

**COMMERCIAL DEVELOPMENT LINKAGE FEE  
ANALYSIS**

**CITY OF OAKLAND**

Submitted to:

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## I. INTRODUCTION AND EXECUTIVE SUMMARY

### A. Introduction

The City of Oakland retained David Paul Rosen & Associates (DRA) to prepare a nexus study examining the legality and basis for establishing a rational nexus between non-residential development and the need for affordable housing in the City of Oakland. The City is experiencing a severe housing crisis, particularly for low and moderate income households. This crisis is evidenced by record low vacancy rates and escalation of housing costs at rates well above inflation and the increase in household income. To the extent that new non-residential development increases demand for housing and exacerbates this housing crisis, the City has a strong public interest in causing new housing to be developed to meet this additional demand.

An important policy goal of the Oakland Mayor is to bring more residents downtown to create a more vital central city. The City's *10K Plan* calls for attracting 10,000 new residents to downtown Oakland. Several new market-rate housing developments have been constructed downtown in the last several years, in response to this policy and the rising demand for downtown housing.

In addition to market rate housing, future employment growth will generate demand for housing affordable to lower and moderate income workers. Other cities in California, such as San Diego, Sacramento and San Francisco, have established commercial development linkage fees, also known as nexus fees, to generate revenues for affordable housing development. Through payment of these fees, non-residential developers mitigate at least a portion of the impact of their developments on the housing market. The study analyzes the supportable fee in Oakland based on the nexus between non-residential development and affordable housing.

The remaining two sections of this Chapter describe the nexus concept, the study methodology, and key findings of the analysis.

Chapter II provides an overview of demographic and economic trends and conditions in the nine-county San Francisco Bay Area, which sets the context for the local nexus between non-residential development and need for affordable housing in Oakland.

Chapter III summarizes a survey of nexus fees on commercial/industrial development in the state.

Chapter IV describes the methodology, assumptions and findings of the nexus analysis. The nexus analysis estimates the number of low and moderate income households associated with development of office, warehouse/distribution, retail, and hotel development in Oakland. It is based on the demographic and economic characteristics of employees expected to work in those developments.

Chapter V estimates the maximum supportable nexus fee on commercial/industrial development in Oakland. The fee estimate is based on the results of the nexus analysis

from Chapter IV and an affordability gap analysis of the difference between housing development costs in Oakland and the amount low and moderate income residents can afford to pay for housing.

Chapter VI summarizes an evaluation of the potential economic impacts of a commercial/industrial nexus fee in Oakland on future commercial/industrial development in Oakland. The analysis evaluates the potential impact of alternative fee levels on rents and rates of return on investor equity for office, warehouse/distribution, retail and hotel uses. The analysis also reviews development impact fees on commercial/industrial development in selected Bay Area communities, in comparison with Oakland.

## **B. The Nexus Requirement**

In order to establish a nexus fee on commercial/industrial development to increase the production of affordable housing, the City of Oakland must demonstrate that there is a reasonable relationship between non-residential construction and the need for housing affordable to low and moderate income groups.

In essence, the legal requirement is that a local government charging a fee make some affirmative showing that: (1) those who must pay the fee are contributing to the problem which the fee will address; and (2) the amount of the fee is justified by the magnitude of the fee-payer's contribution to the problem.

Fees on development in California are subject to two overlapping sets of legal requirements, constitutional requirements of nexus and "rough proportionality" under the U. S. Supreme Court cases of Nollan v. California Coastal Commission (1987) 483 U. S. 825 and Dolan v. City of Tigard (1994) 512 U. S. 374, and California's statutory "reasonable relationship" requirements under California Government Code sections 66000-66010. Although legally distinct, these two standards are substantively similar and in practice a development fee which satisfies one will almost certainly satisfy both. The California Supreme Court in Ehrlich v. City of Culver City (1996) 12 Cal. 4<sup>th</sup> 854, 867 concluded that the two standards "for all practical purposes, have merged."

The Supreme Court's decision on the Nollan v. California Coastal Commission imposed a requirement that a "rational nexus" be demonstrated between the impact associated with an action and the remedy being required or, in the case of a fee, the use of the funds being extracted from the developer.

To implement the Nollan decision in California, the State Legislature passed A.B. 1600, which requires local jurisdictions to establish a reasonable relationship between a development project or class of development project, and the public improvement for which the developer fee is charged, and to segregate and account for the money separately from general fund monies.

There is currently little dispute that commercial development, by increasing employment, also increases the demand for housing for the added employees, and that market housing development, with no public assistance, will not provide enough additional housing for the additional lower-earning employees.

## C. Nexus Methodology

The numerical nexus analysis in this report identifies the number of households of low and moderate income levels associated with the employees that work in a building of a given size and land use type in Oakland, and calculates the development impact fee required to make housing affordable to those households.

This analysis determines the number of employee households in each of the following three income categories:

Very low income: those earning less than 50% of area median income;  
Low income: those earning between 50% and 80% of area median income;  
Moderate income: those earning between 80% and 100% of area median income.

We examined the development of 100,000 square foot building modules of four building types. These building types were selected to represent a majority of the development pipeline in Oakland.

Office;  
Warehouse/Distribution;  
Retail; and  
Hotel.

The nexus analysis employs a tested nexus and gap methodology that has proven acceptable to the courts. The economic analysis uses a conservative approach to understate the legally supportable fee amount. Therefore, the housing impacts are likely even greater than indicated in the analysis. Using conservative assumptions, justified fee amounts are still above those likely to be considered reasonable and sustainable in the market.

The nexus economic analysis methodology employs the following seven steps. A detailed discussion of the assumptions used in the nexus analysis is contained in Chapter IV.

1. Estimate total new employees;
2. Estimate new employees living in the city of Oakland;
3. Adjust for potential future increase in labor force participation;
4. Estimate the number of new households represented by the number of new employees;
5. Distribute households by occupational groupings for each land use;
6. Estimate employee households meeting very low, low, and moderate income limits, adjusted for household size; and
7. Adjust for multiple earner households.

The results of these seven steps is the estimated number of households by land use living in Oakland and qualifying as very low, low or moderate income. DRA prepared a housing affordability gap analysis to calculate the development impact fee required to make housing affordable to these new Oakland households. The affordability gap analysis calculates the capital subsidy required to develop housing affordable to families at specified income levels.

The affordability gap was estimated for three prototypical housing developments in Oakland: one renter-occupied and two owner-occupied. For rental housing, the gap analysis calculates the difference between total development costs and the conventional mortgage supportable by net operating income from affordable rents. For owners, the gap is the difference between development costs and the supportable mortgage plus the buyer's downpayment.

The results of the gap analysis were used to determine the fee amount by land use that would be required to develop housing affordable to the very low, low and moderate income households who will need to find housing in Oakland in connection with new non-residential development in the City.

#### **D. Summary of Findings**

##### **1. Justifiable Nexus Fee**

The economic analysis estimated the following supportable fees under consistently conservative assumptions:

<b>Household Income Category</b>	<b>Per Square Foot Supportable Fees by Land Use</b>			
	<b>Class A Office</b>	<b>Warehouse/ Distribution</b>	<b>Retail</b>	<b>Hotel</b>
Very Low	\$22.08	\$7.79	\$20.78	\$10.39
Low	\$9.24	\$4.11	\$9.24	\$2.05
Moderate	\$3.79	\$0.95	\$2.37	\$0.47
Total	\$35.11	\$12.85	\$32.39	\$12.91



## 2. Economic Impact of Nexus Fees

A number of communities in California have adopted linkage fees. Our interviews with developers indicated that fees in at least nine jurisdictions, some of which have been in place for more than fifteen years and through one or two full business cycles, have had no discernible impact on development. One reason may be that fee levels are relatively small as a percentage of development costs and rents, and therefore do not affect developers' decisions to build or not build, which are based on the strength of market demand. The impact of existing fees on rents appears marginal and within the range of elasticity of market rents.

DRA assessed the potential economic impact of a linkage fee in Oakland at illustrative fee levels on office, hotel, retail and warehouse/distribution land uses. A new nexus fee on non-residential development would result in an increase in rents, a decrease in the rate of return to equity investors, or most likely some combination of the two.

### a. Effect on Rents

The economic impact assessment calculates the increase in rents required to finance the fee at current market terms for both debt and equity financing. After calculating the increase in rents required to finance the commercial development impact fee at illustrative levels, we calculated the increase in rents as a percentage of current market rents.

The findings of the rent analysis are summarized below. For example, the analysis estimates that a \$2.00 per square foot housing linkage fee would require an increase in the annual gross office rent of \$0.23 per square foot, representing less than a 1 percent increase in current office rents.

Assumed Linkage Fee Per SF Building Area	Increase in Annual Gross Rent Per Square Foot Required to Finance Linkage Fee (Increase as Percent of Current Market Rent)			
	Class A Office	Warehouse/Distribution	Retail	Luxury Hotel
\$2.00	\$0.23 (0.63%)	\$0.23 (0.89%)	\$0.23 (0.90%)	\$1.01 (0.81%)
\$4.00	\$0.45 (1.26%)	\$0.45 (1.78%)	\$0.45 (1.79%)	\$2.01 (1.61%)
\$6.00	\$0.68 (1.89%)	\$0.68 (2.66%)	\$0.68 (2.69%)	\$3.02 (2.42%)
\$8.00	\$0.91 (2.53%)	\$0.91 (3.55%)	\$0.91 (3.59%)	\$4.03 (3.22%)
\$10.00	\$1.14 (3.16%)	\$1.14 (4.44%)	\$1.14 (4.49%)	\$5.03 (4.03%)

### b. Effect on Rate of Return

The economic assessment also looks at the potential decrease in returns to equity investors in non-residential development associated with a new nexus fee, assuming current rents are held constant. Using current market terms for equity and debt capital, we calculate the decrease, measured in basis points, in the current typical rate of return on equity that would result from a fee at various illustrative levels.

The findings of the rate of return on equity analysis are summarized below. For example, the economic impact analysis estimates that a \$2.00 per square foot housing linkage fee on office uses would decrease the rate of return to equity investors by only 12 basis points, from an assumed rate of 15.00 percent to 14.88 percent.

Assumed Linkage Fee Per SF Building Area	Rate of Return on Equity			
	Class A Office	Warehouse/ Distribution	Retail	Luxury Hotel
No Fee	15.00%	15.00%	15.00%	15.00%
\$2.00	14.88%	14.77%	14.77%	14.91%
\$4.00	14.75%	14.55%	14.55%	14.83%
\$6.00	14.63%	14.34%	14.33%	14.75%
\$8.00	14.52%	14.13%	14.12%	14.66%
\$10.00	14.40%	13.93%	13.91%	14.58%

### 3. Revenue Projections

DRA projected linkage fee revenues at alternative fee levels based on the current pipeline of major development projects in Oakland. These projections are based on illustrative fee levels ranging from \$2.00 per square foot to \$10.00 per square foot.

The projections show potential revenues from major projects in the three major stages of the planning approval process in Oakland: pre-application, application under review, and application approved. We have excluded approved projects that have already received building permits or are under construction.

Combined total fees from all major projects in the development pipeline that have not received building permits equal \$11.7 million to \$58.3 million at fees of \$2.00 per square foot to \$10.00 per square foot, respectively. Clearly, a housing linkage fee is potentially a significant source of funds to help mitigate demand for affordable housing associated with job growth, even at fee levels substantially below those justified by the economic analysis.

## II. BAY AREA DEMOGRAPHIC AND ECONOMIC OVERVIEW

The substantial increase in employment in the Bay Area will draw new people to live in the region and will generate demand for housing at all income levels. The lack of housing, particularly affordable housing, is a constraint on area growth. It creates a policy problem the City is trying to address with a nexus fee. In the absence of efforts to increase the supply of affordable housing, higher paid workers will move into the area and will displace lower income workers.

This section summarizes recent demographic projections prepared by the Association of Bay Area Governments (ABAG) and describes the relationship between employment and housing, setting the context for the linkage analysis.

ABAG is required by state mandate to prepare regional economic and demographic forecasts for the nine-county San Francisco Bay Area every two years. The most recent edition, "Projections 2000", provides current estimates of the population, labor force, households, income and jobs for the period 1995 to 2020.

The nine-county Bay Area will add nearly a million new jobs over the next 20 years. As illustrated in **Table 1**, over 50 percent of the jobs will be in the relatively low-paying services sector. The manufacturing and wholesale sector will comprise 19 percent of the new jobs, retail will be 11 percent, and the remaining 19 percent will include a variety of professional and other jobs.

**Table 2** compares the projected labor supply with projected job growth for San Francisco Bay Area Corridor from 2000 to 2020. The projected increase in jobs exceeds the projected growth in employed residents by 99,060 individuals for the Bay Area. Projections 2000 concludes that a primary reason for this trend in regional growth has been local development and land use policies that seek to maximize job production without commensurate emphasis on housing production. This has been particularly true in the past for the Peninsula, Silicon Valley North, and I-80 South/Highway 24 (which includes Oakland) corridors. A consequence of the imbalance between job and labor supply growth is longer commute times and distances.

**Tables 3** through **6** display the projected increase in population, households, employment, and employed residents for each of the nine Bay Area counties during the 2000 to 2020 period.

**Table 1  
EMPLOYMENT BY INDUSTRY PROJECTIONS  
SAN FRANCISCO BAY AREA  
2000 to 2020**

<b>County</b>	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>Change 2000-2010</b>	<b>Change 2010-2020</b>
Agriculture, Mining	37,780	38,120	36,550	340	(1,570)
Construction	185,800	206,480	223,230	20,680	16,750
Manufacturing	558,790	631,510	680,790	72,720	49,280
Transportation, Communication, Utilities	223,570	266,210	293,390	42,640	27,180
Wholesale Trade	199,620	241,370	266,280	41,750	24,910
Retail Trade	579,960	634,320	685,780	54,360	51,460
F.I.R.E <sup>1</sup>	240,550	259,580	280,700	19,030	21,120
Services	1,390,860	1,661,020	1,919,260	270,160	258,240
Government	271,660	288,950	301,970	17,290	13,020
<b>Total</b>	<b>3,688,590</b>	<b>4,227,560</b>	<b>4,687,950</b>	<b>538,970</b>	<b>460,390</b>

SOURCE: Association of Bay Area Governments, "Projections – 2000"

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<sup>1</sup> Finance, insurance and real estate.

**Table 2**  
**PROJECTED LABOR SUPPLY AND JOB GROWTH**  
**SAN FRANCISCO BAY AREA CORRIDORS**  
**2000 to 2020**

<b>Corridor</b>	<b>Population Growth</b>	<b>Household Growth</b>	<b>Employed Resident Growth</b>	<b>Job Growth</b>	<b>Labor Surplus/ (Deficit)</b>
I-680 <sup>1</sup>	159,800	58,700	118,000	128,410	(9,610)
Highway 4 <sup>2</sup>	119,200	42,300	73,900	55,360	18,540
I-80 North <sup>3</sup>	175,400	61,340	118,200	111,380	6,820
I-80 Central <sup>4</sup>	27,700	9,650	22,800	24,750	(1,950)
I-80 South/ Highway 24 <sup>5</sup>	52,800	11,890	58,700	72,470	(13,770)
I-880 South <sup>6</sup>	76,600	23,550	66,500	79,150	(12,650)
Highway 101 North <sup>7</sup>	140,900	56,240	108,300	122,580	(14,280)
Peninsula <sup>8</sup>	82,500	40,050	124,000	174,260	(50,260)
Silicon Valley North <sup>9</sup>	233,800	86,930	190,400	202,010	(11,610)
Silicon Valley South <sup>10</sup>	27,600	10,920	18,700	28,990	(10,290)
<b>Total</b>	<b>1,096,300</b>	<b>401,570</b>	<b>900,300</b>	<b>999,360</b>	<b>(99,060)</b>

Note: This table compares employed residents to jobs and does not include unemployment.

Footnotes, Table 2:

<sup>1</sup>Includes Alamo-Blackhawk, Clayton, Concord, Danville, Dublin, Livermore, Pleasant Hill, Pleasanton, San Ramon, Walnut Creek, Alameda County Remainder.

<sup>2</sup>Includes Antioch, Brentwood, Martinez, Oakley, Pittsburg, Rural East Contra Costa County, Contra Costa County Remainder.

<sup>3</sup>Includes Napa and Solano counties.

<sup>4</sup>Includes El Cerrito, Hercules, Pinole, Richmond, Rodeo-Crockett, San Pablo.

<sup>5</sup>Includes Alameda, Albany, Berkeley, Emeryville, Lafayette, Moraga, Oakland, Orinda, Piedmont.

<sup>6</sup>Includes Ashland, Castro Valley, Cherryland-Fairview, Fremont, Hayward, Newark, San Leandro, San Lorenzo, Union City.

<sup>7</sup>Includes Marin and Sonoma counties.

<sup>8</sup>Includes San Francisco and San Mateo counties.

<sup>9</sup>Includes Campbell, Cupertino, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, Sunnyvale.

<sup>10</sup>Includes Gilroy, Morgan Hill, Santa Clara County Remainder.

SOURCE: Association of Bay Area Governments, "Projections – 2000"

**Table 3  
HOUSEHOLD POPULATION PROJECTIONS<sup>2</sup>  
SAN FRANCISCO BAY AREA  
2000 to 2020**

<b>County</b>	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>Change 2000-2010</b>	<b>Change 2010-2020</b>
Alameda	1,430,700	1,581,200	1,634,600	150,500	53,400
Contra Costa	930,500	1,065,300	1,156,900	134,800	91,600
Marin	241,800	259,100	266,300	17,300	7,200
Napa	122,100	136,200	151,100	14,100	14,900
San Francisco	776,200	795,800	785,600	19,600	(10,200)
San Mateo	725,000	767,600	797,600	42,600	30,000
Santa Clara	1,718,300	1,880,900	1,977,500	162,600	96,600
Solano	387,000	465,400	530,800	78,400	65,400
Sonoma	447,700	521,900	563,300	74,200	41,400
<b>Total</b>	<b>6,779,300</b>	<b>7,473,400</b>	<b>7,863,700</b>	<b>694,100</b>	<b>390,300</b>

SOURCE: Association of Bay Area Governments, "Projections – 2000"

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<sup>2</sup> Household population excludes military and institutionalized persons.

