Feasibility Analysis concluded that a 15 percent inclusionary requirement would be feasible for this prototype if the developer were able to increase revenues or reduce costs by 15 percent. This analysis indicates that the revenue increase or cost reduction required for a feasible project would be less with the higher density bonus incentive.

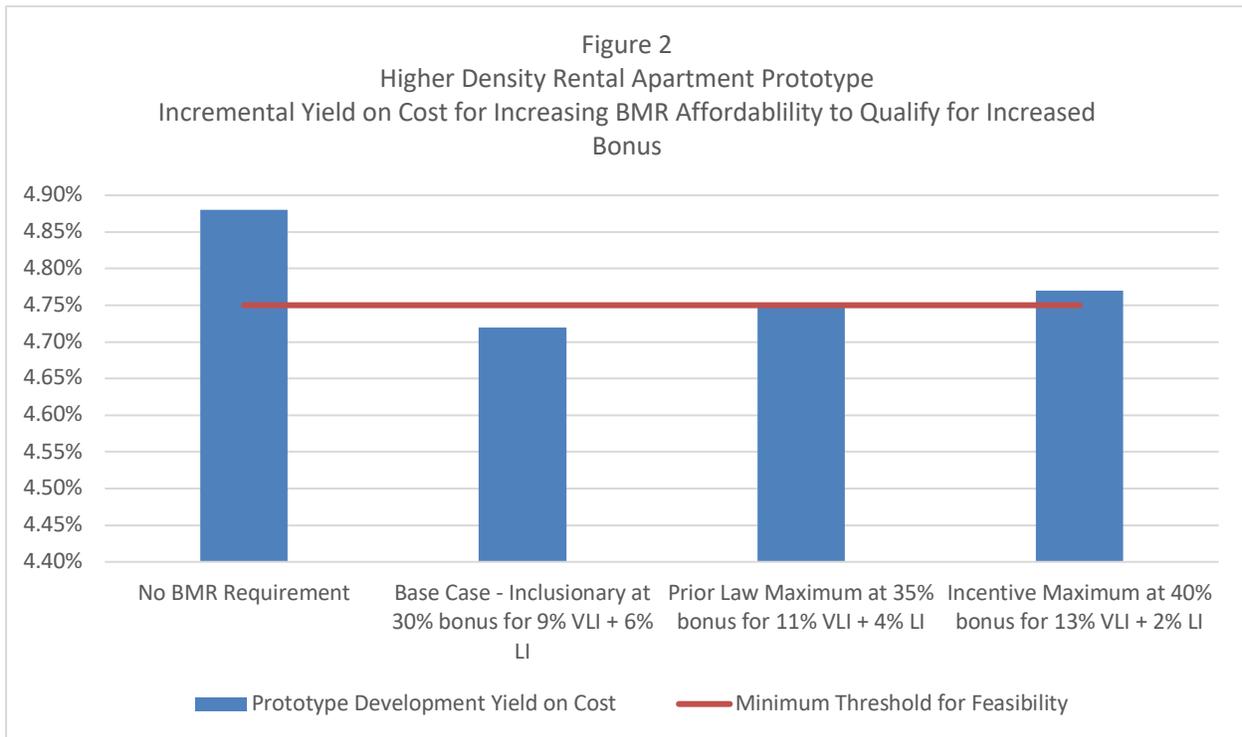


*Higher Density Rental Apartment Development*

The analysis of the higher-density rental apartment prototype also indicates that a higher density bonus maximum incentivizes the production of very low-income units. As for the analysis of the lower-density rental apartment prototype, each case evaluates development providing the lowest number of BMR units (15 percent of the base density units). The density bonus allowance increases as more very low-income units are provided. While the yield on cost under the base case inclusionary requirement with a 30 percent density bonus is just below the minimum threshold for feasibility, the 35 percent density bonus maximum under prior law moves the project into the feasible category at a yield of 4.75 percent. The 40 percent maximum under Cupertino’s December 15, 2020 housing program results in higher yields and a more

feasible project. As with the lower-density rental prototype, the differences are small, but the direction of the feasibility trend is clear (**Figure 2**).

