



**A Report to the State Board of Equalization
And the Colorado General Assembly**

**RESIDENTIAL ASSESSMENT RATE STUDY
Preliminary Findings**

2017 – 2018

Pursuant to § 39-1-104.2(6) C.R.S.

January 13, 2017

SUMMARY

Section 3(1)(b) of article X of the Colorado Constitution (Gallagher) and § 39-1-104.2(5)(a), C.R.S., require an adjustment in the residential assessment rate in order to maintain a consistent relationship between the total assessed value of residential compared to non-residential property. Section 39-1-104.2(3), C.R.S., is amended by the General Assembly during years of general reassessment by the adoption of a new residential target percentage and residential assessment rate. The figures enacted into law are historically the product of this study conducted in accordance with § 39-1-104.2(5)(c), C.R.S, by staff of the Division of Property Taxation (Division) under the direction of the Property Tax Administrator. This report documents the preliminary findings of the Residential Assessment Rate Study used for determining the 2017-2018 residential target percentage and the residential assessment rate. The preliminary findings of the study are as follows:

- The 2017-2018 residential target percentage is **43.79 percent**.
- The 2017-2018 projected residential assessment rate is **6.56 percent**.
- The residential assessment rate for 2015 and 2016 was **7.96 percent**. Section 20(4), art. X, Colorado Constitution (TABOR) requires voter approval for an increase to the assessment ratio of a property class.

The target percentage listed above is based on known values that were reported by assessors in 2015 and 2016 on their Abstracts of Assessment. As such, the 43.79 percent figure is not anticipated to change. The projected residential assessment rate however, is based largely on estimated 2017 values, **and the figure is likely to change prior to the final report, to be submitted no later than April 15, 2017.**

As stated earlier, Section 3(1)(b) of article X of the Colorado Constitution (Gallagher) and § 39-1-104.2(5)(a), C.R.S., require an adjustment in the residential assessment rate in order to maintain a consistent relationship between the total assessed value of residential compared to non-residential property. The General Assembly must adjust the residential assessment rate to ensure that the percentage of residential real property assessed value, when compared to the assessed value of all property, remains essentially the same as it was the preceding year (2016). The adjustment is intended to stabilize residential real property's share of the property tax base. The study includes three major calculations.

1. Using the total actual 2015 assessed value for nonresidential property, calculate what the total 2015 residential real property value should have been to exactly achieve the 2015 residential real property target percentage of 45.86 percent. Then, adjust the 45.86 percent target percentage to account for 2015 and 2016 net changes in new construction and the production volumes of producing metallic mines, producing coal mines, oil and gas wells, and earth and stone operations as reported on county Abstracts of Assessment. Upon completing the adjustments, the 2017-2018 residential real property target percentage is 43.79 percent.
2. Estimate 2017 values and determine residential real property's share of the tax base as if the residential assessment rate remained at 7.96 percent. The estimated 2017 tax base share for residential real property at an assessment rate of 7.96 percent is 48.59 percent.
3. Calculate the residential assessment rate that is estimated to achieve a statewide total taxable assessed value consisting of 43.79 percent residential property.

At one time, the State Board of Equalization (state board) had the authority to adjust the residential rate during its fall hearings if the valuations actually implemented by the counties, as reflected in the Abstracts of Assessment, showed that the estimated residential rate was incorrect. Because of a conflict with provisions in section 20 of article X of the Colorado Constitution (TABOR), the statute giving the state board that authority, § 39-1-104.2(7), C.R.S., was repealed in 1993. As a result, the Division reports an amended figure to the General Assembly in April. The amended report contains revised value estimates provided by county assessors after much of their revaluation work is completed.

The following table lists the estimated changes in assessed value by class of property between 2016 and 2017.

