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Boulder Housing Market Analysis

City of Boulder, Colorado

FINAL REPORT

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Boulder Housing Market Analysis

Prepared for
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Boulder Housing Market Analysis

This report contains the primary findings of an April 2013 data analysis of the City of Boulder's housing market. The purpose of the analysis is to inform the city's forthcoming Comprehensive Housing Strategy. This report was prepared by BBC Research & Consulting (BBC) in partnership with the City of Boulder Housing Division and Department of Community Planning and Sustainability.

The analysis is introduced with background demographics of city residents. Data trends from 1980, 1990 and 2000 are provided where available. The report then moves into a detailed discussion of the city's housing market, both rental and homeownership, with a particular focus on housing opportunities for workers and low and middle income residents. Comparative data from surrounding communities are provided where available.

A note about methodology. This analysis is based on the most current, readily available secondary data on Boulder's and surrounding communities' housing markets.[1] The secondary data used in this analysis include:

- Multiple List Service (MLS) data on homes listed and for sale during 2012, provided by the Genesis Group;
- The Metro Denver Apartment Association Vacancy Surveys from 2012, including historical data beginning in 2002;
- Demographic and housing market data from the U.S. Census, 1980 through 2011, collected directly from the Census website and provided in reports prepared by the city; and
- Findings from prior studies and reports on city demographics and housing.

The income ranges for analysis are based on 2013 HUD income data and the city's internal annual AMI limits.[2] According to HUD, the median family income (MFI) for Boulder in 2013 is $91,600.[3] Based on the MFI, the income categories used in this analysis are:

- Less than 60% MFI (for rental analysis only)—upper limit of $37,878 for 1-person households; $48,675 for 3-person households;
- 60-79% MFI—upper limit of $50,718 for 1-person households; $65,175 for 3-person households;
- 80-99% MFI—$63,558 for 1-person households; $81,675 for 3-person households;
- 100-119% MFI—$76,398 for 1-person households; $98,175 for 3-person households;
- 120-139% MFI—$89,238 for 1-person households; $114,675 for 3-person households; and

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1 Primary data collection was not conducted due to time and budget constraints.

2 Annual Boulder County AMI Limits spreadsheets provided by city staff. Median Family Income (MFI) and Annual Median Income (AMI) are used interchangeably in this report.

3 HUD adjusts the low income MFI down to be consistent with the national low income definition. With this adjustment, the MFI is $56,375 for a 1-person household and $72,500 for a 3-person household. The city's, not HUD's, low income definition was used in this report.

- 140%+ for 1-person and 3-person households (all housing units priced above the 120-140% affordability range fall in this category).

A note about students. It is difficult, given data limitations, to easily separate out renters who are students and may receive assistance paying rent from parents, student loans and/or other non-income sources. Recent data estimate that 21,000 CU students live in Boulder during the academic year. Data from the university's housing department suggest that 6,000 may live in university-provided housing. This leaves approximately 15,000 students living in private housing; at an average household size of 2.0, as many as 7,500 units could be occupied by current students. These students affect the rental market in a number of ways but their true economic need for affordable units is unknown.

Summary of Market Analysis Findings

- **Housing market.** Data on rental vacancies and home sales in 2012 show the city in one of the tightest housing markets in history. Boulder's rental vacancies were near zero in late 2012. The city's median home price crossed the half-million mark in 2011. The most extreme tightening in the market has occurred the past two years for rentals; growth in home prices was strongest in the first five years of the past decade.

- **Income distribution.** The increase in prices in Boulder has had the most noticeable effect on the income distribution of city residents relative to other demographics. Data indicate that the proportion of households earning between $50,000 and $100,000 declined between 2000 and 2010. This was also true for Boulder County overall and for the State of Colorado. However, unlike the county and state, Boulder lost households earning between $25,000 and $50,000 and gained households earning $150,000 or more.

- **Families.** During the past decade, the city has been able to retain families, albeit wealthier families, and renters, despite increases in rental costs. The city has fewer residents between the ages of 25 and 44 year (a 15 percent decline since 2000). Yet all surrounding communities experienced a decline in this age cohort ranging from 5 to 10 percent except for the City and County of Denver.

- **Commuting.** The strongest impact of the city's housing price increases may show up in commuting data. Currently, according to the City of Boulder, 41 percent of Boulder workers live in the City of Boulder. Most workers live outside the city but within a 20 or 30 minute commute.

- **Affordability.** Some of the city's ability to maintain its income diversity is due to the relatively large proportion of affordable attached homes to buy within the city. In 2012, 54 percent of the county's attached units priced under $200,000 were located in Boulder. Still, buyers looking for affordable, detached housing will find the most choices in Longmont.

- **Future changes.** The next 10 to 20 years may show Boulder changing more than it did during the past decade if demand for living in the city continues, employment expands and opportunities to increase housing stock are limited. Future workforce may be more likely to commute in from areas on the outskirts of or outside of Boulder County, given the limited

growth within many parts of the county. Surrounding communities, including Longmont, Westminster, Arvada and even Denver offer much more affordability.

Demographic Analysis

This section discusses the demographics of the City of Boulder with a focus on how the city has changed over time and how it compares to surrounding communities.

Population and households. According to the 2010 Census there are 97,385 people living in 41,302 households in Boulder. The City of Boulder reports slightly higher numbers for 2012—99,070 people living in 43,620 households. Since 2000, the city has accounted for about one-third of the county population and 35 percent of the county's households.[4]

Figure 1.
Population and Households, City of Boulder, 1980 through 2012

Source:

Population for 1980 through 2010 from DOLA and population for 2012 from the City of Boulder. Household data from 1980 Census, 1990 Census, 2000 Census, 2010 Census and City of Boulder.

Population	Population	Share of County	Numerical Change	Numerical Change per Week	Percent Change
1980	76,685	40%			
1990	83,312	37%	6,627	12.7	9%
2000	94,673	33%	11,361	21.8	14%
2010	97,385	33%	2,712	5.2	3%
2012	99,070	n/a	n/a	n/a	n/a
Households	**Households**	**Share of County**	**Numerical Change**	**Numerical Change per Week**	**Percent Change**
1980	28,674	n/a			
1990	34,681	39%	6,007	11.6	21%
2000	39,596	35%	4,915	9.5	14%
2010	41,302	35%	1,706	3.3	4%
2012	43,620	n/a	n/a	n/a	n/a

Figure 2 displays the total population and population growth for Boulder and surrounding communities from 1980 through 2010. Between 2000 and 2010, the population of Boulder increased by 3 percent, a lower rate than many surrounding communities, particularly Erie, Broomfield, and Superior. Lafayette and Nederland also grew very modestly, as did the county, and Ward and Louisville lost population.

Except for Lyons (and to lesser extent, Broomfield), population growth was much stronger between 1990 and 2000 than in the past decade.

It is important to note that Boulder County's change in population was affected by the former City of Broomfield becoming its own county. The City of Broomfield, before incorporation into Broomfield County, was located primarily in Boulder County but also in Adams, Jefferson and Weld counties. Removing the city's population from the county's 2000 population to account for growth excluding Broomfield, puts the county's 2000-2010 growth rate at a much higher 16 percent.

[4] Population figures do include persons living in group quarters.

Figure 2.
Population Growth, City of Boulder and Surrounding Communities, 1980 through 2010

	1980	1990		2000		2010	
	Total Population	*Total Population*	*Percent Change from Previous*	*Total Population*	*Percent Change from Previous*	*Total Population*	*Percent Change from Previous*
Boulder	**76,685**	**83,312**	**9%**	**94,673**	**14%**	**97,385**	**3%**
Boulder County	**189,625**	**225,339**	**19%**	**291,288**	**29%**	**294,567**	**1%**
Denver Metro Area	1,618,461	1,848,319	14%	2,400,570	30%	2,784,228	16%
Denver County	492,694	467,610	-5%	554,636	19%	600,158	8%
Jefferson County	371,753	438,430	18%	527,056	20%	534,543	1%
Broomfield	20,730	24,638	19%	38,272	55%	55,889	46%
Erie	1,254	1,258	0%	6,291	400%	18,135	188%
Jamestown	223	251	13%	205	-18%	274	34%
Lafayette	8,985	14,548	62%	23,197	59%	24,453	5%
Longmont	42,942	51,555	20%	71,093	38%	86,270	21%
Louisville	5,593	12,361	121%	18,937	53%	18,376	-3%
Lyons	1,137	1,227	8%	1,585	29%	2,033	28%
Nederland	1,212	1,099	-9%	1,394	27%	1,445	4%
Superior	208	255	23%	9,011	3434%	12,483	39%
Ward	129	159	23%	169	6%	150	-11%

Note: Between the 2000 Census and the 2010 Census a portion of Boulder County's population was transferred to Broomfield with the creation of Broomfield County in 2001.
"Denver Metro Area" includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas and Jefferson counties.
Source: DOLA.

Tenure. In 2011, the ACS estimated that 50 percent of Boulder householders were owners and 50 percent were renters. This is a slight increase from the 2010 Census, which showed a homeownership rate of 48 percent.

Due to the presence of the university, Boulder's homeownership rate remains well below that of other surrounding communities and the county as a whole. Figure 3 compares the homeownership rate of Boulder with other communities over time.

