

MEMORANDUM

April 17, 2020

TO: County assessors and other users of Idaho Ratio Study information

FROM: Alan S. Dornfest
Property Tax Policy Bureau Chief

RE: 2019 Ratio Study

This ratio study was completed in March, 2020, and generally used sales which occurred between October 1, 2018 and September 30, 2019, to test 2019 assessments. In cases where there were limited samples, this time frame was expanded to include sales occurring several months on either side of the initial date parameters.

The 2019 study represents the twelfth study completed using the procedures authorized under the provisions of property tax rule 131. Under these provisions, a maximum of only five primary categories are subject to initial testing. As was done previously, assessment level is tested with 90% confidence intervals. However, county reports contain a notation indicating any categories which would have failed to meet assessment level requirements using 80% confidence intervals. Categories failing tests based on 90% confidence intervals are subject to state equalization in 2020, unless 2020 assessed values indicate acceptable level after completion of follow-up ratio studies. If 90% confidence intervals overlap acceptable ranges, categories not meeting assessment level standards based only on 80% confidence intervals will not be subject to state equalization until this test is failed in three ratio studies. Nine categories in seven counties did not meet the 80% confidence interval requirements. However, none of these had unacceptable 80% confidence intervals for three years. More complete procedural information is found in the current Idaho Ratio Study Manual.

The 2019 ratio study shows 19 primary categories in 17 counties that did not meet assessment level standards using 90% confidence intervals. In the 2018 study, there had been 24 non-complying categories in nineteen counties. Prior to state board of equalization recommendations, follow-up studies will be done to test 2020 assessments in the categories that did not meet assessment level standards. Counties will receive notification of compliance status following completion of this year's assessments and finalization of assessments by the county board of equalization.

In 2019, 24.5% of all categories tested failed general uniformity standards based on the COD, while 55.1% failed vertical equity (price-related differential) standards. In addition, 2.0% of all categories failed to meet IAAO standards using the newer PRB (price-related bias) statistic. The

number failing to meet general uniformity standards based on the COD and vertical equity standards based on the PRD and PRB was less than that noted in the 2018 study.

The number of categories studied this year (148) was slightly lower than the number analyzed in 2018. At least one primary category was studied in each county. Total sales volume was down 3.1% from the peak in 2018.

Analysis:

Statewide overall median levels of assessment were similar in 2018 and 2019. Uniformity statistics improved in all categories except vacant residential, in comparison to 2018. Results are skewed somewhat by results in large counties where sales volume has been high. Non compliance with assessment level standards remained widespread, but occurred in fewer counties overall than in 2018.

Time adjustments were considered in each category and used when appropriate in the 2019 ratio study to ensure that sales prices and assessed values both represented market value as of January 1, 2019.

Primary categories or counties with fewer than five sales are not formally tested and are not included in this report.

Attached documents

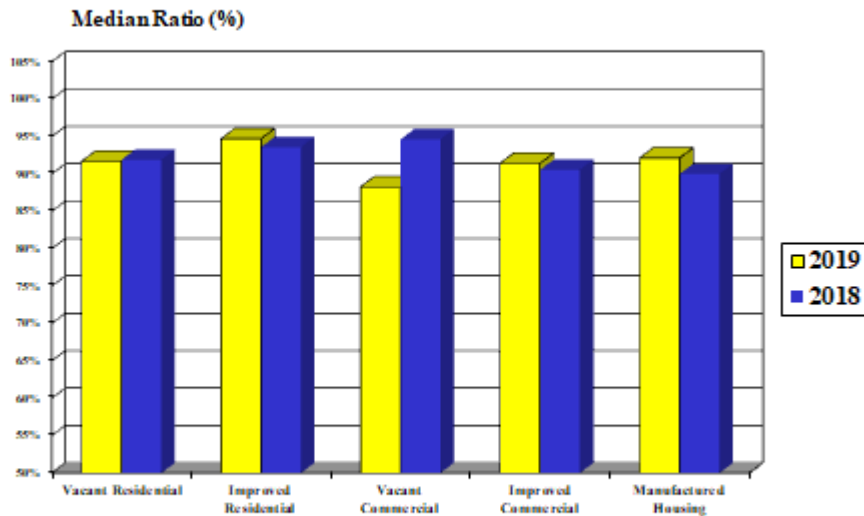
The following documents are attached to this report to provide the user with both detailed statistical reports and a summary of the final 2018 Idaho ratio study:

1. Chart I summary of sales received;
2. Chart II summary of statistical results;
3. Bar chart showing 2018 - 2019 level by primary category;
4. Bar chart showing 2018 – 2019 uniformity by primary category;
5. Statewide statistics by county for each primary category.

