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**DRAFT FOR DISCUSSION**

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# MEMORANDUM

**To:** Chris Meschuk and Kristin Hyser
City of Boulder

**From:** David Doezema and Reed Kawahara

**Date:** February 24, 2016

**Subject:** Affordable Housing Linkage Fee - Draft Analysis Materials for Distribution to Working Group

KMA has prepared the attached series of draft analysis materials in relation to the affordable housing commercial linkage fee. The draft materials include the nexus technical analysis as well as other analyses prepared to provide additional context for policy decisions. Each of the attachments is anticipated to be incorporated into a full report to be drafted subsequently. Some of the analyses are accompanied by a complete draft narrative while others consist of draft technical tables only at this stage.

The attachments are as follows:

1. **Draft Nexus Technical Tables (Page 4)**: The nexus technical analysis establishes the maximums or ceilings on potential affordable housing fees applicable to new non-residential development. The identified "total nexus cost" presented on Table 1 of Attachment 1, represents the draft findings regarding maximum fees that could potentially be charged consistent with the requirements of Colorado's impact fee statute. The identified maximum fee levels reflect the cost to provide affordable housing to workers in new non-residential buildings with incomes ranging from 0% up to 120% of Area Median Income (AMI). The results are technical impact analysis conclusions only, and are <u>not</u> recommended fee levels. The City is free to consider fees anywhere below the maximums identified.

   In addition to the total nexus cost findings presented on Table 1, which are reflective of housing needs for all workers, Table 1 also presents findings after making an

optional "commute adjustment" to reflect the current 39% share of Boulder's workforce housed within the City. Since existing commute patterns are impacted by a lack of affordable housing, some communities also consider applying alternative policy-based targets to house a greater share of their workforce locally.

Tables 2 through 6 walk through the major analysis steps used to arrive at the maximum supported fee levels. Appendix Tables 1 through 16 identify the worker occupation and compensation levels for each building type which are a key input to the analysis of housing needs by income.

2. **Mitigation Cost / Affordability Gap (Page 39):** The narrative on Mitigation Cost describes the analysis of the net cost to create each new unit of affordable housing, referred to as an affordability gap. A separate affordability gap is determined for each of four income categories from Extremely Low through Middle Income. The affordability gap is used to determine the cost of providing the needed affordable housing, a key factor in calculating the maximum supported fee levels identified in Attachment 1.

3. **Development Cost Context (Page 45):** One approach to establishing fee amounts is based on an understanding of the relative cost burdens that a new fee can have on various types of new commercial development projects. This is one of a variety of factors that policy makers often wish to consider in setting new fee amounts. The attached narrative summarizes KMA's review of total development costs for five different prototypical non-residential project types in Boulder. Existing and illustrative potential fee levels are then presented as a percentage of total development costs for each of the project types. This section also includes an illustration of the market changes, such as decreases in land values or increases in market rents, which would be sufficient to absorb each $1 / Sq.Ft. fee increase. This type of analysis can be useful in scaling fees relative to the costs of various types of development and to help evaluate the likelihood that fees will impact development decisions.

4. **Market Context Summary (Page 50):** This attachment provides a brief narrative overview of the Boulder economy and real estate market in order to provide more general context for the City's consideration of fees on new non-residential development. Local real estate and macro- economic conditions are among the factors that are often considered by policy makers in adopting new fees.

5. **Fees in Other Communities (Page 56):** Linkage fee and affordable housing mitigation programs in the cities of Cambridge, Aspen, Vail, plus 33 cities and counties in California are summarized in a series of tables included as Attachment 5. This information is to provide context regarding the requirements adopted in other communities.

KMA staff will be participating in the March 3rd 2016 Working Group meeting and will be available to walk through these draft materials and respond to comments and questions.

Name: _____





Do you have any questions about the analysis to date? If so, please describe them here for your reference:

Do you have any comments or feedback on the draft nexus technical tables, and specifically how the commute adjustment should be used in the analysis?

Do you have any comments or feedback on the mitigation cost/affordability gap analysis?

Do you have any comments or feedback on the development cost context, in particular, how this info should factor into the level at which a fee should be set?

Do you have any comments or feedback on the market context summary, in particular, how this info should factor into the level at which a fee should be set?

Do you have any comments or feedback on the fees in other communities, in particular, how this info should factor into the level at which a fee should be set?

# ATTACHMENT 1 - DRAFT NEXUS TECHNICAL TABLES

**TABLE 1**
**DRAFT NEXUS RESULTS**
**JOBS HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER, CO**

***Working Draft for Discussion - Subject to Change***

| | Nexus Cost Per Sq.Ft. of Building Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **OFFICE** | **LIGHT INDUSTRIAL** | **RETAIL[1]** | **HOSPITAL** | **LODGING** | **WAREHOUSE** | **INSTITUTIONAL[2]** | **ASSISTED LIVING[3]** |
| **Total Housing Nexus Cost [4]** | **$129.49** | **$95.79** | **$158.49** | **$129.39** | **$59.89**<br>*$35,900 Per Room* | **$54.19** | **$44.79** | **$127.19**<br>*$50,900 Per Bed* |
| **Findings With Optional Adjustment** for Boulder "Share" of Housing Need Based on Percent of Workforce Currently Housed in City @39% | **$50.50** | **$37.40** | **$61.80** | **$50.50** | **$23.40**<br>*$14,000 Per Room* | **$21.10** | **$17.50** | **$49.60**<br>*$19,800 Per Bed* |
| **Adopted Fees [5]** | $9.53 | $5.62 | $6.96 | $8.23 | $1.79<br>*$1,072.44 Per Room* | $3.11 | $2.24 school<br>*$389.60 per student: day care* | $2.19<br>*$877.64 per bed* |

Notes:

(1) Includes retail, restaurant, and service uses.

(2) Includes educational, religious, childcare, cultural, and other institutional building types.

(3) Includes assisted living, nursing home / skilled nursing, memory care and other senior care facilities.

(4) Summarized from Table 6. Amount is net of an adjustment for the existing $0.51 excise tax.

(5) Certain fees have been converted to a square footage basis for ease of comparison. For the Hotel, the conversion is made using an average room size of 600 square feet and the nursing home / assisted living fee adjusts to a square footage basis using an estimated 400 square feet per bed on average.



Prepared by: Keyser Marston Associates, Inc.
Filename: Draft Boulder Nexus 2-23-2016; SUM; 2/23/2016; dd

**TABLE 2**
**NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION BY BUILDING TYPE**
**JOBS HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER, CO**

***Working Draft for Discussion - Subject to Change***

| ***Per 20,000 Sq.Ft. of Building Area*** | **OFFICE** | **LIGHT INDUSTRIAL** | **RETAIL** | **HOSPITAL** | **LODGING** | **WAREHOUSE** | **INSTITUTIONAL** | **ASSISTED LIVING** |
|---|---|---|---|---|---|---|---|---|
| Step 1 - Estimate of Number of Employees | | | | | | | | |
| Employment Density (Employees per 1,000 SF) | 3.59 | 2.31 | 2.51 | 2.94 | 0.95 | 0.92 | 0.81 | 2.10 |
| Number of Employees Per 20,000 SF Building Area | 71.8 | 46.2 | 50.2 | 58.8 | 19.0 | 18.4 | 16.2 | 42.0 |
| Step 2 - Net New Employees after Declining Industries Adjustment (21%) | 56.7 | 36.5 | 39.7 | 46.5 | 15.0 | 14.5 | 12.8 | 33.2 |
| Step 3 - Adjustment for Number of Households (1.62) | 35.1 | 22.6 | 24.5 | 28.7 | 9.3 | 9.0 | 7.9 | 20.5 |
| Step 4 - Occupation Distribution[1] | | | | | | | | |
| Management Occupations | 8.3% | 9.1% | 2.3% | 4.2% | 4.5% | 3.5% | 5.7% | 3.0% |
| Business and Financial Operations | 11.5% | 6.7% | 0.5% | 2.1% | 1.5% | 2.0% | 3.1% | 0.9% |
| Computer and Mathematical | 21.0% | 7.4% | 0.1% | 1.2% | 0.1% | 0.5% | 0.8% | 0.1% |
| Architecture and Engineering | 5.0% | 13.5% | 0.0% | 0.1% | 0.0% | 0.2% | 0.0% | 0.0% |
| Life, Physical, and Social Science | 1.1% | 1.3% | 0.0% | 0.7% | 0.0% | 0.0% | 0.4% | 0.0% |
| Community and Social Services | 0.7% | 0.0% | 0.0% | 6.1% | 0.0% | 0.0% | 9.3% | 1.8% |
| Legal | 1.9% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% |
| Education, Training, and Library | 0.4% | 0.0% | 0.1% | 0.3% | 0.0% | 0.0% | 33.6% | 0.0% |
| Arts, Design, Entertainment, Sports, and Media | 3.6% | 0.9% | 0.4% | 0.2% | 0.3% | 0.1% | 3.5% | 0.1% |
| Healthcare Practitioners and Technical | 5.6% | 0.2% | 1.2% | 50.5% | 0.0% | 0.1% | 1.3% | 16.9% |
| Healthcare Support | 3.1% | 0.1% | 0.3% | 11.8% | 0.5% | 0.0% | 3.1% | 35.0% |
| Protective Service | 0.6% | 0.1% | 0.3% | 0.6% | 1.6% | 0.7% | 0.5% | 0.5% |
| Food Preparation and Serving Related | 0.3% | 0.3% | 45.3% | 1.7% | 24.7% | 0.1% | 2.0% | 14.3% |
| Building and Grounds Cleaning and Maint. | 2.5% | 0.4% | 0.6% | 2.6% | 31.9% | 1.0% | 1.8% | 6.4% |
| Personal Care and Service | 0.8% | 0.0% | 3.1% | 0.8% | 4.0% | 0.0% | 20.2% | 12.1% |
| Sales and Related | 6.9% | 5.0% | 28.6% | 0.3% | 2.2% | 1.7% | 1.4% | 0.3% |
| Office and Administrative Support | 20.6% | 12.8% | 8.4% | 14.7% | 20.3% | 22.3% | 9.9% | 5.0% |
| Farming, Fishing, and Forestry | 0.0% | 0.2% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% |
| Construction and Extraction | 0.6% | 0.3% | 0.1% | 0.2% | 0.1% | 0.1% | 0.2% | 0.0% |
| Installation, Maintenance, and Repair | 1.7% | 6.4% | 2.3% | 0.9% | 5.0% | 3.2% | 0.7% | 1.9% |
| Production | 2.0% | 30.2% | 2.0% | 0.3% | 2.2% | 4.0% | 0.4% | 1.1% |
| Transportation and Material Moving | 1.8% | 4.7% | 4.2% | 0.6% | 1.1% | 60.3% | 1.9% | 0.7% |
| **Totals** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |



Prepared by: Keyser Marston Associates, Inc.
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**TABLE 2**
**NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION BY BUILDING TYPE**
**JOBS HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER, CO**

***Working Draft for Discussion - Subject to Change***

| ***Per 20,000 Sq.Ft. of Building Area*** | **OFFICE** | **LIGHT INDUSTRIAL** | **RETAIL** | **HOSPITAL** | **LODGING** | **WAREHOUSE** | **INSTITUTIONAL** | **ASSISTED LIVING** |
|---|---|---|---|---|---|---|---|---|
| Management Occupations | 2.9 | 2.1 | 0.6 | 1.2 | 0.4 | 0.3 | 0.5 | 0.6 |
| Business and Financial Operations | 4.0 | 1.5 | 0.1 | 0.6 | 0.1 | 0.2 | 0.2 | 0.2 |
| Computer and Mathematical | 7.4 | 1.7 | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 |
| Architecture and Engineering | 1.8 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Life, Physical, and Social Science | 0.4 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Community and Social Services | 0.2 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 0.7 | 0.4 |
| Legal | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Education, Training, and Library | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.7 | 0.0 |
| Arts, Design, Entertainment, Sports, and Media | 1.3 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 |
| Healthcare Practitioners and Technical | 2.0 | 0.0 | 0.3 | 14.5 | 0.0 | 0.0 | 0.1 | 3.5 |
| Healthcare Support | 1.1 | 0.0 | 0.1 | 3.4 | 0.0 | 0.0 | 0.2 | 7.2 |
| Protective Service | 0.2 | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 |
| Food Preparation and Serving Related | 0.1 | 0.1 | 11.1 | 0.5 | 2.3 | 0.0 | 0.2 | 2.9 |
| Building and Grounds Cleaning and Maint. | 0.9 | 0.1 | 0.1 | 0.8 | 3.0 | 0.1 | 0.1 | 1.3 |
| Personal Care and Service | 0.3 | 0.0 | 0.8 | 0.2 | 0.4 | 0.0 | 1.6 | 2.5 |
| Sales and Related | 2.4 | 1.1 | 7.0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 |
| Office and Administrative Support | 7.2 | 2.9 | 2.1 | 4.2 | 1.9 | 2.0 | 0.8 | 1.0 |
| Farming, Fishing, and Forestry | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Construction and Extraction | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Installation, Maintenance, and Repair | 0.6 | 1.5 | 0.6 | 0.3 | 0.5 | 0.3 | 0.1 | 0.4 |
| Production | 0.7 | 6.8 | 0.5 | 0.1 | 0.2 | 0.4 | 0.0 | 0.2 |
| Transportation and Material Moving | 0.6 | 1.1 | 1.0 | 0.2 | 0.1 | 5.4 | 0.2 | 0.1 |
| **Totals** | **35.1** | **22.6** | **24.5** | **28.7** | **9.3** | **9.0** | **7.9** | **20.5** |

Notes:
(1) Appendix Tables 1 through 16 contain additional information regarding worker occupation categories.

**TABLE 3**
**ESTIMATE OF QUALIFYING HOUSEHOLDS - EXTREMELY LOW INCOME**
**JOBS HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER, CO**

***Working Draft for Discussion - Subject to Change***

**Analysis for Households Earning up to 30% of Median**

| | OFFICE | LIGHT INDUSTRIAL | RETAIL | HOSPITAL | LODGING | WAREHOUSE | INSTITUTIONAL | ASSISTED LIVING |
|---|---|---|---|---|---|---|---|---|
| ***Per 20,000 SF Building*** | | | | | | | | |
| **Step 5, 6, & 7 - Households Earning up to 30% of Median[1]** | | | | | | | | |
| Management | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Business and Financial Operations | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Computer and Mathematical | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architecture and Engineering | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Life, Physical and Social Science | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Community and Social Services | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 |
| Legal | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Education Training and Library | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.19 | 0.00 |
| Arts, Design, Entertainment, Sports, and Media | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| Healthcare Practitioners and Technical | 0.04 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| Healthcare Support | 0.06 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.00 | 0.85 |
| Protective Service | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Food Preparation and Serving Related | 0.00 | 0.00 | 3.90 | 0.00 | 0.78 | 0.00 | 0.00 | 0.82 |
| Building Grounds and Maintenance | 0.19 | 0.00 | 0.00 | 0.00 | 1.16 | 0.00 | 0.00 | 0.48 |
| Personal Care and Service | 0.00 | 0.00 | 0.13 | 0.00 | 0.11 | 0.00 | 0.41 | 0.59 |
| Sales and Related | 0.10 | 0.08 | 1.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Office and Admin | 0.31 | 0.14 | 0.22 | 0.27 | 0.49 | 0.19 | 0.03 | 0.06 |
| Farm, Fishing, and Forestry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Construction and Extraction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Installation Maintenance and Repair | 0.00 | 0.03 | 0.02 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| Production | 0.06 | 0.53 | 0.08 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| Transportation and Material Moving | 0.00 | 0.23 | 0.24 | 0.00 | 0.00 | 0.87 | 0.00 | 0.00 |
| HH earning up to 30% of Median - major occupations | 0.79 | 1.01 | 6.20 | 0.60 | 2.54 | 1.11 | 0.69 | 2.80 |
| HH earning up to 30% of Median - all other occupations | 0.08 | 0.04 | 0.24 | 0.09 | 0.27 | 0.08 | 0.13 | 0.32 |
| **Total Households Earning up to 30% of Median** | **0.9** | **1.1** | **6.4** | **0.7** | **2.8** | **1.2** | **0.8** | **3.1** |

Notes:
(1) Appendix Tables 1 through 16 contain additional information on worker occupation categories and compensation levels.