Figure 3.
Homeownership Rate, City of Boulder and Surrounding Communities, 1980 through 2011

	Boulder	Boulder County	Lafayette	Longmont	Louisville
1980	50%	61%			
1990	49%	61%			
2000	50%	65%	76%	66%	76%
2010	48%	63%	73%	63%	73%
2011	50%	64%	70%	63%	73%

Note:

The 2011 3-year ACS data contain some margin of error inherent in sampling. The sample size for Colorado was 94,673 households (5% of Colorado households).

Source:

1980 Census, 1990 Census, 2000 Census, 2010 Census, 2011 3-year ACS and 2011 5-year ACS (Louisville).

Household type. Figure 4 displays the proportion of Boulder households with children and the proportion living alone in 1980, 1990, 2000, 2010 and 2011. The share of households with children decreased from 26 percent in 1980 to 21 percent in 2000 but has remained consistent since that time.

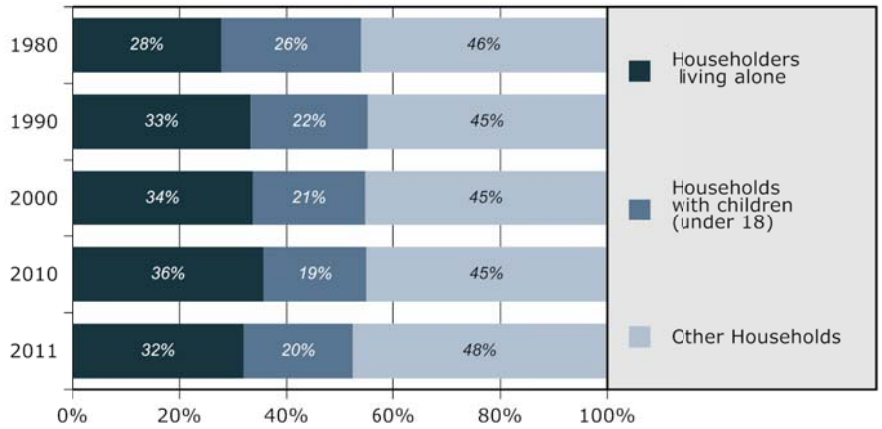
Figure 4.
Households by Type, City of Boulder, 1980 through 2011

Note:

The 2011 3-year ACS data contain some margin of error inherent in sampling. The sample size for Colorado was 94,673 households (5% of Colorado households).

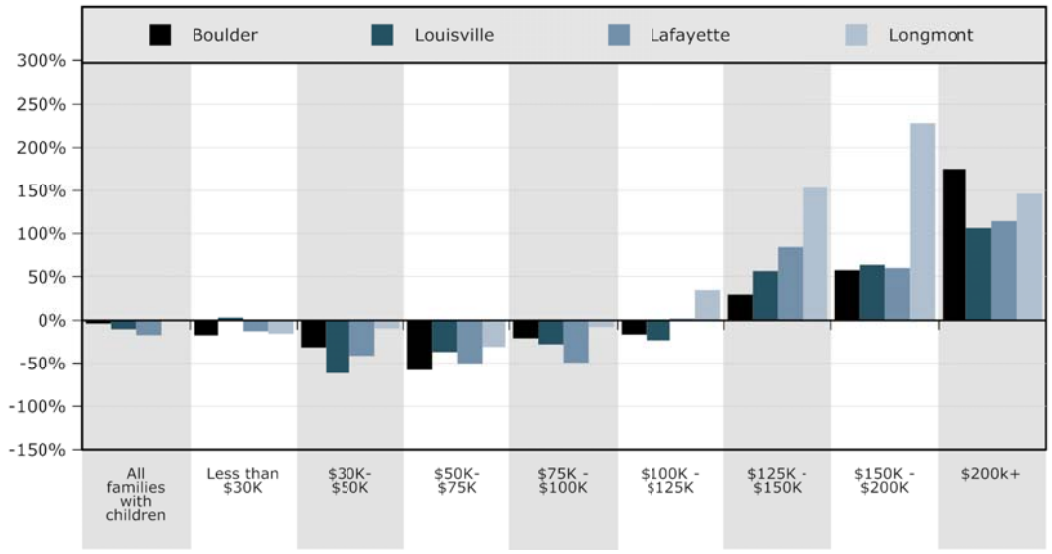
Source:

1980 Census, 1990 Census, 2000 Census, 2010 Census and 2011 3-year ACS.



Although the proportion of families with children has not changed substantially in Boulder, the income of those families has changed (Figure 5). Between 2000 and 2011 Boulder lost families with children earning less than $125,000 and gained families with children earning $125,000 and higher. The same trend was evident in surrounding communities, although Boulder gained a higher proportion of families with children at the highest income range ($200,000 or more).

Figure 5.
Percent Change in Families with Children by Income 2000 to 2011, City of Boulder and Surrounding Communities



Source: Boulder Housing Division.

Figure 6 compares the distribution of households by type in Boulder to that of surrounding communities in 2000 and 2010. Not surprisingly, Boulder has a higher proportion of non-family (e.g., roommate, single person) households and a lower proportion of households with children than Lafayette, Longmont and Louisville. Across all communities the proportion of non-family households (and single person households) increased between 2000 and 2010 while the proportion of family households decreased.

Figure 6.
Households by Type, Boulder and Surrounding Communities, 2000 and 2010

	Boulder		Lafayette		Longmont		Louisville		Boulder County	
	2000	*2010*	*2000*	*2010*	*2000*	*2010*	*2000*	*2010*	*2000*	*2010*
Total Households	**39,596**	**41,302**	**8,844**	**9,632**	**26,667**	**33,252**	**7,216**	**7,537**	**114,680**	**119,300**
Non-Family Households	**58%**	**60%**	**33%**	**34%**	**31%**	**34%**	**31%**	**34%**	**40%**	**42%**
Single persons	34%	36%	23%	26%	24%	27%	22%	28%	26%	29%
Family Households	**42%**	**40%**	**67%**	**66%**	**69%**	**66%**	**69%**	**66%**	**60%**	**58%**
Married without children	19%	18%	25%	26%	27%	27%	24%	28%	25%	26%
Married with children	15%	14%	28%	24%	27%	23%	32%	26%	24%	21%
Single parents	5%	5%	10%	10%	10%	9%	8%	7%	7%	7%

Source: 2000 Census and 2010 Census.

Income. According to the ACS, the median household income in Boulder was $54,539 in 2011, up from $44,748 in 2000. Income growth has only occurred for the city's owners; renter income has remained flat.

Figure 7.
Median Household Income, City of Boulder, 1990 - 2011

Note:

The 2011 3-year ACS data contain some margin of error inherent in sampling. The sample size for Colorado was 94,673 households (5% of Colorado households).

Source:

1990 Census, 2000 Census, 2010 ACS and 2011 3-year ACS.

	Median Income	Percent Change	Median Income of Owner Households	Percent Change	Median Income of Renter Households	Percent Change
1990	$29,407					
2000	$44,748	52%	$71,063		$29,859	
2010	$52,618	18%	$91,934	29%	$29,165	-2%
2011	$54,539	4%	$96,144	5%	$30,759	5%

Figure 8 displays the income distribution of Boulder in 1999 and 2011 in income-adjusted dollars. In 1999, 16 percent of Boulder households earned between $50,000 and $75,000; another 12 percent earned between $75,000 and $100,000. These proportions declined to 15 and 9 percent of households, respectively, by 2011. The proportion of Boulder households earning between $25,000 and $50,000 also declined. Conversely, the proportion of households earning $150,000 or more increased from 14 percent to 16 percent.

Compared to the county and state, the City of Boulder lost a similar share of households earning between $50,000 and $100,000. The city lost households just below middle income ($25,000 to $50,000) but the county gained households in this income group and the state's share of those household remained the same. The city gained high income households (>$150,000) but the county and state shares of high income households declined.

Figure 8.
Household Income Distribution, Boulder, Boulder County and Colorado, 1999 and 2011

Note: The 2011 3-year ACS data contain some margin of error inherent in sampling. The sample size for Colorado was 94,673 households (5% of Colorado households).

Source: 2000 Census and 2011 3-year ACS.

Age. As shown in Figure 9, Boulder's 2011 population distribution was as follows:

- 13 percent was under the age of 18;
- 29 percent was 18 to 24 (likely university students);
- 27 percent was 25 to 44;
- 11 percent was 45 to 54; and
- 18 percent was 55 or older.

Changes in the age cohorts in Boulder between 2000 and 2011 reflect an aging population (Baby Boomers) with the largest decrease occurring in the proportion of residents aged 25 through 44, coupled with an increase in the proportion of residents aged 55 and older. This is likely the result of the Baby Boomers shifting from the 25 to 44 age cohort to the 55 and older age cohort.

