

Exhibit O

SUMMARY REPORT

**Nexus Analysis
Housing Linkage Fee
City of Los Angeles**

Prepared for:

**Housing Division
Department of Housing Preservation & Production
City of Los Angeles**

**October 1990
(Portions Revised February 1991)**

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INTRODUCTION

The following is a summary of the major findings of the nexus analyses undertaken by Keyser Marston Associates, Inc. and its subconsultants on the linkage between commercial and industrial development in the City of Los Angeles and the demand for housing affordable to lower income households. The report has been prepared in compliance with Keyser Marston's contract with the City of Los Angeles, summarizing the portions of the Group I and II tasks that relate to the nexus analysis and linkage fee alternatives for the City.

The report is intended for decision-makers who need to understand the key nexus concepts and findings and who will be evaluating alternative fee structure possibilities. The contract Group I and II work program produced additional analyses and findings which are available in the appendix documents; contract Group III tasks have not yet been completed.

The Keyser Marston Associates team of consultants includes the Southern California Association of Governments (SCAG), Shute Mihaly and Weinberger Attorneys, David Paul Rosen and Associates and KDG Consulting. A city-wide nexus analysis was prepared by Keyser Marston Associates. SCAG developed a separate analysis, using different methodologies, examining the City by six geographic subareas and incorporating complex commute information and projections made possible by its DRAM/IMPAL model. The David Rosen firm produced the affordability gap analyses utilized in both nexus analyses. Input was received from both the Shute Mihaly attorneys and KDG firms throughout, particularly in the structuring of alternative fee programs for the City.

The Summary Report contains a presentation of the nexus analysis and other materials relating to a linkage fee program. A brief Summary of Findings precedes the document for a very condensed overview. All the products of the Group I and II contract tasks prepared by various team members are available under separate cover as appendix documents. The organization of the Summary Report is as follows:

Part A - The Housing Nexus Analysis

This section commences with a narrative discussion of the nexus concept and major issues. The next section presents the city-wide nexus calculation prepared by Keyser Marston Associates. The third section contains the portions of the SCAG analysis that relate to the nexus and presents three additional ways of calculating total housing linkage costs.

Part B - Moving From the Total Nexus Cost to an Actual Linkage Program for the City

This section presents a range of considerations for arriving at fee levels suitable for Los Angeles. Include here is the impact on development evaluation, a review of other city experience, revenue generation potential, and other issues.

Part C - Preliminary Fee Structure Alternatives

This section presents three alternative approaches to a fee structure and criteria for evaluating the alternatives.

The analyses have been based on the best information available, which has meant primarily U.S. Census (updated where appropriate), California Employment Development Department, U.S. Department of Labor, and others as noted throughout. The caveats and conditions noted in the introductory sections of the full reports apply to the reports presented in this summary document as well.

SUMMARY OF FINDINGS

This report presents information to support an ordinance establishing fees on commercial and industrial construction to assist in increasing the supply of housing affordable to lower income households in Los Angeles. The report:

- examines and quantifies the relationship between the construction of new commercial and industrial buildings in the City of Los Angeles and the demand for lower income housing in the City;
- establishes the same relationship for six subareas of the City to account for different economic conditions, housing costs, and commute patterns;
- examines different considerations for setting fees, including the impact of fees on development activity, the experience of other cities, and revenue generating potential; and
- presents several alternative approaches to a fee structure for the City of Los Angeles.

The analysis represents the combination of economic analysis by Keyser Marston Associates, housing affordability and cost information developed by David Rosen and Associates, and complex computer modeling performed by the Southern California Association of Governments (SCAG) to produce projections regarding commute, employment, and housing demands, and input by Shute Mihaly and Weinberger, attorneys, and KDG Consulting.

The Basic Finding: A Strong Relationship Exists Between the Development of Commercial and Industrial Buildings and the Demand for Housing Affordable to Lower Income Households.

The report examined the historic correlation between the construction of new commercial and industrial work space and the growth of employment that works in the space. A very close correlation was determined for the period examined, 1975 to 1989, in Los Angeles. This correlation is expected to continue in the future based on the findings of the SCAG analysis. In addition the report reviewed the factors that could alter the relationship, such as declining density of employment within buildings, and found no evidence that the past relationship will be significantly altered in the decade ahead.

Both SCAG and Keyser Marston undertook an analysis of the income structure of employees in various types of commercial and industrial buildings and found that a substantial share of workers have incomes that could qualify their households as low or very low income. Hotels were found to have the highest percentage of workers in the lower income categories, and retail the highest overall due to both higher density of employment and the high incidence of lower paying jobs. Office was also found to have

arge numbers of lower income employees.

The analysis applied several adjustments in translating numbers of lower income employees to numbers of households to housing unit demand. To make housing units available to lower income households two alternatives were examined - use of the existing supply and construction of new units. Due to the failure of "trickle down" in the recent decade, it was found that the existing supply could not be considered available within acceptable affordability standards, for new lower income households; new units must be added to the supply. The cost of subsidizing new units provided the basis for estimating the costs of meeting the demands of lower income households associated with new commercial and industrial buildings.

The demand for housing units affordable to new lower income workers exists independent of and in addition to the substantial current unmet demand for lower income housing, and in addition to the housing needs of persons who do not work in Los Angeles, such as the elderly. As such the demand associated with new buildings represents only a portion of the total demand for lower income housing in the City. Accordingly, the proposed fee would address only a portion of the costs of meeting Los Angeles' lower income housing needs.

Quantification of the Nexus on a City-wide Basis

The relationship between new commercial and industrial buildings and the demand for housing units affordable to the lower income employees that work in them is quantified in the nexus analysis. The analysis examines the number of employees who work in different types of commercial and industrial buildings and their income levels to determine the number of low and very low income households associated with the buildings. The demand of these households for housing units and the costs making these units available at affordable rent levels is quantified. A key link in the cost calculation is the "Affordability Gap," or difference between the cost to develop the housing and the cost afforded by the household's rent paying capability, using HUD standards.

The conclusion is expressed as the "Total Nexus Cost" per square foot of building area, the cost of subsidizing housing affordable to the new lower income employee households associated with the space. The results of the Keyser Marston analysis are:

<u>Building Type</u>	<u>Total Nexus Cost (Low and Very Low Income)</u>
Office	\$23.54
Research and Development (R&D)	\$24.09
Manufacturing	\$10.00
Warehousing	\$ 8.26
Retail	\$26.92
Hotel	\$11.26

The calculation is highly conservative; it eliminates the 42% of the Los Angeles workers

who are likely to live outside the City, assuming current commute relationships continue. Absent this and other discounts, the nexus could be as much as double that presented in the report.

Nexus Calculations by Subarea Reveal Substantial Variations

The report also examines the same type of calculation by subarea based on differential information about the cost of low income housing and where employees in given areas of the City will choose to live. Subarea analysis is presented for six areas of the City known as Labor Market Planning Areas (LMPAs). The report presents the housing nexus cost analysis in three additional different ways depending upon whether SCAG or Keyser Marston data are used. Generally the Keyser Marston information yields lower results. In any case, the total nexus cost varies substantially by subregion due to differences in the cost of providing affordable housing and commute patterns. For example, for office buildings the results are as follows, with the range spanning the three calculation approaches:

<u>Subarea</u>	<u>Total Nexus Cost</u> <u>(Low and Very Low Income Housing)</u>
LMPA 1. East or Northeast	\$19.37 - \$32.09
LMPA 2. South Central	\$21.49 - \$34.27
LMPA 3. Central or Hollywood/Wilshire (includes downtown)	\$21.93 - \$36.02
LMPA 4. Valley	\$29.66 - \$47.27
LMPA 5. West Los Angeles or Westside	\$24.62 - \$44.97
LMPA 6. Harbor	\$14.32 - \$20.99

The Valley always has the highest cost due to the fact that the Valley has the highest percentage of workers that also live in the City. Harbor area is always lowest because so many Harbor area workers do not reside in the City, given its isolated location and more limited housing opportunities nearby within the City.

Considerations in Using Nexus Information to Develop an Actual Fee Schedule for the City

The report examines a number of considerations in moving from the total nexus cost information to an actual fee schedule. One approach is to examine the impact of different fee levels on development activity. It is assumed that the purpose of the housing nexus fee is to raise money for low income housing, not to alter development patterns or discourage commercial/industrial development. The report calculates total development costs associated with eleven different types of commercial/industrial structures. Recognizing that generalizations are extremely difficult, the report estimates that a 2% to 2-1/2% increase in development costs is generally sustainable without creating economic dislocation. At this level, fees for downtown office could be in the range of \$4.50 to \$6.50 per sq.ft., fees for most retail could be \$2.50 to \$4.00 per sq.ft., and fees for industrial structures could be \$1.50 to \$3.00 per sq.ft. Since even this level would be too high for weaker economic locations within the City, the City may wish to

explore a fee structure that addresses the broad range of project types and economic conditions that exist within the City.

The report briefly examines other criteria which could be utilized to establish fee levels. Revenue generating potential is examined through an analysis which quantifies the total square foot volume of construction by building type that occurs in the City each year. Other approaches are also tested to reduce total nexus costs downtown possible fee levels. For example, the development community has urged that the cost of low income housing attributable to land is largely due to governmental policies reducing density; the impact of removing 100% of the land component was tested with the result of reducing nexus costs by a third.

Finally, the report examines three alternative fee structures. They are in summary form:

- *Setting fees on a city-wide basis at a high level with large exemptions.* The interim ordinance adopts this approach. The advantage is simplicity; the disadvantage is that high fees require that large areas of the City be exempted because the high fee structure places excessive impacts in many areas. The result is a substantial loss of revenue, uneven impacts, and continued political pressure to add more exempted areas.
- *Setting low fees city-wide with few exemptions.* Sacramento and San Diego have adopted this approach. This has the advantage of simplicity again, and increased fairness and that all projects are contributing. Impacts are uneven and revenue generation is constrained by the lower fee levels.
- *Setting fees by zone with the City.* This approach has the advantage of avoiding uneven impacts and revenue loss by tailoring the fees to the economic health and activity in different zones of the City. The report recommends this approach and would utilize the Community Plan Areas as zones. The disadvantage of this approach is that it is considerably more complex and has not been utilized by other cities in this state for this purpose.

A pilot test program is being conducted by City staff and the consulting team to apply the third approach to a few zones in the City to determine whether the approach is feasible.

PART A - THE HOUSING NEXUS ANALYSIS

. The Nexus Concept and Major Issues

Legal Context and Overview

.. Introduction

The nexus analysis and discussion focuses on the relationships among development, growth, employment, income and housing. The analysis yields a close correlation between new commercial/industrial construction and the need for new affordable housing, a connection that is quantified in terms of total housing linkage costs related to commercial/industrial space expressed in dollars per square foot. These linkage costs do not include the cost of addressing existing housing problems and needs. The analysis notes that development and its relationships are not the only cause of housing affordability problems, and that the development community should not bear the full cost of addressing affordability problems. Separate portions of the documentation prepared for the City of Los Angeles address these issues.

1. The Nollan Decision and the Enactment of A.B. 1600

The law has always required the existence of a rational basis for implementing a fee on one activity to raise funds for another activity. In Nollan v. California Coastal Commission, the United States Supreme Court sharpened and clarified this requirement by specifying that there exist a "rational nexus" between a development charged with an exaction and the purpose of the exaction. The development subject to the exaction must cause or contribute to the social problem the exaction is designed to address.

Partially in response to the Nollan decision, the California State Legislature enacted AB 1600 (sections 66001 et seq. of the Government Code). AB 1600 requires local agencies proposing to enact a fee on a development project to identify the purpose of the fee, the use of the fee, and to determine that there exists a nexus defined as follows:

- A "reasonable relationship between the fee's use and the type of development project on which the fee is imposed."
- A "reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed." (Government Code S66001).

AB 1600 also imposes special accounting requirements which track the use of fees.

Studies prepared by local governments designed to carry out the intent of the Nollan decision and AB 1600 are known as "nexus" studies. Parts A and B of this report summarize such a nexus study. The study establishes and quantifies a link or "nexus"

between new commercial/industrial development and the demand for new lower income housing.

c. The Nexus Methodology Overview

As required by AB 1600, the methodology of this study establishes and quantifies the "reasonable relationship" between additional new commercial development in the City of Los Angeles and the need for additional lower income housing in the City. The addition of new commercial and industrial space in the City is associated with the addition of new jobs. A definable portion of those new jobs are lower paid, and make up households of the "working poor." After adjustments are made for people who already have housing, these new lower income employees need a definable number of affordable housing units. This analysis quantifies the number of these new lower income households associated with different types of commercial and industrial buildings.

The approach of the analysis to quantifying this relationship for each type of commercial space is as follows: a prototypical building of 100,000 sq.ft. is assumed for each major type of building, such as office, for example. For that office building, we then make the following types of calculations.

- We estimate the total number of employees working in the building (for example, one employee per 250 sq.ft., or 400 employees in a 100,000 sq.ft. building).
- We use occupation and income information for the average mix of job types in the building to calculate how many of those jobs are lower income (say, 100 of the 400 jobs are low income).
- We conservatively assume that those low income employees live with other low income employees, and use various factors to estimate the number of low income households (say, that the 100 lower income employees represent 60 new lower income households).
- We then make a number of adjustments, some of which are discussed in the paragraphs below, to discount for people entering the work force who already have housing in the City, for people who will work at jobs in Los Angeles but live outside of the City, and for employees transferring from declining activities to new activities. These adjustments may reduce the 60 lower income households down to, say, 50 that we actually count and attribute to the new commercial/industrial building.
- Finally, we take the lower income households and multiply them by the costs of subsidizing a new lower income housing unit, and then divide that by the 100,000 sq.ft. to come up with a dollars per square foot figure (say, in this example, the 40 new lower income households X \$60,000 capital costs subsidy

per unit = \$3,000,000; \$3,000,000/100,000 sq.ft. = \$30/sq.ft. nexus cost).