This prototype benefits from the cost efficiencies of higher-density development, most notably in the land and site preparation costs that are spread over a larger number of units. The July 2019 Economic Feasibility Analysis found that this higher density rental apartment prototype could feasibly support a 15 percent inclusionary requirement if the developer achieved revenues that were 10 percent higher or construction and/or land costs that were 5 percent lower. This analysis shows that a 35 percent density bonus for more very low-income units achieves the same result and a 40 percent density bonus for even more very low-income units results in an even higher yield on cost, eliminating the need for revenue increases or cost reductions.



### **Density Bonus Incentives Are Stronger for Rental Housing Development than for Ownership Housing Development**

Following state density bonus law, Cupertino’s BMR Housing Program has different affordability requirements for ownership and rental housing development. Ownership housing development of seven or more units is required to provide 20 percent of units affordable to median and moderate income households (10 percent to each income category). Rental housing development of seven or more units is required to provide 15 percent of units affordable to very-low income and low-income households (at a 9%/6% mix). Density bonus legislation establishes stronger incentives for adding units at the lower levels of affordability in rental development than for adding moderate income units in ownership housing development. **Table 1** shows the density bonus allowances by income category for selected affordability levels up to the maximum of 40 percent provided by Cupertino’s December 15, 2020 housing program.

**Table 1: Density Bonus Percentage for Selected Affordability Percentages by Income Category**

Selected Affordable Unit Percentage	Density Bonus Percentage		
	Very Low Income	Low Income	Moderate Income <sup>1</sup>
5%	20%	na	na
9%	30%	na	na
10%	33%	20%	5%
11%	35%	22%	6%
13%	40%	24.5%	8%
<b>15%</b>	<b>40%</b>	27.5%	10%
20%	40%	35%	15%
<b>23%</b>	40%	<b>40%</b>	18%
25%	40%	40%	20%
30%	40%	40%	25%
35%	40%	40%	30%
40%	40%	40%	35%
<b>45%</b>	40%	40%	<b>40%</b>

Note: Highlighted cells indicate affordable percentages associated with maximum 40 percent density bonus by income category.

1. Moderate income applies to for-sale housing only.

Source: City of Cupertino, City Council Staff Report, December 15, 2020

In rental housing development, providing five percent very-low-income units allows a 20 percent density bonus. Meeting the minimum 15 percent Cupertino BMR Housing program requirement by providing nine percent very-low-income units and six percent low-income units allows a 30 percent density bonus while a relatively small incremental increase in affordability (13 percent very-low-income units and two percent low-income units) allows the incentivized maximum density bonus of 40 percent. By contrast, for condominium development, Cupertino’s BMR Housing Program requirement of 20 percent moderate income units allows only a 15 percent density bonus; to qualify for the maximum density bonus of 40 percent, developers must provide 45 percent of the units at below-market-rate prices.

Very few larger-scale ownership housing developments pursue density bonus incentives at the high end of the affordability range. HEG evaluated the three-story lower density condominium prototype using the pro forma model from the July 2019 Economic Feasibility Analysis. That original analysis found that condominium development could support a 20 percent BMR requirement, without a density bonus. This base case inclusionary scenario qualifies for a 15 percent bonus, enhancing project feasibility. However, the economics of ownership housing development do not support the magnitude of the subsidy required to provide significantly higher proportions of below-market-rate units affordable to median and moderate-income households. Even the higher bonuses allowed under AB 2345 (up to 50 percent density bonus for 45 percent moderate income affordable units) do not generate enough project revenue to offset the BMR subsidy, resulting in lower returns to the developer than the base case inclusionary requirement scenario (15 percent density bonus for 20 percent of units affordable to median and moderate-income households).

This conclusion is supported by San Diego's experience with a 50 percent bonus for 40 percent moderate income affordable units. After 20 months of development under the Affordable Homes Bonus Program (AHBP) adopted by the San Diego City Council in 2016, **all** of the mixed income density bonus projects included very low-income units rather than moderate income units. Of 26 mixed income projects tracked during the Sept 2016 to April 2018 analysis period, the highest affordability percentage was 20 percent and this was the case for only two projects, because higher rates of return were possible with a smaller percentage of very low-income units.<sup>2</sup>

## **Conclusions**

Cupertino's December 15, 2020 housing program increasing the density bonus allowance above 35 percent, to a maximum of 40 percent, achieves its goal of incentivizing affordable housing production. Specifically, it incentivizes affordable housing production for rental housing development. The above analysis indicates that, for rental apartments providing very low-income and low-income affordable units, the higher density bonus enables the developer to produce enough market rate units to offset the additional cost of providing more very low-income units and to improve the overall feasibility of the development project.

