

Cost of Living Differentials in Colorado: 2002

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*by Elizabeth Garner and Jerry Eckert**

What is a Cost of Living Index?

A *Cost of Living Index* (COLI) measures relative price levels for a “basket” of consumer goods and services in different areas at a given time. The Consumer Expenditure Survey (CPS) published by the Bureau of Labor Statistics (BLS) was used to establish the “basket” of goods and their weights for the household budget. In this study, a three-person household with an annual income of \$38,000 was used as it represents the median public school teacher income. A state average is calculated for the “basket” of goods and given an index value of 1.00. Individual areas are then compared and their measured costs indexed as a percent of the benchmark. COLI data are valid only for a single point in time and thus provide a cross sectional view. They should not be used to compare changes over time.

The Legislative Council (LC) of the Colorado General Assembly biennially collects cost of living data to update the state’s school funding formula. We have expanded upon their results by creating a county-level cost of living index, analyzing the impact of the varying components and exploring the correlation between income and costs. Details of the Legislative Council’s methods and our adaptations to it are contained in the full report listed at the end of this document.

Results

Cost of living indices (COLI) were constructed for 63 Colorado counties by aggregating school district estimates weighted by the resident population of each district.

Broomfield was not a county when the data were collected. The state average price for the basket of goods consumed by the reference household provided the index value of 1.00. Table 1 presents the individual comparative estimates. COLI values range from 1.706 in Pitkin County to 0.834 in Baca County. These values indicate that the cost of living in Pitkin was 71% higher and Baca’s was 17% lower than the state average.

To simplify presentation and analysis, data in Table 1 are clustered into five classes: Very Low, Low, Average, High and Very High. A map of the costs of living using these categories is shown in Figure 1.

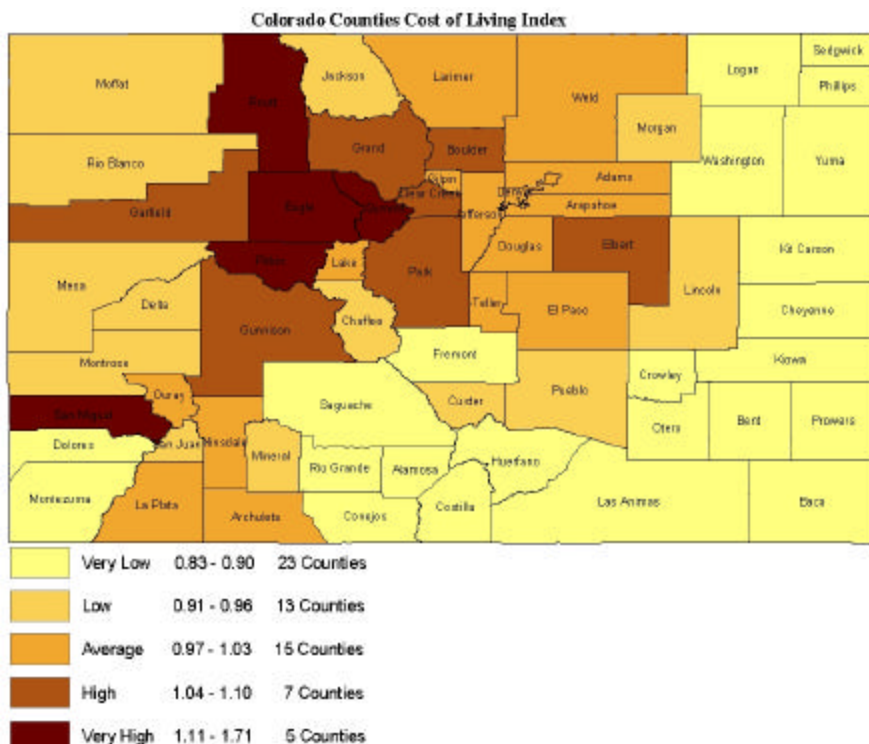
In constructing the state average benchmark price level, individual school districts were weighted by their teacher populations. It is not surprising, therefore, that the largest cluster of counties falling in the “Average” COLI group lies along the Front Range. This region is something of the economic and demographic anchor for Colorado and accordingly sets the tone for these kinds of comparisons. A second cluster of average counties lies in the southwest corner of the state, clustered around the economy and population of Durango.