The relationship between new commercial development and new lower income housing needs is discussed in this section. The nexus methodology and analysis and findings are set forth in more detail in the following sections which follow the basic linkages set for the above namely:

- commercial/industrial space to employees
- employees to lower income employees.
- lower income employees to households and housing demands.
- the costs of mitigating the housing demands.

Commercial Industrial Space and Employment Growth: Historic Correlation

a. Introduction

As presented in the first section, the nexus required by AB 1600 and Nollan is derived through a series of steps. The first step involves the correlation between new commercial and industrial space and new employees in the City of Los Angeles. This section discusses this first step.

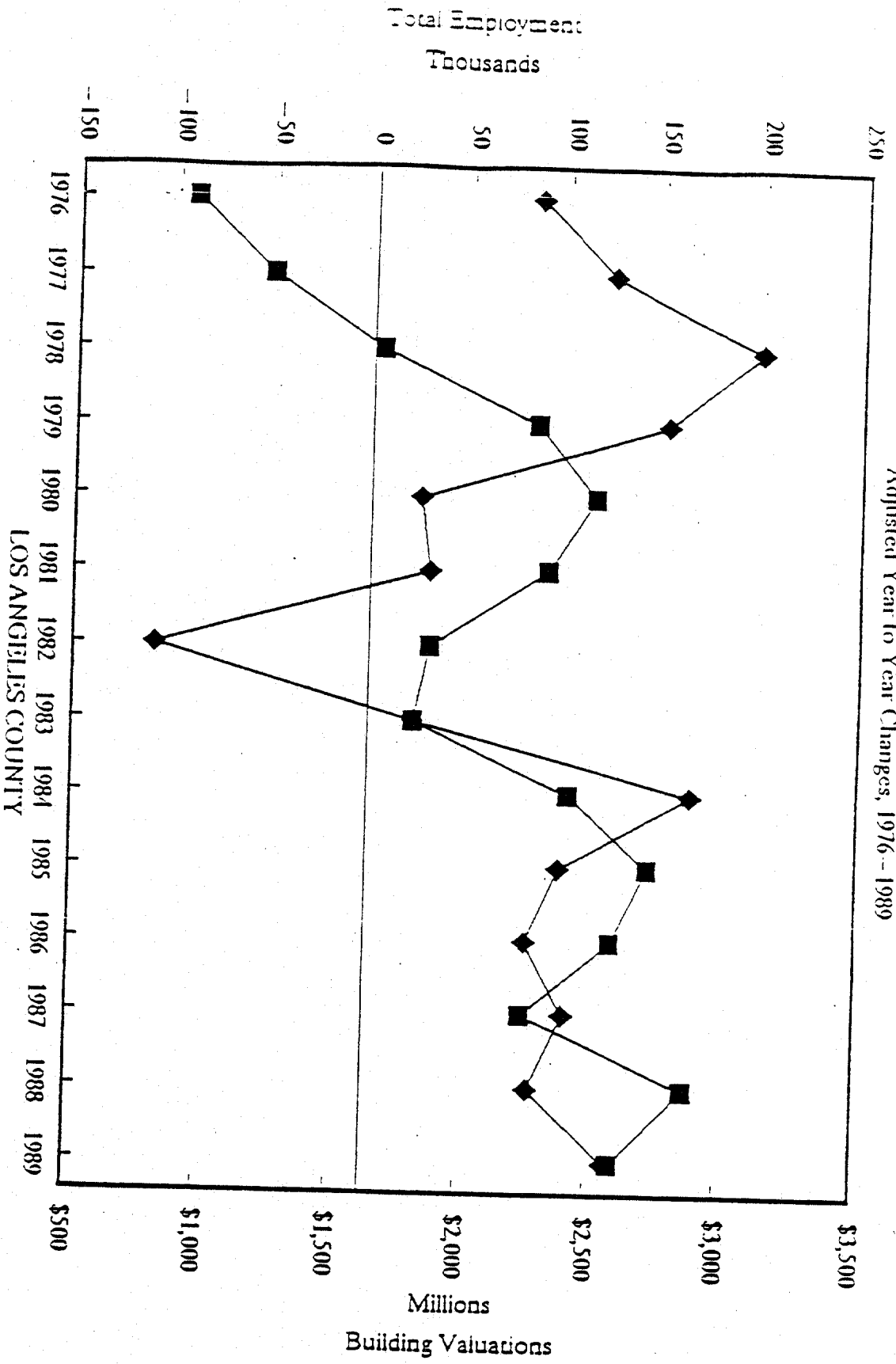
As is discussed below, the evidence bears out the proposition that there exists a close historical correlation between growth in commercial/industrial space and growth in employment in the sectors which typically occupy that space. While the new jobs may not be located directly in the new buildings, they are located somewhere in the City; the expansion of the total amount of commercial/industrial space correlates with an expansion in the total number of employees.

b. Historic Relationship Between Growth in Commercial/Industrial Space and Growth in Employment

An initial examination of the relationship between commercial and industrial construction or space production was undertaken through a review of three economic regions in California. While precise parallels can not be expected due to timing issues, vacancy and other factors that will be discussed more fully later, a close relationship between periods of growth in employment and growth in space production exists.

The three major California markets selected for examination are Los Angeles, Sacramento and Santa Clara County. Since employment data is not maintained for cities on an annual basis, the county becomes the minimum unit. The three market areas were selected because of their different growth experience over the 15 year period. The graphs following this page portray the following:

NON-RESIDENTIAL BUILDING VALUATIONS/TOTAL EMPLOYMENT
 Adjusted Year to Year Changes, 1976-1989

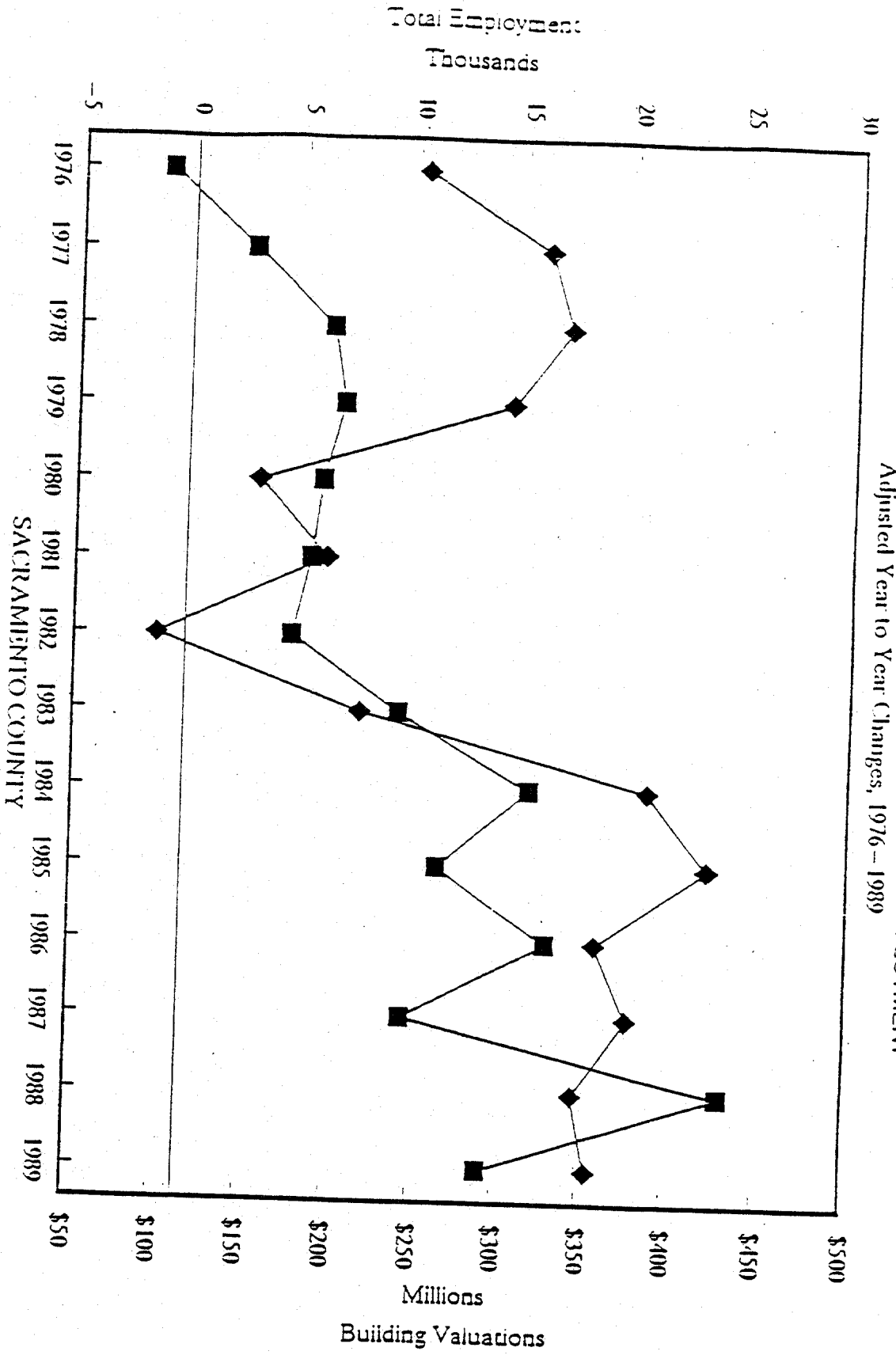


■ NON-RES. BLDG. VALUATIONS (1) ◆ TOTAL EMPLOYMENT
 (1) Includes new commercial and industrial, as defined by (CIRB).
 Source: Construction Industry Board (CIRB), Employment Development Department, and Keyser Marston Associates, Inc.

- Los Angeles experienced high net increases in total employment and high commercial and industrial space production in the mid 1970's, a severe recession with reduced activity in both during the early 1980's, and a return to strong growth with both in the mid to late 1980's.
- Santa Clara County experienced strong growth in the late 1970's, a severe drop in the 1982 period, a short term rebound around 1984, and reduced levels of activity through the later 1980's. Employment and space production have moved through these periods in tandem.
- Sacramento County experienced moderate growth in the 1970's, the 1982 recession and significantly higher levels of growth in the mid and later 1980's than in the earlier decade. Again, employment and space production paralleled each other.

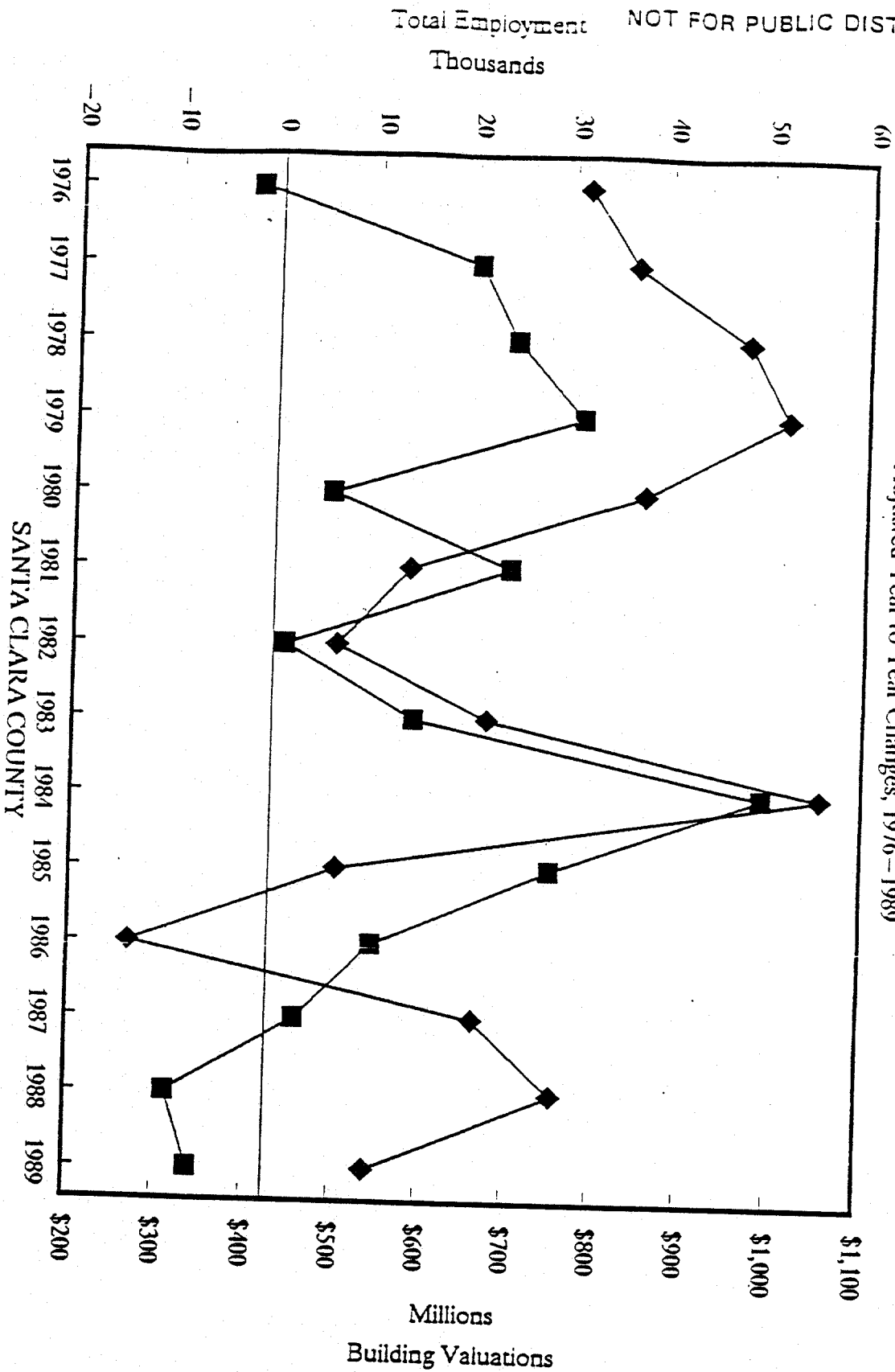
The graphs illustrate the fact that employment increases and space production occur together at higher and lower levels depending on the conditions of the local economy. The graphs present net increases or decreases in employment and newly permitted commercial and industrial space valuation each year. (Valuation data was adjusted to remove the effects of construction cost escalations.)

