

# CRCE Update

Center for Research on  
the Colorado Economy

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## COLORADO'S COSTS OF LIVING

*New numbers show the cost of living varies by a factor of 2 to 1 among the state's counties, and affects real standards of living*

A new study by two CRCE economists reveals a broad variation in the cost of living across Colorado. Elizabeth Garner (Coordinator of CSU Cooperative Extension's County Information Service) and Dr. Jerry Eckert (Professor of Agricultural and Resource Economics at Colorado State University) used data provided by the Colorado Legislative Council to construct cost of living indices for each of Colorado's counties. The results show wide variation: for example, the cost of living in Pitkin County is twice what it is in Baca County. While households in high-cost counties tend to have higher incomes, the correlation is not perfect, and adjusting income measures for cost of living differences changes the apparent profile of affluence levels across counties.

### 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 geographical areas at a given time. Prices of individual consumption items are weighted by their importance in the budget expenditures of a "typical" household. In this study, a three-person household with an annual income of \$38,000 was used as the standard, and Colorado's state-wide average cost of the basket of goods was measured and given an index value of 1.00 as the "benchmark." Then the cost of the same goods was measured in various individual parts of the state, compared to the benchmark, and assigned an index number reflecting the percentage difference in cost. For example, if a county has a COLI of 1.04, that means its cost of living is 4 percent higher than the Colorado average.

The Legislative Council of the Colorado General Assembly collects cost of living data every other year, to use in updating the state's school funding formula. Although Garner and Eckert's purpose is different, they found the Legislative Council data to be excellent in terms of its level of

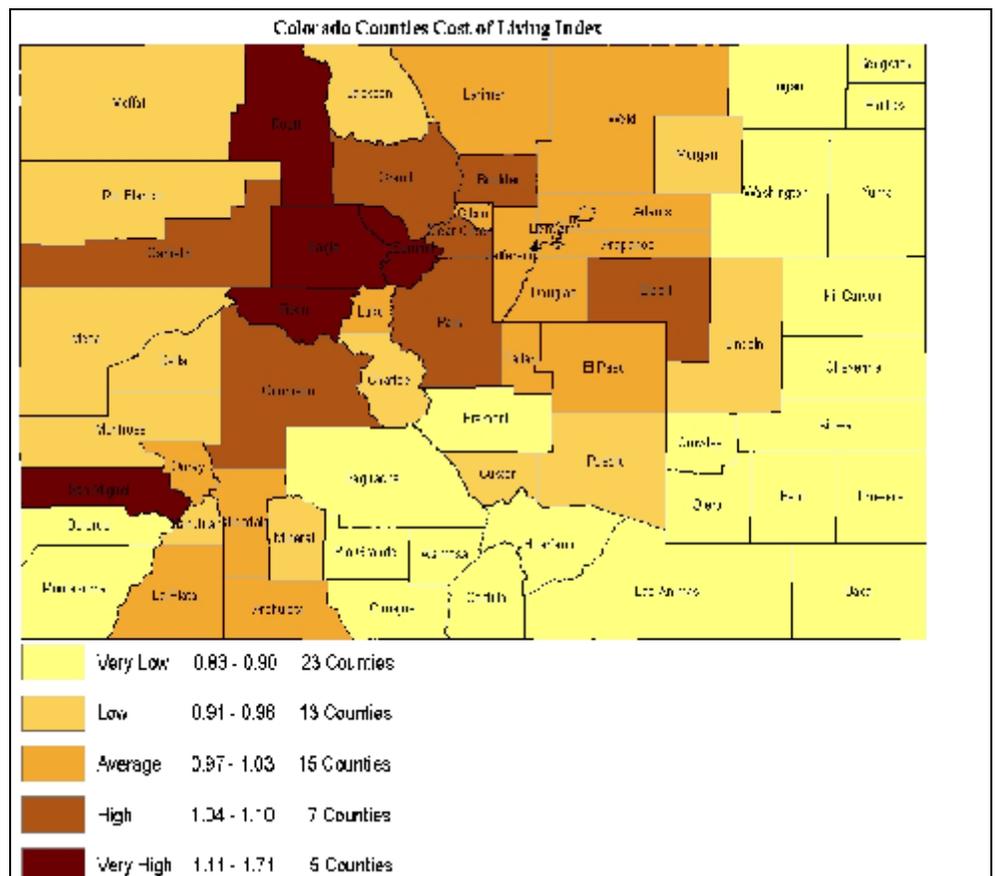
detail, its comprehensive coverage of all 178 school districts, its reliance on a tested and refined methodology, and its very recent date of collection (Fall, 2001).

Garner and Eckert's objective was to expand on the basic study, 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 the Garner-Eckert adaptations to it are contained in Garner and Eckert, "Colorado County-Level Cost of Living Estimates: 2002," forthcoming through Colorado State University Cooperative Extension.