**TABLE 4**
**WORKER HOUSEHOLDS BY AFFORDABILITY LEVEL**
**JOBS HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER, CO**

***Working Draft for Discussion - Subject to Change***

***Per 20,000 S.F. Building***

| | OFFICE | LIGHT INDUSTRIAL | RETAIL | HOSPITAL | LODGING | WAREHOUSE | INSTITUTIONAL | ASSISTED LIVING |
|---|---|---|---|---|---|---|---|---|
| **NUMBER OF HOUSEHOLDS BY INCOME TIER (1)** | | | | | | | | |
| Extremely Low (0% - 30% AMI) | 0.9 | 1.1 | 6.4 | 0.7 | 2.8 | 1.2 | 0.8 | 3.1 |
| Low Income (31% - 60% AMI) | 6.7 | 5.8 | 12.0 | 7.1 | 4.4 | 4.1 | 3.0 | 9.5 |
| Low to Moderate (61% to 76% AMI) | 4.1 | 2.9 | 2.8 | 4.2 | 0.9 | 1.4 | 1.3 | 3.4 |
| Middle Income (77% to 120% AMI) | 8.6 | 5.2 | 2.4 | 8.4 | 0.7 | 1.6 | 1.7 | 3.0 |
| **Subtotal - Affordable Categories** | **20.3** | **15.0** | **23.7** | **20.3** | **8.9** | **8.3** | **6.9** | **19.1** |
| Above Middle Income (> 120% AMI) | 14.8 | 7.6 | 0.9 | 8.4 | 0.4 | 0.7 | 1.0 | 1.4 |
| **Total New Worker Households** | **35.1** | **22.6** | **24.5** | **28.7** | **9.3** | **9.0** | **7.9** | **20.5** |
| **PERCENTAGE OF HOUSEHOLDS BY INCOME TIER** | | | | | | | | |
| Extremely Low (0% - 30% AMI) | 2.5% | 4.7% | 26.2% | 2.4% | 30.3% | 13.3% | 10.4% | 15.2% |
| Low Income (31% - 60% AMI) | 19.1% | 25.6% | 49.0% | 24.9% | 47.9% | 45.2% | 38.1% | 46.3% |
| Low to Moderate (61% to 76% AMI) | 11.7% | 12.8% | 11.6% | 14.4% | 10.1% | 16.1% | 16.4% | 16.8% |
| Middle Income (77% to 120% AMI) | 24.6% | 23.1% | 9.6% | 29.1% | 7.3% | 17.8% | 22.0% | 14.8% |
| **Subtotal - Affordable Categories** | **57.8%** | **66.2%** | **96.5%** | **70.8%** | **95.6%** | **92.4%** | **86.9%** | **93.0%** |
| Above Middle Income (> 120% AMI) | 42.2% | 33.8% | 3.5% | 29.2% | 4.4% | 7.6% | 13.1% | 7.0% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |

Notes:
(1) See Appendix Tables 1 through 16 for information regarding worker compensation levels.

**TABLE 5**
**HOUSING DEMAND NEXUS FACTORS PER SQ.FT. OF BUILDING AREA**
**JOBS HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER, CO**

***Working Draft for Discussion - Subject to Change***

| | Number of Housing Units per Square Foot of Building Area[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **OFFICE** | **LIGHT INDUSTRIAL** | **RETAIL** | **HOSPITAL** | **LODGING** | **WAREHOUSE** | **INSTITUTIONAL** | **ASSISTED LIVING** |
| Extremely Low (0% - 30% AMI) | 0.00004376 | 0.00005263 | 0.00032202 | 0.00003405 | 0.00014061 | 0.00005975 | 0.00004115 | 0.00015597 |
| Low Income (31% - 60% AMI) | 0.00033487 | 0.00028960 | 0.00060163 | 0.00035722 | 0.00022241 | 0.00020339 | 0.00015098 | 0.00047506 |
| Low to Moderate (61% to 76% AMI) | 0.00020451 | 0.00014420 | 0.00014176 | 0.00020768 | 0.00004683 | 0.00007244 | 0.00006503 | 0.00017239 |
| Middle Income (77% to 120% AMI) | 0.00043218 | 0.00026126 | 0.00011837 | 0.00041844 | 0.00003405 | 0.00008013 | 0.00008699 | 0.00015148 |
| **Total** | **0.00101533** | **0.00074768** | **0.00118378** | **0.00101740** | **0.00044390** | **0.00041570** | **0.00034414** | **0.00095489** |

Notes:
[1]Calculated by dividing number of household in Table 4 by 20,000 square feet to convert to households per square foot of building.

**TABLE 6**
**TOTAL HOUSING NEXUS COST**
**JOBS HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER, CO**

***Working Draft for Discussion - Subject to Change***

| | | Nexus Cost Per Sq.Ft. of Building Area[3] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **INCOME CATEGORY** | **Affordability Gap Per Unit** | **OFFICE** | **LIGHT INDUSTRIAL** | **RETAIL** | **HOSPITAL** | **LODGING** | **WAREHOUSE** | **INSTITUTIONAL** | **ASSISTED LIVING** |
| Extremely Low (0% - 30% AMI) | $173,300 [1] | $7.60 | $9.10 | $55.80 | $5.90 | $24.40 | $10.40 | $7.10 | $27.00 |
| Low Income (31% - 60% AMI) | $99,800 [1] | $33.40 | $28.90 | $60.00 | $35.70 | $22.20 | $20.30 | $15.10 | $47.40 |
| Low to Moderate (61% to 76% AMI) | $219,900 [2] | $45.00 | $31.70 | $31.20 | $45.70 | $10.30 | $15.90 | $14.30 | $37.90 |
| Middle Income (77% to 120% AMI) | $101,700 [2] | $44.00 | $26.60 | $12.00 | $42.60 | $3.50 | $8.10 | $8.80 | $15.40 |
| **Total** | | $130.00 | $96.30 | $159.00 | $129.90 | $60.40 | $54.70 | $45.30 | $127.70 |
| **Less: Existing Excise Tax** | | ($0.51) | ($0.51) | ($0.51) | ($0.51) | ($0.51) | ($0.51) | ($0.51) | ($0.51) |
| **Total After Adjustment for Existing Excise Tax** | | **$129.49** | **$95.79** | **$158.49** | **$129.39** | **$59.89** | **$54.19** | **$44.79** | **$127.19** |

Notes:

(1) Assumes rental units. Affordability Gap reflected is the remaining gap after financing available through 4% tax credits.

(2) Assumes ownership unit.

(3) Calculated by multiplying housing demand factors from Table 5 by the affordability gap.

# APPENDIX TABLES

**APPENDIX TABLE 1**
**2014 NATIONAL OFFICE WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER**

***Working Draft For Discussion***

| Major Occupations (2% or more) | 2014 National Office Industry Occupation Distribution | |
|---|---|---|
| Management Occupations | 2,554,418 | *8.3%* |
| Business and Financial Operations Occupations | 3,559,105 | *11.6%* |
| Computer and Mathematical Occupations | 6,515,380 | *21.2%* |
| Architecture and Engineering Occupations | 1,556,164 | *5.1%* |
| Arts, Design, Entertainment, Sports, and Media Occupations | 1,105,961 | *3.6%* |
| Healthcare Practitioners and Technical Occupations | 1,727,677 | *5.6%* |
| Healthcare Support Occupations | 944,890 | *3.1%* |
| Building and Grounds Cleaning and Maintenance Occupations | 780,138 | *2.5%* |
| Sales and Related Occupations | 2,139,354 | *6.9%* |
| Office and Administrative Support Occupations | 6,344,580 | *20.6%* |
| Production Occupations | 628,187 | *2.0%* |
| All Other Office Occupations | 2,937,955 | *9.5%* |
| **INDUSTRY TOTAL** | 30,793,808 | 100.0% |

Industries weighted to reflect City of Boulder industry mix.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 1. Office; Major Occupations Matrix; 2/22/2016; dd

**APPENDIX TABLE 2**
**AVERAGE ANNUAL COMPENSATION, 2014**
**OFFICE WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER**

***Working Draft For Discussion***

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Office Workers |
|---|---|---|---|
| ***Page 1 of 3*** | | | |
| *Management Occupations* | | | |
| General and Operations Managers | $130,500 | 27.9% | 2.3% |
| Marketing Managers | $146,800 | 6.4% | 0.5% |
| Sales Managers | $137,700 | 6.1% | 0.5% |
| Computer and Information Systems Managers | $150,800 | 18.2% | 1.5% |
| Financial Managers | $137,700 | 9.4% | 0.8% |
| Architectural and Engineering Managers | $159,300 | 4.4% | 0.4% |
| Property, Real Estate, and Community Association Managers | $57,800 | 4.4% | 0.4% |
| Managers, All Other | $129,500 | 5.0% | 0.4% |
| All Other Management Occupations (Avg. All Categories) | $126,000 | 18.3% | 1.5% |
| ***Weighted Mean Annual Wage*** | ***$133,500*** | **100.0%** | **8.3%** |
| *Business and Financial Operations Occupations* | | | |
| Human Resources Specialists | $65,800 | 5.8% | 0.7% |
| Management Analysts | $114,400 | 15.1% | 1.7% |
| Market Research Analysts and Marketing Specialists | $77,300 | 13.3% | 1.5% |
| Business Operations Specialists, All Other | $75,300 | 11.3% | 1.3% |
| Accountants and Auditors | $76,300 | 18.0% | 2.1% |
| Financial Analysts | $82,800 | 6.2% | 0.7% |
| Personal Financial Advisors | $79,800 | 5.3% | 0.6% |
| All Other Business and Financial Operations (Avg. All Categories) | $74,700 | 25.0% | 2.9% |
| ***Weighted Mean Annual Wage*** | ***$81,600*** | **100.0%** | **11.6%** |
| *Computer and Mathematical Occupations* | | | |
| Computer Systems Analysts | $87,800 | 12.1% | 2.6% |
| Computer Programmers | $95,100 | 11.7% | 2.5% |
| Software Developers, Applications | $106,600 | 28.6% | 6.1% |
| Software Developers, Systems Software | $119,300 | 12.3% | 2.6% |
| Network and Computer Systems Administrators | $82,600 | 5.7% | 1.2% |
| Computer User Support Specialists | $54,800 | 11.8% | 2.5% |
| All Other Computer and Mathematical Occupations (Avg. All Categories) | $93,700 | 17.8% | 3.8% |
| ***Weighted Mean Annual Wage*** | ***$94,800*** | **100.0%** | **21.2%** |
| *Architecture and Engineering Occupations* | | | |
| Architects, Except Landscape and Naval | $64,100 | 9.1% | 0.5% |
| Civil Engineers | $78,400 | 16.7% | 0.8% |
| Computer Hardware Engineers | $117,400 | 5.5% | 0.3% |
| Electrical Engineers | $98,500 | 6.5% | 0.3% |
| Electronics Engineers, Except Computer | $114,000 | 4.2% | 0.2% |
| Mechanical Engineers | $109,900 | 8.6% | 0.4% |
| Architectural and Civil Drafters | $53,200 | 8.2% | 0.4% |
| All Other Architecture and Engineering Occupations (Avg. All Categories) | $95,900 | 41.1% | 2.1% |
| ***Weighted Mean Annual Wage*** | ***$89,900*** | **100.0%** | **5.1%** |

Sources: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: 1. Office; Compensation; 2/22/2016; dd

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Office Workers |
|---|---|---|---|
| ***Page 2 of 3*** | | | |
| *Arts, Design, Entertainment, Sports, and Media Occupations* | | | |
| Multimedia Artists and Animators | $55,700 | 5.8% | 0.2% |
| Graphic Designers | $53,100 | 17.8% | 0.6% |
| Interior Designers | $52,400 | 4.1% | 0.1% |
| Reporters and Correspondents | $53,000 | 6.3% | 0.2% |
| Public Relations Specialists | $46,700 | 13.7% | 0.5% |
| Editors | $74,500 | 15.4% | 0.6% |
| Technical Writers | $75,400 | 7.4% | 0.3% |
| Photographers | $43,400 | 7.0% | 0.3% |
| All Other Arts, Design, Entertainment, Sports, and Media Occupations (Avg. All Cate | $53,300 | 22.5% | 0.8% |
| ***Weighted Mean Annual Wage*** | ***$56,700*** | **100.0%** | **3.6%** |
| *Healthcare Practitioners and Technical Occupations* | | | |
| Physicians and Surgeons, All Other | $261,600 | 5.0% | 0.3% |
| Physical Therapists | $73,300 | 7.8% | 0.4% |
| Veterinarians | $77,100 | 6.7% | 0.4% |
| Registered Nurses | $72,800 | 9.9% | 0.6% |
| Dental Hygienists | $79,400 | 8.3% | 0.5% |
| Veterinary Technologists and Technicians | $28,700 | 10.1% | 0.6% |
| Licensed Practical and Licensed Vocational Nurses | $45,900 | 4.3% | 0.2% |
| All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories) | $79,700 | 47.9% | 2.7% |
| ***Weighted Mean Annual Wage*** | ***$80,900*** | **100.0%** | **5.6%** |
| *Healthcare Support Occupations* | | | |
| Physical Therapist Assistants | $55,800 | 6.7% | 0.2% |
| Physical Therapist Aides | $30,000 | 5.4% | 0.2% |
| Massage Therapists | $45,500 | 5.1% | 0.2% |
| Dental Assistants | $37,500 | 23.4% | 0.7% |
| Medical Assistants | $34,500 | 33.3% | 1.0% |
| Veterinary Assistants and Laboratory Animal Caretakers | $25,400 | 13.3% | 0.4% |
| All Other Healthcare Support Occupations (Avg. All Categories) | $33,800 | 12.9% | 0.4% |
| ***Weighted Mean Annual Wage*** | ***$35,600*** | **100.0%** | **3.1%** |
| *Building and Grounds Cleaning and Maintenance Occupations* | | | |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners | $27,600 | 51.9% | 1.3% |
| Maids and Housekeeping Cleaners | $20,400 | 9.7% | 0.2% |
| Landscaping and Groundskeeping Workers | $27,900 | 26.8% | 0.7% |
| All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Ca | $27,400 | 11.6% | 0.3% |
| ***Weighted Mean Annual Wage*** | ***$27,000*** | **100.0%** | **2.5%** |

Sources: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: 1. Office; Compensation; 2/22/2016; dd

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Office Workers |
|---|---|---|---|
| ***Page 3 of 3*** | | | |
| *Sales and Related Occupations* | | | |
| First-Line Supervisors of Non-Retail Sales Workers | $87,900 | 4.5% | 0.3% |
| Advertising Sales Agents | $67,100 | 9.7% | 0.7% |
| Insurance Sales Agents | $56,400 | 5.4% | 0.4% |
| Securities, Commodities, and Financial Services Sales Agents | $73,100 | 6.9% | 0.5% |
| Sales Representatives, Services, All Other | $69,400 | 24.4% | 1.7% |
| Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Prod | $75,700 | 13.2% | 0.9% |
| Sales Representatives, Wholesale and Manufacturing, Except Technical and Scienti | $80,400 | 7.3% | 0.5% |
| Real Estate Sales Agents | $53,100 | 5.7% | 0.4% |
| All Other Sales and Related Occupations (Avg. All Categories) | $49,200 | 23.0% | 1.6% |
| ***Weighted Mean Annual Wage*** | ***$65,600*** | **100.0%** | **6.9%** |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 7.0% | 1.4% |
| Bookkeeping, Accounting, and Auditing Clerks | $39,400 | 8.1% | 1.7% |
| Customer Service Representatives | $35,200 | 12.7% | 2.6% |
| Receptionists and Information Clerks | $29,300 | 8.1% | 1.7% |
| Executive Secretaries and Executive Administrative Assistants | $52,800 | 5.0% | 1.0% |
| Medical Secretaries | $31,200 | 4.1% | 0.8% |
| Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | $36,500 | 11.9% | 2.5% |
| Office Clerks, General | $40,400 | 14.4% | 3.0% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 28.7% | 5.9% |
| *Production Occupations* | | | |
| First-Line Supervisors of Production and Operating Workers | $63,600 | 4.9% | 0.1% |
| Team Assemblers | $30,500 | 14.1% | 0.3% |
| Assemblers and Fabricators, All Other | $43,100 | 6.1% | 0.1% |
| Printing Press Operators | $34,500 | 8.8% | 0.2% |
| Inspectors, Testers, Sorters, Samplers, and Weighers | $44,000 | 15.0% | 0.3% |
| Packaging and Filling Machine Operators and Tenders | $25,300 | 5.8% | 0.1% |
| Helpers--Production Workers | $32,700 | 9.4% | 0.2% |
| Production Workers, All Other | $30,800 | 5.9% | 0.1% |
| All Other Production Occupations (Avg. All Categories) | $37,600 | 30.0% | 0.6% |
| ***Weighted Mean Annual Wage*** | ***$37,300*** | **100.0%** | **2.0%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$74,000*** | | 90.5% |

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

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boulder County.