The affordable housing density bonus incentive program adopted by the City of Cupertino achieves this incentive while offering the same incremental density bonus under each affordability category established by prior State density bonus legislation at the lower levels of affordability within that category. Under the Cupertino development parameters assumed in this analysis for rental housing, the higher incremental density bonus allowances provided by AB 2345 are not required to incentivize this level of affordable housing production.

Incentivizing affordable housing production for condominium development is much more difficult. For ownership housing development, the net revenue gap (the per-unit subsidy for affordable units provided accounting for lower market values and the cost savings in parking cost and city fees) is greater than the net revenue gap for rental housing. The increase in market rate units allowed under both Cupertino's program and AB 2345 is not great enough to offset the net cost of providing such a large proportion of below-market-rate units. Cupertino's recent actions to increase its BMR inclusionary requirement for ownership housing to 20 percent will therefore be more successful in increasing affordable housing production in condominium development.

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<sup>2</sup> The average affordability percentage for these mixed income projects under the AHBP in San Diego was 14 percent. A 2020 evaluation of the AHBP concluded: "The choice by mixed-income developers to overwhelmingly choose Very Low Income units may not be intuitive, since those units produce only a small amount of rental revenue. However, the bonus programs require relatively few units to be deed-restricted when they are the most deeply affordable. Developer pro formas perform better with the more deeply affordable units, because fewer units overall will produce less- than-market rents." Circulate San Diego, *Good Bargain: An Updated Evaluation of San Diego's Affordable Homes Bonus Program* (May 2020) page 10.

**Table A.1: Housing Mix Scenarios for Density Bonus Incentive Analysis**

<b>Lower Density Rental Apartments</b>		<b>DENSITY BONUS SCENARIOS</b>		
<b>Base Density (du per acre)</b>	<b>35</b>	<b>Base Case - Inclusionary at 30% bonus for 9% VLI + 6% LI</b>	<b>Prior Law Maximum at 35% bonus for 11% VLI + 4% LI</b>	<b>Case A at 40% bonus for 13% VLI + 2% LI</b>
	<b>No BMR Requirement</b>			
Total Units	100	130	136	141
Market Rate Units	100	115	121	126
Affordable Units	-	15	15	15
% very low	na	9%	11%	13%
% low	na	6%	4%	2%
% median	na	0%	0%	0%
% moderate	na	0%	0%	0%

<b>Higher Density Rental Apartments</b>		<b>DENSITY BONUS SCENARIOS</b>		
<b>Base Density (du per acre)</b>	<b>76</b>	<b>Base Case - Inclusionary at 30% bonus for 9% VLI + 6% LI</b>	<b>Prior Law Maximum at 35% bonus for 11% VLI + 4% LI</b>	<b>Case A at 40% bonus for 13% VLI + 2% LI</b>
	<b>No BMR Requirement</b>			
Total Units	100	130	135	140
Market Rate Units	100	115	120	125
Affordable Units	-	15	15	15
% very low	na	9%	11%	13%
% low	na	6%	4%	2%
% median	na	0%	0%	0%
% moderate	na	0%	0%	0%

