Jobs-Housing Nexus Study

Prepared for:
City of San Diego

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August 2013

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INTRODUCTION

The following report summarizes an analysis of the impacts of non-residential development on the demand for affordable housing in the City of San Diego (City). The report has been prepared by Keyser Marston Associates, Inc. for the San Diego Housing Commission (SDHC), in order to assist the City in updating its housing impact fee program.

Background

The City of San Diego Housing Impact Fee Ordinance was established in 1990 to address the affordable housing demand created by non-residential development. Keyser Marston Associates, Inc. (KMA) performed the nexus analysis in support of the housing impact fees. In 1996, the fees were reduced by 50%. Subsequently the City and SDHC embarked on several efforts to update the nexus analysis and consider changes in the housing impact fees, as follows:

- In 2002, the City Council declared a "State of Emergency Due to Severe Shortage of Affordable Housing in San Diego." As part of the response to the housing shortage, the City commissioned KMA to conduct a fully updated nexus analysis. The nexus study was completed in December 2004 but was never formally presented to SDHC or the City.

- In 2008, KMA, at the request of SDHC, reviewed and partially updated the 2004 report. Like the 2004 report, the 2008 review was never formally presented.

- In September 2009, the City Council's Land Use and Housing Committee recommended that the impact fee program be reviewed and evaluated and in October 2009, the City Council approved the Committee's recommendation. As a result, KMA completed a new nexus analysis in October 2010. The KMA study, and SDHC's recommendation for increased fee levels, were presented to the City Council in July 2011. The Council did not adopt SDHC's proposal to increase fee levels.

- The present study was requested by SDHC in March 2013 and comprises a comprehensive update of KMA's 2010 study.

Purpose

The purpose of a nexus analysis is to document the linkages among construction of new workplace buildings (such as office, retail, hotel, etc.), the employees that work in them, and the demand for affordable housing. Since the jobs in all buildings cover a range of compensation levels, and the households a range of sizes, there is need for additional housing at all affordability levels. This analysis quantifies the housing need at each affordability level associated with each type of workplace building.

The analysis is conducted to meet the requirements of several U.S. Supreme Court decisions and also California Code Section 66000 and following. Such analyses are called linkage, or nexus, analyses.

Analysis Scope

This analysis examines the types of workplace buildings that are listed in the existing Housing Impact Fee ordinance as follows:

- Office
- Hotel and other lodging
- Retail/entertainment
- Research and Development/manufacturing/industrial
- Warehouse/storage

The following affordability levels are addressed in the analysis:

- Very Low Income (under 50% of Area Median Income, or AMI)
- Low Income (50% to 80% AMI)
- Moderate Income (80% to 120% AMI)

Report Organization

The report is organized into five sections as follows:

- Section I – presents a summary of the nexus concept and some of the key issues and underlying assumptions in the analyses linking jobs and housing demand.

- Section II – provides an overview of the historical and projected growth of jobs and housing in the City.

- Section III – presents an analysis of the jobs and housing relationships associated with individual prototype workplace buildings and concludes with a quantification of the number of households at each income level associated with each building type.

- Section IV – contains a summary of the costs of delivering housing units affordable to households at the income levels under study, allocated to each square foot of building area.

- Section V – provides materials to assist policy makers in evaluating alternative fee levels, including possible indices for increasing the level of the fee over time. The material in this section is not part of the nexus analysis.

- Appendix A – presents a summary matrix of key analysis assumptions and discussion of specific factors in relation to the nexus concept.

- Appendix B – contains supporting information related to worker occupations and incomes.

- Appendix C – contains supporting information related to the affordability gap calculations.

Data Sources and Qualifications

The analyses in this report have been prepared using the best and most recent data available. Local data were used whenever possible. The major sources were the U.S. Census Bureau's 2009-2011 American Community Survey, the U.S. Bureau of Labor Statistics, the California Employment Development Department, and San Diego Association of Governments (SANDAG). While we believe all sources utilized are sufficiently accurate for the purposes of the analyses, we cannot guarantee their accuracy. Keyser Marston Associates, Inc. (KMA) assumes no liability for information from these and other sources.

SECTION I – THE NEXUS CONCEPT AND MAJOR ISSUES

Introduction

This section outlines the nexus concept and some of the key issues surrounding the linking of new non-residential development to the demand for new residential units in the City of San Diego. The nexus analysis and discussion focus on the relationships among development, growth, employment, income of workers, and demand for affordable housing. The analysis yields a connection between new construction of the types of buildings in which there are workers and the need for additional affordable housing, a connection that is quantified both in terms of number of units and the amount of subsidy assistance needed to make the units affordable.

The Legal Basis and Context

The first housing linkage programs were adopted in the cities of San Francisco and Boston in the mid-1980s. To support the linkage, the City of San Francisco commissioned an analysis to show the relationships, or what might now be characterized as an early version of a nexus analysis. Since that time there have been several court cases and California statutes that affect what local jurisdictions must demonstrate when imposing impact fees on development projects. The most important U.S. Supreme Court cases are Nollan v. California Coastal Commission and Dolan v. City of Tigard (Oregon). The rulings on these cases, and others, help clarify what governments must find in the way of the nature of the relationship between the problem to be mitigated and the action contributing to the problem. Here, the problem is the lack of affordable housing and the action contributing to the problem is building workspaces that mean more jobs and worker households needing more affordable housing.

Following the Nollan decision in 1987, the California legislature enacted AB 1600 which requires local agencies proposing an impact fee on a development project to identify the purpose of the fee, the use of the fee, and to determine that there is a reasonable relationship between the fee's use and the development project on which the fee is imposed. The local agency must also demonstrate that there is a reasonable relationship between the fee amount and the cost of mitigating the problem that the fee addresses. Studies by local governments designed to fulfill the requirements of AB 1600 are often referred to as AB 1600 or "nexus" studies.

One court case that involved housing linkage fees was Commercial Builders of Northern California v. City of Sacramento. The commercial builders of Sacramento sued the City following the City's adoption of a housing linkage fee. Both the U.S. District Court and the Ninth Circuit Court of Appeals upheld the City of Sacramento and rejected the builders' petition. The U.S. Supreme Court denied a petition to hear the case, letting stand the lower court's opinion. The authors of this nexus study were the authors of the Sacramento study.

Since the Sacramento case in 1991 there have been several additional court rulings reaffirming and clarifying the ability of California cities to adopt impact fees. A notable case was the San Remo Hotel v. the City and County of San Francisco, which upheld the impact fee levied by the City and County on the conversion of residence hotels to tourist hotels and other uses. The court found that a suitable nexus, or deleterious impact, had been demonstrated. In 2009, in the Building Industry Association of Central California v. the City of Patterson, the Court invalidated the City's fee since the impact of the proposed project as related to the fee had not been demonstrated. The most recent ruling was in 2010 when the court upheld most of the impact fees levied by the City of Lemoore in Southern California. Of note relevant to housing impact fees was the judges' opinion that a "fee" may be "established for a broad class of projects by legislation of general applicability….the fact that specific construction plans are not in place does not render the fee unreasonable." In other words, cities do not have to identify specific affordable housing projects to be constructed at the time of adoption.

In summary, the case law at this time appears to be fully supportive of jobs/housing impact fees such as the impact fee that has been in place in the City of San Diego since 1990 and is the subject of this nexus analysis.

The Nexus Methodology

An overview of the basic nexus concept and methodology is helpful to understanding the discussion and concepts presented in this section. This overview consists of a quick "walk through" of the major steps of the analysis. The nexus analysis links new commercial buildings (or other workplaces) with new workers in the City; these workers demand additional housing in proximity to the jobs, a portion of which needs to be affordable to the workers in lower and middle income households.

The methodology utilized in this analysis is a "micro" analysis that examines individual buildings. The micro nexus readily lends itself to quantification that serves as a basis for quantifying the nexus cost, or basis for the fee amount, for each building type.

To illustrate the micro nexus, very simply, we can walk through the major calculations of a building. We begin by assuming a prototypical building of some specific size and then make calculations as follows:

- We estimate the total number of employees working in the building based on average employment density experience.

- We use occupation and income information for typical job types in the building to calculate how many of those jobs pay compensation at the levels addressed in the analysis. Compensation data is from the California Employment Development Department (EDD) and is specific to San Diego County as of 2012. Worker occupations by building type are derived from the 2012 Occupational Employment Survey by the U.S. Bureau of Labor Statistics.

- We know from the Census that most employees are members of households where more than one person is employed and the number of workers by household size; we use factors derived from the Census to translate number of workers into households of various size represented in each income category.

- Then, we calculate how many of the Very Low-, Low-, and Moderate-Income households are associated with the building and divide by the building size to arrive at coefficients of housing units per square foot of building area.

- In the last step, we multiply the number of lower income households per square foot by the costs of delivering housing units affordable to these income groups.

The factors and relationships utilized in the analysis reflect long-term average conditions. Short-term conditions, such as a recession or a vigorous boom period, are not an appropriate basis for estimating impacts over the life of the building.

The Relationship between Job Growth and Population Growth

A major social issue driving this analysis is growth in lower and middle income households. New population growth in most U.S. regions occurs primarily as a result of job growth. Over the long term, the vast majority of growth in the State of California and its sub-regions is job-driven. Many people coming to the region would not come if they could not expect to find a job. People born in the local area would not stay without jobs. This is the long-term pattern. In the short-term, economic cycles and other factors can result in population growth without jobs to support the growth. If an economic region in the U.S. does not maintain job growth, there is an out-migration to regions where job growth is occurring. Many cities in the Midwest during the 1970s and 1980s are examples of this outmigration, and some U.S. cities continued to lose population in more recent decades.

Not all population growth in San Diego is the result of new jobs in the region. Retirees, students, and others who are not part of the work force all generate demand for housing. However, non-working households are not included in the analysis since the purpose is to demonstrate the linkage between new buildings, new workers, and demand for housing. Since only working households are part of this equation, the demand for housing generated by non-working households is excluded.

The Relationship between Construction and Job Growth

Employment growth does not have one cause. Many factors underlie the reasons for growth in employment in a given region; these factors are complex, interrelated, and often associated with forces at the national and international levels. One of the factors is the delivery of new workplace buildings. The nexus argument does not make the case that the construction of new buildings is solely responsible for growth. However, new construction is uniquely important, first, as one of a number of parallel factors contributing to growth, and second, as a unique and essential condition precedent to growth.

As to the first, construction itself encourages growth. When the State economy is growing, the most rapidly growing areas in the State are those where new construction is vigorous as a vital industry. In regions such as San Diego where multiple forces of growth exist, the political and regulatory environment join forces with the development industry to attract growth by providing new work spaces, particularly those of a speculative nature. The development industry frequently serves as a proactive force inducing growth to occur or be attracted to specific geographic areas or locations.

Second, workplace buildings bear a special relationship to growth, different from other parallel causes, in that buildings are a *condition precedent* to growth. Job growth does not occur in modern service economies without buildings to house new workers. Unlike other factors that are responsible for growth, buildings play the additional unique role that growth cannot occur without them for a sustained period of time. Conversely, it is well established that the inability to construct new workplace buildings will constrain or even halt job growth.

Addressing the Housing Needs of a New Population vs. the Existing Population

The Housing Element of the City of San Diego and SDHC have clearly documented that the housing needs of the existing lower and middle income households are not being met. This existing housing shortage, especially at the lowest income levels, is manifested in numerous ways such as payment of far more than 30% of income for rent as set forth in Federal and State guidelines, overcrowding, and other factors that are extensively documented by the Census and other reports.

This nexus study does not address the housing needs of the existing population. Rather, the study focuses exclusively on documenting and quantifying the housing needs of new households where an employee works in a new workplace building.

Local analyses of housing conditions have found that new housing affordable to lower and moderate income households is not being added to the supply in sufficient quantity to meet the needs of new employee households. If this were not the case, and significant numbers of units were being added to

the supply to accommodate the low to moderate income groups, or if residential units in the City were experiencing significant long-term vacancy levels, particularly in affordable units, then the need for new units would be questionable.

Substitution Factor

Any given new building in the City of San Diego may be occupied partly, or even perhaps totally, by employees relocating from elsewhere in the City. Buildings are often leased entirely to firms relocating from other buildings in the same jurisdiction. However, when a firm relocates to a new building from elsewhere in the region, there is a space in an existing building that is vacated and occupied by another firm. That building in turn may be filled by some combination of newcomers to the area and existing workers. Somewhere in the chain there are jobs new to the region. The net effect is that new buildings accommodate new employees, although not necessarily inside of the new buildings themselves.

Indirect Employment and Multiplier Effects

The multiplier effect refers to the concept that the income generated by a new job recycles through the economy and results in additional jobs. The total number of jobs generated is broken down into three categories – direct, indirect, and induced. In the case of the nexus analysis, the direct jobs are those located in the new workplace buildings that would be subject to the linkage fee. Multiplier effects encompass indirect and induced employment. Indirect jobs are generated by suppliers to the businesses located in the new workplace buildings. Finally, induced jobs are generated by local spending on goods and services by employees.

Multiplier effects vary by industry. Industries that draw heavily on a network of local suppliers tend to generate larger multiplier effects. Industries that are labor-intensive also tend to have larger multiplier effects as a result of the induced effects of employee spending.

Theoretically, a jobs/housing nexus analysis could consider multiplier effects although the potential for double-counting exists to the extent that indirect and induced jobs are added in other new buildings in the City of San Diego subject to the linkage fee. KMA chooses to omit the multiplier effects (the indirect and induced employment impacts) to avoid potential double-counting and make the analysis more conservative.

In addition, the nexus analysis addresses direct "inside" employment only. In the case of an 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 many others that are associated with the normal functioning of an office building. In other words, any analysis that ties lower income housing to the number of workers inside buildings will continue to understate the demand.

Thus, confining the analysis to the direct employees does not address all the low to moderate income workers associated with each type of building and understates the impacts.

Changes in Labor Force Participation

In the 1960s through the 1980s, there were significant increases in labor force participation, primarily among women. As a result, some of the new workers were re-entering the labor force and already had local housing, thus reducing demand for housing associated with job growth. In earlier nexus analyses, KMA would adjust the analysis to account for this. However, increases in participation rates by women have stabilized and even declined slightly, and labor force participation rates for men have been on a downward trajectory since 1970. As such, an adjustment for increase in labor force participation is no longer warranted in a nexus analysis.

Economic Cycles

An impact analysis of this nature is intended to support a one-time impact requirement to address impacts generated over the life of a project (generally 40 years or more). Short-term conditions, such as a recession or a vigorous boom period, are not an appropriate basis for estimating impacts over the life of the building. These cycles can produce impacts that are higher or lower on a temporary basis.

Development of new workspace buildings tends to be minimal during a recession and generally remains minimal until conditions improve or there is confidence that improved conditions are imminent. When this occurs, the improved economic condition will absorb existing vacant space and underutilized capacity of existing workers, employed and unemployed. By the time new buildings become occupied, current conditions will have likely improved.

To the limited extent that new workspace buildings are built during a recession, housing impacts from these new buildings may not be fully experienced immediately, though, the impacts will be experienced at some point. New buildings delivered during a recession can sometimes sit vacant for a period after completion. Even if new buildings are immediately occupied, overall absorption of space can still be zero or negative if other buildings are vacated in the process. Jobs added may also be filled in part by unemployed or underemployed workers who are already housed locally. As the economy recovers, firms will begin to expand and hire again filling unoccupied space as unemployment is reduced. New space delivered during the recession still adds to the total supply of employment space in the region. Though the jobs are not realized immediately, as the economy recovers and vacant space is filled, this new employment space absorbs or accommodates job growth. Although there may be a delay in time, the fundamental relationship between new buildings, added jobs, and housing needs remains over the long term.

In contrast, during a vigorous economic boom period, conditions exist in which elevated impacts are experienced on a temporary basis. As an example, compression of employment densities can occur as firms add employees while making do with existing space. Compressed employment densities mean more jobs added for a given amount of building area. Boom periods also tend to go hand-in-hand with rising development costs and increasing home prices. These factors can bring market rate housing out of reach from a larger percentage of the workforce and increase the cost of delivering affordable units.

Discount for Changing Industries / Long-Term Declines in Employment

While short-term declines in employment related to economic cycles do not warrant an adjustment in the nexus analysis for the reasons described above, long-term or structural declines in specific industry sectors do warrant an adjustment.

It is general practice to examine major sectors of the local economy and determine if there are long-term trends in employment suggesting either decline or restructuring. In the case of long-term decline of one or more industries or sectors, it is appropriate to recognize that all new jobs may not be net new jobs. On the other hand, as discussed above, short-term temporary declines in employment do not warrant an adjustment. In San Francisco, by way of example, there was major long-term economic decline in the industrial land use activity sectors, as evidenced by the decline of the Port and its related activities. During the 1980s in that city, for every job gained in an office building, there was more than half a job lost in the industrial sector. Short-term upheavals such as the closing of a military base or single large manufacturing plant may also warrant an adjustment in the analysis.

San Diego's economy, like that of the U.S. as a whole, is constantly evolving. In recent years, the region's economy has become more diverse and less reliant upon military and defense industries. A few industry sectors in San Diego have experienced long-term declines in employment, as shown in Table I-1. Industry sectors experiencing long-term declines in employment include aerospace, computer and electronics manufacturing, banking, and durable goods manufacturing, among others. These are jobs that, once lost, never return and so the workers are forced to find employment in other industries. Declining industries may occupy special purpose space not readily re-occupied by other types of industries or tenants and therefore be taken out of the supply. Over time, displaced workers will presumably find new work locally and thus some of the employment in new buildings would be for workers who would not be new to the City or County and who already have housing. Based on the data in Table I-1, a 16% downward adjustment to the findings of the analysis is made to account for permanent job losses and downsizing in declining industries. The 16% adjustment factor is the equivalent of saying about one of every six jobs added is filled by a worker that has been downsized from a declining industry and already lives locally. This is likely conservative given it derived from declines in employment between 1990, when the unemployment rate was 4.6%, and 2012 with an

unemployment rate of 8.9%. Some of the decline in employment between the two periods could be the result of cyclical conditions and a higher unemployment rate in 2012. Never-the-less, the analysis conservatively assumes the entire decrease in employment is the result of a permanent structural change.

Other City of San Diego Affordable Housing Programs

The City of San Diego is committed to creating new opportunities for affordable housing as well as preserving the existing affordable housing stock.

SDHC was established by the City as a public agency dedicated to preserving and increasing affordable housing within the City of San Diego. Since 1981, SDHC has contributed more than nearly $1.3 billion in loans and bond financing to projects that produced 14,500 affordable units. The City has a comprehensive and multi-faceted program that tackles the affordable housing shortage from many approaches. The Housing Impact Fee program is but one of many financial resources that the City uses to increase the supply of affordable housing in San Diego.

TABLE I-1

SAN DIEGO COUNTY INDUSTRIES EXPERIENCING LONG-TERM DECLINES IN EMPLOYMENT
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

INDUSTRIES WITH LONG-TERM DECLINES IN EMPLOYMENT / SAN DIEGO COUNTY	1990 TOTAL EMPLOYMENT	2012 [2] TOTAL EMPLOYMENT	CHANGE SINCE 1990 Total	Percent
Unemployment Rate in San Diego County (1)	4.6%	8.9%		
Industries With Declining Long-Term Employment				
Aerospace Product & Parts Manufacturing	22,900	6,800	(16,100)	-70.3%
Computer & Electronic Product Manufacturing	32,400	24,700	(7,700)	-23.8%
Credit Intermediation & Related Activities (banking)	27,100	19,500	(7,600)	-28.0%
Manufacturing - Durable Goods - other	68,100	61,900	(6,200)	-9.1%
Building Finishing Contractors	12,800	9,900	(2,900)	-22.7%
Heavy & Civil Engineering Construction	7,800	5,900	(1,900)	-24.4%
Building Foundation & Exterior Contractors	8,700	6,800	(1,900)	-21.8%
Warehousing & Storage	3,200	1,600	(1,600)	-50.0%
US Department of Defense	23,700	22,100	(1,600)	-6.8%
Other Specialty Trade Contractors	6,200	4,900	(1,300)	-21.0%
Ship & Boat Building	7,300	6,100	(1,200)	-16.4%
Construction of Buildings	13,800	12,700	(1,100)	-8.0%
Federal Government excluding Defense	25,500	24,600	(900)	-3.5%
Mining and Logging	600	400	(200)	-33.3%
Publishing Industries (except Internet)	7,900	7,700	(200)	-2.5%
Manufacturing - Nondurable Goods	22,900	22,800	(100)	-0.4%
INDUSTRIES WITH DECLINING EMPLOYMENT	290,900	238,400	(52,500)	-18.0%
GROWING and STABLE INDUSTRIES	686,500	1,020,400	333,900	48.6%
TOTAL EMPLOYMENT IN SAN DIEGO COUNTY	977,400	1,258,800	281,400	28.8%
Decline in Employment in Declining Industries			(52,500)	
Growth in Employment in Growing / Stable Industries			333,900	
Jobs in growth industries filled by workers from declining industries			-15.7%	
Adjustment to analysis results: For every new job, the percent filled by employees from declining industries		round to	-16%	

(1) As of March of each year.

(2) Conservative approach for evaluating declining industries given higher unemployment rate in 2012 to 1990. Higher unemployment rate in 2012 compared to 1990 will tend to over-state the long term or structural declines in certain industries. A portion of the indicated decline is likely explained by cyclical market conditions in 2012 as compared to 1990.

Source: California Employment Development Department.

SECTION II – MACRO ECONOMIC JOBS/HOUSING ANALYSIS

This section examines the relationships in San Diego that underlie the jobs/housing linkage. In particular, the history of employment growth, housing production, and affordable housing production are reviewed. The history of housing production, particularly affordable housing production, compared with the demand generated by new workers is also examined.

In addition to historical data, this section contains a projection of jobs and dwelling units, as indicated by local and Statewide planning agencies, such as SANDAG. It must be emphasized, however, that the nexus relationships as established in this analysis are not contingent upon a specific projected level of employment growth being realized. The relationships linking employment and affordable housing are critical to the nexus, but the specific projected levels of growth are not. If employment growth occurs more slowly than projected, construction and housing demand will also be less than projected. In addition, in this analysis, linkages are established on a per-square-foot basis (Section III).

Employment History and Trends

SANDAG regularly publishes a regional employment inventory, including projections and other related data. According to SANDAG, "the purpose of the Demographic and Economic Forecasting Model is to forecast annually the size and structure of the region's economy and to produce a demographic forecast consistent with that future economy."[1] SANDAG is the most widely used data source by local planning agencies in the San Diego area. To capture the full range of business cycles, the time period between 1990 and 2008 is examined (2008 is used by SANDAG as a benchmark year in their most current projections as of this writing). According to SANDAG, employment growth in the City of San Diego between 1990 and 2008 registered a net increase of 147,800 total jobs, or an increase of 22%.

Year	Jobs in San Diego
1990[2]	673,722
2008[3]	821,521
Growth	147,799

Characteristics of San Diego Employees and Their Households

This section examines several key characteristics of San Diego employees and their households, particularly those that are relevant to the jobs/affordable housing linkage. These characteristics include:

[1] 2050 Regional Growth Forecast Process and Model Documentation, June 2010.
[2] SANDAG Regional Employment Inventory. 1994.
[3] SANDAG Cities/County Forecast 2050.

- The number of workers per worker household on average;
- Income characteristics; and
- Commute patterns.

Each of these factors impacts how many new workers in San Diego buildings will seek housing within the City. These characteristics become key inputs in the micro economic analysis of the linkage between workplace buildings and affordable housing demand.

Workers per Worker Household

The workers per household characteristic provides the link between the number of employees and the number of households associated with the employees, recognizing that most households today have more than one worker. The number of workers per household in a given geographic area is a function of household size, labor force participation rate, and employment availability, as well as other factors.

Historically, the national labor force participation rate rose steadily for three decades since the early 1960s as more and more women entered the labor force. The rate appears to have leveled off in the 1990s. Nexus studies prepared in the late 1980s and early 1990s often made an adjustment for increases in labor force participation to recognize that some employment growth already was living locally and had housing. As noted earlier, we no longer make such an adjustment.

For the nexus analysis, the characteristic of most direct interest is the number of workers per worker household. Worker households are defined as those households with one or more persons with work related income, including the self-employed, as reported in the 2009-2011 American Community Survey (ACS). In other words, worker households are distinguished from total households in that the universe of worker households does not include elderly or other households in which members are retired or do not work for other reasons. Student households and unemployed households on public assistance are also excluded from worker households.

According to the 2009-2011 ACS, the number of workers per worker household in the County of San Diego was 1.72. Since workers in the City of San Diego live all over San Diego County, the County average is used in the analysis.

Wages and Salaries of San Diego Workers and Household Income

The average wage or salary of San Diego workers and the income of households formed by the 1.72 workers determines the household's ability to afford housing. The California Employment Development Department reports information on average wages and salaries paid to San Diego County workers, by occupation type.

A summary of the occupations associated with each building was developed from the 2012 National Industry-Specific Occupational Employment Estimates, produced by the Bureau of Labor Statistics, which cross-references occupations by industry. Appendix B Tables 1, 3, 5, 7, and 9 present summaries for each building type.

The following is a summary table of the average salary levels for the three major occupation groups by building type. A detailed summary of wages and salaries for occupations in each building type is provided in Appendix B Tables 2, 4, 6, 8, and 10. The percentages refer to the share of employment within the building in the occupation group.