COMPARISON OF 2016 AND ESTIMATED 2017 ASSESSED VALUES BY CLASS

Class of Property	2016 Assessed	Estimated 2017	% Change	% of Total
Vacant	3,744,567,979	4,025,606,216	7.5%	3.5%
Residential	47,261,281,574	55,789,596,452	18.0%	48.59%
Commercial	28,985,481,554	32,358,942,142	11.6%	28.2%
Industrial	3,993,857,727	4,282,384,484	7.2%	3.7%
Agricultural	1,273,548,437	1,384,898,255	8.7%	1.2%
Natural Resources	336,033,059	319,009,172	-5.1%	0.3%
Producing Mines	575,474,668	506,575,019	-12.0%	0.4%
Oil and Gas	8,248,748,616	8,933,394,751	8.3%	7.8%
State Assessed	6,999,675,959	7,210,366,205	3.0%	6.3%
Total	101,418,669,573	114,810,772,696	13.2%	100.0%

Note: The comparison between 2016 and 2017 is based upon the 2015-2016 residential assessment rate of 7.96 percent. If the 2017 estimated residential rate of 6.56 percent is used, the “% of Total” associated with residential would equal the target percentage of 43.79 percent.

RECAP OF RESIDENTIAL ASSESSMENT RATES

<u>Years</u>	<u>Rate enacted into law</u>	<u>Rate calculated by Preliminary RAR Study</u>	<u>Rate calculated by Final RAR Study</u>
1983-1986	21.00%		
1987	18.00%	16.74%	
1988	16.00%	15.62%	
1989-90	15.00%	15.04%	
1991-92	14.34%	14.34%	
1993-94	12.86%	12.86%	12.16%
1995-96	10.36%	10.50%	10.02%
1997-98	9.74%	9.71%	10.08%
1999-2000	9.74%	9.81%	9.83%
2001-02	9.15%	9.35%	9.15%
2003-04	7.96%	8.18%	8.04% (rev. 4/23/2003 to 7.96%)
2005-06	7.96%	8.15%	8.17%
2007-08	7.96%	8.00%	8.19%
2009-10	7.96%	8.91%	8.85%
2011-12	7.96%	8.59%	8.77%
2013-14	7.96%	9.09%	9.13%
2015-16	7.96%	8.30%	8.24%

RESIDENTIAL ASSESSMENT RATE ESTIMATION METHODOLOGY

In September through November of the year prior to the effective year of the new rate, data reported in each county's Abstract of Assessment is reviewed, corrected where necessary, and entered into the Residential Assessment Rate Model. County assessors are asked to provide the Division with an electronic version of their qualified residential, commercial, industrial, and vacant land sales that occurred over the 24-months that preceded the new appraisal date. (The appraisal date for tax years 2017 and 2018 is June 30, 2016.) The data requested includes the sale price, sale date, actual value (from the prior base year), and property class code for each qualified sale. Division staff performs a time-trending analysis of sales data using a weighted monthly median sales ratio regression analysis to develop preliminary value change estimates for each county submitting data.

In December, Division staff meets with county assessors and appropriate staff to review the time trending results and mutually develop value change estimates for the vacant land, residential, commercial, and industrial property classes. Assessors are also asked to provide estimates for agricultural land, natural resources and producing mines. By this time, the county has often begun its own time trending studies, and has been analyzing other appraisal information, such as property income, vacancy rates, and capitalization rates. For the commercial and industrial classes, the percentage change estimates developed with assessors are for real property only. The Division calculates weighted averages between these projections and a statewide change estimate developed for commercial and industrial personal property. The Division has estimated a 4.7 percent increase for 2017 commercial and industrial personal property.

Division staff members also develop statewide change estimates for oil and gas and state assessed property, and for the three smallest classes, agricultural land, natural resources, and producing mines. Oil and gas is a volatile class of property that is best approached at a statewide level. Currently, division staff members estimate the change in this class based upon data obtained from the U.S. Energy Information Administration, after consulting with county assessors. Prior to this cycle, the Division obtained this information from the Colorado Oil and Gas Conservation Commission (COGCC). Unfortunately, COGCC no longer publishes pricing for oil and gas. For state assessed property, the same appraisers who value the property for tax purposes are asked to project future values based upon financial indicators for the various public utility sectors. The statewide estimates for agricultural land, natural resources, and producing mines are used when the county did not provide its own estimate or when the value of the class is small. The agricultural land estimate is based on changes to the 10-year averages of commodity prices, yields and expenses, while the estimates for natural resources and producing mines are based on estimates provided by some counties and on economic factors.

Pursuant to § 39-1-104(6), C.R.S., the preliminary study results are reported to the State Board of Equalization and the General Assembly by January 15 of the year of

reevaluation (2017). The Division will submit a final report to the General Assembly in April 2017 after receiving updated value projections from county assessors.