Figure 9.
Population by Age, City of Boulder, 1980 through 2011

Population by Age	1980	1990	2000	2010	2011	*Numerical Change 1980-2000*	*Numerical Change 2000-2011*
Under 18 years	13,317	12,619	14,042	13,527	13,175	725	(867)
18 to 24 years	23,233	21,944	24,524	28,342	29,144	1,291	4,620
25 to 44 years	25,444	30,778	31,277	26,989	27,017	5,833	(4,260)
45 to 54 years	5,291	7,017	11,774	10,505	10,898	6,483	(876)
55 to 64 years	3,975	4,422	5,665	9,318	10,358	1,690	4,693
65 years and over	5,425	6,532	7,391	8,704	8,311	1,966	920
Total population	**76,685**	**83,312**	**94,673**	**97,385**	**98,903**	**17,988**	**4,230**

Population Distribution by Age	1980	1990	2000	2010	2011	*Percentage Pt. Change 1980-2000*	*Percentage Pt. Change 2000-2011*
Under 18 years	17%	15%	15%	14%	13%	-3%	-2%
18 to 24 years	30%	26%	26%	29%	29%	-4%	4%
25 to 44 years	33%	37%	33%	28%	27%	0%	-6%
45 to 54 years	7%	8%	12%	11%	11%	6%	-1%
55 to 64 years	5%	5%	6%	10%	10%	1%	4%
65 years and over	7%	8%	8%	9%	8%	1%	1%

Source: 1980 Census, 1990 Census, 2000 Census, 2010 Census and 2011 ACS.

Figure 10 compares the age distribution of Boulder to surrounding counties. The table displays the 2010 age distribution and the percentage point change from 2000 for surrounding communities. All communities experienced a decrease in the proportion of the population under 18 years old, but Boulder experienced the smallest decrease (1 percentage point). Boulder also experienced the smallest decrease in 25 to 44 year olds but was the only community to experience a decline in 45 to 54 year olds. That decline may be the result of the Baby Boomers shifting from into the 55 to 64 age cohort.

Those data show that Boulder has retained residents 44 years and under (including children) at higher rates than surrounding communities.

Figure 10.
Age Distribution, City of Boulder and Surrounding Communities, 2000 to 2010

	City of Boulder		Broomfield		Lafayette		Longmont	
	2010	*Change from 2000*	*2010*	*Change from 2000*	*2010*	*Change from 2000*	*2010*	*Change from 2000*
Under 18 years	14%	-1%	26%	-3%	25%	-2%	26%	-2%
18 to 24 years	29%	3%	8%	0%	7%	-1%	8%	-1%
25 to 44 years	28%	-5%	30%	-6%	30%	-9%	28%	-5%
45 to 54 years	11%	-2%	15%	2%	17%	2%	15%	1%
55 to 64 years	10%	4%	11%	5%	13%	7%	11%	4%
65 years and over	9%	1%	10%	3%	8%	2%	11%	2%

CONTINUED	Louisville		Boulder County		Denver County		Jefferson County	
	2010	*Change from 2000*	*2010*	*Change from 2000*	*2010*	*Change from 2000*	*2010*	*Change from 2000*
Under 18 years	24%	-4%	21%	-2%	21%	0%	22%	-3%
18 to 24 years	6%	0%	14%	1%	10%	0%	8%	0%
25 to 44 years	26%	-10%	27%	-6%	35%	-1%	26%	-6%
45 to 54 years	20%	2%	15%	0%	12%	-1%	17%	1%
55 to 64 years	14%	9%	12%	5%	10%	3%	14%	5%
65 years and over	10%	4%	10%	2%	10%	-1%	13%	3%

Source: 2000 Census and 2010 Census.

Summary. Boulder's population grew very modestly between 2000 and 2010, rising just 3 percent. The populations of Lafayette and Louisville also changed little, while the outlying suburbs of Erie, Broomfield and Superior had very strong growth.

Similarly, Boulder's demographics changed little, except for the income distribution of residents. Households with children under 18 made up 20 percent of all Boulder households in 2011, compared to 21 percent in 2000. Resident age distribution shifted somewhat toward 55+ age cohorts, similar to the shift in surrounding communities except for in Denver. In 2011, a larger share of Boulder residents earned more than $150,000 and fewer earned between $50,000 and $100,000, even after adjusting for inflation—suggesting a loss of middle class households and gain in upper income households. Boulder County and the State of Colorado also lost middle class households but unlike the county and state, Boulder lost households just below middle income ($25,000 to $50,000) and gained high income households (>$150,000).

Housing Market Analysis

The remainder of this report discusses Boulder's housing market. It begins with the for sale market, continues onto rental, provides an estimated housing gap (i.e., unit shortage) for units to buy and to rent and concludes with a discussion of market implications.

Homeownership. This section provides an overview of the homeownership market in Boulder. The discussion focuses on changes in the housing market, particularly since 2005, and compares homeownership opportunities in the City of Boulder to surrounding communities.

Trends in home value and market prices. Between 1980 and 2000, the changes in median home value in Boulder were very similar to the county overall. However, since 2000, home values in Boulder have been rising faster than home values in the county as a whole. These trends are shown in Figure 11.

Figure 11.
Median Home Value of All Owner Occupied Unit, 1980 through 2011

Source:

1980 Census, 1990 Census, 2000 Census, 2005 ACS and 2011 ACS.

	City of Boulder		Boulder County	
	Median Value	*Compound Annual Growth Rate*	*Median Value*	*Compound Annual Growth Rate*
1980	$133,210		$117,502	
1990	$122,700	-1%	$102,800	-1%
2000	$272,200	8%	$231,000	8%
2005	$457,400	11%	$344,300	8%
2011	$501,800	2%	$344,600	0%

A similar trend is evident in the list price (and sale price) of properties available for purchase in Boulder compared to those in the balance of the county. Between 2005 and 2012, the median list/sold price in Boulder increased by 16 percent (from $387,700 to $450,000), compared to a 5 percent increase in the remainder of the county, ($275,000 in 2005 to $290,000 in 2012).

Those trends suggest that the Boulder homeownership market has changed in a way that is different from the balance of the county, widening the affordability gap between Boulder and the remainder of the county.

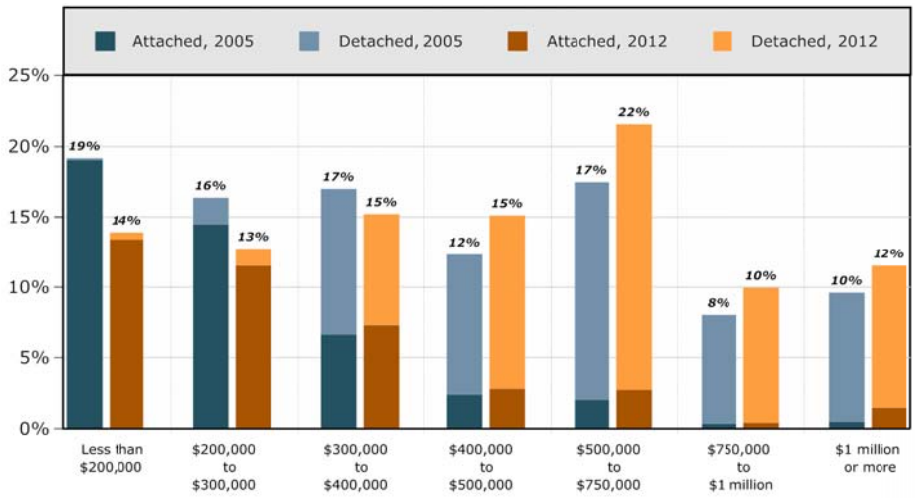
Affordability. Figure 12 displays the price distribution of homes listed for sale or sold in Boulder for 2005 and 2012. Aside from the upward shift of home prices, the overall distribution in 2012 is similar to 2005—that is, the price diversity of Boulder's market has not changed dramatically.

Although Boulder's housing market is more expensive than surrounding communities, the market does offer some price diversity: 27 percent of units are priced below $300,000; 30 percent are $300,000 to $500,000; and 43 percent are $500,000 or more. However, that price diversity is limited by product type. For example, in 2012, 299 properties (14%) were listed or

sold for less than $200,000 but only 11 of these were detached properties. Among homes listed/sold between $200,000 and $300,000, only 26 were detached homes.[5]

Figure 12. Price Distribution of For-Sale Market, City of Boulder, 2005 and 2012

Source:
2005 MLS and 2012 MLS.



The lack of product diversity at lower price-points is not a new characteristic of Boulder. A 1998 report on Boulder's housing market also acknowledged that attached homes represented the vast majority of affordable sales stating, "As we all know, there is very little moderately priced single family detached housing in the city, and no new moderately priced detached single family housing."[6]

Affordability in Boulder—and for the county overall—is very location-specific. The maps in Figures 13 through 16 show the location of listed or for sale units at various affordability levels. As the maps demonstrate, which is also discussed in the Housing Gaps section below, the City of Longmont provides the lion's share of the most affordable detached homes to buy in the county.

5 Forty of the homes sold for less than $200,000 were deed restricted; all of those were attached properties. Fifty-two of the homes sold for less than $300,000 were deed restricted; seven of those were detached properties.

6 Understanding Boulder's Housing Issues and Programs. City of Boulder. June 1998.

Figure 13. Location of Affordable Homes for 1-person HUD-defined Low Income Household (Earning <$45,000)

Source:

BBC Research & Consulting and 2012 MLS.