Source: Hausrath Economics Group

**Table A.2: Financial Feasibility Results for Lower Density Rental Apartment Prototype**

	Base Density (du per acre)	35	DENSITY BONUS SCENARIOS		
			No BMR Requirement	Base Case - Inclusionary at 30% bonus for 9% VLI + 6% LI	Prior Law Maximum at 35% bonus for 11% VLI + 4% LI
Total Units		100	130	136	141
Market Rate Units		100	115	121	126
Affordable Units		-	15	15	15
% very low		na	9%	11%	13%
% low		na	6%	4%	2%
% median		na	0%	0%	0%
% moderate		na	0%	0%	0%
<b>Revenues</b>					
Residential Net Operating Income	\$3,288,285	\$3,781,545	\$3,978,843	\$4,143,258	
Retail Net Operating Income	\$459,000	\$459,000	\$459,000	\$459,000	
Total Net Operating Income	\$3,747,285	\$4,240,545	\$4,437,843	\$4,602,258	
Residential Capitalized Value	\$77,371,400	\$92,446,166	\$96,991,938	\$100,763,996	
Retail Capitalized Value	\$6,557,100	\$6,557,100	\$6,557,100	\$6,557,100	
Total Capitalized Value	\$83,928,500	\$99,003,266	\$103,549,038	\$107,321,096	
<i>Per Unit</i>	\$839,285	\$761,564	\$761,390	\$761,143	
<b>Development Costs</b>					
<b>Land Costs</b>					
Land Costs	\$25,000,000	\$25,000,000	\$25,000,000	\$25,000,000	
<i>Per Unit</i>	\$250,000	\$192,308	\$183,824	\$177,305	
<b>Direct Costs</b>					
Site Prep/Demo	\$3,267,000	\$3,267,000	\$3,267,000	\$3,267,000	
Gross Residential Area	\$27,553,750	\$35,819,875	\$37,473,100	\$38,850,788	
Gross Retail Area	\$1,300,000	\$1,300,000	\$1,300,000	\$1,300,000	
Parking	\$8,400,000	\$6,982,500	\$7,227,500	\$7,437,500	
Subtotal Direct Costs	\$40,520,750	\$47,369,375	\$49,267,600	\$50,855,288	
<i>Per Unit</i>	\$405,208	\$364,380	\$362,262	\$360,676	
<b>Indirect Costs</b>					
City Fees	\$6,594,875	\$7,747,115	\$8,142,803	\$8,472,543	
Other Soft Costs	\$8,332,958	\$9,947,569	\$10,346,196	\$10,679,610	
<i>Per Unit</i>	\$83,330	\$76,520	\$76,075	\$75,742	
Subtotal Indirect Costs	\$14,927,833	\$17,694,684	\$18,488,999	\$19,152,153	
<i>Per Unit</i>	\$149,278	\$176,947	\$184,890	\$191,522	
<b>Financing</b>					
<i>Per Unit</i>	\$32,765	\$39,038	\$40,654	\$42,004	
<b>Total Development Costs</b>	\$83,725,098	\$93,967,903	\$96,821,995	\$99,207,887	
<i>Per Unit</i>	\$837,251	\$722,830	\$711,926	\$703,602	
<b>Feasibility</b>					
Net Revenue <sup>1</sup>	\$203,402	\$5,035,363	\$6,727,043	\$8,113,209	
Yield on Cost <sup>2</sup>	4.48%	4.51%	4.58%	4.64%	
Meets or Exceeds Threshold YOC (4.75-5.25%)	NO	NO	NO	NO	

Note: Highlighted rows indicate revenue and cost elements that are constant across the cases. These elements are independent of the total number of units and of the mix of market rate and affordable units.

1. Net Revenue is the project total revenue minus total development costs.

2. Yield on cost is total project net operating income divided by total development costs.

Source: Hausrath Economics Group based on Strategic Economics, 2018.

