

# Cost of Living Differentials in Colorado: 2007

By Martha Sullins and Elizabeth Garner<sup>1</sup>

## What is a Cost of Living Index?

A *Cost of Living Index* (COLI) is a price index that measures the change in consumption costs across different geographic areas required to maintain a constant standard of living (based on a basket of consumer goods and services) at a given point in time. In a study commissioned by the Legislative Council of the Colorado General Assembly, a research firm used data from the Consumer Expenditure Survey published by the Bureau of Labor Statistics to establish a typical basket of goods, encompassing 18 expenditure categories. Household expenditure data were then collected for each of Colorado's 178 school districts (based on geographic shopping patterns), and weighted in proportion to average expenditures. Average annual state expenditures were calculated for each category within this market basket, the composite of which was given an index value of 100. All district-level expenditures were then indexed as a percent of the state benchmark.

The county-level analysis presented in this document is derived from the General Assembly's school district-level cost of living data. The General Assembly is required to conduct a study every two years to update the cost-of-living factors used in the state's school finance funding formula<sup>2</sup>, and the results of the 2007 study are used to determine Colorado school district cost-of-living factors for fiscal years 2008-09 and 2009-10. The market basket of goods and services used in this study covers expenditure categories in the areas of housing, goods and services, transportation, and taxes typically consumed by a three-person household with an annual income of \$44,500. By weighting the school district-level data based on resident population, we are able to calculate an overall COLI for each county, as well as individual indices for each expenditure category, per county.

When comparing the COLI to other indices, it is important to note that the data are cross-sectional by definition and valid only for a single point in time. Therefore, unlike a Consumer Price Index, these data should not be used to compare changes in relative costs faced by a specific group of consumers over time.

## Results

The following table presents a cost of living index number for each of 63 Colorado counties (Broomfield is the 64<sup>th</sup> county but has no school districts of its own), relative to the state benchmark. For 2007, housing costs make up 31.4% of total expenditures; goods and services (food, clothing, entertainment, and applicable sales taxes) – 27.5%; transportation – 20.5%; healthcare – 6.9%; and other expenditures (long term savings, investments, charitable donations, life insurance) – 14.3%. Based on the 2007 data, aggregate COLI values range from a low of 82.21 in Kiowa County, to a high of 206.21 in Pitkin County (which is 2.5 times higher than Kiowa). County-level COLI values are categorized according to the following intervals (also depicted in Figure 1):

1. Very high = more than 10% above the benchmark;
2. High = from 5% to 10% above the benchmark;
3. Mid-range = within 5% above and below the state benchmark;
4. Low = from 5% to 10% below the benchmark; and
5. Very low = more than 10% below the state benchmark

In the “very high” category (more than 10% above the benchmark), we find the mountain resort counties of Pitkin, San Miguel, Summit, Eagle, Grand and Routt, where many residents are second-home owners,

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<sup>1</sup> The authors are Coordinator of CSU-Extension's County Information Service, and Colorado State Demographer.

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recreationists, and retirees. In this category, increases in the cost of living are primarily driven by housing prices, relative to other expenditure categories. For example, according to this study, annual housing costs are 28.5% higher than the state average in Grand County and more than 300% higher than the state average in Pitkin County.