Sources: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: 1. Office; Compensation; 2/22/2016; dd

**APPENDIX TABLE 3**
**2014 NATIONAL LIGHT INDUSTRIAL WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| **Major Occupations (2% or more)** | **2014 National Light Industrial Industry Occupation Distribution** | |
|---|---|---|
| Management Occupations | 688,797 | *9.1%* |
| Business and Financial Operations Occupations | 509,481 | *6.7%* |
| Computer and Mathematical Occupations | 560,373 | *7.4%* |
| Architecture and Engineering Occupations | 1,027,730 | *13.5%* |
| Sales and Related Occupations | 381,312 | *5.0%* |
| Office and Administrative Support Occupations | 971,641 | *12.8%* |
| Installation, Maintenance, and Repair Occupations | 487,142 | *6.4%* |
| Production Occupations | 2,292,821 | *30.2%* |
| Transportation and Material Moving Occupations | 357,112 | *4.7%* |
| All Other Light Industrial Occupations | 311,353 | *4.1%* |
| **INDUSTRY TOTAL** | 7,587,762 | 100.0% |

Industries weighted to reflect City of Boulder industry mix.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 2. Industrial; Major Occupations Matrix; 2/22/2016; dd

**APPENDIX TABLE 4**
**AVERAGE ANNUAL COMPENSATION, 2014**
**LIGHT INDUSTRIAL WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Light Industrial Workers |
|---|---|---|---|
| ***Page 1 of 3*** | | | |
| *Management Occupations* | | | |
| General and Operations Managers | $130,500 | 24.1% | 2.2% |
| Marketing Managers | $146,800 | 5.8% | 0.5% |
| Sales Managers | $137,700 | 6.1% | 0.6% |
| Computer and Information Systems Managers | $150,800 | 8.1% | 0.7% |
| Financial Managers | $137,700 | 6.5% | 0.6% |
| Industrial Production Managers | $110,700 | 12.3% | 1.1% |
| Architectural and Engineering Managers | $159,300 | 15.8% | 1.4% |
| Managers, All Other | $129,500 | 5.4% | 0.5% |
| All Other Management Occupations (Avg. All Categories) | $126,000 | 16.0% | 1.5% |
| ***Weighted Mean Annual Wage*** | ***$135,300*** | **100.0%** | **9.1%** |
| *Business and Financial Operations Occupations* | | | |
| Purchasing Agents, Except Wholesale, Retail, and Farm Products | $68,800 | 18.5% | 1.2% |
| Human Resources Specialists | $65,800 | 5.7% | 0.4% |
| Logisticians | $69,100 | 6.6% | 0.4% |
| Management Analysts | $114,400 | 7.0% | 0.5% |
| Market Research Analysts and Marketing Specialists | $77,300 | 11.6% | 0.8% |
| Business Operations Specialists, All Other | $75,300 | 12.1% | 0.8% |
| Accountants and Auditors | $76,300 | 15.0% | 1.0% |
| Financial Analysts | $82,800 | 6.6% | 0.4% |
| All Other Business and Financial Operations Occupations (Avg. All Categories) | $74,700 | 16.9% | 1.1% |
| ***Weighted Mean Annual Wage*** | ***$76,700*** | **100.0%** | **6.7%** |
| *Computer and Mathematical Occupations* | | | |
| Computer Systems Analysts | $87,800 | 8.5% | 0.6% |
| Computer Programmers | $95,100 | 4.1% | 0.3% |
| Software Developers, Applications | $106,600 | 26.8% | 2.0% |
| Software Developers, Systems Software | $119,300 | 34.3% | 2.5% |
| Network and Computer Systems Administrators | $82,600 | 6.0% | 0.4% |
| Computer User Support Specialists | $54,800 | 7.8% | 0.6% |
| All Other Computer and Mathematical Occupations (Avg. All Categories) | $93,700 | 12.5% | 0.9% |
| ***Weighted Mean Annual Wage*** | ***$101,800*** | **100.0%** | **7.4%** |

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 2. Industrial; Compensation; 2/22/2016; dd

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Light Industrial Workers |
|---|---|---|---|
| ***Page 2 of 3*** | | | |
| *Architecture and Engineering Occupations* | | | |
| Aerospace Engineers | $137,200 | 4.4% | 0.6% |
| Computer Hardware Engineers | $117,400 | 4.6% | 0.6% |
| Electrical Engineers | $98,500 | 14.4% | 1.9% |
| Electronics Engineers, Except Computer | $114,000 | 11.5% | 1.6% |
| Industrial Engineers | $90,100 | 15.7% | 2.1% |
| Mechanical Engineers | $109,900 | 12.7% | 1.7% |
| Electrical and Electronics Engineering Technicians | $56,300 | 11.0% | 1.5% |
| Industrial Engineering Technicians | $65,700 | 4.4% | 0.6% |
| All Other Architecture and Engineering Occupations (Avg. All Categories) | $95,900 | 21.4% | 2.9% |
| ***Weighted Mean Annual Wage*** | ***$96,300*** | **100.0%** | **13.5%** |
| *Sales and Related Occupations* | | | |
| First-Line Supervisors of Non-Retail Sales Workers | $87,900 | 4.7% | 0.2% |
| Retail Salespersons | $30,600 | 5.6% | 0.3% |
| Sales Representatives, Services, All Other | $69,400 | 5.3% | 0.3% |
| Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Proc | $75,700 | 21.8% | 1.1% |
| Sales Representatives, Wholesale and Manufacturing, Except Technical and Scient | $80,400 | 28.3% | 1.4% |
| Sales Engineers | $104,100 | 7.9% | 0.4% |
| Telemarketers | $25,200 | 13.2% | 0.7% |
| All Other Sales and Related Occupations (Avg. All Categories) | $49,200 | 13.2% | 0.7% |
| ***Weighted Mean Annual Wage*** | ***$66,800*** | **100.0%** | **5.0%** |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 5.9% | 0.7% |
| Bookkeeping, Accounting, and Auditing Clerks | $39,400 | 8.1% | 1.0% |
| Customer Service Representatives | $35,200 | 20.8% | 2.7% |
| Production, Planning, and Expediting Clerks | $53,200 | 7.8% | 1.0% |
| Shipping, Receiving, and Traffic Clerks | $32,400 | 10.0% | 1.3% |
| Stock Clerks and Order Fillers | $29,100 | 5.4% | 0.7% |
| Executive Secretaries and Executive Administrative Assistants | $52,800 | 4.6% | 0.6% |
| Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | $36,500 | 8.3% | 1.1% |
| Office Clerks, General | $40,400 | 11.3% | 1.5% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 17.7% | 2.3% |
| ***Weighted Mean Annual Wage*** | ***$39,600*** | **100.0%** | **12.8%** |
| *Installation, Maintenance, and Repair Occupations* | | | |
| First-Line Supervisors of Mechanics, Installers, and Repairers | $76,800 | 8.3% | 0.5% |
| Electrical and Electronics Repairers, Commercial and Industrial Equipment | $58,200 | 7.8% | 0.5% |
| Automotive Body and Related Repairers | $60,900 | 11.2% | 0.7% |
| Automotive Service Technicians and Mechanics | $42,900 | 26.9% | 1.7% |
| Industrial Machinery Mechanics | $55,000 | 9.0% | 0.6% |
| Maintenance and Repair Workers, General | $38,900 | 13.8% | 0.9% |
| All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories) | $46,400 | 23.0% | 1.5% |
| ***Weighted Mean Annual Wage*** | ***$50,200*** | **100.0%** | **6.4%** |

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 2. Industrial; Compensation; 2/22/2016; dd

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Light Industrial Workers |
|---|---|---|---|
| ***Page 3 of 3*** | | | |
| *Production Occupations* | | | |
| First-Line Supervisors of Production and Operating Workers | $63,600 | 7.2% | 2.2% |
| Electrical and Electronic Equipment Assemblers | $36,300 | 18.2% | 5.5% |
| Electromechanical Equipment Assemblers | $34,600 | 4.3% | 1.3% |
| Team Assemblers | $30,500 | 14.8% | 4.5% |
| Machinists | $49,200 | 6.1% | 1.9% |
| Inspectors, Testers, Sorters, Samplers, and Weighers | $44,000 | 7.5% | 2.3% |
| Packaging and Filling Machine Operators and Tenders | $25,300 | 4.6% | 1.4% |
| All Other Production Occupations (Avg. All Categories) | $37,600 | 37.4% | 11.3% |
| ***Weighted Mean Annual Wage*** | ***$38,700*** | **100.0%** | **30.2%** |
| *Transportation and Material Moving Occupations* | | | |
| First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand | $50,700 | 4.3% | 0.2% |
| Driver/Sales Workers | $27,000 | 4.2% | 0.2% |
| Heavy and Tractor-Trailer Truck Drivers | $44,700 | 5.2% | 0.2% |
| Light Truck or Delivery Services Drivers | $34,900 | 5.6% | 0.3% |
| Automotive and Watercraft Service Attendants | $24,200 | 6.4% | 0.3% |
| Industrial Truck and Tractor Operators | $36,600 | 8.6% | 0.4% |
| Cleaners of Vehicles and Equipment | $24,100 | 22.7% | 1.1% |
| Laborers and Freight, Stock, and Material Movers, Hand | $28,000 | 23.2% | 1.1% |
| Packers and Packagers, Hand | $21,800 | 12.1% | 0.6% |
| All Other Transportation and Material Moving Occupations (Avg. All Categories) | $38,800 | 7.9% | 0.4% |
| ***Weighted Mean Annual Wage*** | ***$29,900*** | **100.0%** | **4.5%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$81,000*** | | 95.9% |

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

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boulder County.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 2. Industrial; Compensation; 2/22/2016; dd

**APPENDIX TABLE 5**
**2014 NATIONAL RETAIL/RESTAURANT/SERVICE WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER** ***Working Draft For Discussion***

| Major Occupations (2% or more) | 2014 National Retail/Restaurant/Service Occupation Distribution | |
|---|---|---|
| Management Occupations | 628,384 | *2.3%* |
| Food Preparation and Serving Related Occupations | 12,261,041 | *45.3%* |
| Personal Care and Service Occupations | 841,689 | *3.1%* |
| Sales and Related Occupations | 7,745,429 | *28.6%* |
| Office and Administrative Support Occupations | 2,276,526 | *8.4%* |
| Installation, Maintenance, and Repair Occupations | 624,841 | *2.3%* |
| Production Occupations | 545,610 | *2.0%* |
| Transportation and Material Moving Occupations | 1,128,168 | *4.2%* |
| All Other Retail/Restaurant/Service Occupations | 992,258 | *3.7%* |
| **INDUSTRY TOTAL** | 27,043,945 | 100.0% |

Industries weighted to reflect City of Boulder industry mix.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 3. Retail; Major Occupations Matrix; 2/22/2016; dd

**APPENDIX TABLE 6**
**AVERAGE ANNUAL COMPENSATION, 2014**
**RETAIL/RESTAURANT/SERVICE WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft For Discussion***
**CITY OF BOULDER**

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Retail Workers |
|---|---|---|---|
| ***Page 1 of 2*** | | | |
| *Management Occupations* | | | |
| General and Operations Managers | $130,500 | 49.6% | 1.2% |
| Sales Managers | $137,700 | 11.7% | 0.3% |
| Food Service Managers | $64,400 | 29.9% | 0.7% |
| All Other Management Occupations (Avg. All Categories) | $126,000 | 8.8% | 0.2% |
| ***Weighted Mean Annual Wage*** | ***$111,200*** | **100.0%** | **2.3%** |
| *Food Preparation and Serving Related Occupations* | | | |
| First-Line Supervisors of Food Preparation and Serving Workers | $37,700 | 7.1% | 3.2% |
| Cooks, Fast Food | $19,300 | 5.2% | 2.4% |
| Cooks, Restaurant | $24,100 | 10.1% | 4.6% |
| Food Preparation Workers | $22,500 | 6.2% | 2.8% |
| Bartenders | $25,900 | 4.1% | 1.9% |
| Combined Food Preparation and Serving Workers, Including Fast Food | $20,900 | 28.1% | 12.7% |
| Waiters and Waitresses | $22,900 | 21.6% | 9.8% |
| Dishwashers | $22,400 | 4.1% | 1.8% |
| All Other Food Preparation and Serving Related Occupations (Avg. All Categories) | $23,700 | 13.5% | 6.1% |
| ***Weighted Mean Annual Wage*** | ***$23,500*** | **100.0%** | **45.3%** |
| *Personal Care and Service Occupations* | | | |
| First-Line Supervisors of Personal Service Workers | $43,000 | 4.9% | 0.2% |
| Nonfarm Animal Caretakers | $28,500 | 10.1% | 0.3% |
| Ushers, Lobby Attendants, and Ticket Takers | $19,900 | 7.0% | 0.2% |
| Hairdressers, Hairstylists, and Cosmetologists | $33,000 | 48.6% | 1.5% |
| Manicurists and Pedicurists | $28,700 | 11.8% | 0.4% |
| Skincare Specialists | $49,800 | 4.3% | 0.1% |
| All Other Personal Care and Service Occupations (Avg. All Categories) | $31,000 | 13.4% | 0.4% |
| ***Weighted Mean Annual Wage*** | ***$32,100*** | **100.0%** | **3.1%** |
| *Sales and Related Occupations* | | | |
| First-Line Supervisors of Retail Sales Workers | $51,100 | 11.5% | 3.3% |
| Cashiers | $23,200 | 33.7% | 9.6% |
| Retail Salespersons | $30,600 | 49.3% | 14.1% |
| All Other Sales and Related Occupations (Avg. All Categories) | $49,200 | 5.6% | 1.6% |
| ***Weighted Mean Annual Wage*** | ***$31,500*** | **100.0%** | **28.6%** |

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 3. Retail; Compensation; 2/22/2016; dd

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Retail Workers |
|---|---|---|---|
| ***Page 2 of 2*** | | | |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 5.6% | 0.5% |
| Bookkeeping, Accounting, and Auditing Clerks | $39,400 | 7.5% | 0.6% |
| Customer Service Representatives | $35,200 | 11.5% | 1.0% |
| Receptionists and Information Clerks | $29,300 | 4.6% | 0.4% |
| Shipping, Receiving, and Traffic Clerks | $32,400 | 5.2% | 0.4% |
| Stock Clerks and Order Fillers | $29,100 | 46.0% | 3.9% |
| Office Clerks, General | $40,400 | 8.7% | 0.7% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 10.9% | 0.9% |
| ***Weighted Mean Annual Wage*** | ***$34,200*** | **100.0%** | **8.4%** |
| *Installation, Maintenance, and Repair Occupations* | | | |
| First-Line Supervisors of Mechanics, Installers, and Repairers | $76,800 | 8.0% | 0.2% |
| Computer, Automated Teller, and Office Machine Repairers | $44,300 | 5.8% | 0.1% |
| Automotive Body and Related Repairers | $60,900 | 5.2% | 0.1% |
| Automotive Service Technicians and Mechanics | $42,900 | 44.0% | 1.0% |
| Tire Repairers and Changers | $27,400 | 5.9% | 0.1% |
| Maintenance and Repair Workers, General | $38,900 | 7.2% | 0.2% |
| All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories) | $46,400 | 23.9% | 0.6% |
| ***Weighted Mean Annual Wage*** | ***$46,200*** | **100.0%** | **2.3%** |
| *Production Occupations* | | | |
| First-Line Supervisors of Production and Operating Workers | $63,600 | 6.9% | 0.1% |
| Bakers | $24,700 | 19.0% | 0.4% |
| Butchers and Meat Cutters | $33,600 | 24.6% | 0.5% |
| Meat, Poultry, and Fish Cutters and Trimmers | $24,000 | 5.1% | 0.1% |
| Laundry and Dry-Cleaning Workers | $22,200 | 12.8% | 0.3% |
| Pressers, Textile, Garment, and Related Materials | $26,100 | 5.2% | 0.1% |
| All Other Production Occupations (Avg. All Categories) | $37,600 | 31.6% | 0.6% |
| ***Weighted Mean Annual Wage*** | ***$34,600*** | **105.2%** | **2.1%** |
| *Transportation and Material Moving Occupations* | | | |
| Driver/Sales Workers | $27,000 | 21.1% | 0.9% |
| Light Truck or Delivery Services Drivers | $34,900 | 15.2% | 0.6% |
| Parking Lot Attendants | $21,300 | 6.8% | 0.3% |
| Cleaners of Vehicles and Equipment | $24,100 | 7.8% | 0.3% |
| Laborers and Freight, Stock, and Material Movers, Hand | $28,000 | 19.6% | 0.8% |
| Packers and Packagers, Hand | $21,800 | 17.0% | 0.7% |
| All Other Transportation and Material Moving Occupations (Avg. All Categories) | $38,800 | 12.5% | 0.5% |
| ***Weighted Mean Annual Wage*** | ***$28,400*** | **100.0%** | **4.2%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$30,000*** | | 96.4% |