**Table A.3: Financial Feasibility Results for Higher Density Rental Apartment Prototype**

Base Density (du per acre)	76	DENSITY BONUS SCENARIOS		
		No BMR Requirement	Base Case - Inclusionary at 30% bonus for 9% VLI + 6% LI	Prior Law Maximum at 35% bonus for 11% VLI + 4% LI
Total Units	100	130	135	140
Market Rate Units	100	115	120	125
Affordable Units	-	15	15	15
% very low	na	9%	11%	13%
% low	na	6%	4%	2%
% median	na	0%	0%	0%
% moderate	na	0%	0%	0%
<b>Revenues</b>				
Residential Net Operating Income	\$3,288,285	\$3,781,545	\$3,945,960	\$4,110,375
Retail Net Operating Income	\$688,500	\$688,500	\$688,500	\$688,500
Total Net Operating Income	\$3,976,785	\$4,470,045	\$4,634,460	\$4,798,875
Residential Capitalized Value	\$77,371,400	\$92,446,166	\$96,218,224	\$99,990,282
Retail Capitalized Value	\$9,835,650	\$9,835,650	\$9,835,650	\$9,835,650
Total Capitalized Value	\$87,207,050	\$102,281,816	\$106,053,874	\$109,825,932
<i>Per Unit</i>	\$872,071	\$786,783	\$785,584	\$784,471
<b>Development Costs</b>				
<b>Land Costs</b>				
Land Costs	\$13,157,895	\$13,157,895	\$13,157,895	\$13,157,895
<i>Per Unit</i>	\$131,579	\$101,215	\$97,466	\$93,985
<b>Direct Costs</b>				
Site Prep/Demo	\$1,719,474	\$1,719,474	\$1,719,474	\$1,719,474
Gross Residential Area	\$35,175,000	\$45,727,500	\$47,486,250	\$49,245,000
Gross Retail Area	\$1,950,000	\$1,950,000	\$1,950,000	\$1,950,000
Parking	\$9,100,000	\$7,682,500	\$7,892,500	\$8,102,500
Subtotal Direct Costs	\$47,944,474	\$57,079,474	\$59,048,224	\$61,016,974
<i>Per Unit</i>	\$479,445	\$439,073	\$437,394	\$435,836
<b>Indirect Costs</b>				
City Fees	\$6,724,069	\$7,912,645	\$8,248,845	\$8,585,045
Other Soft Costs	\$9,877,239	\$11,986,690	\$12,400,127	\$12,813,565
<i>Per Unit</i>	\$98,772	\$92,205	\$91,853	\$91,525
Subtotal Indirect Costs	\$16,601,308	\$19,899,335	\$20,648,972	\$21,398,610
<i>Per Unit</i>	\$166,013	\$153,072	\$152,955	\$152,847
<b>Financing</b>				
<i>Per Unit</i>	\$38,181	\$35,529	\$35,421	\$35,321
<b>Total Development Costs</b>	\$81,521,824	\$94,755,433	\$97,636,923	\$100,518,414
<i>Per Unit</i>	\$815,218	\$728,888	\$723,236	\$717,989
<b>Feasibility</b>				
Net Revenue <sup>1</sup>	\$5,685,226	\$7,526,383	\$8,416,951	\$9,307,518
Yield on Cost <sup>2</sup>	4.88%	4.72%	4.75%	4.77%
Meets or Exceeds Threshold YOC (4.75-5.25%)	YES	NO	YES	YES

Note: Highlighted rows indicate revenue and cost elements that are constant across the cases. These elements are independent of the total number of units and of the mix of market rate and affordable units.

1. Net Revenue is the project total revenue minus total development costs.

2. Yield on cost is total project net operating income divided by total development costs.

Source: Hausrath Economics Group based on Strategic Economics, 2018.



## Overview

**Hausrath Economics Group (HEG)** specializes in urban economics, real estate economics, market and financial feasibility analysis, economic revitalization and economic development, industry analysis and forecasting, economic benefit/impact assessment, economic and land use development forecasting, property use and reuse analysis, and fiscal and public finance analysis. The majority of the firm's work is in northern California and the San Francisco Bay Area, and includes a large share of ongoing work in Oakland, the East Bay, and San Francisco. In all our project work, HEG maintains a reputation for thorough analysis, creative strategies, realistic implementation programming, and responsiveness to both client and community concerns.

The firm was founded in 1978 and has been located in downtown Oakland since 1982. The firm has two owners and principals and is a 100 percent woman-owned business. Linda Hausrath is founding principal and Sally Nielsen has been with HEG since 1981.

HEG works for a broad spectrum of clients in the public and private sectors: local and regional governments, other public agencies, landowners and real estate developers, nonprofit entities, merchants' and business associations, attorneys, and citizen groups. Because of that range of exposure and the quality of our work, HEG is recognized for providing objective analysis that addresses the often multi-faceted perspectives on a given project.