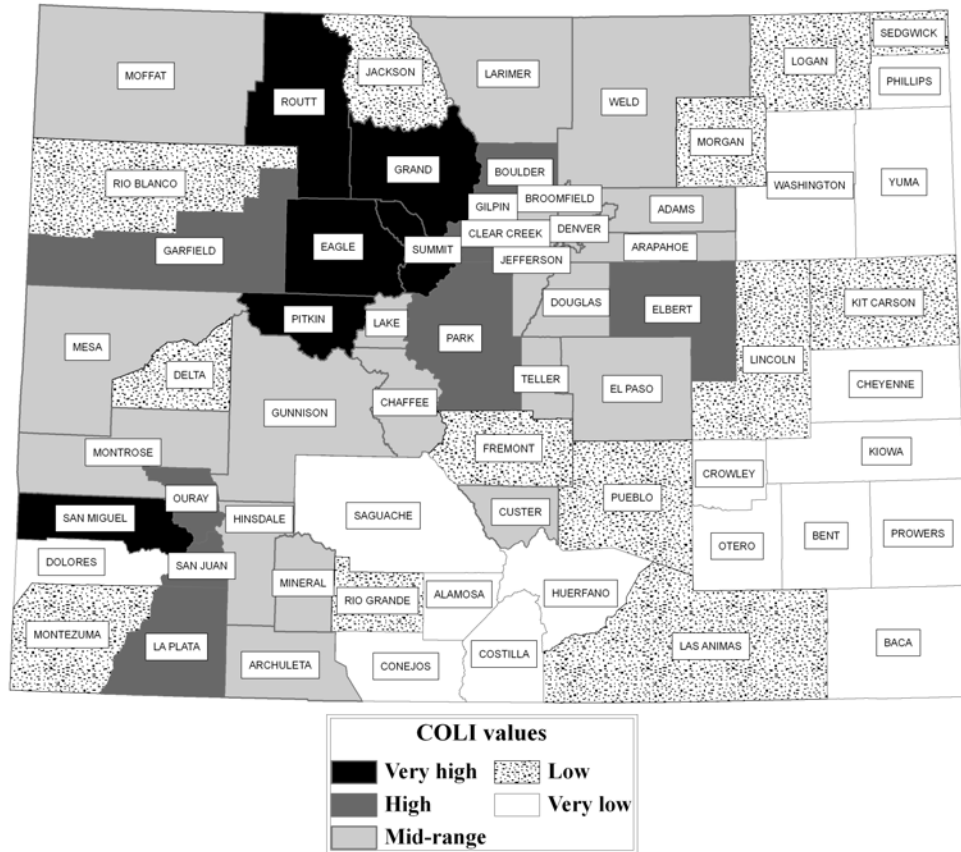
**Table 1. 2007 Cost of Living Index (COLI), where state benchmark=100.00**

	County	Composite COL	Ranking in state		County	Composite COL	Ranking in state
Very high	Pitkin	206.21	1	Low	Montezuma	94.58	35
	San Miguel	126.10	2		Rio Blanco	94.43	36
	Summit	120.91	3		Delta	94.32	37
	Eagle	117.00	4		Morgan	94.28	38
	Grand	114.50	5		Jackson	93.79	39
	Routt	113.17	6		Pueblo	93.73	40
High	San Juan	109.91	7		Fremont	93.17	41
	Garfield	109.51	8		Lincoln	92.84	42
	La Plata	108.47	9		Rio Grande	92.14	43
	Ouray	107.25	10		Las Animas	91.36	44
	Park	105.82	11		Logan	91.08	45
	Clear Creek	105.65	12		Kit Carson	91.04	46
	Elbert	105.48	13		Sedgwick	90.06	47
Mid-range	Boulder	105.27	14		Huerfano	89.88	48
	Denver	103.14	15	Dolores	89.85	49	
	Gilpin	102.40	16	Alamosa	89.17	50	
	Gunnison	102.11	17	Yuma	89.04	51	
	Douglas	102.09	18	Phillips	88.49	52	
	Hinsdale	101.94	19	Washington	88.33	53	
	Lake	101.92	20	Cheyenne	87.50	54	
	Jefferson	101.33	21	Prowers	86.97	55	
	Custer	100.93	22	Saguache	86.78	56	
	Archuleta	100.31	23	Otero	86.31	57	
	Teller	99.35	24	Crowley	85.56	58	
	Arapahoe	99.28	25	Costilla	85.01	59	
	Larimer	99.09	26	Conejos	84.94	60	
	Adams	98.68	27	Bent	84.38	61	
	Chaffee	98.52	28	Baca	83.70	62	
	Moffat	97.71	29	Kiowa	82.21	63	
	El Paso	97.02	30				
	Mineral	96.67	31				
	Mesa	96.23	32				
	Weld	95.87	33				
Montrose	95.61	34					

In the “high category (where COLI values range from 5% to 10% above the benchmark) are counties adjacent to the highest cost counties. Some of these counties are within commuting range of the Denver metro area (Boulder, Elbert, Clear Creek and Park) or could be classified as emerging resort communities (San Juan and Ouray), while others have experienced increases in the costs of housing and other goods and services due to intensified oil and gas exploration and extraction (Garfield and La Plata). By

definition, index values for counties in this category fall in a much narrower range; from 109.91 for San Juan County to 105.27 for Boulder County. However, housing costs in these counties are between 10% to 25% above average, and the costs of goods and services (minus healthcare) are from 2% below the state benchmark to 12% above.