**Table 4  
HOUSEHOLD PROJECTIONS  
SAN FRANCISCO BAY AREA  
2000 to 2020**

<b>County</b>	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>Change 2000-2010</b>	<b>Change 2010-2020</b>
Alameda	514,620	552,090	578,830	37,470	26,740
Contra Costa	338,860	382,180	420,740	43,320	38,560
Marin	99,500	106,180	111,430	6,680	5,250
Napa	46,240	51,770	58,690	5,530	6,920
San Francisco	315,550	326,130	331,470	10,580	5,340
San Mateo	254,370	265,610	278,500	11,240	12,890
Santa Clara	567,080	620,760	664,930	53,680	44,170
Solano	130,320	154,220	179,210	23,900	24,990
Sonoma	171,520	197,710	215,830	26,190	18,120
<b>Total</b>	<b>2,438,060</b>	<b>2,656,650</b>	<b>2,839,630</b>	<b>218,590</b>	<b>182,980</b>

SOURCE: Association of Bay Area Governments, "Projections – 2000"



**Table 5  
TOTAL EMPLOYMENT PROJECTIONS  
SAN FRANCISCO BAY AREA  
2000 to 2020**

<b>County</b>	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>Change 2000-2010</b>	<b>Change 2010-2020</b>
Alameda	725,790	848,300	945,340	122,510	97,040
Contra Costa	360,090	429,460	500,680	69,370	71,220
Marin	123,510	136,800	150,510	13,290	13,710
Napa	59,710	77,310	89,820	17,600	12,510
San Francisco	628,860	687,350	731,660	58,490	44,310
San Mateo	380,370	413,840	451,830	33,470	37,990
Santa Clara	1,077,220	1,213,260	1,308,220	136,040	94,960
Solano	129,510	171,960	210,780	42,450	38,820
Sonoma	203,530	249,280	299,110	45,750	49,830
<b>Total</b>	<b>3,688,590</b>	<b>4,227,560</b>	<b>4,687,950</b>	<b>538,970</b>	<b>460,390</b>

SOURCE: Association of Bay Area Governments, "Projections – 2000"

**Table 6  
EMPLOYED RESIDENTS PROJECTIONS  
SAN FRANCISCO BAY AREA  
2000 to 2020**

<b>County</b>	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>Change 2000-2010</b>	<b>Change 2010-2020</b>
Alameda	694,600	781,500	871,900	86,900	90,400
Contra Costa	475,900	568,700	639,300	92,800	70,600
Marin	140,400	156,200	167,100	15,800	10,900
Napa	61,600	72,900	85,400	11,300	12,500
San Francisco	422,100	454,100	467,300	32,000	13,200
San Mateo	393,700	435,300	472,500	41,600	37,200
Santa Clara	928,700	1,038,100	1,137,800	109,400	99,700
Solano	185,600	234,300	280,000	48,700	45,700
Sonoma	235,400	276,400	317,000	41,000	40,600
<b>Total</b>	<b>3,538,000</b>	<b>4,017,500</b>	<b>4,438,300</b>	<b>479,500</b>	<b>420,800</b>

SOURCE: Association of Bay Area Governments, "Projections – 2000"

### III. SURVEY OF BAY AREA COMMERCIAL DEVELOPMENT LINKAGE FEES

An increasing number of communities in California have adopted established commercial development linkage fees to generate revenues for affordable housing development. Through payment of these fees, non-residential developers mitigate at least a portion of the impact of their developments on the housing market. The City of San Francisco adopted its fee in 1984, and since then at least eight other jurisdictions have fees in place.

David Paul Rosen & Associates (DRA) surveyed major cities in California that have commercial linkage fee ordinances for affordable housing, as well as some smaller cities in the San Francisco Bay Area. DRA surveyed the following cities' ordinances:

- San Francisco
- Sacramento
- San Diego
- Berkeley
- Santa Monica
- Palo Alto
- Sunnyvale
- Menlo Park
- Alameda

**Table 7** summarizes the survey of commercial development linkage fees. San Francisco charges the highest per square foot fees. The following is San Francisco's fee schedule:

Office space, \$11.34/sf  
Entertainment, \$10.57/sf  
Hotel, \$8.50/sf  
Research and development, \$7.55/sf  
Retail, \$10.57/sf

Menlo Park recently adopted an ordinance that charges \$6 per square foot for commercial development and \$10 per square foot for office and research and development uses. Santa Monica charges \$8.00 per square foot for office development above 15,000 square feet. Sunnyvale charges \$7.19 per square foot for industrial uses. Berkeley's fee is \$5.00 per square foot for office and retail uses, and \$2.50 per square foot for industrial development. Alameda's fee is \$3.00 for office, while Palo Alto charges \$4.03 per square foot for all commercial uses. Fees in San Diego and Sacramento are \$1.00 or less per square foot, depending on the land use. Most ordinances establish a minimum square footage threshold to exempt smaller developments.

The survey of commercial development linkage fees in other California cities (shown in Table 7 previously) indicates that the two cities that have received the most funds from commercial linkage fees are San Francisco and San Diego. Since 1990, approximately \$33 million has been raised for affordable housing in San Diego. In San Francisco, the ordinance has raised over \$40 million since inception in 1980 (according to a survey conducted by the Boston Redevelopment Authority). Sacramento City and County raised approximately \$26 million since their commercial linkage ordinance was passed in 1989.

**Table 7**  
**SURVEY OF CITIES IN CALIFORNIA**  
**WITH COMMERCIAL LINKAGE FEE ORDINANCES**

August 2001

CITY	YEAR EST.	DEVELOPMENT TYPE/FEE	THRESHOLDS/ EXEMPTIONS/ CAPS	TIMING OF PAYMENT	REVENUES	TARGETED USE OF FUNDS
<b>San Francisco</b>	1981, est. as policy;  1985, as ordinance;  2001 fees increase (1)	<ul style="list-style-type: none"> <li>• Office space, \$11.34/sf</li> <li>• Entertainment, \$10.57/sf</li> <li>• Hotel, \$8.50/sf</li> <li>• Research and development, \$7.55/sf</li> <li>• Retail, \$10.57/sf</li> </ul>	25,000 sf exemption	<ul style="list-style-type: none"> <li>• paid at issuance of building permit</li> </ul>	Over \$40 million (estimate from study by Boston Redevelopment Authority).	All funds go to the Affordable Housing Fund
<b>Sacramento</b>	1989;  collections started in 1991	<ul style="list-style-type: none"> <li>• Office space, \$0.99/sf</li> <li>• Hotel, \$0.94/sf</li> <li>• Res. And Dev., \$0.84/sf</li> <li>• Commercial, \$0.79/sf</li> <li>• Manufacturing, \$0.62/sf</li> <li>• Warehouse/Office, \$0.36/sf</li> <li>• Warehouse, \$0.27/sf</li> </ul> <p>In the next two months, the City will consider increasing these fees.</p>	Developers can apply for variances if there are special circumstances, the project is no longer feasible, or a specific and substantial financial hardship would occur without the variance.	<ul style="list-style-type: none"> <li>• paid at issuance of building permit</li> </ul>	\$11 million in the City; \$15 million in the County	City – targeted to persons at 50% and 80% of AMI  County – targeted to persons at 50% of AMI

(1) On January 1, 2002, San Francisco fees will increase as follows: office, \$14.96/sf; entertainment, \$13.95/sf; retail, \$13.95/sf; hotel, \$11.21/sf; and research and development, \$9.97/sf.

**Table 7**  
**SURVEY OF CITIES IN CALIFORNIA**  
**WITH COMMERCIAL LINKAGE FEE ORDINANCES**

**August 2001**

CITY	YEAR EST.	DEVELOPMENT TYPE/FEE	THRESHOLDS/ EXEMPTIONS/ CAPS	TIMING OF PAYMENT	REVENUES	TARGETED USE OF FUNDS
<b>Berkeley</b>	1988	<ul style="list-style-type: none"> <li>• Office space, \$5.00/sf</li> <li>• Retail, \$5.00/sf</li> <li>• Industrial, \$2.50/sf</li> </ul>	Office, retail, industrial, other commercial, 7,500 sf	Three payments: <ul style="list-style-type: none"> <li>• Before issuance of permit</li> <li>• Before issuance of certificate of occupancy</li> <li>• One year after C. of O.</li> </ul>	Since 1988, approximately \$2 million has been collected.	20% of these fees go toward child care operating subsidies (since 1993).
<b>San Diego</b>	1990, rev. in 1996	<ul style="list-style-type: none"> <li>• Office space, \$1.06/sf</li> <li>• Hotel, \$0.64/sf</li> <li>• Res. And Dev., \$0.80/sf</li> <li>• Retail, \$0.64/sf</li> <li>• Manufacturing, \$0.64/sf</li> <li>• Warehouse, \$0.27/sf</li> </ul>	Exempts residential hotels; other variances granted based on special circumstances, project feasibility, financial hardship, and alternative means of compliance	<ul style="list-style-type: none"> <li>• Paid at issuance of building permit</li> </ul>	Since inception, \$33 million	San Diego Housing Trust Fund, targeted to assist persons at 80 percent of AMI or below

**Table 7**  
**SURVEY OF CITIES IN CALIFORNIA**  
**WITH COMMERCIAL LINKAGE FEE ORDINANCES**

**August 2001**

CITY	YEAR EST.	DEVELOPMENT TYPE/FEE	THRESHOLDS/ EXEMPTIONS/ CAPS	TIMING OF PAYMENT	REVENUES	TARGETED USE OF FUNDS
<b>Santa Monica</b>	1986	<ul style="list-style-type: none"> <li>• General office development.</li> <li>• Approximately \$3.60/sf for the first 15,000 sf of net rentable space, approximately \$8.00/sf for the remainder, adjusted for CPI annually.</li> <li>• Developer can construct affordable housing units and park space. However, each housing unit is valued at approximately \$48,000, adjusted for CPI.</li> </ul>	15,000 sf exemption for new construction, 10,000 sf exemption for additions	<ul style="list-style-type: none"> <li>• 25% at C.O.</li> <li>• 25% at the three anniversaries thereafter.</li> <li>• Agency requires irrevocable letters of credit to back the payment obligations.</li> </ul>	Estimated at over \$5 million (by City of Santa Monica staff)	45% toward low and moderate income housing, 45% toward Parks Mitigation Fund, remaining 10% to go toward either or both uses.
<b>Palo Alto</b>	1984	<ul style="list-style-type: none"> <li>• Commercial uses, \$4.03/sf</li> </ul>	20,000 sf exemption;	<ul style="list-style-type: none"> <li>• 50% paid at issuance of building permit</li> <li>• 50% paid at C.O.</li> </ul>	Since inception, approximately \$7 million	Ordinance states that funds go toward housing for "low, moderate, middle" income persons. In practice, most funds go toward housing for very low income persons.

Table 7

SURVEY OF CITIES IN CALIFORNIA  
WITH COMMERCIAL LINKAGE FEE ORDINANCES

August 2001

CITY	YEAR EST.	DEVELOPMENT TYPE/FEE	THRESHOLDS/ EXEMPTIONS/ CAPS	TIMING OF PAYMENT	REVENUES	TARGETED USE OF FUNDS
<b>Menlo Park</b>	1987 est. policy, revised in 2001	<ul style="list-style-type: none"> <li>• \$6.00/sf for other commercial development</li> <li>• \$10.00/sf for research and development</li> </ul>	<ul style="list-style-type: none"> <li>• 10,000 sf exemption; alteration must exceed 50% of replacement cost</li> </ul>	<ul style="list-style-type: none"> <li>• Prior to issuance of building permit</li> </ul>		Fees go into the "Below Market Rate Reserve".
<b>Alameda</b>	1989, rev. in 2001 under consd.	<ul style="list-style-type: none"> <li>• \$3.00/sf for office</li> <li>• \$1.50/sf for retail</li> <li>• \$0.50/sf for new manufacturing/warehouse</li> <li>• \$770/room, hotel/motel</li> </ul>				

**Table 7**  
**SURVEY OF CITIES IN CALIFORNIA**  
**WITH COMMERCIAL LINKAGE FEE ORDINANCES**

**August 2001**

CITY	YEAR EST.	DEVELOPMENT TYPE/FEE	THRESHOLDS/ EXEMPTIONS/ CAPS	TIMING OF PAYMENT	REVENUES	TARGETED USE OF FUNDS
<b>Sunnyvale</b>	1984	<ul style="list-style-type: none"> <li>• \$7.19/sf, new industrial development</li> </ul>	<ul style="list-style-type: none"> <li>• Limited to new industrial development. Fee charged only if the development exceeds the 35% floor area ratio (FAR), or the ratio applicable to the specific zoning district, with employee-generating space. Cafeterias, meeting rooms, warehousing and assembly are excluded from the calculation.</li> </ul>	<ul style="list-style-type: none"> <li>• Prior to issuance of building permit</li> </ul>		Funds go toward funding of low and moderate income housing

Other San Francisco Bay Area cities with commercial linkage fee ordinances include Pleasanton, and Cupertino.



## IV. NEXUS ANALYSIS

### A. Summary

In order to establish a nexus fee on commercial/industrial development to increase the production of affordable housing, the City of Oakland must demonstrate that there is a reasonable relationship between non-residential construction and the need for housing affordable to low and moderate income groups.

In essence, the legal requirement is that a local government charging a fee make some affirmative showing that: (1) those who must pay the fee are contributing to the problem which the fee will address; and (2) the amount of the fee is justified by the magnitude of the fee-payer's contribution to the problem. Our nexus analysis is designed to demonstrate the economic relationship between non-residential development and the need for affordable housing in Oakland. We employ consistently conservative assumptions, so that our calculation of the justifiable fee understates the supportable nexus calculation for each building type.

#### 1. Income Levels and Building/Land Use Types

This analysis determines the number of employee households in each of the following three income categories:

Very low income: those earning less than 50% of area median income;

Low income: those earning between 50% and 80% of area median income;

Moderate income: those earning between 80% and 120% of area median income.

We examined the development of 100,000 square foot building modules of the following four building types:

Office;  
Warehouse/Distribution;  
Retail; and  
Hotel.

The analysis was conducted for the City of Oakland.

## 2. Nexus Methodology

The nexus economic analysis methodology employs the following seven steps:

1. Estimate total new employees;
2. Estimate new employees living in the city of Oakland;
3. Adjust for potential future increase in labor force participation;
4. Estimate the number of new households represented by the number of new employees;
5. Distribute households by occupational groupings for each land use;
6. Estimate employee households meeting very low, low, and moderate income limits, adjusted for household size; and
7. Adjust for multiple earner households.

The results of these seven steps is the estimated number of households by land use living in Oakland and qualifying as very low, low or moderate income. In Chapter V, the results of a housing affordability gap analysis are used to determine the fee amount by land use that would be required to develop housing affordable to the very low, low and moderate income households who will need to find housing in Oakland in connection with new non-residential development in the City.

## 3. Conclusions

The first conclusion is that a clear nexus exists between the employees of the various commercial and industrial buildings and the number of lower and moderate income households associated with the buildings.

The numerical results of the analysis are that for every 100,000 square feet of building area, on average, there are a number of very low and low income employee households that will live in the City of Oakland, as summarized in **Table 8** below. Office uses are associated with the highest number of qualifying households per 100,000 square feet, largely because of the high employment density associated with office buildings. For every 100,000 square feet of office space, 35 new resident very low, low and moderate income households will be created—far more than any other use.

**Table 8**  
**ESTIMATED INCOME-QUALIFYING EMPLOYEE HOUSEHOLDS**  
**PER 100,000 SQUARE FEET OF BUILDING AREA**  
**BY LAND USE TYPE**

<b>Land Use/ Building Type</b>			
	<b>50% AMI or Below</b>	<b>50% to 80% AMI</b>	<b>80% to 120% AMI</b>
Office	17	9	8
Warehouse/ Distribution	6	4	2
Retail	16	9	5
Hotel	8	2	1

## **B. Methodology and Assumptions**

The analysis presented in this report has been based on a variety of sources. The 1990 U.S. Census was frequently utilized, with data or relationships updated where appropriate. While preliminary 2000 U.S. Census data on population and households are available, more detailed 2000 Census data on the topics used here will not be available until 2002. Other principal data sources include the California State Employment Development Department (EDD) and the Association of Bay Area Governments (ABAG). Data specific to the City of Oakland were used wherever possible.

In a few cases where limited current data is available, estimates were based on the best available data.

This analysis requires a number of assumptions. In all cases, we consistently employ conservative assumptions that serve to understate the nexus calculation. The cumulative effect of these assumptions understates the supportable nexus calculation for each building type. We do not believe, therefore, that changing individual assumptions would fundamentally alter the conclusions of the analysis.

Each of the steps in the nexus analysis is described below, along with corresponding assumptions and data sources.

## 1. Estimate Total New Employees

The first step estimates the total number of direct employees who will work at or in the building type being analyzed. This step implicitly assumes that all employees are new employees to the City. If the employees in a building have relocated from other buildings, they will have vacated spaces somewhere else and somewhere else in the chain new employees will have come to the City of Oakland to work.

The estimate of the number of employees that will be working in each 100,000 square foot building module is based on an employment density factor for each land use (i.e. number of square feet per employee). For all of the land uses except hotel, the gross building area is divided by the employment density factor to calculate employment, as illustrated below:

$$\begin{array}{rcccl} \text{Gross Building} & & \text{divided by} & & \\ \text{Area} & & \text{Employment} & = & \text{Employment} \\ & & \text{Density} & & \end{array}$$

For hotels, employment generation is more closely related to the number of hotel rooms.

The employment density factor is different for each land use and can vary within each land use. Employment density factors in this analysis are based on industry standards and trends as reported by the Urban Land Institute. The appropriateness of these factors for the Oakland area were confirmed through interviews with Bay Area traffic and environmental consultants who use these factors regularly in their work.

Ten years ago, the industry rule of thumb for office uses was 250 square feet of space per employee, including a proportionate share of the lobby, corridor and restroom space in office buildings. Today, less space per employee is the norm, with many new office buildings providing 200 square feet or less per employee.<sup>3</sup>

In retail development, the opposite trend is true. "Big box" warehouse club retailers represent one of the new, successful trends in retail development. These stores generally have a lower employment density. Therefore, while the historical rule of thumb for retail was approximately 300 square feet per employee, we have used a more conservative factor of 400 square feet per employee for this analysis. Retail employee densities in more traditional development prototypes are likely to remain higher. To remain conservative, we have employed the lower densities associated with big box retail.

Although warehouse/distribution facilities vary in terms of employment generation, we have assumed an employment density factor of 1,000 square feet per employee, which is representative of the distribution facilities recently developed and in the development pipeline in Oakland.

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<sup>3</sup> Source: 1998 Urban Land Institute, "Office Development Handbook," Second Edition.

For hotels, the number of employees per room typically varies from 0.5 to 0.8, with higher-end hotels having the higher employment density. We have selected a mid-point of 0.65 employees per room. To estimate the number of rooms in our 100,000 square foot hotel building module, we have assumed an average of 750 square feet per room, including common and lobby spaces. All-suites hotels tend to have larger rooms/suites, but a much lower percentage of common areas, than standard luxury hotels.

Therefore, the employment density factors used in this analysis are as follows:

Office	250 sq. ft/employee
Warehouse/Distribution	1,000 sq. ft/employee
Retail	400 sq. ft./employee
Hotel	0.65 employees per room

Sources: Urban Land Institute; interviews with Bay Area Environmental Impact Report consultants.

## **2. Estimate Employees Living in the City of Oakland**

This step estimates the number of new residents in Oakland that would be associated with new employment growth in the City. The extent to which employees in new non-residential developments will be filled by new Oakland residents, or by employees who would reside in Oakland if affordable housing were available, is a critical factor in the nexus economic analysis. With this assumption, as with the other variables in the analysis, we have chosen to be conservative.

### **a. Historical Jobs/Residence Patterns**

The 1980 Census indicates that of the 166,102 persons over sixteen years of working in Oakland, 65,374 persons also lived in the City. This indicates that in 1980, 39 percent of the people who worked in the City also resided in the City.

By 1990, the overall percentage of Oakland workers living in Oakland increased to 42 percent. ABAG reports that there were 178,340 workers over sixteen years of age working in the City of Oakland in 1990. The Census reports that 74,991 Oakland residents also worked in the City. This indicates that, at the margin, during the decade of the 1980's an even higher percentage than 42 percent of new Oakland workers also lived in the City, such that the average percentage of Oakland workers living in the City increased to 42 percent by 1990.

### **b. Available Projections**

ABAG estimated a total of 145,720 households in Oakland in 2000 and projected a total of 150,540 households in the year 2020. However, recently released 2000 Census data indicate that the actual number of households (150,790) already exceeds ABAG's projection for the year 2020. Therefore, we did not use the ABAG projections for Oakland in analyzing trends in household growth relative to job growth.