San Diego County Wages by Building Type

Building Type	Major Occupation Group	% of Employment in Building	Average Annual Income
Office	Office and administrative support occupations	27%	$37,600
	Business and financial operations occupations	11%	$73,600
	Computer and mathematical occupations	8%	$83,900
Hotel	Building and grounds cleaning and maintenance occupations	29%	$23,200
	Food preparation and serving related occupations	25%	$22,000
	Office and administrative support occupations	19%	$30,300
Retail	Food preparation and serving related occupations	33%	$22,100
	Sales and related occupations	32%	$28,800
	Office and administrative support occupations	11%	$32,700
Manufacturing	Production occupations	32%	$36,700
	Architecture and engineering occupations	12%	$87,900
	Office and administrative support occupations	10%	$39,000

Building Type	Major Occupation Group	% of Employment in Building	Average Annual Income
Warehouse	Transportation and material moving occupations	27%	$31,600
	Office and administrative support occupations	23%	$34,800
	Sales and related occupations	21%	$61,900

Source: California Employment Development Department, 2012 Occupational Employment Statistics Survey, Wages 1st Quarter 2012.

The occupations with the lowest compensation levels are in the retail and hotel industries, which are the industries associated with San Diego's important tourism sector.

Household Income

When workers in these occupations form households, their income, either alone or in combination with other workers, produce the household income. In addition, of course, there may be children and/or other household members who are not employed. The annual Median Income of a four-person household in San Diego County for the year 2013, as published by HCD, is $75,900. This analysis focuses on three classifications of household income:

- Very Low Income – up to 50% of Median Income
- Low Income – 50% to 80% of Median Income
- Moderate Income – 80% to 120% of Median Income

The upper limit of income classifications for two, three, and four person households in San Diego County for 2013 appear in the table below. These income levels are the levels set and utilized by HCD for most housing programs.

Two Person Household	
Very Low Income	$33,050
Low Income	$52,900
Median Income	$60,700
Three Person Household	
Very Low Income	$37,150
Low Income	$59,500
Median Income	$68,300
Four Person Household	
Very Low Income	$41,300
Low Income	$66,100
Median Income	$75,900

Source: California Department of Housing and Community Development.

Commute Relationships and Trends

This section provides a brief summary of existing commute relationships and the adjustment reflected in the analysis to reduce housing demand to a local or City of San Diego share using existing commute patterns as benchmark. This adjustment to a local share is not technically required for nexus purposes as the analysis could consider all housing demand irrespective of jurisdictional boundaries. Application of a commute factor is one of several conservative assumptions incorporated into the analysis.

The primary source of information regarding commute relationships is the American Community Survey (ACS), published by the U.S. Census Bureau. Working with only ACS data, the share of jobs in San Diego held by San Diego residents is computed at 60.4%. In San Diego, however, the Census Bureau's data does not provide a complete picture because it only covers jobs held by residents of the U.S. San Diego's city limits extend to the U.S.–Mexico border and SANDAG has documented significant cross-border commuting. SANDAG's September 2011 Cross-Border Travel Behavior Survey indicates approximately 26% of crossings into San Diego County are for trips to work.

Since relying exclusively on U.S. Census data could distort the share of San Diego's work force that resides within the City, KMA estimated the number of jobs in San Diego held by residents of Mexico. Estimates are based on combining data on border crossings from the U.S. Department of Transportation (USDOT) with SANDAG's September 2011 Cross-Border Travel Behavior Survey. Using these sources, it was estimated that approximately 24,200 jobs in San Diego are held by residents of Mexico commuting over the border daily for work (see Appendix B Table 11). This figure was used to adjust the ACS data

which, given it is derived from a survey of U.S. residents, does not account for workers who reside in Mexico. The result is a modified share of jobs in San Diego held by San Diego residents of 58.6% which has been applied in the analysis.

It is important to recognize that the commute share does not necessarily represent the demand for housing in San Diego. Taken to the extreme, one can hypothesize a city with very few workers living in it because there is very little housing or because few can afford to live there.

It should also be noted that even if housing were available and affordable, it is unlikely that 100% of people would live and work in the same city. The choice of where one lives depends on additional factors (schools, style of housing, types of amenities, and local services, etc.) as well as where one works.

As stated at the outset of this section, the commute share can be a policy choice or target. The existing condition is merely a starting point for the analysis and serves as useful benchmark for reducing total demand to a local share.

As to long-term trends, in San Diego as in most metropolitan regions, the share of jobs held by local residents has been declining for decades. As land is more available and affordable in outlying jurisdictions, the share of workers who reside outside the City is continually increasing, resulting in more commuting.

Housing

This section provides a brief summary of selected characteristics of the housing market that affect the ability of worker families to find housing in San Diego. This section also examines growth in housing units in San Diego to meet the demand of new worker households.

Housing Production

SANDAG and California Department of Finance data indicate that from 1990 through 2012, over 90,000 new housing units were constructed in the City of San Diego. As shown in Table II-1, annual building activity greatly varied over the two-plus decades. The high year was 1990, when almost 7,000 new units were added, and the low year was 2010, when only 645 new units were added. Construction activity was very strong during the decade from 1998 to 2008. On average, 3,935 units were constructed annually over the 23-year period.

As noted earlier, during 1990-2008, SANDAG estimates that 147,799 new jobs were created in San Diego. Also discussed earlier, there are approximately 1.72 workers per worker household, meaning that 147,799 new jobs can be equated to 85,930 households demanding housing somewhere within commuting distance to a job in San Diego.

It is important to note that housing demand generated by new employment is not equivalent to total housing demand. Each community experiences demand for its housing by people who work in other jurisdictions as well. In addition, there is a share of total demand attributable to non-working households. Every time the worker(s) in a household leaves the labor market, such as upon retirement, if the household remains in the same housing unit, the unit is removed from the pool of units for working households, thus resulting in demand for a new unit even though there is no employment growth.

To estimate the increase in housing demand generated by new retirees in the City, KMA relied on U.S. Census and SANDAG data to calculate the increase in the population between age 65 and 85 between 1990 and 2008. KMA excluded households over 85, recognizing that a significant portion of this population will require other housing solutions, such as nursing care, living with adult children, etc. KMA adjusted this population growth to estimate the number of newly retired households in San Diego, using U.S. Census data on employment rates and average household size, as shown in Table II-2. In total, KMA estimates that over the time period there were over 8,000 new non-working households between the ages of 65 and 85 in San Diego, thus increasing the total demand for new housing by that amount.

In total, KMA estimates that 85,930 new worker households and 8,345 new retirees created a demand for 94,274 new housing units between 1990 and 2008. During that same time period, San Diego added 79,595 net new housing units (Table II-1). Therefore, we can say that of the total new units in demand, the City production was sufficient to accommodate a significant portion of new housing demand (without consideration of affordability). Other ways of expressing the relationship are indicated below.

1990 through 2007	
Increase in Jobs	147,799
Increase in Worker Households (New Units in Demand) @ 1.72	85,930
Increase in Non-Working Households over age 65	8,345
Total New Housing Demand	94,274
Residential Construction in San Diego (from Table II-1)	79,595
Relationship of New Housing Units to New Worker Households	0.84:1
Deficit for 1:1 Ratio	(14,679)

The households not accommodated in the City of San Diego presumably found housing elsewhere in the region within commuting distance.

Housing Production by Affordability Level

KMA estimated the level of affordable housing production for the period from 1999 to 2012 to develop a sense of whether production has kept pace with demand. In the 2004 Housing Impact Fee Nexus Analysis, KMA assembled data on affordable housing production for the period between 1999 and 2004. The data source was a City Manager's Report on the City's Comprehensive Affordable Housing Strategy dated July 31, 2002 that discussed historical production and estimated future production based on projects in the pipeline.

The City's Annual Housing Element Progress Report provides information on affordable units permitted in the past eight years, between 2005 through 2012. Combining these two data sources allows us to estimate roughly the level of affordable housing production over a 14-year period. Between 1999 and 2012, there were about 6,177 affordable units constructed or permitted for construction, not including market-rate units that might be affordable. This represents approximately 11% of new dwelling units constructed, with the remaining new dwelling units available at market rates. See Table II-1 for more information. Not all of the affordable housing constructed or permitted during this time is likely to be available to new worker households, as some of it may be restricted to senior households, or other (typically) non-working populations.

The above analysis and discussion demonstrates that despite the notable accomplishments of the City of San Diego in the production of affordable housing, affordable units represent a small percentage of total units produced.

Future Projections

The jobs/housing nexus relationship in support of requiring new workspaces to contribute to new housing is based on best estimates of future trends and relationships in San Diego. In this context, projections of jobs, new workers households, and new housing units are provided in this section. The methodology for calculating the impact of specific building types does not, however, rely on any specific set of projections for employment and housing growth. (See Section III.)

Employment Projections

SANDAG provides projections of employment for the entire San Diego region. The most recent available is the 2050 Regional Forecast, published in 2010. For the purposes of this analysis, KMA examined the changes between the 2008 benchmark year and 2030, to match approximately the historical time frame examined earlier. Employment projections for San Diego are estimated as follows:

Year	Total Jobs
2008	821,521
2030[4]	928,178
Total Increase	106,657

The SANDAG projection for the 2008 to 2030 time period envisions the City adding an average of about 4,800 jobs per year over the 22-year period. See Table II-3 for more information. At 1.72 workers per worker household, these new jobs would generate approximately 62,010 new worker households (106,657 jobs divided by 1.72) that need housing in the San Diego region.

The SANDAG projections for residential construction in San Diego indicate 121,039 new units will be added. As discussed earlier, this housing would accommodate all households, not just worker households. Looking at demographic projections provided by SANDAG, it is clear that the City of San Diego expects significant increases in the number of non-working households over the forecasted timeframe. KMA estimated the increase in housing demand generated by new retirees in the City, and found it to be a significant source of future housing demand.

SANDAG anticipates that, with the aging of baby boomers, the number of San Diegans between the ages of 65 and 85 will more than double between 2008 and 2030, from 121,000 to almost 267,000. KMA excluded households over 85, recognizing that a significant portion of this population will require other housing solutions such as assisted living, nursing care, living with adult children, etc. Projected population growth between ages of 65 and 85 was used to estimate the number of newly retired households in San Diego, using U.S. Census data on labor force participation rates and household size for this age group. In total, KMA estimates that there will be about 66,890 new non-working households over age 65 in San Diego, thus increasing the total demand for new housing by that amount. See Table II-3.

In total, KMA estimates that 62,010 new worker households and 66,890 new retiree households will create a demand for 128,900 new housing units. Since SANDAG projects that 121,000 net new units will be built over the period, we can say that of the total new units in demand, the City production will fall short of accommodating new housing demand generated by new worker households and new retirees (without consideration of affordability) by about 7,900 units.

[4] SANDAG Cities/County Forecast 2050.

Affordability

Finally, the ratio of total new units and new worker households and related discussion does not take into account the matter of affordability. Based on the findings of this nexus analysis -- between 55% and 94% of new worker households will have incomes of 120% of Median Income or less (depending on the building type) -- the number of affordable units needed will far exceed affordable unit production under any likely scenario. During the 14 years reviewed, approximately 6,177 affordable units, or roughly 11% of total units, were constructed. Even if this rate of affordable unit production were maintained, the supply of affordable housing to the new work force would be far from adequate to meet new demand. A commercial linkage fee program would provide additional resources to improve affordable unit production for new worker households.

Homeless Individuals as Participants in the Labor Force

Homelessness is a serious and persistent problem in San Diego County. According to the Regional Task Force on the Homeless (RTFH), the January 2013 "point-in-time" count identified 9,028 homeless individuals throughout the County. More than half of this total, or 4,574 individuals, were unsheltered at the time of the survey. SDHC is actively engaged with other public, private, and non-profit organizations in a concerted effort to end homelessness through development of new housing options and wraparound supportive services.

While specific data on employment among homeless individuals in San Diego County are not readily available, both government and private sector studies confirm that a small proportion of homeless people are in fact employed. Review of these regional, state, and national studies offers the following highlights regarding this issue:

- An October 2010 Homeless Employment Report by Sacramento Steps Forward included a survey of homeless people which determined that 12% of the surveyed homeless respondents were employed at the time. (*2010 Homeless Employment Report: Findings & Recommendations*, by Bob Erlenbusch, Shannon Stevens, Kate Towson, and Michele Watts, October 2010)

- In December 1999, The Urban Institute prepared a report entitled "Homelessness: Programs and the People They Serve" for the Interagency Council on the Homeless. The report included a national survey of homeless assistance providers and clients. The survey found that 44% of homeless clients reported "any paid work in the past month". Of those reporting work, 20% -- or just under 9% of the total surveyed homeless clients -- indicated that the employment took the form of a job expected to last at least three months. (*Homelessness: Programs and the People They Serve; Findings of the National Survey of Homeless Assistance Providers and Clients*, prepared for Interagency Council on the Homeless by The Urban Institute, December 1999)

- Finally, the California Workforce Investment Board found that 1.3% of dislocated workers in California who were participating in Workforce Investment Act (WIA) programs in 2010 were homeless. (*Results Achieved Under the Workforce Investment Act [WIA] for Program Year 2010-2011*, California Workforce Investment Board Annual Report)

The table below identifies the proportion of worker households for each non-residential building type that fall into the Extremely Low-Income tier (under 30% of Median Income). The detailed methodology used in formulating these estimates is presented in Section III, pages 30 to 32 of this report. As shown below, it is estimated that 18% of hotel and retail worker households fall into the Extremely Low-Income tier. The actual proportion may be higher – the State Employment Development Department (EDD) data utilized in the analysis annualizes all worker incomes based upon the assumption that they have full-time employment (anecdotally we know part-time work to be prevalent especially in the retail sector). Other land use categories also have a small percentage of worker households that fall into the Extremely Low-Income tier. Given the survey information suggesting homeless individuals do participate in the labor force, it follows then that a small portion of jobs added by new workspace buildings are likely to be held by homeless individuals, particularly with jobs near the lower end of the pay scale.

Percent of Worker Households					
	Office	**Hotel**	**Retail**	**R&D/Manufacturing/ Industrial**	**Warehouse/ Storage**
Extremely Low Income	2.8%	18.3%	18.0%	2.7%	5.1%

TABLE II-1

AFFORDABLE UNIT PRODUCTION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

NET INCREASE IN HOUSING UNITS 1990-2012[1]

Year	Total
1990	6,921
1991	4,860
1992	4,570
1993	3,213
1994	2,912
1995	2,233
1996	2,394
1997	3,362
1998	5,646
1999	4,904
2000	2,526
2001	4,107
2002	6,265
2003	4,930
2004	6,448
2005	5,860
2006	3,776
2007	4,668
2008	5,710
2009	1,291
2010	645
2011	1,165
2012	2,096
Total: 1990 - 2012	**90,502**
Annual Avg: 1990 - 2012	**3,935**
Total: 1990 - 2007	**79,595**
Total: 1999 - 2012	**54,391**
Annual Avg: 1999 - 2012	**3,885**

TOTAL UNITS BY AFFORDABILITY LEVEL, 1999-2012[2]

Affordability Level	Total Affordable	
	Units	% Share
Very Low: < 50% Median Income	3,263	53%
Low: 50 - 80% Median Income	2,470	40%
Moderate: 80 - 120% Median Income	444	7%
Total Affordable Units	**6,177**	**100%**
Annual Average	**441**	

Affordable Units as Share of Average Housing Unit Production Rate[3]	**11%**

[1] Source: California Department of Finance.

[2] Affordable unit count is based on two sources: 1999-2004 data represents completed and pipeline units included in the Manager's report dated July 31, 2002 regarding the status of the City's Comprehensive Affordable Housing Strategy. 2005-2012 data is based on permitted units included in the Annual Housing Element Progress Report.

[3] Based on annual average affordable units 1999 through 2012 and annual average net increase in housing units 1999 through 2012.

TABLE II-2

HISTORICAL RELATIONSHIP: EMPLOYMENT GROWTH, RESIDENTIAL UNIT DEMAND
JOBS HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Housing Demand Generated by Working Households			
Job Growth - per SANDAG [1]			
1990 Jobs		673,722	
2008 Jobs		821,521	2008 is SANDAG benchmark year
Net Jobs Added 1990-2007	22%	147,799	jobs
Worker Households @ 1.72		85,930	worker households
Housing Demand Generated by Retiring Workers			
Population Aged 65 - 85:	1990[2,3]	103,292	
Population Aged 65 - 85:	2008[1,3]	121,396	
Increase		18,104	
Not in Labor Force[4,6]	85.20%	15,425	
New Households Not in Labor Force, age 65 and older @[5,6]	1.85	8,345	retired households
Total Housing Demand		**94,274**	
Housing Units Added[7]			
New Units 1990 - 2007		79,595	housing units
Deficit for 1:1 Ratio		0.84	:1

[1] SANDAG 2050 Cities/County Forecast and SANDAG San Diego Profile based on US Census data.

[2] 1990 US Census.

[3] Does not include San Diegans older than 85, recognizing that a significant portion of this population will require additional services such as assisted living, nursing care, living with children, etc.

[4] 2006-2008 American Community Survey.

[5] Average household size, age 65 and older, San Diego County. 2006-2008 American Community Survey

[6] Data from the 2006-2008 American Community Survey (ACS) was used for consistency with the period applicable to the housing demand estimates.

[7] From Table II-1.

TABLE II-3

PROJECTION: EMPLOYMENT GROWTH, RESIDENTIAL UNIT DEMAND
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

I. SANDAG PROJECTIONS

Housing Demand Generated by Worker Households

Projected Job Growth - Per SANDAG [1]			
2008		821,521	2008 is SANDAG benchmark year
2030		928,178	
Increase		106,657	Jobs
Worker Households @	1.72	62,010	Worker Households

Housing Demand Generated by Retiring Workers

Population Aged 65 - 85:	2008[1,2]	121,396	
Population Aged 65 - 85:	2030[1,2]	266,513	
Increase		145,117	
Not in Labor Force[3]	85.20%	123,640	
New Households Not in Labor Force, age 65 and older @[4]	1.85	66,890	
Total Housing Demand		**128,900**	

Projected Housing Units - Per SANDAG [1]			
2008		508,436	
2030		629,475	
Increase		121,039	Housing Units

Relationship Housing Units to New Households

Deficit for 1:1 Ratio	0.94	:1

[1] SANDAG 2050 Cities/County Forecast.

[2] Does not include San Diegans older than 85, recognizing that a significant portion of this population will require additional services such as assisted living, nursing care, living with children, etc.

[3] 2006-2008 American Community Survey.

[4] Average household size, age 65 and older, San Diego County. 2006-2008 American Community Survey.

SECTION III – MICRO ECONOMIC JOBS/HOUSING ANALYSIS

This section presents a summary of the analysis of the linkage between five types of workplace buildings and the estimated number of worker households in the income categories that will, on average, be employed within those buildings. This section should not be read or reproduced without the narrative and analysis presented in the previous sections.

Analysis Approach and Framework

The micro analysis establishes the jobs/housing linkages for individual building types or land use activities. This section quantifies the connection between employment growth in San Diego and affordable housing demand.

The analysis approach is to examine the employment associated with the development of 100,000-square-foot building modules. The building size is used solely to facilitate understanding of the analysis by being able to avoid cumbersome fractions. Then, through a series of linkage steps, the number of employees is converted to households and housing units by affordability level. The findings are expressed in terms of numbers of households related to building area. In the final step, we convert the numbers of households for 100,000-square-foot buildings back to the per-square-foot level.

The building types or land use activities addressed in the analysis are:

- Office
- Hotel and other lodging
- Retail/entertainment
- Research and development/manufacturing/industrial
- Warehouse/storage

Section II presented information on the income categories addressed in this analysis. For a four-person household, the maximum qualifying income levels for 2013 are:

- Median Income – $75,900
- Very Low Income – under 50% of Median (up to $41,300)
- Low Income – 50% to 80% of Median (between $41,300 and $66,100)
- Moderate Income – 80% to 120% of Median (between $66,100 and $91,100)

The analysis is conducted using a model that KMA has developed for application in many other jurisdictions for which the firm has conducted similar analyses. The model inputs are all local data to the extent possible, and are fully documented.

Analysis Steps

Tables III-1 through III-4 at the end of this section summarize the nexus analysis steps for the five building types. Following is a description of each step of the analysis:

Step 1 – Estimate of Total New Employees

The first step in Table III-1 identifies the total number of direct employees who will work at or in the building type being analyzed. Average employment density factors are used to make the conversion. The density factors used in this analysis are:

- *Office* – 250 square feet per employee. This figure is right in the middle of typical office densities, which are usually found in the range of 200 to 300 square feet per employee depending on the character of the office activity (corporate headquarters vs. back office to illustrate extremes). The average is based on gross building area and takes into account the lobby, corridors, restrooms, etc.

- *Hotel* – One employee per room and 500 square feet per hotel room, or 500 square feet per employee. This rate covers a cross-section of hotel types from lower service hotels, where rooms may be smaller than 500 square feet, to higher service convention hotels, where average room size (inclusive of lobbies, restaurants, meeting space, etc.) is larger, but the number of employees per room is higher.

- *Retail* – 350 square feet per employee. This category covers a broad range of experience from high service restaurants, where densities are far greater than average, to some retail uses, such as furniture stores, where densities are far lower.

- *Research and Development/Manufacturing/Industrial* – 500 square feet per employee. Manufacturing employment densities are variable and depend on the nature of the manufacturing activity. This classification uses an aggregate density scaled to industries and uses that are appropriate for the San Diego economy including industrial parks, general light industrial uses, research and development, biotech manufacturing, machinery, electrical equipment, defense manufacturing, and transportation equipment.

- *Warehouse /Storage* – 2,000 square feet per employee. This category covers a broad range of facility types incorporating higher employment density facilities engaged in wholesale trade to transportation and storage facilities that tend to have lower employment densities.

All density factors are averages and individual uses can be expected to be fairly divergent from the average from time to time. (An ordinance variance provision usually addresses the possibility of a building that is so divergent from the average so as to need special treatment.)

For ease of analysis and understanding, KMA conducted the analysis on prototype buildings at 100,000 square feet. We have used this size building in order to count jobs and housing units in whole numbers that can be readily communicated and understood. At the conclusion of the analysis, the findings are divided by building size to express the linkages per square foot, which are very small fractions of housing units.

Based on the density factors outlined above, the number of employees in our hypothetical 100,000-square-foot buildings are as follows: Office will house 400 employees; Hotel 200 employees; Retail 286 employees; Research and Development/Manufacturing/Industrial 200 employees; and Warehouse/Storage 50 employees.

Step 2 – Adjustment for Changing Industries

This step is an adjustment to take into account any declines, changes, and shifts within all sectors of the economy and to recognize that new space is not always 100% equivalent to net new employees. As discussed in Sections I and II, a 16% adjustment is utilized to recognize the long-term shifts in employment occurring in San Diego County and the likelihood of continuing changes to the local economy.

Step 3 – Adjustment from Employees to Employee Households

This step (Table III-1) converts the number of employees to the number of employee households that will work at or in the building type being analyzed. This step recognizes that there is, on average, more than one worker per household, and thus the number of housing units in demand for new workers must be reduced. As noted in Section II, all non-working households, such as retired persons, students, and those on public assistance, have been eliminated from the workers per worker household ratio. The San Diego County average is 1.72 workers per worker households.

Step 4 – Occupational Distribution of Employees

The occupational breakdown of employees is the first step to arriving at income levels. Using the 2012 National Industry-Specific Occupational Estimates, a cross matrix of “industries” and occupations,

produced by the Bureau of Labor Statistics (BLS), we are able to estimate the occupational composition of employees in the five types of buildings. The occupations that reflect the expected mix of activities in the new buildings are presented in Appendix B Tables 1, 3, 5, 7, and 9.

- Office buildings' "industry" mix has to be tailored to reflect the types of activities attracted to office space in San Diego. These industries represent a mix of professional service activities including business and financial operations, insurance, architecture and engineering, computer and mathematical, legal, management, health care, and sales. Because there are significant regional differences in the composition of office building employment, KMA weighted the industry mix based on San Diego County employment levels to ensure that it is representative of San Diego's economic base. Office and administrative support occupations (i.e., clerical) comprise 27% of all office-related employment.

- Hotels employ workers primarily from three main occupation categories: building and grounds cleaning and maintenance (maid service, etc.), food preparation and serving related, and office and administrative support, which together make up 73% of hotel workers. Other hotel occupations include personal care, management, and maintenance and repair.

- Retail employment is dominated by three main occupation groups: food preparation and serving (33%), sales (32%), and office and administrative support (11%). These three occupations together account for 75% of retail workers. The remaining 25% of retail workers are in occupations that include transportation, cleaning, maintenance, and production.

- Manufacturing employment is concentrated in production occupations (32%), architecture and engineering occupations (12%), and office and administration occupations (10%). The remaining occupations include management, business and financial, computer and mathematical, and life, physical, and social science occupations.

- Warehouse and storage occupations consist of transportation and material moving occupations (27%), office and administrative support (23%), and sales and related occupations (21%). The remaining 29% is made up of management, business and financial, computer and mathematical, maintenance and repair, and production occupations.

The numbers in Step #4 (Table III-1) indicate both the percentage of total employee households and the number of employee households in our hypothetical 100,000-square-foot buildings.