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Table 1. Overall County Cost of Living Indices for Colorado, Fall 2001					
COUNTY	COLI	COUNTY	COLI	COUNTY	COLI
Very High		El Paso	1.002	Very Low	
Pitkin	1.706	Teller	1.000	Phillips	0.896
Eagle	1.204	La Plata	0.990	Montezuma	0.896
San Miguel	1.201	Larimer	0.979	Fremont	0.894
Summit	1.163	Lake	0.976	Logan	0.893
Routt	1.111	Weld	0.973	Kit Carson	0.893
High		Archuleta	0.970	Washington	0.889
Park	1.066	Low		Rio Grande	0.885
Boulder	1.064	Chaffee	0.957	Costilla	0.879
Grand	1.062	Delta	0.952	Huerfano	0.877
Garfield	1.060	San Juan	0.948	Conejos	0.871
Clear Creek	1.058	Mineral	0.947	Cheyenne	0.869
Gunnison	1.046	Morgan	0.939	Prowers	0.869
Elbert	1.045	Montrose	0.933	Sedgwick	0.865
Average		Moffat	0.932	Saguache	0.864
Douglas	1.031	Lincoln	0.931	Yuma	0.863
Denver	1.024	Custer	0.918	Las Animas	0.862
Jefferson	1.019	Mesa	0.915	Otero	0.861
Ouray	1.015	Jackson	0.914	Alamosa	0.860
Adams	1.014	Rio Blanco	0.914	Kiowa	0.850
Gilpin	1.010	Pueblo	0.906	Bent	0.849
Arapahoe	1.007			Dolores	0.849
Hinsdale	1.005			Crowley	0.846
				Baca	0.834

The five counties classed as “Very High” are mountain resort counties, famous for their ski industry and luxurious homes. The “High” cost counties are primarily a mix of mountain resort and mountain scenic counties. The two exceptions are Boulder and Elbert counties, which have experienced a great deal of growth pressure from the Denver Metro area and the entire Front Range.

Counties with “Very Low” COLI figures lie primarily in the San Luis Valley, the southeast corner of the state, and along the eastern plains. Largely agricultural with small towns and a languishing economy, these counties have not participated fully in Colorado’s economic growth (but subsequently have not suffered as greatly from the downturn). Significant poverty exists within parts of this region. Finally, 13 counties classified as “Low” cluster into the Western Slope counties of Delta, Montrose, and Mesa, the northwest corner of the state and a few counties contiguous to the high growth Front Range counties.



Individual Components of the COLI

The various spending categories within the “typical” basket of goods play substantially different roles in contributing to the overall COLI and these patterns are summarized here. The housing component (31.2%) shows the greatest range across the state with a 240% differential between and highest and lowest housing indices.

The five highest cost counties have housing costs over 25% greater than the state average and the highest housing index in Pitkin County is more than 196% of the state average. Representing 31% of consumer expenditures, it is easy to see that housing costs drive the overall costs for a county.

Transportation (20.78%) is the least variable component with a range of only 13%. Higher cost counties still tend to be mountain resort areas. There is a 32% range for the Goods and Services component (35.16%), which also generally maintain the same pattern of higher costs in the mountain resort areas and lower costs along the Eastern Plains and San Luis Valley. Approximately 13% of the expenditures are classified as “Other”. The LC assumed these costs to be constant for all school districts. As a result, the range of county level COLI differences are somewhat underestimated by averaging a constant variable. However, the LC maintains from previous studies that this group of goods, primarily personal insurance and reading are, do not vary significantly by geographic location.