The countywide ABAG data<sup>4</sup> indicate that Alameda County will add 219,500 jobs during the 2000 to 2020 period. Assuming a ratio of 1.40 non-elderly workers per non-elderly household<sup>5</sup> based on 2000 Census data yields an estimated increase of 156,785 households associated with new employment in Alameda County. The projected increase in households residing in Alameda County (64,200) represents 40 percent of the increase in households associated with job growth (156,785).

### **c. Assumed Residence Factor**

The most relevant data shows that historically about 42 percent of Oakland employees (1990 Census) live in Oakland, up from 39 percent ten years prior (1980 Census). The only projection of the proportion of local employees living in the same jurisdiction that can be inferred is 40 percent (ABAG 2020 countywide projection).

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<sup>4</sup> See Tables 4 and 5 in Chapter II.

<sup>5</sup> See Step 4 below for more detail on this ratio.

For the purposes of this analysis, we have assumed that 40 percent of new Oakland workers will reside in the City of Oakland. This is a conservative assumption given that the historical trend shows an increase in the percentage of Oakland workers living in the City, and that lower income workers (the focus of a potential fee) tend to live closer to work. Using this factor, the number of employees residing in Oakland is calculated for each land use as follows:

$$\text{Employment} \times \text{Percentage of Workers Residing in the City of Oakland} = \text{Employees Residing in the City of Oakland}$$

Source: 1990 U.S. Census, STF 3A; Association of Bay Area Governments.



### **3. Adjust for Potential Increase in Labor Force Participation**

While most new workers in non-residential development in Oakland will come from outside of the City, a small proportion of new jobs will be filled by existing residents in the City. This step reduces the number of new employees expected to need new housing in Oakland, to take into account employees who were previously living in the City but were not previously working.

During the 1970's and 1980's, many people, particularly women, entered the labor force for the first time, or the first time after a lengthy absence. The Association of Bay Area Governments reports that in 1980 the labor force participation rate for women was 54.9 percent. By 1990, that number had jumped to 60.8 percent. ABAG projects increased labor force participation in the over-65 age group, due to the high cost of living in the Bay Area, long-term improvements in the health of the population, and changes in occupations that will reduce the physical demands of work.

In addition to new workers entering the labor force, another potential source of new employees is the pool of unemployed workers in the City. Unemployment in the Oakland area has remained at historically low rates over the past decade. In 1990, the annual average unemployment rate for the City of Oakland was 6.4 percent, dropping to 4.7 percent in 2000, according to the California Employment Development Department. Given the low employment rate, it is unlikely that a significant proportion of new jobs in Oakland will be filled by existing unemployed residents.

ABAG projects the overall labor participation rate in the Bay Area to increase from 67.0 percent in 2000 to 69.9 percent in 2020, an increase of 4.3 percent. For the purpose of this analysis, we estimate 5 percent of all new jobs will be filled by residents of existing Oakland households to take account of both of these factors.

Source: Association of Bay Area Governments, "Projections – 2000"; California Employment Development Department.

#### 4. Estimate Number of Households

Since demand for affordable housing is based on households on not the total population, this step estimates the number of households represented by a given number of employees. Many households contain more than one worker, so each new employee does not necessarily mean a new household.

ABAG reports 171,600 employed residents in Oakland in 2000 and the Census reports 150,790 households in 2000, for a ratio of 1.14 employees per household. Oakland has a large number of elderly households with no workers, therefore including them in the ratio skews the rate of household formation. Therefore, we also calculated the ratio of non-elderly workers to non-elderly households in Oakland. ABAG data indicate that elderly workers represented 3.6 percent of the Bay Area workforce in 2000. Applying this percentage to total employment in Oakland suggests there were 165,422 non-elderly workers in Oakland, compared to an estimated 119,856 non-elderly households, for a ratio of 1.38 non-elderly workers per non-elderly household.

For the purposes of this analysis, we have used a factor of 1.40 workers per household. Or stated another way, for every for every 100 workers, we assume 71 new households will be formed. Using this factor, the number of households is calculated as follows:

Employees	divided by	Average Number	=	New
In New	of Workers per	Household		Households
Households				

Sources: 1990 U.S. Census, STF 3A; 2000 U.S. Census SF 1; Association of Bay Area Governments

## 5. Distribute Employee Households By Occupation

This step distributes households by occupational groupings for each land use. This step is necessary to be able to accurately estimate new workers' incomes. Our estimates are based on a review of the 1990 U.S. Census Occupation by Industry Survey, which is the only source available which provides cross-tabulations of occupation by industry. For purposes of this analysis, we have used the occupational groupings defined by the State of California Employment Development Department, for consistency with the occupational wage data used in Step 6. These categories are generally similar to those used by the Census. For each land use category, the total number of new worker households is disaggregated into occupational categories as follows:

<b>Occupational Category</b>	<b>Office</b>	<b>Warehouse/ Distribution</b>	<b>Retail</b>	<b>Hotel</b>
Managerial/Administrative	21%	9%	15%	6%
Professional/Technical	16%	8%	5%	3%
Sales and Related	8%	0%	52%	0%
Clerical/Administrative Support	45%	23%	10%	15%
Service	5%	0%	0%	70%
Production/Operating/Maintenance	5%	60%	18%	6%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: 1990 U.S. Census, Occupation by Industry Survey

## 6. Estimate Employee Households Meeting Very Low, Low and Moderate Income and Household Size Criteria Definitions

This step estimates the number of employee households in the occupational categories used in Step 5 that meet very low, low and moderate income criteria. First, typical wages are estimated for employees in each occupational category. Since HUD income limits depend on both household size and household income, we also estimate household sizes. Using available wage and household size data, we determine the number of employee households by land use that meet the very low, low and moderate income limits.

### a. Estimated Wages by Occupation

The primary source of information for this step was State of California Employment Development Department wage data by occupation for the Oakland MSA, which includes Alameda and Contra Costa counties, for 1998. Data on mean, 25<sup>th</sup> percentile and 75<sup>th</sup> percentile hourly wages by occupation were used to estimate the percentage of employees earning salaries in the very low, low or moderate income categories based on the 1998 HUD median income for the Oakland MSA of \$63,300.

**Table 9** summarizes the 1998 wage survey data by major occupational category. These weighted average hourly wage data are derived from wages on over 533 occupational categories. **Appendix A** contains the detailed OES wage survey data by for 533 occupational categories.

**Table 9**  
**AVERAGE WAGES BY OCCUPATIONAL GROUPING**  
**OAKLAND, MSA (1)**  
**1998**

OES Code Range	Occupational Title	Entry-Level Hourly Wage (2)	Mean Hourly Wage	Mean Annual Wage	25th Percentile Hourly Wage	75th Percentile Hourly Wage
13000-19999	Managerial and Administrative Occupations	\$18.96	\$32.89	\$68,407	\$22.45	\$47.80
20000-39999	Professional, Paraprofessional, and Technical Occupations	\$16.04	\$23.51	\$48,890	\$17.94	\$30.62
40000-49999	Sales and Related Occupations	\$8.42	\$14.47	\$30,097	\$9.14	\$18.00
50000-59999	Clerical and Administrative Support Occupations	\$9.20	\$13.48	\$28,032	\$10.41	\$16.07
60000-69999	Service Occupations	\$8.08	\$10.57	\$21,975	\$8.50	\$12.53
70000-79999	Agricultural and Related Occupations	\$7.39	\$12.29	\$25,573	\$8.14	\$15.82
80000-98999	Production, Construction, Operating, Maintenance and Material Handling Occupations	\$9.89	\$15.06	\$31,317	\$11.14	\$18.63
TOTAL						

(1) Includes Alameda and Contra Costa counties.

(2) The mean of the first third of the wage distribution is provided as a proxy for entry-level wage.

Source: California Employment Development Department, 1998 Occupational Employment Statistics Survey; David Paul Rosen & Associates.

**b. Estimated Household Sizes**

HUD's criteria for qualifying households as very low, low or moderate income are dependent on a household meeting certain income limits. HUD income limits are adjusted by household size, with higher income limits for larger households. The distribution of non-elderly households by household size for Oakland in 1990 is summarized below.

**Distribution of Households by Household Size  
Households with Householder Less than 65 Years of Age  
City of Oakland  
1990 Census**

Household Size	Households	
	No.	%
1 Person	34,134	33.1%
2 Persons	27,449	28.5%
3 Persons	23,285	15.4%
4 Persons	16,732	11.0%
5 Persons	8,936	5.9%
6 Persons	4,282	2.8%
7 or More	5,039	3.3%
<b>Total</b>	<b>119,857</b>	<b>100.0%</b>

**c. Estimated Qualifying Households**

As noted above, HUD income limits vary by household size. Current 2001 income limits for the Oakland MSA are summarized below.

Family Size	1	2	3	4	5
Very Low Income (50% of median)	\$25,050	\$28,650	\$32,200	\$35,800	\$38,650
Low Income (80% of median)	\$40,100	\$45,800	\$51,550	\$57,300	\$61,900
Moderate Income (120% of median)	\$60,150	\$68,750	\$77,350	\$85,900	\$92,800

**Table 10** presents DRA's estimates of the percentage of employees in each occupational category meeting low and moderate income limits based on the wage survey data and the HUD 1998 median income of \$63,300 for a family of four persons in the Oakland MSA. The percentage distribution of hourly wages by occupation was compared to very low, low and moderate income limits translated into hourly wages. A separate percentage distribution was calculated for income limits for household sizes of 1 through 5 persons. The weighted average percentages shown in Table 10 were then calculated based on the distribution of households by household size for Oakland in 1990, shown above.

Sources: California Employment Development Department, Occupational Employment Statistics (OES) Survey, 1998; U.S. Department of Housing and Urban Development; 1990 Census of Population

**Table 10**  
**ESTIMATED PERCENT DISTRIBUTION OF WAGES BY OCCUPATION AND INCOME LEVEL (1)**  
**OAKLAND, MSA**  
**1998**

	<b>Est. % of Workers Earning Less than 50% AMI</b>	<b>Est. % of Workers Earning 50% to 80% AMI</b>	<b>Est. % of Workers Earning 80% to 120% AMI</b>	<b>Est. % of Workers Earning Above 120% AMI</b>	<b>Total Percent of Employees</b>
Managerial and Administrative Occupations	5%	11%	30%	55%	100%
Professional, Paraprofessional, and Technical Occupations	18%	36%	20%	26%	100%
Sales and Related Occupations	53%	27%	10%	10%	100%
Clerical and Administrative Support Occupations	59%	21%	21%	0%	100%
Service Occupations	75%	14%	5%	5%	100%
Agricultural and Related Occupations	60%	40%	0%	0%	100%
Production, Construction, Operating, Maintenance and Material Handling Occupations	51%	34%	8%	8%	100%

(1) Based on 1998 median income for Oakland MSA of \$63,300 and 1998 OES wage survey data from Table 9.

Source: California Employment Development Department, 1998 Occupational Employment Statistics Survey;  
David Paul Rosen & Associates.



## 7. Adjust for Multiple Earner Households

Some households have two or more incomes such that the combined incomes will place the household over very low, low or moderate income limits. This last step makes an adjustment to eliminate households that have two or more earners. This is a very conservative assumption since many households with two wage earners still qualify as very low income. For example, a two worker-household where each worker earns \$7.75 per hour, well above the current minimum wage, would qualify as very low income in Oakland in 2001. This is based on the 2001 median income of \$71,600 for a family of four in the Oakland MSA, adjusted for a household size of three persons.

Using 1990 U.S. Census data, it is estimated that out of 104,367 worker households, 55,471 are one-earner households. In other words, 53 percent of the worker households have only one wage earner. For those households, the salary of the wage earner calculated in the steps above is also the household income for that wage earner. We have used this 53 percent factor to eliminate two wage-earner households which, as we have noted, is a conservative assumption.

This final adjustment produces the number of lower income households directly associated with the construction of 100,000 square feet of building area by type as follows:

Number of Qualifying Households	x	% Adjustment to Eliminate Multiple Earner Households	=	Adjusted Number of Households Requiring Assistance
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Source: 1990 Census of Population

## C. Findings

**Table 11** calculates the projected occupational distribution of employment by land use type for office, warehouse/distribution, retail and hotel uses in Oakland. **Table 11a** estimates the number of qualifying very low income households earning no more than 50 percent of area median income or below by land use type. **Table 11b** estimates the number of qualifying low income households earning between 50 percent and 80 percent of area median income by land use type. **Table 11c** estimates the number of qualifying moderate income households earning between 80 percent and 120 percent of area median income by land use type.

**Table 11  
PROJECTED OCCUPATIONAL DISTRIBUTION OF ADDITIONAL EMPLOYMENT BY LAND USE TYPE  
CITY OF OAKLAND**

**2001**

Steps	Factor	Office			Warehouse/Distribution			Retail			Hotel			
		Percent	No.	Units	Percent	No.	Units	Percent	No.	Units	Percent	No.	Units	
1. Estimate of Employees per 100,000 square feet														
Employment Density Factor			350	SF/Emp.	1,000	SF/Emp.		400	SF/Emp.		0.65	Emp./Rm.	750	SF/Room
Number of Employees			286	Emp.	100	Emp.		250	Emp.		87	Emp.		
2. Employees Living in City of Oakland	40%		114	Emp.	40	Emp.		100	Emp.		35	Emp.		
3. Adjustment for Labor Force Participation Increase	5%		109	Emp.	38	Emp.		95	Emp.		33	Emp.		
4. Adjustment for Number of Employees Per Household	1.40	Emp/HH	78	HH	27	HH		68	HH		24	HH		
5. Occupational Distribution														
Managerial/Administrative		21%	16	HH	9%	2	HH	15%	10	HH	6%	1	HH	
Professional/Technical		16%	12	HH	8%	2	HH	5%	3	HH	3%	1	HH	
Sales and Related		8%	6	HH	0%	0	HH	52%	35	HH	0%	0	HH	
Clerical/Administrative Support		45%	35	HH	23%	6	HH	10%	7	HH	15%	4	HH	
Service		5%	4	HH	0%	0	HH	0%	0	HH	70%	17	HH	
Production/Operating/Maintenance		5%	4	HH	60%	16	HH	18%	12	HH	6%	1	HH	
Total		100%	77		100%	26		100%	67		100%	24		

Legend: HH = households; SF = square feet; Emp = employees..

Source: Urban Land Institute; Association of Bay Area Governments; 1990 Census of Occupation by Industry; David Paul Rosen & Associates.

**Table 11a**  
**ESTIMATED QUALIFYING VERY LOW INCOME HOUSEHOLDS BY LAND USE TYPE (1)**  
**CITY OF OAKLAND**

**2001**

<b>Steps (See Table 11 for Steps 1 through 4)</b>	<b>Office</b>		<b>Warehouse/Distribution</b>		<b>Retail</b>		<b>Hotel</b>	
	<b>Percent</b>	<b>No.</b>	<b>Percent</b>	<b>No.</b>	<b>Percent</b>	<b>No.</b>	<b>Percent</b>	<b>No.</b>
<b>5. Occupational Distribution (2)</b>								
Managerial/Administrative	21%	16	9%	2	15%	10	6%	1
Professional/Technical	16%	12	8%	2	5%	3	3%	1
Sales and Related	8%	6	0%	0	52%	35	0%	0
Clerical/Administrative Support	45%	35	23%	6	10%	7	15%	4
Service	5%	4	0%	0	0%	0	70%	17
Production/Operating/Maintenance	5%	4	60%	16	18%	12	6%	1
<b>Total</b>	<b>100%</b>	<b>77</b>	<b>100%</b>	<b>26</b>	<b>100%</b>	<b>67</b>	<b>100%</b>	<b>24</b>
<b>6. Households Earning Less than 50% AMI</b>								
Managerial/Administrative	5%	1	5%	0	5%	1	5%	0
Professional/Technical	18%	2	18%	0	18%	1	18%	0
Sales and Related	53%	3	53%	0	53%	18	53%	0
Clerical/Administrative Support	59%	21	59%	4	59%	4	59%	2
Service	75%	3	75%	0	75%	0	75%	13
Production/Operating/Maintenance	51%	2	51%	8	51%	6	51%	0
<b>Total</b>		<b>32</b>		<b>12</b>		<b>30</b>		<b>16</b>
<b>7. Adjustment to Eliminate Multiple Earner Households Earning in Excess of 50% AMI</b>	<b>53%</b>	<b>17</b>		<b>6</b>		<b>16</b>		<b>8</b>

(1) Based on 100,000 square foot land use type prototypical developments.

(2) From Table 11.

Source: California Employment Development Department 1998 occupational wage survey; 1990 U.S. Census; of David Paul Rosen & Associates.

**Table 11b**  
**ESTIMATED QUALIFYING LOW INCOME HOUSEHOLDS BY LAND USE TYPE (1)**  
**CITY OF OAKLAND**

2001

Steps (See Table 11 for Steps 1 through 4)	Office		Warehouse/Distribution		Retail		Hotel	
	Percent	No.	Percent	No.	Percent	No.	Percent	No.
5. Occupational Distribution (2)								
Managerial/Administrative	21%	16	9%	2	15%	10	6%	1
Professional/Technical	16%	12	8%	2	5%	3	3%	1
Sales and Related	8%	6	0%	0	52%	35	0%	0
Clerical/Administrative Support	45%	35	23%	6	10%	7	15%	4
Service	5%	4	0%	0	0%	0	70%	17
Production/Operating/Maintenance	5%	4	60%	16	18%	12	6%	1
Total	100%	77	100%	26	100%	67	100%	24
6. Households Earning Between 50% and 80% AMI								
Managerial/Administrative	11%	2	11%	0	11%	1	11%	0
Professional/Technical	36%	4	36%	1	36%	1	36%	0
Sales and Related	27%	2	27%	0	27%	10	27%	0
Clerical/Administrative Support	21%	7	21%	1	21%	1	21%	1
Service	14%	1	14%	0	14%	0	14%	2
Production/Operating/Maintenance	34%	1	34%	5	34%	4	34%	0
Total		17		8		17		4
7. Adjustment to Eliminate Multiple Earner Households Earning in Excess of 80% AMI	53%	9		4		9		2

(1) Based on 100,000 square foot land use type prototypical developments.

(2) From Table 11.

Source: California Employment Development Department 1998 occupational wage survey; 1990 U.S. Census; of David Paul Rosen & Associates.

**Table 11c**  
**ESTIMATED QUALIFYING MODERATE HOUSEHOLDS BY LAND USE TYPE (1)**  
**CITY OF OAKLAND**

**2001**

<b>Steps (See Table 11 for Steps 1 through 4)</b>	<b>Office</b>		<b>Warehouse/Distribution</b>		<b>Retail</b>		<b>Hotel</b>	
	<b>Percent</b>	<b>No.</b>	<b>Percent</b>	<b>No.</b>	<b>Percent</b>	<b>No.</b>	<b>Percent</b>	<b>No.</b>
5. Occupational Distribution (2)								
Managerial/Administrative	21%	16	9%	2	15%	10	6%	1
Professional/Technical	16%	12	8%	2	5%	3	3%	1
Sales and Related	8%	6	0%	0	52%	35	0%	0
Clerical/Administrative Support	45%	35	23%	6	10%	7	15%	4
Service	5%	4	0%	0	0%	0	70%	17
Production/Operating/Maintenance	5%	4	60%	16	18%	12	6%	1
<b>Total</b>	<b>100%</b>	<b>77</b>	<b>100%</b>	<b>26</b>	<b>100%</b>	<b>67</b>	<b>100%</b>	<b>24</b>
6. Households Earning Between 80% and 120% AMI								
Managerial/Administrative	30%	5	30%	1	30%	3	30%	0
Professional/Technical	20%	2	20%	0	20%	1	20%	0
Sales and Related	10%	1	10%	0	10%	4	10%	0
Clerical/Administrative Support	21%	7	21%	1	21%	1	21%	1
Service	5%	0	5%	0	5%	0	5%	1
Production/Operating/Maintenance	8%	0	8%	1	8%	1	8%	0
<b>Total</b>		<b>16</b>		<b>3</b>		<b>9</b>		<b>2</b>
7. Adjustment to Eliminate Multiple Earner Households Earning in Excess of 120% AMI	53%	8		2		5		1

(1) Based on 100,000 square foot land use type prototypical developments.