Step 5 – Estimates of Employee Households Meeting the Lower Income Definitions

In this step, occupation is translated to income based on recent San Diego wage and salary information for the occupations associated with each building type. The wage and salary information indicated in Appendix B Tables 2, 4, 6, 8, and 10 provided the income inputs to the model. This step in the analysis calculates the number of employee households that fall into each income category for each size household.

Individual employee income data was used to calculate the number of households that fall into these income categories by assuming that multiple earner households are, on average, formed of individuals with similar incomes. In addition, the model recognizes that the number of workers is dependent upon household size, and includes a distribution of number of workers by household size. Employee households not falling into one of the major occupation categories per Appendix B Tables 2, 4, 6, 8, and 10 were assumed to have the same income distribution as the major occupation categories.

Step 6 – Estimate of Household Size Distribution

In this step, household size distribution is input into the model in order to estimate the income and household size combinations that meet the income definitions established by the State, as used by the City. The household size distribution utilized in the analysis is that of San Diego County since the City draws workers from throughout the County.

Step 7 – Estimate of Households that meet HUD Size and Income Criteria

For this step, the KMA model incorporates 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 income and household size level. This step is performed for each occupational category and multiplied by the number of households.

Table III-2 shows the result after completing Steps #5, #6, and #7. The calculated numbers of households that meet size and income criteria shown in Table III-2 are for the Very Low Income or under 50% of Median Income category. The methodology is repeated for each income tier. See Table III-3.

Summary by Income Level

Table III-3 indicates the results of the analysis for the additional income categories for the five prototypical 100,000-square-foot buildings. The table presents the number of households in each affordability category, the total number up to 120% of Median, and the remaining households earning over 120% of Median.

The table below summarizes the percentage of total new worker households that fall into each income category. As indicated, over 90% of retail and hotel worker households are below the 120% of Median Income level. Office worker households have the highest incomes on average, with only 17% of worker households below 50% of Median and 44% earning greater than 120% of Median. Warehouse and Manufacturing worker households are in between these extremes with a moderate number of workers in the Very Low Income category, but a significant share of employees in the Low and Moderate Income categories.

Percent of Worker Households by Income Category					
	Office	**Hotel**	**Retail**	**R&D/Manufacturing/ Industrial**	**Warehouse/ Storage**
Very Low	17%	53%	52%	15%	26%
Low	23%	32%	32%	21%	29%
Moderate	17%	8%	10%	16%	17%
Total <120% AMI	56%	93%	94%	53%	72%

Adjustment for Commute Relationship

Table III-4 indicates the results of the analysis both before and after an adjustment for commute relationship. As discussed in Section II, 58.6% of the jobs in San Diego are estimated to be held by residents of the City. In other words, if the existing commute relationship were to hold for new employee households, 58.6% would be expected to reside in the City of San Diego, with the remainder distributed throughout the region, including across the border in Mexico. The estimates of households for each income category in a prototypical 100,000-square-foot building are adjusted downwards by this commute factor. This adjustment is not technically required for nexus purposes. The City could, for example, choose to include all housing demand in the nexus analysis. The City could also choose to use a factor other than the existing commute relationship that might incorporate policy considerations such as a goal to house a greater or lesser percentage of the work force locally.

Summary by Square Foot Building Area

The analysis thus far has worked with prototypical buildings of 100,000 square feet. In this step, the conclusions are translated to a per-square-foot level and expressed as coefficients. These coefficients state the portion of a household, or housing unit, by affordability level for which each square foot of building area is associated. See Table III-5.

This is the summary of the housing nexus analysis, or the linkage from buildings to employees, to housing demand by income level. We believe that it is a conservative approximation (i.e., it understates at the low end) of the households by income/affordability level associated with these building types.

TABLE III-1

NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION BY BUILDING TYPE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Prototypical 100,000 Sq.Ft. Buildings	OFFICE	HOTEL	RETAIL	MANUF. / INDUSTRIAL	WAREHOUSE / STORAGE
Step 1 - Estimate of Employees per 100,000 Sq.Ft.					
Employee Density Factor (sq.ft./emp)	250	500 *	350	500	2,000
Number of Employees	400	200	286	200	50
Step 2 - Adjustment for Changing Industries and Long Term Declines in Employment (16%)	336	168	240	168	42
Step 3 - Adjustment for Number of Households (1.72)	195	98	140	98	24
Step 4 - Occupation Distribution[1]					
Management Occupations	6.8%	4.2%	2.3%	8.7%	6.2%
Business and Financial Operations	10.5%	1.4%	0.7%	6.9%	4.2%
Computer and Mathematical	7.9%	0.1%	0.2%	6.7%	2.8%
Architecture and Engineering	4.5%	0.0%	0.0%	12.3%	0.9%
Life, Physical, and Social Science	1.0%	0.0%	0.0%	9.1%	0.2%
Community and Social Services	0.3%	0.0%	0.0%	0.2%	0.0%
Legal	2.4%	0.0%	0.0%	0.2%	0.0%
Education, Training, and Library	0.1%	0.0%	0.0%	0.2%	0.0%
Arts, Design, Entertainment, Sports, and Media	1.6%	0.5%	1.4%	0.7%	0.9%
Healthcare Practitioners and Technical	8.2%	0.0%	1.7%	0.8%	0.3%
Healthcare Support	4.3%	0.4%	0.3%	0.2%	0.0%
Protective Service	2.3%	2.3%	0.3%	0.3%	0.1%
Food Preparation and Serving Related	0.3%	25.4%	33.2%	0.2%	0.1%
Building and Grounds Cleaning and Maint.	6.5%	29.3%	0.8%	0.5%	0.6%
Personal Care and Service	0.5%	7.1%	2.6%	0.1%	0.0%
Sales and Related	6.6%	2.5%	31.7%	2.7%	21.1%
Office and Administrative Support	27.1%	18.6%	10.5%	9.9%	23.1%
Farming, Fishing, and Forestry	0.0%	0.0%	0.1%	0.1%	0.8%
Construction and Extraction	0.9%	0.2%	0.2%	1.3%	0.3%
Installation, Maintenance, and Repair	3.0%	4.7%	4.8%	3.5%	6.5%
Production	2.6%	1.9%	2.4%	31.9%	5.3%
Transportation and Material Moving	2.5%	1.3%	6.7%	3.5%	26.5%
Totals	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Management Occupations	13.3	4.1	3.2	8.5	1.5
Business and Financial Operations	20.5	1.4	0.9	6.8	1.0
Computer and Mathematical	15.5	0.1	0.3	6.5	0.7
Architecture and Engineering	8.8	0.0	0.1	12.0	0.2
Life, Physical, and Social Science	1.9	0.0	0.0	8.9	0.0
Community and Social Services	0.7	0.0	0.0	0.2	0.0
Legal	4.6	0.0	0.0	0.2	0.0
Education, Training, and Library	0.3	0.0	0.0	0.2	0.0
Arts, Design, Entertainment, Sports, and Media	3.1	0.5	1.9	0.7	0.2
Healthcare Practitioners and Technical	16.0	0.0	2.4	0.8	0.1
Healthcare Support	8.4	0.4	0.4	0.2	0.0
Protective Service	4.6	2.2	0.4	0.3	0.0
Food Preparation and Serving Related	0.7	24.8	46.4	0.2	0.0
Building and Grounds Cleaning and Maint.	12.7	28.7	1.1	0.5	0.1
Personal Care and Service	1.0	6.9	3.6	0.1	0.0
Sales and Related	12.9	2.4	44.3	2.6	5.2
Office and Administrative Support	53.0	18.2	14.6	9.7	5.6
Farming, Fishing, and Forestry	0.1	0.0	0.1	0.1	0.2
Construction and Extraction	1.7	0.2	0.3	1.3	0.1
Installation, Maintenance, and Repair	5.9	4.6	6.6	3.4	1.6
Production	5.1	1.9	3.4	31.2	1.3
Transportation and Material Moving	4.8	1.3	9.4	3.4	6.5
Totals	**195**	**98**	**140**	**98**	**24**

* 1 employee per room @ 500 sq.ft./room

[1]See Tables in Appendix B for more information on how the percentages were derived.

TABLE III-2

ESTIMATE OF QUALIFYING HOUSEHOLDS BY INCOME LEVEL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Prototypical 100,000 Sq.Ft. Buildings
Analysis for Households Earning Less than 50% Median

	OFFICE	HOTEL	RETAIL	MANUF. / INDUSTRIAL	WAREHOUSE / STORAGE
Step 5, 6, & 7 - Households Earning Less than 50% Median [1]					
Management	0.03	0.05	0.00	0.00	0.00
Business and Financial Operations	0.29	0.00	0.00	0.06	0.02
Computer and Mathematical	0.14	0.00	0.00	0.03	0.00
Architecture and Engineering	0.03	0.00	0.00	0.04	0.00
Life, Physical and Social Science	0.00	0.00	0.00	0.32	0.00
Community and Social Services	0.00	0.00	0.00	0.00	0.00
Legal	0.00	0.00	0.00	0.00	0.00
Education Training and Library	0.00	0.00	0.00	0.00	0.00
Arts, Design, Entertainment, Sports, and Media	0.00	0.00	0.00	0.00	0.00
Healthcare Practitioners and Technical	0.12	0.00	0.00	0.00	0.00
Healthcare Support	2.80	0.00	0.00	0.00	0.00
Protective Service	0.00	0.00	0.00	0.00	0.00
Food Preparation and Serving Related	0.00	16.07	29.67	0.00	0.00
Building Grounds and Maintenance	6.76	17.28	0.00	0.00	0.00
Personal Care and Service	0.00	3.94	0.00	0.00	0.00
Sales and Related	3.03	0.00	22.66	0.00	0.70
Office and Admin	13.80	8.12	5.62	2.36	1.82
Farm, Fishing, and Forestry	0.00	0.00	0.00	0.00	0.00
Construction and Extraction	0.00	0.00	0.00	0.00	0.00
Installation Maintenance and Repair	0.00	1.07	1.11	0.00	0.23
Production	0.00	0.00	0.00	9.83	0.43
Transportation and Material Moving	0.00	0.00	4.44	0.00	2.59
HH earning less than 50% Median - major occupations	27.01	46.52	63.51	12.64	5.79
HH earning less than 50% Median - all other occupations	5.75	5.56	9.53	2.13	0.44
Total Households Earning Less than 50% of Median	**32.8**	**52.1**	**73.0**	**14.8**	**6.2**

[1] See Tables in Appendix B for additional information on Major Occupation Categories

TABLE III-3

WORKER HOUSEHOLDS BY AFFORDABILITY LEVEL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Analysis for Households Before Commute Adjustment
Per 100,000 sq. ft. of building area.

	OFFICE	HOTEL	RETAIL	MANUF. / INDUSTRIAL	WAREHOUSE / STORAGE
NUMBER OF HOUSEHOLDS BY INCOME TIER					
Under 50% Median Income	32.8	52.1	73.0	14.8	6.2
50% to 80% Median Income	44.1	30.8	45.4	20.9	7.0
80% to 120% Median Income	33.1	7.9	13.2	15.8	4.2
Subtotal to 120% AMI	**110.0**	**90.8**	**131.6**	**51.5**	**17.5**
Above 120% Median	85.5	7.0	8.0	46.3	6.9
Total New Worker Households	**195.5**	**97.7**	**139.6**	**97.7**	**24.4**
PERCENTAGE OF HOUSEHOLDS BY INCOME TIER					
Under 50% Median Income	16.8%	53.3%	52.3%	15.1%	25.5%
50% to 80% Median Income	22.6%	31.6%	32.5%	21.3%	28.7%
80% to 120% Median Income	16.9%	8.0%	9.5%	16.2%	17.4%
Subtotal to 120% AMI	**56.2%**	**92.9%**	**94.2%**	**52.7%**	**71.6%**
Above 120% Median	43.8%	7.1%	5.8%	47.3%	28.4%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Notes:

[1] Before commute adjustment.

TABLE III-4

WORKER HOUSEHOLDS BY AFFORDABILITY LEVEL AFTER COMMUTE ADJUSTMENT
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

PROTOTYPICAL 100,000 SQ. FT. BUILDINGS

BEFORE COMMUTE ADJUSTMENT

	Number of Households[1]				
	OFFICE	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% of Median Income	32.8	52.1	73.0	14.8	6.2
50% to 80% of Median Income	44.1	30.8	45.4	20.9	7.0
80% to 120% of Median Income	33.1	7.9	13.2	15.8	4.2
Total	**110.0**	**90.8**	**131.6**	**51.5**	**17.5**

AFTER 58.6% Commute Adjustment

	Number of Households[1]				
	OFFICE	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% of Median Income	19.2	30.5	42.8	8.7	3.7
50% to 80% of Median Income	25.9	18.1	26.6	12.2	4.1
80% to 120% of Median Income	19.4	4.6	7.7	9.3	2.5
Total	**64.4**	**53.2**	**77.1**	**30.2**	**10.2**

[1] Per 100,000 sq. ft. of building area

TABLE III-5

HOUSING DEMAND NEXUS FACTORS PER SQ.FT. OF BUILDING AREA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

WITH COMMUTE ADJUSTMENT AT 58.6%

	Number of Housing Units per Square Foot of Building Area[1]				
	OFFICE	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% Median Income	0.00019197	0.00030524	0.00042797	0.00008659	0.00003652
50% to 80% Median Income	0.00025862	0.00018071	0.00026580	0.00012227	0.00004109
80% to 120% Median Income	0.00019374	0.00004607	0.00007734	0.00009274	0.00002487
Total	**0.00064433**	**0.00053202**	**0.00077111**	**0.00030160**	**0.00010249**

[1]Calculated by dividing number of household in bottom of Table III-4 by 100,000 to convert households per 100,000 sq. ft. building to households per 1 sq. ft. of building.

SECTION IV: TOTAL HOUSING LINKAGE COSTS

This section takes the conclusions of the previous section on the number of households in the Very Low, Low, and Moderate Income categories associated with each building type and identifies the total cost of assistance required to make housing affordable. This section puts a cost on the units for each income level to produce the "total nexus cost."

A key component of the analysis is the size of the gap between what households can afford and the cost of producing additional housing in San Diego, known as the "affordability gap." The analysis uses a standard methodology consistent with SDHC's policies to determine what households can afford, and compares that to the cost of providing additional housing. The analysis is conducted for various household sizes in three categories of Area Median Income: under 50% (Very Low Income), 50% to 80% (Low Income), and 80% to 120% (Moderate Income). Income definitions for housing programs are established by the State of California Department of Housing and Community Development (HCD) for varying household sizes, as presented in Section II and summarized in Table IV-1.

For the purposes of the nexus analysis, rental housing is assumed for the Very Low and Low Income categories, while ownership units are assumed for the Moderate Income category.

Project Descriptions

In order to determine the affordability gap, there is a need to match a household at each income level with a unit type and size according to government regulations and policies. The prototypical projects for both rental and ownership units are designed to represent what SDHC is most likely to assist in the future.

SDHC has typically assisted two types of rental development: garden-style apartments and higher density stacked-flats over podium apartments. Similarly, with ownership units, SDHC has assisted both lower density townhomes and higher density stacked-flat condominiums. "Greenfield" sites available for multi-family development are increasingly rare within the City of San Diego, and land values have risen significantly over the past decade as vacant sites have been absorbed. As a result, an increasing proportion of the affordable housing developments assisted by SDHC will involve higher densities as well as structured parking. Therefore, the analysis has assumed that 40% of the affordable units will be developed as garden or townhome units, and 60% will be developed as stacked flat condominiums over podium parking. All units are assumed to have two bedrooms. The average three-person household is assumed to be accommodated in a two-bedroom unit, per local policy.

Detailed descriptions of the development prototypes, including development costs, affordable values, and the affordability gap calculations, can be found in the tables at the end of this section. A brief overview is presented here.

Project descriptions for the development prototypes can be summarized as follows:

- Garden-style apartments are assumed to be wood-frame construction, built at a density of 25 units to the acre, with 950-square-foot two-bedroom units. Parking is provided at 1.50 spaces per unit.

- Stacked-flat apartment units are built at a density of 50 units to the acre, with 800-square-foot two-bedroom units. The buildings are assumed to have four stories of wood-frame construction over a podium. Structured parking is provided at 1.30 spaces per unit.

- Townhome units are assumed to be 1,200-square-foot two-bedroom units, with two parking spaces in an attached garage. The units are built at a density of 20 units to the acre.

- The higher density condominium units are estimated at 1,000 square feet, with 1.75 spaces per unit of structured parking. The building is built at a density of 45 units to the acre, with wood-frame construction over a parking podium.

The parking ratios used for the rental development prototypes reflect the City's recently adopted parking regulations for Reduced Parking Demand Housing (§142.0527, Chapter 14, Article 2, Division 5 of the San Diego Municipal code). The ordinance, which was adopted by the San Diego City Council in November 2012, allows for the application of lower parking requirements for affordable housing rental developments.

Maximum affordability gaps are determined based on the top end of the income categories. This is a conservative assumption, which produces a lower affordability gap average than reality, since not all households have income at the top end of the range. For Very Low Income households, rents are set to be affordable at 50% of Median Income, and for Low Income households, at 80% of Median Income. For Moderate Income households, maximum sales prices are calculated based on 120% of Median Income, with 35% of income set aside for housing (as opposed to 30% for rental units).

Development Costs

The cost of developing new residential units in San Diego was assembled from a number of sources. Land costs were gathered from recent land sale data collected by KMA. KMA is also actively working on a number of rental and condominium projects at various locations in the San Diego area and has recent developer pro forma financial analyses from which to draw cost information. Using these sources, KMA prepared a summary of average total development costs, broken down into the major cost components: land acquisition, direct or construction costs, indirect costs, and financing costs.

Affordability Gap

The KMA financial pro formas estimating the affordability gap for the above prototypes are presented in Appendix C Tables 1-17. Each pro forma contains:

i. A project description;

ii. Estimates of development costs;

iii. Stabilized net operating income for the rental prototypes based on two affordability scenarios: (a) all units affordable to households at 50% AMI (Very Low Income); and (b) all units affordable to households at 80% AMI (Low Income);

iv. Maximum affordable sales price for the ownership prototypes based on all units affordable to households at 120% AMI (Moderate Income);

v. Estimates of maximum warranted investment for the rental prototypes, which include supportable debt and/or equity investment, and tax credit equity investment for the Very Low Income rental prototype; and

vi. The resulting financing gap generated by the development prototype reflective of the difference between warranted investment and development costs for rental units, and the difference between net sales proceeds and development costs for ownership units.

The inputs and assumptions used in the KMA pro formas are based on KMA's experience with comparable developments throughout San Diego. In particular, KMA notes the following:

- The cost estimates do not assume a prevailing wage requirement.

- The City of San Diego is diverse in terms of real estate market factors. Therefore, the KMA pro formas assumed land costs ranging from a low of $25 per square foot to a high of $50 per square foot of land, reflecting project location and achievable density.

- As specific sites have not been defined for this study, KMA assumed an allowance for off-site improvements ranging between $3 and $5 per square foot of site area, and an allowance for on-site improvements ranging from $10 to $15 per square foot of site area.

- It is assumed that Very Low Income units will be financed with tax-exempt bonds combined with the 4% Low Income Housing Tax Credit. KMA did not assume that Very Low Income units could be financed with 9% Low Income Housing Tax Credits due to the highly competitive nature of this funding source.

- Low and Moderate Income units are assumed to be financed using conventional debt and equity financing sources.

- The affordability gap conclusions resulting from the KMA pro forma analyses are summarized as follows:

Rental	**Garden Apartments**	**Stacked Flats Over Podium Parking**	**Average Rental** (1)
Very Low Income (50% AMI)	($108,000)	($139,000)	($127,000)
Low Income (80% AMI)	($105,000)	($164,000)	($140,000)

Ownership	**Townhomes**	**Stacked Flats Over Podium Parking**	**Average Ownership** (1)
Moderate (120% AMI)	($12,000)	($93,000)	($61,000)

(1) Assumes 40% of affordable units delivered in lower density developments (garden apartments) and 60% of affordable units delivered in higher density developments (stacked flats over podium parking).

Total Linkage Costs

The last step in the linkage fee analysis marries the findings on the numbers of households at each of the lower income ranges associated with the five types of buildings to the affordability gaps, or the costs of delivering or housing for them in San Diego.

Table IV-2 summarizes the analysis. The affordability gaps are drawn from the prior discussion. Demand for affordable units at each of the lower income ranges that is generated per square foot of building area is drawn from Table III-5 in the previous section. At the right, the "Nexus Cost Per Square Foot" shows the results of the calculation: affordability gap times the number of units per square foot of building area.

The total nexus costs for the five building types are as follows:

Office	$72.41
Hotel	$66.88
Retail	$96.28
R&D/Manufacturing/Industrial	$33.78
Warehouse/Storage	$11.91

These costs express the total linkage or nexus costs per square foot for the five building types. These total nexus costs represent the ceiling for any requirement placed on new construction for affordable housing. The totals are not recommended levels for fees; they represent only the maximums established by this analysis, below which fees or other requirements may be set.

Conservative Assumptions Underlying the Nexus Cost Estimates

In establishing the total nexus cost, many conservative assumptions were employed in the analysis that result in a total nexus cost that may be understated by a considerable amount. These conservative assumptions are summarized below.

1. Only direct employees are counted in the analysis. Many indirect employees are also associated with each new workspace. Indirect employees in an office building, for example, include janitors, window washers, landscape maintenance people, delivery personnel, and a whole range of others. Hotels do have many of these workers on staff, but hotels also "contract out" a number of services that are not taken into account in the analysis.

2. Annual incomes for workers reflect full time employment based upon the California Employment Development Department's convention for reporting the compensation information. Of course many workers work less than full time; therefore, annual compensations used in the analysis are probably overstated especially for retail which tends to have a high number of part-time employees.

3. Using small households produces lower affordability gaps than larger households in larger units.

4. Affordable rents and sale prices are based upon the top of each income range. For example, units for Very Low Income households (0% to 50% AMI), have rents based on 50% of AMI. This is a particularly conservative assumption, in that the number of households generated at the Extremely Low Income level is significant for certain non-residential building types. KMA estimates that at least 18% of worker households generated by the Hotel and Retail building types are Extremely Low Income Households (30% of AMI). This income level equates to $19,850 for a two-person household, $22,300 for a three-person household, and $24,800 for a four-person household. These

households earn close to the California minimum wage -- $8.00 per hour -- depending on the number of workers in the household. Households at these income levels typically have the fewest housing options, and are most at risk of homelessness.

5. The estimates of affordability gaps for units at 50% of Area Median Income assume the availability of tax-exempt financing and 4% Low Income Housing Tax Credits. This financial assistance is competitively allocated and the investment market for tax credits fluctuates over time. Incorporating this external funding source into the gap analysis results in lower gaps to be funded at the local level.

In completing the 2010 nexus analysis, KMA and SDHC participated in several stakeholder workshops. Based on input received in these workshops, KMA incorporated the following additional modifications to the nexus analysis.

6. Long-term shifts in the regional economy can result in declines in employment in certain industries even as other industries add jobs. An adjustment is included to account for the fact that some new jobs will be filled by workers who are downsized from a declining industry and who already have housing locally. As described in Section I, KMA incorporated a -16% reduction in the nexus analysis to account for long-term unemployment resulting from declining industries.

7. The results of the nexus analysis are adjusted downward to reflect existing commute patterns, including an estimate of workers commuting from Mexico. Only households likely to seek housing in the City are included based on the existing commute pattern. This existing relationship is influenced by the availability of affordable housing in the City. Incorporating this commute adjustment results in a larger reduction in the fee amounts supported by the nexus study.

In summary, many less conservative assumptions could be made that would result in higher linkage costs.

TABLE IV-1

INCOME DEFINITIONS, 2013
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

INCOME - UPPER END FOR EACH CATEGORY

Family Size	Very Low Income 50% AMI	Low Income 80% AMI	Moderate Income 120% AMI
1 Person	$28,900	$46,250	$63,750
2 Persons	$33,050	$52,900	$72,900
3 Persons	$37,150	$59,500	$82,000
4 Persons	$41,300	$66,100	$91,100
5 Persons	$44,600	$71,400	$98,400

Source: California Department of Housing and Community Development.

TABLE IV-2

TOTAL HOUSING NEXUS COST
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

WITH COMMUTE ADJUSTMENT AT 58.6%

	Affordability Gap[1]	Nexus Cost Per Sq. Ft.				
INCOME CATEGORY		**OFFICE**	**HOTEL**	**RETAIL**	**MANUF. / INDUSTRIAL**	**WAREHOUSE / STORAGE**
Under 50% of Median Income[2]	$127,000	$24.38	$38.77	$54.35	$11.00	$4.64
50% to 80% of Median Income[2]	$140,000	$36.21	$25.30	$37.21	$17.12	$5.75
80% to 120% of Median Income[3]	$61,000	$11.82	$2.81	$4.72	$5.66	$1.52
Total		**$72.41**	**$66.88**	**$96.28**	**$33.78**	**$11.91**

1. Assumes two-bedroom units. Affordability gap for under 50% of Median category assumes 4% tax credits.
2. Assumes households are housed in rental units.
3. Assumes households are housed in ownership units.

SECTION V – MATERIALS TO ASSIST IN UPDATING THE FEE PROGRAM

The purpose of this section is to provide guidance to policy makers in setting fee levels and designing the program. A particular focus is devoted to facilitating an understanding of whether the existing linkage fees or proposed fee increases are likely to alter development decisions, or drive activity to other jurisdictions.