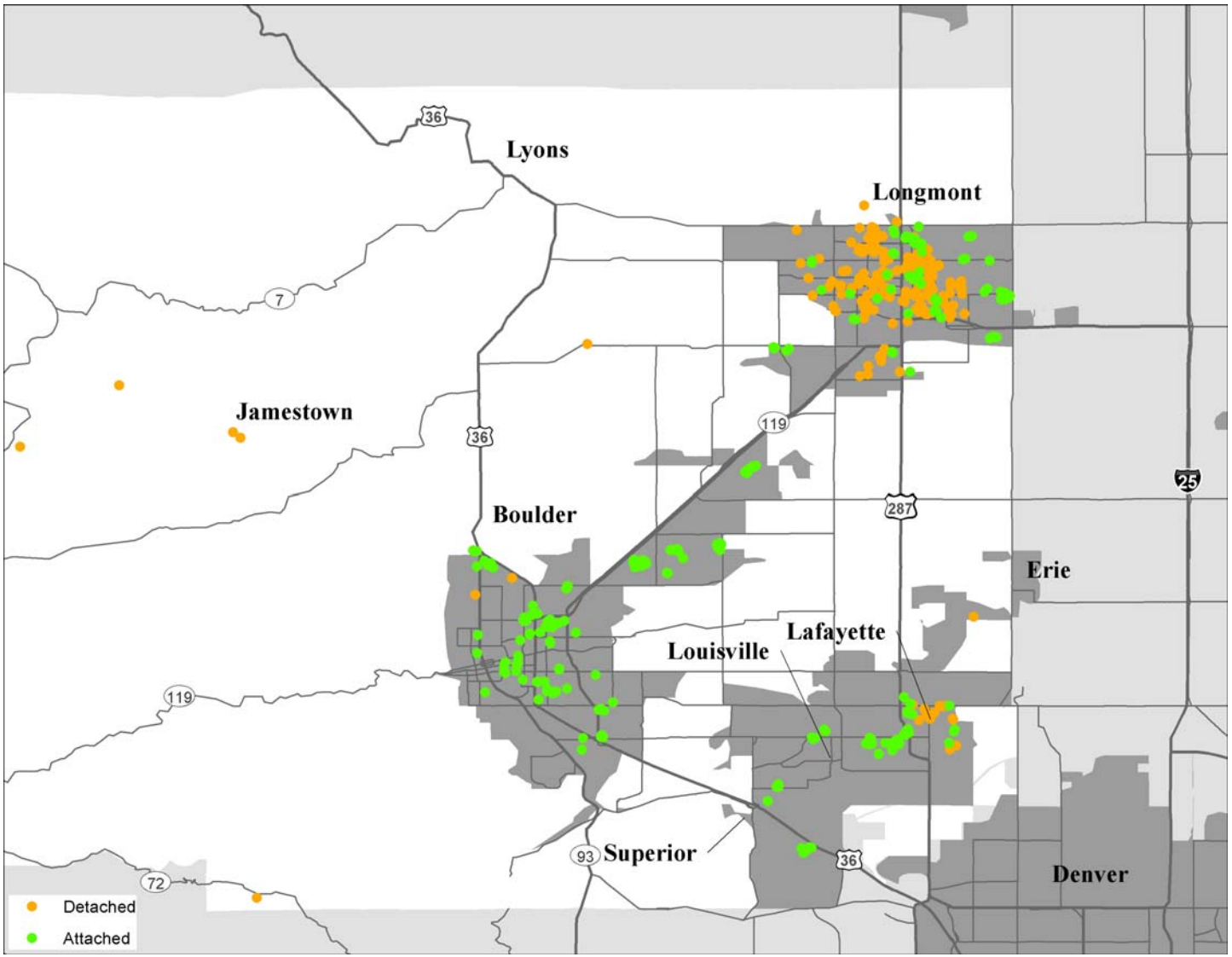


Figure 14. Location of Affordable Homes for 3-person HUD-defined Low Income Household (Earning <$58,000)

Source:

BBC Research & Consulting and 2012 MLS.

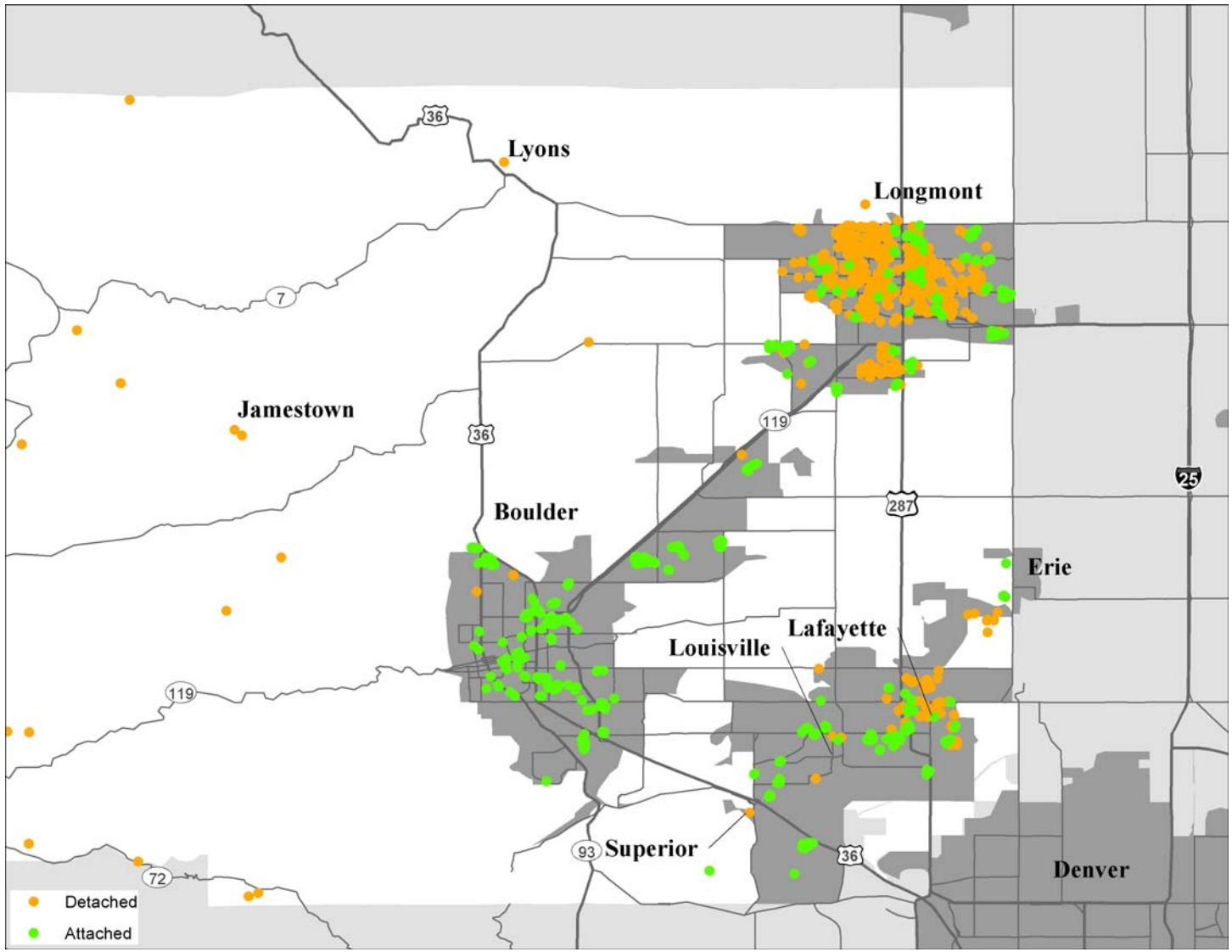


Figure 15. Location of Affordable Homes for 1-person Household Earning < 120% MFI (<$77,000)

Source:

BBC Research & Consulting and 2012 MLS.