(2) From Table 11.

Source: California Employment Development Department 1998 occupational wage survey; 1990 U.S. Census; of David Paul Rosen & Associates.

## V. NEXUS FEE AMOUNT

This section uses the results of the previous section on the number of households in the lower income categories associated with each building type and identifies the fee required to mitigate new demand generated by each building type for housing affordable to low and moderate income households.

### A. Affordability Gap Analysis

The affordability gap analysis compares the cost of housing development in Oakland to the amount low and moderate income households can afford to pay for housing. The affordability gap represents the capital subsidy required to develop housing affordable to families at specified income levels. The findings of the gap analysis are used to calculate the fee amount for which a nexus can be shown.

The methodology, key assumptions and findings of the affordability gap analysis are summarized below. The complete gap analysis is contained in **Appendix B**.

#### 1. Methodology

The first step in the gap analysis establishes the amount a tenant or homebuyer can afford to contribute to the cost of renting or owning a dwelling unit. California Redevelopment Law<sup>6</sup> (CRL), the U.S. Department of Housing and Urban Development (HUD) and most other sources of subsidy for affordable housing generally define affordable housing expense at 30 percent of a household's gross income. For moderate income homeowners, CRL defines affordable housing expense at 35 percent of gross income.

For renters, CRL and HUD define affordable housing expense to include rent plus utilities. Affordable net rents are calculated subtracting allowances for the utilities paid directly by the tenants from the overall affordable housing expense. For owners, the affordable mortgage principal and interest payment is calculated by determining the affordable housing expense and deducting costs for taxes, property insurance, utilities, homeowner association dues and maintenance expense. This is consistent with the definition of affordable housing expense for owners under CRL.

The second step estimated the costs of constructing or preserving affordable housing in Oakland. For this purpose, DRA has evaluated three prototypical housing developments (one rental, two owner) that are derived from actual housing projects to estimate the cost to develop these housing prototypes in Oakland under current housing conditions. The rental prototype is used to establish the gaps for very low and low income households, who are assumed to be renters. The owner prototypes are used to calculate the gap for moderate income households, who are assumed to be homeowners.

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<sup>6</sup> CRL governs the use of redevelopment tax increment Housing Set-Aside Funds, the largest source of local subsidies for affordable housing in California.

The third step in the gap analysis establishes the housing expenses borne by the tenants and owners. These costs can be categorized into operating costs, and financing or mortgage obligations. Operating costs are the maintenance expenses of the unit, including utilities, property maintenance, property taxes, management fees, property insurance, replacement reserve, and insurance. For the rental prototypes examined in this analysis, DRA assumed that the landlord pays all but certain tenant-paid utilities as an annual operating cost of the unit paid from rental income. For owner prototypes, DRA assumed the homebuyer pays all operating and maintenance costs for the home.

Financing or mortgage obligations are the costs associated with the purchase or development of the housing unit itself. These costs occur when all or a portion of the development cost is financed. This cost is always an obligation of the landlord or owner. Supportable financing is deducted from the total development cost, less any owner equity (for owner-occupied housing, the downpayment) to determine the capital subsidy required to develop the prototypical housing unit affordable to an eligible family at each income level.

For rental housing prototypes, the gap analysis calculates the difference between total development costs and the conventional mortgage supportable by net operating income from restricted rents. For owners, the gap is the difference between development costs and the supportable mortgage plus the buyer's downpayment.

The purpose of the gap analysis in this report is to determine the fee amount by land use that would be required to develop housing affordable to the very low, low and moderate income households who will need to find housing in Oakland in connection with new non-residential development in the City. Therefore, no housing subsidies, or leverage, are assumed.

## **2. Affordable Housing Cost Definitions**

DRA analyzed the gap for very low and low income renter households and for moderate income owner households. Calculation of the affordability gap requires definition of affordable housing expense for renters and owners. The affordable housing cost definitions used in this gap analysis are shown below. Affordable housing cost is typically set at the top of the income range, which means that all households except those at the upper limit of the income range will be overpaying for housing (paying more than 30 percent of their income). For the purposes of this analysis, affordable housing cost was defined at a point somewhat below the maximum of the income category to better reflect the range of household incomes contained in each category.



**Affordable Housing Cost Definitions  
Oakland Affordability Gap Analysis**

Income Level	Affordable Housing Cost Definition
50% AMI (Very Low Income)	30% of 45% AMI
80% AMI (Low Income)	30% of 60% AMI
120% AMI (Moderate Income)	30% of 100% AMI

**3. Summary of Findings**

DRA estimated the development costs for each of the three housing prototypes, and calculated the supportable debt from affordable rents or mortgage payments. Per unit total development costs, supportable mortgages and affordability gaps are summarized in **Table 12** below for each of the three prototypes analyzed. Detailed assumptions and calculations for the gap analysis are provided in **Appendix B**.

**Table 12**  
**Total Per Unit Development Costs, Supportable Mortgage, and Affordability Gap**  
**City of Oakland Housing Prototypes**

	<b>Rental Apartments</b>	<b>Owner Condominiums</b>	<b>Owner Single Family Detached</b>
<b>Development Costs</b>			
Land Costs	\$ 13,000	\$ 20,000	\$ 70,000
Hard Costs	104,000	122,000	148,000
Financing Costs	4,000	17,700	17,500
Other Soft Costs	53,500	46,800	39,000
Total Development Costs	<u>\$174,500<sup>7</sup></u>	<u>\$206,500</u>	<u>\$274,500</u>
<b>Supportable Mortgage<sup>8</sup></b>			
Very Low Income	\$43,300	N/A	N/A
Low Income	73,100	N/A	N/A
Moderate Income	N/A	\$159,100	\$188,100
<b>Affordability Gap<sup>9</sup></b>			
Very Low Income	\$129,900	N/A	N/A
Low Income	102,700	N/A	N/A
Moderate Income	N/A	\$159,100	\$86,400

<sup>7</sup> Equals average of \$173,200 total development cost for very low income prototype and \$175,800 cost for low income prototype from Appendix B.

<sup>8</sup> Includes per unit supportable mortgage at affordable housing cost. For owner prototypes, includes 3 percent buyer downpayment.

<sup>9</sup> Based on per unit development cost of \$173,200 for very low income prototype and \$175,800 for low income prototype from Appendix B.

## B. Supportable Nexus Fee Amount

The last step in the nexus analysis is to multiply the number of households in each income category by the cost of making housing affordable to them. We used the per unit affordability gaps listed in Table 12 above. For the moderate income category, we used the lower per unit gap of \$47,400 for the owner flats and lofts prototype, rather than the higher per unit gap of \$86,400 for the single-family detached prototype.

**Table 13** presents the calculation of the justifiable nexus fee. The findings are summarized below.

Household Income Category	Per Square Foot Supportable Fees by Land Use			
	Office	Warehouse/ Distribution	Retail	Hotel
Very Low	\$22.08	\$7.79	\$20.78	\$10.39
Low	\$9.24	\$4.11	\$9.24	\$2.05
Moderate	\$3.79	\$0.95	\$2.37	\$0.47
Total	\$35.11	\$12.85	\$32.39	\$12.91

The conclusion of the analysis is that the fee amount needed to offset housing demand created by office building construction for very low income households is \$35.11 per square foot. This is based on the conservative assumptions noted above and the actual amount is likely higher. The lowest fee is for warehouse/distribution where the justified fee amount calculates to \$12.85 per square foot.

The justified fee amounts are useful measuring sticks, and as a ceiling above which any fee structure would be subject to legal challenge. Given the assumptions intrinsic to any nexus analysis, setting fees below the justified fee amount would make it less likely that a challenge to any one assumption would affect the whole program. Given the high level of supportable fees in Oakland, an acceptable fee is likely to be less than the justified fee amount.

**Table 13  
JUSTIFIABLE HOUSING LINKAGE FEE BY LAND USE  
CITY OF OAKLAND**

2001

		<u>Office</u>	<u>Warehouse/ Distribution</u>	<u>Retail</u>	<u>Hotel</u>
<b>Very Low Income Households</b>					
1. Very Low Income Households Employed per 100,000 SF Development		17	6	16	8
2. Estimated Housing Gap Cost at Per Unit Gap of: (1)	\$129,900	\$2,208,300	\$779,400	\$2,078,400	\$1,039,200
<b>3. Cost of Housing Gap Per Square Foot Bldg. Area</b>		<b>\$22.08</b>	<b>\$7.79</b>	<b>\$20.78</b>	<b>\$10.39</b>
<b>Low Income Households</b>					
1. Low Income Households Employed per 100,000 SF Development		9	4	9	2
2. Estimated Housing Gap Cost at Per Unit Gap of: (1)	\$102,700	\$924,300	\$410,800	\$924,300	\$205,400
<b>3. Cost of Housing Gap Per Square Foot Bldg. Area</b>		<b>\$9.24</b>	<b>\$4.11</b>	<b>\$9.24</b>	<b>\$2.05</b>
<b>Moderate Income Households</b>					
1. Moderate Income Households Employed per 100,000 SF Development		8	2	5	1
2. Estimated Housing Gap Cost at Per Unit Gap of: (1)	\$47,400	\$379,200	\$94,800	\$237,000	\$47,400
<b>3. Cost of Housing Gap Per Square Foot Bldg. Area</b>		<b>\$3.79</b>	<b>\$0.95</b>	<b>\$2.37</b>	<b>\$0.47</b>
<b>Total Fee Per Square Foot</b>		<b>\$35.11</b>	<b>\$12.85</b>	<b>\$32.39</b>	<b>\$12.91</b>

(1) From Appendix D. For the moderate income category, we used the per unit gap for the owner flats/lofts prototype; the gap for the owner single-family prototype equals \$86,400 per unit.

Legend: HH = households; SF = square feet; Emp = employees..

Source: Urban Land Institute; Association of Bay Area Governments; 1990 Census of Occupation by Industry; California Employment

## VI. NEXUS FEE REVENUE PROJECTIONS

**Table 14** presents projected linkage fee revenues at alternative fee levels based on the current pipeline of major development projects in Oakland. These projections are based on illustrative fee levels only, ranging from \$2.00 per square foot to \$10.00 per square foot.

The projections show potential revenues from major projects in the three major stages of the planning approval process in Oakland: pre-application, application under review, and application approved. In the category of projects which have received planning approval, we have excluded projects which have already received building permits or are under construction. A detailed description of the major projects in the development pipeline in Oakland as of August, 2001 by land use category is contained in **Appendix C**.

The pipeline projections in Table 14 exclude developments of less than 50,000 square feet. For our revenue projections, we assume that 50 percent of the pipeline is actually constructed. The resulting projections indicate that developments in the pre-application stage would generate fee revenues of \$2.9 million to \$14.3 million at alternative fee levels ranging from \$2.00 per square foot to \$10.00 per square foot, respectively. Projects that have submitted applications would generate revenues of \$0.2 million to \$1.0 million at fee levels of \$2.00 to \$10.00 per square foot, respectively. Projected revenues from projects that have received planning approvals but have not yet received building permits range from \$2.6 million to \$13.0 million at the same per square foot fee range.

Combined total fees from all major projects in the development pipeline over 50,000 square feet that have not received building permits equal \$5.7 million to \$28.3 million at fees of \$2.00 per square foot to \$10.00 per square foot, respectively. Clearly, a housing linkage fee is potentially a significant source of funds to help mitigate demand for affordable housing associated with job growth, even at fee levels substantially below those justified by the economic analysis.

**Table 14**  
**COMMERCIAL DEVELOPMENT IMPACT FEE REVENUE PROJECTIONS**  
**CITY OF OAKLAND**

**2001**

	Office	Warehouse/D istribution	Retail	Hotel	TOTAL
<b>Development Pipeline (SF) (1)</b>					
Pre-Application	2,637,000	0	150,000	67,500	
Application Submitted	205,000	0	0	0	
Application Approved/No Bldg. Permit	2,591,600	0	0	0	
Building Permit Received	1,088,000	951,225	50,000	557,250	
<b>Total Development Pipeline</b>	<b>6,521,600</b>	<b>951,225</b>	<b>200,000</b>	<b>624,750</b>	
<b>Projected Fee Revenues (2)</b>					
Revenues from Projects in Pre-Application					
At a Per Square Foot Fee of:					
\$2.00	\$2,637,000	\$0	\$150,000	\$67,500	\$2,854,500
\$4.00	\$5,274,000	\$0	\$300,000	\$135,000	\$5,709,000
\$6.00	\$7,911,000	\$0	\$450,000	\$202,500	\$8,563,500
\$8.00	\$10,548,000	\$0	\$600,000	\$270,000	\$11,418,000
\$10.00	\$13,185,000	\$0	\$750,000	\$337,500	\$14,272,500
Revenues from Projects w/ Application Submitted					
At a Per Square Foot Fee of:					
\$2.00	\$205,000	\$0	\$0	\$0	\$205,000
\$4.00	\$410,000	\$0	\$0	\$0	\$410,000
\$6.00	\$615,000	\$0	\$0	\$0	\$615,000
\$8.00	\$820,000	\$0	\$0	\$0	\$820,000
\$10.00	\$1,025,000	\$0	\$0	\$0	\$1,025,000
Revenues from Approved Projects					
At a Per Square Foot Fee of:					
\$2.00	\$2,591,600	\$0	\$0	\$0	\$2,591,600
\$4.00	\$5,183,200	\$0	\$0	\$0	\$5,183,200
\$6.00	\$7,774,800	\$0	\$0	\$0	\$7,774,800
\$8.00	\$10,366,400	\$0	\$0	\$0	\$10,366,400
\$10.00	\$12,958,000	\$0	\$0	\$0	\$12,958,000
<b>Total Projected Fee Revenues (2)</b>					
<b>\$2.00</b>	<b>\$5,433,600</b>	<b>\$0</b>	<b>\$150,000</b>	<b>\$67,500</b>	<b>\$5,651,100</b>
<b>\$4.00</b>	<b>\$10,867,200</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$135,000</b>	<b>\$11,302,200</b>
<b>\$6.00</b>	<b>\$16,300,800</b>	<b>\$0</b>	<b>\$450,000</b>	<b>\$202,500</b>	<b>\$16,953,300</b>
<b>\$8.00</b>	<b>\$21,734,400</b>	<b>\$0</b>	<b>\$600,000</b>	<b>\$270,000</b>	<b>\$22,604,400</b>
<b>\$10.00</b>	<b>\$27,168,000</b>	<b>\$0</b>	<b>\$750,000</b>	<b>\$337,500</b>	<b>\$28,255,500</b>

(1) See Appendix D for a detailed listing of projects in the Oakland development pipeline. Excludes retail developments of less than 50,000 square feet.

(2) Assumes 50 percent of the pipeline is developed; excludes projects which have already received building permits and retail developments of less than 50,000 square feet.

Source: David Paul Rosen & Associates.

## **VII. ECONOMIC IMPACT ANALYSIS**

The section assesses the potential economic impact of a linkage fee on office, hotel, retail and warehouse/distribution land uses. We use a market and investment approach that incorporates market returns on equity for developers and investors. The evaluation calculates the increase in rents, or decrease in the rate of return on investor equity, required to finance the fee at current market terms for both debt and equity financing.

The City of Oakland will be competing in the Bay Area regional market to attract new non-residential development. We examine existing development impact fees, including commercial linkage fees and other types of development impact fees, in selected Bay Area cities in order to compare fees in Oakland with those in other communities.

DRA interviewed a number of key developers in the Oakland market. The developers indicated that fees in at least nine jurisdictions with fees in place, some for more than ten years, have had no discernible impact on development. One reason may be that fee levels are relatively small as a percentage of development costs and rents and don't affect developers' decisions to build or not build, which are based on the strength of market demand. The impact of existing fees on rents appears marginal and within the range of elasticity of market rents.

### **A. Market Rent and Return Analysis**

#### **1. Methodology and Assumptions**

The economic impact assessment calculates the increase in rents, or decrease in the rate of return on investor equity, required to finance the fee at current market terms for both debt and equity financing. By applying the average financing cost to the fee at illustrative fee levels, we determine the rent increase necessary to keep returns to developers and investors constant. Alternatively, we calculate the decrease in the rate of return on equity to investors assuming rents remain constant.

Total development costs for non-residential construction are typically financed through a combination of debt and equity financing. We have assumed a loan to value ratio of 60 percent for the first position mortgage. Current interest rates on debt financing are approximately 8 percent or less for commercial real estate mortgages. We expect rates on debt to remain constant or decline in the short term. The Federal Reserve recently lowered interest rates again. Actions by the Federal Reserve are most effective in influencing short-term interest rates. Commercial mortgage rates are generally more sensitive than 30-year home mortgage rates, because of their shorter terms of 10 to 15 years.

For this analysis, we have assumed that equity would comprise the other 40 percent of sources used to finance total development costs. We have provided for a 15 percent return on equity, which is higher than current returns on real estate investment trusts (REITs). Based on DRA's substantial experience with REITs, recent returns are generally in the 12

percent to 14 percent range. The Wall Street Journal recently reported actual REIT returns in the 12 percent range before losses.

The average financing cost of capital based on an 8 percent interest rate for a 60 percent loan-to-value mortgage and a 15 percent return on equity for the remaining 40 percent of sources is approximately 11 percent.<sup>10</sup> To be conservative and allow for fluctuations in returns on debt and equity, we have assumed an average financing cost of 12 percent.

After calculating the increase in rents required to finance the commercial development impact fee at illustrative levels, we calculated the increase in rents as a percentage of current market rents. We use the percentage increase in rents required to finance the as a primary measure of the magnitude of the impact of the fee. As a secondary measure, our evaluation also examines the fee at alternative levels as a percentage of total development costs for each land use.

The current development costs by land use used in the analysis were estimated through a combination of interviews with Oakland-area real estate developers, a review of pro formas for recent Oakland projects, and use of *RS Means Square Foot Costs 2001* for the City of Oakland. Current rents for office and hotel uses were derived through developer interviews and a review of recent development pro formas. For retail and warehouse/distribution uses, we imputed rents based on estimated costs of capital and operating costs, as these developments (i.e. big box/warehouse club retail and distribution centers) are often owner-occupied.

## 2. Findings

The economic assessment was performed for illustrative fee levels ranging from \$2.00 per square foot to \$10.00 per square foot. The findings of the rent and rate of return analyses are summarized below. **Table 15** through **18** presented at the end of the section detail the economic impact analyses for office, hotel, retail and warehouse/distribution land uses, respectively.

### a. Rent Analysis

The economic impact analysis estimated that a linkage fee of \$2.00 per square foot on office uses would require an increase of \$0.23 in the annual office rent per square foot, representing less than a 1 percent increase in current office rents. An increase of \$1.14 in the annual office rent per square foot would be required to finance a \$10.00 per square foot fee, representing a 3 percent to 4 percent increase in current market rents. For retail and warehouse/distribution uses, a linkage fee of \$2.00 per square foot would require a percentage increase in the annual rent of 0.9 percent; a \$10.00 fee would require a rent increase of 4.5 percent.