NON-RESIDENTIAL BUILDING VALUATIONS/TOTAL EMPLOYMENT
Adjusted Year to Year Changes, 1976-1989



■ NON-RES. BLDG. VALUATIONS (1) ◆ TOTAL EMPLOYMENT
 (1) Includes new commercial and industrial, as defined by (CIRB).
 Source: Construction Industry Board (CIRB), Employment Development Department, and Keyser Marston Associates, Inc.

NON-RESIDENTIAL BUILDING VALUATIONS/TOTAL EMPLOYMENT
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■ NON-RES. BLDG. VALUATIONS ◆ TOTAL EMPLOYMENT
 (1) Includes new commercial and industrial, as defined by (CIRB).
 Source: Construction Industry Board (CIRB), Employment Development Department, and Keyser Marston Associates, Inc.

A second approach to the correlation examines the numerical relationship between employment growth and space production in Los Angeles County over the fifteen year period. Employment increases over the period from 1975 to 1989 were quantified and measured against space production over the period and the period divided into halves.

Since the nexus analysis addresses major building types in the commercial and industrial categories, the historic analysis of the relationship was refined to examine these categories only. Table 1 summarizes the analysis.

Table 1

**RELATIONSHIP BETWEEN EMPLOYMENT AND CONSTRUCTION
LOS ANGELES NEXUS STUDY**

	1975-1982	1982-1989	1975-1989
	Actual Net Increase in Employment		
1. Increased Employment ⁽¹⁾	510,200	691,100	1,201,300
2. Estimate of Employment in the Five Building Types ⁽²⁾	392,700	532,100	925,000
	Estimated Employment based on Construction Activity		
3. Commercial & Industrial Permit Valuation ⁽³⁾	\$12.7 billion	\$18.6 billion	\$31.3 billion
4. Estimated Square Footage Developed ⁽⁴⁾	170 million	250 million	420 million
5. Estimated Number of Employees ⁽⁵⁾	453,000	666,000	1,119,000
6. Adjustments to Employment Increases: Vacancy Factor (10%)	408,000	600,000	1,007,000
Declining Industry Factor (10%)	363,000	533,000	896,000
7. Relation of #2 to #6	8.2%	0.1%	3.2%

⁽¹⁾Based on Employment Development Department (EDD) data.

⁽²⁾Estimated that 77% of all new jobs are housed in the five building types.

⁽³⁾Construction Industry Research Board. Values adjusted to 1989 dollars.

⁽⁴⁾The weighted average value for each non-residential square foot of building area is estimated at \$75 per square foot.

⁽⁵⁾The weighted average number of square feet per employee is estimated at 375.

See appendix for notes on each step in the table.

Source: Keyser Marston Associates, Inc.

January 1991

In summary, the historic analysis indicates that over the fifteen year period, actual employment increase as quantified by EDD is closely equivalent (within 3%) to the employment as deduced from the permit valuation, using the same factors utilized in the nexus analysis. Over the two half time periods the employment estimates were also very similar.

c. Timing Issues

Since building permits are issued immediately precedent to the start of construction, a timing issue immediately emerges. While small commercial structures and tilt-up construction warehouses can be built in a matter of a few months, major high rise structures are often two to three years from start of construction to readiness for occupancy. In addition to construction itself, major projects are years in planning, approvals, and in securing debt and equity financing, often building a momentum to proceed despite signs that employment growth may contract. In summary, space is often produced in a manner that is not a year to year even relationship with employment growth. The perfect model would examine new space occupancy or absorption over the same time period as the job growth. Unfortunately, absorption information is not available for all building types, and for owner occupied buildings as well as leased buildings. Building permit issuance data provides the most readily available base of information on space production.

d. Vacancy Issues

Building space production and employment growth do not always occur at the same rate over a short period of time. When employment is growing faster than space production, there are low vacancies in buildings and pressures that produce escalations in rents and land values. When space is produced faster than employment growth, vacancy levels rise. If vacancy levels continue to rise, space production is curtailed or halted until a more acceptable balance of supply and demand is restored.

It is not unusual in rapidly expanding economies for high vacancies to be sustained over a long period of time. The five to eight percent range may be considered a "normal" vacancy level for mature and moderately growing economies, but it has been the experience of the Los Angeles, Orange County and San Diego markets, which have experienced substantial growth over the 1980's decade, to also experience continued vacancy levels in excess of 12%, often over 15%. The expectation that space produced will be leased leads to the continued production of more space despite the vacancy levels.

Two conclusions with respect to vacancy are important to the nexus analysis:

- Vacancy in any given building is a relatively short term phenomenon. The nexus analysis is concerned with the long term occupancy of the building, not conditions during the first year or two and its occupancy level.

- Buildings are constructed with the express purpose of being occupied; they would be built at different sizes if permanent vacancy (over a standard frictional level) were expected.

It has been suggested that there ought to be a discount when quantifying employment within buildings to recognize high or rising vacancy levels. In addition to the points made above, we would also like to suggest that if a discount were warranted, then in times of falling vacancy levels, a premium might be equally warranted. Clearly, adjustments to meet the market fluctuations of each type of space would be administratively impossible even if justified.

More importantly, short time frames are not relevant to the establishment of a one-time fee which is intended to cover the employment impacts of a new building over its entire life. Vacancy rates may fluctuate substantially over the life of a building. The building may be used by different kinds of tenants over its useful life. The City is not proposing to levy fees on an annual basis or each time a new rental transaction occurs. Rather, the fee will be a one-time fee based on an estimate of the average demand on low income housing over the life of the building. Accordingly, it is appropriate for this nexus report to take a long term view.

Any analysis that attempts to model the relationships between employment growth and space productions on a year to year basis would, of necessity, entail a significant number of assumptions on the variables that affect the relationship each year. For example, the relationship would be affected by the vacancy for the specific year for each type of space or weighted for all spaces, time lag adjustments for very large specific projects, densities adjusted to the mix of buildings types each year, and a number of other factors. Such an analysis would become highly complex and yield no sounder results, in our opinion than addressing a multiple year time frame as indicated herein.

e. Acceptance of the Relationship in Other Areas of Public Policy

The relationship between employment growth and the buildings that house the growth is fundamental to the analyses that underlie the public policies in other areas of governmental action. Examples include traffic and transportation analysis and planning, air quality management, and land use planning from community area plans to regional plans. Specific examples in Los Angeles include the Regional Mobility Plan and the Air Quality Management Plan. Transportation corridor fees are placed on buildings per square foot based on the conversion of building space to the employees or customers and the traffic they cause. Other types of fees are similarly based: buildings themselves do not drive cars, flush toilets, drink water or send children to school. General plans, land use plans, and growth management plans all translate employment growth to commercial and industrial buildings and population growth to dwelling units.

Commercial Industrial Space and Employment Growth: Projected Correlation

a. The Projected Relationship in the City of Los Angeles

The Regional Growth Management Plan provides projection of employment, population, housing for the Los Angeles Region based on an analysis of the regional economy. As noted, the projections underlying the plan were prepared by CCSCE under contract to SCAG. These same projection are utilized by SCAG in the preparation of its "Nexus Analysis of Housing Demand Refinements and Housing Projections" prepared as part of this work program. The SCAG analysis is projection based, unlike the KMA analysis, and provides forecasts of employment by industrial classification, employment by income, and employment in various commercial and industrial building types. The conclusions of the SCAG analysis project a continuation of new employment in various types of buildings as indicated below:

	1990-1995	1995-2000	2000-2005	2005-2010	1990-2010
Manufacturing	5,982	4,713	3,446	2,178	16,318
Warehouse	7,079	5,891	4,701	3,512	21,184
Office	43,132	35,120	27,108	19,099	124,461
Retail	14,075	11,909	9,472	7,576	43,303
Hotel	2,653	2,274	1,895	1,516	8,337
Total	72,921	59,907	46,892	33,881	213,603

Note: Totals may not add due to independent rounding.

Source: City of Los Angeles Nexus Analysis of Housing Demand Refinements and Housing Projections, SCAG.

As shown by the data and the graph following, the building type that will be associated with the largest share of employment growth is office. Office employment will represent almost 60% of the new employees in Los Angeles in the 1990 to 1995 period followed by retail at about 20%. The industrial categories of manufacturing and warehousing are both under 10%. In terms of the level of growth, the SCAG projection indicated a slowing in terms of percentages over the twenty year growth period, consistent with the Growth Management Plan from which it is derived.

Both the SCAG and the KMA nexus analyses project that the relationship between employment growth and building space production will continue in the future as is has in the past. Conditions or events which could alter this relationship include the following;

- A long term trend altering employment densities within buildings. A decrease in employment density would mean fewer employees per square foot, and in the nexus context, fewer households and housing demands. There is no evidence to support a change in either direction. Should there been an increase, these analyses have erred on the side of conservatism.
- Long term trends in vacancy levels. If there were a long term trend toward higher vacancy levels, space would be added with fewer employees associated with it. The history of vacancy levels is one of rise and fall related to supply and demand conditions, and no long term trend is discernable.

In summary, no evidence was found to suggest the past relationship will not continue in the future.

The Relation to Economic Growth

The Technical Report contains a section outlining the dynamics of economic growth in general and in Los Angeles in particular. A conclusion, based on documented sources, is that Los Angeles is experiencing economic growth as a result of expansion of economic activity in the leading basic sectors, with the non-basic sectors of the economy following expanding as well. The growth in employment is drawn from both immigration and the natural increase of young people maturing into the labor force.

The growth in new commercial and industrial space production is correlated with the growth in all the employment that works in the space, as we have seen. Therefore, from a nexus perspective it is immaterial whether the employment is basic or non-basic, or whether the employees are in Los Angeles by virtue of natural increase or by immigration. What matters for purposes of this analysis is that without the development of new commercial/industrial space (or change in employees density in buildings, as discussed previously), the new employees would not be able to be added to the local employment base, and government would not need to address the associated lower income housing demand. Conversely, the addition of this new commercial/industrial space is associated with the addition of new employees which in turn generates demand for additional low income housing units.

The nexus analysis does not demonstrate, for example, that new buildings are the sole "cause" of growth in employment (and this low income employees and low income housing demand). That would be both inaccurate and a gross oversimplification of the process of economic growth. What the analysis does demonstrate however, is that the addition of new space correlates closely with employment growth, that one does occur without the other on any sort of sustained basis, and that the relationship can be quantified. This demonstration traditionally made to support the imposition of most government fees. For example, fees are often imposed on new housing projects to pay for parks or wastewater treatment facilities. Those facilities are designed to meet the needs of the people in the new houses. A nexus analysis in those cases demonstrates that growth in new

population, with its need for new parks and sewage treatment) is closely correlated with growth in residential units. No one contends that residential units are the sole "cause" of population growth. Similarly, commercial and industrial buildings have the same relationship to employment growth.

The Income Distribution of Employees

a. Overview and Methodology

The next conceptual step in the nexus analysis is to distribute the employees by income level. Specifically it is of interest to determine what shares of employees are likely to have income that qualify as low or very low income; i.e. what is sometimes called the working poor. Low income is defined as between 50% and 80% of median and very low income as below 50% of median household income; the translation from employees to households and the adjustment to recognize multiple earner households is a later step. The distribution to income category is undertaken separately for the employees of each building type (i.e. office, manufacturing, etc.) recognizing that each building type has its own unique

KMA and SCAG use different methodologies to identify the income distribution of employees and arrive at similar results. The KMA methodology entails first distributing employees into occupation categories and then assigning an income distribution for each occupation using current California Department of Employment Development (EDD) data for Los Angeles County. The SCAG analysis commences with employment by industrial classification (eg. finance, insurance and real estate, services, manufacturing, etc.). A next step distributes by income category based on national Bureau of Labor Statistics data with adjustments for the City of Los Angeles, and then assigns the employees to buildings.

Both analyses found significant shares of lower income employees in all types of buildings. As expected, the percentage of workers falling into the income groups that qualify as low or very low income varied from one type of building to another. Hotels lead as the building type with the highest percentage of lower income employees. Retail/services and manufacturing also have large shares of employees in the lower income ranges. But even office buildings have many workers that qualify as lower income.

b. What the Nexus Analysis Counts and Does Not Count.

The previous sections have discussed the relationship between new commercial and industrial buildings and new lower income employees, and the income distribution of employees, both of which are fundamental steps in the nexus analysis. In the quantities of lower income employees, it is useful to summarize and clarify what this approach counts and does not count.

- By addressing employees in buildings, the nexus analysis counts working population only. By quantifying the housing demands of the only employment associated with a new building, the demands of the non-working population are not included. Thus the nexus analysis addresses only a portion of total housing demand. Housing demands and housing needs come from a range of sources, of which the demand associated with new employees is only one. A housing linkage fee on building development is not being asked to solve or mitigate all the housing needs of the City, only a fraction of it.
- The nexus analysis addresses new employees only, not existing ones. When new space is added to the City's, somewhere in the City net new employees are added with certain exceptions or adjustment factors as noted. It is obvious that the specific building may be only partially occupied by new employees, or perhaps not at all. However, the firm or firms that move into the new building vacate space in an older building, and so on through a chain of moves. If not in the new building, somewhere in the chain of moves, net new employees are added to the system.

The nexus analysis only addresses the employment associated with selected building types, not all employment. Our analysis of the interrelationship of employment by industrial classification and building types suggests that approximately 75% of all employment works in the six building types analyzed (office, research and development, manufacturing, warehouse, retail/service commercial and hotel). Other employees that work at home, or outdoors, or on transportation vehicles, etc. are not included in the analysis.