Chart I					
2019 Ratio Study Summary					
Sales Received					
Category	Counties Studied	Totals		Changes 2018/2019:	
		2019	2018	Number	Percent
Residential:					
Improved	44	33,235	34,126	(891)	-2.6%
Unimproved	42	3,198	3,431	(233)	-6.8%
Commercial:					
Improved	29	755	872	(117)	-13.4%
Unimproved	10	159	187	(28)	-15.0%
Manufactured Homes:					
Manufactured Housing without land	23	915	885	30	3.4%
Totals:	148	38,262	39,501	(1,239)	-3.1%

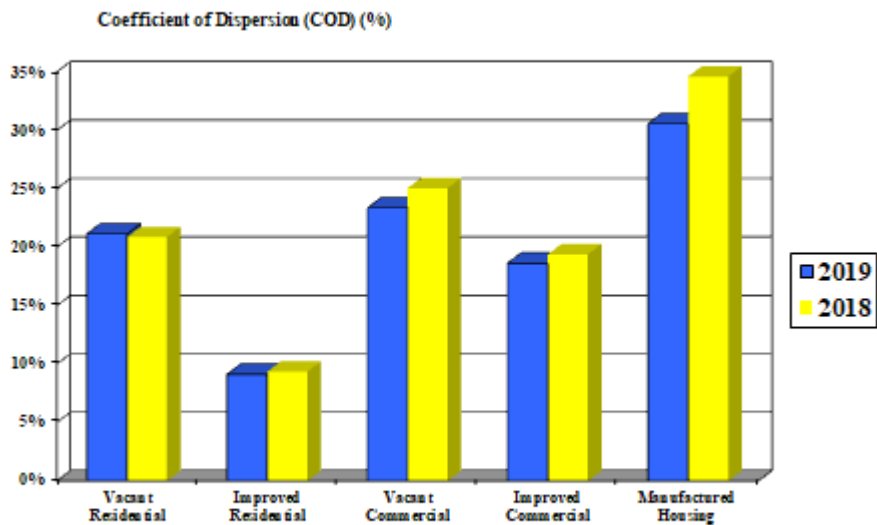
Chart II						
2019 Final Ratio Study - Summary of Results						
Category	Counties Studied	Number in Sample	Assessment Level:		Uniformity:	
			Median	Mean	COD	PRD
Residential:						
Improved	44	33,235	94.71	94.02	9.13	1.00
Unimproved	42	3,198	91.67	92.07	21.13	1.04
Commercial:						
Improved	29	755	91.42	91.02	18.64	1.04
Unimproved	10	159	88.27	85.80	23.36	1.06
Manufactured Housing:						
Manufactured Housing	23	915	92.13	96.37	30.56	1.07
Totals:	148	38,262				