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

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boulder County.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 3. Retail; Compensation; 2/22/2016; dd

**APPENDIX TABLE 7**
**2014 NATIONAL HOSPITAL WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS**
**CITY OF BOULDER**

***Working Draft For Discussion***

| Major Occupations (3% or more) | 2014 National Hospital Industry Occupation Distribution | |
|---|---|---|
| Management Occupations | 293,157 | *4.2%* |
| Community and Social Service Occupations | 424,853 | *6.1%* |
| Healthcare Practitioners and Technical Occupations | 3,510,432 | *50.5%* |
| Healthcare Support Occupations | 821,410 | *11.8%* |
| Office and Administrative Support Occupations | 1,020,448 | *14.7%* |
| All Other Hospital Occupations | 874,847 | *12.6%* |
| **INDUSTRY TOTAL** | 6,945,148 | 100.0% |

Industries weighted to reflect City of Boulder industry mix.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 4. Hospital; Major Occupations Matrix; 2/22/2016; dd

**APPENDIX TABLE 8**
**AVERAGE ANNUAL COMPENSATION, 2014**
**HOSPITAL WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft For Discussion***
**CITY OF BOULDER**

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Hospital Workers |
|---|---|---|---|
| ***Page 1 of 2*** | | | |
| *Management Occupations* | | | |
| General and Operations Managers | $130,500 | 12.0% | 0.5% |
| Administrative Services Managers | $91,600 | 6.6% | 0.3% |
| Financial Managers | $137,700 | 6.1% | 0.3% |
| Medical and Health Services Managers | $111,000 | 54.1% | 2.3% |
| Managers, All Other | $129,500 | 4.1% | 0.2% |
| All Other Management Occupations (Avg. All Categories) | $126,000 | 17.0% | 0.7% |
| ***Weighted Mean Annual Wage*** | ***$117,000*** | **100.0%** | **4.2%** |
| *Community and Social Service Occupations* | | | |
| Substance Abuse and Behavioral Disorder Counselors | $40,600 | 13.5% | 0.8% |
| Mental Health Counselors | $48,800 | 16.1% | 1.0% |
| Child, Family, and School Social Workers | $49,100 | 5.5% | 0.3% |
| Healthcare Social Workers | $58,200 | 14.7% | 0.9% |
| Mental Health and Substance Abuse Social Workers | $41,700 | 15.4% | 0.9% |
| Health Educators | $62,000 | 5.2% | 0.3% |
| Social and Human Service Assistants | $30,200 | 12.4% | 0.8% |
| All Other Community and Social Service Occupations (Avg. All Categories) | $45,700 | 17.2% | 1.1% |
| *Healthcare Practitioners and Technical Occupations* | | | |
| Registered Nurses | $72,800 | 48.6% | 24.6% |
| Emergency Medical Technicians and Paramedics | $39,800 | 4.8% | 2.4% |
| Licensed Practical and Licensed Vocational Nurses | $45,900 | 4.2% | 2.1% |
| All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories) | $79,700 | 42.4% | 21.4% |
| ***Weighted Mean Annual Wage*** | ***$73,000*** | **100.0%** | **50.5%** |
| *Healthcare Support Occupations* | | | |
| Nursing Assistants | $28,300 | 43.5% | 5.1% |
| Orderlies | $29,500 | 4.2% | 0.5% |
| Medical Assistants | $34,500 | 22.1% | 2.6% |
| Medical Equipment Preparers | $33,000 | 5.1% | 0.6% |
| Phlebotomists | $34,800 | 8.8% | 1.0% |
| Healthcare Support Workers, All Other | $31,800 | 4.9% | 0.6% |
| All Other Healthcare Support Occupations (Avg. All Categories) | $33,800 | 11.4% | 1.3% |
| ***Weighted Mean Annual Wage*** | ***$31,300*** | **100.0%** | **11.8%** |

Sources: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 4. Hospital; Compensation; 2/22/2016; dd

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Hospital Workers |
|---|---|---|---|
| ***Page 2 of 2*** | | | |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 7.0% | 1.0% |
| Billing and Posting Clerks | $41,500 | 7.0% | 1.0% |
| Customer Service Representatives | $35,200 | 7.4% | 1.1% |
| Interviewers, Except Eligibility and Loan | $26,400 | 6.6% | 1.0% |
| Receptionists and Information Clerks | $29,300 | 9.0% | 1.3% |
| Medical Secretaries | $31,200 | 16.7% | 2.4% |
| Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | $36,500 | 9.0% | 1.3% |
| Office Clerks, General | $40,400 | 11.5% | 1.7% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 25.8% | 3.8% |
| ***Weighted Mean Annual Wage*** | ***$36,800*** | **100.0%** | **14.7%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$62,000*** | | 87.4% |

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

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boudler County.

Sources: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 4. Hospital; Compensation; 2/22/2016; dd

**APPENDIX TABLE 9**
**2014 NATIONAL LODGING WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Major Occupations (3% or more) | 2014 National Lodging Occupation Distribution (1) | |
|---|---|---|
| Management Occupations | 68,960 | 4.5% |
| Food Preparation and Serving Related Occupations | 379,520 | *24.7%* |
| Building and Grounds Cleaning and Maintenance Occupations | 489,570 | *31.9%* |
| Personal Care and Service Occupations | 61,530 | *4.0%* |
| Office and Administrative Support Occupations | 310,980 | *20.3%* |
| Installation, Maintenance, and Repair Occupations | 76,990 | *5.0%* |
| All Other Lodging Related Occupations | 147,010 | *9.6%* |
| **INDUSTRY TOTAL** | 1,534,560 | 100.0% |

Notes
(1) Excludes casino hotels

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: \\SF-FS2\SFEmployee\ddoezema\My Documents\Projects\Boulder\Draft nexus\added\5. Lodging;Major Occupations Matrix; 2/22/2016

**APPENDIX TABLE 10**
**AVERAGE ANNUAL COMPENSATION, 2014**
**LODGING WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Lodging Workers |
|---|---|---|---|
| ***Page 1 of 2*** | | | |
| *Management Occupations* | | | |
| General and Operations Managers | $130,500 | 22.9% | 1.0% |
| Sales Managers | $137,700 | 9.3% | 0.4% |
| Administrative Services Managers | $91,600 | 3.9% | 0.2% |
| Financial Managers | $137,700 | 4.4% | 0.2% |
| Food Service Managers | $64,400 | 11.1% | 0.5% |
| Lodging Managers | $73,500 | 40.2% | 1.8% |
| All Other Management Occupations (Avg. All Categories) | $126,000 | 8.3% | 0.4% |
| ***Weighted Mean Annual Wage*** | ***$99,300*** | **100.0%** | **4.5%** |
| *Food Preparation and Serving Related Occupations* | | | |
| First-Line Supervisors of Food Preparation and Serving Workers | $37,700 | 5.3% | 1.3% |
| Cooks, Restaurant | $24,100 | 13.8% | 3.4% |
| Bartenders | $25,900 | 7.8% | 1.9% |
| Combined Food Preparation and Serving Workers, Including Fast Food | $20,900 | 3.6% | 0.9% |
| Waiters and Waitresses | $22,900 | 29.5% | 7.3% |
| Food Servers, Nonrestaurant | $24,400 | 8.3% | 2.1% |
| Dining Room and Cafeteria Attendants and Bartender Helpers | $19,800 | 10.5% | 2.6% |
| Dishwashers | $22,400 | 6.5% | 1.6% |
| Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop | $21,900 | 3.4% | 0.9% |
| All Other Food Preparation and Serving Occupations (Avg. All Categories) | $23,700 | 11.0% | 2.7% |
| ***Weighted Mean Annual Wage*** | ***$23,800*** | **100.0%** | **24.7%** |
| *Building and Grounds Cleaning and Maintenance Occupations* | | | |
| First-Line Supervisors of Housekeeping and Janitorial Workers | $42,500 | 5.8% | 1.9% |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners | $27,600 | 6.1% | 1.9% |
| Maids and Housekeeping Cleaners | $20,400 | 85.1% | 27.1% |
| All Other Building and Grounds Occupations (Avg. All Categories) | $27,400 | 3.0% | 1.0% |
| ***Weighted Mean Annual Wage*** | ***$22,300*** | **100.0%** | **31.9%** |
| *Personal Care and Service Occupations* | | | |
| First-Line Supervisors of Personal Service Workers | $43,000 | 4.3% | 0.2% |
| Amusement and Recreation Attendants | $23,100 | 15.0% | 0.6% |
| Locker Room, Coatroom, and Dressing Room Attendants | $22,300 | 3.8% | 0.2% |
| Baggage Porters and Bellhops | $20,000 | 34.4% | 1.4% |
| Concierges | $27,300 | 17.8% | 0.7% |
| Fitness Trainers and Aerobics Instructors | $45,500 | 3.0% | 0.1% |
| Recreation Workers | $29,500 | 9.8% | 0.4% |
| Personal Care and Service Workers, All Other | $29,000 | 3.4% | 0.1% |
| All Other Personal Care and Service Occupations (Avg. All Categories) | $31,000 | 8.4% | 0.3% |
| ***Weighted Mean Annual Wage*** | ***$25,800*** | **100.0%** | **4.0%** |

Sources: Bureau of Labor Statistics; Prepared by: Keyser Marston Associates, Inc.
Filename: 5. Lodging;Compensation; 2/22/2016

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Lodging Workers |
|---|---|---|---|
| ***Page 2 of 2*** | | | |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 7.5% | 1.5% |
| Bookkeeping, Accounting, and Auditing Clerks | $39,400 | 5.2% | 1.1% |
| Hotel, Motel, and Resort Desk Clerks | $22,300 | 71.8% | 14.5% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 15.5% | 3.1% |
| ***Weighted Mean Annual Wage*** | ***$28,200*** | **100.0%** | **20.3%** |
| *Installation, Maintenance, and Repair Occupations* | | | |
| First-Line Supervisors of Mechanics, Installers, and Repairers | $76,800 | 8.0% | 0.4% |
| Maintenance and Repair Workers, General | $38,900 | 89.8% | 4.5% |
| All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories) | $46,400 | 2.1% | 0.1% |
| ***Weighted Mean Annual Wage*** | ***$42,100*** | **100.0%** | **5.0%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$29,000*** | | 90.4% |

[1] Including occupations representing 3% or more of the major occupation group.

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boulder County.

**APPENDIX TABLE 11**
**2014 NATIONAL WAREHOUSING WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Major Occupations (3% or more) | 2014 National Warehousing Occupation Distribution | |
|---|---|---|
| Management Occupations | 25,100 | 3.5% |
| Office and Administrative Support Occupations | 161,880 | *22.3%* |
| Installation, Maintenance, and Repair Occupations | 23,190 | *3.2%* |
| Production Occupations | 29,150 | *4.0%* |
| Transportation and Material Moving Occupations | 438,040 | *60.3%* |
| All Other Warehousing Related Occupations | 48,730 | *6.7%* |
| **INDUSTRY TOTAL** | 726,090 | 100.0% |

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: \\SF-FS2\SFEmployee\ddoezema\My Documents\Projects\Boulder\Draft nexus\added\6. Warehouse;Major Occupations Matrix;
2/22/2016

**APPENDIX TABLE 12**
**AVERAGE ANNUAL COMPENSATION, 2014**
**WAREHOUSING WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Warehousing Workers |
|---|---|---|---|
| ***Page 1 of 2*** | | | |
| *Management Occupations* | | | |
| General and Operations Managers | $130,500 | 37.2% | 1.3% |
| Sales Managers | $137,700 | 4.9% | 0.2% |
| Administrative Services Managers | $91,600 | 5.3% | 0.2% |
| Transportation, Storage, and Distribution Managers | $102,700 | 36.1% | 1.2% |
| All Other Management Occupations (Avg. All Categories) | $126,000 | 16.6% | 0.6% |
| ***Weighted Mean Annual Wage*** | ***$118,000*** | **100.0%** | **3.5%** |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 5.4% | 1.2% |
| Customer Service Representatives | $35,200 | 8.5% | 1.9% |
| Order Clerks | $32,700 | 3.2% | 0.7% |
| Production, Planning, and Expediting Clerks | $53,200 | 3.7% | 0.8% |
| Shipping, Receiving, and Traffic Clerks | $32,400 | 21.2% | 4.7% |
| Stock Clerks and Order Fillers | $29,100 | 34.5% | 7.7% |
| Weighers, Measurers, Checkers, and Samplers, Recordkeeping | $33,800 | 3.2% | 0.7% |
| Office Clerks, General | $40,400 | 6.0% | 1.3% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 14.2% | 3.2% |
| ***Weighted Mean Annual Wage*** | ***$34,900*** | **100.0%** | **22.3%** |
| *Installation, Maintenance, and Repair Occupations* | | | |
| First-Line Supervisors of Mechanics, Installers, and Repairers | $76,800 | 9.1% | 0.3% |
| Bus and Truck Mechanics and Diesel Engine Specialists | $57,900 | 7.7% | 0.2% |
| Industrial Machinery Mechanics | $55,000 | 3.3% | 0.1% |
| Maintenance and Repair Workers, General | $38,900 | 61.6% | 2.0% |
| All Other Installation, Maintenance, and Repair Occupations (Avg. All Categories) | $46,400 | 18.3% | 0.6% |
| ***Weighted Mean Annual Wage*** | ***$45,700*** | **100.0%** | **3.2%** |

Sources: Bureau of Labor Statistics; Prepared by: Keyser Marston Associates, Inc.
Filename: 6. Warehouse;Compensation; 2/22/2016

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Warehousing Workers |
|---|---|---|---|
| ***Page 2 of 2*** | | | |
| *Production Occupations* | | | |
| First-Line Supervisors of Production and Operating Workers | $63,600 | 8.3% | 0.3% |
| Team Assemblers | $30,500 | 19.1% | 0.8% |
| Inspectors, Testers, Sorters, Samplers, and Weighers | $44,000 | 21.9% | 0.9% |
| Packaging and Filling Machine Operators and Tenders | $25,300 | 17.1% | 0.7% |
| Helpers--Production Workers | $32,700 | 9.8% | 0.4% |
| Production Workers, All Other | $30,800 | 3.8% | 0.2% |
| All Other Production Occupations (Avg. All Categories) | $37,600 | 20.0% | 0.8% |
| ***Weighted Mean Annual Wage*** | ***$37,000*** | **100.0%** | **4.0%** |
| *Transportation and Material Moving Occupations* | | | |
| First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand | $50,700 | 4.9% | 2.9% |
| Heavy and Tractor-Trailer Truck Drivers | $44,700 | 8.1% | 4.9% |
| Industrial Truck and Tractor Operators | $36,600 | 21.0% | 12.7% |
| Laborers and Freight, Stock, and Material Movers, Hand | $28,000 | 42.8% | 25.8% |
| Machine Feeders and Offbearers | $26,500 | 5.4% | 3.2% |
| Packers and Packagers, Hand | $21,800 | 10.4% | 6.3% |
| All Other Transportation and Material Moving Occupations (Avg. All Categories) | $38,800 | 7.4% | 4.5% |
| ***Weighted Mean Annual Wage*** | ***$32,400*** | **100.0%** | **60.3%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$37,000*** | | 93.3% |

[1] Including occupations representing 3% or more of the major occupation group.

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boulder County.