The nexus analysis addresses direct employees only, or the employees that regularly work in the building. In the case of the office building, for example, direct employment covers the various managerial, professional and clerical people that work in the building; it does not include the janitorial workers, the window washers, the security guards, the delivery services, the landscape maintenance workers and the many others that are associated with the normal functioning of an office building. Most of these indirect employees tend to be as the lower end of the pay scale; since they are not counted elsewhere in the analysis, lower income housing demand is understated.

The nexus analysis does not assume multipliers to count the indirect employees mentioned above or others that might be generated as a result of new employment in the building. The application of multipliers would require assumptions with respect to the nature of the employment and specifically whether it was basic or non-basic, per the discussion in the first part of this section.

The nexus analysis counts new employees irrespective of whether they are new to the City through immigration or through birth and maturing into the labor force. In the conversion to housing demands, as will be seen, adjustments are made to account for new employees that may already be housed.

The Link to Households and Housing Demand

Once the number of new employees associated with a new building is established, the next step is to convert employees to households by income levels and to housing demand. We have established that in every building type an identifiable share of employees will, on average, have incomes that could qualify their households as low or very low income. This step quantifies the number of new lower income households demanding housing that are associated with each building type.

a. Employees to Households by Income Category

The previous step identified the number of employees whose earnings could place them in either the low or very low income category. The translation of employees to households by income category needs to recognize several factors - household size, the number of employees or workers per household and the fact that multiple workers in a household combine incomes to produce household incomes of higher levels. In other words the adjustments must recognize that, say, the \$20,000 income for a single person is not low income, but for a three person household (such as a single parent with two children), it is very low income. By the same token, that \$20,000 income employee may be married to someone who earns \$50,000, placing the household well into the upper income category.

The KMA analysis uses a multiple step process to adjust for the various factors, as is spelled out in Section II. The SCAG analysis uses a slightly different procedure and methodology that produces more households in a given size building in the low and very low income categories.

Both analyses conclude on the number of low and very low income households associated with buildings of various types. The conclusions are reflective of employment density, the income distribution of employees and multiple earner and household size considerations. In all types of buildings studied, there are significant numbers of low and very low income employee households.

b. Adjustments for Housing Demand

In making the link from households to housing demand, the key question is whether the new employee/households represent demand for additional housing units within the city. Three conditions were identified as warranting adjustments:

- *Adjustment for Increase in Labor Force Participation.* This adjustment allows for the fact that some portion of employment growth is a function of increasing labor force participation. During the 1970's and through the mid 80's, many people, particularly women, entered the labor force for the first time, or the first time after a lengthy absence. Since these employees already have housing, there is no housing demand, and thus an adjustment is warranted.

- *Adjustment for Declining Employment Sectors.* This adjustment recognizes that in an older and mature economy each new square foot of space may not represent new jobs as discussed earlier. Employees may have worked previously in an economic activity undergoing decline or readjustment where employment densities are falling. Since these people are assumed to already have housing they are eliminated from the analysis. (See prior section).
- *Discount for Employees who will Seek Housing Outside the City.* This adjustment factor recognizes that not every new employee that works in the City will want to live in the City.

SCAG commute information based on 1988 surveys indicates that, on a city-wide average, approximately 42% of the people from lower income households who work in the City choose to live outside of the City. The nexus analysis contains an adjustment to reduce housing demand by 42%. In other words, the City of Los Angeles will not use housing impact fees to subsidize very low and low income housing opportunities outside of the City boundaries. Thus, while new commercial structures in Los Angeles may, from a nexus standpoint, cause or contribute to the need for low and very low income housing outside of the City boundaries, the funds they contribute will not be spent to address the problem. This nexus analysis deals with this issue by discounting the maximum nexus amount by the entire 42% of City workers who live outside the City.

This is an extremely conservative approach and it is very arguable that no discount should be made at all. Low and very low income subsidized housing opportunities are in short supply; if housing were built for all low income employees, 42% would not remain vacant. If such housing were offered with a priority given to households with members employed in the City, it is most likely that 100% of the units would be occupied by such families. This is all the nexus requires; the statutory and constitutional nexus standard mandates that the housing units built with the funds contributed by commercial structures are reasonable available, from a regulatory and practical perspective, to the workers in those structures. Most non-resident workers, especially poor workers, would live closer to their jobs if they had the opportunity to do so, but instead are required to commute long distances primarily for economic reasons. Given this shortage of subsidized units and commute-driven impetus to live close to jobs, this study could reasonably have assumed that 100% of the units offered would be occupied or occupiable by workers in the structures contributing the fees. Alternately jobs housing balance, traffic, and air quality goals and policies could be drawn into the analysis to make the case for less than 42% out commute to mitigate against current and growing problems.

One other factor affecting the relationship between employment and housing demand was considered, that of unemployment. If unemployment were high and there were a large reservoir of qualified workers, employment growth would draw upon these workers who already have housing. Thus in times of high unemployment that is experiencing a long

term downward trend, an adjustment would be warranted. A review of unemployment levels over the past decade, however, indicates that this has not been the case. (See appendix table). Rather, unemployment has bounced up and down within the range from 5% to 9%. Clearly, a linkage fee program cannot deal with year to year fluctuations and since no long term trend could be determined, the underlying assumption of the analysis is that unemployment will be relatively constant in the future as it has been over the past decade.

The Costs of Mitigating Lower Income Housing Demand

a. Introduction

Once the number of lower income employees households creating demand for housing has been established, the next questions become how can this demand be satisfied and what are the costs. Once the cost is identified then, the number of employees households demanding housing can be multiplied by the costs of delivering that housing to establish the total linkage cost for each type of building.

Two major alternatives exist for satisfying the demand - the existing housing stock and development of new units. Clearly the private building industry is not able to build units affordable to lower income households without public assistance, so new units entail the assistance factor.

b. Existing Supply and the Failure of Trickle Down

In decades past, the "trickle down" or "filtering down" process once made a continually available supply of affordable housing at the lower end as lower income households moved up the economic ladder and relocated into new or better housing. However, as long as ten years ago, housing experts such as Anthony Downs of the Brookings Institute began concluding that the process was no longer working. To quote from a 1981 study on Local Government Initiatives for Affordable Housing, "Filtering compels the poorest households to live concentrated together in the worst urban housing; this multiplies the negative impacts of poverty and creates "crisis ghetto conditions" characterized by high crime rates, delinquency, drug addictions and low quality schools and public services."

The trickle down process is particularly inoperative in areas of high cost housing such as Los Angeles. Over the past decade, housing costs (rents or prices) have consistently outpaced inflation and income increases in Los Angeles. In fact, a study conducted for the Rent Stabilization Board in 1988 found that rents escalated faster than inflation in virtually all neighborhoods of the City. In some sections of Los Angeles, the opposite of trickle down, or "gentrification" has occurred, making once middle and lower middle class neighborhoods now accessible only to upper income households.

The failure or absence of trickle down in Los Angeles leaves no workable alternative to making housing affordable to lower income households other than to add new units to

the supply. Vacancy rates at the lower income levels are at operational minimums; there is no adequate supply in which to house new employee households. To make space for a new lower income employee households, existing lower income occupants would have to be relocated, hardly an acceptable solution. Rehabilitation of currently unoccupied and unoccupiable units does represent an option, but such units are very limited in number, and public policy could set those units aside to meet existing housing needs.

The results of the absence of trickle down are well documented in the Mayor's Blue Ribbon Committee report and again in the recent census conducted by the City of Los Angeles to confirm or challenge the findings of the 1990 U.S. Census. These efforts have found widespread conditions of substantial overpaying, severe overcrowding, use of substandard and non-residential structures for dwelling units, and homelessness.

c. The Cost of Subsidizing New Housing

The costs of subsidizing the development of new housing units to make them affordable to lower income households is established through a multi-step process. The major steps and key assumptions of note are:

- The cost of developing a new housing unit is quantified. The assumed unit is a minimal size and quality level apartment unit located in a lower land cost area. Total development costs, including construction, fees, indirect costs, construction financing, and land are quantified to produce the total cost.
- The rent paying ability of the household is quantified. Household income, by size of household, that meets the very low and low income HUD definitions for Los Angeles County are identified. The rent paying ability of the household is based on the 30% of income standard (after adjustment for utilities). The 30% affordability is the standard policy of both HUD and the City of Los Angeles. The fact that many households are "overpaying" by paying more than 30% is part of the housing problem in Los Angeles that the linkage program is intended to reduce. There is no policy directive to assume other than 30%.
- Net annual income from rent is estimated. Annual rental payments are summarized and reduced to allow for annual operating expenses and minimal vacancy allowance to determine net operating income per unit to the building owner.
- The investment capacity of the net operating income is estimated based on cost of debt and/or return on investment.
- The difference between the development cost of the unit and the investment capacity is called the "affordability gap" or assistance needed to deliver housing units for various household sizes and levels of income.

The cost of making new units affordable to lower income households, or the "affordability gap," is applied to the number of households demanding housing associated with the building area, to produce the "Total Housing Nexus Cost."

Discounting the Total Nexus Cost to Reach an Actual Fee Package

The nexus methodology yields Total Housing Nexus Costs attributable to new commercial/industrial spaces. These amounts are likely to be substantially greater than the City will wish to attribute to these buildings in the form of a fee. Various policy considerations can reduce this total nexus cost. These are generally discussed in Part B of the report. These factors include, for example:

- Testing the impact of the fee on the cost of construction for different types of use and adjusting in order to avoid market dislocations;
- Testing the fees to take into account varying market conditions in different zones of the City to avoid discrimination against areas with less economic vitality;
- Taking out of the calculation increases in land costs which developers assert are due not to increased development pressure but to other factors such as environmental constraints and reduced density; and
- Taking out of the calculation the cost of lower income housing attributable to other fees which the development community asserts should be treated separately for purposes of evaluation.

In other words, the numerical results of the nexus analysis yield total per square foot costs which may be considered a ceiling, but do not necessarily contain discounts for other policy and planning considerations that are appropriate to approach the fee amounts themselves.

in working in the Los Angeles market and on general industry trends. The density figure builds in a standard operational vacancy allowance.

In starting with a number of employees in the building there is an implicit assumption 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 in the chain new employees will have come to the City of Los Angeles to work.

Step 2 - Adjustment for Increase in Labor Force Participation

This step eliminates net new employees who were previously living in the City but not working, or not in the labor force. During the 1970's and through the mid-80's, many people, particularly women, entered the labor force for the first time, or for the first time after a lengthy absence. Review of demographic literature suggests that the impact of this phenomenon has largely been completed. For this reason the labor force participation adjustment is estimated at 5%, rather than the 15% level that was occurring in the early part of the decade. In other words, labor force participation is expected to continue rising, but at a lesser level than in the 1970's and 1980's, and 5% of all net new employment is assumed to be already housed.

Step 3 - Adjustment for Declining Industry Sectors

This step eliminates new employees who were previously working in another job but have changed employment due to declining or "readjusting" employment in specific industries. For example, in the County of Los Angeles, the manufacturing sector lost approximately 20,000 jobs between 1987 and 1990 or approximately 6%. To reflect the fact that some share of net new employees will have previously been employed in a job that no longer exists and is therefore resulting in reduced density in existing buildings.. Since these employees already have housing, our analysis reduces the number of employees that will need housing.

Step 4 - Estimate of Number of Households

This step recognizes that there is frequently more than one employee per household and reduces the number of employees to the number of households. The 1980 U.S. Census figure of 1.45 employees per household was used as still the best available data on the subject.

Step 5 - Breakdown of Employees by Occupation

This step divides the employees representing new households into occupational groupings using industry by occupation matrices prepared by the U.S. Department of Labor and EDD. The occupational categories are Professional/Managerial, Technical/Sales, Clerical, Service, Craft, and Operator/Laborer. "Industry" categories closely

approximate the building types used in the analysis.

Step 6 - Estimates of Employees Meeting the Lower Income Definitions

In this step, occupation is translated to income distribution without consideration to household size which is accounted for in the next step. Therefore, the analysis identifies the number of employees who earn the qualifying amount for the largest size household, or \$23,150 in the case of very low income households, and \$34,200 in the case of low income households.

Step 7 - Estimate of Household Size Distribution

In this step, household size distribution was sought in order to move from income distribution to the income and size combinations that meet the income definitions established by HUD. Since qualifying income varies with household size, we used the closest U.S. Census tally and calculated the size distribution for all the income categories of the working household (very low, low, lower moderate, and upper moderate).

Step 8 - Estimate of Households that meet HUD Size and Income Criteria

In this step we had to build a matrix of household size and income to establish probability factors for the two criteria in combination. For each occupational group a probability factor was calculated for each of HUD's income and household size levels. This step is performed for each occupational category and multiplied by the number of households.

Step 9 - Adjustment to Eliminate Most Multiple Earner Households

This last step makes an adjustment to eliminate or reallocate to higher income groups most of the households that have two or more earners, because these multiple earner households may have incomes that make them no longer qualify in the lower income categories. Based on data from the U.S. Census, we have calculated the number of multiple earner households that fall in each income category. From this data we were able to eliminate from the lower echelons those multiple earner households with incomes in excess of the HUD limits.

This is the last step of the analysis and identifies the number of employee households associated with each of the six building types that meet all the very low, low, lower and upper moderate income criteria.

Step 10 - Adjustment to Discount for Non-Resident Workers

Up to this point, the analysis has assumed all workers would live in Los Angeles. This step takes into account existing commuting patterns in order to determine the number of employees that will work and live in the City of Los Angeles. This data is based on information provided by SCAG for the City of Los Angeles households by income levels.

As noted in the previous section, a strong case can be made for no commute adjustment at all.

Conclusions

The results of the analysis to this point are that for every 100,000 sq.ft. of building area, on average, there are a number of very low and low income employee households that work and live in the City of Los Angeles, as summarized below. The percentage of qualifying employee households to all households and to all employees is indicated by the columns on the right.