As indicated at the end of the previous section, the nexus analysis establishes maximum fee levels supported by the analysis. Recognizing a variety of City objectives, policy makers may set the fees at any level below the maximum, and may design other program features to meet local goals and objectives.

The materials in this section are not part of the nexus analysis. Instead, this section provides an assembly of materials that helps answer the questions frequently asked when designing or updating a fee program:

- How can the fee level be selected?
- What do other cities do in their programs?
- What are some of the options for indexing the fee over time?

Fee Levels

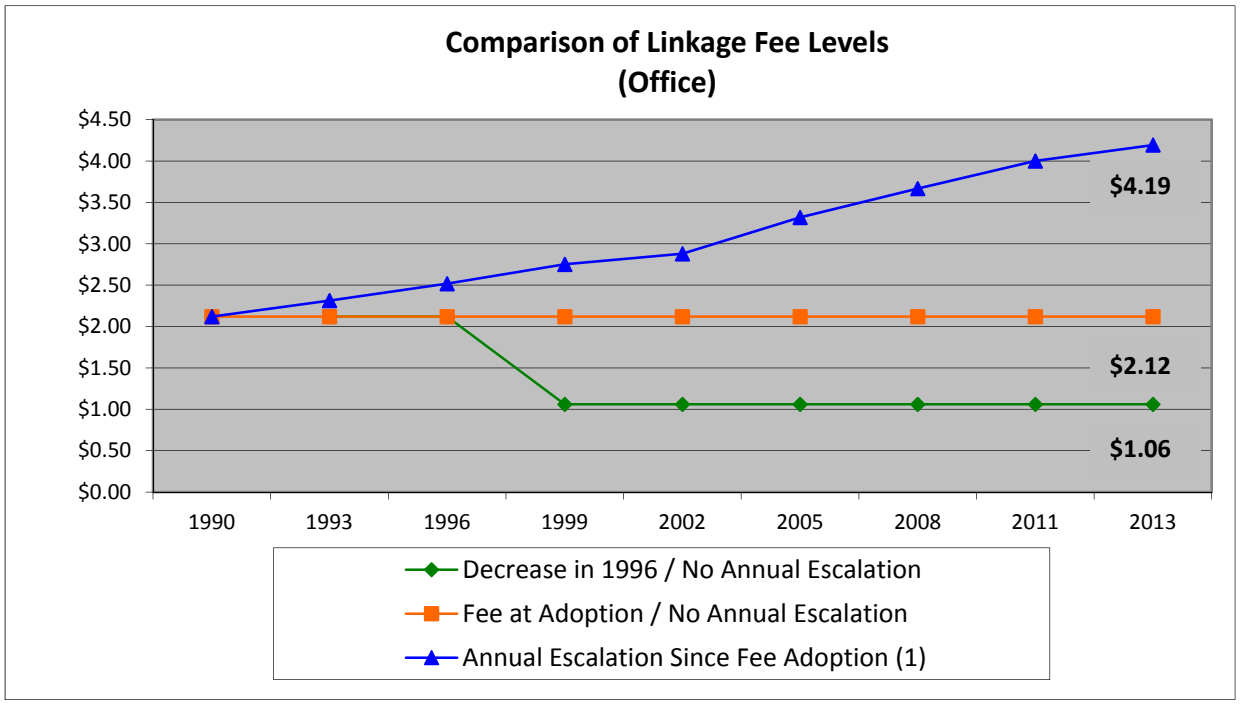
Existing Linkage Fee Levels

Before presenting approaches to fee revisions, it is useful to briefly review linkage fee levels since the original program was adopted. All non-residential building types are subject to the fee. The City's Department of Development Services determines the building type and the applicable fee. In 1996, the City Council reduced the fee by half to spur business development. The fee has not been adjusted since 1996.

	Fee at Adoption	Fee Since 1996
Office	$2.12	$1.06
Hotel	$1.28	$0.64
Retail	$1.28	$0.64
R&D	$1.60	$0.80
Manufacturing	$1.28	$0.64
Warehouse	$0.54	$0.27

As shown in Table V-I, KMA compared the actual linkage fee levels for the years 1990, 1996, and 2013 against: (1) the fee levels if no adjustment had been made in 1996; and (2) the fee levels assuming an annual escalation of the fee based on the Construction ENR Building Cost Index, as allowed under the existing ordinance.

A graphic representation of the KMA comparison for the Office fee appears below. As shown, the Office fee at adoption was $2.12, the fee was decreased by half to $1.06 in 1996, and has remained the same over the past 23 years. Assuming the Office fee was not reduced in 1996 and no other adjustments were made since adoption, the office fee at adoption would have remained constant at $2.12 per square foot between 1990 and 2013. Assuming the fee was subject to an annual escalation factor, as allowed in the ordinance, the fee would have increased from $2.12 per square foot in 1990 to $4.19 per square foot by 2013.



(1) Source: McGraw Hill Construction ENR Building Cost Index.

Historical Fee Collection

The linkage fee represents the primary source of funds for SDHC's Housing Trust Fund, accounting for 77% of the Housing Trust Fund's total revenues since Fiscal Year 1992. To date, SDHC has collected a total of $53.6 million in linkage fee revenues.

Fee revenue collected by SDHC can be examined by type of development. For example, over the past seven years, SDHC has collected a total of $11.3 million in linkage fee revenues from 14.3 million SF of non-residential development. As shown below, the majority of the revenues came from office buildings (60%), followed by research and development buildings (11%), and retail buildings (11%).

Building Type	FY 2006 – FY 2012 Non-Residential Development (SF)	FY 2006 – FY 2012 Linkage Fee Revenue
Office	6,300,000 SF	$6,677,000
R&D	1,553,000 SF	$1,242,000
Retail	1,899,000 SF	$1,209,000
Hotel	867,000 SF	$555,000
Warehouse	2,040,000 SF	$548,000
School	685,000 SF	$548,000
Manufacturing	609,000 SF	$390,000
Total [(1)]	**14,258,000 SF**	**$11,290,000**

[(1)] Reflects totals after adjustments and credits.

Source: City of San Diego.

Estimate of Foregone Fee Revenue

As indicated previously, the linkage fee was reduced by half in 1996. For illustrative purposes, KMA estimated the amount of fee revenue foregone under two scenarios:

- Test 1: Linkage fees collected assuming no adjustment to the fee in 1996; and
- Test 2: Linkage fees collected assuming an annual escalation of the fee based on the Construction ENR Building Cost Index.

As presented in Table V-2, and summarized below, Test 1 yielded a total of $92.6 million in linkage fee revenues, and Test 2 yielded a total of $123.9 million, differences of $39.3 million and $70.6 million, respectively, from the actual revenue amount collected.

As shown below, assuming a typical per-unit affordable housing subsidy of $100,000 for the period 1992-2013, an estimate of 393 additional units could have been developed under Test 1 (no adjustment made to the fee in 1996). Similarly, under Test 2 (annual escalation in the fee based on the construction cost index), an estimated additional 705 units could have been developed.

	Actual Collected	Test 1: No Adjustment in 1996	Test 2: No Adjustment in 1996 + Escalation (1)
FY 1992 – 2013	$53.3 mm	$92.6 mm	$123.9 mm
Potential Number of Additional Units Developed @ Typical Subsidy of $100,000/unit(2)		393 units	705 units

(1) Based on annual McGraw Hill Construction ENR Building Cost Index History.

(2) Reflects historic estimate of typical financing gap amounts, 1992-2013.

Linkage Fee Levels in the Context of San Diego Development Economics

When considering fee levels, there are several economic or real estate factors that may be taken into account in recommending or enacting affordable housing requirements. A primary concern is that fee levels not be so onerous that they significantly constrain development.

Survey of Linkage Fee Programs

As part of this study, KMA reviewed linkage fee programs in approximately 25 other cities and counties in California ranging in population from 7,000 to 1.4 million. A relative perspective on how the City's existing linkage fee program compares with programs in other jurisdictions in California is presented in Table V-3 and summarized below:

Current Level of Fee per SF	City of San Diego	State of California (range of findings)		
Office	$1.06	$0.58	-	$22.83
Hotel	$0.64	$0.64 (1)	-	$17.10
Retail	$0.64	$0.64	-	$21.30
R&D	$0.80	$0.57	-	$15.21
Manufacturing	$0.64	$0.28	-	$18.44
Warehouse	$0.27	$0.08	-	$18.44
Thresholds	No minimum threshold	25,000 SF	-	No minimum threshold
Geographic Exemptions	Excludes some geographic areas (enterprise zones)	redevelopment areas	-	No exemptions
Specific Use Exemptions	Development by government entities.	churches, educational facilities, hospitals, child care, non-profits, etc.	-	No exemptions

(1) Excludes jurisdictions where fee paid on a per-room basis.

Note: The chart has been assembled to present an overview, and as a result, terms are simplified.

Ordinance or Program Features

A Housing Impact Fee program often includes features to address a jurisdiction's policy objectives or specific concerns. The most common are:

- *Minimum Threshold Size* – A minimum threshold sets a building size over which fees are in effect. As shown above, San Diego does not have a minimum threshold, while other jurisdictions have thresholds as high as 25,000 square feet. In general, the programs with the highest fees tend to have more significant thresholds. Programs with low fees often have no thresholds and all construction is subject to the fee.

- *Geographic Area Exemptions* – Some cities with linkage fee programs exclude specific areas such as redevelopment areas. San Diego's program previously allowed for the exemption of new businesses developed in San Diego's two enterprise zones: the Metro Zone (formerly the Southeast/Barrio Logan Enterprise Zone) established in 1983 and the South Bay Enterprise Zone established in 1991. These zones have since been incorporated into the San Diego Regional Enterprise Zone. In July 2013, Governor Brown signed Assembly Bill (AB) 93 and Senate Bill (SB) 90 (clean-up legislation to AB 93). The bills eliminate the State's Enterprise Zone (EZ) program effective January 1, 2014 and replace it with sales tax exemptions for the manufacturing and biotech industries, hiring tax credits within former EZ areas, and income tax credits for employers and businesses. As such, the exemption allowed for developments within the San Diego Regional Enterprise Zone would thereby cease on January 1, 2014.

- Specific Use Exemptions – Cities may also choose to exempt specific uses. For example, these may include churches, hospitals, child care centers, and development by non-profits.

Linkage Fees as a Percent of Total Development Costs

Policy makers may establish linkage fees at any level below the maximum nexus cost for the building types addressed in the analysis. One approach to establishing fee levels is based on comparing the linkage fee against the development costs associated with each building. This approach facilitates an evaluation of whether the amount is likely to affect development decisions.

In a city as large as San Diego, there is a broad range of conditions and development "products" that might be built for various building types or land uses. For example, office buildings can range from minimal one-story structures with surface parking, to multiple-story buildings with podium parking, to high-rises with subterranean parking. To cover the range, we have assembled prototypes for each of the major commercial and industrial building types.

KMA prepared base case project descriptions and development budgets for representative non-residential product types currently being developed in the San Diego market. The prototypes are used as a "starting point" on which to test the impact of potential linkage fees on development costs.

Tables V-4 through V-7 provide the development cost estimates for the prototypes analyzed by KMA, as follows:

- Office Prototypes:
  - Garden Office – 3 stories, surface parking
  - Suburban Mid-Rise Office – 5 stories, deck/structured parking
  - Urban High-Rise Office – 15 stories, subterranean parking

- Hotel Prototypes:
  - Extended Stay Hotel – 3 story, surface parking
  - Full-Service Mid-Rise Hotel – 6 stories, structured parking
  - Full-Service High-Rise Hotel – 15+ stories, subterranean parking

- Retail Prototypes:
  - Strip Retail Center – 1 story, surface parking
  - Community Retail Center – 1 story, surface parking
  - Urban Retail Center – 1-2 stories, deck/structured parking

- Industrial Prototypes:
  - Research and Development – 2–3 stories, surface parking
  - Manufacturing/Industrial – 1–2 stories, surface parking
  - Warehouse/Storage – 1 story, surface parking

KMA's experience with financial feasibility analyses for non-residential development proposals in San Diego was a major frame of reference in developing the prototypes and typical development cost estimates. The inputs and assumptions assumed by KMA are as follows (costs have been rounded):

- Acquisition costs were estimated on a per-square-foot basis. For each land use type, acquisition costs were estimated to range as follows (reflecting the multiple scenarios analyzed):

Acquisition Costs	Per Square Foot (SF) Site Area
Office	$25 - $300 /SF
Hotel	$25 - $300 /SF
Retail	$25 - $50 /SF
R&D	$30/SF
Manufacturing	$20/SF
Warehouse	$15 /SF

- Direct construction costs, including site improvements, parking, shell construction, tenant improvements, and furniture/fixtures/equipment, were estimated for each land use type as follows:

Direct Costs	Per Square Foot (SF) Gross Building Area
Office	$150 - $310 /SF
Hotel	$135 - $275 /SF
Retail	$130 - $230 /SF
R&D	$150/SF
Manufacturing	$105/SF
Warehouse	$80/SF

- Indirect and financing costs -- including factors such as architecture and engineering, legal and accounting, taxes and insurance, developer overhead fee, marketing and lease-up, loan fees, and construction interest reserve – were combined and estimated as a percent of total direct costs:

Indirect and Financing Costs	% of Direct Costs
Office	30% of Directs
Hotel	30% - 35% of Directs
Retail	30% of Directs
R&D	30% of Directs
Manufacturing	30% of Directs
Warehouse	30% of Directs

- Cost for public permits and fees were based on KMA's review of permit and fee data provided to KMA for comparable developments within the City of San Diego.

Permits and Fees	***Per Square Foot (SF) Gross Building Area***
Office	$8/SF
Hotel	$10/SF
Retail	$10/SF
R&D	$8/SF
Manufacturing	$8/SF
Warehouse	$8/SF

Overall, total development costs per square foot of building area are summarized below for each non-residential development prototype (ranges in cost reflect multiple scenarios). The columns to the right illustrate possible fee levels calibrated as a percent of total development costs, ranging from a low of 0.5% to a high of 2.0%.

Non-Residential Building Type	**Total Development Costs ($/SF GBA)**	**Average Development Costs ($/SF GBA)**	**Fee Level Per SF @ % of Total Costs**			
			0.5%	**1.0%**	**1.5%**	**2.0%**
Office	$264 - $489	$354	$1.77	$3.54	$5.32	$7.09
Hotel	$216 - $431	$315	$1.58	$3.15	$4.73	$6.30
Retail	$267 - $410	$331	$1.65	$3.31	$4.96	$6.61
R&D	$276	$276	$1.38	$2.76	$4.14	$5.52
Manufacturing	$203	$203	$1.02	$2.03	$3.05	$4.06
Warehouse	$152	$152	$0.76	$1.52	$2.28	$3.04

GBA = Gross Building Area.

For comparison purposes, the current fee and the fee at adoption can also be compared to total development costs for each building type. As shown below, the current fee reflects between 0.2% and 0.3% of current development costs and the fee at adoption reflects between 0.4% and 0.6% of current development costs.

Non-Residential Building Type	Total Development Costs ($/SF GBA)	Average Development Costs ($/SF GBA)	Current Fee (in place since 1996)		Fee at Adoption (in 1990)	
			$/SF GBA	% of Costs	$/SF GBA	% of Costs
Office	$264 - $489	$354	$1.06	0.3%	$2.12	0.6%
Hotel	$216 - $431	$315	$0.64	0.2%	$1.28	0.4%
Retail	$267 - $410	$331	$0.64	0.2%	$1.28	0.4%
R&D	$276	$276	$0.80	0.3%	$1.60	0.6%
Manufacturing	$203	$203	$0.64	0.3%	$1.28	0.6%
Warehouse	$152	$152	$0.27	0.2%	$0.54	0.4%

GBA = Gross Building Area.

Fee as Percent of Nexus Cost

Policy makers may establish fees at any level below the maximum fee for the building types identified in the KMA nexus analysis – Office, Hotel, Retail/Entertainment, Manufacturing/Industrial, Warehouse/Storage – (1) in the same proportion to the nexus conclusions, or (2) independently selecting the fee for each building type based on weighing policy considerations separately for each building type.

When the City adopted housing impact fees initially, fees were set at between 5% and 20% of the calculated nexus costs (depending on land use), which included only Very Low and Low Income tiers, or up to 80% of Area Median Income. The current analysis assumes up to 120% of Area Median Income, resulting in higher total nexus costs. In the event the City wishes to continue using this approach, the following table illustrates potential fee levels set at 10% of the nexus amounts for each building type:

Non-Residential Building Type	Nexus Costs	Potential Fee @ 10% of Nexus Cost
Office	$72.41	$7.24
Hotel	$66.88	$6.69
Retail	$96.28	$9.63
R&D/Manufacturing/Industrial	$33.78	$3.38
Warehouse/Storage	$11.91	$1.19

The principal advantage of this approach lies in its simplicity and avoidance of addressing each fee independently. The disadvantage is that there could be a disproportionate burden on one building type. Alternately, there could be lost opportunity in not charging a fee on a building type that could sustain a higher fee level.

Impact of Fee on Development

This section reviews historic construction activity and employment growth in the City of San Diego since the linkage fee was adopted. It also provides a qualitative assessment of the likelihood of the fee preventing construction from occurring in San Diego, and/or redirecting development to other jurisdictions.

Overview of Construction Activity

Table V-8 summarizes construction activity by land use type for the City of San Diego, the balance of San Diego County, and the State of California for the period from 1990 through 2012. Construction activity can be measured in terms of building permit valuation data compiled by the Construction Industry Research Board. Since 1990, approximately $4.8 billion in hotel, office, retail, and industrial development has been permitted in the City of San Diego. This represents average annual permit valuation of $207.5 million. The largest category of permit valuation was office use, representing $2.3 billion in valuation during 1990-2012.

Within the balance of the County, approximately $4.3 billion in development valuation was permitted in these land use categories during 1990-2012, representing approximately $189 million in average annual permit valuation. The largest categories were retail ($1.7 billion) and industrial ($1.5 billion).

The measure of construction activity in the City of San Diego can also be compared to the balance of the County on a proportionate share basis. The table below summarizes total permit valuation in the City of San Diego as a percent of the County total (inclusive of the City):

Building Permit Valuation, 1990-2012 Total	**City of San Diego**	**County of San Diego (including City)**	**City as Percent of County**
Office	$2,317.9 mm	$3,063.7 mm	76%
Hotel	$672.6 mm	$1,074.4 mm	63%
Retail	$946.8 mm	$2,643.2 mm	36%
Industrial	$835.6 mm	$2,326.3 mm	36%
Total	**$4,772.8 mm**	**$9,107.5 mm**	**52%**

As shown in the table, the City accounted for the majority of office and hotel development in the County during the time period. This finding suggests that the City of San Diego has continued to capture a greater share of new office and hotel development than the rest of the County. On the other hand, industrial and retail uses have developed more rapidly in the balance of the County than the City of San Diego. This trend is not surprising in light of the greater land availability which largely explains the significant expansion of business parks, as well as new residential communities with supporting retail uses, in suburban areas such as Carlsbad, San Marcos, and Chula Vista over the time period.

Overview of Employment Growth

Table V-9 summarizes trends in employment growth for the City of San Diego, the balance of San Diego County, and State of California for the period 1990 to 2011. To ensure a consistent data source, KMA relied on U.S. Census and State of California Employment Development Department (EDD) data to calculate employment growth. (Note that the employment figures in Section II are slightly different as they are based on SANDAG estimates). As shown in the table, the rates of job growth in all three areas over the time period are relatively similar. Total employment in the City of San Diego increased from 681,218 jobs in 1990 to 811,364 jobs in 2011. This represents a total increase of 130,146 jobs, and an average annual increase of 6,197 jobs or 0.8%.

The rates of employment growth in the balance of San Diego County and the State were similar to the City's growth rate, as shown in the table below. It should be noted that population growth within the City of San Diego lagged behind population growth in the balance of the County by an even greater amount. In other words, the lower employment growth rate for the City as versus the County is not meaningful when considered in context of the slower population growth occurring in the City during this same time period.

Change in Employment by Place of Work, 1990-2011	Average Annual Growth in Employment	Average Annual Growth in Population
City of San Diego	0.8%	0.8%
County of San Diego (excluding City)	2.0%	1.3%
State of California	0.6%	1.1%

Source: U.S. Census Bureau, State of California Employment Development Department, and State of California Department of Finance

The Burden of Paying for Impact Fees

The question is sometimes raised as to "who pays" for the housing impact fee. For example, does the burden fall on developers, end user/tenants, or landowners. Of course, the developer pays the fee at the time of building permit issuance. The question is focused on whether the fee is ultimately passed through to end users or tenants, results in reduced developer profits, or results in a reduction in land value achieved by the landowner who sells a development site to a developer.

It is the KMA view based on our experience with real estate economics that an impact fee charged for affordable housing functions similarly to any other development exaction. In other words, it is absorbed over time into the market for buying and selling of development sites. Whether this is true in the case of every development project depends on economic cycles, timing of land acquisition and entitlement,

and numerous other external factors. Obviously, if a proposed development site is already in use for another economically viable purpose, any increase in developer exactions will tend to delay the feasibility of implementing new development on the site.

Timing of Fee Payment

The question has been raised whether there is a measurable benefit to allowing the payment of the linkage fee to occur later than building permit issuance, e.g., at certificate of occupancy. The objective of this approach would be to offer an offsetting economic incentive to developers to help reduce the impact of the fee obligation. However, the reverse impact also holds – the City would receive the linkage fee revenue at a later date, and it would experience delays in implementing its affordable housing program.

The economic benefit to developer of paying a fee at certificate of occupancy, rather than building permit issuance, can be estimated in the form of savings in cost of funds or interest carrying costs. The chart below provides an illustration of the potential magnitude of interest carry savings to a developer for various fee levels. For this illustration, KMA has used an office building, ranging from a garden office to an urban high-rise. We have assumed construction periods ranging from a low of 12 months to a high of 24 months. In each case, we have assumed an annualized carrying cost of 9.0%, reflecting the blended cost of debt and equity needed for construction.

		Office		
		Garden	**Suburban Mid-Rise**	**Urban High-Rise**
Total Development Costs ($/SF GBA)		$264/SF	$310/SF	$489/SF
Construction Period		12 months	18 months	24 months
Fee Level		**Potential Interest Carry Savings**		
Existing Fee @	$1.06 /SF	$0.10 /SF	$0.14 /SF	$0.19 /SF
Fee @ 1.0% of Costs	$2.64 – $4.89/SF	$0.24 /SF	$0.42 /SF	$0.88 /SF
Fee @ 2.0% of Costs	$5.27 - $9.79 /SF	$0.47/SF	$0.84 /SF	$1.76 /SF

As shown above, depending on the type of office building, potential interest carry savings is estimated to range between $0.10/SF and $0.19/SF for the existing fee, $0.24/SF and $0.88/SF for a potential fee at 1.0% of costs, and between $0.47/SF and $1.76/SF for a potential fee at 2.0% of costs. As shown, the absolute savings for the existing fee is relatively minor because the existing fee itself is less than 0.5% of development costs.

In addition to the potential interest carry savings, it should also be recognized that the last dollars to raise in equity are often the most difficult to obtain and the most costly. As a result, for some projects the savings could be somewhat greater than that indicated above.

Discussion of Potential Indices for Fee Level Adjustment

There are a number of potential indices that could be used to adjust fee levels in the future. Some potential objectives that could potentially be taken into consideration in selecting an appropriate index for the fee are as follows:

Administrative Objectives

- Simple and easily administered
- Clear and objective, not subject to interpretation
- Tied to readily accessible and neutral third party published source

Potential Policy Objectives

- Maintain ability to mitigate impacts/fund affordable housing over long-term
- Maintain consistent fee burden over long-term
- Respond to economic cycles: fee relief during economic downturn, increased fees with a strong economy

The following chart reviews a range of potential indices that could be used to adjust the fee in the future.

Index	Concept / Description	Advantages	Disadvantages
#1 Building Cost Index (BCI)	Fees go up or down based on building construction costs. Published by Engineering News Record (ENR). Available at national average and for 20 cities (not San Diego; Los Angeles is nearest city available).	Very well established and the current index established in the ordinance. Consistent fee burden over time relative to construction costs.	May not trend with changes in non-construction development costs (land, other soft costs). May not trend with cost to produce affordable units. Only addresses cost side of the equation.

Index	Concept / Description	Advantages	Disadvantages
#2 Construction Costs Index (CCI)	Also published by ENR and similar to Building Cost Indices but with different weighting of labor and material cost categories.	Very well established. Consistent fee burden over time relative to construction costs.	May not trend with changes in non-construction development costs (land, other soft costs). May not trend with cost to produce affordable units. Only addresses cost side of the equation.
#3 Consumer Price Index (CPI)	Published by the U.S. Bureau of Labor Statistics. Available for major metro areas including San Diego.	Very well established. Generally tracks with inflation. Available for San Diego specifically.	May not trend with: - Construction costs (consistent fee burden) or - Cost to produce affordable units (consistent ability to mitigate impacts)
#4 Bureau of Labor Statistics (BLS) Construction Indices	BLS publishes "producer price indices" for a long list of industries.	Opportunity for index tied to specific types of construction.	Different indices for different uses somewhat more complicated.

Index	Concept / Description	Advantages	Disadvantages
#5 Housing Affordability Index	Metric tied to housing affordability. Fees go up as housing becomes less affordable. Based on what median household can afford versus median housing cost	Maintains consistent level of mitigation. Revenue increase as cost to produce unit increases.	Would not maintain consistent fee burden. Requires special calculation by the City and not produced by a neutral third party.