Sources: Bureau of Labor Statistics; Prepared by: Keyser Marston Associates, Inc.
Filename: 6. Warehouse;Compensation; 2/22/2016

**APPENDIX TABLE 13**
**2014 NATIONAL INSTITUTION WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Major Occupations (3% or more) | 2014 National Institutional Industry Occupation Distribution | |
|---|---|---|
| Management Occupations | 935,617 | *5.7%* |
| Business and Financial Operations Occupations | 513,524 | *3.1%* |
| Community and Social Service Occupations | 1,501,829 | *9.1%* |
| Education, Training, and Library Occupations | 5,276,525 | *32.0%* |
| Arts, Design, Entertainment, Sports, and Media Occupations | 581,622 | *3.5%* |
| Personal Care and Service Occupations | 3,379,576 | *20.5%* |
| Office and Administrative Support Occupations | 1,689,737 | *10.3%* |
| All Other Institutional Occupations | 2,601,967 | *15.8%* |
| **INDUSTRY TOTAL** | 16,480,396 | 100.0% |

Industries weighted to reflect City of Boulder industry mix.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 7. Institutional; Major Occupations Matrix; 2/22/2016; dd

**APPENDIX TABLE 14**
**AVERAGE ANNUAL COMPENSATION, 2014**
**INSTITUTIONAL WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS** **Working Draft for Discussion**
**CITY OF BOULDER**

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Institutional Workers |
|---|---|---|---|
| ***Page 1 of 2*** | | | |
| *Management Occupations* | | | |
| Chief Executives | $202,400 | 4.3% | 0.2% |
| General and Operations Managers | $130,500 | 28.3% | 1.6% |
| Education Administrators, Preschool and Childcare Center/Program | $46,300 | 14.4% | 0.8% |
| Education Administrators, Elementary and Secondary School | $93,500 | 6.5% | 0.4% |
| Education Administrators, All Other | $75,100 | 6.7% | 0.4% |
| Social and Community Service Managers | $81,300 | 16.1% | 0.9% |
| All Other Management Occupations (Avg. All Categories) | $126,000 | 23.6% | 1.3% |
| ***Weighted Mean Annual Wage*** | ***$106,300*** | **100.0%** | **5.7%** |
| *Business and Financial Operations Occupations* | | | |
| Human Resources Specialists | $65,800 | 10.1% | 0.3% |
| Management Analysts | $114,400 | 5.1% | 0.2% |
| Fundraisers | $57,400 | 8.0% | 0.2% |
| Training and Development Specialists | $65,600 | 22.0% | 0.7% |
| Market Research Analysts and Marketing Specialists | $77,300 | 6.5% | 0.2% |
| Business Operations Specialists, All Other | $75,300 | 19.5% | 0.6% |
| Accountants and Auditors | $76,300 | 14.2% | 0.4% |
| All Other Business and Financial Operations (Avg. All Categories) | $74,700 | 14.6% | 0.5% |
| ***Weighted Mean Annual Wage*** | ***$72,900*** | **100.0%** | **3.1%** |
| *Community and Social Service Occupations* | | | |
| Educational, Guidance, School, and Vocational Counselors | $53,800 | 8.8% | 0.8% |
| Mental Health Counselors | $48,800 | 5.5% | 0.5% |
| Rehabilitation Counselors | $39,400 | 8.4% | 0.8% |
| Child, Family, and School Social Workers | $49,100 | 18.5% | 1.7% |
| Mental Health and Substance Abuse Social Workers | $41,700 | 4.1% | 0.4% |
| Social and Human Service Assistants | $30,200 | 29.3% | 2.7% |
| Community and Social Service Specialists, All Other | $42,100 | 5.4% | 0.5% |
| All Other Business and Financial Operations (Avg. All Categories) | $45,700 | 20.0% | 1.8% |
| ***Weighted Mean Annual Wage*** | ***$41,800*** | **100.0%** | **9.1%** |
| *Education, Training, and Library Occupations* | | | |
| Vocational Education Teachers, Postsecondary | $53,100 | 5.2% | 1.7% |
| Preschool Teachers, Except Special Education | $35,400 | 18.4% | 5.9% |
| Elementary School Teachers, Except Special Education | $55,900 | 5.9% | 1.9% |
| Secondary School Teachers, Except Special and Career/Technical Education | $56,700 | 4.2% | 1.3% |
| Self-Enrichment Education Teachers | $41,800 | 17.1% | 5.5% |
| Teachers and Instructors, All Other, Except Substitute Teachers | $42,800 | 11.9% | 3.8% |
| Teacher Assistants | $32,300 | 16.1% | 5.2% |
| All Other Education, Training, and Library Occupations (Avg. All Categories) | $58,100 | 21.3% | 6.8% |
| ***Weighted Mean Annual Wage*** | ***$44,700*** | **100.0%** | **32.0%** |

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 7. Institutional; Compensation; 2/22/2016; dd

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Institutional Workers |
|---|---|---|---|
| ***Page 2 of 2*** | | | |
| *Arts, Design, Entertainment, Sports, and Media Occupations* | | | |
| Coaches and Scouts | $36,400 | 65.4% | 2.3% |
| Public Relations Specialists | $46,700 | 7.5% | 0.3% |
| All Other Arts, Design, Entertainment, Sports, and Media Occupations (Avg. All Cate | $53,300 | 27.0% | 1.0% |
| ***Weighted Mean Annual Wage*** | ***$41,700*** | **100.0%** | **3.5%** |
| *Personal Care and Service Occupations* | | | |
| Childcare Workers | $24,300 | 39.1% | 8.0% |
| Personal Care Aides | $23,900 | 42.2% | 8.6% |
| Fitness Trainers and Aerobics Instructors | $45,500 | 4.5% | 0.9% |
| Recreation Workers | $29,500 | 5.5% | 1.1% |
| All Other Personal Care and Service Occupations (Avg. All Categories) | $31,000 | 8.7% | 1.8% |
| ***Weighted Mean Annual Wage*** | ***$26,000*** | **100.0%** | **20.5%** |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 6.1% | 0.6% |
| Bookkeeping, Accounting, and Auditing Clerks | $39,400 | 9.4% | 1.0% |
| Customer Service Representatives | $35,200 | 7.2% | 0.7% |
| Receptionists and Information Clerks | $29,300 | 9.0% | 0.9% |
| Executive Secretaries and Executive Administrative Assistants | $52,800 | 4.9% | 0.5% |
| Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | $36,500 | 22.7% | 2.3% |
| Office Clerks, General | $40,400 | 25.8% | 2.6% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 14.9% | 1.5% |
| ***Weighted Mean Annual Wage*** | ***$39,300*** | **100.0%** | **10.3%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$44,000*** | | 84.2% |

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

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boulder County.

Source: Bureau of Labor Statistics;
Prepared by: Keyser Marston Associates, Inc.
Filename: 7. Institutional; Compensation; 2/22/2016; dd

**APPENDIX TABLE 15**
**2014 NATIONAL ASSISTED LIVING WORKER DISTRIBUTION BY OCCUPATION**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Major Occupations (3% or more) | 2014 National Assisted Living Occupation Distribution | |
|---|---|---|
| Healthcare Practitioners and Technical Occupations | 589,856 | 16.9% |
| Healthcare Support Occupations | 1,224,897 | *35.0%* |
| Food Preparation and Serving Related Occupations | 498,540 | *14.3%* |
| Building and Grounds Cleaning and Maintenance Occupations | 223,572 | *6.4%* |
| Personal Care and Service Occupations | 422,542 | *12.1%* |
| Office and Administrative Support Occupations | 176,069 | *5.0%* |
| All Other Assisted Living Related Occupations | 359,935 | *10.3%* |
| **INDUSTRY TOTAL** | 3,495,411 | 100.0% |

Industries weighted to reflect City of Boulder industry mix.

Source: Bureau of Labor Statistics
Prepared by: Keyser Marston Associates, Inc.
Filename: \\SF-FS2\SFEmployee\ddoezema\My Documents\Projects\Boulder\Draft nexus\added\8. Nursing Facility;Major Occupations Matrix;
2/22/2016

**APPENDIX TABLE 16**
**AVERAGE ANNUAL COMPENSATION, 2014**
**ASSISTED LIVING WORKER OCCUPATIONS**
**JOBS-HOUSING NEXUS ANALYSIS** ***Working Draft for Discussion***
**CITY OF BOULDER**

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Assisted Living Workers |
|---|---|---|---|
| ***Page 1 of 2*** | | | |
| *Healthcare Practitioners and Technical Occupations* | | | |
| Registered Nurses | $72,800 | 34.7% | 5.9% |
| Licensed Practical and Licensed Vocational Nurses | $45,900 | 50.2% | 8.5% |
| All Other Healthcare Practitioners and Technical Occupations (Avg. All Categories) | $79,700 | 15.1% | 2.5% |
| ***Weighted Mean Annual Wage*** | ***$60,300*** | **100.0%** | **16.9%** |
| *Healthcare Support Occupations* | | | |
| Home Health Aides | $27,700 | 20.9% | 7.3% |
| Nursing Assistants | $28,300 | 74.2% | 26.0% |
| All Other Healthcare Support Occupations (Avg. All Categories) | $33,800 | 4.9% | 1.7% |
| ***Weighted Mean Annual Wage*** | ***$28,400*** | **100.0%** | **35.0%** |
| *Food Preparation and Serving Related Occupations* | | | |
| First-Line Supervisors of Food Preparation and Serving Workers | $37,700 | 5.8% | 0.8% |
| Cooks, Institution and Cafeteria | $27,200 | 25.5% | 3.6% |
| Food Preparation Workers | $22,500 | 10.4% | 1.5% |
| Combined Food Preparation and Serving Workers, Including Fast Food | $20,900 | 7.3% | 1.0% |
| Waiters and Waitresses | $22,900 | 7.9% | 1.1% |
| Food Servers, Nonrestaurant | $24,400 | 29.0% | 4.1% |
| Dining Room and Cafeteria Attendants and Bartender Helpers | $19,800 | 3.9% | 0.6% |
| Dishwashers | $22,400 | 6.3% | 0.9% |
| All Other Food Preparation and Serving Related Occupations (Avg. All Categories) | $23,700 | 3.8% | 0.5% |
| ***Weighted Mean Annual Wage*** | ***$25,000*** | **100.0%** | **14.3%** |
| *Building and Grounds Cleaning and Maintenance Occupations* | | | |
| First-Line Supervisors of Housekeeping and Janitorial Workers | $42,500 | 6.3% | 0.4% |
| Janitors and Cleaners, Except Maids and Housekeeping Cleaners | $27,600 | 15.3% | 1.0% |
| Maids and Housekeeping Cleaners | $20,400 | 75.0% | 4.8% |
| All Other Building and Grounds Cleaning and Maintenance Occupations (Avg. All Ca | $27,400 | 3.4% | 0.2% |
| ***Weighted Mean Annual Wage*** | ***$23,100*** | **100.0%** | **6.4%** |
| *Personal Care and Service Occupations* | | | |
| First-Line Supervisors of Personal Service Workers | $43,000 | 4.2% | 0.5% |
| Personal Care Aides | $23,900 | 71.6% | 8.7% |
| Recreation Workers | $29,500 | 17.8% | 2.1% |
| Residential Advisors | $34,100 | 3.2% | 0.4% |
| All Other Personal Care and Service Occupations (Avg. All Categories) | $31,000 | 3.3% | 0.4% |
| ***Weighted Mean Annual Wage*** | ***$26,300*** | **100.0%** | **12.1%** |

Sources: Bureau of Labor Statistics; Prepared by: Keyser Marston Associates, Inc.
Filename: 8. Nursing Facility;Compensation; 2/22/2016

| Occupation [1] | 2014 Avg. Compensation [2] | % of Total Occupation Group [3] | % of Total Assisted Living Workers |
|---|---|---|---|
| ***Page 2 of 2*** | | | |
| *Office and Administrative Support Occupations* | | | |
| First-Line Supervisors of Office and Administrative Support Workers | $56,300 | 8.2% | 0.4% |
| Switchboard Operators, Including Answering Service | $24,900 | 3.4% | 0.2% |
| Bookkeeping, Accounting, and Auditing Clerks | $39,400 | 8.6% | 0.4% |
| Payroll and Timekeeping Clerks | $39,900 | 3.3% | 0.2% |
| Receptionists and Information Clerks | $29,300 | 25.9% | 1.3% |
| Executive Secretaries and Executive Administrative Assistants | $52,800 | 3.3% | 0.2% |
| Medical Secretaries | $31,200 | 4.3% | 0.2% |
| Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | $36,500 | 12.3% | 0.6% |
| Office Clerks, General | $40,400 | 17.2% | 0.9% |
| All Other Office and Administrative Support Occupations (Avg. All Categories) | $38,100 | 13.6% | 0.7% |
| ***Weighted Mean Annual Wage*** | ***$37,400*** | **100.0%** | **5.0%** |
| ***Weighted Average Annual Wage - All Occupations*** | ***$34,000*** | | 89.7% |

[1] Including occupations representing 3% or more of the major occupation group.

[2] The methodology utilized by the Bureau of Labor Statistics Occupational Employment Survey assumes that hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[3] Occupation percentages are based on the 2014 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on the 2014 Occupational Employment Survey data applicable to Boulder County.

## ATTACHMENT 2 - MITIGATION COST (AFFORDABILITY GAP)

## MITIGATION COSTS (Draft Report Section)

This section takes the conclusions of the previous section on the number of households in the lower income categories associated with new commercial development projects 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.” This is done for each of the prototype units.

A key component of the analysis is the size of the gap between what households can afford and the cost of producing new housing in Boulder, known as the ‘affordability gap.’ Affordability gaps are calculated for each of the four categories of area median income utilized for this analysis: Extremely Low Income (qualifying income: 30% of median and under), Low Income (31% to 60%), Low to Moderate Income (61% to 76.2%), and Middle Income (76.3% to 120%). The following summarizes the analysis of mitigation cost which is based on the affordability gap to provide units that are affordable to worker households in the lower income tiers. Detailed affordability gap calculations are presented in Tables 1 and 2 at the end of this section.

### City Assisted Affordable Unit Prototypes

For estimating the affordability gap, there is a need to match a household of each income level with a unit type and size according to governmental regulations and City practices and policies. The analysis assumes that Extremely Low and Low Income households will be assisted in a multi-family apartment unit averaging two-bedrooms and 800 square feet in size and that Low to Moderate and Middle Income households will be assisted in a three-bedroom for-sale townhome unit averaging 1,400 square feet.

The larger townhome unit is assumed for the Low to Moderate and Middle Income households because it is one strategy to meet the needs of families in these income tiers who increasingly face affordability challenges in Boulder. A smaller two-bedroom unit is more typical for Extremely Low and Low Income households, especially for projects that are subsidized with Low Income Housing Tax Credits. In all cases, it is assumed that the prototype affordable unit reflects a modest unit consistent with what the City is likely to assist and appropriate for housing the average Extremely Low, Low, Low to Moderate, and Middle Income worker household.

### Development Costs

KMA prepared an estimate of total development cost for typical affordable rental units inclusive of land, direct construction, indirect (soft costs) and financing costs based on a review of development pro forma data for recent affordable rental developments assisted by the City of

Boulder and based on discussions with affordable housing developers in Boulder[1]. On this basis, it is estimated that the affordable apartment prototype will have a total development cost per unit of approximately $293,000. The for-sale prototype is estimated to have a total development cost of approximately $423,000 based on local data for inputs such as land acquisition costs, direct and indirect costs of construction, supplemented by third party cost estimating sources such as RS Means.

| ***Development Costs*** | | |
|---|---|---|
| *Qualifying Income* | *Unit Tenure / Type* | *Development Cost* |
| 30% AMI and under | Rental | $293,000 |
| 31% to 60% AMI | Rental | $293,000 |
| 61% to 76.2% AMI | Ownership | $423,000 |
| 76.3% to 120% AMI | Ownership | $423,000 |

It is noted that the development costs in this analysis are based on new construction projects even though it is recognized that acquisition/rehab projects play a major role in creating affordable housing opportunities in Boulder. On this point, it is important to note that, on average, the affordable acquisition/rehab projects currently being planned in the City are just as expensive as the new construction projects.

**Affordability Gap**

The affordability gap is the difference between the cost of developing the affordable unit and the amount of funding sources available to pay for the unit. For rental units, the affordability gap is the difference between total development costs and financing available from the supported debt and the value of 4% Low Income Housing Tax Credits. For ownership units, the affordability gap is the difference between total development costs and the affordable purchase price determined based on the City's methodology.

Affordable rents were estimated based on maximum household incomes for Extremely Low and Low Income households net of estimated tenant paid utilities. Maximum affordable sales prices for ownership units were calculated consistent with the City's existing guidelines and underwriting assumptions as of Q1 2016.

| ***Maximum Affordable Sales Prices and Rent Levels*** | | | |
|---|---|---|---|
| *Qualifying Income* | *Unit Tenure / Type* | *Unit Size* | *Maximum Housing Costs* |
| 30% AMI and under | Rental | 2 bedrooms | $606 / Month* |
| 31% to 60% AMI | Rental | 2 bedrooms | $1,054 / Month* |
| 61% to 76.2% AMI | Ownership | 3 bedrooms | $203,100 |
| 76.3% to 120% AMI | Ownership | 3 bedrooms | $321,300 |

*Tenant rent net of estimated tenant-paid utilities.

[1] Affordable housing developers interviewed for this assignment included Element Properties, Allison Management (Andy Allison), and Boulder Housing Partners (Housing Authority). Project pro formas reviewed include The Residences at Sutherland, Lee Hill Community, Thunderbird/Osage, High Mar, Trinity, and SPARK West.