<u>Building Type</u>	<u>Number of Employee Households</u>	<u>Percent of All Employee Households</u>	<u>Percent of All Employees</u>
Very Low Income (50% Median or Below)			
Office	15	6%	4%
Research & Development	15	6%	4%
Manufacturing	7	9%	6%
Warehousing	5	8%	6%
Retail	19	10%	7%
Hotel	9	10%	7%
Low Income (50% - 80% median)			
Office	26	11%	8%
Research & Development	27	11%	8%
Manufacturing	11	14%	10%
Warehousing	9	15%	11%
Retail	26	13%	9%
Hotel	11	14%	10%

As seen, for the very low income households, the highest incidence is among hotel and retail employees and the lowest incidence is with office employees. In the low income category (50%-80%) warehouse is the highest, with manufacturing, retail, and hotel having the next higher incidence of employee households in this category.

The breakdown of employee households that fall in the median, moderate, and upper income categories are presented in a table at the end of this section.

Step 11 - Estimate of Housing Linkage Costs

The next major conceptual procedure is to take the numbers of households in the lower income categories associated with each building type and establish the cost of providing housing for them. The result is referred to as the Total Housing Linkage Costs.

The Affordability Gap

The key input to the identification of total housing linkage costs is the Affordability Gap, or cost to deliver housing to households of varying income levels. A separate report entitled City of Los Angeles, The Economics of Affordable Housing Development was prepared by David Paul Rosen and Associates to provide this information. Briefly, the Rosen analysis determined the total cost of developing alternative size rental and ownership units in the City, established the cost of housing affordable to households of varying income levels, and quantified the difference, or gap.

An underlying assumption in the affordability gap analysis is that new housing units must be added to the housing stock to accommodate new lower income households. This is a valid assumption in a housing market that is experiencing vacancy factors at or below the operative minimum, which HUD policy places at 5%. Overall residential vacancies in the City are in the 5% range at this time, and considerably below 5% in units affordable to lower income households. Programmatically, linkage fee monies may be spent in a number of different ways to make additional housing available to lower income households. Some of the approaches may occasionally increase the available supply at less cost than constructing new units. For example, bringing existing vacant units into seismic compliance could fulfill a small portion of the need. At the same time, other approaches to increasing the supply will likely cost more than the cost estimate utilized in the analysis. From a cost calculation standpoint, the long-term cost of increasing the housing supply must be fully addressed, and the cost new construction is the most accurate and predictable approach.

To estimate the cost of developing alternative size units, prototypical type residential projects had to be described. Ultimately two prototypes were developed, a lower density prototype, under 30 to 35 units per acre, and a higher density prototype that requires structured parking and therefore entails higher construction costs. In all cases woodframe construction is assumed. Total development costs, including land cost at an average of \$25,000 per unit city-wide, were estimated at \$76,230 per unit for the lower density prototype, and \$98,320 for the higher density model. Since a mix of higher density and lower density projects is to be expected to be built in the City in the future, a blend of 65% lower density/35% higher density was used for the analysis.

The other half of the affordability gap deals with household income, rent paying capability using the 30% standard (inclusive of utilities) and determining the debt supported by the rent, and ultimately the total development cost supported. The difference between actual development cost and cost supported by the rent payments is the Affordability Gap.

The HUD 1990 median income for a three person household in Los Angeles is \$37,500. In identifying the household income of very low and low income families and the housing affordable, it is possible to conduct the analysis using the top of the defined category, or 50% of median for very low and 80% of median for low income. A more accurate reflection of average income is the mid-point of the range, recognizing that not all very low income households earn as much as 50% of the median. Accordingly, the analysis was also conducted using 35% of median for very low income households, and 65% of median for low income households.

For purposes of estimating the total housing linkage cost, the average unit is assumed to be an 800 sq.ft., two bedroom, one bath rental unit housing a three person household. The resulting Affordability Gap using the two different income measures, the midpoint or the upper end, and the two different density assumptions are as follows:

	<u>All Units With Non-Structured Parking</u>	<u>35% of Units With Structured Parking</u>
Very Low Income		
35% of Median	\$73,941	\$82,070
50% of Median	\$61,372	\$66,601
Low Income		
65% of Median	\$48,660	\$53,910
80% of Median	\$40,649	\$45,899

The two figures indicated in the bold type are the selected figures for calculating the total housing linkage costs. The selected figures reflect a mid-range among the choices. The use of the all low density assumption introduces a conservative element to the analysis, since realistically a significant share of the projects likely to be built will be at densities that require structured parking. These costs may be adjusted to take into account social and policy factors, such as where all increases in land costs should be attributed to the cost of housing. See Part B. An alternative set of figures using the upper end of the range is provided in the appendix.

Step 12 - Estimate of Total Housing Linkage Costs per Sq.Ft. Building Area

The last step in the analysis multiplies the Affordability Gap per unit by the number of households of each income group, and then divides by the building area to determine cost per square foot. The result is the total cost to assist housing in order to make it affordable, assuming cost conditions prevailing in Los Angeles.

The table on the following page presents the results of that calculation. To illustrate how the calculation is made: office buildings of 100,000 sq.ft. are likely to have the 14.66 very low income employee households, as identified in the last line of Table 3. This number is multiplied by the \$73,941 affordability gap established for the very low income (35% of median figure) households and a unit with non-structured parking. The result is \$1,084,000 for the total building, or say, \$10.84 per sq.ft. since our building is 100,000 sq.ft. in size.

Total Housing Linkage Costs (Per Sq.Ft. Gross Building Area)

	<u>Very Low Income⁽¹⁾</u>	<u>Low Income⁽²⁾</u>	<u>Total</u>
Office	\$10.84	\$12.70	\$23.54
R&D	11.05	13.04	24.09
Manufacturing	4.81	5.19	10.00
Warehouse	3.97	4.29	8.26
Retail	14.34	12.58	26.92
Hotel	6.14	5.12	11.26

⁽¹⁾Household income assumed at 35% median; all projects assumed at lower density, i.e. less expensive, type construction.

⁽²⁾Household income assumed at 65% median; all projects assumed at lower density, i.e. less expensive, type construction.

Table 1
OCCUPATIONAL DISTRIBUTION EMPLOYMENT ANALYSIS
COMMERCIAL & INDUSTRIAL BUILDING TYPES (100,000 sq.ft. building modules)
CITY OF LOS ANGELES

Steps	Office		Industrial				Retail		Hotel	
	%	No.	%	No.	%	No.	%	No.	%	No.
1. Estimate of Employees per 100,000 sq.ft.		250 sq.ft.		250 sq.ft.		765 sq.ft.		300 sq.ft.		1.25 Rooms
Employee Density Factor		400		400		100		333		133
2.6.3. Adjustment for Labor Force Participation Increase & Declining Sector Industries (5%)		342		342		85		285		114
4. Adjustment for Number of Households (1.45 employees/household)		236		236		77		197		78
5. Occupation Distribution										
Mgmt/Prof	28%	66	35%	83	15%	12	12%	24	16%	13
Tech/Sales	25%	59	16%	38	6%	6	11%	22	3%	2
Clerical	40%	94	18%	42	12%	9	10%	20	16%	12
Service/Sales	4%	10	1%	3	2%	1	48%	94	59%	46
Craft		0	12%	28	19%	16	8%	16	3%	2
Oper/Labor		0	18%	42	44%	34	11%	21	4%	3
Other	3%	7			2%	1				
Total (Approx.)	100%	236	100%	236	100%	77	100%	197	100%	78

Source: Keyser Marston Associates, Inc.

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Table 2
 ESTIMATE OF QUALIFYING VERY LOW INCOME HOUSEHOLDS
 COMMERCIAL & INDUSTRIAL BUILDING TYPES (100,000 sq. ft. building modules)
 CITY OF LOS ANGELES

Steps	Office		Industrial				Retail		Hotel	
	%	No.	%	No.	%	No.	%	No.	%	No.
6, 7, & 8. Est. of Households Requiring Assistance										
Mgmt/Prof	1.6%	1.0	1.6%	1.3	1.6%	0.1	1.6%	0.3	1.6%	0.2
Tech/Sales	1.1%	0.6	1.1%	0.4	1.1%	0.0	1.1%	0.2	1.1%	0.0
Clerical	26.9%	25.4	26.9%	11.4	26.9%	2.4	26.9%	5.2	26.9%	3.1
Service/Sales	35.0%	3.3	35.0%	1.0	35.0%	0.5	35.0%	33.0	35.0%	16.2
Craft	19.9%	0.0	19.9%	5.6	19.9%	2.9	19.9%	3.1	19.9%	0.4
Oper/Labor	26.9%	0.0	26.9%	11.4	26.9%	9.1	26.9%	5.8	26.9%	0.7
Total Households		30.5		31.4		15.3		47.9		20.8
9. Adjustment to Eliminate Multiple Earners		25.3		25.3		11.2		33.4		14.3
10. Adjustment for Out Commute		14.6		14.9		6.5		19.4		8.3

Source: Keyser Marston Associates, Inc.

Table 3
ESTIMATE OF QUALIFYING LOW INCOME HOUSEHOLDS
COMMERCIAL & INDUSTRIAL BUILDING TYPES (100,000 sq. ft. building modules)
CITY OF LOS ANGELES

Steps	Office		Industrial				Retail		Hotel	
	%	No.	%	No.	%	No.	%	No.	%	No.
6, 7, & 8. Est. of Households Requiring Assistance										
Mgmt/Prof	14.4%	9.5	14.4%	11.9	14.4%	1.6	14.4%	1.4	14.4%	1.8
Tech/Sales	14.5%	8.5	14.5%	5.4	14.5%	0.6	14.5%	0.0	14.5%	0.3
Clerical	72.2%	68.1	72.2%	30.6	72.2%	6.6	72.2%	9.7	72.2%	8.5
Service/Sales	72.2%	6.8	72.2%	2.2	72.2%	1.1	72.2%	0.0	72.2%	33.5
Craft	53.4%	0.0	53.4%	15.1	53.4%	7.8	53.4%	2.8	53.4%	1.2
Oper/Labor	72.2%	0.0	72.2%	30.6	72.2%	24.4	72.2%	21.7	72.2%	1.9
Total Households		93.0		96.0		42.4		35.8		47.4
9. Adjustment to Eliminate Multiple Earners		75.5		77.5		33.7		28.2		38.9
Less: Very Low Income Households ¹¹		<u>30.5</u>		<u>31.4</u>		<u>15.3</u>		<u>13.0</u>		<u>20.8</u>
Households Qualifying for Low Income Assistance		45.0		46.1		18.4		15.2		18.1
10. Adjustment for Out-Commute		26.1		26.8		10.6		8.8		25.8

¹¹Very low income households before multiple earner household adjustment

Source: Keyser Marston Associates, Inc.

Table 4
 SUMMARY NEXUS ANALYSIS
 QUALIFIED HOUSEHOLDS FOR ALL INCOME GROUPS
 CITY OF LOS ANGELES

	Office	R&D	Manufacturing	Warehouse	Retail	Hotel
Estimated Total Households after Commute Adj. ⁽¹⁾	117.93	117.93	38.54	29.48	98.28	39.31
<u>Qualified Households</u>						
Very Low (0-50% of Median) Percent	14.66 12%	14.95 13%	6.50 17%	5.37 18%	19.40 20%	8.30 21%
Low (50-80% of Median) Percent	26.11 22%	26.79 23%	10.66 28%	8.82 30%	25.85 26%	10.52 27%
Lower Moderate (80-100% of Median) Percent	18.52 16%	18.33 16%	5.98 16%	4.70 16%	15.85 16%	6.33 16%
Upper Moderate (100-120% of Median) Percent	15.57 13%	15.16 13%	4.26 11%	3.20 11%	11.26 11%	4.35 11%
Over Moderate (Over 120% Median) Percent	43.06 37%	42.71 36%	11.13 29%	7.39 25%	25.92 26%	9.81 25%

⁽¹⁾Based on analyses of commute patterns, it is estimated approximately 50% of all workers live outside the City of Los Angeles.

Source: Keyser Marston Associates, Inc.