County Incomes and Purchasing Power

An interesting application of the COLI is to adjust local median household income to better understand local purchasing power and regional affluence. Across the state, these differentials can be significant. For example \$20,000 can buy relatively more in Baca, almost \$24,000, because their costs are lower ($20,000/.83 = \$23,971$) compared to Pitkin County where costs are higher and \$20,000 can buy only \$11,723 worth of goods ($20,000/1.71 = \$11,723$). Table 2 adjusts county median household incomes by the cost of living index to estimate actual median purchasing power in their local economies. These results are only suggestive and demonstrate how incomes could be normalized using costs. 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 income and vice versa for lower cost counties but that is not always the case. Data in Table 2 is arranged from highest to lowest median household income. While higher COLI figures do tend to be in the upper part of the Table with higher median incomes, the relationship is not fully consistent.

Seventeen counties have higher median household incomes than the Colorado average of \$47,203. All but one of these counties, Larimer, also have higher costs of living which effectively decreases their purchasing power. Most of these higher income/higher cost counties are in the Front Range and Mountain Resort areas. After adjusting the household income by the COLI, four counties drop to below the state average. The largest impact was in Pitkin County, effectively decreasing annual purchasing power by over \$24,000

Counties with household incomes below \$36,000 (75% of average) also have lower costs of living, which effectively increases their purchasing power by between \$1,500 and \$5,700. Most of these below average income and cost counties are in the Eastern Plains, San Luis Valley and some of the non-resort Western Slope counties.

There are a few counties that have up to 15% lower median household incomes than the Colorado average that also have higher costs of living. These counties include the metro counties of Denver and El Paso and the mountain resort/scenic counties of Hinsdale, Ouray and Gunnison. Larimer County is the only county that has higher income and lower costs. Teller has higher income and average costs. The last columns of Table 2 show how the counties would be re-ranked for affluence when their median incomes are adjusted for local costs of living.