ADDENDA

The following addenda are provided with this report:

<u>Addendum A:</u>	2017 Target Percentage Calculation
<u>Addendum B:</u>	2017 Residential Assessment Rate Calculation
<u>Addendum C:</u>	Totals from 2016 County Abstracts of Assessment
<u>Addendum D:</u>	2017 Percent Change Estimates
<u>Addendum E:</u>	2017 Estimated Values (the product of Addenda C and D)
<u>Addendum F:</u>	Summary of 2017 Estimated Values
<u>Addendum G:</u>	2015 And 2016 New Construction (Used in target percentage calculation)
<u>Addendum H:</u>	Net increase in metallic mines production (Used in target percentage calculation)
<u>Addendum I:</u>	Net increase in coal mines production (Used in target percentage)
<u>Addendum J:</u>	Net increase in earth and stone production (Used in target percentage)
<u>Addenda K – O:</u>	Net increase in production of each subclass of oil and gas leaseholds and land. The sum of these changes is used in the target percentage calculation
<u>Addenda P:</u>	History of the Residential Assessment Rate

2017 RESIDENTIAL TARGET PERCENTAGE CALCULATION

ADDENDUM A

STEP #1: Calculate the 2015 residential assessed value that would have achieved the 2015 target percentage.

ESTIMATED 2015 RESIDENTIAL ASSESSED	X	0.4566712232
	-----	= -----
ACTUAL 2015 NON-RESIDENTIAL ASSESSED	58,899,312,842	0.5433287768
		1.0000000000
ESTIMATED 2015 RESIDENTIAL ASSESSED X =	49,505,239,536	

The target percentages shown in step #1 are the non-rounded versions of the target percentages enacted into law in 2015.
 The figure **\$58,899,312,842** is the total non-residential taxable value reported on county abstracts in 2015.
 The figure **\$49,894,575,597** is the hypothetical residential assessed value that would have exactly achieved the 2015 target percentage.

STEP #2: Add 2015 + 2016 net new construction and increased production to the 2015 res. and non-res. totals.

2015 Net Residential New Construction	719,553,040	Addendum G
<u>2016 Net Residential New Construction</u>	<u>812,701,458</u>	Addendum G
TOTAL RESIDENTIAL NEW CONSTRUCTION	1,532,254,498	
ESTIMATED 2015 RESIDENTIAL	49,505,239,536	
ADJUSTED TOTAL RESIDENTIAL	51,037,494,034	
2015 Net Other New Construction	732,237,027	Addendum G
2016 Net Other New Construction	860,836,763	Addendum G
2016 - 2014 Net Mines	-44,300,770	Addendum H
2016 - 2014 Net Coal	-14,451,422	Addendum I
2016 - 2014 Net Earth & Stone	3,311,562	Addendum J
<u>2016 - 2014 Net Oil & Gas</u>	<u>5,088,408,361</u>	Sum of Addenda K - O
TOTAL NON-RESIDENTIAL NEW CONST. & PROD.	6,626,041,521	
ACTUAL 2015 NON-RESIDENTIAL	58,899,312,842	
		109,936,806,876
ADJUSTED TOTAL NON-RESIDENTIAL	65,525,354,363	

STEP #3: Calculate the 2017 target percentages from 2015 values adjusted for new construction and production.

ADJ 2015 RES ASSESSED	51,037,494,034	43.78538680%		43.79%
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ADJ 2015 OTHER ASSESSED	65,525,354,363	56.21461320%		56.21%

2017 RESIDENTIAL ASSESSMENT RATE CALCULATION

ADDENDUM B

Estimated 2017 Non-Residential Assessed \$59,021,176,244 Addendum F	÷	Non-Res Target % 56.21461320% Addendum A	=	Total Assessed Target Value \$104,992,586,238
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Total Assessed Target Value \$104,992,586,238	X	Residential Target % 43.78538680% Addendum A	=	Residential Assessed Target Value \$45,971,409,994
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Residential Assessed Target Value \$45,971,409,994	÷	Estimated 2017 Residential Actual Value \$700,874,327,292 Addendum F	=	Residential Assessment Rate 6.559151648742% 6.56% rounded
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2017 PERCENTAGE CHANGE ESTIMATES

ADDENDUM D

Red font = Percentage estimates provided by county or developed from consultation with county in December 2016.