3. Nexus Findings by Geographic Subareas

Introduction

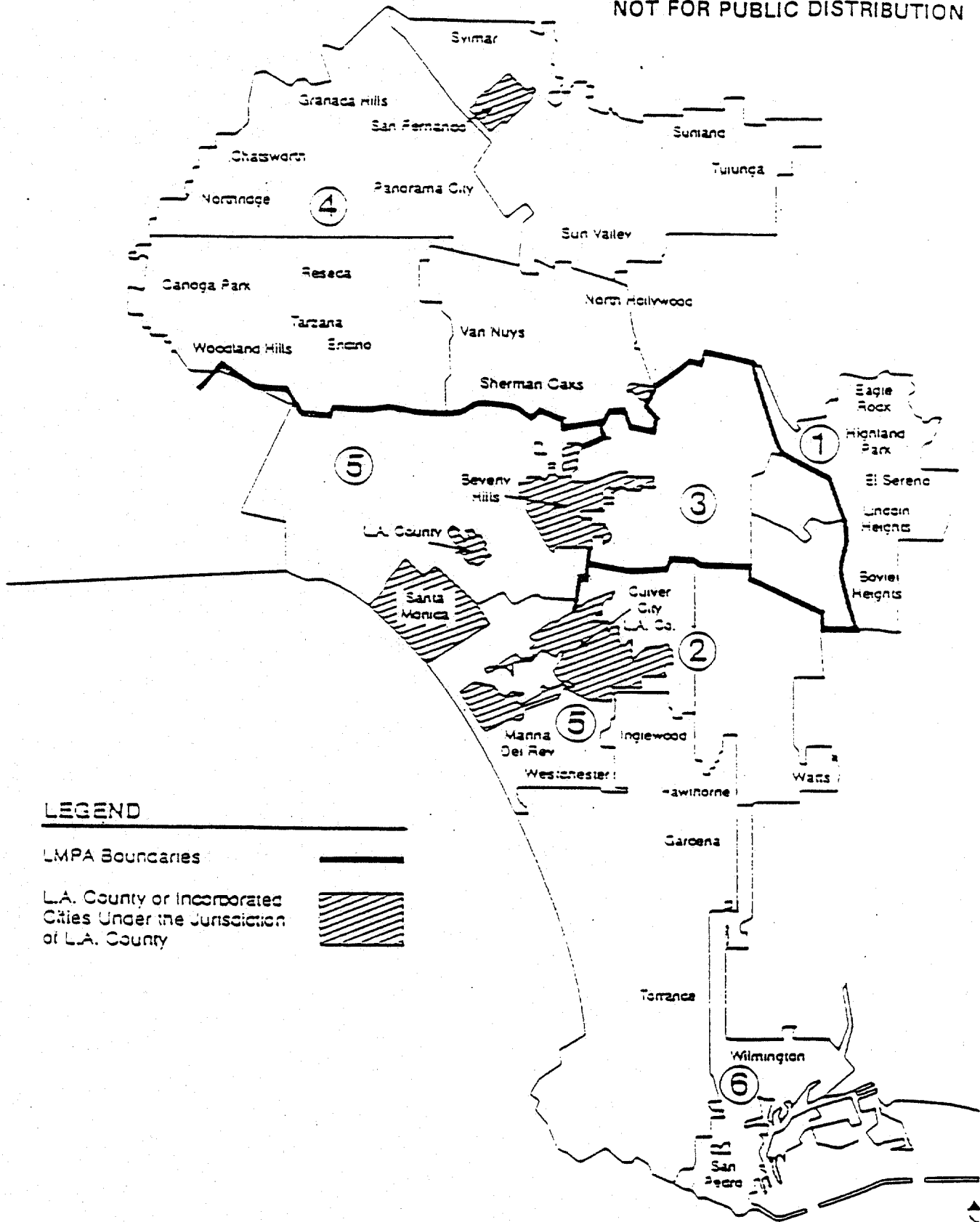
In addition to calculating the total nexus cost for the City as a whole, we have calculated the nexus cost on a subarea basis. Since Los Angeles is the largest and most diverse city in the state, it is appropriate to examine whether this diversity substantially affects the total nexus cost. This section presents those findings.

The subarea nexus analysis differs from the city-wide analysis in two very important respects:

- People who work in a building in one area of the City are likely to live in either that area or nearby areas. The Southern California Association of Government's (SCAG) projections enable us to determine where employees who work in a commercial/industrial building in any given subarea will live.
- Second, the "affordability gap," or capital cost of providing new lower income housing, varies by subarea. Primarily (but not entirely) because of land cost, a low income housing unit in West Los Angeles, for example, will cost substantially more to produce than in Northeast Los Angeles. We have taken this into account and calculated affordability gaps by subarea.

We can combine these differences in affordability gap with the SCAG generated commute information to differentiate the nexus amounts by subarea of the City. Again, as in the city-wide nexus calculation, we begin with a prototypical 100,000 sq.ft. building. With the SCAG information, we know what subarea of the City the workers in that building are likely to live in. We also know what the cost of low income housing will be in those areas and can weigh that cost by the percentage of workers that will live in the area. This is then fed back into the basic nexus formula as discussed in the city-wide discussion.

Finally, we make this calculation using three different combinations of data. In order to add to the certainty of the nexus analysis, both KMA and SCAG calculated many of the same elements of the nexus formula using different data and different approaches. In this section, we set forth the results of those approaches in three different combinations and present them for comparison. The KMA approach produces the lowest numbers; hybridized approaches produce somewhat higher numbers; and use of predominantly SCAG data produces substantially higher nexus numbers.



This portion of the summary report presents only selected findings from the SCAG material. The SCAG document entitled City of Los Angeles, Nexus Analysis of Housing Demand Refinements and Housing Projections is submitted as an appendix document. The selected findings presented here relate to new development, employment growth, housing demands, and commute relationships. Much of the SCAG output provides 20 year projections and other information useful for program planning but not directly related to the nexus.

The Geographic Subareas

Six geographic subareas were used throughout the analysis, recognizing that the City of Los Angeles is very large and diverse. Looking at the City's subregions provides information that enables an understanding of how the subareas differ from the City examined as a whole. Further, since the traffic and air quality mitigation are of such paramount concern, it is important to understand commute relationships, and design a fee expenditure framework that does not locate housing at distant portions of the City from jobs.

The six geographic subareas are Labor Market Planning Areas, or LMPA's. LMPA's are used by the Rent Stabilization Board and other public agencies. SCAG output was also produced for eleven Master EIR areas. The LMPA's are indicated on the enclosed map, and are familiarly referred to:

- LMPA 1. East L.A. or Northeast
- LMPA 2. South Central
- LMPA 3. Central or Hollywood/Wilshire (includes downtown)
- LMPA 4. Valley
- LMPA 5. West L.A. or Westside
- LMPA 6. Harbor

The SCAG Analysis

The SCAG analysis may be characterized as an examination of complex relationships among employment, wage income, household income, commute relationships, and household income by building type by the six LMPA's. The SCAG analysis also provides 20-year projections by 5-year increments of all the major factors and findings.

The analysis commences with SCAG's regional Growth Management Plan (GMP), as adopted in 1988, and an identification of employment growth by major industrial sector (one digit SIC code) within the City and for each LMPA. Employment is converted to wage level, by LMPA, and separately to building type by wage level, by LMPA. Ultimately, the SCAG analysis produces findings, by LMPA, of the number of households by income level that will demand housing in the City, and where within the City the demands will occur.

Selected SCAG Findings

Following are selected findings from the SCAG analysis that relate to commute relationships, income levels city-wide, and lower income employees by building type.

Commute Sheds

Commute information is a major contribution of the SCAG work program to the nexus analysis and possible future expenditure program. The commute shed information and forecast was produced by SCAG's DRAM IMPAL Small Area Forecast Model, which predicts where workers and households of varying income levels that work in a given location will seek out housing. The model takes into account the cost of housing or rent levels, as well as transportation factors such as travel time. Other factors built into the model include land availability and build out projections.

The table on the next page summarizes the commute relationships by LMPA, expressing where households will demand housing by the six LMPA's based on their place of work by LMPA, and by their income level. The model found that the highest propensity to seek out residence within the City is found in LMPA #4, the Valley. Not surprisingly given its more isolated location, workers in LMPA #6, the Harbor area are least likely to seek out housing within the City. If the LMPA's are aggregated to the total city, the finding is that approximately 50% of all workers will commute to residence outside the City. In the very low and low income categories, the percentage of workers that will out commute declines to 42%.

The commute shed information provides an opportunity to calculate housing linkage costs by LMPA using different in-city and out of city factors for each LMPA, as presented at the end of this section. Going further, the commute information could be an important input to the fee expenditure program.

Income Level of Employee/Households

The SCAG analysis conclusions on the income of households of employees working in the City of Los Angeles is shown on the following page:

<u>Income Category</u>	<u>Resident Workers</u>	<u>All Workers in City</u>
Very Low (50% median & below)	22.9%	19.3%
Low (50% to 80% median)	19.1%	16.9%
Moderate (80% to 120% median)	21.3%	20.2%
High (over 120% median)	36.8%	43.6%

The SCAG findings produce a greater share of workers at the lower end of the income spectrum than the Keyser Marston analysis. The difference is attributable to different methodology, especially in the treatment of household size and multiple earner households. The SCAG analysis used U.S. Department of Labor national data on earnings by industrial classification (SIC code) adjusted for Los Angeles, while the Keyser Marston analysis relied on U.S. Department of Labor data for the Los Angeles area and on California Employment Development Department data on pay scales for various occupations. (See the technical reports for each.) It is of interest that the 1980 Census tabulation on the universe of worker households in the City of Los Angeles produced findings that were in between Keyser Marston and SCAG.

Source of Demand by Building Type

The SCAG analysis by virtue of being based on the regional Growth Management Plan with its projections of future growth, also provides information on the sources of demand. The SCAG findings indicate that approximately 58% of all additional households of new employees will be from office buildings. With the dominance of office employment growth, it follows that 53% of the demand for lower income housing associated with new employment in the City, will be office building related. Demand from employees in retail buildings represent the second largest source of demand for lower income housing at 20%. The bar graph presents the total demand distribution.

SCAG's Numbers of Low and Very Low Income Employee Households by Building Type

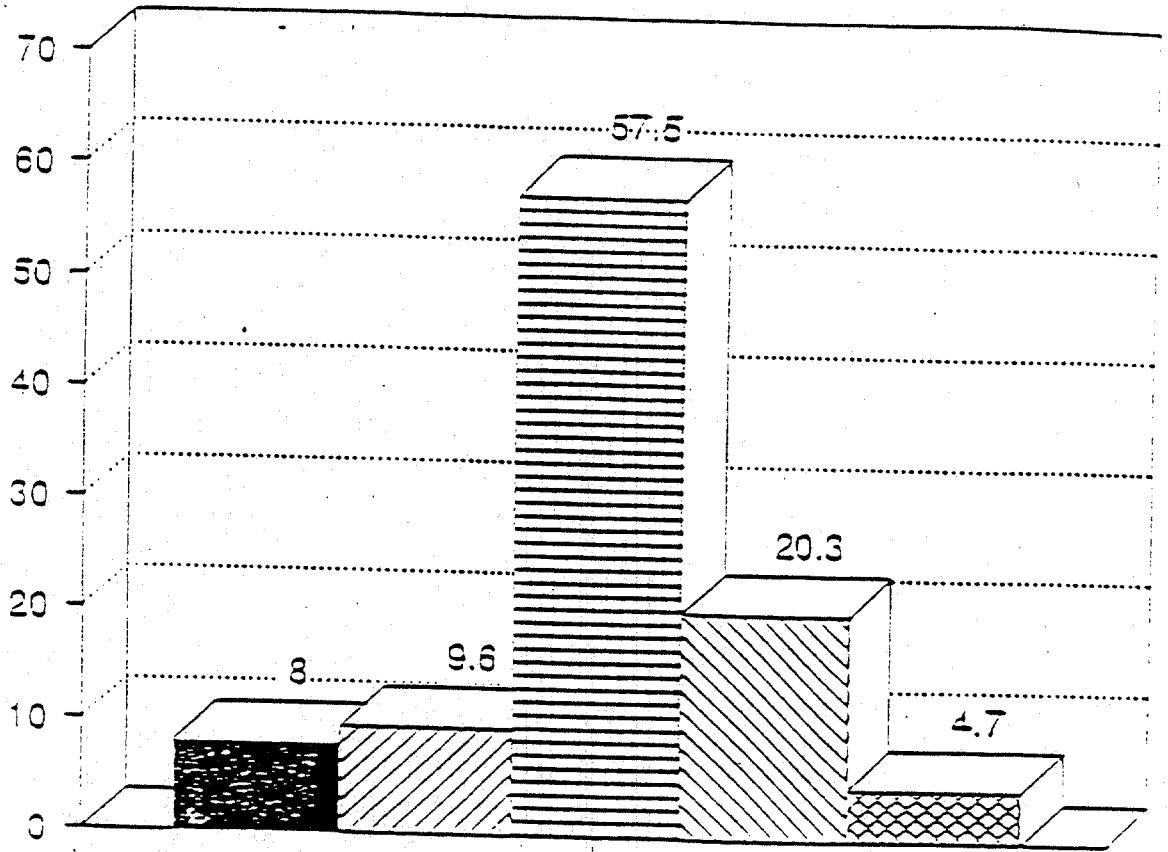
SCAG's income of employment analysis was converted to building modules using the same density factors used in the Keyser Marston Analysis. The findings for 1990-95 by building type, by LMPA are presented in Table 5. The findings incorporate SCAG's commute sheds and, therefore, do not include employee households that will seek residence outside the City.






The SCAG analysis was conducted for five building types as opposed to the Keyser Marston six. Research and Development was not included in the SCAG analysis. Since neither the City of Los Angeles zoning code nor permit issuance departments recognize this building type as a discreet type, it will not be recommended as a separate fee category.

Alternative Total Housing Linkage Cost Calculations

This section presents a summary of three different ways of calculating total housing linkage costs per square foot of building area, in addition to the calculation presented at the end of Section A.2. These alternative calculations utilize the finding of the SCAG analysis in various combination with the Keyser Marston and the Rosen affordability gap findings. All these calculation address the LMPA's.

City Total of Additional Households of New Employees by Non Residential Space Category (in %) 1990-1995



 MANUF	 WAREHOUSE	 OFFICE
 RETAIL	 HOTEL	

**TABLE 5
NUMBER OF EMPLOYEE HOUSEHOLDS PER 100,000 SQ.FT. BUILDING AREA
SCAG COMMUTE AND INCOME FINDINGS ***

	LMPA #1	LMPA #2	LMPA #3	LMPA #4	LMPA #5	LMPA #6
Office						
Very Low	24.4	25.9	25.5	32.9	27.1	16.7
Low	20.0	21.2	22.1	33.0	26.6	13.3
Total	44.4	47.1	47.6	65.9	53.7	30.0
Manufacturing						
Very Low	9.4	10.3	10.8	13.4	11.2	7.2
Low	7.1	8.0	8.0	11.9	9.6	5.2
Total	16.5	18.3	18.8	25.3	20.8	12.4
Warehouse						
Very Low	5.9	7.0	6.8	8.6	7.5	4.3
Low	5.0	5.7	5.7	8.6	4.4	3.6
Total	10.9	12.7	12.5	17.2	11.9	7.9
Retail						
Very Low	27.1	30.4	27.0	36.7	28.4	21.0
Low	20.0	21.8	20.8	32.6	28.4	14.8
Total	47.1	52.2	47.8	69.3	56.8	35.8
Hotel						
Very Low	7.5	33.9	34.8	43.2	36.6	24.2
Low	12.2	14.1	14.4	21.4	17.3	9.2
Total	19.6	48.0	49.2	64.6	53.9	33.4

* After elimination of non-city resident workers.
Source: SCAG

The arithmetic procedure is the same as for the KMA analysis, presented in Section A.2. To recap, the numbers of households in each income group -- very low and low -- for the 100,000 sq.ft. prototypical buildings are multiplied by the affordability gap figures for the income group. The total dollar number is then divided by 100,000 sq.ft. to produce findings per square foot of building area.