**Figure 1. Cost of living in Colorado counties, 2007**



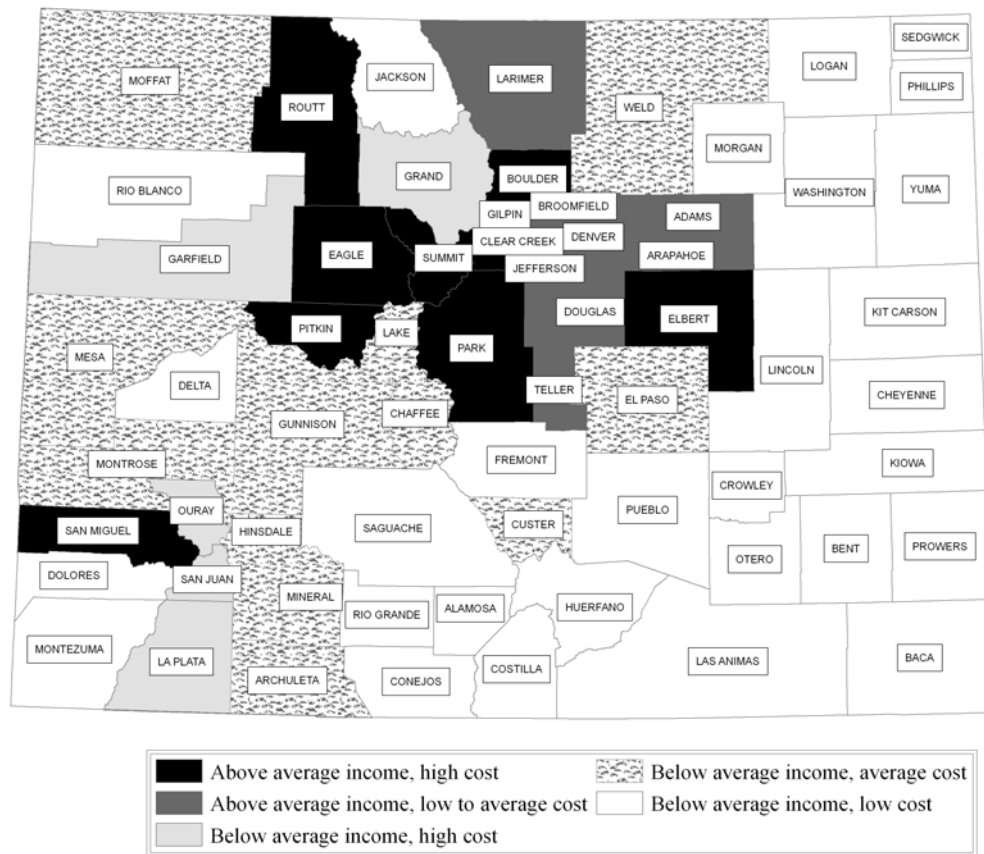
Those counties with a mid-range COLI value (within 5% above and below the state benchmark) are Front Range counties or communities adjacent to high-cost counties, especially the central mountain counties of Gunnison, Lake, Hinsdale, Mineral, Teller and Chaffee. These mid-range counties also tend to be a source of more affordable housing for workers unable to live in the higher-cost resort areas. These counties have more variability in all cost categories compared to the high-cost counties, except in expenditures on healthcare. In fact, variation in transportation costs (vehicle financing, insurance, fuel and maintenance) was greatest for the mid-range counties, reflecting varying access to certain goods and services.

The next tier of counties falls into the low cost-of-living category, with index values from 5% to 10% below the benchmark. These counties ring the mid-range COL counties but are farther from the state’s economic centers, with values from 94.58 for Montezuma County to 90.06 in Sedgwick County. Finally, those counties with very low COL values (more than 10% below the state benchmark) are almost all in the eastern part of the state and in the San Luis Valley—the most geographically remote areas with respect to where the state’s primary economic activity occurs. Index values for this category range from 89.88 in Huerfano to 82.21 in Kiowa County.

## Influences of the cost of living on real purchasing power

If we apply the cost of living index to median family income for each county, we gain a better understanding of how individuals' purchasing power differs across the state, depending on their geographic location. Median family income (MFI) is the central value above which lie half of the incomes for an area's families and below which lie the other half. In areas with a higher cost of living, the median family income might overstate the buying power of household incomes, while households in areas with a lower cost of living frequently have greater purchasing power than their relatively lower incomes might suggest. Figure 2 and Table 2 show what happens when median family income is adjusted by the COLI. The table shows median family income for a family of three, each county's ranking according to that MFI, the amount by which the original MFI changes when it is adjusted by the cost of living, and the ultimate effect on median family income and average purchasing power.