Green font = Statewide estimates by DPT.

Commercial/Industrial percentages are weighted averages between the real property county estimate and a statewide commercial/industrial personal property estimate of: 4.7%

COUNTY	VAC	RES	COM	IND	AGR	NAT	MIN	O&G	STA
Adams	19.6%	25.6%	19.0%	8.7%	7.2%	0.0%	0.0%	8.3%	3.0%
Alamosa	-5.2%	5.0%	0.7%	1.9%	12.6%	0.0%	0.0%	8.3%	3.0%
Arapahoe	17.5%	22.5%	20.0%	7.6%	17.5%	0.0%	0.0%	8.3%	3.0%
Archuleta	3.0%	10.0%	1.3%	0.6%	3.0%	0.0%	0.0%	8.3%	3.0%
Baca	2.5%	2.5%	2.9%	0.3%	9.0%	0.0%	0.0%	8.3%	3.0%
Bent	0.0%	8.5%	0.2%	1.0%	9.0%	0.0%	0.0%	8.3%	3.0%
Boulder	7.1%	23.4%	16.6%	14.0%	9.0%	0.0%	0.0%	8.3%	3.0%
Broomfield	5.0%	20.8%	9.2%	4.9%	5.0%	0.0%	0.0%	8.3%	3.0%
Chaffee	5.0%	17.5%	8.2%	5.0%	9.0%	-14.0%	0.0%	8.3%	3.0%
Cheyenne	-0.2%	1.3%	0.6%	0.0%	1.7%	0.0%	0.0%	8.3%	3.0%
Clear Creek	5.0%	15.0%	0.8%	2.7%	9.0%	0.0%	-20.0%	8.3%	3.0%
Conejos	4.6%	1.0%	-0.3%	1.9%	-5.0%	0.0%	0.0%	8.3%	3.0%
Costilla	2.9%	5.0%	1.4%	4.0%	4.3%	-1.7%	0.0%	8.3%	3.0%
Crowley	0.0%	0.0%	0.2%	0.0%	9.0%	0.0%	0.0%	8.3%	3.0%
Custer	1.0%	3.0%	3.1%	3.1%	9.0%	0.0%	0.0%	8.3%	3.0%
Delta	3.0%	4.4%	1.4%	1.5%	12.9%	-66.2%	0.0%	8.3%	3.0%
Denver	0.0%	17.0%	11.7%	9.0%	9.0%	0.0%	0.0%	8.3%	3.0%
Dolores	0.0%	1.5%	0.3%	0.0%	3.9%	0.0%	0.0%	8.3%	3.0%
Douglas	15.0%	20.0%	10.6%	14.4%	10.0%	15.0%	0.0%	8.3%	3.0%
Eagle	4.5%	9.1%	9.8%	3.2%	2.4%	0.0%	0.0%	8.3%	3.0%
El Paso	4.8%	9.6%	6.9%	5.9%	9.0%	0.0%	0.0%	8.3%	3.0%
Elbert	4.8%	18.0%	3.7%	3.6%	5.0%	2.5%	2.5%	8.3%	3.0%
Fremont	0.0%	8.0%	1.4%	3.3%	9.0%	0.0%	0.0%	8.3%	3.0%
Garfield	7.5%	14.7%	3.4%	2.1%	7.9%	5.0%	0.0%	8.3%	3.0%
Gilpin	0.3%	13.9%	3.4%	0.0%	-0.5%	0.0%	0.0%	8.3%	3.0%
Grand	0.0%	6.0%	-0.3%	1.5%	9.0%	-1.0%	0.0%	8.3%	3.0%
Gunnison	3.5%	17.5%	0.4%	0.5%	3.0%	-17.9%	0.0%	8.3%	3.0%
Hinsdale	-0.8%	1.4%	0.1%	0.1%	9.0%	0.0%	-5.0%	8.3%	3.0%
Huerfano	0.0%	0.0%	0.5%	0.0%	8.5%	3.0%	0.0%	8.3%	3.0%
Jackson	0.0%	8.0%	0.4%	2.6%	3.0%	0.0%	0.0%	8.3%	3.0%