2018 - 2019 Ratio Study Level



Based on median ratio using all sales in each category

2018 - 2019 Ratio Study Uniformity



Lower COD equal better uniformity

2019 Statewide Ratio Study Summary for Primary Category: Vacant Residential

<u>County</u>	<u>Sales Count</u>	<u>Total Assessed Value (\$)</u>	<u>Total Sales Price or Value (\$)</u>	<u>Mean Ratio</u>	<u>Median Ratio</u>	<u>Geometric Mean Ratio</u>	<u>Weighted Mean Ratio</u>	<u>Price Related Differential</u>	<u>Coefficient of Dispersion (COD)</u>	<u>Coefficient of Variation (COV)</u>	<u>Probability of 90/110% Actual Mean</u>
ADA	267	50,703,600	54,859,379	93.19%	95.39%	90.48%	92.42%	1.01	16.18%	22.14%	99.41%
ADAMS	54	2,174,541	2,531,850	102.26%	94.99%	95.15%	85.89%	1.19	30.84%	37.06%	92.56%
BANNOCK	56	3,451,609	4,091,218	86.70%	86.40%	84.14%	84.37%	1.03	17.08%	23.38%	11.12%
BEARLAKE	46	3,265,079	4,078,199	83.72%	85.53%	81.39%	80.06%	1.05	17.75%	23.11%	1.36%
BENEWAH	39	1,467,311	1,645,324	95.56%	92.59%	91.96%	89.18%	1.07	22.19%	29.50%	89.00%
BINGHAM	10	378,454	418,823	92.94%	91.02%	92.48%	90.36%	1.03	7.92%	10.75%	81.17%
BLAINE	114	34,476,091	37,825,609	92.79%	94.36%	91.14%	91.14%	1.02	13.44%	18.51%	95.82%
BOISE	193	9,768,828	10,624,701	98.38%	99.01%	93.54%	91.94%	1.07	23.45%	30.54%	99.99%
BONNER	198	22,573,284	24,960,250	94.39%	94.83%	90.38%	90.44%	1.04	22.23%	28.27%	98.96%
BONNEVILLE	90	4,966,702	5,674,636	91.90%	92.11%	88.90%	87.52%	1.05	18.14%	24.93%	78.23%
BOUNDARY	35	1,382,640	1,751,730	84.91%	85.44%	81.75%	78.93%	1.08	20.52%	27.14%	9.51%
BUTTE	7	147,743	154,147	111.01%	101.01%	106.70%	95.85%	1.16	26.45%	29.89%	39.66%
CAMAS	13	357,347	369,225	100.04%	96.43%	99.13%	96.78%	1.03	10.48%	14.57%	97.08%
CANYON	318	26,148,450	29,988,925	91.56%	92.89%	88.94%	87.19%	1.05	18.19%	23.47%	90.15%
CARIBOU	12	162,820	170,257	107.77%	99.10%	103.27%	95.63%	1.13	27.26%	29.73%	55.26%
CASSIA	6	254,844	328,500	87.54%	89.77%	85.75%	77.58%	1.13	18.55%	21.77%	36.52%
CLARK											
CLEARWATER	13	418,652	542,747	88.81%	83.41%	83.78%	77.14%	1.15	26.17%	34.09%	43.14%
CLUSTER	30	2,257,460	2,681,551	90.20%	82.79%	84.31%	84.18%	1.07	33.11%	37.90%	51.13%
ELMORE	22	830,103	1,009,783	89.40%	85.00%	87.69%	82.21%	1.09	17.10%	20.80%	44.03%
FRANKLIN											
FREMONT	109	5,902,668	6,885,717	95.33%	90.27%	89.31%	85.72%	1.11	29.75%	34.75%	95.25%
GEM	22	983,919	1,618,365	60.50%	60.22%	59.05%	60.80%	1.00	18.67%	23.71%	0.00%
GOODING	31	1,011,103	1,136,623	95.10%	96.67%	85.85%	88.96%	1.07	31.82%	43.27%	73.32%
IDAHO	42	2,317,551	2,492,974	98.93%	97.62%	93.52%	92.96%	1.06	27.02%	34.41%	93.80%
JEFFERSON	77	2,804,779	3,641,786	81.49%	82.19%	79.56%	77.02%	1.06	16.52%	21.70%	Approx. 100%
JEROME	5	222,436	363,500	65.57%	67.31%	64.31%	61.19%	1.07	12.97%	20.32%	0.67%
KOOTENAI	503	72,371,829	80,610,569	93.62%	92.94%	90.21%	89.78%	1.04	19.21%	26.10%	99.95%
LATAH	36	2,238,144	2,609,600	89.03%	91.90%	85.46%	85.77%	1.04	21.41%	28.09%	40.52%
LEMHI	57	1,021,979	1,229,598	89.04%	85.61%	82.53%	83.11%	1.07	29.39%	39.16%	41.68%
LEWIS	7	99,922	121,000	84.65%	82.96%	83.05%	82.58%	1.03	17.17%	20.41%	21.79%
LINCOLN	7	228,240	302,000	82.78%	80.00%	78.91%	75.58%	1.10	25.68%	32.46%	23.37%
MADISON	35	1,582,087	1,827,507	88.52%	97.62%	83.88%	86.57%	1.02	20.37%	28.42%	36.32%
MINIDOKA	15	576,034	785,500	76.46%	73.52%	73.69%	73.33%	1.04	22.49%	27.55%	1.30%
NEZPERCE	44	3,257,047	3,555,771	96.21%	92.30%	93.89%	91.60%	1.05	17.15%	21.93%	97.44%
ONEIDA	8	284,784	337,900	85.85%	89.58%	85.19%	84.28%	1.02	8.90%	12.86%	16.16%
OWYHEE	12	610,958	595,500	103.55%	107.16%	98.54%	102.60%	1.01	21.68%	28.90%	69.20%
PAYETTE	32	1,542,253	1,937,997	85.11%	79.25%	80.82%	79.58%	1.07	29.75%	32.84%	15.87%
POWER	5	136,125	181,500	84.90%	70.19%	82.36%	75.00%	1.13	22.92%	29.31%	29.16%
SHOSHONE	46	933,646	1,364,885	74.29%	62.80%	68.69%	68.40%	1.09	38.70%	42.01%	Approx. 100%
TETON	77	4,930,065	5,033,802	96.69%	92.96%	94.84%	97.94%	0.99	14.18%	19.63%	99.87%
TWINFALLS	212	13,775,154	15,164,822	93.37%	90.77%	90.70%	90.84%	1.03	18.20%	24.24%	98.46%
VALLEY	269	20,367,086	24,618,691	88.77%	88.05%	84.50%	82.73%	1.07	24.55%	30.80%	22.97%
WASHINGTON	24	957,258	1,091,400	94.30%	96.13%	90.65%	87.71%	1.08	19.79%	26.89%	78.99%