**Figure 2. Income to cost comparison, 2007**



Pitkin County has the highest MFI for 2007 at \$80,370 for a family of three, and Costilla County has the lowest at \$27,360. However, when the local cost of living is taken into consideration, family purchasing power in Pitkin drops to just \$38,975 for 2007, while rising in Costilla to \$32,184. To illustrate, the goods and services one could purchase with \$25,000 in Costilla County would cost over \$51,500 if purchased in Pitkin County.

Higher costs typically indicate that higher wages or incomes are needed to live in that county. This would mean that typically higher-cost counties have higher median household incomes and vice versa for lower-cost counties. However, this is not always the case. For example, seventeen of the 63 Colorado counties analyzed can be considered high-cost counties where median incomes are above the state average of \$59,400 for a three-person family. Among these counties, Pitkin, Summit and San Miguel saw the

greatest decreases in purchasing power when their median incomes were adjusted by their localized costs of living. Eight counties had above-average income but average to slightly lower costs, indicating somewhat greater purchasing power for residents in those counties, relative to other counties.

Five counties have median incomes below the state average but higher than average costs, which effectively decreases purchasing power for those residents. They include Grand, Garfield, Ouray, La Plata, and San Juan Counties. These counties may be characterized as either counties of residence for workers traveling to other resort areas (Garfield), or counties with growing tourism visitation but more scarce and, thus, higher-cost housing (Grand, La Plata, Ouray and San Juan). It should be noted that Garfield and La Plata Counties have also seen increased activity in oil and gas extraction that is resulting in higher wages paid to workers (both local and non-local), and higher costs of goods and services stemming from those increases in local labor costs.

Of the remaining counties with median incomes below \$59,400 for a three-person family, 12 counties had approximately average costs (within 5% of the state benchmark), and 29 counties had lower than average median incomes and lower than average costs. Median family incomes in this last group of counties ranged from \$27,360 in Costilla, to \$48,600 in Rio Blanco. When we consider the cost of living in each of these counties, their adjusted incomes increase to \$32,184 and \$51,466, respectively. Of these lower-income, lower-than-average-cost counties, the highest increases in purchasing power are seen in Kiowa (\$7,984), Baca (\$7,030), Cheyenne (\$6,799), and Bent (\$6,580).

**Table 2. Influence of COLI on real purchasing power by county**

County	Median Family Income (\$MFI)	Ranking by MFI	Composite COLI	Adjustment to MFI (\$)	COLI-adjusted MFI (\$)	New ranking by MFI	Change in MFI ranking
Pitkin	80,370	1	206.21	(41,395)	38,975	58	(57)
Boulder	74,250	2	105.27	(3,715)	70,535	1	1
Eagle	72,990	3	117.00	(10,607)	62,383	6	(3)
Summit	70,920	4	120.91	(12,264)	58,656	14	(10)
Routt	66,240	5	113.17	(7,709)	58,531	15	(10)
San Miguel	64,530	6	126.10	(13,356)	51,174	23	(17)
Adams	64,260	7	98.68	863	65,123	2	5
Arapahoe	64,260	8	99.28	463	64,723	3	5
Jefferson	64,260	9	101.33	(843)	63,417	4	5
Douglas	64,260	10	102.09	(1,317)	62,943	5	5
Denver	64,260	11	103.14	(1,959)	62,301	7	4
Elbert	64,260	12	105.48	(3,339)	60,921	10	2
Park	64,260	13	105.82	(3,531)	60,729	12	1
Larimer	61,380	14	99.09	566	61,946	8	6
Teller	61,200	15	99.35	398	61,598	9	6
Gilpin	61,200	16	102.40	(1,433)	59,767	13	3
Clear Creek	61,200	17	105.65	(3,275)	57,925	16	1
State of Colorado	59,400		100.00	-	59,400		
Grand	59,310	18	114.50	(7,510)	51,800	21	(3)
El Paso	58,950	19	97.02	1,808	60,758	11	8
Garfield	57,600	20	109.51	(5,000)	52,600	20	-
Gunnison	55,980	21	102.11	(1,155)	54,825	18	3
La Plata	54,540	22	108.47	(4,260)	50,280	24	(2)
Weld	53,820	23	95.87	2,320	56,140	17	6