Recommendations

The decision to amend the City's Housing Impact Fees is a policy matter in which multiple City objectives are likely to be taken into consideration in addition to the goal of creating more affordable housing. Legally the City may select fees at any level up to the maximum supported by the nexus analysis; however, as a practical matter, most cities do not desire to set fees so high they become a deterrent to development. Accordingly, the focus of KMA's recommendations as outlined below is on bracketing an upper end of the range or maximum within which the City can have a reasonable degree of confidence that new development will not be significantly impaired.

Maximum Fee Levels

KMA's recommendation is that potential amended Housing Impact Fees be set within a range of up to 1.5% of total development costs. The recommended maximums are based on KMA's evaluation as to the fee increase that could be absorbed without a significant impact on development decisions. KMA further notes that the fees initially adopted in 1990 were set at a level equivalent to approximately 1.5% of development costs.

KMA's recommendations and other relevant benchmarks are summarized in the table below including: the current fee in place since 1996 (half the 1990 fees); the original 1990 fees; the fees today had the 1990 fees been indexed in accordance with the ENR index per the current ordinance; and the recommended maximum fee levels equivalent to 1.5% of development costs (using the development prototypes and cost estimates described earlier in this section). As noted previously, the current fee levels equate to 0.2% to 0.3% of development costs. All figures are expressed per square foot of gross building area.

Recommended Maximum Fee Levels for Consideration and Relevant Benchmarks

	Current Fee (Since 1996)	Fee as Adopted (in 1990)	Fee if Index the 1990 fees to today (ENR Index per Current Ordinance)	Recommended Maximum Fee Levels for Consideration (up to 1.5% of Development Costs)
Office	$1.06	$2.12	$4.19	$5.32
Hotel	$0.64	$1.28	$2.53	$4.73
Retail	$0.64	$1.28	$2.53	$4.96
Research & Development	$0.80	$1.60	$3.16	$4.14
Manufacturing/Industrial	$0.64	$1.28	$2.53	$3.05
Warehouse/Storage	$0.27	$0.54	$1.07	$2.28

Note: The nexus analysis combined research and development uses with manufacturing/industrial uses although research and development has a separate fee level in the ordinance.

Housing impact fees, like other development impact fees and exactions, ultimately become a factor in the price developers are willing to pay for development sites. A fee increase will, generally speaking, increase development costs and reduce the price developers will pay for sites. KMA's evaluation regarding the ability to absorb a fee increase up to the recommended maximum is based upon all the various criteria and considerations outlined above and a calibration of potential fee levels relative to land values. If fees are established at 1.5% of estimated development costs, it is estimated that a market adjustment in the value of development sites in the range of 5% to 10% could result for most non-residential building types. In our evaluation, the market will be able to adjust to such a change in a relatively short period. For example, if land values appreciated at an average rate comparable to inflation, then a 5% to 10% adjustment in value could be absorbed in two to three years. Fee levels higher than 1.5% of development costs will have a more significant impact on land value, and have the potential to delay or discourage new non-residential development.

As noted previously, the current Housing Impact Fees reflect between 0.2% and 0.3% of current estimated total development costs. Thus, new fees at 1.5% of development costs would represent an increase on the order of 1.2% to 1.3% of development costs.

Annual Escalation Index

Application of an annual index to the fee level is necessary to maintain the ability to mitigate impacts over time. KMA recommends leaving in place the current index: the Building Cost Index for twenty cities published by ENR. However, we recommend that the ordinance be modified to make application

of the index automatic rather than subject to a discretionary action by the City Council each year. As noted earlier, the Building Cost Index is well established, readily available, and would provide for a consistent fee burden over time relative to construction cost.

TABLE V-1

LINKAGE FEE LEVELS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	1990	1996	2013
I. Decrease in 1996 / No Annual Escalation			
Office	$2.12	$1.06	$1.06
Hotel	$1.28	$0.64	$0.64
Retail	$1.28	$0.64	$0.64
Research and Development	$1.60	$0.80	$0.80
Manufacturing	$1.28	$0.64	$0.64
Warehouse	$0.54	$0.27	$0.27
II. Fee at Adoption / No Annual Escalation			
Office	$2.12	$2.12	$2.12
Hotel	$1.28	$1.28	$1.28
Retail	$1.28	$1.28	$1.28
Research and Development	$1.60	$1.60	$1.60
Manufacturing	$1.28	$1.28	$1.28
Warehouse	$0.54	$0.54	$0.54
III. Annual Escalation Since Fee Adoption (1)			
Building Cost Index (1)	*2,634*	*3,128*	*5,210*
% Change from Previous Year		*0.6%*	*1.9%*
Office	$2.12	$2.52	$4.19
Hotel	$1.28	$1.52	$2.53
Retail	$1.28	$1.52	$2.53
Research and Development	$1.60	$1.90	$3.16
Manufacturing	$1.28	$1.52	$2.53
Warehouse	$0.54	$0.64	$1.07

(1) Source: McGraw Hill Construction ENR Building Cost Index.

TABLE V-2

TOTAL LINKAGE FEE REVENUES, FY 1992 - 2013
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Linkage Fee Revenues			
Fiscal Year	Actual Collected	Test 1: No Adjustment in 1996		Test 2: No Adjustment in 1996 plus Escalation (1)
1992	$6,211,000	$6,211,000		$6,211,000
1993	$1,899,000	$1,899,000	3.3%	$1,961,000
1994	$1,432,000	$1,432,000	5.9%	$1,567,000
1995	$2,242,000	$2,242,000	2.1%	$2,505,000
1996	$2,885,000	$2,885,000	0.6%	$3,241,000
1997	$1,859,000	$3,718,000	5.9%	$4,422,000
1998	$3,283,000	$6,566,000	1.8%	$7,948,000
1999	$5,398,000	$10,796,000	1.5%	$13,258,000
2000	$4,953,000	$9,906,000	2.3%	$12,443,000
2001	$3,382,000	$6,764,000	1.5%	$8,620,000
2002	$2,425,000	$4,850,000	0.8%	$6,231,000
2003	$1,645,000	$3,290,000	1.8%	$4,302,000
2004	$1,448,000	$2,896,000	3.2%	$3,908,000
2005	$2,262,000	$4,524,000	9.7%	$6,700,000
2006	$3,520,000	$7,040,000	5.0%	$10,947,000
2007	$2,949,000	$5,898,000	2.6%	$9,408,000
2008	$2,389,000	$4,778,000	2.6%	$7,819,000
2009	$677,000	$1,354,000	5.3%	$2,333,000
2010	$333,000	$666,000	0.0%	$1,147,000
2011	$662,000	$1,324,000	3.6%	$2,364,000
2012	$1,463,000	$2,926,000	2.9%	$5,376,000
2013	$307,000	$614,000	1.9%	$1,149,000
Total	**$53,317,000**	**$92,579,000**		**$123,860,000**
Potential Number of Additional Units Developed @ Typical Subsidy of $100,000 /Unit		**393 Units**		**705 Units**

(1) Based on annual McGraw Hill Construction ENR Building Cost Index History.

TABLE V-3

COMPARISON OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Jurisdiction	Yr. Adopted/ Updated	Current Fee Levels per SF	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
High Fee Cities						
City and County of San Francisco Population: 797,983	1981 Updated in 2002, 07	• Office $22.83 • Hotel $17.10 • Retail & Entertainment $21.30 • R&D $15.21 • Integrated PDR $17.95 • Small Enterprise $17.95	25,000 GSF threshold	Yes May contribute land for housing	Very Substantial	Fee is adjusted annually based on the construction cost increases
City of Palo Alto Population: 63,475	1984 Updated in 2002	• Commercial & Industrial $18.44	No Minimum threshold Churches; colleges and universities; commercial recreation; hospitals, convalescent facilities; private clubs, lodges, fraternal organizations, private education facilities; and public facilities are exempt	Yes	Very Substantial	Fee is adjusted annually based on CPI
City of Menlo Park Population: 31,669	1998	• Office & R&D $14.71 • All other commercial and industrial $7.98	10,000 gross SF threshold Churches, private clubs, lodges, fraternal orgs, public facilities and projects with few or no employees are exempt	Yes, preferred May provide housing on- or off-site	Very Substantial	Fee is adjusted annually based on CPI
Medium Fee Cities						
County of Marin Population: 250,666	2003	• Office & R&D $7.19 • Retail & Restaurant $5.40 • Warehouse $1.94 • Manufacturing $3.74 • Hotel/Motel (/Room) $1,745	No minimum threshold	Yes, preferred	Substantial	
City of St. Helena Population: 5,838	2004	• Office $3.61 • Commercial & Retail $4.57 • Hotel $3.33 • Winery & Industrial $1.11	Small childcare facilities, churches, non-profits, vineyards, and public facilities are exempt	Yes, subject to city council approval	Substantial	
Town of Corte Madera Population: 9,191	2001	• Office $4.79 • R&D lab $3.20 • Light Industrial $2.79 • Warehouse $0.40 • Retail $8.38 • Com Services $1.20 • Restaurant $4.39 • Hotel $1.20 • Health Club & Rec $2.00 • Training facility/ School $2.39	No minimum threshold	N/A	Substantial	
City of Santa Monica Population: 89,153	1984 Updated in 2002	Office only • First 15,000 SF $5.06 • 15,000 + SF $11.24	15,000 sf exemption for new construction, 10,000 sf exemption for additions	Yes	Very Substantial	Includes fee for open space as well. Fees adjusted quarterly based on CPI. No comprehensive update since adoption.
City of Sunnyvale Population: 138,436	1984 Updated in 2003	• Industrial & Office $9.08	Applies only to the portion of the project that is in excess of allowable FAR (typically 0.35:1)	N/A	Very Substantial	
City of Mountain View Population: 73,394	2001 Updated in 2012	• Industrial, Office & High Tech $10.00 • Hotel, Retail & Entertainment $2.37	Fee is 50% less if building meets threshold: Office <10,000 SF Hotel <25,000 SF Retail <25,000 SF	Yes	Very Substantial	

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V-3

COMPARISON OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Jurisdiction	Yr. Adopted/ Updated	Current Fee Levels per SF		Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
Medium Fee Cities (Continued)							
City of Walnut Creek Population: 64,168	2005	• Office, retail, hotel and medical	$5.00	First 500 SF no fee applied	Yes	Very Substantial	Reviewed every five years
City of Oakland Population: 389,397	2002	• Office & Warehouse	$4.00	25,000 SF exemption	Yes Can build units equal to total eligible SF times 0.0004	Moderate	Fee due in 3 installments. Fee adjusted with an annual escalator tied to residential construction cost increases.
City of Cupertino Population: 57,459	1993	• Industrial, Office, Hotel, Retail, R&D • Planned Industrial Park Zones	$5.23 $2.62	No minimum threshold	N/A	Very Substantial	Fee is adjusted annually based on CPI
City of Berkeley Population: 111,008	1993	• All Commercial • Industrial	$4.00 $2.00	7,500 SF threshold	Yes	Substantial	Fee has not changed since 1993; may negotiate fee downward based on hardship or reduced impact
Low Fee Cities							
City of Napa Population: 76,560	1999	• Office • Hotel • Retail • Industrial & Wine Pdn & Small Warehouse • Warehouse (30-100K SF) • Warehouse (100K+ SF)	$1.00 $1.40 $0.80 $0.50 $0.30 $0.20	No minimum threshold Non-profits are exempt	Units or land dedication; on a case by case basis	Moderate/ Substantial	Fee has not changed since 1999
County of Napa Population: 135,377	Updated 2004	• Office • Hotel • Retail • Industrial • Warehouse	$2.00 $3.00 $2.00 $1.00 $0.80	No minimum threshold Non-profits are exempt	Units or land dedication; on a case by case basis	Moderate/ Substantial	There is a companion fee of 1% of construction costs on all residential construction
City of Petaluma Population: 57,265	2003	• Commercial • Industrial • Retail	$2.08 $2.15 $3.59	Fee is 50% less if located in redevelopment project area Schools and churches exempt	N/A	Moderate/ Substantial	
County of Sonoma Population: 478,551	2005	• Office • Hotel • Retail • Services • Industrial • Warehousing • Ag Processing	$2.40 $2.40 $4.15 $4.15 $2.48 $2.48 $2.48	First 2,000 SD exempt Non-profits, redevelopment areas are exempt	Yes Program specifies number of units per 1,000 SF	Moderate	Fee adjusted annually by ENR construction cost index
City of Cotati Population: 7,154	2006	• Commercial • Industrial • Retail	$2.08 $2.15 $3.59	First 2,000 SF exempt Non-profits exempt	Yes Program specifies number of units per 1,000 SF	Moderate	Fee adjusted annually by ENR construction cost index
City of Alameda Population: 73,239	1989	• Office • Retail • Warehouse • Manufacturing • Hotel/Motel (/Room)	$4.21 $2.14 $0.73 $0.73 $1,081	No minimum threshold	Yes Program specifies number of units per 100,000 SF	Moderate	Fee may be adjusted by CPI
City of West Hollywood Population: 34,564	1986	• Non-Residential	$2.85	N/A	N/A	Substantial	Fees adjusted by CPI annually

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V-3

COMPARISON OF JOBS HOUSING LINKAGE FEE PROGRAMS, CALIFORNIA
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Jurisdiction	Yr. Adopted/ Updated	Current Fee Levels per SF	Thresholds & Exemptions	Build Option/ Other	Market Strength	Comments
Low Fee Cities (Continued)						
City of Pleasanton Population: 69,220		• Commercial, Office & Industrial $2.83	No minimum threshold	N/A	Moderate	Fee adjusted annually
City of Sacramento Population: 463,537	1989 Most recent update, 2005	• Office $2.25 • Hotel $2.14 • R&D $1.91 • Commercial $1.80 • Manufacturing $1.41 • Warehouse/Office $0.82	No minimum threshold Mortuary, parking lots, garages, RC storage, Christmas tree lots, B&Bs, mini-storage, alcoholic beverage sales, reverse vending machines, mobile recycling, and small recyclable collection facilities	Pay 20% fee plus build at reduced nexus (not meaningful given amount of fee)	Moderate	North Natomas area has separate fee structure
City of San Diego Population: 1,296,437	1990 Fees reduced in 1996; have not been readjusted	• Office $1.06 • Hotel $0.64 • R&D $0.80 • Retail $0.64 • Manufacturing $0.64 • Warehouse $0.27	No minimum threshold Development by government entities. No exempted uses.	Can dedicate land or air rights in lieu of fee	Substantial	
City of Livermore Population: 79,710	1999	• Retail $0.90 • Service Retail $0.678 • Office $0.579 • Hotel (Per Room) $442 • Manufacturing $0.277 • Warehouse $0.08 • Business Park $0.574 • Heavy Industrial $0.2 • Light Industrial $0.18	No minimum threshold Church; private or public schools	Yes Negotiated on case-by-case basis	Moderate	
City of Folsom Population: 70,564	2002	• Office, Retail, Light Industrial, and Manufacturing $1.20 Up to 200,000 SF, 100% of fee; 200,000-250,000 SF, 75% of fee; 250,000-300,000 SF, 50% of fee; 300,000 and up, 25% of fee.	No minimum threshold Select nonprofits, small child care centers, churches, mini storage, parking garages, private garages, private schools, etc.	Yes Provide new or rehab housing affordable to very low income households. Also, land dedication	Moderate/ Substantial	Fee is adjusted annually based on construction cost index
County of Sacramento Population: 1,408,480	1989	• Office $0.97 • Hotel $0.92 • R&D $0.82 • Commercial $0.77 • Manufacturing $0.61 • Indoor Recreational Centers $0.50 • Warehouse $0.26	No minimum threshold Service uses operated by non-profits are exempt	Pay 20% fee plus build at reduced nexus (not meaningful given amount of fee)	Moderate	Currently in the process of updating
City of Elk Grove Population: 146,537	1988 (inherited from County when incorporated)	$30 flat fee plus: • Office $0.97 • Hotel $0.92 • R&D $0.82 • Commercial $0.77 • Manufacturing $0.61 • Indoor Recreational Centers $0.50 • Warehouse $0.26	No minimum threshold Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt	Pay 20% fee plus build at reduced nexus (not meaningful given amount of fee)	Moderate	City may update fee after County of Sacramento updates its fee. Rancho Cordova and Citrus Heights have identical or very similar fee structures

Note: This chart has been assembled to present an overview, and as a result, terms are simplified. The information is recent but not all data has been updated as of the date of this report. In some cases, fees are adjusted by an index (such as CPI) which may not be reflected. For use other than general comparison, please consult the code and staff of the jurisdiction.

TABLE V-4

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: OFFICE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Garden Office		Suburban Mid-Rise Office		Urban High-Rise Office	
I. Project Description						
Site Size (Acres)	3.50 Acres		2.00 Acres		1.00 Acres	
Floor Area Ratio (FAR)	0.40		1.50		4.00	
Gross Building Area	61,000 SF		131,000 SF		174,000 SF	
Density						
Number of Stories	3 Stories		5 Stories		15 Stories	
Number of Rooms	N/A Rooms		N/A Rooms		N/A Rooms	
Parking Spaces	244 Spaces		524 Spaces		435 Spaces	
Parking Ratio	4.0 Spaces/1,000 SF		4.0 Spaces/1,000 SF		2.5 Spaces/1,000 SF	
Type	Surface		Deck / Structured		Subterranean	
II. Development Costs						
Land Acquisition	$25 /SF	$3,812,000	$50 /SF	$4,356,000	$300 /SF	$13,068,000
Sitework	$5 /SF	$762,000	$10 /SF	$871,000	$20 /SF	$871,000
Parking	$1,500 /Space	$366,000	$10,000 /Space	$5,240,000	$35,000 /Space	$15,225,000
Shell Construction	$100 /SF	$6,100,000	$125 /SF	$16,375,000	$180 /SF	$31,320,000
Tenant Improvements/FF&E	$30 /SF	$1,830,000	$35 /SF	$4,585,000	$40 /SF	$6,960,000
Subtotal Direct Costs	$148 /SF	$9,058,000	$207 /SF	$27,071,000	$313 /SF	$54,376,000
Add: Indirect/Financing Costs (1)	30% of Directs	$2,717,000	30% of Directs	$8,121,000	30% of Directs	$16,313,000
Add: Permits and Fees	$8 /SF	$488,000	$8 /SF	$1,048,000	$8 /SF	$1,392,000
Total Development Costs	$264 /SF	$16,075,000	$310 /SF	$40,596,000	$489 /SF	$85,149,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-5

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: HOTEL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Extended Stay Hotel		Full-Service Mid-Rise Hotel		Full-Service High-Rise Hotel	
I. Project Description						
Site Size (Acres)	3.00 Acres		2.00 Acres		1.00 Acres	
Floor Area Ratio (FAR)	0.80		2.00		6.00	
Gross Building Area	105,000 SF		174,000 SF		261,000 SF	
Density						
Number of Stories	3 Stories		6 Stories		15+ Stories	
Number of Rooms	175 Rooms		230 Rooms		300 Rooms	
Parking Spaces	126 Spaces		174 Spaces		196 Spaces	
Parking Ratio	1.2 Spaces/Room		1.0 Spaces/Room		0.8 Spaces/Room	
Type	Surface		Structured		Subterranean	
II. Development Costs						
Land Acquisition	$25 /SF	$3,267,000	$50 /SF	$4,356,000	$300 /SF	$13,068,000
Sitework	$5 /SF	$653,000	$8 /SF	$697,000	$15 /SF	$653,000
Parking	$1,500 /Space	$189,000	$15,000 /Space	$2,610,000	$35,000 /Space	$6,851,000
Shell Construction	$110 /SF	$11,550,000	$150 /SF	$26,100,000	$200 /SF	$52,200,000
Tenant Improvements/FF&E	$10,000 /Room	$1,750,000	$25,000 /Room	$5,750,000	$40,000 /Room	$12,000,000
Subtotal Direct Costs	$135 /SF	$14,142,000	$202 /SF	$35,157,000	$275 /SF	$71,704,000
Add: Indirect/Financing Costs (1)	30% of Directs	$4,243,000	30% of Directs	$10,547,000	35% of Directs	$25,096,000
Add: Permits and Fees	$10 /SF	$1,050,000	$10 /SF	$1,740,000	$10 /SF	$2,610,000
Total Development Costs	$216 /SF	$22,702,000	$298 /SF	$51,800,000	$431 /SF	$112,478,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-6

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: RETAIL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Strip Retail Center		Community Retail Center		Urban Retail Center	
I. Project Description						
Site Size (Acres)	2.50 Acres		10.00 Acres		4.00 Acres	
Floor Area Ratio (FAR)	0.30		0.25		0.50	
Gross Building Area	33,000 SF		109,000 SF		87,000 SF	
Density						
Number of Stories	1 Stories		1 Stories		1 - 2 Stories	
Number of Rooms	N/A Rooms		N/A Rooms		N/A Rooms	
Parking Spaces	165 Spaces		545 Spaces		348 Spaces	
Parking Ratio	5.0 Spaces/1,000 SF		5.0 Spaces/1,000 SF		4.0 Spaces/1,000 SF	
Type	Surface		Surface		Deck / structured	
II. Development Costs						
Land Acquisition	$25 /SF	$2,723,000	$25 /SF	$10,890,000	$50 /SF	$8,712,000
Sitework	$5 /SF	$545,000	$5 /SF	$2,178,000	$8 /SF	$1,394,000
Parking	$1,500 /Space	$248,000	$1,500 /Space	$818,000	$15,000 /Space	$5,220,000
Shell Construction	$90 /SF	$2,970,000	$105 /SF	$11,445,000	$125 /SF	$10,875,000
Tenant Improvements/FF&E	$20 /SF	$660,000	$25 /SF	$2,725,000	$30 /SF	$2,610,000
Subtotal Direct Costs	$134 /SF	$4,423,000	$157 /SF	$17,166,000	$231 /SF	$20,099,000
Add: Indirect/Financing Costs (1)	30% of Directs	$1,327,000	30% of Directs	$5,150,000	30% of Directs	$6,030,000
Add: Permits and Fees	$10 /SF	$330,000	$10 /SF	$1,090,000	$10 /SF	$870,000
Total Development Costs	$267 /SF	$8,803,000	$315 /SF	$34,296,000	$410 /SF	$35,711,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-7

NON-RESIDENTIAL DEVELOPMENT PROTOTYPES: INDUSTRIAL
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

	Research & Development		Manufacturing / Industrial		Warehouse / Storage	
I. Project Description						
Site Size (Acres)	4.00 Acres		3.50 Acres		5.00 Acres	
Floor Area Ratio (FAR)	0.40		0.35		0.35	
Gross Building Area	70,000 SF		53,000 SF		76,000 SF	
Density						
Number of Stories	2 - 3 Stories		1 - 2 Stories		1 Stories	
Number of Rooms	N/A Rooms		N/A Rooms		N/A Rooms	
Parking Spaces	280 Spaces		212 Spaces		190 Spaces	
Parking Ratio	4.0 Spaces/1,000 SF		4.0 Spaces/1,000 SF		2.5 Spaces/1,000 SF	
Type	Surface		Surface		Surface	
II. Development Costs						
Land Acquisition	$30 /SF	$5,227,000	$20 /SF	$3,049,000	$15 /SF	$3,267,000
Sitework	$5 /SF	$871,000	$5 /SF	$762,000	$5 /SF	$1,089,000
Parking	$1,500 /Space	$420,000	$1,500 /Space	$318,000	$1,500 /Space	$285,000
Shell Construction	$90 /SF	$6,300,000	$60 /SF	$3,180,000	$50 /SF	$3,800,000
Tenant Improvements/FF&E	$40 /SF	$2,800,000	$25 /SF	$1,325,000	$10 /SF	$760,000
Subtotal Direct Costs	$148 /SF	$10,391,000	$105 /SF	$5,585,000	$78 /SF	$5,934,000
Add: Indirect/Financing Costs (1)	30% of Directs	$3,117,000	30% of Directs	$1,676,000	30% of Directs	$1,780,000
Add: Permits and Fees	$8 /SF	$560,000	$8 /SF	$424,000	$8 /SF	$608,000
Total Development Costs	$276 /SF	$19,295,000	$203 /SF	$10,734,000	$152 /SF	$11,589,000

(1) Includes architecture & engineering, legal & accounting, taxes & insurance, developer fee, marketing/leasing, and other indirects. Excludes permits and fees.