The operating income estimate for the apartment project takes into consideration rental income, a factor for vacancy/turnover/bad debt, operating expenses, and replacement reserves. The project's net operating income (NOI) is then used to estimate the amount of private debt the project can support.

The assumption of 4% Tax Credits was made based on their more consistent availability as compared to 9% Tax Credits, which are highly competitive. While there are sometimes additional State and Federal sources of funds to finance affordable housing, it is not assured that these sources will be available in the future and accessing these sources is also highly competitive due to the limited supply.

The resulting affordability gaps are as follows:

| ***Affordability Gap Calculation*** | | | |
|---|---|---|---|
| *Qualifying Income* | *Unit Value / Financing Sources** | *Development Cost* | *Affordability Gap* |
| *Affordable Rental Units* | | | |
| 30% AMI and under | $119,700 | $293,000 | $173,300 |
| 31% to 60% AMI | $193,200 | $293,000 | $99,800 |
| | | | |
| *Affordable Ownership Units* | | | |
| 61% to 76.2% AMI | $203,100 | $423,000 | $219,900 |
| 76.3% to 120% AMI | $321,300 | $423,000 | $101,700 |

*For rental units financing sources including supported private debt and the market value of 4% tax credits. With for-sale units, the unit value equals the affordable sales price.

Tables 1 and 2 present the detailed affordability gap calculations.

Table 1. WORKING DRAFT

Affordability Gaps - Extremely Low and Low Income (Rental Prototype)

Boulder Commercial Linkage Nexus Analysis

| Affordable Rental Prototype | | 2-Bedroom Apartments 800 sf | 2-Bedroom Apartments 800 sf |
|---|---|---|---|
| | | Extremely Low Income | Low Income |
| Unit Size | | 2-Bedroom | 2-Bedroom |
| 100% Median Income (3-Person) | | $89,500 | $89,500 |
| % of AMI for pricing (not qualifying) | | 30.0% | 50.0% |
| Household Income | | $26,850 | $44,750 |
| Unit Rents | | | |
| Monthly Rent (2BR) | | $671 | $1,119 |
| Utility Allowance (2BR) | | ($65) | ($65) |
| Net Monthly Rent | | $606 | $1,054 |
| Operating Income | | | |
| Net Rental Income - Annual | | $7,275 | $12,645 |
| Other Income | | $100 | $100 |
| (Less) Vacancy | 5.0% (1) | ($364) | ($632) |
| (Less) Operating Expenses | | ($5,000) | ($5,000) |
| (Less) Property Taxes | | $0 | $0 |
| (Less) Replacement Reserves | | ($300) | ($300) |
| NOI - Annual | | $1,711 | $6,813 |
| (Less) Debt Service | 1.20 | ($1,426) | ($5,677) |
| Cash Flow after Debt | | $285 | $1,135 |
| Affordability Gap | | | |
| Total Development Costs (2) | | $293,000 | $293,000 |
| (Less) Supported Private Debt | 4.0% 30 (3) | ($24,700) | ($98,200) |
| (Less) 4% Tax Credit Equity | | ($95,000) | ($95,000) |
| Affordability Gap | | $173,300 | $99,800 |

(1) Vacancy rate range for Boulder affordable housing projects is 5% to 7%.

(2) Average of new construction projects only (excludes acq/rehab projects). Costs adjusted to net out deferred portion of developer fee.

(3) Tax exempt interest rate applicable to 4% tax credit projects.

Table 2.
Affordability Gaps - Ownership
Boulder Commercial Linkage Nexus Analysis

WORKING DRAFT

| Affordable For-Sale Prototype | | 3-Bedroom Townhome 1,400 sf | 3-Bedroom Townhome 1,400 sf |
|---|---|---|---|
| | | Low/Mod Income | Middle Income |
| 100% Area Median Income (3-Person) | | $89,500 | $89,500 |
| Affordable Sale Price Calculation [1] | | | |
| % of AMI for pricing (not qualifying) | | 66.2% | 100.0% |
| Household Income | | $59,250 | $89,500 |
| Available for Housing Cost | 28.0% | $16,590 | $25,060 |
| (Less) HOA Dues | $299 | ($3,588) | ($3,588) |
| (Less) Taxes & Insurance | 22% | ($2,860) | ($4,724) |
| Available for Mortgage | | $10,142 | $16,748 |
| Mortgage | 4.06% | $175,746 | $290,234 |
| Plus Downpayment | 5.0% | $9,250 | $15,275 |
| Supported Sale Price - base unit size | | $184,996 | $305,510 |
| Unit Size Adjustment | | $18,104 | $15,790 |
| Supported Sale Price - adjusted unit size | | $203,100 | $321,300 |
| Development Costs | | | |
| Land Acquisition [2] | | $100,000 | $100,000 |
| Direct Construction (Sitework & Building) | | $240,000 | $240,000 |
| Indirects | | $72,000 | $72,000 |
| Financing | | $11,000 | $11,000 |
| Total Development Costs | | $423,000 | $423,000 |
| Affordability Gap | | | |
| Total Development Costs | | $423,000 | $423,000 |
| (Less) Affordable Sale Price | | ($203,100) | ($321,300) |
| Affordability Gap | | $219,900 | $101,700 |

[1] Affordable sale prices based on City's pricing methodology and assumptions for Q1 2016 (3br, 2.5ba).

[2] The land acquisition cost estimate was based on sales of both vacant and improved sites purchased for redevelopment. Land costs can be higher in certain parts of the City; therefore, this is considered to be a conservative cost estimate.

# ATTACHMENT 3 - DEVELOPMENT COST CONTEXT

## DEVELOPMENT COST CONTEXT (Draft Report Section)

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 amounts is based on an understanding of the relative cost burdens that a new fee can have on new commercial development projects. This is one of a variety of factors that policy makers often wish to consider in setting new fee amounts.

The City of Boulder has a wide range of development densities and prototypes for commercial projects. For example, office buildings can range from lower density one- to two- story structures with surface parking to higher density multiple story buildings with underground parking. In addition, land costs vary significantly from one part of Boulder to another, with the higher values associated with the downtown and nearby areas such as the transit district. In order to cover the range of project densities and costs, this analysis assembled prototypes for the following five commercial uses:

- Flex Commercial (R&D/light industrial)
- Hotel
- Retail
- Lower Density Office
- High Density Office (downtown & vicinity)

For purposes of the development cost assessment, it is not necessary to analyze every variation of project density or building prototype being built in Boulder today. The utility of the analysis lies with an understanding of the general range of development costs for new commercial projects in Boulder and the impact that a new linkage fee can have relative to those costs.

In assembling the development cost estimates, KMA utilized a variety of data sources, including the following:

- Land appraisals;
- Third party construction cost data sources such as RS Means and Engineering News Record (ENR);
- Pro forma data shared by local developers for current development projects[1];
- Pro forma data shared by the City of Boulder for projects done in partnership with local developers;
- Local broker reports;
- Local news articles from BizWest, the Daily Camera, the Denver Business Journal, etc.

[1] Developers interviewed for this assignment include Element Properties, Allison Management, WW Reynolds, Del Mar Interests (Michael Boyers), and LJD Enterprises (Lou DellaCava).

The development cost estimates are broken into four major categories: land acquisition costs, direct construction costs (including tenant improvement costs and hotel FF&E), indirect costs of development (such as architecture and engineering, municipal fees and permits costs, taxes, insurance, marketing/leasing, etc.), and debt financing costs. In preparing these cost estimates, it is recognized that there is wide variation of projects in Boulder, each with its own set of unique circumstances and unique costs; therefore the estimates prepared for this analysis are only intended to reflect general orders of magnitude. It is also recognized that development costs are constantly evolving due to changes in the market; for example, the large volume of new construction activity in Boulder has resulted in significant construction cost escalations in recent years.

As shown in the following table, the total development costs of the commercial prototypes chosen for this analysis are estimated to range from a low of about $200/square foot for the flex commercial prototype to a high of almost $500/square foot for the high density office prototype. The costs are generally lower for the flex commercial and suburban prototypes due to the lower land costs, simpler building types, and surface parking. The high density office project has the highest costs due to high land costs in the downtown and surrounding areas and because of the high costs of building underground and other structured parking garages. While office is the only land use analyzed in a high density format, it is recognized that a high density hotel or retail/mixed use project in the downtown would also have high costs for the same reasons.

**Development Costs for Commercial Building Prototypes**

| | Flex Commercial (R&D/Lt Industrial) | | Hotel | | Retail | | Lower Density Office | | High Density Office (DT & Vicinity) | |
|---|---|---|---|---|---|---|---|---|---|---|
| Program | | | | | | | | | | |
| Building Area | 50,000 GSF | | 65,000 GSF | | 50,000 GSF | | 50,000 GSF | | 50,000 GSF | |
| Stories | 1 story | | 2-3 stories | | 1 story | | 3 stories | | 3-4 stories | |
| FAR | 0.50 FAR | | 0.75 FAR | | 0.30 FAR | | 0.50 FAR | | 2.00 FAR | |
| Acres | 2.3 acres | | 2.0 acres | | 3.8 acres | | 2.3 acres | | 0.6 acres | |
| Development Costs | $/GSF | Total | $/GSF | Total | $/GSF | Total | $/GSF | Total | $/GSF | Total |
| Land Acquisition | $24 | $1,200,000 | $34 | $2,180,000 | $60 | $3,000,000 | $50 | $2,500,000 | $75 | $3,750,000 |
| Directs (incl. TI's) | $165 | $8,250,000 | $189 | $12,260,000 | $184 | $9,200,000 | $227 | $11,350,000 | $364 | $18,200,000 |
| Indirects | $10 | $500,000 | $15 | $980,000 | $15 | $740,000 | $14 | $680,000 | $29 | $1,460,000 |
| Financing | $7 | $340,000 | $10 | $680,000 | $9 | $440,000 | $10 | $500,000 | $21 | $1,060,000 |
| Total | $206 | $10,290,000 | $248 | $16,100,000 | $268 | $13,380,000 | $301 | $15,030,000 | $489 | $24,470,000 |

*Note: Except for High Density Office, all the prototypes assume surface parking.*

*GSF = gross building square feet; FAR = floor area ratio.*

From the above cost estimates, potential commercial linkage fee levels can be expressed as a percentage of total development costs in order to see the relative cost burdens. For example, a $10/square foot fee would have a fee burden equal to approximately 2% of total development cost for the high density office prototype but a much higher burden, about 5% of cost, for the flex commercial prototype. It is for this reason that some cities scale their fees according to the type of project being built. The following table provides an illustration of how this concept might apply to the five commercial prototypes analyzed. The table also indicates that Boulder's current commercial linkage fees represent between 0.7% and 3.2% of total development costs.

**Relative Fee Burdens on Commercial Prototypes**

| *(Fee amounts are rounded)* | Flex Commercial (R&D/Lt Industrial) | Hotel | Retail | Lower Density Office | High Density Office (DT & Vicinity) |
|---|---|---|---|---|---|
| Total Development Cost | $206 /SF | $248 /SF | $268 /SF | $301 /SF | $489 /SF |
| Illustrative Fee Scenarios | | | | | |
| 2% of Development Cost | $4.10 /SF | $5.00 /SF | $5.40 /SF | $6.00 /SF | $9.80 /SF |
| 3% of Development Cost | $6.20 /SF | $7.40 /SF | $8.00 /SF | $9.00 /SF | $14.70 /SF |
| 4% of Development Cost | $8.20 /SF | $9.90 /SF | $10.70 /SF | $12.00 /SF | $19.60 /SF |
| Current Fees | | | | | |
| Current Fees | $5.62 /SF | $1.78 /SF* | $6.96 /SF | $9.53 /SF | $9.53 /SF |
| % of Development Cost | 2.7% | 0.7% | 2.6% | 3.2% | 1.9% |

** The current fee is $1,072/hotel room. The fee per square foot above is illustrative and assumes 600 square feet per hotel room.*

Finally, for purposes of context it can sometimes be instructive to see the relationship between potential fee amounts and the various elements of a project's development economics. Quantifying these relationships allows one to see how newly adopted fees can be absorbed by relatively minor improvements in development economics over time. The following table indicates that every $1/square foot in new fees could be absorbed by a corresponding increase in rents or decrease in development costs (or a combination thereof). As one example, a newly added fee of $10/square foot for the high density office prototype could be absorbed by any one of a roughly 2% increase in rental income (10 x 0.2%), a roughly 3% decrease in direct construction costs (10 x 0.3%), or a roughly 13% decrease in land values (10 x 1.3%).

**Potential Market Adjustments to Absorb Every $1/SF Fee**

| *All figures are approximate* | Flex Commercial (R&D/Lt Industrial) | Hotel | Retail | Lower Density Office | High Density Office (DT & Vicinity) |
|---|---|---|---|---|---|
| Increase in Rents/Income | 0.4% | 0.4% | 0.3% | 0.3% | 0.2% |
| Decrease in Direct Costs | 0.6% | 0.5% | 0.5% | 0.4% | 0.3% |
| Decrease in Land Values | 4.2% | 3.0% | 1.7% | 2.0% | 1.3% |

With regard to land costs, developers purchase sites at values that will allow for financially feasible projects. If a new fee is put in place, developers will "price in" the requirement when evaluating a project's economics and negotiating the purchase price for development sites. Given that the fees will apply to all or most projects in Boulder, it is possible that downward pressure on land costs could result as developers adjust what they can afford to pay for land. This downward pressure on land prices can, at least to some degree, bring costs back into better balance with the overall economics supported by projects. However, it is also recognized that some property owners may decide to hold their properties off the market until such time as market conditions will support the price they are seeking.

As a final comment regarding land costs, it is acknowledged that one of the challenges facing the financial feasibility of new projects in Boulder is the dwindling number of vacant development sites. According to the Boulder Valley Comprehensive Plan Trends Report, less than 1% of vacant land exists today in urbanized Boulder (Area I). Consequently, much of the future development opportunities in the City will come through redevelopment of older, underutilized properties in infill locations. Development of such properties can face challenges including the possible need to buy out existing income-generating uses, and the costs of parcel assemblage, demolition, tenant relocation, offsite infrastructure upgrades, hazardous remediation and other environmental mitigations, and historic preservation. Therefore, for many potential development sites there are limitations to how much the land values can be downwardly adjusted.

# ATTACHMENT 4 - MARKET CONTEXT

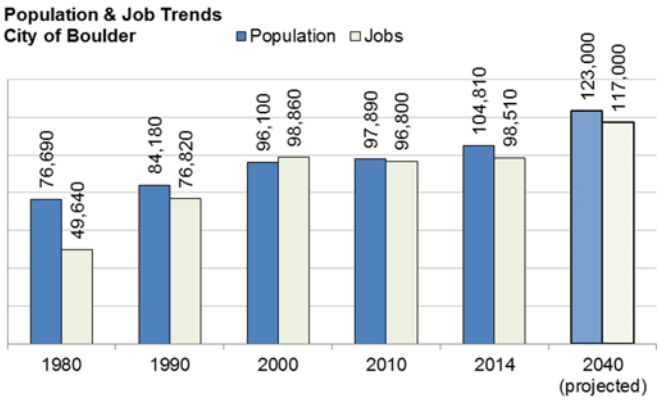
## MARKET CONTEXT (Draft Report Section)

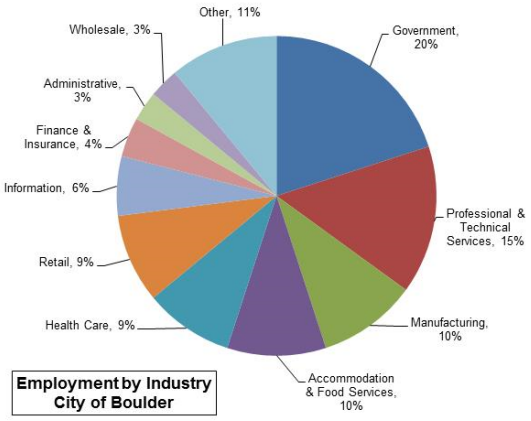
This section provides an overview of the Boulder economy and real estate market in order to provide context for the City's consideration of a linkage fee on new non-residential development projects. Local real estate and macro- economic conditions are among the factors that are often considered by policy makers in adopting new fees. Other considerations, such as fee levels in other jurisdictions in the region, are discussed in other sections of this report.

*Demographics & Economy*

As of 2014, the City of Boulder had a total population of 104,810. Since 2000, the population has grown at a compounded annual growth rate (CAGR) of about 0.6%. A similar growth rate is projected to the year 2040 when the population is projected to be 123,000 (see the chart below).