LMPA Housing Linkage Cost Calculation #1

The first alternative marries the KMA findings on city-wide households per square foot of building area with the SCAG commute sheds by LMPA. This scenario takes the more conservative KMA findings and examines the results of looking at differing resident worker, i.e., commute factors by LMPA.

The findings, which are presented below, indicate total linkage costs. The major building types for office the highest linkage cost is in LMPA #4, the Valley at \$29.66 and the lowest in Harbor at \$14.32. These two areas represent the extremes with the Valley having the highest rate of resident workers (i.e., lowest out-of-city commute) and the Harbor area the lowest. Findings for other land uses follow a similar pattern.

	<u>Office</u>	<u>Mfg.</u>	<u>Warehouse</u>	<u>Retail</u>	<u>Hotel</u>
LMPA #1	\$19.27	\$ 8.20	\$ 6.78	\$22.23	\$ 9.31
LMPA #2	\$21.49	\$ 9.15	\$ 7.57	\$24.83	\$10.40
LMPA #3	\$21.93	\$ 9.33	\$ 7.72	\$25.31	\$10.60
LMPA #4	\$29.66	\$12.58	\$10.40	\$33.77	\$14.11
LMPA #5	\$24.62	\$10.45	\$ 8.64	\$29.10	\$11.75
LMPA #6	\$14.32	\$ 6.10	\$ 5.04	\$16.56	\$ 6.94

LMPA Housing Linkage Cost Calculation #2

This second alternative is similar to the first but introduces a new variable. The new variable is differentiated affordability gap levels by LMPA.

David Paul Rosen and Associates in the supplemental affordability gap report identified differing housing costs by LMPA. Housing costs were found to differ due to land cost variations from one LMPA to another and due to differing density projections. Based on current zoning, some sections of the City are likely to have more housing projects built at densities that require the more expensive structured parking than others. Low-rise buildings and woodframe construction is assumed everywhere; parking is the major variable. A mix of lower density and higher density units was identified for each LMPA, resulting in differing housing costs and affordability gaps for each LMPA. The Affordability Gap findings for the same two bedroom, one bath rental unit by LMPA are as follows:

	<u>Office</u>	<u>Mfg.</u>	<u>Warehouse</u>	<u>Retail</u>	<u>Hotel</u>
LMPA #1	\$32.09	\$12.01	\$ 7.86	\$34.36	\$13.29
LMPA #2	\$34.27	\$13.37	\$ 9.24	\$38.40	\$36.78
LMPA #3	\$36.02	\$14.41	\$ 9.49	\$36.52	\$39.35
LMPA #4	\$47.27	\$18.34	\$12.34	\$50.24	\$49.14
LMPA #5	\$44.97	\$17.57	\$10.28	\$47.51	\$47.12
LMPA #6	\$20.99	\$ 8.76	\$ 5.50	\$25.33	\$24.85

Summary City-wide

The preceding section has presented three alternative calculations of total housing linkage costs per sq.ft. of building area. The table below presents the KMA findings beside the range of numbers by LMPA. The low end of the LMPA range is consistently represented by the Harbor Area due to the low percentage of workers there who also live in the City. As noted in the narrative, this is an unnecessarily low finding in that more Harbor Area workers would live in the City were affordable housing made available to them. The upper end of the range is consistently represented by LMPA #4, The Valley, again due to the higher percentage of resident workers.

<u>Bldg. Type</u>	<u>KMA</u>	<u>LMPA Range</u>
Office	\$23.54	\$14.32 - \$47.27
R&D	\$24.09	N.A.
Manufacturing	\$10.00	\$6.10 - \$18.34
Warehouse	\$8.26	\$5.04 - \$12.34
Retail	\$26.92	\$16.56 - \$50.24
Hotel	\$11.26	\$6.94 - \$49.14

It is also noted that all figures for housing linkage costs reflect the cost per square foot of delivering housing to very low and low income households. As there is also an affordability gap for median income households, the analysis could readily be expanded to include those households and produce higher linkage cost findings.

	Affordability Gap		
	Percent, Low Density	Very Low (35% median)	Low (65% median)
LMPA #1 East LA	50%	\$74,986	\$49,705
LMPA #2 So. Central	75%	\$79,464	\$54,183
LMPA #3 Central	25%	\$95,509	\$70,228
LMPA #4 Valley	60%	\$82,777	\$57,496
LMPA #5 West LA	25%	\$110,509	\$85,229
LMPA #6 Harbor	75%	\$69,494	\$56,075
City-wide	35%	\$82,070	\$53,910
City-wide	100%	\$73,941	\$48,660

When total housing linkage costs are calculated using the above affordability gaps by LMPA, the SCAG commute factors by LMPA and the city-wide household factors of numbers of lower income households per square foot of building area as identified by KMA, the resulting linkage costs are summarized below.

	Office	R&D	Mfg.	Warehouse	Retail	Hotel
LMPA #1	\$22.43	\$22.95	\$ 9.54	\$ 7.89	\$25.79	\$10.80
LMPA #2	\$25.26	\$25.85	\$10.74	\$ 8.88	\$29.04	\$12.15
LMPA #3	\$26.99	\$27.61	\$11.47	\$ 9.49	\$30.97	\$12.96
LMPA #4	\$35.03	\$35.84	\$14.84	\$12.27	\$39.72	\$16.58
LMPA #5	\$34.44	\$35.24	\$14.56	\$12.04	\$38.84	\$16.20
LMPA #6	\$16.04	\$16.41	\$ 6.83	\$ 5.65	\$18.52	\$ 7.76

LMPA Housing Linkage Costs #2 produces higher cost findings than alternative one primarily due to higher affordability gap figures. In this scenario all LMPA's have at least some portion of their residential construction assumed to be at densities requiring structured parking. It will be recalled that the city-wide figures used had a no structured parking assumption.

LMPA Housing Linkage Cost Calculation #3

The third housing linkage cost calculation utilizes the SCAG findings on numbers of lower income households by building type, the SCAG commute sheds, and the affordability gap figures by LMPA shown above. The results are summarized below.

Since the SCAG analysis produced higher numbers of lower income employee households per square foot of building area, the total linkage costs are predictably higher. Using the SCAG figures, office comes out as high as \$46.27 per sq.ft. in the Valley and as the low is \$20.99 in the Harbor area.

PART B - A LINKAGE FEE PROGRAM FOR THE CITY OF LOS ANGELES

Part A presents the nexus analysis and demonstrates four different approaches to calculating total housing nexus costs per square foot of any building area. These costs quantify the total connection between new commercial/industrial construction and the demand for new affordable housing, expressing that connection in terms of a cost per square foot of commercial/industrial space. These total nexus costs likely exceed actual fees that the City will desire to enact. This section addresses considerations for moving from these nexus costs to actual fee levels and programs for the City.

1. The Relationship Between Total Housing Linkage Cost and Actual Fees

Although the total nexus costs derived are conservative in numerous respects, they are still intended to account for all the reasonable low and very low income housing demands theoretically attributable to the commercial/industrial structure paying the fee. Constitutional and statutory requirements concerning nexus mandate that any fee actually charged by the City not exceed such a maximum. If an amount greater than that were in fact imposed, pursuant to state law, the charge would be considered a tax rather than a fee. As a tax, it would be subject to Proposition 13 and other requirements which would in all likelihood require either a two-thirds or majority popular vote as well as other procedural requirements that would make imposition of the charges currently contemplated invalid.

Thus, the total nexus costs discussed in Part A should be considered as a ceiling. The question then arises as to how the fee should actually be set. From a legal perspective it is important that the fees not exceed the ceiling and that the actual fee structure have a rational basis which includes the consideration of factors contained in the nexus analysis. Beyond that, the City may consider any reasonable set of policy and planning considerations in setting the fees, or differentiating the fees by type of building and by area. Among the policy considerations the City will probably consider are the impact of the fee on the cost of construction or total development, the revenue generation capabilities of the fee, and policy and equity considerations which may suggest allocating portions of the total housing nexus cost away from the development community. Each of these is discussed in this section.

2. Impact on Development Activity as a Consideration in Setting the Fee

One rational consideration in developing the fee is the impact of the fee on the subject commercial/industrial development activity. It is assumed here that the purpose of the housing linkage fee program is to increase the supply of housing affordable to lower income groups, not to redirect commercial and industrial development or change land use patterns. It is, therefore, important that any fee structure derived from nexus-based analysis be tested for its impact on land use locational decisions. The goal of such an analysis is to yield a fee structure that reflects nexus costs, but at the same time does not so impact development costs as to discourage development from locating within the

jurisdiction or within portions of the jurisdiction where it is otherwise desired from a land use or economic development perspective. Two approaches to that analysis are undertaken here: First, we look at the impact of the fee on the total development cost expressed as a percentage. Second, we look at the experience of other jurisdictions.

The impact evaluation serves two major purposes: (1) It provides a basis for modifying the overall fee levels from the maximum ceilings to levels that will not redirect development activity by taking into account development economics in the City of Los Angeles and (2) It provides a basis for adjusting the relative amount of the fee from one building type to another.

The impact evaluation tested the impact of alternative fee levels on eleven prototypical building types in the City of Los Angeles. These eleven projects represent the vast majority of the commercial and industrial buildings that are constructed in the City. The land values and prototypes also provide a broad cross-section, from the Class A high-rise buildings in the downtown to small retail projects in weaker neighborhood commercial districts, to industrial buildings in some of the weaker industrial zones.

Total development costs were quantified for each prototype project, including land cost (with a density assumption), shell construction cost, parking costs, indirect costs, financing costs, and city-wide impact fees. The finding is that total development costs for most types of projects exceed \$100 per sq.ft. The range stretches from high-rise projects that exceed \$250 per sq.ft. to minimal industrial projects that are in the \$70 per sq.ft. range.

The conclusion from the cost analysis that every dollar of fee has a vastly differing level of impact depending on the type and total development cost of the project. A \$5 fee, for example, has less than a 2% impact on the total cost of a high-rise structure while the same \$5 fee has a more than 7% impact on the total cost of a warehouse/industrial project.

An analysis was also conducted to determine the impact on rent levels. Findings were similar to the impact on cost evaluation.

There is no technical methodology for identifying the precise fee amount that can be absorbed before development activity is redirected to other locations or caused not to proceed at all. Experience is the only guidance and even with that it is extremely difficult to make across the board conclusions since conditions vary so widely from one section of the City to another. In general, we would place the 4% range as the maximum tolerable increase in cost and the 2% to 2.5% range as generally more comfortable or unlikely to cause a measurable redirection of development decisions. But even 2% could be detrimental in some locations within the City. (It is recognized that any small amount of fee could be the extra dollar that breaks the feasibility of even the most expensive projects.)

At the 2% to 2.5% range of total development cost, fee for the building types would be as follows:

	<u>Total Development Costs Per Sq.Ft.</u>	<u>Fee Levels in the 2%-2.5% Range</u>
Office		
High-Rise	\$273	\$5.45 - \$6.82
Mid-Rise	\$188	\$3.76 - \$4.70
Low-Rise	\$143	\$2.85 - \$3.58
Industrial		
R&D	\$153	\$3.06 - \$3.82
Manufacturing	\$114	\$2.28 - \$2.85
Warehousing	\$68	\$1.36 - \$1.70
Retail		
Specialty	\$259	\$5.18 - \$6.47
Strip	\$165	\$3.30 - \$4.12
Convenience	\$138	\$2.76 - \$3.45
Hotel		
High-Rise	\$284	\$5.68 - \$7.10
Low-Rise	\$216	\$4.32 - \$5.40

It must be emphasized that this impact evaluation has nothing to do with housing nexus. It only provides one way of modifying the nexus amounts to fee levels that will have minimal impacts on development in Los Angeles.

The conclusion of the impact evaluation is that the fee structure must be sensitive to impacts on the broad range of project types, each with its own development economics, that is built within the City. Beyond that, the City may wish to consider a fee program that addresses differing economic health from one location within the City to another.

3. Experience with Other U.S. Cities

It is customary for cities to look to the experience of other cities when proceeding with a controversial program that has been in effect elsewhere. Following is a very brief summary of the major housing linkage fee programs currently in effect in California. The discussion focuses on fee amounts, the general structure of the program, and impacts to date. There are many features of the ordinances, of the fee expenditure programs, and of the administrative structures that may be of use to review at some later point in time.

San Francisco

San Francisco's linkage fee was first instituted in 1980, prior to the Nollan decision and A.B. 1600. A brief analysis of the connection between downtown office development and the need for additional housing was prepared by a consultant to provide rationale for

the program.

The San Francisco program applies only to office buildings and only to those in the downtown. The original fee was \$5.00 per sq.ft.; it is now closer to \$6.00. Buildings under 50,000 sq. ft. are exempt. There is a build option, but most developers have elected to pay the fees. There are similar impact fees for transit, child care, and open space which total around \$20.00 per sq.ft.

Other constraints on office construction, most importantly the Downtown Plan and the ceiling on the number of square feet that can be authorized in a year, are generally agreed to have had a far greater impact than the fees. As such, the fees are rarely cited as a factor in development decisions and the fees alone have not had a significant impact in affecting the downtown development.

Sacramento City and County

The City of Sacramento was the first city to proceed with a linkage fee program after the Nollan decision and the passage of A.B. 1600. A nexus analysis was prepared for the City to serve as the underlying rationale for the ordinance. The ordinance was adopted in April 1989. The City has successfully been defended in court against the first legal challenge which is now under appeal.