TABLE V-8

NON-RESIDENTIAL BUILDING PERMIT VALUATION
TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

(in millions)	1990	1991	1992	1993	1994	1995	1996	1997	1998
City of San Diego									
Office	$100.8	$46.5	$14.9	$8.7	$9.8	$1.1	$67.1	$102.0	$137.7
Hotel	$48.8	$29.6	$6.2	$5.7	$0.0	$0.0	$0.5	$8.0	$25.8
Retail (1)	$98.7	$16.2	$40.2	$27.5	$24.5	$46.1	$34.9	$29.6	$36.5
Industrial	$53.8	$27.0	$61.2	$9.5	$16.0	$33.0	$38.7	$51.9	$62.7
Total, City	$302.1	$119.3	$122.4	$51.5	$50.2	$80.2	$141.2	$191.6	$262.7
Percent Change	N/A	-60.5%	2.6%	-57.9%	-2.4%	59.6%	76.1%	35.7%	37.1%
County of San Diego - Excl. City									
Office	$47.1	$48.8	$5.9	$6.2	$4.5	$68.4	$8.4	$28.8	$57.0
Hotel	$40.6	$33.3	$4.1	$0.0	$0.5	$8.4	$10.9	$22.9	$17.5
Retail (1)	$85.7	$79.2	$48.5	$86.9	$57.6	$73.7	$73.7	$78.8	$102.4
Industrial	$57.9	$44.5	$21.1	$14.4	$17.6	$25.2	$63.0	$133.8	$209.2
Total, County - Excl. City	$231.3	$205.8	$79.6	$107.5	$80.1	$175.8	$156.0	$264.3	$386.1
Percent Change	N/A	-11.0%	-61.3%	35.1%	-25.5%	119.5%	-11.3%	69.4%	46.1%
State of California									
Office	$1,931.9	$1,178.0	$647.1	$624.8	$479.1	$619.6	$772.5	$1,655.3	$1,922.6
Hotel	$441.9	$294.7	$83.7	$73.9	$63.3	$49.6	$120.1	$341.4	$516.8
Retail (1)	$2,161.0	$1,512.2	$1,460.6	$1,210.0	$1,308.8	$1,334.2	$1,488.8	$1,751.2	$1,959.2
Industrial	$1,591.4	$892.0	$626.0	$489.2	$649.6	$732.9	$1,140.6	$1,598.4	$2,466.5
Total, State	$6,126.2	$3,877.0	$2,817.4	$2,397.9	$2,500.9	$2,736.3	$3,521.9	$5,346.3	$6,865.1
Percent Change	N/A	-36.7%	-27.3%	-14.9%	4.3%	9.4%	28.7%	51.8%	28.4%

(1) Includes Stores and Other Merchandise and Service Stations.

Source: Construction Industry Research Board
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC\SDHC_Section V_V2\7/30/2013; lag

TABLE V-8

NON-RESIDENTIAL BUILDING PERMIT VALUATION
TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

(in millions)	1999	2000	2001	2002	2003	2004	2005	2006	2007
City of San Diego									
Office	$191.0	$126.4	$127.7	$73.5	$72.7	$196.3	$225.5	$142.9	$266.1
Hotel	$41.8	$43.7	$56.7	$95.7	$12.9	$28.6	$61.1	$133.9	$24.8
Retail (1)	$95.4	$113.5	$82.4	$41.5	$18.5	$43.2	$43.1	$20.5	$35.0
Industrial	$52.2	$47.0	$47.3	$24.9	$53.2	$62.1	$68.8	$66.7	$38.1
Total, City	$380.3	$330.6	$314.1	$235.6	$157.3	$330.3	$398.4	$364.1	$364.0
Percent Change	44.8%	-13.1%	-5.0%	-25.0%	-33.2%	109.9%	20.6%	-8.6%	0.0%
County of San Diego - Excl. City									
Office	$31.5	$27.2	$41.7	$49.0	$37.3	$40.5	$41.1	$50.2	$54.3
Hotel	$12.0	$34.4	$15.6	$1.5	$8.7	$11.4	$8.1	$64.3	$18.2
Retail (1)	$58.0	$65.9	$63.0	$102.3	$179.2	$91.7	$96.5	$132.2	$74.0
Industrial	$141.4	$118.0	$42.9	$103.2	$77.8	$55.0	$101.4	$86.7	$80.3
Total, County - Excl. City	$242.9	$245.6	$163.2	$256.0	$302.9	$198.6	$247.2	$333.4	$226.8
Percent Change	-37.1%	1.1%	-33.5%	56.9%	18.3%	-34.4%	24.4%	34.9%	-32.0%
State of California									
Office	$1,927.5	$3,185.9	$2,551.4	$1,387.6	$1,132.6	$1,626.6	$1,881.9	$2,661.1	$3,384.8
Hotel	$561.7	$723.4	$664.5	$540.8	$218.4	$273.2	$384.4	$829.2	$894.1
Retail (1)	$2,269.0	$2,325.0	$2,229.4	$2,611.8	$2,306.3	$2,621.9	$2,984.9	$3,019.1	$3,328.9
Industrial	$2,256.2	$2,206.2	1548.119	$1,216.8	$1,320.2	$1,456.3	$1,693.4	$1,756.6	$1,446.1
Total, State	$7,014.4	$8,440.5	$6,993.4	$5,757.0	$4,977.5	$5,978.0	$6,944.6	$8,266.0	$9,053.9
Percent Change	2.2%	20.3%	-17.1%	-17.7%	-13.5%	20.1%	16.2%	19.0%	9.5%

Source: Construction Industry Research Board
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC\SDHC_Section V_V2\7/30/2013; lag

TABLE V-8

NON-RESIDENTIAL BUILDING PERMIT VALUATION
TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

(in millions)	2008	2009	2010	2011	2012	Change, 1990-2012 Total	Change, 1990-2012 Average Annual
City of San Diego							
Office	$107.6	$2.0	$14.6	$72.6	$210.6	$2,317.9	$100.8
Hotel	$28.5	$0.0	$0.0	$8.8	$11.4	$672.6	$29.2
Retail (1)	$36.7	$8.3	$9.1	$18.9	$26.3	$946.8	$41.2
Industrial	$10.1	$0.0	$0.0	$0.0	$11.3	$835.6	$36.3
Total, City	$182.9	$10.3	$23.8	$100.3	$259.6	$4,772.8	$207.5
Percent Change	-49.7%	-94.4%	130.2%	322.2%	158.9%		
County of San Diego - Excl. City							
Office	$43.4	$20.6	$7.0	$17.7	$9.1	$745.8	$32.4
Hotel	$12.3	$3.8	$9.0	$44.1	$20.2	$401.8	$17.5
Retail (1)	$75.2	$12.8	$23.6	$22.7	$12.8	$1,696.4	$73.8
Industrial	$47.0	$25.7	$7.9	$3.6	$13.0	$1,490.7	$64.8
Total, County - Excl. City	$177.9	$62.9	$47.6	$88.2	$55.1	$4,334.7	$188.5
Percent Change	-21.5%	-64.7%	-24.4%	85.5%	-37.5%		
State of California							
Office	$2,014.4	$511.0	$626.6	$669.4	$1,447.4	$34,839.3	$1,514.8
Hotel	$604.7	$120.1	$97.1	$163.8	$160.3	$8,221.3	$357.4
Retail (1)	$2,811.5	$936.0	$895.9	$947.6	$958.1	$44,431.3	$1,931.8
Industrial	$938.1	$359.9	$358.3	$469.2	$1,409.8	$28,621.8	$1,244.4
Total, State	$6,368.6	$1,927.0	$1,978.0	$2,250.1	$3,975.6	$116,113.7	$5,048.4
Percent Change	-29.7%	-69.7%	2.6%	13.8%	76.7%		

Source: Construction Industry Research Board
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC\SDHC_Section V_V2\7/30/2013; lag

TABLE V-9

EMPLOYMENT BY PLACE OF WORK, TRENDS BY LAND USE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

			1990 - 2011		
	1990	2011	Total Change	Average Annual Change	Average Annual Rate of Increase
City of San Diego (1)	681,218	811,364	130,146	6,197	0.8%
County of San Diego (2) (excluding City of San Diego)	296,182	446,536	150,354	7,160	2.0%
State of California (2)	12,863,800	14,672,800	1,809,000	86,143	0.6%

(1) Source: U.S. Census Bureau American Community Survey.
(2) Source: State of California Employment Development Department.

APPENDIX A
Additional Discussion of Nexus Concepts and Assumptions

APPENDIX A – ADDITIONAL DISCUSSION OF NEXUS CONCEPTS AND ASSUMPTIONS

Matrix of Key Nexus Analysis Concepts and Assumptions

For ease of reference, we have organized the major assumptions of the nexus analysis into a matrix format with a brief description of each.

	Key Assumption	***Description***
A. Employment		
1.	Relationship Between Construction and Job Growth	Construction of new work space buildings results in new jobs added to the region.
2.	Substitution Factor	Although some / all jobs in a given new building may be relocated from elsewhere in the region, this relocation makes other space available so that somewhere in the chain new jobs are added.
3.	Multiplier Effects	Multiplier effects are not included in the analysis. This is one of many conservative assumptions we make in the analysis.
4.	Adjustment for Declining Industries	Long-term shifts in the regional economy can result in declines in employment in certain industries even as other industries add jobs. An adjustment is included to account for the fact that some new jobs will be filled by workers who are downsized from a declining industry and who already have housing locally.
5.	Unemployment / Excess Labor Force Capacity	Conditions of high unemployment / excess labor force capacity may occur temporarily as a result of economic cycles. However, temporary conditions do not undermine the underlying assumption that new work space buildings accommodate added jobs over the long term. Long-term shifts in employment are recognized under item 4 above.
6.	Labor Force Participation	Labor force participation rates are assumed to be stable for purposes of the analysis. This is a conservative assumption given labor force participation rates for men have been on a downward trajectory since 1970 while increases in participation rates by women have stabilized recently and even declined slightly.
7.	Employment Density	The analysis is based upon assumptions about employment density or the number of square feet of building area per employee (Table III-1).

	Key Assumption	*Description*
B. Worker Occupation and Compensation Level		
1.	Worker Occupations	Worker occupations are based on U.S. Bureau of Labor Statistics data. For uses such as office and manufacturing, it is necessary to identify a mix of industries representative of San Diego's economic base in order to arrive at occupational distribution. See Appendix B for more information.
2.	Compensation Levels	Compensation levels are based on 2012 data from the California Employment Development Department (EDD). The EDD data assumes hourly employees have full-time employment (another conservative assumption). See Appendix B for more information.
C. Households		
1.	Population and household growth is linked to employment growth	Workers would not come to the area if they could not expect to find a job. Existing workers would not stay in the region over the long term without jobs.
2.	Non-working Households are Excluded	Only population growth arising from new employment is included in the analysis. Non-working households such as retirees and students are not included.
3.	Existing Housing Needs	The analysis does not address existing housing needs. Only housing needs arising from employment growth are included.
4.	Multiple Earner Households	Given that most households have more than one worker, the analysis uses a distribution of workers by household size based on 2009-2011 Census data (American Community Survey). Workers in multiple earner households are assumed to have similar incomes. While there are many exceptions to this, demographic studies in recent years have shown this to be the trend.
5.	Household size distribution	Household size distribution is based on 2009-2011 Census data (American Community Survey).
6.	Variations in income by household size	No distinction is made between the incomes of workers in different size households. This assumption likely understates the number of households falling into the lower income tiers. Census data indicates average household income for five and six person households is actually less than three and four person households.

	Key Assumption	*Description*
7.	Commute Adjustment	The results of the nexus are adjusted downward to reflect existing commute patterns, including an estimate of workers commuting from Mexico. Only households likely to seek housing in the City are included based on the existing commute pattern. This existing relationship is influenced by the availability of affordable housing in the City.
D. Affordability Gaps		
1.	Rents and Sale Prices	Affordable rents and sale prices are based upon the top of each income range. For example, units for Very Low Income households (0% to 50% AMI), have rents based on 50% of AMI. This is another one of the conservative assumptions incorporated into the analysis.
2.	Rental Unit Prototype	Very Low and Low Income households are assumed to be housed in rental units. Forty percent of the affordable rental units are assumed to be provided as garden apartments, and 60% as stacked flats over podium parking. Low Income Housing Tax Credit financing (4%) is assumed for Very Low Income units.
3.	Ownership Prototype	Moderate Income households are assumed to be housed in for sale units. Forty percent of the affordable units are assumed to be provided as townhomes, and 60% as stacked flats over podium parking.

Discussion of Specific Factors in Relation to the Nexus Concept

1. Multiplier Effects

The multiplier effect refers to the concept that the income generated by a new job recycles through the economy and results in additional jobs. The total number of jobs generated is broken down into three categories – direct, indirect, and induced. In the case of the nexus analysis, the direct jobs are those located in the new workplace buildings that would be subject to the linkage fee. Multiplier effects encompass indirect and induced employment. Indirect jobs are generated by suppliers to the businesses located in the new workplace buildings. Finally, induced jobs are generated by local spending on goods and services by employees.

Multiplier effects vary by industry. Industries that draw heavily on a network of local suppliers tend to generate larger multiplier effects. Industries that are labor-intensive also tend to have larger multiplier effects as a result of the induced effects of employee spending.

Theoretically, a jobs/housing nexus analysis could consider multiplier effects although the potential for double-counting exists. The potential for double counting exists to the extent indirect and induced jobs

are added in other new buildings in the City of San Diego subject to the linkage fee. KMA chooses to omit the multiplier effects (the indirect and induced employment impacts), as it avoids potential double-counting and makes the analysis more conservative.

2. Population Growth Resulting from Non-Employment Factors

Not all population growth in San Diego is the result of new jobs in the region. Retirees, students, and others who are not part of the work force all generate demand for housing. However, non-working households are not included in the analysis since the purpose is to demonstrate the linkage between new buildings, new workers and new worker households, and demand for housing. Since only working households are part of this equation, non-working households are excluded.

SANDAG projections anticipate significant growth in the population over the age of 65 over the next 20 years; retired households are expected to represent a significant component of future household growth and overall housing demand in the region.

3. Likelihood of Different Job Categories to Attract New Population from Outside the Region

An underlying concept in the analysis is that there is a relationship between job growth and population growth. Workers from outside the region would not come without an expectation that they could find a job. People born locally and entering the work force, or for example, who came to attend college, would not stay without jobs. However, the analysis does not assume employers are recruiting from outside the region to fill specific jobs or job categories. The analysis also does not assume workers are relocating to fill specific openings.

4. Differences in Number of Workers and Household Size by Occupation Category

The analysis accounts for multiple earner households based on Census data. The Census provides data on the number of workers in households of different sizes. The Census does not provide data to show whether there are differences in this pattern by occupational category. Given this data constraint, the model does not differentiate by occupational category when incorporating information on the distribution of household sizes and number of workers per household.

Anecdotally, one can observe some workers at the lower end of the pay scale address the issue of housing affordability by means of shared living situations which result in more workers in a given size household. However, we can also find examples of workers at the lower end of the pay scale who have larger families with children. If these examples could be quantified, they would tend to push the results of the nexus in opposite directions (the first would drive the results down, while the second would drive them up). The relative importance of these two factors cannot be determined based on the data available.

5. Accounting for Demolition of Existing Buildings

For demolition of existing structures, some programs provide an offset to any impacts of the proposed construction; however, we understand that San Diego's ordinance does not provide such an exemption. Buildings are charged the fee once during their useful lives in order to mitigate the impacts. The affordable units that are assisted also have a limited useful life and eventually need to be rehabbed or replaced. Replacing older or obsolete employment space "renews" the impacts over the life of a new building and collecting the fee on the new building "renews" the mitigation of those impacts.

6. Consistency with SANDAG Projections

The nexus analysis methodology is consistent with the approach that SANDAG uses in their projections. The nexus assumes employment growth is a key driver of growth in the number of working households. Similarly, one of the key features of SANDAG's models is the integration of demographic projections with economic models and job growth forecasts in recognition of the linkage that exists.[5]

7. Upward Mobility of Workers

New employment spaces add jobs across a distribution of occupational categories. Over time, some workers will move up the career ladder, for example into managerial occupations. However, not all workers will "move up" and those that do leave a position that is usually filled by a new worker. Occupational and income composition are not affected in the aggregate by the upward mobility of particular workers.

8. Housing New Worker Households in Existing Housing Units

The analysis assumes that the existing housing stock in San Diego is needed to meet the housing needs of the existing population. New worker households, including those needing affordable housing, will need to be accommodated by adding to the existing housing stock.

[5] 2050 Regional Growth Forecast Process and Model Documentation, SANDAG, June 10, 2010.

APPENDIX B
Worker Occupations and Incomes

APPENDIX B TABLE 1

2012 NATIONAL OFFICE WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (4% or more)	2012 National Office Industry Occupation Distribution	
Management Occupations	1,971,207	6.8%
Business and Financial Operations Occupations	3,033,492	*10.5%*
Computer and Mathematical Occupations	2,284,908	*7.9%*
Architecture and Engineering Occupations	1,305,897	*4.5%*
Healthcare Practitioners and Technical Occupations	2,356,591	*8.2%*
Healthcare Support Occupations	1,241,460	*4.3%*
Building and Grounds Cleaning and Maintenance Occupations	1,873,044	*6.5%*
Sales and Related Occupations	1,901,881	*6.6%*
Office and Administrative Support Occupations	7,833,621	*27.1%*
All Other Office Related Occupations	5,066,839	*17.6%*
INDUSTRY TOTAL	28,868,940	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Office_v2;7/30/2013; dd

APPENDIX B TABLE 2

AVERAGE ANNUAL COMPENSATION, 2012
OFFICE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Office Workers
Management Occupations			
Chief Executives	$194,800	4.2%	0.3%
General and Operations Managers	$130,300	28.8%	2.0%
Marketing Managers	$132,300	4.8%	0.3%
Sales Managers	$117,300	5.1%	0.4%
Administrative Services Managers	$86,000	4.3%	0.3%
Computer and Information Systems Managers	$135,900	9.5%	0.6%
Financial Managers	$128,400	12.2%	0.8%
Architectural and Engineering Managers	$142,200	4.7%	0.3%
Property, Real Estate, and Community Association Managers	$64,000	8.6%	0.6%
Managers, All Other	$119,700	4.9%	0.3%
All Other Management Occupations (Avg. All Categories)	$119,100	13.0%	0.9%
Weighted Mean Annual Wage	***$123,700***	**100.0%**	**6.8%**
Business and Financial Operations Occupations			
Claims Adjusters, Examiners, and Investigators	$59,600	4.6%	0.5%
Human Resources Specialists	$65,700	5.6%	0.6%
Management Analysts	$81,700	10.7%	1.1%
Market Research Analysts and Marketing Specialists	$66,400	7.7%	0.8%
Business Operations Specialists, All Other	$71,300	9.9%	1.0%
Accountants and Auditors	$75,200	22.2%	2.3%
Financial Analysts	$92,500	5.9%	0.6%
Personal Financial Advisors	$79,800	5.4%	0.6%
Loan Officers	$67,700	6.0%	0.6%
All Other Business and Financial Operations Occupations (Avg. All Categories)	$71,600	21.8%	2.3%
Weighted Mean Annual Wage	***$73,600***	**100.0%**	**10.5%**
Computer and Mathematical Occupations			
Computer Systems Analysts	$87,900	13.9%	1.1%
Computer Programmers	$77,200	10.3%	0.8%
Software Developers, Applications	$100,800	18.9%	1.5%
Software Developers, Systems Software	$104,600	12.1%	1.0%
Network and Computer Systems Administrators	$78,100	8.6%	0.7%
Computer Network Architects	$91,700	4.4%	0.3%
Computer User Support Specialists	$51,000	12.7%	1.0%
Computer Network Support Specialists	$51,000	4.6%	0.4%
All Other Computer and Mathematical Occupations (Avg. All Categories)	$86,000	14.4%	1.1%
Weighted Mean Annual Wage	***$83,900***	**100.0%**	**7.9%**
Architecture and Engineering Occupations			
Architects, Except Landscape and Naval	$91,500	9.3%	0.4%
Civil Engineers	$87,400	17.9%	0.8%
Electrical Engineers	$100,600	5.8%	0.3%
Electronics Engineers, Except Computer	$103,500	4.9%	0.2%
Mechanical Engineers	$89,900	7.6%	0.3%
Architectural and Civil Drafters	$56,500	8.4%	0.4%
Civil Engineering Technicians	$61,900	4.1%	0.2%
All Other Architecture and Engineering Occupations (Avg. All Categories)	$84,700	42.0%	1.9%
Weighted Mean Annual Wage	***$84,700***	**100.0%**	**4.5%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Office_v2;7/30/2013; dd

APPENDIX B TABLE 2

AVERAGE ANNUAL COMPENSATION, 2012
OFFICE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Office Workers
Healthcare Practitioners and Technical Occupations			
Dentists, General	$164,100	4.6%	0.4%
Family and General Practitioners	$176,900	4.1%	0.3%
Physicians and Surgeons, All Other	$194,100	8.1%	0.7%
Physical Therapists	$89,700	4.2%	0.3%
Registered Nurses	$86,000	13.5%	1.1%
Dental Hygienists	$85,600	9.7%	0.8%
Licensed Practical and Licensed Vocational Nurses	$48,900	6.4%	0.5%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories)	$86,700	49.4%	4.0%
Weighted Mean Annual Wage	***$100,100***	**100.0%**	**8.2%**
Healthcare Support Occupations			
Nursing Assistants	$26,600	4.4%	0.2%
Dental Assistants	$37,700	28.2%	1.2%
Medical Assistants	$32,100	39.7%	1.7%
Veterinary Assistants and Laboratory Animal Caretakers	$28,100	5.2%	0.2%
All Other Healthcare Support Occupations (Avg. All Categories)	$30,900	22.5%	1.0%
Weighted Mean Annual Wage	***$33,000***	**100.0%**	**4.3%**
Building and Grounds Cleaning and Maintenance Occupations			
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$27,000	51.7%	3.4%
Maids and Housekeeping Cleaners	$21,400	8.4%	0.5%
Landscaping and Groundskeeping Workers	$26,800	27.1%	1.8%
All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Categories)	$27,100	12.8%	0.8%
Weighted Mean Annual Wage	***$26,500***	**100.0%**	**6.5%**
Sales and Related Occupations			
Counter and Rental Clerks	$30,700	7.1%	0.5%
Insurance Sales Agents	$86,200	11.9%	0.8%
Securities, Commodities, and Financial Services Sales Agents	$75,700	9.5%	0.6%
Sales Representatives, Services, All Other	$69,300	19.3%	1.3%
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	$87,500	4.2%	0.3%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	$63,400	4.0%	0.3%
Real Estate Sales Agents	$44,600	10.0%	0.7%
Telemarketers	$25,600	8.4%	0.6%
All Other Sales and Related Occupations (Avg. All Categories)	$39,700	25.6%	1.7%
Weighted Mean Annual Wage	***$56,000***	**100.0%**	**6.6%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	7.0%	1.9%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	7.7%	2.1%
Tellers	$27,700	5.0%	1.4%
Customer Service Representatives	$38,100	13.3%	3.6%
Receptionists and Information Clerks	$29,300	7.9%	2.1%
Executive Secretaries and Executive Administrative Assistants	$49,300	4.1%	1.1%
Medical Secretaries	$35,100	5.1%	1.4%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	9.5%	2.6%
Office Clerks, General	$31,300	12.3%	3.3%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	28.0%	7.6%
Weighted Mean Annual Wage	***$37,600***	**100.0%**	**27.1%**
			82.4%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the California Employment Development Department 2012 wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Office_v2;7/30/2013; dd

APPENDIX B TABLE 3

2012 NATIONAL HOTEL WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (3% or more)	2012 National Hotel Industry Occupation Distribution	
Management Occupations	73,430	4.2%
Food Preparation and Serving Related Occupations	442,000	*25.4%*
Building and Grounds Cleaning and Maintenance Occupations	510,530	*29.3%*
Personal Care and Service Occupations	123,270	*7.1%*
Office and Administrative Support Occupations	323,780	*18.6%*
Installation, Maintenance, and Repair Occupations	81,930	*4.7%*
All Other Hotel Related Occupations	185,970	*10.7%*
INDUSTRY TOTAL	1,740,910	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Hotel_v2 7/30/2013; dd

APPENDIX B TABLE 4

AVERAGE ANNUAL COMPENSATION, 2012
HOTEL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Hotel Workers
Management Occupations			
General and Operations Managers	$130,300	20.1%	0.8%
Sales Managers	$117,300	9.5%	0.4%
Financial Managers	$128,400	4.7%	0.2%
Food Service Managers	$58,700	11.8%	0.5%
Lodging Managers	$56,200	36.2%	1.5%
All Other Management Occupations (Avg. All Categories)	$119,100	17.7%	0.7%
Weighted Mean Annual Wage	***$91,700***	**100.0%**	**4.2%**
Food Preparation and Serving Related Occupations			
First-Line Supervisors of Food Preparation and Serving Workers	$31,800	4.9%	1.2%
Cooks, Restaurant	$25,700	13.3%	3.4%
Bartenders	$21,600	8.5%	2.2%
Waiters and Waitresses	$20,100	29.8%	7.6%
Food Servers, Nonrestaurant	$23,200	7.4%	1.9%
Dining Room and Cafeteria Attendants and Bartender Helpers	$19,100	9.9%	2.5%
Dishwashers	$19,500	6.7%	1.7%
All Other Food Prep and Serving Related Occupations (Avg. All Categories)	$22,200	19.5%	4.9%
Weighted Mean Annual Wage	***$22,000***	**100.0%**	**25.4%**
Building and Grounds Cleaning and Maintenance Occupations			
First-Line Supervisors of Housekeeping and Janitorial Workers	$40,500	5.9%	1.7%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$27,000	8.8%	2.6%
Maids and Housekeeping Cleaners	$21,400	82.4%	24.2%
All Other Bldg & Grounds Cleaning & Maintenance Occup. (Avg. All Categories)	$27,100	3.0%	0.9%
Weighted Mean Annual Wage	***$23,200***	**100.0%**	**29.3%**
Personal Care and Service Occupations			
Gaming Supervisors	$53,100	9.1%	0.6%
Gaming Dealers	$20,100	29.7%	2.1%
Amusement and Recreation Attendants	$20,800	8.9%	0.6%
Baggage Porters and Bellhops	$22,600	18.9%	1.3%
Concierges	$28,100	9.2%	0.6%
Recreation Workers	$26,300	4.6%	0.3%
All Other Personal Care and Service Occupations (Avg. All Categories)	$26,000	19.6%	1.4%
Weighted Mean Annual Wage	***$25,800***	**100.0%**	**7.1%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	7.6%	1.4%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	6.0%	1.1%
Hotel, Motel, and Resort Desk Clerks	$24,300	66.6%	12.4%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	19.8%	3.7%
Weighted Mean Annual Wage	***$30,300***	**100.0%**	**18.6%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Hotel_v2;7/30/2013; dd