In terms of employment, the Boulder economy has grown jobs at a pace faster than population growth – since 1980 the total number of jobs in Boulder has doubled whereas the population has grown by slightly over one-third. In 2040, the jobs-to-population ratio is projected to be about the same as it is today.




*Source: City of Boulder[1]; Colorado Department of Labor & Employment*

The City of Boulder has a broad-based and diverse economy, with a relatively balanced mix of employment by industry sector. The top three sectors for employment, together representing nearly half of all jobs, are government, professional and technical services, and manufacturing. Boulder's economy benefits from the presence of a number of federal laboratories as well as the University of Colorado Boulder, which makes the City a center for research and development. Boulder is also a center for business innovation and startups, has a high concentration of advanced industries such as aerospace, biosciences, and information technology, a balance of

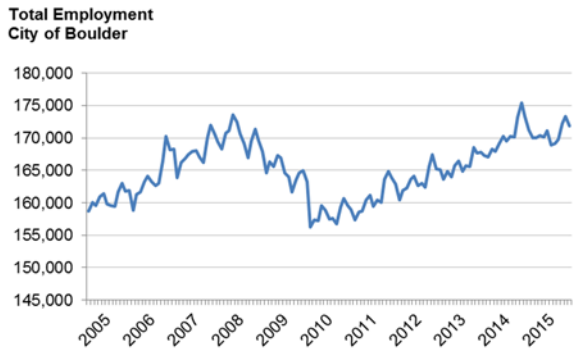
[1] Note: the City's job estimate methodology was revised in 2015; prior year job estimates in the above chart have not yet been updated for the revised methodology.

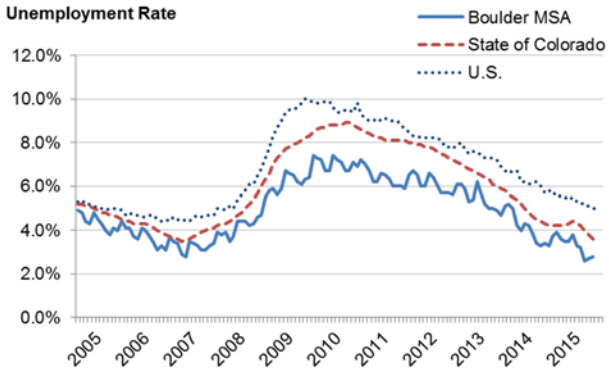
large and small businesses, and significant in-state and out-of-state visitors which makes tourism a major contributor to the local economy as well.

As of 2014, the top ten employers in Boulder were:

- Ball Aerospace
- Boulder Community Hospital
- Boulder County
- Boulder Valley School District
- City of Boulder
- Covidien
- IBM
- National Oceanic & Atmospheric Administration (NOAA)
- National Center for Atmospheric Research and University Corporation for Atmospheric Research (UCAR/NCAR)
- University of Colorado Boulder

The following charts depict the impact of the Great Recession on total employment and the unemployment rate in Boulder. Total employment dipped by about 10% from its pre-recession peak in late 2007 to its trough in late 2009. The monthly unemployment rate reached its pre-recession low in 2006 (2.8%) and its high in 2009 (7.4%). The resurgent economy since the recession is reflected in both the total employment numbers and the unemployment rate, both of which are now at or near peak pre-recession conditions.



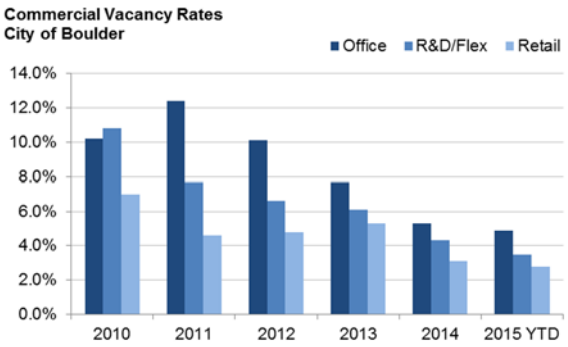

*Source: Bureau of Labor Statistics*

Among the strengths of the Boulder economy are its diversity, the presence of the university which generates a strong employment base and supplies a highly educated workforce, its natural setting, high quality of life, and its cultural and recreational amenities. These attributes have allowed Boulder's economy to weather market downturns better than other parts of the state and nation.

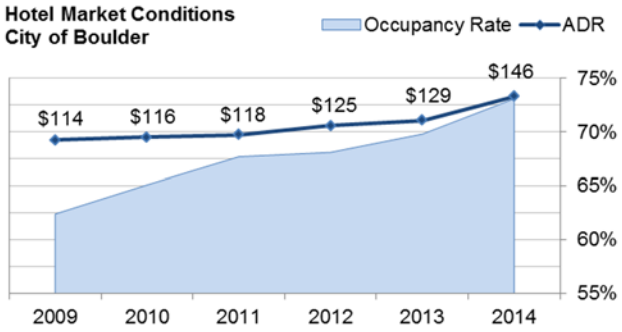
Median incomes for family households are currently 10% to 30% higher in Boulder than they are in Boulder County and the larger Denver-Aurora-Boulder region respectively but are slightly lower for non-family households. The latter is largely attributable to the influence of the City's sizable university student population which, at about 30,000, represents about 30% of Boulder's total population.

*Real Estate Market Conditions*

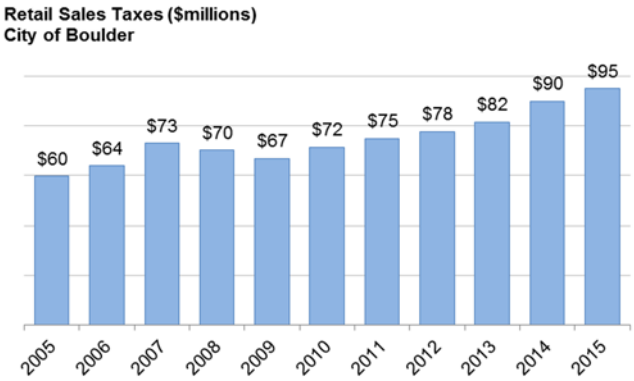
As has been the case for the larger Boulder economy, real estate market conditions in the City experienced a period of depressed conditions during the Great Recession but have rebounded strongly in the last several years. One broad indicator of commercial real estate conditions is vacancy rates, which for office, R&D/flex, and retail projects have all been on a rapid downward trend since 2011. For the first half of 2015, the overall vacancy rate for office space was 4.9%, R&D/flex space was 3.5%, and retail space was 2.8%. These low vacancy rates have had the effect of driving up rental rates and, combined with other factors such as the low cost of capital, stimulating investment in new development projects in the City. Other indicators of strengthening commercial market conditions include increasing hotel occupancy and room rates and increasing taxable retail sales.




*Source: Boulder Economic Council (June 2015)*




*Source: Boulder Conventions & Visitors Bureau*




*Source: City of Boulder; Boulder Economic Council*

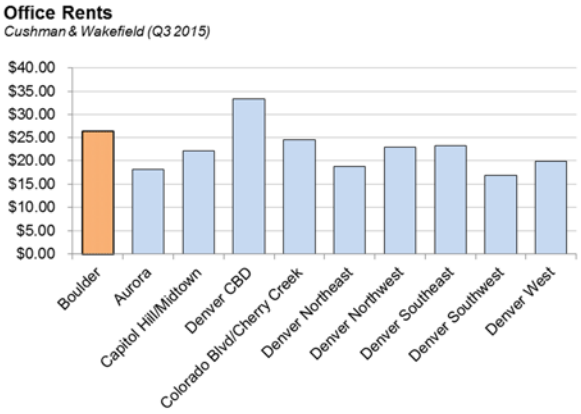
*Regional Context*

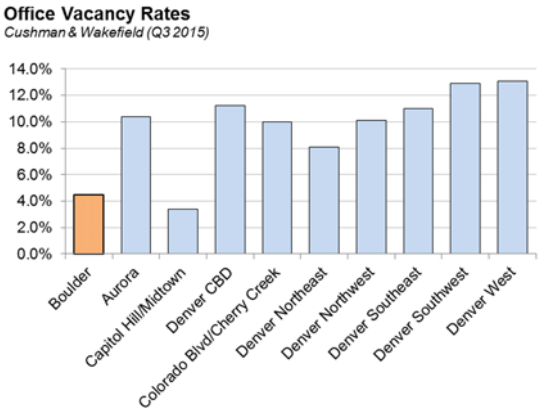
Overall, the local Boulder economy and commercial market conditions compare favorably to the larger Boulder County, Denver metro area, and state. The population of Boulder tends to be younger (due to the presence of the university), has a more educated workforce, and has higher incomes overall. Office and retail rents and vacancy rates in Boulder are strong relative to most submarkets in the Denver region and hotel rates (RevPAR[2]) are high in comparison to non-ski destinations in the state.

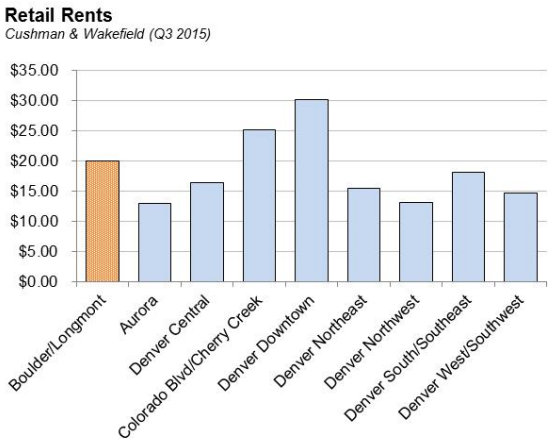
**Demographic Snapshot**

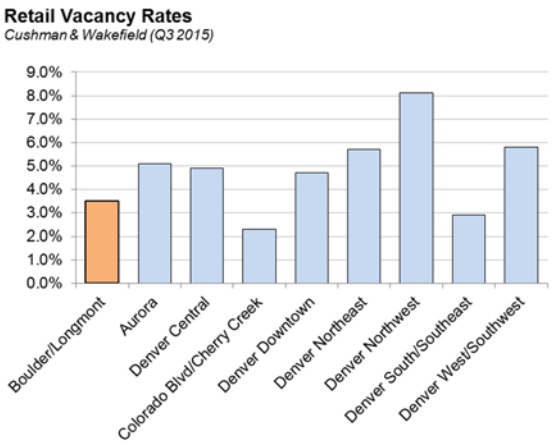
| | Boulder City | Boulder County | Colorado |
|---|---|---|---|
| Median Age | 27.7 | 36.3 | 36.4 |
| % Family Households | 39.8% | 57.8% | 63.9% |
| Education: Bachelor's Degree or Higher | 75.0% | 58.5% | 37.8% |
| Per Capita Income | $38,840 | $38,538 | $31,421 |
| Median Family Income | $107,181 | $92,363 | $72,043 |

*Source: American Community Survey 2013*

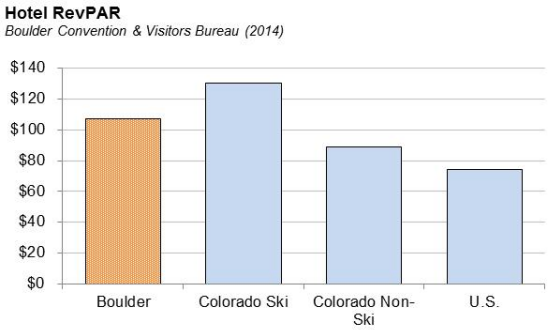


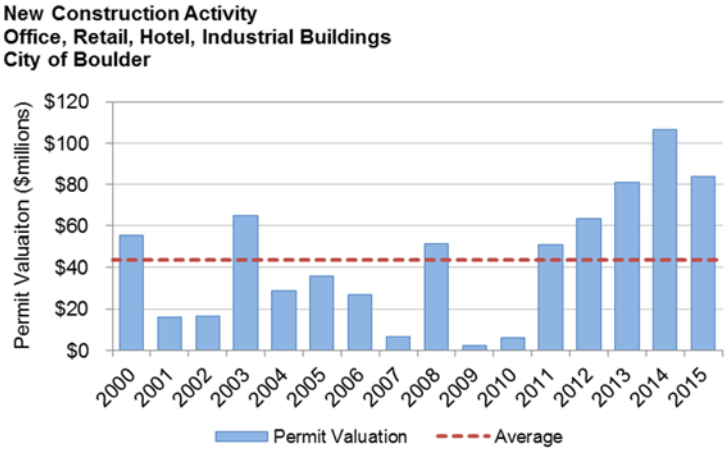




[2] Revenue per available room (RevPAR) is the average daily hotel room rate multiplied by the occupancy rate.




*Real Estate Development Activity*

The improvement in real estate market conditions in Boulder has resulted in the financial viability of many new development projects in recent years. As shown in the following chart, the last several years have seen an uptick in building permit activity for commercial development projects. On average, the City of Boulder experiences investment in new office, retail, hotel, and industrial projects of just over $40 million per year in building permit valuation (for the period from 2000 to 2015)[3].




*Source: City of Boulder*

*Summary*

In summary, Boulder's economy and commercial market conditions compare favorably to other submarkets in the Boulder County and Denver metro regions. In addition, Boulder's diverse economy and high quality of life have historically made the City a desirable place to live and work and will likely continue to do so for the foreseeable future.

[3] New building construction only; does not include renovations.

## ATTACHMENT 5 - FEES IN OTHER JURISDICTIONS

**TABLE 1**
**HOUSING LINKAGE AND IN-LIEU FEE PROGRAMS IN BOULDER AND SELECTED COMMUNITIES**
**AFFORDABLE HOUSING LINKAGE FEE NEXUS**
**CITY OF BOULDER, CO**

**DRAFT FOR DISCUSSION**

| | BOULDER, CO | CAMBRIDGE, MA | VAIL, CO[1] | ASPEN, CO[2] |
|---|---|---|---|---|
| **Year Established** | 2011<br>expanded 2015 | 1998<br>revised 2015 | 2007<br>revised 2008 | n/a<br>revised 2015 |
| **Minimum Project Size** | None | 30,000 SF | None | 500 SF |
| **Exempt Projects** | Municipal/<br>Government Facilities | Municipal/<br>Government Facilities | n/a | "Essential Public<br>Facilities" |
| **On-Site Requirement** | | | | |
| On-Site Requirement | No | No | Yes | Yes |
| In-Lieu Fee by Right or Petition | n/a | n/a | 100% by petition | 50% by right,<br>50% by petition[3] |
| **In-Lieu/Impact Fee Schedule** | | | | |
| *Fees PSF*[4] | | | | |
| PSF Basis | /SF Gross Floor Area | /SF Gross Floor Area | /SF Gross Floor Area | /SF Net Leasable Area |
| Retail/ Restaurant | $6.96 | $12 | $36 - $101 (Rest.) | $482 (MU) - $629 |
| Business Park | $7.70 | $12 | $48 | $482 (MU) - $629 |
| Office | $9.53 | $12 | $48 - $76 (RE) | $482 (MU) - $629 |
| Hospital | $8.23 | $12 | custom calculation | $482 (MU) - $629 |
| School | $2.24 | $12 | custom calculation | custom calculation |
| Mini-Warehouse | $0.09 | $12 | custom calculation | $522 |
| Warehousing | $3.11 | $12 | custom calculation | $522 |
| Light Industrial | $5.62 | $12 | $36 | $522 |
| Nursing Home[5] | $2.19 | $12 | custom calculation | custom calculation |
| Day Care[5] | $7.79 | $12 | custom calculation | custom calculation |
| Lodging[5] | $1.79 | $12 | $17 | $67 (LP) - $134 |
| Annual Escalation | RS Means Index | (increases to $15<br>by 2018 + CPI escalation) | 3 year avg. of<br>affordability gap at<br>120% AMI | Engineering news<br>record inflation |

Notes
[1] Table 2
[2] Table 3
[3] Only permitted under extraordinary circumstances.
[4] For Aspen and Vail, assumes 100% of employee housing requirements mitigated with fee.
[5] Converted to an equivalent fee per square foot to simplify comparison.