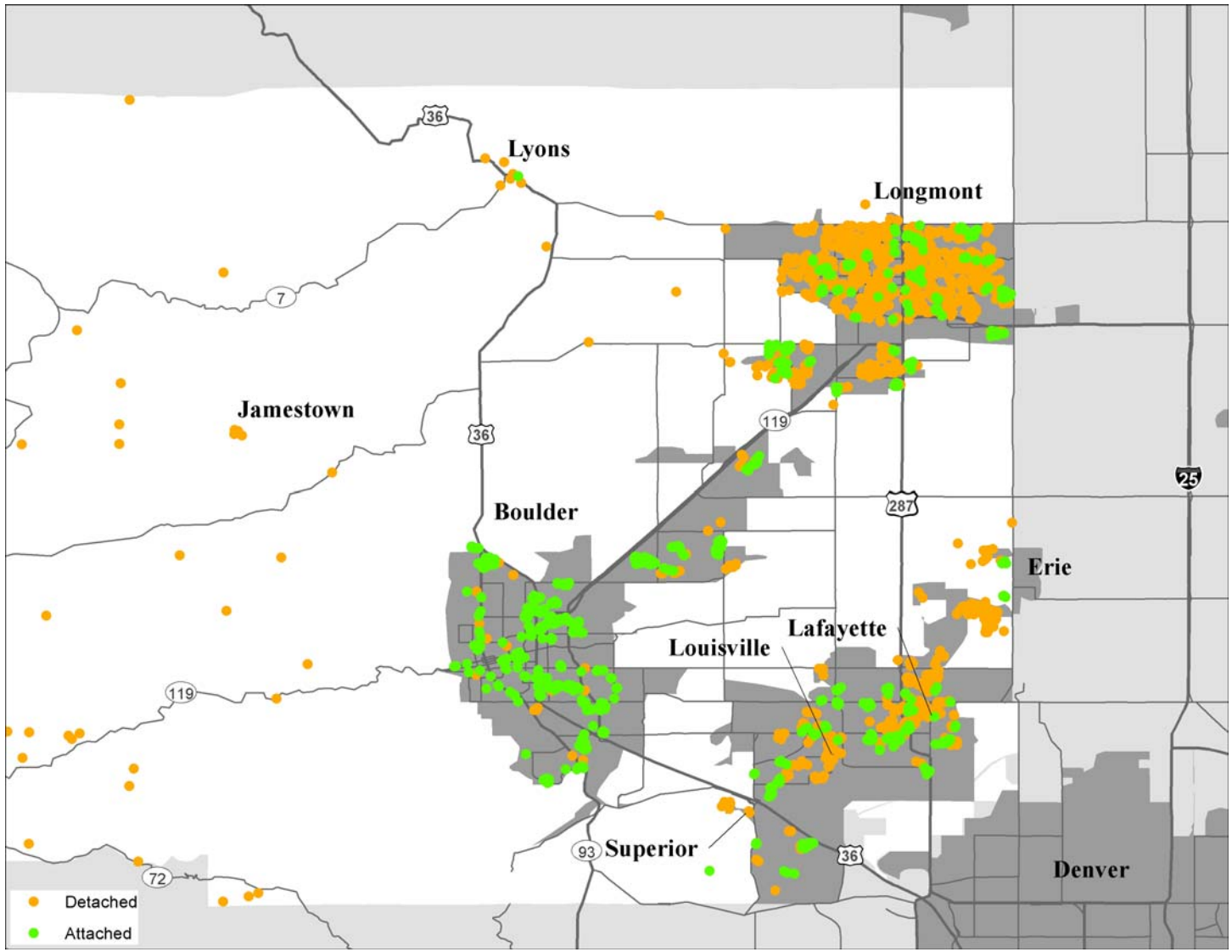


Figure 16.
Location of Affordable Homes for 3-person Household Earning < 120% MFI (<$99,000)

Source:

BBC Research & Consulting and 2012 MLS.

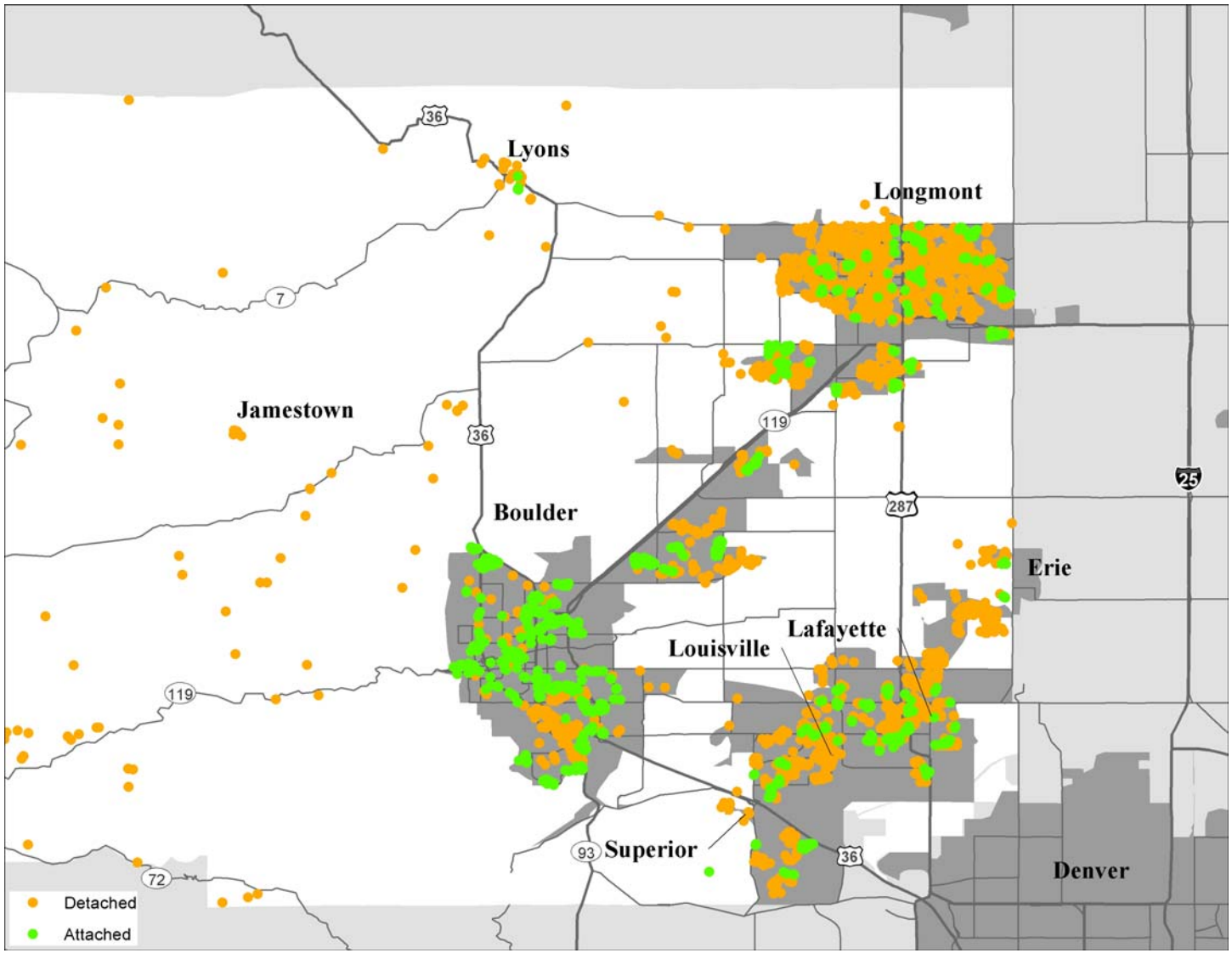


Figure 16.
Average Square Footage and Price per Square Foot, City of Boulder, 2005 and 2012

	City of Boulder	Balance of County
Average Square Footage		
2005	1,749	1,882
2012	1,861	1,938
Average Price per Square Foot		
2005	$284	$186
2012	$304	$181

Source: 2005 MLS and 2012 MLS.

Home size. The trade-off to live in Boulder involves not only price, but also home size. On average, homes in Boulder are smaller and more expensive per square foot than homes in the balance of the county. Figure 16 displays the average square footage and the average price per square foot for Boulder and the balance of the county in 2005 and 2012. In 2012, the price per square foot of homes outside Boulder was 59 percent that of homes in the City of Boulder.

Regional comparison. Figure 17 displays the proportion of Boulder County's for-sale units provided by select communities. In 2012, Boulder provided 41 percent of the county's for-sale units but only 29 percent of the county's units priced/sold below $200,000. Boulder provided 37 percent of the county's for-sale detached units but only 2 percent of detached units priced/sold below $200,000. Longmont provides the majority of the county's units priced/sold below $200,000 (53%) and an overwhelming majority of the county's detached units priced/sold below $200,000 (81%).

Figure 18.
For-Sale Market by Price and Type, City of Boulder and Surrounding Communities, 2012

All Listed/Sold Units, 2012	Boulder		Lafayette		Longmont		Louisville		Balance of County	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Total	**2,150**	**41%**	**466**	**9%**	**1,547**	**30%**	**308**	**6%**	**335**	**14%**
Less than $200,000	299	29%	83	8%	544	53%	20	2%	60	8%
$200,000 to $300,000	274	25%	143	13%	484	43%	61	5%	64	14%
$300,000 to $400,000	327	34%	77	8%	261	27%	92	10%	60	21%
$400,000 to $500,000	325	48%	72	11%	98	14%	66	10%	49	18%
$500,000 to $750,000	463	60%	69	9%	92	12%	55	7%	52	12%
$750,000 to $1 million	214	74%	14	5%	27	9%	10	3%	16	8%
$1 million or more	248	74%	8	2%	41	12%	4	1%	34	10%

Detached Units Listed/Sold, 2012	Boulder		Lafayette		Longmont		Louisville		Balance of County	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Total	**1,295**	**37%**	**353**	**10%**	**1,297**	**37%**	**259**	**7%**	**312**	**9%**
Less than $200,000	10	2%	29	6%	382	81%	1	0%	44	10%
$200,000 to $300,000	26	4%	86	13%	404	59%	44	6%	60	19%
$300,000 to $400,000	170	22%	75	10%	255	33%	84	11%	57	25%
$400,000 to $500,000	264	43%	72	12%	97	16%	61	10%	49	20%
$500,000 to $750,000	404	57%	69	10%	92	13%	55	8%	52	13%
$750,000 to $1 million	205	73%	14	5%	27	10%	10	4%	16	9%
$1 million or more	216	72%	8	3%	40	13%	4	1%	34	11%

Attached Units Listed/Sold, 2012	Boulder		Lafayette		Longmont		Louisville		Balance of County	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Total	**855**	**66%**	**113**	**9%**	**250**	**19%**	**49**	**4%**	**23**	**2%**
Less than $200,000	289	54%	54	10%	162	30%	19	4%	16	3%
$200,000 to $300,000	248	61%	57	14%	80	20%	17	4%	4	1%
$300,000 to $400,000	157	89%	2	1%	6	3%	8	5%	3	2%
$400,000 to $500,000	61	91%	0	0%	1	1%	5	7%	0	0%
$500,000 to $750,000	59	100%	0	0%	-	0%	0	0%	0	0%
$750,000 to $1 million	9	100%	0	0%	-	0%	0	0%	0	0%
$1 million or more	32	97%	0	0%	1	3%	0	0%	0	0%

Source: BBC Research & Consulting and 2012 MLS.