Jefferson	14.0%	28.4%	4.8%	4.2%	9.0%	0.0%	0.0%	8.3%	3.0%
Kiowa	-40.0%	4.0%	4.9%	0.0%	9.0%	0.0%	0.0%	8.3%	3.0%
Kit Carson	0.5%	4.0%	4.1%	2.7%	5.0%	0.0%	0.0%	8.3%	3.0%
La Plata	3.4%	8.1%	4.5%	1.8%	5.6%	-6.9%	0.0%	8.3%	3.0%
Lake	-4.7%	10.4%	2.4%	0.1%	9.0%	0.0%	-1.5%	8.3%	3.0%
Larimer	17.0%	15.0%	15.2%	9.6%	14.0%	13.0%	0.0%	8.3%	3.0%
Las Animas	0.0%	1.0%	1.4%	0.4%	3.0%	0.0%	0.0%	8.3%	3.0%
Lincoln	0.0%	5.0%	2.4%	2.9%	10.0%	-2.0%	0.0%	8.3%	3.0%
Logan	4.4%	7.0%	1.6%	3.8%	10.0%	8.4%	0.0%	8.3%	3.0%
Mesa	10.0%	12.0%	4.1%	2.3%	12.5%	1.0%	0.0%	8.3%	3.0%
Mineral	0.0%	5.0%	2.9%	1.6%	2.0%	0.0%	0.0%	8.3%	3.0%
Moffat	0.0%	0.0%	0.8%	1.3%	9.0%	0.0%	0.0%	8.3%	3.0%
Montezuma	0.0%	3.0%	0.5%	0.6%	8.0%	0.0%	0.0%	8.3%	3.0%
Montrose	7.0%	9.5%	3.2%	3.7%	15.0%	0.0%	0.0%	8.3%	3.0%
Morgan	5.0%	15.0%	5.0%	4.2%	12.0%	2.0%	0.0%	8.3%	3.0%
Otero	0.0%	1.0%	4.1%	2.9%	5.0%	0.0%	0.0%	8.3%	3.0%
Ouray	-0.1%	19.0%	28.7%	4.2%	3.0%	200.0%	0.0%	8.3%	3.0%
Park	3.5%	11.6%	9.9%	9.9%	9.0%	11.0%	-19.0%	8.3%	3.0%
Phillips	2.8%	24.3%	3.2%	3.2%	21.8%	1.8%	0.0%	8.3%	3.0%
Pitkin	0.3%	14.8%	12.0%	5.0%	9.0%	4.9%	0.0%	8.3%	3.0%
Prowers	0.0%	1.2%	1.9%	2.6%	3.5%	0.0%	0.0%	8.3%	3.0%
Pueblo	2.0%	7.0%	0.9%	2.6%	9.0%	0.0%	0.0%	8.3%	3.0%
Rio Blanco	-1.0%	3.0%	0.9%	4.6%	10.0%	-4.0%	0.0%	8.3%	3.0%
Rio Grande	-6.0%	9.0%	1.9%	2.2%	1.0%	0.0%	0.0%	8.3%	3.0%
Routt	5.9%	10.4%	7.2%	0.3%	6.9%	-9.3%	0.0%	8.3%	3.0%
Saguache	0.0%	0.0%	0.4%	0.4%	9.0%	0.0%	0.0%	8.3%	3.0%
San Juan	-1.3%	5.1%	1.5%	0.7%	9.0%	3.5%	0.0%	8.3%	3.0%
San Miguel	8.0%	7.0%	5.9%	-8.5%	3.0%	0.0%	0.0%	8.3%	3.0%
Sedgwick	0.0%	17.5%	1.1%	2.6%	9.0%	0.0%	0.0%	8.3%	3.0%
Summit	18.2%	18.0%	12.3%	2.9%	9.0%	0.0%	0.0%	8.3%	3.0%
Teller	0.5%	5.7%	0.7%	0.6%	9.0%	0.0%	0.0%	8.3%	3.0%
Washington	0.0%	22.5%	0.9%	4.3%	5.0%	0.0%	0.0%	8.3%	3.0%
Weld	25.0%	25.0%	9.0%	6.1%	10.0%	0.0%	0.0%	8.3%	3.0%
Yuma	5.0%	7.0%	4.9%	4.8%	10.0%	-2.0%	0.0%	8.3%	3.0%
Weighted Avg.	7.5%	18.0%	11.6%	7.2%	8.7%	-5.1%	-12.0%	8.3%	3.0%