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<sup>10</sup> To the extent that mezzanine debt is used to finance a portion of the development cost, the actual cost of capital will be lower than estimated. Interest rates on mezzanine debt are typically in between rates on first position debt and equity.



For hotel uses, a \$2.00 per square foot housing linkage fee would require an increase of \$1.01 in the nightly room rate, representing less than a 1 percent increase in current nightly room rates. A \$10.00 linkage fee per square foot would require an increase of \$5.03 in the nightly room rate, representing a 4 to 5 percent increase in current hotel room rates.

For retail and warehouse/distribution uses, the economic impact on rents is similar on a percentage basis. For retail uses, a \$2.00 per square foot fee requires a 1 percent increase in the imputed rent, while a \$10.00 per square foot fee requires a 4.5 percent increase in the imputed rent.

For warehouse/distribution uses, a \$2.00 per square foot fee requires a 1 percent increase in the imputed rent, while a \$10.00 per square foot fee requires a 4.4 percent increase in the imputed rent.

The findings of the rent analysis are summarized below.

Assumed Linkage Fee Per SF Building Area	Increase in Annual Gross Rent Per Square Foot Required to Finance Linkage Fee (Increase as Percent of Current Market Rent)			
	Class A Office	Warehouse/Distribution	Retail	Luxury Hotel
\$2.00	\$0.23 (0.63%)	\$0.23 (0.89%)	\$0.23 (0.90%)	\$1.01 (0.81%)
\$4.00	\$0.45 (1.26%)	\$0.45 (1.78%)	\$0.45 (1.79%)	\$2.01 (1.61%)
\$6.00	\$0.68 (1.89%)	\$0.68 (2.66%)	\$0.68 (2.69%)	\$3.02 (2.42%)
\$8.00	\$0.91 (2.53%)	\$0.91 (3.55%)	\$0.91 (3.59%)	\$4.03 (3.22%)
\$10.00	\$1.14 (3.16%)	\$1.14 (4.44%)	\$1.14 (4.49%)	\$5.03 (4.03%)

**b. Rate of Return Analysis**

If rents are held constant, the linkage fee will result in a decrease in the rate of return on investor equity. Our analysis looked at the decline in the rate of return on equity from an assumed market return of 15.00 percent. According to our estimates, a linkage fee of \$2.00 per square foot on Class A office uses would result in a decrease in the rate of return on investor equity from 15.00 percent to 14.88 percent, a decline of 12 basis points. A \$10.00 per square foot fee decreases the rate of return on equity by 60 basis points, to 14.40 percent.

For luxury hotel uses, a \$2.00 per square foot fee would result in a decrease in the rate of return on investor equity of 9 basis points (to 14.91 percent). A \$10.00 fee would be associated with a decline of 42 basis points in the yield to the investor (to 14.58 percent).

For retail uses, a \$2.00 per square foot fee would result in a decrease in the rate of return on investor equity of 23 basis points (to 14.77 percent) while a \$10.00 fee would be associated with a decline of 109 basis points in the yield to the investor (to 13.91 percent). Warehouse/distribution uses show a similar decline ranging from 23 basis points for a \$2.00 per square foot fee to 107 basis points for a \$10.00 per square foot fee.

For warehouse/distribution uses, a \$2.00 per square foot housing linkage fee on hotel uses would decrease the rate of return to equity investors by 23 basis points, from an assumed rate of 15.00 percent to 14.77 percent. A \$10.00 per square foot fee on office uses would reduce the rate of return to equity investors by 107 basis points, from an assumed rate of 15.00 percent to 13.93 percent.

Assumed Linkage Fee Per SF Building Area	Rate of Return on Equity			
	Class A Office	Warehouse/ Distribution	Retail	Luxury Hotel
No Fee	15.00%	15.00%	15.00%	15.00%
\$2.00	14.88%	14.77%	14.77%	14.91%
\$4.00	14.75%	14.55%	14.55%	14.83%
\$6.00	14.63%	14.34%	14.33%	14.75%
\$8.00	14.52%	14.13%	14.12%	14.66%
\$10.00	14.40%	13.93%	13.91%	14.58%

## **B. Comparison of Development Impact Fees in Selected Bay Area Cities**

### **1. Survey of Bay Area Development Impact Fees**

City of Oakland Community and Economic Development Agency (CEDA) staff conducted a survey of development impact fees among selected Bay Area cities to determine the types of fees charged by these jurisdictions and the amounts of these fees. CEDA staff surveyed the following cities:

- Alameda
- Berkeley
- Emeryville
- Fairfield
- Fremont
- Pleasanton
- Sacramento
- San Francisco
- San Jose
- San Ramon
- Santa Rosa
- Walnut Creek

From the data collected by CEDA staff, DRA sorted the information by land use type to determine the types of fees charged on land use types that are incorporated in this nexus analysis. DRA sorted fee information by office, warehouse/distribution, retail, and hotel land uses.

Development impact fee amounts and types vary greatly by jurisdiction. Most cities charge traffic impact fees on all types of commercial development, with the possible exception of warehouses. Other common fees include school impact fees and facilities fees.

Traffic fees range from \$4.55/sf in Walnut Creek to \$0 in Berkeley, Alameda, and Santa Rosa (although Santa Rosa has a \$1.36/sf to \$4.08/sf fee for infrastructure and services). Traffic fees are among the highest fees charged by jurisdictions. For example, Emeryville charges a traffic fee that ranges from \$0.895/sf to \$1.968/sf for office development (depending upon the size of the building), while it only charges a \$0.31/sf school impact fee. In another example, Pleasanton charges a traffic development impact fee of \$1.35/sf for office development, while its low income housing fee is only \$0.61/sf.

All the jurisdictions surveyed impose a development impact fee of some type on the “office” and “retail” land use types. Again, these fees are mostly in the form of traffic fees. Fees associated with office development and retail development are usually the highest among the four land use types. Because of lower employee to square footage ratios, warehouses are often exempt from development impact fees or the fees are lower than for other land use types. Hotels can also be exempt from some development impact fees, potentially because hotel development occurs less often than office and retail development.

## 2. Estimated Fees for 100,000 Square Foot Prototype Building

Using the survey information collected by City staff, DRA estimated total local development impact fees for prototype 100,000 square foot office, hotel, retail and warehouse/distribution buildings.

Oakland currently charges no development impact fees except school fees, which total approximately \$33,000 for each prototype building, or \$0.33 per square foot. San Jose also has no development impact fees except school fees, but charges a substantial development tax. All of the other twelve cities surveyed have additional impact fees on office and retail development, ranging from \$3 to \$17 per square foot on office uses and \$2 to \$11 per square foot for retail uses. Eight cities have fees on warehouse/distribution uses, ranging from under \$1 to 8 per square foot. Nine of the cities surveyed have additional fees on hotel development, ranging from \$1 to \$9.50 per square foot. San Francisco has the highest development fees for all land uses except warehouse/distribution, for which there is no fee.

Estimated total per square foot development impact fees for the 100,000 square foot prototype are summarized on the next page for the cities surveyed.

**Tables 15** through **18** on the following pages present the detailed economic impact analysis of alternative linkage fee levels on office, hotel, retail and warehouse/distribution land uses, respectively. **Table 19** presents the detailed comparison of estimated city development impact fees for the 100,000 square foot building by land use category.

City	Total Development Impact Fees Per Square Foot Based on 100,000 Square Foot Prototype Building			
	Office	Warehouse/ Distribution	Retail	Hotel
Alameda	\$3.49	\$0.99	\$1.98	\$2.03
Berkeley	\$5.00	None	\$5.00	None
Emeryville	\$1.45 -\$10.65	\$0.45	\$2.29-\$5.43	\$1.08
Fairfield	\$3.91-\$7.81	\$0.64-\$4.55	\$10.97-\$14.87	\$4.17-\$8.01
Fremont	\$6.18	\$8.08	\$5.22-\$5.32	\$3.23
<b>Oakland</b>	<b>\$0.33</b>	<b>\$0.33</b>	<b>\$0.33</b>	<b>\$0.33</b>
Pleasanton	\$3.50-\$3.91	\$0.89-\$1.17	\$1.94-\$2.24	\$0.81-\$1.05
Sacramento <sup>11</sup>	\$2.86-\$2.95	\$1.88-\$1.98	\$2.87-\$3.37	\$3.02-\$3.52
San Francisco	\$17.34	None	\$10.57-\$13.95	\$9.50
San Jose	\$0.33	\$0.33	\$0.33	\$0.33
San Ramon <sup>12</sup>	\$6.48	Based on trips	\$5.51	\$4.56
Santa Rosa	\$3.96-\$6.68	\$1.89-\$4.61	\$5.35-\$8.07	\$5.35-\$8.07
Walnut Creek	\$4.55	None	\$3.42	None

<sup>11</sup> Does not include Development fees in special development areas and Technology fees which equal 4% of plan check permit processing fees.

<sup>12</sup> Does not include additional fees for office and hotel uses which may include beautification/cultural activities, aerial/mapping, Westside Special Plan Recovery and landscape/maintenance fees. For warehouse/distribution uses, fees are based on number of projected trips.

**Table 15  
ECONOMIC IMPACT ANALYSIS  
CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE  
OFFICE USES**

	2001	
	Class A	Class B Major Rehab.
<b>DEVELOPMENT COST ANALYSIS</b>		
Average Development Cost Per Square Foot	\$240	\$170
Linkage Fee As % of Development Cost At a Per Square Foot Fee of:		
\$2.00	0.83%	1.18%
\$4.00	1.67%	2.35%
\$6.00	2.50%	3.53%
\$8.00	3.33%	4.71%
\$10.00	4.17%	5.88%
<b>RENT ANALYSIS (1)</b>		
Average Annual Gross Rent Per Sq. Ft.	\$36.00	\$27.00
Average Occupancy Rate	95%	95%
Increase in Annual Rent Per SF Required to Finance Linkage Fee Per Square Foot of (2) :		
\$2.00	\$0.23	\$0.23
\$4.00	\$0.45	\$0.45
\$6.00	\$0.68	\$0.68
\$8.00	\$0.91	\$0.91
\$10.00	\$1.14	\$1.14
% Increase in Annual Rent Per SF at Linkage Fee Per Square Foot of:		
\$2.00	0.63%	0.84%
\$4.00	1.26%	1.68%
\$6.00	1.89%	2.53%
\$8.00	2.53%	3.37%
\$10.00	3.16%	4.21%

(1) Financing assumptions:

Debt:	
Loan to Value Ratio	60.00%
Debt Interest Rate	8.00%
Equity	
% of Develop. Costs	40.00%
Equity Yield	15.00%
Current Average Financing Cost	10.80%
Assumed Average Financing Cost	12.00%

(2) Equals linkage fee per square foot times assumed average cost of capital divided by occupancy rate.

Source: David Paul Rosen & Associates

**Table 15**  
**ECONOMIC IMPACT ANALYSIS**  
**CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE**  
**OFFICE USES**

	<b>2001</b>	
	<b>Class A</b>	<b>Class B Major Rehab.</b>
<b>RETURN ANALYSIS</b>		
Original Equity Investment Per Sq. Ft. (3)	\$96.00	\$68.00
Increase in Equity Investment Per Sq. Ft. at Linkage Fee Per Square Foot of: (4)		
\$2.00	\$0.80	\$0.80
\$4.00	\$1.60	\$1.60
\$6.00	\$2.40	\$2.40
\$8.00	\$3.20	\$3.20
\$10.00	\$4.00	\$4.00
Original Return on Equity Per Sq. Ft. (5)	\$14.40	\$10.20
Revised Rate of Return on Equity at Linkage Fee Per Square Foot of: (6)		
\$2.00	14.88%	14.83%
\$4.00	14.75%	14.66%
\$6.00	14.63%	14.49%
\$8.00	14.52%	14.33%
\$10.00	14.40%	14.17%
Decrease (in Basis Points) in Rate of Return on Equity at Linkage Fee Per Square Foot of:		
\$2.00	12	17
\$4.00	25	34
\$6.00	37	51
\$8.00	48	67
\$10.00	60	83

(3) Equals assumed equity yield multiplied by total development cost per square foot (without fee).

(4) Equals assumed equity yield multiplied by fee per square foot.

(5) Equals original return on equity per square foot multiplied by assumed equity yield.

(6) Equals original return on equity per square foot divided by the sum of original equity investment per square foot plus increase in equity investment per square foot.

Source: David Paul Rosen & Associates

**Table 16  
ECONOMIC IMPACT ANALYSIS  
CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE  
HOTEL USES**

**2001**

	<u>Luxury</u>	<u>All-Suites</u>
<b>DEVELOPMENT COST ANALYSIS</b>		
Average Development Cost Per Square Foot	\$350	\$300
Linkage Fee As % of Development Cost At a Per Square Foot Fee of:		
\$2.00	0.57%	0.67%
\$4.00	1.14%	1.33%
\$6.00	1.71%	2.00%
\$8.00	2.29%	2.67%
\$10.00	2.86%	3.33%
<b>RENT ANALYSIS (1)</b>		
Average Nightly Room Rate	\$125.00	\$100.00
Average Occupancy Rate	70%	70%
Increase in Nightly Room Rate Required to Finance Linkage Fee Per Square Foot of (2):		
\$2.00	\$1.01	\$1.01
\$4.00	\$2.01	\$2.01
\$6.00	\$3.02	\$3.02
\$8.00	\$4.03	\$4.03
\$10.00	\$5.03	\$5.03
% Increase in Nightly Room Rate at Linkage Fee Per Square Foot of:		
\$2.00	0.81%	1.01%
\$4.00	1.61%	2.01%
\$6.00	2.42%	3.02%
\$8.00	3.22%	4.03%
\$10.00	4.03%	5.03%

(1) Financing assumptions:

Debt:	
Loan to Value Ratio	60.00%
Debt Interest Rate	8.00%
Equity	
% of Develop. Costs	40.00%
Equity Yield	15.00%
Current Average Financing Cost	10.80%
Assumed Average Financing Cost	12.00%

(2) Assumes average room size of 750 square feet.

Source: David Paul Rosen & Associates



**Table 16**  
**ECONOMIC IMPACT ANALYSIS**  
**CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE**  
**HOTEL USES**

**2001**

	<b>Luxury</b>	<b>All-Suites</b>
<b>RETURN ANALYSIS</b>		
Original Equity Investment Per Sq. Ft. (3)	\$140.00	\$120.00
Increase in Equity Investment Per Sq. Ft. at Linkage Fee Per Square Foot of: (4)		
\$2.00	\$0.80	\$0.80
\$4.00	\$1.60	\$1.60
\$6.00	\$2.40	\$2.40
\$8.00	\$3.20	\$3.20
\$10.00	\$4.00	\$4.00
Original Return on Equity Per Sq. Ft. (5)	\$21.00	\$18.00
Revised Rate of Return on Equity at Linkage Fee Per Square Foot of: (6)		
\$2.00	14.91%	14.90%
\$4.00	14.83%	14.80%
\$6.00	14.75%	14.71%
\$8.00	14.66%	14.61%
\$10.00	14.58%	14.52%
Decrease (in Basis Points) in Rate of Return on Equity at Linkage Fee Per Square Foot of:		
\$2.00	9	10
\$4.00	17	20
\$6.00	25	29
\$8.00	34	39
\$10.00	42	48

(3) Equals assumed equity yield multiplied by total development cost per square foot (without fee).

(4) Equals assumed equity yield multiplied by fee per square foot.

(5) Equals original return on equity per square foot multiplied by assumed equity yield.

(6) Equals original return on equity per square foot divided by the sum of original equity investment per square foot plus increase in equity investment per square foot.

Source: David Paul Rosen & Associates

**Table 17  
ECONOMIC IMPACT ANALYSIS  
CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE  
RETAIL USES**

**2001**

**DEVELOPMENT COST ANALYSIS**

Average Development Cost Per Square Foot (1)	\$128
Linkage Fee As % of Development Cost	
At a Per Square Foot Fee of:	
\$2.00	1.56%
\$4.00	3.13%
\$6.00	4.69%
\$8.00	6.25%
\$10.00	7.81%

**RENT ANALYSIS (2)**

Imputed Gross Annual Rent Per Square Foot (3)	\$25.36
Average Occupancy Rate	95%
Increase in Annual Rent Per SF Required to Finance	
Linkage Fee Per Square Foot of (4) :	
\$2.00	\$0.23
\$4.00	\$0.45
\$6.00	\$0.68
\$8.00	\$0.91
\$10.00	\$1.14
% Increase in Annual Rent Per SF	
at Linkage Fee Per Square Foot of:	
\$2.00	0.90%
\$4.00	1.79%
\$6.00	2.69%
\$8.00	3.59%
\$10.00	4.48%

(1) Based on hard cost per square foot of \$77 per square foot for a retail store, tilt-up concrete panel construction, localized to the Oakland area, from *RS Means Per Square Foot Costs 2001*. Assumes hard costs represent 60 percent of total development costs.

(2) Financing assumptions:

Debt:	
Loan to Value Ratio	60.00%
Debt Interest Rate	8.00%
Equity	
% of Develop. Costs	40.00%
Equity Yield	15.00%
Current Average Financing Cost	10.80%
Assumed Average Financing Cost	12.00%

(3) Equals development cost per square foot times assumed financing cost, plus assumed annual operating cost of \$10.00 per square foot.

(4) Equals linkage fee per square foot times assumed average cost of capital divided by occupancy rate.

Source: David Paul Rosen & Associates

**Table 17**  
**ECONOMIC IMPACT ANALYSIS**  
**CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE**  
**RETAIL USES**  
**2001**

**RETURN ANALYSIS**

Original Equity Investment Per Sq. Ft. (3)	\$51.20
Increase in Equity Investment Per Sq. Ft. at Linkage Fee Per Square Foot of: (4)	
\$2.00	\$0.80
\$4.00	\$1.60
\$6.00	\$2.40
\$8.00	\$3.20
\$10.00	\$4.00
Original Return on Equity Per Sq. Ft. (5)	\$7.68
Revised Rate of Return on Equity at Linkage Fee Per Square Foot of: (6)	
\$2.00	14.77%
\$4.00	14.55%
\$6.00	14.33%
\$8.00	14.12%
\$10.00	13.91%
Decrease (in Basis Points) in Rate of Return on Equity at Linkage Fee Per Square Foot of:	
\$2.00	23
\$4.00	45
\$6.00	67
\$8.00	88
\$10.00	109

(3) Equals assumed equity yield multiplied by total development cost per square foot (without fee).

(4) Equals assumed equity yield multiplied by fee per square foot.

(5) Equals original return on equity per square foot multiplied by assumed equity yield.

(6) Equals original return on equity per square foot divided by the sum of original equity investment per square foot plus increase in equity investment per square foot.