Summary. The median value for homes in Boulder rose significantly between 2000 and 2010, with the strongest growth occurring between 2000 and 2005. In this five year period, the median value grew at an annual growth rate of 11 percent.[7]

Price growth has been slower between 2005 and 2012. Compared to 2005, the city has fewer homes for sale at less than $300,000 (27% compared to 35%), yet almost the same proportion of units priced between $300,000 and $500,000 (30% compared to 29%).

[7] Among homes listed for sale or sold in 2005 and 2012, the median list/sold price increased by 16 percent overall; growth was higher for attached units (11%) than detached units (4%).

Although the city's price increases outpaced the county's, Boulder was able to maintain some price diversity, largely through attached products. Indeed, in 2012, Boulder provided 29 percent of all units in the county priced for less than $200,000 and 54 percent of all attached units under $200,000. Still, buyers looking for affordable, detached housing will find the most choices in Longmont.

Rental Market

This section discusses characteristics of the rental market in Boulder in terms of vacancy rates, product choice and affordability. Historical trends and comparisons with surrounding communities are provided where data are available.

Rental units and tenure. The 1980 Census counted 15,106 occupied rental units in the City of Boulder, representing half of all occupied housing units. The 2010 Census reported 21,607 occupied rental units—an increase of 6,500 renter households since 1980 or 43 percent.[8]

Rental units based on 2012 city counts of housing units (43,620), Census estimates of tenure and the most recent vacancy rates yield about 23,000 total rental units (occupied and vacant).[9]

According to the Census, the number of Boulder households also grew by 40 percent between 1980 and 2010—a similar rate of change as in renter households. As such, tenure changed only modestly between 1980 and 2010, as shown in Figure 19.

Figure 19.
Rental Units and Vacancy Rate, City of Boulder, 1980-2010

	1980	1990	2000	2010
Renter Occupied Units	15,106	18,674	19,991	21,607
Percent of All Occupied Units	50.3%	51.5%	50.5%	52.3%
Change in Occupied Rentals		3,568	1,317	1,616
Vacant Rentals	795	884	444	806
Vacancy Rate	5.0%	4.5%	2.2%	3.6%
Total Rental Units	15,901	19,558	20,435	22,413

Source: 1990 Census of Population, Households and Housing, City of Boulder; and 2010 Census.

New apartment construction in Boulder County has been stronger in the past few years than in the middle part of the last decade, when high vacancy rates dampened construction activity. The Metro Denver Apartment Association Vacancy Survey ("vacancy survey") tracks new apartment construction by quarter and year. Figure 20 shows additions by county for 2005 through 2012.

8 The 2011 ACS shows a smaller number of renters than the 2010 Census at 19,216.

9 The city's rental licensing and smartregs program that requires rental units to register currently shows 23,545 rental units.

Figure 20.
Estimate of New Apartments by Quarter, 2005 through 2012

County	2005	2006	2007	2008	2009	2010	2011	2012	County Total 2005-2012	County Proportion Total
Adams	212	124	-	-	39	-	19	-	394	3%
Arapahoe	353	20	558	-	520	166	454	36	2,107	17%
Boulder/Broomfield	98	-	231	376	545	96	285	146	1,777	14%
Denver	1,313	140	37	203	2,477	153	512	1,071	5,906	47%
Douglas	382	-	88	210	210	-	62	292	1,244	10%
Jefferson	159	454	-	-	-	83	106	428	1,230	10%
Metro Area Total	**2,517**	**738**	**914**	**789**	**3,791**	**498**	**1,438**	**1,973**	**12,658**	**100%**

Source: Metro Denver Vacancy Survey, 4th Quarter 2012.

Between 2005 and 2012, Boulder and Broomfield Counties added 1,777 new rental units, about 14 percent of the metro area total. Denver was responsible for almost half of the metro area apartment unit construction during the period. Some of Denver's units were likely absorbed by Boulder renters moving to Denver for employment and housing: The Denver Post, using data from the Census' ACS (2006-2010), recently reported that 1,377 Boulder County residents moved to Denver and 1,389 Boulder County residents moved to Broomfield during the past decade.[10]

Vacancy rates. Census data show consistently low rental vacancy rates during the past 30 years, the lowest in 2000 at 2.2 percent. As shown in Figure 19, the Census reports Boulder's rental vacancy rate for 2011 at 4.6 percent. The Metro Denver vacancy survey's 2011 vacancy rate is similar to the ACS at 4.7 percent.[11] Yet, after 2010, the vacancy survey reports much lower rental vacancies for the City of Boulder's submarkets, as well as a dramatic drop in vacancies.[12]

Indeed, the 4Q12 vacancy survey highlights Boulder's two submarkets and Longmont's rental market as three of the six "hottest submarkets" in the metro area. As of 4Q12, the vacancy rate for rental units in Boulder's University submarket was near zero (.2%). Other tight rental submarkets include Golden (2.1% vacancy rate), Central Denver (2.7%) and Southwest Denver (2.6%). Broomfield's vacancy rate was relatively high for the 4Q12 survey at 6.2%.

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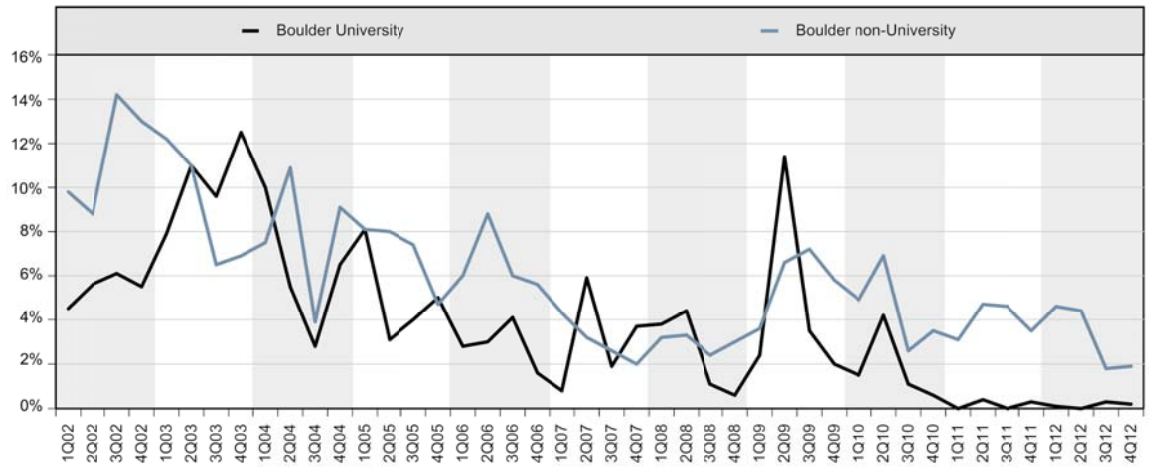
10 April 14, 2013 front page article "On The Move."

11 The 4.7 percent is for Boulder and Broomfield Counties combined. The City of Boulder's vacancies are typically much lower than Boulder County's and Broomfield County's.

12 At the time this report was prepared, the latest data from the vacancy survey was for 4th quarter 2012 (4Q12)

Figure 21 shows trends in vacancy rates for Boulder's two submarkets from 1Q02 through 4Q12.

Figure 21.
Trends in Rental Vacancy Rate, Boulder Submarkets, 1Q12-4Q12



Source: Metro Denver Vacancy Survey, 4th Quarter 2012 and BBC Research & Consulting.

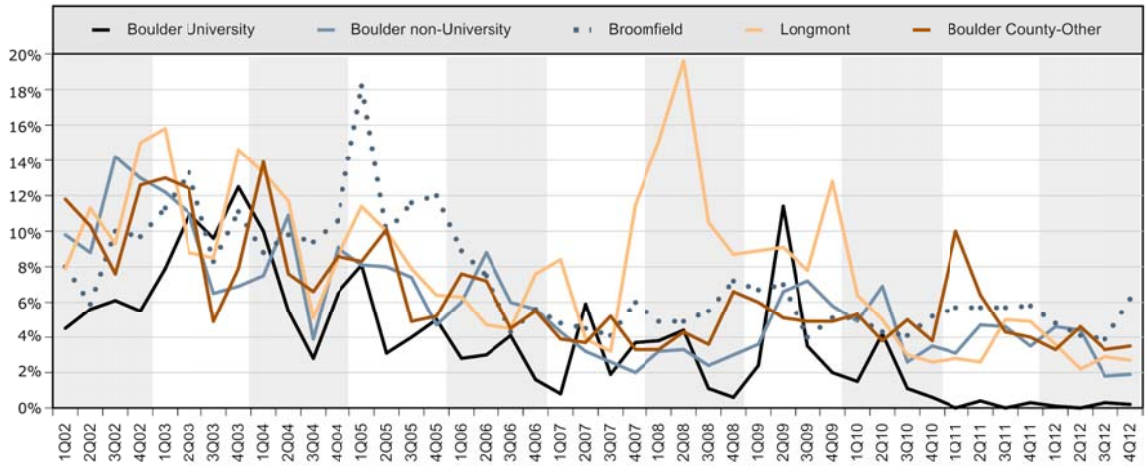
Historically, the highest vacancy rates in Boulder's University submarket occurred in 2003, when quarterly vacancy rates were 7.9 percent (1Q03), 11.0 percent (2Q03), 9.6 percent (3Q03) and 12.5 percent (4Q03)—the decade peak for the market. For areas outside the University submarket, vacancies peaked in the prior year, 2002, at 9.8 percent, (1Q02), 8.8 percent (2Q02), 14.2 percent—the decade high (3Q03) and 13.0 percent (4Q03).