Table 2. Influence of COLI on Real Purchasing Power by County

County	Median HH Income	Rank	COLI	Adjustment	COLI-adjusted median HH Inc.	New Rank	Change in Rank
Douglas	\$82,929	1	1.03	(\$2,483)	80,446	1	0
Eagle	\$62,682	2	1.20	(\$10,618)	52,064	6	-4
Elbert	\$62,480	3	1.04	(\$2,687)	59,793	2	1
Pitkin	\$59,375	4	1.71	(\$24,579)	34,796	48	-44
Jefferson	\$57,339	5	1.02	(\$1,095)	56,244	3	2
Summit	\$56,587	6	1.16	(\$7,945)	48,642	11	-5
Boulder	\$55,861	7	1.06	(\$3,372)	52,489	5	2
Routt	\$53,612	8	1.11	(\$5,372)	48,240	12	-4
Arapahoe	\$53,570	9	1.01	(\$386)	53,184	4	5
Gilpin	\$51,942	10	1.01	(\$518)	51,424	7	3
Park	\$51,899	11	1.07	(\$3,208)	48,691	10	1
Clear Creek	\$50,997	12	1.06	(\$2,776)	48,221	13	-1
Teller	\$50,165	13	1.00	(\$2)	50,163	8	5
Larimer	\$48,655	14	0.98	\$1,019	49,674	9	5
San Miguel	\$48,514	15	1.20	(\$8,103)	40,411	24	-9
Grand	\$47,759	16	1.06	(\$2,799)	44,960	16	0
Adams	\$47,323	17	1.01	(\$639)	46,684	15	2
Colorado	\$47,203		1.00	\$0	47,203		0
Garfield	\$47,016	18	1.06	(\$2,666)	44,350	18	0
El Paso	\$46,844	19	1.00	(\$82)	46,762	14	5
Weld	\$42,321	20	0.97	\$1,188	43,509	19	1
Ouray	\$42,019	21	1.02	(\$629)	41,390	21	0
Moffat	\$41,528	22	0.93	\$3,021	44,549	17	5
La Plata	\$40,159	23	0.99	\$400	40,559	23	0
Denver	\$39,500	24	1.02	(\$930)	38,570	28	-4
Archuleta	\$37,901	25	0.97	\$1,158	39,059	26	-1
Rio Blanco	\$37,711	26	0.91	\$3,551	41,262	22	4
Lake	\$37,691	27	0.98	\$931	38,622	27	0
Hinsdale	\$37,279	28	1.01	(\$196)	37,083	35	-7
Cheyenne	\$37,054	29	0.87	\$5,589	42,643	20	9
Gunnison	\$36,916	30	1.05	(\$1,615)	35,301	46	-16
Mesa	\$35,864	31	0.91	\$3,342	39,206	25	6
Montrose	\$35,234	32	0.93	\$2,541	37,775	33	-1
Mineral	\$34,844	33	0.95	\$1,932	36,776	37	-4
Custer	\$34,731	34	0.92	\$3,099	37,830	32	2
Morgan	\$34,568	35	0.94	\$2,240	36,808	36	-1
Chaffee	\$34,368	36	0.96	\$1,559	35,927	42	-6
Fremont	\$34,150	37	0.89	\$4,045	38,195	30	7
Yuma	\$33,169	38	0.86	\$5,250	38,419	29	9
Kit Carson	\$33,152	39	0.89	\$3,979	37,131	34	5
Delta	\$32,785	40	0.95	\$1,644	34,429	51	-11
Pueblo	\$32,775	41	0.91	\$3,389	36,164	40	1
Logan	\$32,724	42	0.89	\$3,904	36,628	38	4
Washington	\$32,431	43	0.89	\$4,040	36,471	39	4
Dolores	\$32,196	44	0.85	\$5,725	37,921	31	13
Phillips	\$32,177	45	0.90	\$3,746	35,923	43	2
Montezuma	\$32,083	46	0.90	\$3,744	35,827	45	1
Lincoln	\$31,914	47	0.93	\$2,378	34,292	52	-5
Rio Grande	\$31,836	48	0.88	\$4,150	35,986	41	7
Jackson	\$31,821	49	0.91	\$2,980	34,801	47	2
San Juan	\$30,764	50	0.95	\$1,685	32,449	58	-8
Kiowa	\$30,494	51	0.85	\$5,402	35,896	44	7
Prowers	\$29,935	52	0.87	\$4,525	34,460	50	2
Otero	\$29,738	53	0.86	\$4,815	34,553	49	4
Alamosa	\$29,447	54	0.86	\$4,785	34,232	53	1
Sedgwick	\$28,278	55	0.86	\$4,421	32,699	57	-2
Las Animas	\$28,273	56	0.86	\$4,535	32,808	56	0
Bent	\$28,125	57	0.85	\$4,986	33,111	55	2
Baca	\$28,099	58	0.83	\$5,580	33,679	54	4
Crowley	\$26,803	59	0.85	\$4,889	31,692	59	0
Huerfano	\$25,775	60	0.88	\$3,617	29,392	61	-1
Saguache	\$25,495	61	0.86	\$4,022	29,517	60	1
Conejos	\$24,744	62	0.87	\$3,652	28,396	62	0
Costilla	\$19,531	63	0.88	\$2,696	22,227	63	0

The most dramatic effect is on Pitkin, whose affluence rank drops from 4th to 48th. Other counties like Dolores and Yuma improve considerably when their cost of living is taken into account.

Implications

No trends are shown by this cost of living analysis since it measures a single point in time. Nonetheless, the study does illustrate the considerable regional differences between Colorado's counties. Current COLI data reflect the state's history of differential economic growth, and since cost can affect growth prospects, the data may suggest something about the future. The demographic and economic core of the state experiences average to high costs of living and is concentrated into relatively few counties. A small group of counties dominated by resort-type recreation are significantly more expensive with Pitkin County being a particularly extreme case. A rough positive relationship exists between median incomes and costs of living. In many counties with lower incomes, costs are below average as well. Counties with lower incomes and higher costs are a concern, and deserve more detailed research to reveal the causes, potential opportunities, and impacts of the current situation. Larimer will also be a county to watch to see if its lower costs and higher incomes create higher population growth rates or stronger economic dynamism.

To see the complete report [click here](#).