## Expertise in Development Feasibility Analysis

HEG is qualified to undertake the following types of assignments related to analysis of mixed use development projects:

- ◆ Real estate market assessments for residential, office, commercial, and industrial uses
- ◆ Financial feasibility analysis
- ◆ Development pro forma analysis and review
- ◆ Financing plans, including public improvements and infrastructure
- ◆ Property use and reuse analysis; highest and best use analysis
- ◆ Public/private development projects: implementation and funding programs; evaluation of public participation; developer/City negotiations
- ◆ Land residual/land value analysis; land acquisition or disposition strategies/terms
- ◆ Economic benefit analysis; community benefit funding

(continued on page 2)

HEG recently completed an extensive series of consulting services for a large mixed-use urban campus project in the City of Oakland. HEG prepared market analysis for office and residential uses and financial feasibility analysis and public financial analysis for a range of project alternatives. Site assembly involved acquisition of a large city-owned parcel complicating the review and approval process. HEG was a key member of the team negotiating development terms and conditions for the project with city staff and decision makers. HEG's products included technical analysis on market, financial, and public benefit topics, technical reports, and summary materials for public and community meetings.

In 2016, Oakland adopted a new citywide development impact fee program. HEG was the prime contractor for the nexus and economic feasibility studies needed to support fee adoption. Technical work centered around the development of pro forma cash flow models for representative development projects throughout Oakland (housing, office, retail/commercial, industrial), and using these models to analyze the impacts of fee program options on development feasibility. HEG was also responsible for aspects of the Affordable Housing Nexus Analysis, focusing on equivalencies between a mitigation fee and on-site mitigation options.

## SALLY NIELSEN

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Sally Nielsen has extensive experience defining and analyzing land use and planning policies from the economic perspective. Since joining HEG in 1981, she has prepared forecasts of employment, population, and future development patterns; economic impact analyses; market studies; as well as fiscal impact and public financing studies, including development impact fee nexus analyses. She has developed complex, well-documented models for estimating the cost implications of proposed policies and plans.

Recent work has focused on evaluating the local benefits of major development projects. This includes estimating on-going local public revenues and one-time impact fees, as well as economic development benefits from jobs, additions to the housing inventory, and increased retail and services spending.

Ms. Nielsen's experience with development impact fee nexus analysis includes a transportation systems improvement development impact fee nexus study and a park, recreation, and open space development impact fee nexus study for the *Transit Center District Plan* in San Francisco—a plan to concentrate new downtown development potential around the Transbay Transit Center regional transit hub. After evaluating the public facility, infrastructure, and community improvement programs that exist in San Francisco and the applicability of existing standards to the *Transit Center District Plan*, she devised appropriate service population estimates, investigated means of allocating costs equitably across plan participants and beneficiaries, and prepared the required documentation.

For over 20 years, Ms. Nielsen provided on-going economic consulting services for the Planning Department and the County Executive Office in Placer County—one of the fastest-growing counties in the state. She prepared detailed analysis of the County's budget for project-specific fiscal impact studies and conducted more broad-based assignments related to the implications of annexations for the County's tax base and for maintaining on-going countywide services. This work required designing detailed, flexible models of the complex County budget as well as preparing special analysis for County staff use in annexation tax-sharing negotiations, taking a broader perspective on County service and funding responsibilities and the constraints of the tax base.

Ms. Nielsen has a particular interest and expertise in the complex and collaborative efforts to develop habitat conservation plans in California. She has worked on multi-agency, multi-species plans affecting development in Placer County, Santa Clara County, Yolo County, East Contra Costa County, San Joaquin County, and El Dorado County. The level of scrutiny has been high and the many interested parties diverse. Ms. Nielsen has prepared growth and land development projections for use in impact assessment, complex implementation cost models, land acquisition cost analysis, economic and fiscal impact analyses, and feasibility assessments in support of habitat conservation planning.

In Yolo County, Ms. Nielsen directed a study of policy options for increasing agricultural land mitigation requirements. She studied the planning policy and implementation history of the current County program designed to protect farmland from development and recognize the costs of agricultural land conversion. She conducted technical analysis to derive a defensible basis for increasing the ratio of mitigation land required, evaluating a variety of policy approaches to meeting agricultural land conservation objectives.

## EDUCATION

Masters in City and Regional Planning, Kennedy School of Government, Harvard University, 1981.  
B.A., magna cum laude, History and Literature, Harvard University, 1976.