Trends show that the University submarket vacancies generally—but not always—peak during the second quarter of the year. The non-University submarket shows somewhat less seasonal fluctuation.

After dropping significantly in 3Q10, both submarkets' vacancy rates have changed modestly. The University submarket had little wiggle room, as rental vacancies have been near zero since 3Q10.

Figure 22 compares the vacancy rates in Boulder's submarkets to surrounding areas'. Except for Longmont, which shows the most fluctuation, vacancy trends in surrounding areas have been generally similar to those of the non-University submarket.

Figure 22.
Trends in Rental Vacancy Rate, Boulder and Surrounding Markets, 1Q12-4Q12



Source: Metro Denver Vacancy Survey, 4th Quarter 2012 and BBC Research & Consulting.

Figure 23 shows vacant units reported in the vacancy survey by affordability level. The affordability categories are determined by HUD's MFI estimates and assume that 30 percent of a household's gross monthly income can be used for housing costs, including rent and utilities.[13]

As the figure demonstrates, the vacancy survey found zero vacant units for 1-person and 3-person households earning less than 60 percent of the MFI. By comparison, surrounding communities have 62 vacant units for such households. Most of these units are located in Broomfield.

It should be noted that these units do not represent all vacant units in the Boulder market; the figure shows only those units identified in the vacancy survey. Yet if all vacant units have a price distribution similar to the sample of those captured in the survey, the conclusion is the same: affordable rentals are very difficult to find in Boulder. A weighted average vacancy rate for Boulder's submarkets yields an overall vacancy rate of 1.5 percent, or just 352 vacant units in Boulder.

[13] A household paying more than 30 percent of their gross monthly income for housing costs is "cost burdened."

Figure 23.
Vacant Units by Type and Price Point, City of Boulder, 4Q12

	1-person Household Affordable Rent + Utilities	Efficiencies Vacant units, 4Q12	1-bedroom Units Vacant Units, 4Q12	3-person Household Affordable Rent + Utilities	2-bedroom Units Vacant Units, 4Q12	3-bedroom Units Vacant Units, 4Q12	Total Vacant Units
Income Breaks							
0-29% of MFI	$365			$498			-
30-49% of MFI	$686			$910			-
50-59% of MFI	$797			$1,067			
60-79% of MFI	$1,068	2	5	$1,429	14	3	17
80-99% of MFI	$1,339		13	$1,792	5		5
100-119% of MFI	$1,660		1	$2,204			1
120-139% of MFI	$1,981			$2,617			-
140%+	$1,997			$2,638			-
Total Vacant, Boulder Submarkets		**2**	**19**		**19**	**3**	**43**
Vacant, Other Boulder/Broomfield County Submarkets							
0-59% MFI		1	19		41	1	62
60%+ MFI		1	103		138	5	247

Note: The Metro Denver vacancy survey reports 44 "other" units in the $1,475 to $1,500 monthly price range.

Source: Metro Denver Vacancy Survey, 4th Quarter 2012 and BBC Research & Consulting.

Pricing and affordability. According to the vacancy survey, the 4Q12 average rent in the Boulder/Broomfield market area was $1,103.62, or $1.28 per square foot (sq. ft.). The median was $1,080.40.

To afford the median rent in the Boulder/Broomfield area, and accounting for $100/month in utilities, a renter would need to earn more than $47,000.

In 4th quarter 2005, the median rent in the Boulder/Broomfield market area was $896.40—$186 per month less than in 4Q12. To afford the increase in the median from 2005, a renter would need to earn $7,000 more in 2012 than they did in 2005.

Figure 24.
Median Rents by Bedroom Size, Boulder/Broomfield County Market, 4Q05 and 4Q12

	Efficiency	1 bedroom	2 bedroom, 1 bath	2 bedroom, 2 bath	3 bedroom	All	Income Needed to Afford
4Q12 All Market Areas (median only)	$ 819	$ 960	$ 1,074	$ 1,258	$ 1,344	$ 1,080	$ 47,216
4Q05 All Market Areas (median only)	$ 640	$ 786	$ 759	$ 1,302	$ 923	$ 896	$ 39,856
Increase, 4Q05-4Q12	$ 179	$ 173	$ 315	$ (45)	$ 421	$ 184	
Monthly income needed to absorb additional rent	$ 596	$ 577	$ 1,050	$ (149)	$ 1,403	$ 613	

Source: Metro Denver Vacancy Survey, 4th Quarter 2012 and BBC Research & Consulting.

As shown in Figure 24, rents have increased in the Boulder/Broomfield market for units of all sizes except for 2-bedroom, 2-bath units.

Cost burden data suggest that renters were able to absorb the rent increase and/or that higher income renters replaced those who could not. The 2010 Census estimates that 63 percent of Boulder's renters were cost burdened, paying more than 30 percent of their gross household income towards rent plus utilities. This is slightly less than in 2005, when 65 percent of renters were cost burdened.[14] The cost burden data are curious, given that renter incomes have not changed during the past decade and suggest that renters may be finding other ways to maintain affordability (e.g., accepting help from parents, adding roommates).

Rents by submarket. Figure 25 shows 4Q12 average and median rents by submarket area and apartment type. The least expensive average and median for each unit type are shaded. The highest average and median rents are outlined.

Figure 25.
Average and Median Rents of Boulder County Submarket Rental Units, 4Q12

	4Q12 Average Rents						
	Efficiency	*1 bedroom*	*2 bedroom, 1 bath*	*2 bedroom, 2 bath*	*3 bedroom*	*All*	*Income Needed to Afford*
Boulder University	$ 780	$ 896	$ 1,191	$ 1,215	$ 2,126	$ 922	$ 40,897
Boulder non-University	$ 937	$ 1,001	$ 1,157	$ 1,349	$ 1,624	$ 1,143	$ 49,734
Broomfield	N/A	$ 1,006	$ 960	$ 1,295	$ 1,480	$ 1,125	$ 48,985
Longmont	$ 788	$ 852	$ 977	$ 1,059	$ 1,174	$ 959	$ 42,378
Boulder County-Other	$ 916	$ 1,020	$ 1,126	$ 1,364	$ 1,548	$ 1,221	$ 52,848
Lowest rent	**$ 780**	**$ 852**	**$ 960**	**$ 1,059**	**$ 1,174**	**$ 922**	
Highest rent	**$ 937**	**$ 1,020**	**$ 1,191**	**$ 1,364**	**$ 2,126**	**$ 1,221**	
	4Q12 Median Rents						
	Efficiency	*1 bedroom*	*2 bedroom, 1 bath*	*2 bedroom, 2 bath*	*3 bedroom*	*All*	*Income Needed to Afford*
Boulder University	$ 808	$ 928	$ 1,093	$ 1,238	$ 2,007	$ 927	$ 41,100
Boulder non-University	$ 1,003	$ 921	$ 1,143	$ 1,122	$ 1,431	$ 1,075	$ 46,987
Broomfield	N/A	$ 1,034	$ 830	$ 1,269	$ 1,342	$ 1,104	$ 48,155
Longmont	$ 812	$ 858	$ 1,031	$ 1,082	$ 1,304	$ 941	$ 41,652
Boulder County-Other	$ 913	$ 988	$ 1,097	$ 1,345	$ 1,397	$ 1,211	$ 52,458
Lowest rent	**$ 808**	**$ 858**	**$ 830**	**$ 1,082**	**$ 1,304**	**$ 927**	
Highest rent	**$ 1,003**	**$ 1,034**	**$ 1,143**	**$ 1,345**	**$ 2,007**	**$ 1,211**	

Note: The least expensive average and median for each unit type are shaded. The highest are outlined.

Source: Metro Denver Vacancy Survey, 4th Quarter 2012 and BBC Research & Consulting.

[14] University students may represent a large proportion of cost-burdened renters in Boulder.

As shown above, the Longmont and Broomfield markets have the lowest rents for all sizes except for efficiencies, where the Boulder-University submarket has the lowest average and median rents. Recall that the Boulder-University area has almost no vacant units and Longmont, very few—so finding units in these more affordable submarkets is still difficult.

The highest rents are found within the City of Boulder submarkets and other markets within Boulder County (Lafayette, Louisville, unincorporated areas, etc).

Summary. The latest available secondary data on the rental market in Boulder show very limited rent options for households earning less than $47,000/year. An extrapolation of 4Q12, surveys of apartment units suggests that there are only about 350 vacant rental units in Boulder. The vacancy rate for the University submarket is near zero (.2%).

Overall rental affordability has decreased since 2005 and today's renters must pay about $200 more per month in rent costs. Despite these increases, the proportion of renters who are cost burdened has not grown according to Census data.