APPENDIX B TABLE 4

AVERAGE ANNUAL COMPENSATION, 2012
HOTEL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Hotel Workers
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$72,000	7.9%	0.4%
Maintenance and Repair Workers, General	$37,100	86.5%	4.1%
All Other Install., Maintenance, and Repair Occupations (Avg. All Categories)	$46,800	5.6%	0.3%
Weighted Mean Annual Wage	***$40,400***	**100.0%**	**4.7%**
			89.3%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2012 California Employment Development Department wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Hotel_v2;7/30/2013; dd

APPENDIX B TABLE 5

2012 NATIONAL RETAIL WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (3% or more)	2012 National Retail Industry Occupation Distribution	
Food Preparation and Serving Related Occupations	9,469,680	33.2%
Sales and Related Occupations	9,039,490	*31.7%*
Office and Administrative Support Occupations	2,986,880	*10.5%*
Installation, Maintenance, and Repair Occupations	1,355,950	*4.8%*
Transportation and Material Moving Occupations	1,920,590	*6.7%*
All Other Retail Related Occupations	3,715,580	*13.0%*
INDUSTRY TOTAL	28,488,170	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Retail_v2;7/30/2013; dd

APPENDIX B TABLE 6

AVERAGE ANNUAL COMPENSATION, 2012
RETAIL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Retail Workers
Food Preparation and Serving Related Occupations			
First-Line Supervisors of Food Preparation and Serving Workers	$31,800	7.1%	2.4%
Cooks, Fast Food	$20,300	5.2%	1.7%
Cooks, Restaurant	$25,700	9.5%	3.1%
Food Preparation Workers	$20,800	6.1%	2.0%
Bartenders	$21,600	4.3%	1.4%
Combined Food Preparation and Serving Workers, Including Fast Food	$20,900	28.3%	9.4%
Waiters and Waitresses	$20,100	21.6%	7.2%
Dishwashers	$19,500	4.4%	1.5%
All Other Food Preparation and Serving Related Occupations (Avg. All Categories)	$22,200	13.6%	4.5%
Weighted Mean Annual Wage	***$22,100***	**100.0%**	**33.2%**
Sales and Related Occupations			
First-Line Supervisors of Retail Sales Workers	$44,800	12.6%	4.0%
Cashiers	$22,700	34.0%	10.8%
Retail Salespersons	$27,000	45.0%	14.3%
All Other Sales and Related Occupations (Avg. All Categories)	$39,700	8.3%	2.6%
Weighted Mean Annual Wage	***$28,800***	**100.0%**	**31.7%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	6.3%	0.7%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	7.7%	0.8%
Customer Service Representatives	$38,100	9.9%	1.0%
Shipping, Receiving, and Traffic Clerks	$31,300	6.0%	0.6%
Stock Clerks and Order Fillers	$24,900	42.4%	4.5%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	4.5%	0.5%
Office Clerks, General	$31,300	9.9%	1.0%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	13.4%	1.4%
Weighted Mean Annual Wage	***$32,700***	**100.0%**	**10.5%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Retail_v2;7/30/2013; dd

APPENDIX B TABLE 6

AVERAGE ANNUAL COMPENSATION, 2012
RETAIL WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Retail Workers
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$72,000	8.3%	0.4%
Automotive Body and Related Repairers	$43,500	9.3%	0.4%
Automotive Service Technicians and Mechanics	$44,100	38.1%	1.8%
Tire Repairers and Changers	$27,100	6.6%	0.3%
Maintenance and Repair Workers, General	$37,100	4.8%	0.2%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	$46,800	33.0%	1.6%
Weighted Mean Annual Wage	***$45,800***	**100.0%**	**4.8%**
Transportation and Material Moving Occupations			
Driver/Sales Workers	$30,800	10.1%	0.7%
Heavy and Tractor-Trailer Truck Drivers	$41,600	4.2%	0.3%
Light Truck or Delivery Services Drivers	$36,200	20.1%	1.4%
Parking Lot Attendants	$22,500	4.8%	0.3%
Automotive and Watercraft Service Attendants	$23,600	5.2%	0.4%
Cleaners of Vehicles and Equipment	$22,600	11.4%	0.8%
Laborers and Freight, Stock, and Material Movers, Hand	$27,000	24.2%	1.6%
Packers and Packagers, Hand	$21,200	8.7%	0.6%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	$32,500	11.3%	0.8%
Weighted Mean Annual Wage	***$29,100***	**100.0%**	**6.7%**
			87.0%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2012 California Employment Development Department wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Retail_v2;7/30/2013; dd

APPENDIX B TABLE 7

2012 NATIONAL MANUFACTURING WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (4% or more)		2012 National Manufacturing Industry Occupation Distribution	
Management Occupations		373,190	8.7%
Business and Financial Operations Occupations		297,431	*6.9%*
Computer and Mathematical Occupations		286,109	*6.7%*
Architecture and Engineering Occupations		527,548	*12.3%*
Life, Physical, and Social Science Occupations		392,351	*9.1%*
Office and Administrative Support Occupations		426,666	*9.9%*
Production Occupations		1,368,616	*31.9%*
All Other Manufacturing Related Occupations		620,068	*14.4%*
	INDUSTRY TOTAL	4,291,980	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Manufacturing_v2;7/30/2013; dd

APPENDIX B TABLE 8

AVERAGE ANNUAL COMPENSATION, 2012
MANUFACTURING WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Manufacturing Workers
Management Occupations			
General and Operations Managers	$130,300	22.9%	2.0%
Marketing Managers	$132,300	4.4%	0.4%
Sales Managers	$117,300	4.7%	0.4%
Computer and Information Systems Managers	$135,900	7.5%	0.7%
Financial Managers	$128,400	5.9%	0.5%
Industrial Production Managers	$101,600	11.2%	1.0%
Architectural and Engineering Managers	$142,200	13.7%	1.2%
Natural Sciences Managers	$172,000	8.4%	0.7%
Managers, All Other	$119,700	6.3%	0.5%
All Other Management Occupations (Avg. All Categories)	$119,100	15.0%	1.3%
Weighted Mean Annual Wage	***$129,600***	**100.0%**	**8.7%**
Business and Financial Operations Occupations			
Purchasing Agents, Except Wholesale, Retail, and Farm Products	$68,700	14.6%	1.0%
Compliance Officers	$75,300	6.0%	0.4%
Human Resources Specialists	$65,700	5.3%	0.4%
Logisticians	$81,400	6.6%	0.5%
Management Analysts	$81,700	8.5%	0.6%
Training and Development Specialists	$64,400	4.5%	0.3%
Market Research Analysts and Marketing Specialists	$66,400	8.7%	0.6%
Business Operations Specialists, All Other	$71,300	16.5%	1.1%
Accountants and Auditors	$75,200	14.4%	1.0%
Financial Analysts	$92,500	5.8%	0.4%
All Other Business and Financial Operations Occupations (Avg. All Categories)	$71,600	9.1%	0.6%
Weighted Mean Annual Wage	***$73,500***	**100.0%**	**6.9%**
Computer and Mathematical Occupations			
Computer Systems Analysts	$87,900	9.6%	0.6%
Computer Programmers	$77,200	7.6%	0.5%
Software Developers, Applications	$100,800	19.7%	1.3%
Software Developers, Systems Software	$104,600	27.6%	1.8%
Network and Computer Systems Administrators	$78,100	7.0%	0.5%
Computer User Support Specialists	$51,000	7.6%	0.5%
All Other Computer and Mathematical Occupations (Avg. All Categories)	$86,000	20.9%	1.4%
Weighted Mean Annual Wage	***$90,400***	**100.0%**	**6.7%**
Architecture and Engineering Occupations			
Aerospace Engineers	$96,200	8.2%	1.0%
Computer Hardware Engineers	$103,500	7.8%	1.0%
Electrical Engineers	$100,600	9.0%	1.1%
Electronics Engineers, Except Computer	$103,500	7.3%	0.9%
Industrial Engineers	$83,900	14.3%	1.8%
Mechanical Engineers	$89,900	12.5%	1.5%
Engineers, All Other	$100,600	5.3%	0.7%
Electrical and Electronics Engineering Technicians	$62,700	7.9%	1.0%
Industrial Engineering Technicians	$51,700	5.0%	0.6%
All Other Architecture and Engineering Occupations (Avg. All Categories)	$84,700	22.6%	2.8%
Weighted Mean Annual Wage	***$87,900***	**100.0%**	**12.3%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Manufacturing_v2;7/30/2013; dd

APPENDIX B TABLE 8

AVERAGE ANNUAL COMPENSATION, 2012
MANUFACTURING WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Manufacturing Workers
Life, Physical, and Social Science Occupations			
Biochemists and Biophysicists	$97,800	8.2%	0.7%
Microbiologists	$64,000	4.7%	0.4%
Medical Scientists, Except Epidemiologists	$84,000	19.4%	1.8%
Chemists	$88,700	16.7%	1.5%
Biological Technicians	$47,500	11.8%	1.1%
Chemical Technicians	$57,500	6.3%	0.6%
Social Science Research Assistants	$40,400	4.4%	0.4%
Life, Physical, and Social Science Technicians, All Other	$54,000	4.2%	0.4%
All Other Life, Physical, and Social Science Occupations (Avg. All Categories)	$76,000	24.4%	2.2%
Weighted Mean Annual Wage	***$73,900***	**100.0%**	**9.1%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	5.5%	0.5%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	8.4%	0.8%
Customer Service Representatives	$38,100	9.0%	0.9%
Production, Planning, and Expediting Clerks	$51,300	9.5%	0.9%
Shipping, Receiving, and Traffic Clerks	$31,300	11.5%	1.1%
Stock Clerks and Order Fillers	$24,900	6.1%	0.6%
Executive Secretaries and Executive Administrative Assistants	$49,300	9.5%	0.9%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	11.7%	1.2%
Office Clerks, General	$31,300	13.5%	1.3%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	15.1%	1.5%
Weighted Mean Annual Wage	***$39,000***	**100.0%**	**9.9%**
Production Occupations			
First-Line Supervisors of Production and Operating Workers	$60,700	7.6%	2.4%
Electrical and Electronic Equipment Assemblers	$30,300	7.8%	2.5%
Team Assemblers	$26,800	10.9%	3.5%
Machinists	$43,300	9.7%	3.1%
Welders, Cutters, Solderers, and Brazers	$41,500	4.2%	1.3%
Inspectors, Testers, Sorters, Samplers, and Weighers	$39,200	8.1%	2.6%
Packaging and Filling Machine Operators and Tenders	$26,800	5.6%	1.8%
All Other Production Occupations (Avg. All Categories)	$35,100	46.0%	14.7%
Weighted Mean Annual Wage	***$36,700***	**100.0%**	**31.9%**
			85.6%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the California Employment Development Department 2012 wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename:SDHC_Appendix B_Manufacturing_v2;7/30/2013; dd

APPENDIX B TABLE 9

2012 NATIONAL WAREHOUSING & STORAGE WORKER DISTRIBUTION BY OCCUPATION
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Major Occupations (3% or more)	2012 National Warehousing & Storage Industry Occupation Distribution	
Management Occupations	335,130	6.2%
Business and Financial Operations Occupations	230,090	*4.2%*
Sales and Related Occupations	1,149,520	*21.1%*
Office and Administrative Support Occupations	1,258,200	*23.1%*
Installation, Maintenance, and Repair Occupations	355,730	*6.5%*
Production Occupations	287,870	*5.3%*
Transportation and Material Moving Occupations	1,441,660	*26.5%*
All Other Warehousing & Storage Related Occupations	384,280	*7.1%*
INDUSTRY TOTAL	5,442,480	100.0%

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Warehousing & Storage_v2; 7/30/2013; dd

APPENDIX B TABLE 10

AVERAGE ANNUAL COMPENSATION, 2012
WAREHOUSING & STORAGE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Warehousing & Storage Workers
Management Occupations			
Chief Executives	$194,800	4.8%	0.3%
General and Operations Managers	$130,300	45.0%	2.8%
Sales Managers	$117,300	16.4%	1.0%
Financial Managers	$128,400	6.0%	0.4%
Transportation, Storage, and Distribution Managers	$93,400	7.0%	0.4%
All Other Management Occupations (Avg. All Categories)	$119,100	20.9%	1.3%
Weighted Mean Annual Wage	***$126,200***	**100.0%**	**6.2%**
Business and Financial Operations Occupations			
Wholesale and Retail Buyers, Except Farm Products	$64,000	17.3%	0.7%
Purchasing Agents, Except Wholesale, Retail, and Farm Products	$68,700	7.1%	0.3%
Human Resources Specialists	$65,700	5.6%	0.2%
Logisticians	$81,400	4.2%	0.2%
Management Analysts	$81,700	4.9%	0.2%
Market Research Analysts and Marketing Specialists	$66,400	13.5%	0.6%
Business Operations Specialists, All Other	$71,300	11.9%	0.5%
Accountants and Auditors	$75,200	20.8%	0.9%
All Other Business and Financial Operations Occupations (Avg. All Categories)	$71,600	14.6%	0.6%
Weighted Mean Annual Wage	***$70,700***	**100.0%**	**4.2%**
Sales and Related Occupations			
First-Line Supervisors of Non-Retail Sales Workers	$72,400	6.5%	1.4%
Parts Salespersons	$34,000	4.5%	0.9%
Retail Salespersons	$27,000	4.4%	0.9%
Sales Reps, Wholesale and Manufacturing, Technical and Scientific Products	$87,500	13.3%	2.8%
Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	$63,400	61.2%	12.9%
All Other Sales and Related Occupations (Avg. All Categories)	$39,700	10.1%	2.1%
Weighted Mean Annual Wage	***$61,900***	**100.0%**	**21.1%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$56,500	5.6%	1.3%
Bookkeeping, Accounting, and Auditing Clerks	$40,500	9.3%	2.2%
Customer Service Representatives	$38,100	13.2%	3.0%
Order Clerks	$31,500	4.8%	1.1%
Shipping, Receiving, and Traffic Clerks	$31,300	13.9%	3.2%
Stock Clerks and Order Fillers	$24,900	17.7%	4.1%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$38,400	7.3%	1.7%
Office Clerks, General	$31,300	12.1%	2.8%
All Other Office and Administrative Support Occupations (Avg. All Categories)	$37,300	16.1%	3.7%
Weighted Mean Annual Wage	***$34,800***	**100.0%**	**23.1%**

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Warehousing & Storage_v2; 7/30/2013; dd

APPENDIX B TABLE 10

AVERAGE ANNUAL COMPENSATION, 2012
WAREHOUSING & STORAGE WORKER OCCUPATIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Occupation [1]	2012 Avg. Compensation [2]	% of Total Occupation Group [3]	% of Total Warehousing & Storage Workers
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$72,000	8.1%	0.5%
Computer, Automated Teller, and Office Machine Repairers	$39,500	8.6%	0.6%
Automotive Service Technicians and Mechanics	$44,100	4.1%	0.3%
Bus and Truck Mechanics and Diesel Engine Specialists	$52,700	10.2%	0.7%
Farm Equipment Mechanics and Service Technicians	$38,800	7.2%	0.5%
Mobile Heavy Equipment Mechanics, Except Engines	$53,900	8.6%	0.6%
Industrial Machinery Mechanics	$55,200	8.8%	0.6%
Maintenance and Repair Workers, General	$37,100	13.9%	0.9%
Installation, Maintenance, and Repair Workers, All Other	$35,900	5.0%	0.3%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories)	$46,800	25.4%	1.7%
Weighted Mean Annual Wage	***$47,600***	**100.0%**	**6.5%**
Production Occupations			
First-Line Supervisors of Production and Operating Workers	$60,700	8.9%	0.5%
Team Assemblers	$26,800	19.0%	1.0%
Assemblers and Fabricators, All Other	$30,900	4.2%	0.2%
Machinists	$43,300	6.0%	0.3%
Welders, Cutters, Solderers, and Brazers	$41,500	5.7%	0.3%
Inspectors, Testers, Sorters, Samplers, and Weighers	$39,200	10.5%	0.6%
Packaging and Filling Machine Operators and Tenders	$26,800	10.2%	0.5%
All Other Production Occupations (Avg. All Categories)	$35,100	35.5%	1.9%
Weighted Mean Annual Wage	***$36,100***	**100.0%**	**5.3%**
Transportation and Material Moving Occupations			
Driver/Sales Workers	$30,800	8.5%	2.2%
Heavy and Tractor-Trailer Truck Drivers	$41,600	15.5%	4.1%
Light Truck or Delivery Services Drivers	$36,200	10.3%	2.7%
Industrial Truck and Tractor Operators	$35,900	10.5%	2.8%
Laborers and Freight, Stock, and Material Movers, Hand	$27,000	36.0%	9.5%
Packers and Packagers, Hand	$21,200	8.5%	2.3%
All Other Transportation and Material Moving Occupations (Avg. All Categories)	$32,500	10.8%	2.9%
Weighted Mean Annual Wage	***$31,600***	**100.0%**	**26.5%**
			92.9%

[1] Including occupations representing 4% or more of the major occupation group

[2] The methodology utilized by the California Employment Development Department (EDD) assumes that hourly paid employees are employed full-time. Annual compensation is calculated by EDD by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2012 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2009 Occupational Employment Survey data for San Diego County updated by the California Employment Development Department to 2010 wage levels.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Appendix B_Warehousing & Storage_v2; 7/30/2013; dd

APPENDIX B TABLE 11

WORKERS COMMUTING FROM MEXICO TO SAN DIEGO
JOBS HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Year	2012
Total North-Bound Border Crossings: San Ysidro and Otay Mesa[1]	41,330,000
Percent of crossings that are Commute Trips to Work[2]	25.7%
Estimate of Border Crossings that are Commute Trips	10,622,000
Number of Annual Work Days[3]	245
Estimated Number of Workers Crossing the Border	43,400
San Diego Share of Total Employment in County[4]	56%
Estimate of Number of Workers Crossing the Border for Work in City of San Diego	24,200

[1] U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, based on the U.S. Department of Homeland Security, Customs and Border Protection. Includes passengers and pedestrians.
[2] SANDAG 2011. Cross-Border travel behavior survey.
[3] Assumes an average of 5 days per week and 49 weeks per year.
[4] 2009-2011 Amercian Community Survey 3-Year Estimates

APPENDIX C
Affordability Gap Analysis

RENTAL PROTOTYPES

Affordability Gap Analysis
Jobs-Housing Nexus Study

APPENDIX C TABLE 1

GARDEN APARTMENTS

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Garden Apartments		
	Construction Type		Type V		
	Tenure		Rental		
II.	**Site Area**		174,240	SF	
			4.0	Acres	
III.	**Number of Stories**		2 - 3	Stories	
IV.	**Unit Mix**				
		# of Units	Unit Size		
	Two Bedroom	100 Units	950	SF	
V.	**Density**		25.0	Units/Acre	
VI.	**Gross Building Area**				
	Residential Net Building Area		95,000	SF	95%
	Building Efficiency		5,000	SF	5%
	Total Gross Building Area (GBA)		100,000	SF	100%
VII.	**Floor Area Ratio (FAR)**		0.57		
VIII.	**Parking**				
	Type		Surface		
	Parking Spaces		Parking Ratio (1)		
	Residents	130 Spaces	1.30	Spaces/Unit	
	Visitor	15 Spaces	0.15	Spaces/Unit	
	Staff	5 Spaces	0.05	Spaces/Unit	
	Total	150 Spaces			

(1) Reflects parking requirements for Reduced Parking Demand Housing. Assumes development is designated as a High parking demand development.

APPENDIX C TABLE 2

GARDEN APARTMENTS

ESTIMATED DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Low Income (80% AMI)				Very Low Income (50% AMI) (4% Tax Credits)			
		Totals	Per Unit		Comments	Totals	Per Unit		Comments
I.	**Acquisition Costs**	$4,356,000	$43,560	$25	Per SF Site	$4,356,000	$43,560	$25	Per SF Site
II.	**Direct Costs** (1)								
	Off-Site Improvements	$523,000	$5,230	$3	Per SF Site	$523,000	$5,230	$3	Per SF Site
	On-Sites/Landscaping	$1,742,000	$17,420	$10	Per SF Site	$1,742,000	$17,420	$10	Per SF Site
	Shell Construction	$10,000,000	$100,000	$100	Per SF GBA	$10,000,000	$100,000	$100	Per SF GBA
	Parking	$0	$0		Included above	$0	$0		Included above
	Amenities/FF&E	$250,000	$2,500		Allowance	$250,000	$2,500		Allowance
	Contingency	$626,000	$6,260	5.0%	of Directs	$626,000	$6,260	5.0%	of Directs
	Total Direct Costs	$13,141,000	$131,410	$131	Per SF GBA	$13,141,000	$131,410	$131	Per SF GBA
III.	**Indirect Costs**								
	Architecture & Engineering	$788,000	$7,880	6.0%	of Directs	$788,000	$7,880	6.0%	of Directs
	Permits & Fees (2)	$2,000,000	$20,000	$20	Per SF GBA	$2,000,000	$20,000	$20	Per SF GBA
	Legal & Accounting	$263,000	$2,630	2.0%	of Directs	$263,000	$2,630	2.0%	of Directs
	Taxes & Insurance	$263,000	$2,630	2.0%	of Directs	$263,000	$2,630	2.0%	of Directs
	Developer Fee	$526,000	$5,260	4.0%	of Directs	$2,500,000	$25,000	19.0%	of Directs
	Marketing/Lease-Up	$150,000	$1,500		Allowance	$150,000	$1,500		Allowance
	Contingency	$200,000	$2,000	5.0%	of Indirects	$298,000	$2,980	5.0%	of Indirects
	Total Indirect Costs	$4,190,000	$41,900	31.9%	of Directs	$6,262,000	$62,620	47.7%	of Directs
IV.	**Financing Costs**								
	Loan Fees	$227,000	$2,270	1.7%	of Directs	$592,000	$5,920	4.5%	of Directs
	Interest During Construction	$682,000	$6,820	5.2%	of Directs	$493,000	$4,930	3.8%	of Directs
	Interest During Lease-Up	$455,000	$4,550	3.5%	of Directs	$329,000	$3,290	2.5%	of Directs
	TCAC/Syndication Fees	$0	$0	0.0%	of Directs	$150,000	$1,500	1.1%	of Directs
	Operating Lease-Up/Reserves	$244,000	$2,440	1.9%	of Directs	$286,000	$2,860	2.2%	of Directs
	Total Financing Costs	$1,608,000	$16,080	12.2%	of Directs	$1,850,000	$18,500	14.1%	of Directs
V.	**Total Development Costs**	**$23,295,000**	**$232,950**	**$233**	**Per SF GBA**	**$25,609,000**	**$256,090**	**$256**	**Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

Prepared by: Keyser Marston Associates, Inc.
Filename: SDHC_Section IV and Appendix C_v2; 7/30/2013;rks

APPENDIX C TABLE 3

GARDEN APARTMENTS

AFFORDABLE RENTS AND UNIT VALUES AND NET OPERATING INCOME
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% of AMI)			Very Low Income (50% of AMI)		
I. Affordable Rent - Per Unit						
Family Size			3.0			3.0
Number of Bedrooms			2			2
Household Income			$59,500			$37,150
Income Allocation to Housing			30%			30%
Monthly Housing Cost			$1,488			$929
(Less) Utility Allowance (1)			($51)			($51)
Maximum Monthly Rent			**$1,437**			**$878**
		Total	**Per Unit**		**Total**	**Per Unit**
II. Net Operating Income (NOI)						
Units		100	1		100	1
Gross Scheduled Income (GSI)						
Monthly		$143,650	$1,437		$87,775	$878
Annual		$1,724,000	$17,240		$1,053,000	$10,530
Other Income	$15	$18,000	$180	$10	$12,000	$120
(Less) Vacancy	5.0%	($86,000)	($860)	5.0%	($53,000)	($530)
Effective Gross Income (EGI)		$1,656,000	$16,560		$1,012,000	$10,120
(Less) Operating Expenses (2)		($495,000)	($4,950)		($495,000)	($4,950)
(Less) Property Taxes		($200,000)	($2,000) (3)		$0	$0 (4)
Net Operating Income (NOI)		**$961,000**	**$9,610**		**$517,000**	**$5,170**

(1) Assumes San Diego Housing Commission (SDHC) 2013 utility allowances of $51/month.
(2) Includes replacement reserves, monitoring fee, assessments, etc.
(3) Based on capitalized income approach: assumes a 1.25% tax rate and a 6.0% cap rate.
(4) Assumes development is tax-exempt based on partnership with non-profit developer.