Source: David Paul Rosen & Associates

**Table 18  
ECONOMIC IMPACT ANALYSIS  
CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE  
WAREHOUSE/DISTRIBUTION USES**

**2001**

**DEVELOPMENT COST ANALYSIS**

Average Development Cost Per Square Foot (1)	\$130
Linkage Fee As % of Development Cost At a Per Square Foot Fee of:	
\$2.00	1.54%
\$4.00	3.08%
\$6.00	4.62%
\$8.00	6.15%
\$10.00	7.69%

**RENT ANALYSIS (2)**

Imputed Gross Annual Rent Per Square Foot (3)	\$25.60
Average Occupancy Rate	95%
Increase in Annual Rent Per SF Required to Finance Linkage Fee Per Square Foot of (4) :	
\$2.00	\$0.23
\$4.00	\$0.45
\$6.00	\$0.68
\$8.00	\$0.91
\$10.00	\$1.14
% Increase in Annual Rent Per SF at Linkage Fee Per Square Foot of:	
\$2.00	0.89%
\$4.00	1.78%
\$6.00	2.66%
\$8.00	3.55%
\$10.00	4.44%

(1) Based on hard cost per square foot of \$78 per square foot for an industrial building, tilt-up concrete panel construction, localized to the Oakland area, from RS Means Per Square Foot Costs 2001. Assumes hard costs represent 60 percent of total development costs.

(2) Financing assumptions:

Debt:	
Loan to Value Ratio	60.00%
Debt Interest Rate	8.00%
Equity	
% of Develop. Costs	40.00%
Equity Yield	15.00%
Current Average Financing Cost	10.80%
Assumed Average Financing Cost	12.00%

(3) Equals development cost per square foot times assumed financing cost, plus assumed annual operating cost of \$10.00 per square foot.

(4) Equals linkage fee per square foot times assumed average cost of capital divided by occupancy rate.

Source: David Paul Rosen & Associates

**Table 18**  
**ECONOMIC IMPACT ANALYSIS**  
**CITY OF OAKLAND COMMERCIAL DEVELOPMENT IMPACT FEE**  
**WAREHOUSE/DISTRIBUTION USES**

**2001**

**RETURN ANALYSIS**

Original Equity Investment Per Sq. Ft. (3)	\$52.00
Increase in Equity Investment Per Sq. Ft. at Linkage Fee Per Square Foot of: (4)	
\$2.00	\$0.80
\$4.00	\$1.60
\$6.00	\$2.40
\$8.00	\$3.20
\$10.00	\$4.00
Original Return on Equity Per Sq. Ft. (5)	\$7.80
Revised Rate of Return on Equity at Linkage Fee Per Square Foot of: (6)	
\$2.00	14.77%
\$4.00	14.55%
\$6.00	14.34%
\$8.00	14.13%
\$10.00	13.93%
Decrease (in Basis Points) in Rate of Return on Equity at Linkage Fee Per Square Foot of:	
\$2.00	23
\$4.00	45
\$6.00	66
\$8.00	87
\$10.00	107

(3) Equals assumed equity yield multiplied by total development cost per square foot (without fee).

(4) Equals assumed equity yield multiplied by fee per square foot.

(5) Equals original return on equity per square foot multiplied by assumed equity yield.

(6) Equals original return on equity per square foot divided by the sum of original equity investment per square foot plus increase in equity investment per square foot.

Source: David Paul Rosen & Associates

Table 19

**LOCAL DEVELOPMENT FEES  
AMONG SELECTED BAY AREA CITIES BY LAND USE  
ASSUMING 100,000 SQUARE FOOT BUILDING**

August 2001

CITY	OFFICE	WAREHOUSE/ DISTRIBUTION	RETAIL	HOTEL
<b>Alameda</b>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$300,000</li> <li>• Parking, \$305 + T&amp;M</li> <li>• Police &amp; Fire, \$15,500</li> <li>• School, \$33,000</li> </ul> <p><b>TOTAL: \$348,805 plus T&amp;M</b></p>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$50,000</li> <li>• Parking, \$305 + T&amp;M</li> <li>• Police &amp; Fire, \$15,500</li> <li>• School, \$33,000</li> </ul> <p><b>TOTAL: \$98,805 plus T&amp;M</b></p>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$150,000</li> <li>• Parking, \$305 + T&amp;M</li> <li>• Police &amp; Fire, \$15,500</li> <li>• School, \$33,000</li> </ul> <p><b>TOTAL: \$198,805 plus T&amp;M</b></p>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$154,000 (based on 200 rooms)</li> <li>• Parking, \$305 + T&amp;M</li> <li>• Police &amp; Fire, \$15,500</li> <li>• School, \$33,000</li> </ul> <p><b>TOTAL: \$202,805 plus T&amp;M</b></p>
<b>Berkeley</b>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$400,000</li> <li>• Child Care Fee, \$100,000</li> </ul> <p><b>TOTAL: \$500,000</b></p>	<ul style="list-style-type: none"> <li>• No fees</li> </ul> <p><b>TOTAL: \$0</b></p>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$400,000</li> <li>• Child Care Fee, \$100,000</li> </ul> <p><b>TOTAL: \$500,000</b></p>	<ul style="list-style-type: none"> <li>• No fees</li> </ul> <p><b>TOTAL: \$0</b></p>

Table 19

**LOCAL DEVELOPMENT FEES  
AMONG SELECTED BAY AREA CITIES BY LAND USE  
ASSUMING 100,000 SQUARE FOOT BUILDING**

August 2001

CITY	OFFICE	WAREHOUSE/ DISTRIBUTION	RETAIL	HOTEL
<b>Emeryville</b>	<ul style="list-style-type: none"> <li>• Traffic Fees: \$89,500 to \$1,010,000</li> <li>• School fees, \$31,000</li> <li>• Art in Public Places, \$24,000 (based on \$240/sf TDC)</li> </ul> <p><b>TOTAL: \$144,500 to \$1,065,000</b></p>	<ul style="list-style-type: none"> <li>• School fees, \$31,000</li> <li>• Art in Public Places, \$12,800 (based on \$128/sf TDC)</li> </ul> <p><b>TOTAL: \$43,800</b></p>	<ul style="list-style-type: none"> <li>• Traffic Fees: \$185,000 to \$499,400</li> <li>• School fees, \$31,000</li> <li>• Art in Public Places, \$12,800 (based on \$128/sf TDC)</li> </ul> <p><b>TOTAL: \$228,800 to \$543,200</b></p>	<ul style="list-style-type: none"> <li>• Traffic fees, \$66,800 (based on 200 rooms)</li> <li>• School fees, \$31,000</li> <li>• Art in Public Places, \$35,000 (based on \$350/sf TDC)</li> </ul> <p><b>TOTAL: \$107,750</b></p>
<b>Fairfield</b>	<ul style="list-style-type: none"> <li>• N. Texas St. Benefit, \$384,000 for projects located in benefit district</li> <li>• Public facilities, \$43,400</li> <li>• School, \$27,000 to \$33,000</li> <li>• Art in public places, \$60,000 (based on \$240/sf TDC)</li> <li>• Traffic, \$233,000</li> <li>• Urban Design, \$3,000</li> <li>• Public facilities, \$25,000</li> </ul> <p><b>TOTAL: \$391,400 to \$781,400</b></p>	<ul style="list-style-type: none"> <li>• N. Texas St. Benefit, \$384,000 for projects located in benefit district</li> <li>• Public facilities, \$5,500</li> <li>• School, \$27,000 to \$33,000</li> <li>• Art in public places, \$32,000 (based on \$128/sf TDC)</li> </ul> <p><b>TOTAL: \$64,500 to \$454,500</b></p>	<ul style="list-style-type: none"> <li>• N. Texas St. Benefit, \$384,000 for projects located in benefit district</li> <li>• Public facilities, \$26,000</li> <li>• School, \$27,000 to \$33,000</li> <li>• Art in public places, \$32,000 (based on \$128/sf TDC)</li> <li>• Traffic, \$928,000</li> <li>• Urban Design, \$2,000</li> <li>• Public facilities, \$82,000</li> </ul> <p><b>TOTAL: \$1,097,000 to \$1,487,000</b></p>	<ul style="list-style-type: none"> <li>• N. Texas St. Benefit, \$384,000 for projects located in benefit district</li> <li>• Traffic, \$337,000</li> <li>• Urban Design, \$2,000</li> <li>• Public facilities, \$78,000</li> </ul> <p><b>TOTAL: \$417,000 to \$801,000</b></p>

Table 19

**LOCAL DEVELOPMENT FEES  
AMONG SELECTED BAY AREA CITIES BY LAND USE  
ASSUMING 100,000 SQUARE FOOT BUILDING**

August 2001

CITY	OFFICE	WAREHOUSE/ DISTRIBUTION	RETAIL	HOTEL
<b>Fremont</b>	<ul style="list-style-type: none"> <li>• Capital Facilities, \$78,300</li> <li>• Traffic, \$519,000</li> <li>• Fire Protection, \$20,400</li> </ul> <p><b>TOTAL: \$617,700</b></p>	<ul style="list-style-type: none"> <li>• Capital Facilities, \$19,600</li> <li>• Traffic, \$787,200</li> <li>• Fire Protection, \$800</li> </ul> <p><b>TOTAL: \$807,600</b></p>	<ul style="list-style-type: none"> <li>• Capital Facilities, \$39,100</li> <li>• Traffic, \$474,300 to \$484,200</li> <li>• Fire Protection, \$8,300</li> </ul> <p><b>TOTAL: \$521,700 to \$531,600</b></p>	<ul style="list-style-type: none"> <li>• Traffic, \$125,300 and \$189,200 (based on 200 rooms)</li> <li>• Fire Protection, \$8,300</li> </ul> <p><b>TOTAL: \$322,800</b></p>
<b>Pleasanton</b>	<ul style="list-style-type: none"> <li>• Development Impact, \$61,000</li> <li>• Low Income Housing, \$52,000</li> <li>• Transportation, \$102,000</li> <li>• Fire Refunding, \$41,000</li> <li>• Traffic Development Impact, \$135,000</li> </ul> <p><b>TOTAL: \$350,000 to \$391,000</b></p>	<ul style="list-style-type: none"> <li>• Development Impact, \$37,000</li> <li>• Low Income Housing, \$52,000</li> <li>• Fire Refunding, \$28,000</li> </ul> <p><b>TOTAL: \$89,000 to \$117,000</b></p>	<ul style="list-style-type: none"> <li>• Development Impact, \$40,000</li> <li>• Low Income Housing, \$52,000</li> <li>• Transportation, \$102,000</li> <li>• Fire Refunding, \$30,000</li> </ul> <p><b>TOTAL: \$194,000 to \$224,000</b></p>	<ul style="list-style-type: none"> <li>• Development Impact, \$29,000</li> <li>• Low Income Housing, \$52,000</li> <li>• Fire Refunding, \$24,000</li> </ul> <p><b>TOTAL: \$81,000 to \$105,000</b></p>



Table 19

**LOCAL DEVELOPMENT FEES  
AMONG SELECTED BAY AREA CITIES BY LAND USE  
ASSUMING 100,000 SQUARE FOOT BUILDING**

August 2001

CITY	OFFICE	WAREHOUSE/ DISTRIBUTION	RETAIL	HOTEL
<b>Sacramento</b>	<ul style="list-style-type: none"> <li>• Development, various</li> <li>• Fire Impact, \$20,000 to \$21,000</li> <li>• Affordable Housing, \$99,000</li> <li>• Park Development, \$14,000</li> <li>• School, \$31,000</li> <li>• Technology Surcharge, 4% of plan check fee or permit processing fee</li> <li>• Transit, \$100,000</li> <li>• Transit (nonresidential), \$22,000 to \$30,000</li> </ul> <p><b>TOTAL: \$286,000 - \$295,000 Plus Development and Technology Fees</b></p>	<ul style="list-style-type: none"> <li>• Development, various</li> <li>• Fire Impact, \$20,000 to \$21,000</li> <li>• Affordable Housing, \$27,000 to \$36,000</li> <li>• Park Development, \$10,000</li> <li>• School, \$31,000</li> <li>• Technology Surcharge, 4% of plan check fee or permit processing fee</li> <li>• Transit, \$100,000</li> </ul> <p><b>TOTAL: \$188,000 - \$198,000 Plus Development and Technology Fees</b></p>	<ul style="list-style-type: none"> <li>• Development, various</li> <li>• Fire Impact, \$20,000 to \$21,000</li> <li>• Affordable Housing, \$79,000</li> <li>• Park Development, \$10,000</li> <li>• School, \$31,000</li> <li>• Technology Surcharge, 4% of plan check fee or permit processing fee</li> <li>• Transit, \$100,000</li> <li>• Transit (nonresidential), \$47,000 to \$96,000</li> </ul> <p><b>TOTAL: \$287,000 - \$337,000 Plus Development and Technology Fees</b></p>	<ul style="list-style-type: none"> <li>• Development, various</li> <li>• Fire Impact, \$20,000 to \$21,000</li> <li>• Affordable Housing, \$94,000</li> <li>• Park Development, \$10,000</li> <li>• School, \$31,000</li> <li>• Technology Surcharge, 4% of plan check fee or permit processing fee</li> <li>• Transit, \$100,000</li> <li>• Transit (nonresidential), \$47,000 to \$96,000</li> </ul> <p><b>TOTAL: \$302,000 - \$352,000 Plus Development and Technology Fees</b></p>

Table 19

**LOCAL DEVELOPMENT FEES  
AMONG SELECTED BAY AREA CITIES BY LAND USE  
ASSUMING 100,000 SQUARE FOOT BUILDING**

August 2001

CITY	OFFICE	WAREHOUSE/ DISTRIBUTION	RETAIL	HOTEL
<b>San Francisco</b>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$1,134,000 (\$1,496,000 after 1/1/02)</li> <li>• Child Care, \$100,000</li> <li>• Transportation, \$500,000</li> </ul> <p><b>TOTAL: \$1,734,000</b> <b>(\$2,096,000 after 1/1/02)</b></p>	<ul style="list-style-type: none"> <li>• No fees</li> </ul> <p><b>TOTAL: \$0</b></p>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$1,057,000 (\$1,395,000 after 1/1/02)</li> </ul> <p><b>TOTAL: \$1,057,000 (\$1,395,000 after 1/1/02)</b></p>	<ul style="list-style-type: none"> <li>• Affordable Housing, \$850,000 (\$1,121,000 after 1/1/02)</li> <li>• Child Care, \$100,000</li> </ul> <p><b>TOTAL: \$950,000 (\$1,221,000 after 1/1/02)</b></p>
<b>San Jose</b>	<ul style="list-style-type: none"> <li>• Schools, \$33,000</li> </ul> <p><b>TOTAL: \$33,000</b></p>	<ul style="list-style-type: none"> <li>• Schools, \$33,000</li> </ul> <p><b>TOTAL: \$33,000</b></p>	<ul style="list-style-type: none"> <li>• Schools, \$33,000</li> </ul> <p><b>TOTAL: \$33,000</b></p>	<ul style="list-style-type: none"> <li>• Schools, \$33,000</li> </ul> <p><b>TOTAL: \$33,000</b></p>

Table 19

**LOCAL DEVELOPMENT FEES  
AMONG SELECTED BAY AREA CITIES BY LAND USE  
ASSUMING 100,000 SQUARE FOOT BUILDING**

August 2001

CITY	OFFICE	WAREHOUSE/ DISTRIBUTION	RETAIL	HOTEL
<b>San Ramon</b>	<ul style="list-style-type: none"> <li>• Traffic Impact Mitigation, \$72,000</li> <li>• JEPA Traffic Mitigation, \$347,000</li> <li>• South Contra Costa Regional Fee, \$129,000</li> <li>• Transportation Development, \$100,000</li> <li>• Other fees may include Beautification/Cultural Activities, Aerial Mapping, Westside Special Plan Recovery, and Landscape/Maintenance</li> </ul> <p><b>TOTAL: \$648,000 plus additional fees</b></p>	<ul style="list-style-type: none"> <li>• Traffic Impact Mitigation, \$530 per trip</li> <li>• JEPA Traffic Mitigation, \$2,222 per trip</li> <li>• South Contra Costa Regional Fee, \$792/trip</li> <li>• Transportation Development, \$1,500 per average a.m. peak hour trip</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic Impact Mitigation, \$154,000</li> <li>• JEPA Traffic Mitigation, \$217,000</li> <li>• South Contra Costa Regional Fee, \$80,000</li> <li>• Transportation Development, \$100,000</li> <li>• Other fees may include Beautification/Cultural Activities, Aerial Mapping, Westside Special Plan Recovery, and Landscape/Maintenance</li> </ul> <p><b>TOTAL: \$551,000 plus additional fees</b></p>	<ul style="list-style-type: none"> <li>• Traffic Impact Mitigation, \$159,000</li> <li>• JEPA Traffic Mitigation, \$217,000</li> <li>• South Contra Costa Regional Fee, \$80,000</li> </ul> <p><b>TOTAL: \$456,000</b></p>
<b>Santa Rosa</b>	<ul style="list-style-type: none"> <li>• Capital Facilities, \$260,000</li> <li>• Infrastructure and Services Fee, \$136,000 to \$408,000</li> </ul> <p><b>TOTAL: \$396,000 to \$668,000</b></p>	<ul style="list-style-type: none"> <li>• Capital Facilities, \$53,000</li> <li>• Infrastructure and Services Fee, \$136,000 to \$408,000</li> </ul> <p><b>TOTAL: \$189,000 to \$461,000</b></p>	<ul style="list-style-type: none"> <li>• Capital Facilities, \$399,000</li> <li>• Infrastructure and Services Fee, \$136,000 to \$408,000</li> </ul> <p><b>TOTAL: \$535,000 to \$807,000</b></p>	<ul style="list-style-type: none"> <li>• Capital Facilities, \$399,000</li> <li>• Infrastructure and Services Fee, \$136,000 to \$408,000</li> </ul> <p><b>TOTAL: \$535,000 to \$807,000</b></p>

Table 19

**LOCAL DEVELOPMENT FEES  
AMONG SELECTED BAY AREA CITIES BY LAND USE  
ASSUMING 100,000 SQUARE FOOT BUILDING**

August 2001

CITY	OFFICE	WAREHOUSE/ DISTRIBUTION	RETAIL	HOTEL
<b>Walnut Creek</b>	<ul style="list-style-type: none"> <li>• Traffic Impact, \$455,000</li> </ul> <p><b>TOTAL: \$455,000</b></p>	<ul style="list-style-type: none"> <li>• No fees</li> </ul> <p><b>TOTAL: \$0</b></p>	<ul style="list-style-type: none"> <li>• Traffic Impact, \$342,000</li> </ul> <p><b>TOTAL: \$342,000</b></p>	<ul style="list-style-type: none"> <li>• No fees</li> </ul> <p><b>TOTAL: \$0</b></p>

**OAKLAND NEXUS STUDY**  
**APPENDIX B**  
**AFFORDABILITY GAP ANALYSIS**

September 13, 2001

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## **City of Oakland Affordability Gap Analysis**

### **A. Executive Summary**

The City of Oakland retained David Paul Rosen & Associates (DRA) to prepare a nexus study as part of their analysis of a commercial linkage fee to support affordable housing development. As part of this analysis, DRA prepared a study of the affordability “gap” that represents the capital subsidy required to develop housing affordable to families at a range of income levels.

The first step in the gap analysis established the amount a tenant or homebuyer can afford to contribute to the cost of renting or owning a dwelling unit based on established State and federal standards. Income levels, housing costs and rents used in the analysis are defined below.

The second step estimated the costs of constructing or preserving affordable housing in Oakland. For this purpose, DRA in collaboration with Agency staff developed three prototypical housing developments suitable for the Oakland market today. DRA estimated the cost to develop these housing prototypes in Oakland under current housing conditions using RS Means data and data on actual recent housing developments.

The third step in the gap analysis established the housing expenses borne by the tenants and owners. These costs can be categorized into operating costs, and financing or mortgage obligations. Operating costs are the maintenance expenses of the unit, including utilities, property maintenance, property taxes, management fees, property insurance, replacement reserve, and insurance. For the rental prototypes examined in this analysis, DRA assumed that the landlord pays all but certain tenant-paid utilities as an annual operating cost of the unit paid from rental income. For owner prototypes, DRA assumed the homebuyer pays all operating and maintenance costs for the home.