Abbreviations
Rest. Restaurant
RE Real Estate Office
MU Mixed Use Zoning District
LP Lodging Preservation District
CPI Consumer Price Index

Source: Municipal/land use codes and interviews with city staff

**TABLE 2**
**CALCULATION OF VAIL PER SQ.FT. MITIGATION COST**
**AFFORDABLE HOUSING LINKAGE FEE NEXUS**
**CITY OF BOULDER, CO**

**DRAFT FOR DISCUSSION**

| Commercial Category | Employee Generation | Mitigation Requirement % of need | 2015 Fee per FTE | Fee/Unit or SF (Implied) |
|---|---|---|---|---|
| **100% Requirement[1]** | | | | |
| Accommodation unit/ limited service lodge unit | 0.7000 /unit | 20% | $74,481 | $10,427 /unit |
| Business office and professional office (excluding real estate office) | 0.0032 /SF* | 20% | $74,481 | $48 /SF* |
| Conference facility | 0.0008 /SF* | 20% | $74,481 | $12 /SF* |
| Eating and drinking establishment | 0.0068 /SF* | 20% | $74,481 | $101 /SF* |
| Health club | 0.0010 /SF* | 20% | $74,481 | $14 /SF* |
| Real estate office | 0.0051 /SF* | 20% | $74,481 | $76 /SF* |
| Retail store/personal service/repair shop | 0.0024 /SF* | 20% | $74,481 | $36 /SF* |
| Spa | 0.0021 /SF* | 20% | $74,481 | $31 /SF* |
| **50% Requirement[1]** | | | | |
| Accommodation unit/ limited service lodge unit | 0.7000 /unit | 10% | $74,481 | $5,214 /unit |
| Business office and professional office (excluding real estate office) | 0.0032 /SF* | 10% | $74,481 | $24 /SF* |
| Conference facility | 0.0008 /SF* | 10% | $74,481 | $6 /SF* |
| Eating and drinking establishment | 0.0068 /SF* | 10% | $74,481 | $50 /SF* |
| Health club | 0.0010 /SF* | 10% | $74,481 | $7 /SF* |
| Real estate office | 0.0051 /SF* | 10% | $74,481 | $38 /SF* |
| Retail store/personal service/repair shop | 0.0024 /SF* | 10% | $74,481 | $18 /SF* |
| Spa | 0.0021 /SF* | 10% | $74,481 | $16 /SF* |

[1] 50% or 100% of employee requirement mitigated through fees. 100% fee level shown for illustrative purposes although Town Code generally requires 50% of requirement be met through on-site construction.

*SF of floor area

Source: Town of Vail. Town Code, Chapter 23: Commercial Linkage. 2015 fee provided by Town of Vail Housing Coordinator.

**TABLE 3**
**CALCULATION OF ASPEN PER SQUARE FOOT MITIGATION COST (2015 UPDATE)**
**AFFORDABLE HOUSING LINKAGE FEE NEXUS**
**CITY OF BOULDER, CO** **DRAFT FOR DISCUSSION**

| Land Use Category | Employee Generation[1] | Mitigation Requirement % of need | 2016 Adopted Fee per FTE | Fee/Unit (Implied)[2] |
|---|---|---|---|---|
| Commercial Core (CC) | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Commercial (C1-) | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Neighborhood Commercial (NC) | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Commercial Lodge (CL) commercial space | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Lodge (L) commercial space | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Lodge Preservation (LP) commercial space | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Lodge Overlap (LO) commercial space | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Ski Base (SKI) commercial space | 0.0047 /SF[3] | 60% | $223,072 | $629.06 /SF[3] |
| Mixed-Use (MU) | 0.0036 /SF[3] | 60% | $223,072 | $481.84 /SF[3] |
| Service-Commercial Industrial (S/C/I) | 0.0039 /SF[3] | 60% | $223,072 | $521.99 /SF[3] |
| Public | 0.0051 /SF[3] | 60% | $223,072 | $682.60 /SF[3] |
| Lodge Preservation (LP) lodge units[4] | 0.3000 /room | 60% | $223,072 | $40,153 /room |
| Lodge District units[4] | 0.6000 /room | 60% | $223,072 | $80,306 /room |

[1] Employment densities reduced by 25% for commercial space within basement or upper floors.
[2] Assuming 100% of employee housing requirement mitigated with fee (no on-site construction).
[3] SF net leasable area.
[4] Historical lodging subject to partial exemption

Sources:
City of Aspen Land Use Code. Chapter 26.470. Growth Management Quota System (GMQS).
City of Aspen Ordinance 37, Series of 2015.

| Jurisdiction | Yr. Adopted/ Updated | Fee Level (per Sq.Ft. unless otherwise noted) | Thresholds & Exemptions | Build Option/ Other | Market Strength | Comments |
|---|---|---|---|---|---|---|
| **SAN FRANCISCO, PENINSULA, SANTA CLARA COUNTY** | | | | | | |
| San Francisco<br>Population: 829,000 | 1981<br>Updated<br>2002, 2007 | Retail / Entertainment $22.96<br>Hotel $18.42<br>PDR $19.34<br>Office $24.61<br>Development $16.39<br>Workspace $19.34 | 25,000 gsf threshold<br>Exempt: freestanding pharmacy < 50,000 SF; grocery < 75,000 | Yes, may contribute land for housing. | Very Substantial | Fee is adjusted annually based on the construction cost increases. |
| City of Palo Alto<br>Population: 66,000 | 1984<br>Updated 2002 | Nonresidential Dvlpmt $19.85 | Churches; universities; recreation; hospitals, private educational facilities, day care and nursery school, public facilities are exempt | Yes | Very Substantial | Fee is adjusted annually based on CPI. |
| City of Menlo Park<br>Population: 33,000 | 1998 | Office & R&D $15.57<br>Other com./industrial $8.45 | 10,000 gross SF threshold<br>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. |
| City of Sunnyvale<br>Population: 146,000 | 1984<br>Updated 2003 and 2015. | Industrial, Office, R&D: $15.00<br>Retail, Hotel $7.50 | Office fee is 50% on the first 25,000 SF of building area. Exemptions for Child care, education, hospital, non-profits, public uses. | N/A | Very Substantial | Fee is adjusted annually based on CPI. |
| Redwood City<br>Population: 80,000 | 2015 | Office $20.00<br>Hotel $5.00<br>Retail & Restaurant $5.00 | 5,000 SF threshold<br>25% fee reduction for projections paying prevailing wage. Schools, child care centers, public uses exempt. | Yes. Program specifies number of units per 100,000 SF. | Very Substantial | Fee is adjusted annually based on ENR. |
| City of Mountain View<br>Population: 77,000 | Updated<br>2002 / 2012 /2014 | Office/High Tech/Indust. $25.00<br>Hotel/Retail/Entertainment. $2.68 | Fee is 50% on building area under thresholds:<br>Office <10,000 SF<br>Hotel <25,000 SF<br>Retail <25,000 SF | Yes | Very Substantial | Fee is adjusted annually based on CPI. |
| City of Cupertino<br>Population: 60,000 | 1993, 2015 | Office/Industrial/R&D $20.00<br>Hotel/Commercial/Retail $10.00 | No minimum threshold. | N/A | Very Substantial | Fee is adjusted annually based on CPI. |

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.

| Jurisdiction | Yr. Adopted/ Updated | Fee Level (per Sq.Ft. unless otherwise noted) | | Thresholds & Exemptions | Build Option/ Other | Market Strength | Comments |
|---|---|---|---|---|---|---|---|
| **EAST BAY** | | | | | | | |
| City of Walnut Creek<br>Population: 66,000 | 2005 | Office, retail, hotel and medical | $5.00 | First 1,000 SF no fee applied. | Yes | Very Substantial | Reviewed every five years. |
| City of Oakland<br>Population: 402,000 | 2002 | Office/ Warehouse | $5.24 | 25,000 SF exemption | Yes - Can build units equal to total eligible SF times .00004 | Moderate | Fee due in 3 installments. Fee adjusted with an annual escalator tied to residential construction cost increases. |
| City of Berkeley<br>Population: 116,000 | 1993<br>2014 | Office<br>Retail/Restaurant<br>Industrial/Manufacturing<br>Hotel/Lodging<br>Warehouse/Storage<br>Self-Storage<br>R&D | $4.50<br>$4.50<br>$2.25<br>$4.50<br>$2.25<br>$4.37<br>$4.50 | 7,500 SF threshold. | Yes | Substantial | Annual CPI increase. May negotiate fee downward based on hardship or reduced impact. |
| City of Emeryville | 2014 | All Commercial | $4.10 | Schools, daycare centers. | Yes | Substantial | Fee adjusted annually. |
| City of Alameda<br>Population: 76,000 | 1989 | Retail<br>Office<br>Warehouse<br>Manufacturing<br>Hotel/Motel | $2.30<br>$4.52<br>$0.78<br>$0.78<br>$1,108 | No minimum threshold | Yes. Program specifies # of units per 100,000 SF | Moderate | Fee may be adjusted by CPI. |
| City of Pleasanton<br>Population: 73,000 | 1990 | Commercial, Office & Industrial | $3.04 | No minimum threshold | Yes | Moderate | Fee adjusted annually. |
| City of Dublin<br>Population: 50,000 | 2005 | Industrial<br>Office<br>R&D<br>Retail<br>Services & Accommodation | $0.49<br>$1.27<br>$0.83<br>$1.02<br>$0.43 | 20,000 SF threshold | N/A | Moderate | |
| City of Newark<br>Population: 44,000 | 2014 | Commercial<br>Industrial | $3.59<br>$0.69 | No min threshold<br>Schools, recreational facilities, religious institutions exempt. | Yes | Moderate | Revised annually |
| City of Livermore<br>Population: 84,000 | 1999 | Retail<br>Service Retail<br>Office<br>Hotel<br>Manufacturing<br>Warehouse<br>Business Park<br>Heavy Industrial<br>Light Industrial | $1.19<br>$0.90<br>$0.76<br>$583/ rm<br>$0.37<br>$0.11<br>$0.76<br>$0.38<br>$0.24 | No minimum threshold<br>Church, private or public schools exempt. | Yes; negotiated on a case-by-case basis. | Moderate | |

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| Jurisdiction | Yr. Adopted/ Updated | Fee Level (per Sq.Ft. unless otherwise noted) | | Thresholds & Exemptions | Build Option/ Other | Market Strength | Comments |
|---|---|---|---|---|---|---|---|
| **MARIN, NAPA, SONOMA** | | | | | | | |
| County of Marin<br>Population: 257,000 | 2003 | Office/R&D<br>Retail/Rest.<br>Warehouse<br>Hotel/Motel<br>Manufacturing | $7.19<br>$5.40<br>$1.94<br>$1,745/rm<br>$3.74 | No minimum threshold | Yes, preferred. | Substantial | |
| San Rafael<br>Population: 59,000 | 2005 | Office/R&D<br>Retail/Rest./Pers. Services<br>Manufacturing/LI<br>Warehouse<br>Hotel/Motel | $7.64<br>$5.73<br>$4.14<br>$2.23<br>$1.91 | 5,000 SF threshold.<br>Mixed use projects that provide affordable housing are exempt. | Yes. Program specifies number of units per 1,000 SF. | Substantial | |
| Town of Corte Madera<br>Population: 9,000 | 2001 | Office<br>R&D lab<br>Light Industrial<br>Warehouse<br>Retail<br>Com Services<br>Restaurant<br>Hotel<br>Health Club/Rec<br>Training facility/School | $4.79<br>$3.20<br>$2.79<br>$0.40<br>$8.38<br>$1.20<br>$4.39<br>$1.20<br>$2.00<br>$2.39 | No minimum threshold | N/A | Substantial | |
| City of St. Helena<br>Population: 6,000 | 2004 | Office<br>Comm./Retail<br>Hotel<br>Winery/Industrial | $4.11<br>$5.21<br>$3.80<br>$1.26 | Small childcare facilities, churches, non-profits, vineyards, and public facilities are exempt. | Yes, subject to City Council approval. | Substantial | |
| City of Petaluma<br>Population: 59,000 | 2003 | Commercial<br>Industrial<br>Retail | $2.19<br>$2.26<br>$3.78 | N/A | Yes, subject to City Council approval. | Moderate/ Substantial | Fee adjusted annually by ENR construction cost index. |
| County of Sonoma<br>Population: 492,000 | 2005 | Office<br>Hotel<br>Retail<br>Industrial<br>R&D Ag Processing | $2.64<br>$2.64<br>$4.56<br>$2.72<br>$2.72 | First 2,000 SF exempt<br>Non-profits, redevelopment areas exempt | Yes. Program specifies number of units per 1,000 SF. | Moderate | Fee adjusted annually by ENR construction cost index. |
| City of Cotati<br>Population: 7,000 | 2006 | Commercial<br>Industrial<br>Retail | $2.08<br>$2.15<br>$3.59 | First 2,000 SF exempt<br>Non-profits exempt. | Yes. Program specifies number of units per 1,000 SF | Moderate | Fee adjusted annually by ENR construction cost index. |
| County of Napa<br>Population: 139,000 | Updated 2014 | Office<br>Hotel<br>Retail<br>Industrial<br>Warehouse | $5.25<br>$9.00<br>$7.50<br>$4.50<br>$3.60 | No minimum threshold<br>Non-profits are exempt | Units or land dedication; on a case by case basis. | Moderate / Substantial | |
| City of Napa<br>Population: 79,000 | 1999 | Office<br>Hotel<br>Retail<br>Industrial, Wine Pdn<br>Warehouse (30-100K)<br>Warehouse (100K+) | $1.00<br>$1.40<br>$0.80<br>$0.50<br>$0.30<br>$0.20 | No minimum threshold<br>Non-profits are exempt | Units or land dedication; on a case by case basis. | Moderate/ Substantial | Fee has not changed since 1999. Increases under consideration. |

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|---|---|---|---|---|---|---|
| **SACRAMENTO AREA** | | | | | | |
| City of Sacramento<br>Population: 476,000 | 1989<br>Most recent update, 2005 | Office $2.25<br>Hotel $2.14<br>R&D $1.91<br>Commercial $1.80<br>Manufacturing $1.41<br>Warehouse/Office $0.82 | No minimum threshold<br>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<br>(not meaningful given amount of fee) | Moderate | North Natomas area has separate fee structure |
| City of Folsom<br>Population: 73,000 | 2002 | Office, Retail, Lt Industrial, and Manufacturing $1.54<br>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<br>Select nonprofits, small child care centers, churches, mini storage, parking garages, private garages, private schools exempt. | Yes<br>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<br>Population: 1,450,000 | 1989 | Office $0.97<br>Hotel $0.92<br>R&D $0.82<br>Commercial $0.77<br>Manufacturing $0.61<br>Indoor Recreational Centers $0.50<br>Warehouse $0.26 | No minimum threshold<br>Service uses operated by non-profits are exempt | N/A | Moderate | |
| City of Elk Grove<br>Population: 158,000 | 1989<br>(inherited from County when incorporated) | Office none<br>Hotel $1.87<br>Commercial $0.64<br>Manufacturing $0.72<br>Warehouse $0.77 | No minimum threshold<br>Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt | N/A | Moderate | Office fee currently waived due to market conditions. |
| Citrus Heights<br>Population: 85,000 | 1989<br>(inherited from County when incorporated) | Office $0.97<br>Hotel $0.92<br>R&D $0.82<br>Commercial $0.77<br>Manufacturing $0.61<br>Indoor Recreational Centers $0.50<br>Warehouse $0.26 | No minimum threshold<br>Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt | N/A | Moderate | |
| Rancho Cordova<br>Population: 67,000 | 1989<br>(inherited from County when incorporated) | Office $0.97<br>Hotel $0.92<br>R&D $0.82<br>Commercial $0.77<br>Manufacturing $0.61<br>Indoor Recreational Centers $0.50<br>Warehouse $0.26 | No minimum threshold<br>Membership organizations (churches, non-profits, etc.), mini storage, car storage, marinas, car washes, private parking garages and agricultural uses exempt | N/A | Moderate | |

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|---|---|---|---|---|---|---|
| **SOUTHERN CALIFORNIA** | | | | | | |
| City of Santa Monica<br>Population: 92,000 | 1984<br>Updated<br>2002, 2015 | Retail $9.75<br>Office $11.21<br>Hotel/Lodging $3.07<br>Hospital $6.15<br>Industrial $7.53<br>Institutional $10.23<br>Creative Office $9.59<br>Medical Office $6.89 | 1,000 SF threshold<br>Private schools, city projects, places of worship, commercial components of affordable housing developments exempt. | N/A | Very Substantial | Fees adjusted annually based on construction cost index. |
| City of West Hollywood<br>Population: 35,000 | 1986 | Non-Residential $8.00<br>(per staff increase from $4 to $8 anticipated for FY16-17) | N/A | N/A | Substantial | Fees adjusted by CPI annually |
| City of San Diego<br>Population: 1,342,000 | 1990<br>Updated 2014 | Office $1.76<br>Hotel $1.06<br>R&D $0.80<br>Retail $1.06 | No minimum threshold<br>Industrial/ warehouse, non-profit hospitals exempt. | Can dedicate land or air rights in lieu of fee | Substantial | |

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