APPENDIX C TABLE 4

GARDEN APARTMENTS

AFFORDABILITY GAP FOR RENTAL UNITS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% AMI)		Very Low Income (50% AMI)	
	Total	**Per Unit**	**Total**	**Per Unit**
I. Net Operating Income (NOI)	$961,000	$9,610	$517,000	$5,170
II. Target Return on Investment	7.5%	7.5%	N/A	N/A
III. Sources of Funds				
Supportable Debt	N/A	N/A	$6,978,000	$70,000
Market Value of Tax Credits	N/A	N/A	$7,626,000	$76,000
Deferred Developer Fee	N/A	N/A	$250,000	$3,000
IV. Warranted Investment	$12,813,000	$128,000	$14,854,000	$149,000
V. (Less) Total Development Costs	($23,295,000)	($233,000)	($25,609,000)	($256,000)
VI. Affordability Gap	**($10,482,000)**	**($105,000)**	**($10,755,000)**	**($108,000)**

APPENDIX C TABLE 5

GARDEN APARTMENTS

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Low Income (80% AMI)		Very Low Income (50% AMI)
I.	**Loan Fees**			
	Total Development Costs (1)	$18,939,000		
	Loan to Cost Ratio (LTC)	80.0%		
	Construction Loan Amount	$15,151,000		
	Eligible Basis			$19,552,000
	Add: Land			$4,356,000
	Aggregate Basis			$23,908,000
	Minimum Required Tax-Exempt Bond		55%	$13,149,000
	Construction Loan Fees:			
	Loan Amount	$15,151,000		$13,149,000
	Points / Issuance Costs	1.5		4.5%
	Total Loan Fees	227,000		$592,000
II.	**Interest During Construction**			
	Interest Rate	6.0%		5.0%
	Term (Months)	15		15
	Average Balance Out	60.0%		60.0%
	Interest During Construction	$682,000		$493,000
III.	**Interest During Lease-Up**			
	Interest Rate	6.0%		5.0%
	Term (Months)	6		6
	Average Balance Out	100.0%		100.0%
	Interest During Lease-Up	$455,000		$329,000
IV.	**TCAC Fees**			
	Application Fee			$2,000
	Compliance Monitoring Fee		$410 /Unit	$41,000
	One Year of Tax Credit Value @		4.0%	$32,000
	Total TCAC Fees			$75,000
	Syndication Fees			$75,000
	Total TCAC/Syndication Fees			$150,000
V.	**Operating Lease-Up/Reserves**			
	Operating Expenses	3 months	$174,000	$124,000
	Debt Service	3 months		$112,000
	10% of Op Expenses	10.0%	$70,000	$50,000
	Total Operating Reserves		$244,000	$286,000

(1) Excluding acquisition costs.

APPENDIX C TABLE 6

GARDEN APARTMENTS

AFFORDABILITY GAP FOR RENTAL UNITS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

					Very Low - 50% AMI (4% Tax Credits)
(1)	Supportable Debt				
	NOI				$517,000
	Interest Rate				5.00%
	Term				30
	Debt Coverage				1.15
	Annual Debt Service				$449,565
	Supportable Debt				$6,978,000
(2)	Low Income Housing Tax Credits				
	Threshold Basis Limits		Effective: January 2013		
	Two Bedroom	100 Units @	$268,000 /Unit		$26,800,000
	Add: Basis Adjustment			14.0% *	$3,752,000
	Add: Local Development Impact Fees			20.0%	$400,000
	Add: Affordability <50%	100 Units		1.0%	$26,800,000
	Total Threshold Basis Limit				$57,752,000
	* Assumes 10% for projects with elevator service and 4% for projects with energy efficient features.				
	Estimate of Eligible Basis				
	Total Development Costs				$25,609,000
	(Less) Ineligible Costs				($6,057,000)
	Eligible Basis				$19,552,000
	Maximum Eligible Basis				$19,552,000
	Tax Credit Qualified Units			100.0%	$19,552,000
	Impacted Bonus Factor			130.0%	$25,417,600
	Tax Credit Rate			3.19%	$810,821
	Total Tax Credits			10	$8,108,214
	Limited Partner Share			99.0%	$8,027,132
	Present Market Value			95.0%	$7,626,000
(3)	Estimate of Deferred Developer Overhead Fee				
	Eligible Basis				$19,552,000
	(Less) Developer Fee				($2,500,000)
	Unadjusted Eligible Basis				$17,052,000
	Total Developer Overhead Fee			14.7%	$2,500,000
	Developer Overhead Fee				$2,500,000
	Total Deferred Developer Overhead Fee			10.0%	$250,000

APPENDIX C TABLE 7

STACKED FLATS OVER PODIUM PARKING

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Stacked Flats		
	Construction Type		Type V		
	Tenure		Rental		
II.	**Site Area**		87,120	SF	
			2.0	Acres	
III.	**Number of Stories**		4	Stories	
IV.	**Unit Mix**				
		# of Units	Unit Size		
	Two Bedroom	100 Units	800	SF	
V.	**Density**		50.0	Units/Acre	
VI.	**Gross Building Area**				
	Residential Net Building Area		80,000	SF	85%
	Building Efficiency		14,100	SF	15%
	Total Gross Building Area (GBA)		94,100	SF	100%
VII.	**Floor Area Ratio (FAR)**		1.08		
VIII.	**Parking**				
	Type		Podium/Subterranean		
	Parking Spaces		Parking Ratio (1)		
	Residents	110 Spaces	1.10	Spaces/Unit	
	Visitor	15 Spaces	0.15	Spaces/Unit	
	Staff	5 Spaces	0.05	Spaces/Unit	
	Total	130 Spaces			

(1) Reflects parking requirements for Reduced Parking Demand Housing. Assumes development is designated as a Medium parking demand development.

RENTAL

APPENDIX C TABLE 8

ESTIMATED DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

STACKED FLATS OVER
PODIUM PARKING

	Low Income (80% AMI)			Very Low Income (50% AMI) (4% Tax Credits)		
	Totals	**Per Unit**	**Comments**	**Totals**	**Per Unit**	**Comments**
I. Acquisition Costs	$4,356,000	$43,560	$50 Per SF Site	$4,356,000	$43,560	$50 Per SF Site
II. Direct Costs (1)						
Off-Site Improvements	$436,000	$4,360	$5 Per SF Site	$436,000	$4,360	$5 Per SF Site
On-Sites/Landscaping	$1,307,000	$13,070	$15 Per SF Site	$1,307,000	$13,070	$15 Per SF Site
Shell Construction	$11,763,000	$117,630	$125 Per SF GBA	$11,763,000	$117,630	$125 Per SF GBA
Parking	$3,250,000	$32,500	$25,000 Per Space	$3,250,000	$32,500	$25,000 Per Space
Amenities/FF&E	$250,000	$2,500	Allowance	$250,000	$2,500	Allowance
Contingency	$850,000	$8,500	5.0% of Directs	$850,000	$8,500	5.0% of Directs
Total Direct Costs	$17,856,000	$178,560	$190 Per SF GBA	$17,856,000	$178,560	$190 Per SF GBA
III. Indirect Costs						
Architecture & Engineering	$1,071,000	$10,710	6.0% of Directs	$1,071,000	$10,710	6.0% of Directs
Permits & Fees (2)	$1,882,000	$18,820	$20 Per SF GBA	$1,882,000	$18,820	$20 Per SF GBA
Legal & Accounting	$357,000	$3,570	2.0% of Directs	$357,000	$3,570	2.0% of Directs
Taxes & Insurance	$357,000	$3,570	2.0% of Directs	$357,000	$3,570	2.0% of Directs
Developer Fee	$714,000	$7,140	4.0% of Directs	$2,500,000	$25,000	14.0% of Directs
Marketing/Lease-Up	$150,000	$1,500	Allowance	$150,000	$1,500	Allowance
Contingency	$227,000	$2,270	5.0% of Indirects	$316,000	$3,160	5.0% of Indirects
Total Indirect Costs	$4,758,000	$47,580	26.6% of Directs	$6,633,000	$66,330	37.1% of Directs
IV. Financing Costs						
Loan Fees	$298,000	$2,980	1.7% of Directs	$592,000	$5,920	3.3% of Directs
Interest During Construction	$1,072,000	$10,720	6.0% of Directs	$592,000	$5,920	3.3% of Directs
Interest During Lease-Up	$596,000	$5,960	3.3% of Directs	$329,000	$3,290	1.8% of Directs
TCAC/Syndication Fees	$0	$0	0.0% of Directs	$159,000	$1,590	0.9% of Directs
Operating Lease-Up/Reserves	$244,000	$2,440	1.4% of Directs	$286,000	$2,860	1.6% of Directs
Total Financing Costs	$2,210,000	$22,100	12.4% of Directs	$1,958,000	$19,580	11.0% of Directs
V. Total Development Costs	**$29,180,000**	**$291,800**	**$310 Per SF GBA**	**$30,803,000**	**$308,030**	**$327 Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

APPENDIX C TABLE 9

STACKED FLATS OVER
PODIUM PARKING

AFFORDABLE RENTS AND UNIT VALUES AND NET OPERATING INCOME
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% of AMI)			Very Low Income (50% of AMI)		
I. Affordable Rent - Per Unit						
Family Size			3.0			3.0
Number of Bedrooms			2			2
Household Income			$59,500			$37,150
Income Allocation to Housing			30%			30%
Monthly Housing Cost			$1,488			$929
(Less) Utility Allowance (1)			($51)			($51)
Maximum Monthly Rent			**$1,437**			**$878**
		Total	**Per Unit**		**Total**	**Per Unit**
II. Net Operating Income (NOI)						
Units		100	1		100	1
Gross Scheduled Income (GSI)						
Monthly		$143,650	$1,437		$87,775	$878
Annual		$1,724,000	$17,240		$1,053,000	$10,530
Other Income	$15	$18,000	$180	$10	$12,000	$120
(Less) Vacancy	5.0%	($86,000)	($860)	5.0%	($53,000)	($530)
Effective Gross Income (EGI)		$1,656,000	$16,560		$1,012,000	$10,120
(Less) Operating Expenses (2)		($495,000)	($4,950)		($495,000)	($4,950)
(Less) Property Taxes		($200,000)	($2,000) (3)		$0	$0 (4)
Net Operating Income (NOI)		**$961,000**	**$9,610**		**$517,000**	**$5,170**

(1) Assumes San Diego Housing Commission (SDHC) 2013 utility allowances at $51/month.
(2) Includes replacement reserves, monitoring fee, assessments, etc.
(3) Based on capitalized income approach: assumes a 1.25% tax rate and a 6.0% cap rate.
(4) Assumes development is tax-exempt based on partnership with non-profit developer.

APPENDIX C TABLE 10

STACKED FLATS OVER PODIUM PARKING

AFFORDABILITY GAP FOR RENTAL UNITS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

	Low Income (80% AMI)		Very Low Income (50% AMI)	
	Total	**Per Unit**	**Total**	**Per Unit**
I. Net Operating Income (NOI)	$961,000	$9,610	$517,000	$5,170
II. Target Return on Investment	7.5%	7.5%	N/A	N/A
III. Sources of Funds				
Supportable Debt	N/A	N/A	$6,978,000	$70,000
Market Value of Tax Credits	N/A	N/A	$9,682,000	$97,000
Deferred Developer Fee	N/A	N/A	$250,000	$3,000
IV. Warranted Investment	$12,813,000	$128,000	$16,910,000	$170,000
V. (Less) Total Development Costs	($29,180,000)	($292,000)	($30,803,000)	($308,000)
VI. Affordability Gap	**($16,367,000)**	**($164,000)**	**($13,893,000)**	**($139,000)**

APPENDIX C TABLE 11

STACKED FLATS OVER PODIUM PARKING

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

			Low Income (80% AMI)		Very Low Income (50% AMI)
I.	**Loan Fees**				
	Total Development Costs (1)		$24,824,000		
	Loan to Cost Ratio (LTC)		80.0%		
	Construction Loan Amount		$19,859,000		
	Eligible Basis				$19,552,000
	Add: Land				$4,356,000
	Aggregate Basis				$23,908,000
	Minimum Required Tax-Exempt Bond			55%	$13,149,000
	Construction Loan Fees:				
	Loan Amount		$19,859,000		$13,149,000
	Points / Issuance Costs		1.5		4.5%
	Total Loan Fees		298,000		$592,000
II.	**Interest During Construction**				
	Interest Rate		6.0%		5.0%
	Term (Months)		18		18
	Average Balance Out		60.0%		60.0%
	Interest During Construction		$1,072,000		$592,000
III.	**Interest During Lease-Up**				
	Interest Rate		6.0%		5.0%
	Term (Months)		6		6
	Average Balance Out		100.0%		100.0%
	Interest During Lease-Up		$596,000		$329,000
IV.	**TCAC Fees**				
	Application Fee				$2,000
	Compliance Monitoring Fee			$410 /Unit	$41,000
	One Year of Tax Credit Value @			4.0%	$41,000
	Total TCAC Fees				$84,000
	Syndication Fees				$75,000
	Total TCAC/Syndication Fees				$159,000
V.	**Operating Lease-Up/Reserves**				
	Operating Expenses	3 months	$174,000		$124,000
	Debt Service	3 months			$112,000
	10% of Op Expenses	10.0%	$70,000		$50,000
	Total Operating Reserves		$244,000		$286,000

(1) Excluding acquisition costs.

APPENDIX C TABLE 12

STACKED FLATS OVER PODIUM PARKING

AFFORDABILITY GAP FOR RENTAL UNITS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

					Very Low - 50% AMI (4% Tax Credits)
(1)	Supportable Debt				
	NOI				$517,000
	Interest Rate				5.00%
	Term				30
	Debt Coverage				1.15
	Annual Debt Service				$449,565
	Supportable Debt				$6,978,000
(2)	Low Income Housing Tax Credits				
	Threshold Basis Limits		Effective: January 2013		
	Two Bedroom	100 Units @	$268,000 /Unit		$26,800,000
	Add: Basis Adjustment			21.0% *	$5,628,000
	Add: Local Development Impact Fees			20.0%	$500,000
	Add: Affordability <50%	100 Units		1.0%	$26,800,000
	Total Threshold Basis Limit				$59,728,000
	* Assumes 10% for projects with elevator service, 7% for projects with parking beneath residential units, and 4% for projects with energy efficient features.				
	Estimate of Eligible Basis				
	Total Development Costs				$30,803,000
	(Less) Ineligible Costs				($5,979,000)
	Eligible Basis				$24,824,000
	Maximum Eligible Basis				$24,824,000
	Tax Credit Qualified Units			100.0%	$24,824,000
	Impacted Bonus Factor			130.0%	$32,271,200
	Tax Credit Rate			3.19%	$1,029,451
	Total Tax Credits			10	$10,294,513
	Limited Partner Share			99.0%	$10,191,568
	Present Market Value			95.0%	$9,682,000
(3)	Estimate of Deferred Developer Overhead Fee				
	Eligible Basis				$24,824,000
	(Less) Developer Fee				($2,500,000)
	Unadjusted Eligible Basis				$22,324,000
	Total Developer Overhead Fee			11.2%	$2,500,000
	Developer Overhead Fee				$2,500,000
	Total Deferred Developer Overhead Fee			10.0%	$250,000

OWNERSHIP PROTOTYPES

Affordability Gap Analysis
Jobs-Housing Nexus Study

APPENDIX C TABLE 13

TOWNHOMES
WITH ATTACHED GARAGES

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Townhome	
	Construction Type		Type V - Wood-frame with attached garages	
	Tenure		For-Sale	
II.	**Site Area**		43,560	SF
			1.0	Acres
III.	**Number of Stories**		2	Stories
IV.	**Unit Mix**	# of Units	Unit Size	
	Two Bedroom	20 Units	1,200	SF
V.	**Density**		20.0	Units/Acre
VI.	**Gross Building Area (GBA)**			
	Residential		24,000 SF	100%
	Common Areas		0 SF	0%
	Total Gross Building Area		24,000 SF	100%
VII.	**Floor Area Ratio (FAR)**		0.55	
VIII.	**Parking**			
	Type		Attached Garage	
	Parking Ratio - Residential		2.00	Spaces/Unit
	Total Number of Spaces		40	Spaces

APPENDIX C TABLE 14

TOWNHOMES
WITH ATTACHED GARAGES

ESTIMATED DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)			
		Totals	**Per Unit**		**Comments**
I.	**Acquisition Costs**	$1,089,000	$54,450	$25	Per SF Site
II.	**Direct Costs** (1)				
	Off-Site Improvements	$131,000	$6,550	$3	Per SF Site
	On-Sites/Landscaping	$436,000	$21,800	$10	Per SF Site
	Shell Construction	$2,400,000	$120,000	$100	Per SF GBA
	Parking	$0	$0		Included above
	Amenities/FF&E	$20,000	$1,000		Allowance
	Contingency	$149,000	$7,450	5.0%	of Directs
	Total Direct Costs	$3,136,000	$156,800	$131	Per SF GBA
III.	**Indirect Costs**				
	Architecture & Engineering	$188,000	$9,400	6.0%	of Directs
	Permits & Fees (2)	$480,000	$24,000	$20	Per SF GBA
	Legal & Accounting	$63,000	$3,150	2.0%	of Directs
	Taxes & Insurance	$63,000	$3,150	2.0%	of Directs
	Developer Fee	$125,000	$6,250	4.0%	of Directs
	Marketing/Sales	$40,000	$2,000		Allowance
	Contingency	$48,000	$2,400	5.0%	of Indirects
	Total Indirect Costs	$1,007,000	$50,350	32.1%	of Directs
IV.	**Financing Costs**				
	Loan Fees	$56,000	$2,800	1.8%	of Directs
	Interest During Construction	$134,000	$6,700	4.3%	of Directs
	Interest During Sales	$30,000	$1,500	1.0%	of Directs
	HOA Dues on Unsold Units	$10,000	$500	0.3%	of Directs
	Total Financing Costs	$230,000	$11,500	7.3%	of Directs
V.	**Total Development Costs**	**$5,462,000**	**$273,100**	**$228**	**Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

APPENDIX C TABLE 15

TOWNHOMES
WITH ATTACHED GARAGES

MAXIMUM AFFORDABLE PURCHASE PRICE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)
I.	Family Size	3
	Number of Bedrooms	2
II.	Household Income (Rounded)	$82,000
	Income Allocation to Housing	35.0%
	Amount Available for Housing	$28,700
III.	Annual HOA (1)	$3,900
	Taxes & Assessment	1.25%
	Annual Taxes (2)	$3,838
IV.	Available for Mortgage	$20,963
V.	Interest Rate	6.0%
	Down Payment	5.0%
VI.	Supportable Mortgage	$291,364
	Add: Down Payment	$15,350
VII.	**Maximum Affordable Unit Price (Rounded)**	**$307,000**

(1) KMA estimate.
(2) Based on affordable sales price.

APPENDIX C TABLE 16

TOWNHOMES
WITH ATTACHED GARAGES

ESTIMATE OF AFFORDABILITY GAP
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

			Moderate Income (120% of AMI)
I.	Maximum Unit Price Per Unit		$307,000
II.	Gross Sales Proceeds	20 Units	$6,140,000
	(Less) Cost of Sale	3.0% of Value (1)	($184,000)
	(Less) Developer Profit	12.0% of Value (1)	($737,000)
	Net Sales Proceeds		$5,219,000
III.	(Less) Development Costs		($5,462,000)
IV.	**Affordability Gap**		**($243,000)**
	Per Unit		**($12,000)**

(1) Based on affordable sales price.

APPENDIX C TABLE 17

TOWNHOMES
WITH ATTACHED GARAGES

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I. Construction Loan Fees

Total Development Costs (1)	$4,373,000
Loan to Cost Ratio (LTC)	85.0%
Construction Loan Amount	$3,717,000
Points	1.5
Loan Fees	$56,000

II. Interest During Construction

Construction Loan Amount	$3,717,000
Interest Rate	6.0%
Average Balance Out	60.0%
Term (Months)	12
Interest During Construction	$134,000

III. Interest During Sales

Interest Rate	6.0%
Term (Months)	4
Average Balance Out	40.0%
Interest During Sales	$30,000

IV. HOA Dues on Unsold Units

Monthly Dues	$325
Number of Units	20
Average Balance Out	40.0%
Term	4
HOA Dues on Unsold Units	$10,000

(1) Excluding acquisition costs.

APPENDIX C TABLE 18

STACKED FLATS OVER PODIUM PARKING

DEVELOPMENT PROFILE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I.	**Product Type**		Stacked Flat	
	Construction Type		Type V - Wood-frame over parking podium	
	Tenure		For-Sale	
II.	**Site Area**		43,560	SF
			1.0	Acres
III.	**Number of Stories**		3	Stories over parking podium
IV.	**Unit Mix**	# of Units	Unit Size	
	Two Bedroom	45 Units	1,000	SF
V.	**Density**		45.0	Units/Acre
VI.	**Gross Building Area (GBA)**			
	Residential		45,000 SF	85%
	Common Areas		7,900 SF	15%
	Total Gross Building Area		52,900 SF	100%
VII.	**Floor Area Ratio (FAR)**		1.21	
VIII.	**Parking**			
	Type		Structured	
	Parking Ratio - Residential		1.75	Spaces/Unit
	Total Number of Spaces		79	Spaces

APPENDIX C TABLE 19

STACKED FLAT OVER PODIUM PARKING

ESTIMATE DEVELOPMENT COSTS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)			
		Totals	**Per Unit**		**Comments**
I.	**Acquisition Costs**	$2,178,000	$48,400	$50	Per SF Site
II.	**Direct Costs** (1)				
	Off-Site Improvements	$218,000	$4,844	$5	Per SF Site
	On-Sites/Landscaping	$653,000	$14,511	$15	Per SF Site
	Shell Construction	$6,613,000	$146,956	$125	Per SF GBA
	Parking	$1,969,000	$43,756	$25,000	Per Space
	Amenities/FF&E	$113,000	$2,500		Allowance
	Contingency	$478,000	$10,622	5.0%	of Directs
	Total Direct Costs	$10,044,000	$223,200	$190	Per SF GBA
III.	**Indirect Costs**				
	Architecture & Engineering	$603,000	$13,400	6.0%	of Directs
	Permits & Fees (2)	$1,058,000	$23,511	$20	Per SF GBA
	Legal & Accounting	$201,000	$4,467	2.0%	of Directs
	Taxes & Insurance	$201,000	$4,467	2.0%	of Directs
	Developer Fee	$402,000	$8,933	4.0%	of Directs
	Marketing/Sales	$113,000	$2,500		Allowance
	Contingency	$129,000	$2,867	5.0%	of Indirects
	Total Indirect Costs	$2,707,000	$60,156	27.0%	of Directs
IV.	**Financing Costs**				
	Loan Fees	$175,000	$3,889	1.7%	of Directs
	Interest During Construction	$630,000	$14,000	6.3%	of Directs
	Interest During Sales	$140,000	$3,111	1.4%	of Directs
	HOA Dues on Unsold Units	$35,000	$778	0.3%	of Directs
	Total Financing Costs	$980,000	$21,778	9.8%	of Directs
V.	**Total Development Costs**	**$15,909,000**	**$353,533**	**$301**	**Per SF GBA**

(1) Excludes the payment of prevailing wages.
(2) Estimate. Not verified by KMA or the City.

APPENDIX C TABLE 20

STACKED FLATS OVER PODIUM PARKING

AFFORDABLE PURCHASE PRICE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

		Moderate Income (120% of AMI)
I.	Family Size	3
	Number of Bedrooms	2
II.	Household Income (Rounded)	$82,000
	Income Allocation to Housing	35.0%
	Amount Available for Housing	$28,700
III.	Annual HOA (1)	$3,900
	Taxes & Assessment	1.25%
	Annual Taxes (2)	$3,838
IV.	Available for Mortgage	$20,963
V.	Interest Rate	6.0%
	Down Payment	5.0%
VI.	Supportable Mortgage	$291,364
	Add: Down Payment	$15,350
VII.	**Maximum Affordable Unit Price (Rounded)**	**$307,000**

(1) Estimate.
(2) Based on affordable sales price.

APPENDIX C TABLE 21

STACKED FLATS OVER PODIUM PARKING

ESTIMATE OF AFFORDABILITY GAP
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

			Moderate Income (120% of AMI)
I.	Maximum Unit Price Per Unit		$307,000
II.	Gross Sales Proceeds	45 Units	$13,815,000
	(Less) Cost of Sale	3.0% of Value (1)	($414,000)
	(Less) Developer Profit	12.0% of Value (1)	($1,658,000)
	Net Sales Proceeds		$11,743,000
III.	(Less) Development Costs		($15,909,000)
IV.	**Affordability Gap**		**($4,166,000)**
	Per Unit		**($93,000)**

(1) Based on affordable sales price.

APPENDIX C TABLE 22

STACKED FLATS OVER PODIUM PARKING

FINANCING COSTS - ASSUMPTIONS
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO , CA

I. Construction Loan Fees

Total Development Costs (1)	$13,731,000
Loan to Cost Ratio (LTC)	85.0%
Construction Loan Amount	$11,671,000
Points	1.5
Loan Fees	$175,000

II. Interest During Construction

Construction Loan Amount	$11,671,000
Interest Rate	6.0%
Average Balance Out	60.0%
Term (Months)	18
Interest During Construction	$630,000

III. Interest During Sales

Interest Rate	6.0%
Term (Months)	6
Average Balance Out	40.0%
Interest During Sales	$140,000

IV. HOA Dues on Unsold Units

Monthly Dues	$325
Number of Units	45
Average Balance Out	40.0%
Term	6
HOA Dues on Unsold Units	$35,000

(1) Excluding acquisition costs.