County	Median Family Income (\$MFI)	Ranking by MFI	Composite COLI	Adjustment to MFI (\$)	COLI-adjusted MFI (\$)	New ranking by MFI	Change in MFI ranking
Ouray	53,550	24	107.25	(3,619)	49,931	25	(1)
Rio Blanco	48,600	25	94.43	2,866	51,466	22	3
Moffat	48,240	26	97.71	1,132	49,372	27	(1)
Cheyenne	47,610	27	87.50	6,799	54,409	19	8
Archuleta	46,350	28	100.31	(145)	46,205	32	(4)
Logan	45,000	29	91.08	4,409	49,409	26	3
Hinsdale	45,000	30	101.94	(856)	44,144	42	(12)
Fremont	44,910	31	93.17	3,295	48,205	30	1
Mesa	44,820	32	96.23	1,756	46,576	31	1
Chaffee	44,550	33	98.52	670	45,220	38	(5)
Kit Carson	44,460	34	91.04	4,376	48,836	28	6
Lake	44,100	35	101.92	(833)	43,267	46	(11)
Montrose	43,650	36	95.61	2,003	45,653	36	-
Custer	43,470	37	100.93	(398)	43,072	48	(11)
Pueblo	43,200	38	93.73	2,891	46,091	33	5
Yuma	43,020	39	89.04	5,298	48,318	29	10
Mineral	42,930	40	96.67	1,477	44,407	41	(1)
San Juan	42,480	41	109.91	(3,831)	38,649	60	(19)
Lincoln	42,030	42	92.84	3,241	45,271	37	5
Morgan	41,400	43	94.28	2,511	43,911	44	(1)
Alamosa	40,770	44	89.17	4,954	45,724	35	9
Phillips	40,590	45	88.49	5,278	45,868	34	11
Montezuma	40,500	46	94.58	2,321	42,821	49	(3)
Delta	40,320	47	94.32	2,427	42,747	50	(3)
Dolores	39,600	48	89.85	4,473	44,073	43	5
Washington	39,510	49	88.33	5,220	44,730	40	9
Jackson	39,330	50	93.79	2,605	41,935	53	(3)
Rio Grande	38,880	51	92.14	3,317	42,197	51	-
Otero	37,890	52	86.31	6,011	43,901	45	7
Kiowa	36,900	53	82.21	7,984	44,884	39	14
Las Animas	36,630	54	91.36	3,465	40,095	57	(3)
Prowers	36,360	55	86.97	5,447	41,807	54	1
Sedgwick	36,180	56	90.06	3,994	40,174	56	-
Baca	36,090	57	83.70	7,030	43,120	47	10
Bent	35,550	58	84.38	6,580	42,130	52	6
Huerfano	34,740	59	89.88	3,913	38,653	59	-
Crowley	34,380	60	85.56	5,803	40,183	55	5
Saguache	31,320	61	86.78	4,771	36,091	62	(1)
Conejos	31,050	62	84.94	5,503	36,553	61	1
Costilla	27,360	63	85.01	4,824	32,184	63	-

### Implications

The assumptions underlying a cost-of-living analysis influence the inferences we can make from this study. First, we cannot reliably compare this analysis to other studies or to other years' data, since the COLI measures on geographic area's expenditures at a single point in time, relative to other areas.

Second, the COLI is calculated using an average standard of living necessary to purchase an average market basket of goods, giving us a representation of the cost of living for each county in Colorado. Therefore, when comparing areas in which the factors influencing the demand for goods and services may differ, interpretation of the COLI must be broadened.

For example, in southeastern Colorado and the San Luis Valley, we know that the region's low COL index numbers result from very low median family incomes, relative to the state benchmark. In areas where median family incomes are higher, some counties' COL index numbers are still relatively low due to greater availability of lower priced goods and services (i.e., Adams, Arapahoe, Larimer, and Teller, for example). Some of the mountain counties, such as Gunnison, Fremont, Chaffee, Lake, Mineral and Hinsdale, have lower COL index numbers relative to the mountain resort communities of San Miguel, Grand, Routt, Eagle, Summit and Pitkin because the former have lower total populations with lower median family incomes who do not face the higher-priced goods and services found in the resort counties. On the other hand, the higher cost of living calculated for Colorado's Front Range counties, the most densely populated part of the state and its economic center, is driven primarily by the high cost of housing, as the costs of other goods and services are lower than or about equivalent to the state average.

Lastly, those counties with lower than average median family incomes whose residents face higher than average costs are of particular concern, and it is important to identify the drivers of demand in these areas. With the exceptions of Garfield and La Plata whose economic growth is increasingly driven by the energy sector, these counties have economies based primarily on tourism, where wages are typically lower. However, they are also growing in popularity as retirement communities and attracting residents with higher incomes who will pay higher prices for goods and services. Therefore, these counties will most likely migrate into a higher median income category in the future, but current COLI data indicate that, on average, households in Grand, Ouray and San Juan Counties have less purchasing power than those counties characterized by lower average incomes and lower average prices—an apparent disadvantage for their residents.