Financing or mortgage obligations are the costs associated with the purchase or development of the housing unit itself. These costs occur when all or a portion of the development cost is financed. This cost is always an obligation of the landlord or owner. Supportable financing is deducted from the total development cost, less any owner equity, to determine the capital subsidy required to develop the prototypical housing unit affordable to an eligible family at each income level.

For rental housing prototypes, the gap analysis calculates the difference between total development costs and the conventional mortgage supportable by net operating income from restricted rents. For owners, the gap is the difference between development costs and the supportable mortgage plus the buyer’s downpayment.



The resulting affordability gap for renter or owner housing must be filled from other sources, such as a commercial linkage fee.

The findings of the gap analysis are summarized in **Table 1**. Detailed financial calculations for the gap analysis are contained in Attachment A.

## **B. Housing Prototypes**

**Table 2** describes the three housing prototypes, one rental and two owner, examined in the gap analysis. These prototypes were developed in collaboration with City staff to represent likely affordable housing developments in Oakland in terms of the resident population, product and construction type, density, number of units, unit mix by bedroom count, and unit size.

### **1. Rental Housing Prototype**

The rental prototype examined is a new construction family rental housing development on a site of approximately two-thirds of an acre

With predominately one and two-bedroom market-rate apartments in the City, the greatest need is for two- and three-bedroom family rental housing units. The family rental prototype is assumed to have one-third three-bedroom units to meet this need.

### **2. Owner Housing Prototypes**

The owner housing prototypes include a new construction stacked flat condominium prototype on approximately 1.4 acres. This prototype incorporates 202 units, 28 of which are lofts.

The second is a single-family detached new construction prototype on a 4.6 acre site.

**Table 1**  
**Summary of Per Unit Affordability Gaps (1)**  
**Oakland Affordability Gap Analysis**  
**2001**

Financing Scenario Prototype	# of Units	Rental Prototypes		Owner Prototypes
		Very Low Income - 50% AMI	Low Income - 80% AMI	120% AMI
		1. Family Rental	30	\$129,900
2. Owner Condos	202	N/A	N/A	\$47,400
3. Owner SFD	71	N/A	N/A	\$86,400

(1) All gaps are reported as permanent financing sources or capital requirements.

Source: David Paul Rosen & Associates

**Table 2  
Housing Prototype Projects  
Oakland Affordability Gap Analysis**

<b>PROTOTYPE</b>	<b>1. Family Rental</b>	<b>2. Owner Condos</b>	<b>3. Owner SFD</b>
<b>UNIT COUNT</b>	30 Units	202 Units	71 Units
<b>TENURE</b>	Rental	Owner	Owner
<b>RESIDENT POP.</b>	Family	Family	Family
<b>TYPE OF PRODUCT</b>	Stacked Flats, Townhomes 3 Stories	Stacked Flats, 4 Stories Over Lofts At Grade	Single-Family Detached 2 Story, PUD
<b>CONSTRUCTION TYPE</b>	Wood Frame	Wood Frame	Wood Frame
<b>DENSITY (DU'S/Acre)</b>	45.5	146.7	15.5
<b>LAND AREA (Acres)</b>	0.660 Acres	1.377 Acres	4.59 Acres
<b>UNITS BY BR COUNT</b>			
Lofts	0	28	0
One Bedroom	7	94	0
Two Bedroom	10	80	1
Three Bedroom	10	0	49
Four Bedroom	2	0	21
Manager's	1	0	0
<b>UNIT SIZE (Net SF)</b>			
Lofts	0	934	0
One Bedroom	609	804	0
Two Bedroom	788	1,148	940
Three Bedroom	916	0	1,294
Four Bedroom	1,292	0	1,580
Manager's	772	0	0
Ave. (Exclud. Mgr's)	822	958	1,374
<b>BLDG. SQ. FEET</b>			
Net Living Area	24,667	193,594	97,526
Community Space/ Common Space	3,416	3,753	0
Total Net Bldg. SF	28,083	197,347	97,526
<b>TYPE OF PARKING</b>	20 spaces on grade 10 spaces on grade in garage	2 story structured above grade	2-car tandem, garage and off-street
<b>NO. OF PKG. SPACES PARKING SF</b>	30 3,763	209 71,087	231
<b>AMENITIES</b>	2 Community Rooms, Computer Room, Conference Room, and Open Space	Recreation/Community Room	2 Mini-Parks

## **C. Financing Scenario, Target Income Levels, and Affordable Housing Cost**

### **1. Financing Scenario**

DRA has modeled the rental prototype under a financing scenario that does not incorporate leverage from alternative sources of funds. Because of the limited availability of affordable housing subsidies, it is not possible to predict the ability of any particular affordable housing development to secure such subsidies. Therefore, we model the total gap financing necessary to make the affordable housing development feasible.

No leverage is assumed for the owner housing prototypes. Leveraged sources for ownership housing are scarce and are not practical for the prototypes examined in this report.

### **2. Target Income Levels**

In consultation with Agency staff, the gap analysis for the rental prototype is based on targeting very low and lower income households as defined under California Redevelopment Law. Very low income households are defined as households at 50 percent of area median income or below. Lower income households are defined as households from 51 percent of area median income to 80 percent of area median income. Because the definitions of very low and lower income households incorporate a range of incomes, the Agency selected the target incomes of 45 percent of area median income for very low income households and 65 percent of area median income for lower income households for purposes of the gap analysis.

Because there is a range of incomes that fall under the definition of moderate income under redevelopment law (81 percent to 120 percent of area median income) the Agency chose to model the owner gap analysis at a midpoint of this range, or 100 percent of area median income.

### **3. Affordable Housing Cost**

Calculation of the affordability gap requires defining affordable housing expense for renters and owners. California Redevelopment Law, which governs expenditures of the City of Oakland Redevelopment Agency's Low and Moderate Income Housing Fund, in combination with the California Health and Safety Code defines affordable housing cost for three income levels:

## Affordable Housing Cost Definitions California Redevelopment Law

<u>Income Level of Occupants</u>	<u>Type of Housing</u>	
	Rental	Ownership
Very low income (50% of median and below)	30% of 50% AMI (1)	30% of 50% AMI
Lower income (51-80% of median)	30% of 60% AMI (2)	30% of 70% AMI (2)
Moderate income (81-120% of median)	30% of 110% AMI (2)	35% of 110% AMI (2) but no less than 28% of actual income

(1) Area median income is \$71,600 for a household of four in the Oakland PMSA for 2001.  
 (2) With optional higher housing cost linked to actual income at the upper end of the income category.

### a. Rental Housing Gap Analysis

Under California Redevelopment Law, affordable housing cost must be calculated based on occupancy standards required under California Health and Safety Code 50052.5, Subsection C. To meet this requirement, affordable rents must be calculated based on an occupancy standard of one person per bedroom plus an additional person. For example, for a two-bedroom unit, the standard is one person per bedroom plus an additional person for a total occupancy of three persons. DRA incorporated this occupancy standard in our calculations of affordable housing cost.

For the purposes of this gap analysis, affordable housing cost for renters is defined as 30 percent of the specified income target (for example, 30 percent of 50 percent of area median income). This definition is consistent with California Redevelopment Law for renter households at the income levels used in this analysis.

Table 3 summarizes the calculations of affordable rents.

### b. Ownership Housing Gap Analysis

For units assisted with 20 percent tax increment housing set-aside funds, California Redevelopment Law requires that affordable owner housing cost for moderate income households (greater than 80 percent and up to 120 percent of area median income) may not exceed 35 percent of 110 percent of area median income adjusted for household size.

**Table 3  
AFFORDABLE RENT ANALYSIS  
INCOME AND UTILITY ALLOWANCE ASSUMPTIONS**

**ASSUMPTIONS**

2001 Median Household Income, Oakland PMSA, Four Person Household                     \$71,600  
Affordable Housing Cost As a % of Income   30%

No. of Bedrooms	<b>Lofts</b>	<b>1 Bedroom</b>	<b>2 Bedroom</b>	<b>3 Bedroom</b>	<b>4 Bedroom</b>
Household Size, Health and Safety Code	2 Persons	2 Persons	3 Persons	4 Persons	5 Persons
Household Size Income Adjust. Factor, Tax Credits	80%	80%	90%	104%	116%
Flats Utility Allowance (1)	\$44	\$44	\$55	\$67	\$80
House Utility Allowance (2)	\$107	\$107	\$135	\$170	\$229

**AFFORDABLE RENTS AND GROSS RENTAL INCOME BY INCOME LEVEL  
TAX CREDIT HOUSEHOLD SIZE ADJUSTMENT FACTOR**

<u>45% of Median</u>	<b>Lofts</b>	<b>1 Bedroom</b>	<b>2 Bedroom</b>	<b>3 Bedroom</b>	<b>4 Bedroom</b>
Annual Gross Income	\$25,776	\$25,776	\$28,998	\$33,509	\$37,375
Affordable Monthly Housing Cost	\$644	\$644	\$725	\$838	\$934
Less: Monthly Utility Allowance (1)	(\$44)	(\$44)	(\$55)	(\$67)	(\$80)
Affordable Monthly Rent	\$600	\$600	\$670	\$771	\$854
 <u>60% of Median</u>					
Annual Gross Income	\$34,368	\$34,368	\$38,664	\$44,678	\$49,834
Affordable Monthly Housing Cost	\$859	\$859	\$967	\$1,117	\$1,246
Less: Monthly Utility Allowance (1)	(\$44)	(\$44)	(\$55)	(\$67)	(\$80)
Affordable Monthly Rent	\$815	\$815	\$912	\$1,050	\$1,166

- (1) Oakland Housing Authority 2001 utility allowances for electric lighting, gas cooking and heating.
- (2) Oakland Housing Authority 2001 utility allowances for electric lighting; gas cooking, heating, and hot water; water; and, garbage.

Similar to the rental housing gap analysis, the ownership housing gap analysis incorporates occupancy standards required under the California Health and Safety Code, which is one person per bedroom plus one additional person in the unit.

#### **D. Utility Allowances and Affordable Housing Expense**

Allowable affordable net rents are calculated subtracting allowances for the utilities paid directly by the tenants from the gross rent (or affordable housing cost). For owners, the affordable mortgage principal and interest payment is calculated by determining the affordable housing cost and deducting costs for taxes, property insurance, utilities, homeowner association dues and maintenance expense.

For purposes of the rental gap analysis, we incorporated 2001 utility allowances as defined by the Oakland Housing Authority. The rental gap analysis assumes that the resident pays utilities on the following items:

- electric lighting and refrigerator; and
- gas cooking and heating.

The owner gap analysis uses the same assumptions and also includes utility costs for garbage and water.

Actual utility allowances depend upon a variety of factors, including the utilities that are paid by the tenants (e.g. water, gas, electricity, sewer, trash), the type of appliances and heating units incorporated in the units, and whether appliances and heating units require electricity or gas.

#### **E. Development Costs**

Hard construction costs are based on 2001 data from RS Means, as described below. Other development costs were estimated based on actual costs for recent housing developments in Oakland, obtained through interviews with local developers and a review of available project pro formas.

## **1. Land Acquisition Costs**

### **a. Rental Housing Prototype**

The land acquisition costs for the rental housing prototype is based on the appraised value per square foot for an actual rental housing development located at 6600 International Boulevard in Oakland. We assumed a land cost of \$13.57 per square foot, with no toxic clean up costs.

### **b. Owner Housing Prototype**

The land acquisition costs for the owner condominium prototype is based on the actual acquisition cost of \$67 per square foot for the Bayporte Village condominium site. The land acquisition cost for the owner single family development was more difficult to estimate because there are no recent comparable land sales. A nonprofit affordable housing developer recently purchased a site in West Oakland for approximately \$30 per square foot. Because the market may have softened since the acquisition earlier this year, we incorporated a land cost of \$25 per square foot for the single-family home prototype.

## **2. Development Costs**

### **a. Rental Housing Prototype**

Construction hard costs are based on 2001 data provided by RS Means, adjusted for Oakland. For the rental housing prototype, DRA estimated costs based on a three story apartment building with wood siding. Parking garage costs and soft development costs are based on recent projects in Oakland.

### **b. Owner Housing Prototypes**

Construction hard costs are based on 2001 data provided by RS Means for both owner housing prototypes. For the owner condominium prototype, DRA estimated costs based on an apartment building with a steel frame and a stucco on concrete block exterior. Parking garage costs are based on actual costs experienced by similar housing developments in Oakland.

For the single-family detached owner prototype, DRA estimated costs based on an “average” two story residence with two bathrooms and an attached garage. RS Means defines four alternative classes of construction for single family homes: economy, average, custom, and luxury. We selected the average class of construction because this grade is reflective of recent homes constructed in Oakland. The following summarizes the specifications for alternative classes of construction for single family homes:



- Economy: mass produced from stock plans, continuous reinforced concrete footing foundation, 2 x 4 wood studs with 2 x 6 rafters, beveled wood siding, 20 year asphalt shingle roof, rubber backed carpet over 80 percent of flooring and asphalt tile over 20 percent of flooring, economy grade kitchen cabinets with plastic laminate counter top.
- Average: simple design from standard plans, continuous reinforced concrete footing foundation, 2 x 4 wood studs with 2 x 6 rafters, 2 x 6 ceiling joists, 2 x 10 floor joists, plywood subfloor, beveled wood siding, 25 year asphalt shingle roof, finished hardwood floor over 40 percent, carpet with underlayment over 40 percent of flooring, vinyl tile over 15 percent of flooring, ceramic tile over five percent of flooring, average grade kitchen cabinets with plastic laminate counter top.
- Custom: built from designer plans, continuous reinforced concrete footing foundation, 2 x 6 wood studs with 2 x 8 rafters, 2 x 8 ceiling joists, 2 x 8 floor joists, plywood subfloor, horizontal beveled wood siding, 30 year asphalt shingle roof, finished hardwood floor over 70 percent, vinyl tile over 10 percent of flooring, ceramic tile over 20 percent of flooring, custom grade kitchen cabinets with plastic laminate counter top, air conditioning.
- Luxury: unique residence built from architectural plans, continuous reinforced concrete footing foundation, 2 x 6 wood studs with 2 x 8 rafters, 2 x 8 ceiling joists, 2 x 8 floor joists, plywood subfloor, face brick veneer siding, cedar shingle roof, finished hardwood floor over 70 percent, vinyl tile over 10 percent of flooring, ceramic tile over 20 percent of flooring, luxury grade kitchen cabinets with plastic laminate counter top, air conditioning.

**Table 4** summarizes the different costs associated with alternative grades as defined by RS Means.

Per unit total development costs for each prototype are summarized in **Table 5**. Detailed development cost assumptions and budgets for each prototype are contained in Attachment A.

**Table 4**  
**Per Square Foot Hard Construction Costs, RS Means**  
**Alternative Classes of Single Family Homes**  
**Oakland (1)(2)**

<u>Class of Construction</u>	<u>Per Square Foot Cost</u>
Economy	\$74.87
Average	\$97.23
Custom	\$121.60
Luxury	\$140.60

(1) Based on two-story 1,400 square foot home. Source: RS Means, 2001 Square Foot Costs

(2) Does not include garage costs. Economy and average classes have one bathroom. Custom and luxury classes have one and a half bathrooms.

**Table 5**  
**Summary of Estimated Per Unit Development Costs for Housing Prototypes**  
**Oakland Affordability Gap Analysis**  
**2001**

<b>Prototype</b>	<b># of Units</b>	<b>Rental Prototype - Very Low Income</b>	<b>Rental Prototype - Low Income</b>	<b>Owner Prototypes</b>
1. Family Rental	30	\$173,200	\$175,800	N/A
2. Owner Condos	202	N/A	N/A	\$206,500
3. Owner SFD	71	N/A	N/A	\$274,500

Source: David Paul Rosen & Associates

## **F. Operating And Financing Cost Assumptions**

### **1. General Operating Costs, Rental Prototype**

Annual operating costs are estimated at \$3,700 per unit for the rental prototype. This amount is based on operating budgets for recent Oakland rental developments and is consistent with operating costs DRA has reviewed on other affordable rental housing projects. We assumed replacement reserve fund deposits of \$250 per unit per year for the rental prototype. Operating reserve fund deposits are deducted at 3 percent of the operating budget annually.

A vacancy allowance of five percent is also deducted from rental income to compensate for the landlord's potential loss of rental income when units become unoccupied, particularly when tenants move before a new tenant is found. Subsidized, lower income properties that are well managed can experience much lower vacancy rates of one to three percent because of below market rents offered by these projects. However, a vacancy in a smaller development will have a greater impact on operating revenues than in a larger development.

Summaries of the net operating income generated under alternative household income scenarios are included in Attachment A.

### **2. Financing Costs**

Financing costs vary according to the amount of equity invested, the term of the loan, the annual interest, and, in the case of ownership projects, mortgage insurance rates. For purposes of this gap analysis, the amount of the first mortgage for the rental prototype is assumed to be the amortized debt that may be supported by tenant net affordable rents. The balance of project financing is assumed to be from a capital subsidy.

With all prototypes, we assume a conventional construction loan during construction. The maximum supportable construction loan is calculated based on a loan-to-value ratio of 75 percent. Value is calculated as capitalized net operating income (assuming a 9.0 percent capitalization or "cap" rate) based on standard underwriting criteria from conventional mortgage lenders. DRA has assumed an 8.5 percent construction interest rate and a 1.0 percent construction loan fee.

With the rental prototype, the first mortgage is assumed to be a 30-year loan with a fixed, annual interest rate of 8.0 percent, amortized monthly. The supportable loan amount is calculated assuming a 1.15 to 1.0 debt coverage ratio of net operating income. In some cases, a debt coverage ratio of 1.10 to 1.0 can be secured from some lenders, but may not generate sufficient cash flow in time, if rental operating costs increase faster than incomes and rents. DRA has assumed a 1.0 percent permanent loan fee.

With the owner prototypes, DRA assumed homebuyer mortgages based on an effective interest rate of 8.0 percent (combined loan interest and mortgage insurance).

Assumptions for permanent and construction financing for all prototypes are included in Attachment A.

## **G. Findings**

**Table 6** summarizes the construction and permanent financing sources for the rental prototype under each household income scenario. During the construction period, sources include the maximum supportable conventional construction loan; costs which are deferred during construction (the operating reserve and operating deficit guarantee fee, if any, plus 80 percent of the developer fee); and, the required “gap” construction loan.

Permanent sources for the rental prototype includes the maximum term loan supportable by net operating income at the financing assumptions discussed above and the resulting permanent “gap” loan that would need to be filled.

**Table 7** summarizes the construction and permanent financing sources for each of the owner prototypes. During the construction period, sources include the maximum supportable conventional construction loan and the required “gap” construction loan. DRA assumed that payment of 80 percent of the developer fee is deferred until the completion of construction. In addition, sales commissions are not earned until after construction completion.

Permanent sources for the owner prototypes include the maximum affordable mortgage, the downpayment amount, and the resulting permanent “gap” loan that would be required.