Renters looking to pay less than $1,000 per month in rent will find the most options in Broomfield or areas outside of Boulder County. Future apartment units are likely to be quickly absorbed in Boulder, especially those priced at less than $1,000 per month. If future apartment construction does not keep up with demand, Boulder workers who rent and want or need affordable units (those earning less than $50,000/year) will live outside of the county and in-commute.

Housing Market Gaps

Homeownership gap. The homeownership gap considers the proportion of units affordable at various income levels. Figure 26 displays the cumulative number and percentage of homes affordable in city boundaries by MFI. Affordability is shown for both 1-person and 3-person households with a range of down payments (5%, 10% and 20%).

Figure 26.
For-Sale Market Affordability by MFI, City of Boulder, 2012

	1-person household						3-person household					
	5% down		10% down		20% down		5% down		10% down		20% down	
	Cum. Number	*Cum. Percent*	*Cum. Number*	*Cum. Percent*	*Cum. Number*	*Cum. Percent*	*Cum. Number*	*Cum. Percent*	*Cum. Number*	*Cum. Percent*	*Cum. Number*	*Cum. Percent*
Less than 60% MFI	288	13%	304	14%	368	17%	457	21%	494	23%	604	28%
60-79% of MFI	404	19%	450	21%	533	25%	659	31%	716	33%	853	40%
80-99% of MFI	585	27%	637	30%	756	35%	906	42%	979	46%	1,162	54%
100-119% of MFI	767	36%	837	39%	999	46%	1,162	54%	1,236	57%	1,371	64%
120-139% of MFI	770	36%	841	39%	1,011	47%	1,170	54%	1,241	58%	1,378	64%
140%+	2,150	100%	2,150	100%	2,150	100%	2,150	100%	2,150	100%	2,150	100%
Of those that are affordable to <140% MFI…												
No. and proportion that are detached:	124	16%	176	21%	299	30%	428	37%	484	39%	606	44%
No. and proportion that are attached:	646	84%	665	79%	712	70%	742	63%	757	61%	772	56%
No. and proportion that are deed restricted:	100	13%	100	12%	100	10%	100	9%	100	8%	100	7%

Source: BBC Research & Consulting and 2012 MLS.

The analysis of 2012 homeownership data shows a relatively affordable market for households willing to buy attached homes. Those wanting an affordable detached home will need a larger downpayment or may seek housing outside of Boulder.

Specifically, of the 770 affordable homes for a 1-person household to buy in Boulder, 84 percent are attached homes. A 3-person (two earner) household has more options, with 37 percent of the affordable units detached.

The figure also shows that downpayment assistance makes a significant difference in affordability and product choice. For example, a buyer who has 20 percent down can afford about 30 percent more units than a buyer with 5 percent down.

Rental gap. When BBC conducted a market study to support Boulder's HUD-required Consolidated Plan in 2006, a housing gaps analysis was conducted to determine how well price points in the rental and homeownership markets matched with demand, using household income as a proxy.

The gaps analysis was conducted for Boulder County overall and was based on HUD's low income definitions (which differ from those used for the city only). The gap found a shortage of 3,900 affordable units for household earning less than $10,000/year and 1,900 units for household earning between $10,000 and $25,000—altogether, a shortage of 5,800 affordable units for renter households earning less than $25,000.

For this report, a gaps analysis was conducted for the City of Boulder only. The gaps model estimates the total number of rental units—occupied and vacant—based on the city's 2012 estimate of housing units. It assumes 52.3 percent of units are renter-occupied, consistent with 2010 Census estimates.

Figure 27 shows the results of the gaps analysis. Gaps are shown for three household sizes: 1-person, 2-person and 3+ person households, as well as all household types combined. The gaps model places 1-person households in efficiencies and 1-bedroom units; 2-person household in 2-bedroom, 1-bath units and larger households in larger units (e.g., 2-bedroom, 2-bath, 3 bedroom).

The 2012 gaps model shows the shortage for rentals affordable to 50 percent of MFI more than doubling since 2006, from a shortage of 5,800 units to a shortage of more than 12,000 units. The model shows no gap for households earning more than 50 percent of MFI.

Fewer affordable units explains most of the reason for the gap increase. In 2006, an estimated 10 percent of private market rental units countywide were affordable to renter households earning less than $25,000. Just 3 percent of Boulder's rental units in the current market are affordable to households earning less than 50 percent of the MFI. As the model demonstrates, the vast majority of rental units in the city are priced between approximately $800 and $1,200 per month and, as such, are affordable to households earning more than $40,000 per year.

Figure 27.
Rental Gaps, City of Boulder, 2012

						Total number of housing units, 2012 (City of Boulder)	43,620
						Rental units (Tenure based on 2010 Census)	22,813
1-person Household Rental Gap	**Income Limit**	**Affordable Monthly Rent + Utilities**	**No. of Renter Households**	**Percent of City Renter Households**	**Rental Units by Price Range**	**Percent of Efficiencies and 1-bedroom Units**	**Gap**
0-29% of MFI	$ 18,618	$ 365	4,053	18%	-	0%	(4,053)
30-49% of MFI	$ 31,458	$ 686	1,257	6%	130	2%	(1,128)
50-59% of MFI	$ 37,878	$ 797	332	1%	301	4%	(32)
60-79% of MFI	$ 50,718	$ 1,068	685	3%	5,276	73%	4,591
More than 80% MFI		$1,068+	869	4%	1,569	22%	700
Total			**7,196**		**7,276**	**100%**	
2-person Household Rental Gap	**Income Limit**	**Affordable Monthly Rent + Utilities**	**No. of Renter Households**	**Percent of City Renter Households**	**Rental Units by Price Range**	**Percent of 2-bedroom, 1-bath Units**	**Gap**
0-29% of MFI	$ 21,257	$ 431	2,379	11%	-	0%	(2,379)
30-49% of MFI	$ 35,917	$ 798	991	4%	-	0%	(991)
50-59% of MFI	$ 43,247	$ 931	210	1%	14	0%	(196)
60-79% of MFI	$ 57,907	$ 1,248	1,233	5%	6,470	86%	5,236
More than 80% MFI		$1,248+	2,651	12%	1,041	14%	(1,610)
Total			**7,464**		**7,525**	**100%**	
3+ person Household Rental Gap	**Income Limit**	**Affordable Monthly Rent + Utilities**	**No. of Renter Households**	**Percent of City Renter Households**	**Rental Units by Price Range**	**Percent of 2-bedroom, 2-bath and larger Units**	**Gap**
0-29% of MFI	$ 23,925	$ 498	2,493	11%	-	0%	(2,493)
30-49% of MFI	$ 40,425	$ 911	1,293	6%	14	0%	(1,279)
50-59% of MFI	$ 48,675	$ 1,067	564	3%	2,176	27%	1,612
60-79% of MFI	$ 65,175	$ 1,429	1,183	5%	2,381	30%	1,198
More than 80% MFI		$1,429+	2,317	10%	3,448	43%	1,180
Total			**7,850**		**8,019**	**100%**	
Total Gap (All Households)			**No. of Renter Households**	**Percent of City Renter Households**	**Rental Units by Price Range**	**Percent of All Units**	**Gap**
0-29% of MFI			8,925	40%	-	0%	(8,925)
30-49% of MFI			3,541	16%	144	1%	(3,398)
50-59% of MFI			1,106	5%	2,491	11%	1,384
60-79% of MFI			3,101	13%	14,127	62%	11,025
More than 80% MFI			5,837	26%	6,058	27%	270
Total			**22,510**	**100%**	**22,820**	**100%**	
						Unit shortage, 0-49% MFI	**(12,323)**
						Unit shortage, 0-59% MFI	**(10,939)**
						0-49% MFI shortage with BHP	**(10,323)**

Note: The BHP unit adjustment assumes that BHP serves 2,000 households earning less than 50 percent MFI.

Source: BBC Research & Consulting.

A few notes on methodology. The 2012 gaps model uses the Census Public Use Microsample (PUMS) data to estimate the number of households by income level and household size. The 2006 county gaps model did not estimate gaps by household size (and thus, did not use PUMS). PUMS data show a higher proportion of lower income households than is reported by the 2011 ACS. If the ACS is used to estimate the rental gap, it is reduced by about 300 low income households.

The 2012 gap is likely reduced by the 2,000 households assisted by Boulder Housing Partners (BHP), assuming these units are not captured in the vacancy survey. The pricing of rental properties is taken from the Metro Denver Apartment Association Vacancy survey. Due to privacy reasons, the vacancy survey authors do not disclose the nature of respondents (e.g., if data are collected from subsidized housing partners).

Finally, the gaps does not have a way of separating out renters who are students and may receive assistance paying rent from parents, student loans and/or other non-income sources. Recent data estimate that 21,000 CU students live in Boulder during the academic year. Data from the university's housing department suggest that 6,000 may live in university-provided housing. This leaves approximately 15,000 students living in private housing; at an average household size of 2.0, as many as 7,500 units could be occupied by current students. These students may be a large part of the rental gap if they report their full-time residence as Boulder and have low earned incomes.[15]

Therefore, the rental gap shown above is an upper-bound estimate of need. Accounting for PUMS margins of error and rounding differences, subsidized units not captured above and students who receive non-reported assistance paying rent, the shortage of rental units may reduced by more than 3,000 units.

[15] The students would not be counted as Boulder residents if they report another place of residence—such as their parents' address—on the Census survey.