Sacramento was also the first city to impose fees on all types of commercial and industrial construction and the first to apply the fees city-wide, and later county-wide. Maximum fees for office buildings are slightly under \$1.00 per sq.ft. with other building types at a lesser rate. There are virtually no exempted areas of the city (other than an area covered by a separate development agreement), no minimum size thresholds and very few exempted building types. Variance provisions are very tight.

The city ordinance has been in effect approximately eighteen months now and it is still early for drawing conclusions on its impact. Warehouse/industrial construction, which was feared to be most affected by the fee, has experienced record permit levels since the fees were enacted.

San Diego

San Diego's linkage fee program went into effect in March of 1990 as part of an overall package of revenue resources for housing and program adoption.

The San Diego maximum fee is for office at \$2.00 per sq.ft. with other building types at a lesser level. Fees apply city-wide, but enterprise zones and redevelopment areas are exempt. There is also a minimum size threshold. Variance provisions are more flexible than Sacramento.

Too little time has elapsed and too many substantial changes in the real estate industry have occurred at the national level to isolate impacts in San Diego. Recently the City enacted a package of fees to fund infrastructure that will result in very substantial fees on types of construction.

4. Revenue Generation

A very practical issue in deliberating alternative fee amounts and fee structure strategies is the amount of revenue that will be raised. A city may have a specific revenue target it hopes to achieve through the linkage fee program or it may be pursuing a strategy of matching linkage fee revenues with other revenues or sharing the responsibility with other contributing parties. A separate technical report entitled Revenue Generation Framework was prepared by Keyser Marston Associates to better understand the revenue potential of alternative fee amounts.

Since the fees will be assessed per square foot of building area, it is of interest to know what the square foot volume of construction of varying building types is typically built within the City in an average year. To this end, the City of Los Angeles Department of Building and Safety provided building permit activity data that enabled a breakdown of construction activity by building type and number of stories. Detailed information on the past three years, 1987, 1988, and 1989 was analyzed with the following findings on the three year average:

Annual Average

Office:

High-Rise	2,580,000 sq.ft.
Mid-Rise	1,050,000 sq.ft.
Low-Rise	860,000 sq.ft.
Subtotal	4,910,000 sq.ft.

Manufacturing 820,000 sq.ft.

Warehouse 3,280,000 sq.ft.

Hotel

High-Rise	590,000 sq.ft.
Low-Rise	140,000 sq.ft.
Subtotal	730,000 sq.ft.

Retail and Restaurant

2,960,000 sq.ft.

Total Per Year 12,280,000 sq.ft.

As the table indicates, over 12 million sq.ft. of commercial and industrial construction in new buildings was permitted each year. Of this, nearly 5 million sq.ft. was office space and about 4 million sq.ft. was industrial (manufacturing and warehouse) space. Retail and restaurant represented nearly 3 million.

The recent three years experience was evaluated against the longer term trend going back to 1975 to determine if the three-year period was representative or an aberration. The finding was that the period was representative of the period from 1984 through 1989. The 1990 experience with commercial and industrial valuation will be a reduction over the 1980's experience.

Looking ahead, all expectations are the 1990's decade will not be a repeat of the 1980's and it is outside of the scope of this analysis to provide an independent projection. The five county Growth Management Plan (GMP) adopted by SCAG includes a twenty-three year projection that provides for, on average, substantially reduced growth compared to the 1980's experience. Close examination of construction activity and employment growth over the 1987 to 1990 period compared to the GMP figures employed in the SCAG analysis as part of this contract, indicates that the GMP assumes approximately 40% to 50% less growth than occurred during the mid- to late 1980's.

In summary, the City of Los Angeles experienced slightly over 12 million sq.ft. of commercial and industrial construction in new buildings per year during the mid- to late 1980's period. At this level, each dollar of fee would raise \$12 million if applied equally to all building types. If SCAG's long-term future projections are the best guide to the 1990's, then we should expect a 40% to 50% reduction of the 12 million, or in the range of 6 to 7 million sq.ft. per year for each dollar of fees.

5. Policy Considerations in Allocating Some Total Nexus Costs Away from Charges to Commercial/Industrial Development

In addition to the impact on development, other policy bases can legitimately serve to allocate part of the total nexus cost away from charges to the commercial/industrial development community. These are considerations which may be utilized to reduce the overall fees to below the total nexus costs.

For example, the development community has urged that the relatively high cost of land is, in some part, attributable to City land use policies which limit densities in certain areas. Thus, it contended that the cost of low income housing which is in fact a portion of the fee calculation, is in part due to factors unrelated to commercial development and should not be attributed to it through a fee.

While this may be difficult to grapple with at the policy level, it is not difficult to address from a computational perspective. As discussed in Part A, one of the last steps in the nexus calculation is to take the number of lower income households brought to the region by a 100,000 sq.ft. commercial/industrial building of a given type and multiply the number of lower income households by the "Affordability Gap," that is, the cost of providing subsidized housing for those households. For example, in the case of office buildings, it is determined in Part A that a 100,000 sq.ft. building would on average bring in or cause to remain in Los Angeles a net of 41 employee households. That number of 41 households is then multiplied by an affordability gap of \$73,941 for very

low income, and \$48,660 to derive the total cost. That number is then divided by 100,000 sq.ft. to yield a per square foot total nexus number. Thus, the higher the cost of providing the low income unit, or the higher the "Affordability Gap," the higher the cost. The commercial development community contends one of the costs of this housing, that is, the high land cost, should not be attributable back to them.

This can be accomplished by either reducing or eliminating the land cost component of the affordability gap. For example, the land cost may be reduced by 50% or 100% to test the effects of such a policy consideration. If land cost is eliminated entirely, that is, reduced by 100%, a total nexus cost will generally fall by approximately a third. If land cost is reduced by less than 100%, the percentage reduction will be proportionately less. These reductions may be applied to findings at the end of Part A to determine the impact on total nexus costs at any desired reduction in the importance of land cost for the construction of affordable housing.

Similarly, the development community contends that the portion of the affordability gap attributable to other impact fees should not be included in the calculation. It is asserted that these fees are designed to mitigate the environmental, financial, or other impacts of such housing development, and should not be counted for purposes of raising the amount of a different impact fee. In other words, the development community urges that fees not be imposed on fees.

Again, this policy consideration may in fact be utilized to reduce the nexus cost attributable to new commercial/industrial space. If the fee package on housing were to be eliminated as part of the affordability gap, the nexus costs would be about 5%.

Although the amount is not precise, for purposes of this discussion, it is sufficient to say that these percentages are additive; if one were to eliminate both land costs and impact fees from the affordability gap, the overall reduction in percentage that may be applied could be in the range of 35%.

PART C - PRELIMINARY FEE STRUCTURE ALTERNATIVES

Following the review of factors or considerations for moving from the housing linkage costs to a fee structure for Los Angeles, we present three major approaches to fee structures to initiate the discussion. They are summarized very briefly below and discussed in greater detail following the outline of evaluation criteria. In all cases we recommend different fees for the major building types to reflect the differing employment and income distribution, or in other words the different nexus findings.

Alternative #1 - High fees, extensive exemptions, ceiling, applied throughout the City.

Model: the current Notice Ordinance.

Alternative #2 - Low fees; minimal exemptions; applied everywhere.

Model: City and County of Sacramento.

Alternative #3 - Fees varied by zone or geographic area.

Model: None.

Obviously there are opportunities for variations of the above and hybrids among two or more alternatives. They do, however, represent three distinct starting points.

1. Evaluation Criteria

Before discussing the advantages and disadvantages of the three alternatives, it is useful to establish the tests that a good fee program should meet. In our view, the fee program should meet the following minimum tests:

1. *Legally defensible* - the fee program should be based on the nexus rationale as a starting point.
2. *Fair and equitable impacts* - the fee program should not substantially impact one type of project or location more than others. Of particular concern are extraordinary negative impacts on development costs. Weak commercial areas and those that are in the process of upgrading should not be penalized by the fee program.
3. *Policy rather than politically based* - the fee structure should be based on legal, economic and policy findings.
4. *Readily administered* - the fee program should be capable of administration by Building and Safety in a straightforward, readily comprehensible manner. Personnel at the building permit counters should not be put into a position of negotiating or adjusting fees with applicants.

- Easily understood* - the fee program and its application should be capable of being easily understood by the development community and other affected by it.
- Generates substantial revenues or housing production* - the fee program should capitalize upon where the construction activity is occurring, as long as impacts are taken into account.
- Capable of being updated* - the fee program should be capable of periodic adjustment without a complex reanalysis.

The Task Force may wish to add other criteria or tests to the list.

The next sections describe the alternatives in greater detail and how each meets the above tests.

Alternative I - High Fee: Extensive Exemptions

The model for this alternative is the current Notice Ordinance which enacts a \$5 per square foot fee on all commercial construction, or a maximum of 3.5% of construction cost, whichever is lesser. The ordinance exempts all industrial construction, all buildings below 40,000 sq.ft. in size, all enterprise zones and most redevelopment areas. Timing of effect provisions also exclude most projects in the near term. The San Francisco program which imposes fees only on office buildings in the downtown is another model.

Legally defensible - probably sound.

Fair and equitable impacts - does not directly differentiate the strong locations within the City from the weaker ones except as relates to the construction cost of what is built. Does not address land costs which vary most from one location to the next and drive total development costs. While the most distressed areas of the city are exempt, the many "gray" or in-between areas are all treated equally.

Policy rather than politically based - since major exempted areas are necessitated by the magnitude of the fees, political pressures to add additional exempted areas are likely to occur.

Readily administered - meets this test unless exemption provisions are too extensive and/or too complicated.

Easily understood - meets this test unless exemption provisions are too extensive or too complicated.

Revenue generation - does not collect revenues from approximately 4 million sq.ft. of industrial construction. Revenue impact of other exemptions also probably extensive.

7. *Capable of being updated* - meets this test.

If the City is to continue pursuing this fee structure, we recommend alternative fee amounts for retail and hotel uses, and possibly adding fees for the industrial category. Fee ranges, in conjunction with the 3.5% ceiling, could be as follows:

Office	\$4.00 to \$6.00
Retail	\$2.50 to \$4.00
Hotel	\$3.50 to \$4.50
Warehouse and Mfg.	\$1.00 to \$2.00

Even with the 3.5% ceiling, the high fee levels will continue to make extensive areas of the City that have weak economic conditions overly impacted by the fees, and thus pressures to exempt large areas will always be a part of this program.

As noted previously, we suggest Research and Development be dropped as a discreet fee category due to the fact the City does not separately recognize it for either zoning or building permit purposes. The category has also proved problematic in some jurisdictions. Warehousing and manufacturing could be merged; it is evident from the permit activity that a great deal of space is processed as warehouse that is ultimately put to manufacturing use.

3. **Alternative II - Low Fee; Minimal Exemptions**

This fee structure represents a somewhat opposite approach from the Notice Ordinance. Following the Sacramento model, a modest fee is imposed on all commercial and industrial construction with few or no exemptions and exceptions. Fees levels could be reduced to, say a third of the above amounts, and the ceiling provision eliminated.

1. *Legally defensible* - meets the test.
2. *Fair and equitable* - does not impact all buildings equally for the same reasons stated in Alternative I. Less negative impacts on the "grey" in between areas due to the lower fee amount.
3. *Policy rather than politically based* - with few or no exemptions as a starting point, less opportunity for politically influenced adjustments.
4. *Readily administered* - best of all alternatives.
5. *Easily understood* - best of all alternatives.
6. *Revenue generation* - constrained by lower fee levels, but overall could generate higher revenues than #1, depending on extent of exemptions.

7. *Capable of being updated* - meets the test.

The greatest virtue of this fee structure is simplicity. It is easily understood by all and probably would not be viewed as highly unfair. The greatest weakness is the sacrifice of revenue.

4. **Alternative III - Fees Varied by Zone or Geographic Area**

This alternative would alter fee levels by geographic area within the City. The major thrust would be to adjust impacts to meet the prevailing conditions of the environs in which the building is being built. Like most large metropolitan cities in the United States, there are vast differences in economic health from one location within the City to another. Other cities with \$5 type fees have imposed them on downtown office buildings only, not on all areas of a city as large and diverse as Los Angeles.

Conceptually, the strategy is to develop an indexing system for each small geographic area within the City. The fee would be adjusted by the index to reflect local economic conditions. A number of questions immediately emerge. What is the appropriate geographic unit? What criteria are available for indexing fee levels by zone.

What geographic area or zone? A number of options were reviewed with the following conclusions:

- LMPA - too large and diverse for the purposes of impact assessment. For example the Valley, which is often viewed as a more homogenous area, has conditions which range from Warner Center, to Van Nuys, to Pacoima.
- Community Plan Areas - these 35 plan areas appear to be of workable size, are readily understood, and widely used.
- Center City Study Areas - these area identified by the Planning Department as potential high density areas have not all emerged as such. Other areas that are currently experiencing extreme development pressures were not identified as Center City Study Areas. Do not reflect actual conditions.
- Census Tracts - too small; in grappling with the next question of criteria, we believe these units are too small for developing sound criteria on economic conditions.

In summary, the Community Plan Areas are viewed as the most workable.

What Criteria or Measures of Economic Strength?

The need here is for a technical data base that yields findings for each geographic subarea that indicates relative economic strength or health. We believe that the data base being assembled by the City as part of the Census monitoring program has that

capability. This data base incorporates the County Assessors data base on land valuation, transactions, zoning, and a multitude of other factors. In addition, the City's building permit data base being compiled by Building and Safety has much information on construction activity. A pilot test program is being conducted by City's Community Analysis and Planning Division staff, under consultant guidance, to determine if an indexing of Community Plan Areas appears workable. Results will be presented to the Task Force as soon as they are available. We believe a fee program can be developed that meets all the tests and criteria outlined, but withhold judgment until the completion of the pilot program.