### High variability across Colorado

Garner and Eckert constructed cost of living indices for Colorado's 63 counties (Broomfield was not a county when the data were collected) by aggregating school district estimates and adjusting for the resident population of each district. Table 1 presents the individual comparative estimates. COLI values range from 1.706 in Pitkin County to 0.834 in Baca County. These numbers indicate that the costs of living in Pitkin were 71% higher, and Baca's were 17% lower, than the state average.

The researchers categorized counties into five groups



weighted by their teacher populations, which are highly correlated with total population. "It is not surprising, therefore, that the largest cluster of counties falling in the 'Average' COLI group lies along the Front Range from the Wyoming border to Colorado Springs," say Garner and Eckert. "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.

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. The "Housing" component, which in the study accounts for 31% of a household's cost of living, shows the greatest range across the state, with a 240% differential between highest and lowest housing cost 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, housing costs clearly drive the overall costs for a county.

Transportation accounts for 21 percent of expenditure, and is the least variable component, with a range of only 13 percent. Higher cost counties still tend to be mountain resort areas.

There is a 32 percent range for the "Goods and Services" component, to which households devote 35 percent of expenditures, and which also generally maintains the same pattern of higher costs in the mountain resort areas and lower costs along the Eastern Plains and San Luis Valley.

Approximately 13 percent of expenditures are classified as "Other", and the Legislative Council data assume these costs to be constant for all school districts. That means the variability of county costs of living is somewhat underestimated. However, the Legislative Council maintains from previous studies that costs for this group of goods, primarily personal insurance and reading, do not vary significantly by geographic location.

### County incomes and purchasing power

An interesting application of the COLI results is to make adjustments to local median household income measures, in order to better understand local purchasing power and regional affluence. Across the state, these differentials in purchasing power can be significant. For example \$20,000 can buy relatively more in Baca County; in fact it can buy \$23,981 worth of goods and services, by state-wide standards ( $20,000 \div 0.834 = \$23,981$ ), because local costs are lower compared to, say, Pitkin County, where costs are higher and \$20,000 can buy only \$11,723 worth of goods and services ( $20,000 \div 1.706 = \$11,723$ ).

Table 2 shows county median household incomes adjusted 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 means that, typically, higher cost counties would be expected to have higher median household income, and vice versa for lower cost counties, but that is not always the case. Data in Table 2 are 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 Denver Metro and Mountain Resort areas. After adjusting the incomes by the COLI, four counties drop 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. For over half of Colorado's counties, the effect is to increase their households' purchasing power by between \$1,500 and \$5,700. Most of these below-average income/cost counties are in

**Table 1. County Cost of Living Indices for Colorado, Fall 2001**

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

the Eastern Plains, San Luis Valley and some of the non-resort Western Slope counties.

A few counties have up to 15% lower median household incomes than the Colorado average, but also have *higher* costs of living. These include the urban county of Denver and the mountain resort/scenic areas of Hinsdale, Ouray and Gunnison. On the other hand, 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 Colorado counties would be re-ranked for affluence when their median incomes are adjusted for local costs of living. The most dramatic effect is on Pitkin County, whose affluence rank drops from 4<sup>th</sup> to 48<sup>th</sup>. Other counties, such as Yuma and Dolores, improve considerably when their cost of living is taken into account.

### Future implications

Are there any trends shown by this cost of living analysis? Not really. "COLI data are valid measures at a single point in time, and can provide comparisons among counties," notes Garner, "but they are not meant to be used to compare changes over time."

Nonetheless, the study does show an important aspect of the considerable regional differences that exist within Colorado's economy. The COLI data reflect the state's history of differential economic growth, and since costs in turn can affect growth prospects, the data may suggest something about the future.

"Counties with low incomes and high costs are a concern, and deserve more detailed research to reveal the causes, potential opportunities, and impacts of the current situation," says Garner. "Larimer County will also be a county to watch in the future, to see if its lower costs and higher incomes create higher population growth rates or stronger economic dynamism."

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The Colorado State University Cooperative Extension Service at [www.ext.colostate.edu](http://www.ext.colostate.edu) . . . search for "Cost of Living".

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

County	Median household income	Rank	COLI	Adjustment	COLI-adjusted median HH income	New Rank	Change in Rank
Douglas	\$82,929	1	1.03	(\$2,483)	\$80,446	1	----
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	----
Adams	\$47,323	17	1.01	(\$639)	\$46,684	15	+2
<b>COLORADO</b>	<b>\$47,203</b>		<b>1.00</b>	<b>\$0</b>	<b>\$47,203</b>		
Garfield	\$47,016	18	1.06	(\$2,666)	\$44,350	18	----
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	----
Moffat	\$41,528	22	0.93	\$3,021	\$44,549	17	+5
La Plata	\$40,159	23	0.98	\$92	\$41,151	23	----
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	0.99	\$375	\$38,066	27	----
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	----
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	----
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	----
Costilla	\$19,531	63	0.88	\$2,696	\$22,227	63	----