**Table 6  
Sources and Uses  
Family Rental Prototype  
Oakland Affordability Gap Analysis**

	<b>Very Low Income</b>	<b>Low Income</b>
<b>Income Limit (% AMI)</b>	<b>50%</b>	<b>80%</b>
<b>Afford. Hsg. Cost (%AMI)</b>	<b>45%</b>	<b>60%</b>
<b>Number of Units</b>	30	30
<b>SOURCES OF FUNDS</b>		
<b>CONSTRUCTION</b>		
Construction Loan	\$1,096,100	\$1,850,525
Construction Gap Loan	\$3,519,316	\$3,022,895
Deferred During Construction	\$581,066	\$581,066
<b>TOTAL SOURCES</b>	<b>\$5,196,482</b>	<b>\$5,454,486</b>
<b>PERMANENT</b>		
Conventional Loan	\$1,298,963	\$2,193,006
Permanent Gap Loan	\$3,897,519	\$3,080,079
<b>TOTAL SOURCES</b>	<b>\$5,196,482</b>	<b>\$5,273,085</b>
<b>USES OF FUNDS</b>		
<b>CONSTRUCTION AND SOFT COSTS</b>	<b>\$5,196,482</b>	<b>\$5,273,085</b>
<b>AFFORDABILITY GAP PER UNIT (PERMANENT SOURCES)</b>	<b>\$129,917</b>	<b>\$102,669</b>

**Table 7  
Sources and Uses  
Owner Housing Prototypes  
Moderate Income Households  
Oakland Affordability Gap Analysis**

	<u>Owner Flats</u>	<u>Owner SFD</u>
<b>Income Limit (% AMI)</b>	<b>120% AMI</b>	<b>120% AMI</b>
<b>Afford. Hsg. Cost (%AMI)</b>	<b>100% AMI</b>	<b>100% AMI</b>
<b>NUMBER OF UNITS</b>	202	71
<b>SOURCES OF FUNDS</b>		
<b>CONSTRUCTION</b>		
Construction Loan	\$31,287,037	\$14,615,201
Construction Gap Loan	\$8,989,659	\$4,209,369
Deferred During Construction	\$1,440,000	\$662,365
<b>TOTAL SOURCES</b>	<b>\$41,716,695</b>	<b>\$19,486,935</b>
<b>PERMANENT</b>		
Homeowner Mortgages	\$30,891,235	\$12,764,895
Homeowner Downpayment @ 3%	\$1,251,501	\$584,608
Permanent Gap Loan	\$9,573,959	\$6,137,432
<b>TOTAL SOURCES</b>	<b>\$41,716,695</b>	<b>\$19,486,935</b>
<b>USES OF FUNDS</b>		
<b>CONSTRUCTION AND SOFT COSTS</b>	<b>\$41,716,695</b>	<b>\$19,486,935</b>
<b>AFFORDABILITY GAP PER UNIT (PERMANENT SOURCES)</b>	<b>\$47,396</b>	<b>\$86,443</b>

Source: David Paul Rosen & Associates.

**Table A-1**  
**ESTIMATED PROTOTYPE DEVELOPMENT COSTS**  
**FAMILY RENTAL HOUSING PROTOTYPE**  
**OAKLAND AFFORDABILITY GAP ANALYSIS**

	<u>Very Low Income</u>	<u>Low Income</u>
Total Net Square Feet	24,667	24,667
Ratio Net/Gross SF	88%	88%
Total Gross Square Feet Building Area	28,083	28,083
LAND ACQUISITION	\$390,000	\$390,000
SITE IMPROVEMENTS	\$205,500	\$205,500
UNIT CONSTRUCTION HARD COSTS/CONTRACTOR FEES	\$2,738,560	\$2,738,560
PARKING CONSTRUCTION	\$188,150	\$188,150
ARCH./ENG./CONSTR. SUPERVISION	\$204,870	\$204,870
LOCAL PERMITS AND FEES	\$368,735	\$368,735
ALTA SURVEY	\$3,000	\$3,000
ENVIRONMENTAL PHASE I AND II	\$7,500	\$7,500
SOILS TESTING	\$10,000	\$10,000
CONSTRUCTION LOAN FEES	\$10,961	\$18,505
PERMANENT LOAN FEES	\$12,990	\$21,930
CONSTRUCTION/LEASE-UP INTEREST	\$87,345	\$147,464
PROPERTY INSURANCE	\$19,838	\$19,838
PROPERTY TAXES DURING CONSTR.	\$4,875	\$4,875
CONSTR. LOAN TITLE AND CLOSING	\$15,000	\$15,000
APPRAISAL FEES	\$10,000	\$10,000
REAL ESTATE LEGAL	\$30,000	\$30,000
DEVELOPMENT/BOND/FINANCIAL ADV.	\$25,000	\$25,000
MARKETING/LEASE-UP/START-UP	\$50,000	\$50,000
FURNITURE/EQUIPMENT	\$50,000	\$50,000
SOFT COST CONTINGENCY	\$11,261	\$11,261
OPERATING RESERVE	\$27,750	\$27,750
DEVELOPMENT/ADMIN. FEE	80% Deferred \$519,648	\$519,648
TOTAL PROJECT COSTS	<u>\$5,196,482</u>	<u>\$5,273,085</u>
COST PER UNIT	\$173,216	\$175,770

Source: David Paul Rosen & Associates



**Table A-2**  
**FINANCING ASSUMPTIONS AND CALCULATIONS**  
**RENTAL PROTOTYPES**  
**OAKLAND AFFORDABILITY GAP ANALYSIS**

	<b>Very Low Income</b>	<b>Low Income</b>
<b>DEVELOPMENT COST ASSUMPTIONS</b>		
Land Acquisition Cost Per SF	\$13.57	\$13.57
Land Acquisition Cost Per Unit	\$13,000	\$13,000
Building Acquisition Cost Per Unit	\$0	\$0
Site Improvement Costs per SF Site Area	\$17.07	\$17.07
Off-Site Improvements	incl. in const.	incl. in const.
Hard Construction/Rehabilitation Costs per SF	\$97.52	\$97.52
Parking Hard Costs	\$50.00	\$50.00
Architectural/Engineering (Percent of Hard Costs)	7.00%	7.00%
Local Permits and Fees (Per Unit)	\$12,291	\$12,291
Property Insurance During Construction (Percent of Hard Costs)	0.72%	0.72%
Soft Cost Contingency	5.00%	5.00%
Operating Reserves (Months Operating Budget)	3 Mos.	3 Mos.
Development Fee (% of Total Development Costs)	10.00%	10.00%
<b>FAIR MARKET VALUE CALCULATION</b>		
Net Operating Income; Restr. Rents	\$131,532	\$222,063
Capitalization Value @ Cap Rate of:	9.00% \$1,461,467	\$2,467,367
<b>MAXIMUM CONSTRUCTION LOAN CALCULATION</b>		
Capitalized Value at Restricted Rents	\$1,461,467	\$2,467,367
Maximum Construction Loan @ LTV of	75% \$1,096,100	\$1,850,525
<b>CONSTRUCTION LOAN</b>		
Construction Loan Amount	\$1,096,100	\$1,850,525
Interest Rate	8.50%	8.50%
Loan Fees	1.00% \$10,961	\$18,505
Average Loan Balance	75.00%	75.00%
Construction Period	12 Months	12 Months
Lease-Up Period	3 Months	3 Months
Total Construction Loan Term	15 Months	15 Months
Construction Loan Interest	\$87,345	\$147,464
<b>PERMANENT LOAN</b>		
Net Operating Income	\$131,532	\$222,063
Debt Coverage Ratio	1.15	1.15
Debt Service	\$114,376	\$193,098
Mortgage Term	30 years	30 years
Interest Rate	8.00%	8.00%
Maximum Permanent Loan Amount Based on DCR	\$1,298,963	\$2,193,006
Loan Fees	1.00% \$12,990	\$21,930
Maximum Loan to Value (% of FMV @ Restr. Rents)	100%	100%
Maximum Loan Amount Based on LTV Test	\$1,461,467	\$2,467,367
Permanent Loan Amount (Min. DCR or LTV)	\$1,298,963	\$2,193,006
Permanent Loan Debt Service	\$114,376	\$193,098

**Table A-3  
FAMILY RENTAL DEVELOPMENT  
RENTAL INCOME AND OPERATING COSTS  
VERY LOW INCOME  
OAKLAND AFFORDABILITY GAP ANALYSIS**

**ASSUMPTIONS**

2001 Median Household Income, Oakland PMSA, Four Person Household      \$71,600  
Affordable Housing Cost As a % of Income      30%  
Total Units      30

	<b>1 Bedroom</b>	<b>2 Bedroom</b>	<b>3 Bedroom</b>	<b>4 Bedroom</b>
No. of Bedrooms				
Household Size (Health and Safety)	2 Persons	3 Persons	4 Persons	5 Persons
Household Size Income Adjust. Factor	80%	90%	100%	108%
Utility Allowance	\$44	\$55	\$67	\$80
No. of Units	7	10	10	2

**AFFORDABLE RENTS BY INCOME LEVEL**

<u>45% of Median</u>	<b>1 Bedroom</b>	<b>2 Bedroom</b>	<b>3 Bedroom</b>	<b>4 Bedroom</b>
Annual Gross Income	\$25,776	\$28,998	\$32,220	\$34,798
Affordable Monthly Housing Cost	\$644	\$725	\$806	\$870
Less: Monthly Utility Allowance	(\$44)	(\$55)	(\$67)	(\$80)
Affordable Monthly Rent	\$600	\$670	\$739	\$790

**NET OPERATING INCOME**

Affordability Level/No. of Bedrooms	Units	Rent	Monthly Gross Income	
45% of Median	1 Bedroom	7	\$600	\$4,200
	2 Bedroom	10	\$670	\$6,700
	3 Bedroom	10	\$739	\$7,390
	4 Bedroom	2	\$790	\$1,580
TOTAL	29		\$19,870	
Managers	1			

GROSS RENTAL INCOME		\$238,440
Less: Vacancies	5%	\$11,922
Miscel. Income	\$100 Per Unit/Yr.	\$3,000
<b>GROSS ANNUAL INCOME</b>		<b>\$253,362</b>
LESS: OPERATING EXPENSES	\$3,700 Per Unit/Yr.	\$111,000
Less: Operating Reserves	3% of Oper. Budget	\$3,330
Less: Replacement Reserves	\$250 Per Unit/Yr.	\$7,500
<b>NET OPERATING INCOME</b>		<b>\$131,532</b>

**Table A-4**  
**FAMILY RENTAL DEVELOPMENT**  
**RENTAL INCOME AND OPERATING COSTS**  
**LOW INCOME**  
**OAKLAND AFFORDABILITY GAP ANALYSIS**

**ASSUMPTIONS**

2001 Median Household Income, Oakland PMSA, Four Person Household	\$71,600
Affordable Housing Cost As a % of Income	30%
Total Units	30

	<b>1 Bedroom</b>	<b>2 Bedroom</b>	<b>3 Bedroom</b>	<b>4 Bedroom</b>
No. of Bedrooms				
Household Size (BR+1)	2 Persons	3 Persons	4 Persons	5 Persons
Household Size Income Adjust. Factor	80%	90%	100%	108%
Utility Allowance	\$44	\$55	\$67	\$80
No. of Units	7	10	10	2

**AFFORDABLE RENTS BY INCOME LEVEL**

<u>60% of Median</u>	<b>1 Bedroom</b>	<b>2 Bedroom</b>	<b>3 Bedroom</b>	<b>4 Bedroom</b>
Annual Gross Income	\$34,368	\$38,664	\$42,960	\$46,397
Affordable Monthly Housing Cost	\$859	\$967	\$1,074	\$1,160
Less: Monthly Utility Allowance	(\$44)	(\$55)	(\$67)	(\$80)
Affordable Monthly Rent	\$815	\$912	\$1,007	\$1,080

**NET OPERATING INCOME**

Affordability Level/No. of Bedrooms	Units	Rent	Monthly Gross Income
60% of Median	1 Bedroom	7	\$5,705
	2 Bedroom	10	\$9,120
	3 Bedroom	10	\$10,070
	4 Bedroom	2	\$2,160
TOTAL	29		\$27,055
Managers	1		

GROSS RENTAL INCOME		\$324,660
Less: Vacancies	5%	\$16,233
Miscel. Income	\$100 Per Unit/Yr.	\$3,000
GROSS ANNUAL INCOME		<u>\$343,893</u>
LESS: OPERATING EXPENSES	\$3,700 Per Unit/Yr.	\$111,000
Less: Operating Reserves	3% of Oper. Budget	\$3,330
Less: Replacement Reserves	\$250 Per Unit/Yr.	\$7,500
NET OPERATING INCOME		<u>\$222,063</u>

**Table A-5**  
**ESTIMATED PROTOTYPE DEVELOPMENT COSTS**  
**OWNER HOUSING PROTOTYPES**  
**OAKLAND AFFORDABILITY GAP ANALYSIS**

	Owner Condos	Owner SFD
Acres	1.38	4.59
No. of Units	202	71
Total Net Square Feet	197,347	97,526
Ratio Net/Gross SF	82%	100%
Total Gross Square Feet Building Area	242,113	97,526
LAND AND BUILDING ACQUISITION	\$4,000,000	\$5,000,000
OFF-SITE IMPROVEMENTS	\$350,000	Incl. in const.
CONSTRUCTION HARD COSTS/CONTRACTOR FEES	\$20,925,382	\$10,488,594
PARKING CONSTRUCTION COSTS	\$3,554,350	incl. in const.
ARCH./ENG./CONSTR. SUPERVISION	\$1,770,977	\$568,731
LOCAL PERMITS AND FEES	\$880,847	\$600,581
RESERVES	\$0	\$122,000
ENVIRONMENTAL PHASE I AND II	\$0	\$31,511
FURNISHINGS	\$80,000	\$0
CONSTRUCTION LOAN FEES	\$607,896	\$65,926
ACQ/CONSTRUCTION/SALE PERIOD INTEREST	\$2,960,797	\$1,180,178
PROPERTY TAXES AND INSURANCE	\$257,483	\$220,274
TITLE AND CLOSING	\$1,102,492	\$80,767
APPRAISAL FEES	\$0	\$7,710
REAL ESTATE LEGAL/ACCOUNTING	\$144,000	\$102,635
EQUITY BROKER FEE	\$360,938	\$0
AD/MARKETING/SALES COMMISSIONS	\$1,823,493	\$254,564
MISCELLANEOUS	\$50,000	\$33,008
SOFT COST CONTINGENCY	\$406,083	\$0
CONSULTANTS	\$291,958	\$0
DEVELOPMENT/ADMIN. FEE	80% Deferred \$1,800,000	\$730,456
<b>TOTAL PROJECT COST</b>	<b>\$41,716,695</b>	<b>\$19,486,935</b>
<b>PER UNIT</b>	<b>\$206,518</b>	<b>\$274,464</b>
<b>PER SF</b>	<b>\$215.48</b>	<b>\$199.81</b>

Source: David Paul Rosen & Associates

**Table A-6  
OAKLAND AFFORDABILITY GAP ANALYSIS  
FINANCING ASSUMPTIONS  
OWNER HOUSING**

	<u>Owner Condos</u>	<u>Owner SFD</u>
<b>DEVELOPMENT COST ASSUMPTIONS</b>		
Property Acquisition Cost Per SF	\$66.67	\$25.00
Property Acquisition Cost Per Unit	\$19,802	\$70,400
Site Improvement Costs per SF Site Area	incl. in const.	incl. in const.
Off-Site Improvements	\$350,000	incl. in const.
Hard Construction/Rehabilitation Costs per SF	\$106.03	\$107.55
Hard Construction/Rehabilitation Costs per Unit	\$121,187	\$147,727
Hard Construction Per SF - Parking	\$50	Include.
Architectural/Engineering (Percent of Hard Costs)	7%	5%
Local Permits and Fees Per Unit	\$4,361	\$8,459
Property Taxes/Insurance During Construction (Percent of Hard Costs)	1.13%	2.10%
Development Fee (% of Total Development Costs Less Land)	4.77%	3.75%
<b>CONSTRUCTION LOAN</b>		
Constr. Loan Amt. 75% Total Dev. Cost	\$31,287,037	\$14,615,201
Interest Rate	8.50%	8.50%
Loan Points	1.00%	1.00%
Average Loan Balance--Construction	70.00%	70.00%
Construction Period	15 Months	12.0 Months
Sale Period	3 Months	3 Months
Total Construction Loan Term	18 Months	15.0 Months
Construction Loan Interest--Construction	\$2,295,947	\$869,604
Construction Loan Interest--Sale Period	\$664,850	\$310,573
Total Construction Loan Interest	\$2,960,797	\$1,180,178
Construction Loan Points	\$312,870	\$146,152
<b>HOMEBUYER PERMANENT MORTGAGES</b>		
Interest Rate	7.50%	7.50%
Prop Mortgage Insur. Rate Premium	0.50%	0.50%
Term (Years)	30	30

**Table A-7  
 MAXIMUM AFFORDABLE MORTGAGE  
 HOUSEHOLDS EARNING 120% AMI  
 OAKLAND AFFORDABILITY GAP ANALYSIS  
 OWNER FLATS**

	Lofts		
Unit Size (Bedroom Count)	1 Bedrooms	1 Bedrooms	2 Bedrooms
Current Household Size	2 Persons	2 Persons	3 Persons
2001 Income Limit	\$68,736	\$68,736	\$77,328
% of Income Used to Calculate Afford. Mortg.	100% of AMI	100% of AMI	100% of AMI
% of Income Spent on Housing	30%	30%	30%
Income Used to Calculate Affordable Mortg.	\$57,280	\$57,280	\$64,440
Affordable Monthly Housing Cost	\$1,432	\$1,432	\$1,611
Less: Monthly Utility Allowance	\$107	\$107	\$135
Less: Maintenance Expense	\$50	\$50	\$50
Less: Homeowner Association Fees	\$0	\$0	\$0
Less: Property Taxes	\$210	\$181	\$258
Less: Property Insurance	\$50	\$50	\$50
	<hr/>	<hr/>	<hr/>
<b>Affordable Mortgage Payment (P&amp;I)</b>	<b>\$1,015</b>	<b>\$1,044</b>	<b>\$1,118</b>
<b>Affordable Mortgage-</b>	<b>\$145,163</b>	<b>\$149,310</b>	<b>\$159,894</b>
Sales Price = Assessed Value	\$201,260	\$173,344	\$247,330

**Table A-8  
 MAXIMUM AFFORDABLE MORTGAGE  
 HOUSEHOLDS EARNING 120% AMI  
 OAKLAND AFFORDABILITY GAP ANALYSIS  
 SINGLE-FAMILY DETACHED PROTOTYPE**

Unit Size (Bedroom Count)	2 Bedrooms	3 Bedrooms	4 Bedrooms
Current Household Size	3 Persons	4 Persons	5 Persons
2001 Income Limit	\$77,328	\$85,920	\$92,794
% of Income Used to Calculate Afford. Mortg.	100% of AMI	100% of AMI	100% of AMI
% of Income Spent on Housing	30%	30%	30%
Income Used to Calculate Affordable Mortg.	\$64,440	\$71,600	\$77,328
Affordable Monthly Housing Cost	\$1,611	\$1,790	\$1,933
Less: Monthly Utility Allowance	\$135	\$170	\$229
Less: Homeowner Association Fees	\$0	\$0	\$0
Less: Maintenance Expense	\$50	\$50	\$50
Less: Property Taxes 1.25%	\$196	\$269	\$329
Less: Property Insurance	\$50	\$50	\$50
<b>Affordable Mortgage Payment (P&amp;I)</b>	<b>\$1,180</b>	<b>\$1,251</b>	<b>\$1,275</b>
<b>Affordable Mortgage</b>	<b>\$168,761</b>	<b>\$178,915</b>	<b>\$182,347</b>
Sales Price = Assessed Value	\$187,824	\$258,558	\$315,704