STATEWIDE 3,198 303,340,625 341,213,861 92.07% 91.67% 88.34% 88.90% 1.04 21.13% 27.90% Approx.100%

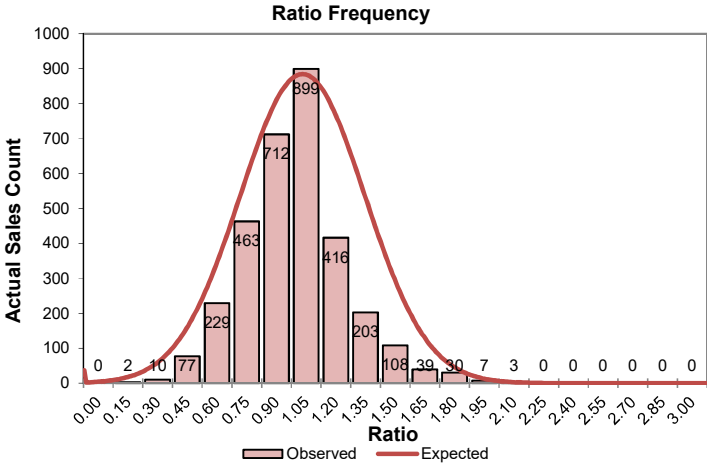
2019 Statewide Ratio Study Summary for Primary Category: Vacant Residential

<u>County</u>	<u>Mean Lower Confidence Interval (90%)</u>	<u>Mean Upper Confidence Interval (90%)</u>	<u>Median Lower Confidence Interval (90%)</u>	<u>Median Upper Confidence Interval (90%)</u>	<u>Weighted Mean Lower Confidence Interval (90%)</u>	<u>Weighted Mean Upper Confidence Interval (90%)</u>	<u>Distribution</u>	<u>Average Sale Price or Value (\$)</u>	<u>PRB</u>	<u>Lower 95% CI on PRB</u>	<u>Upper 95% CI on PRB</u>
ADA	91.11%	95.27%	92.35%	97.05%	90.18%	94.67%	Normal	205,466	0.0187	-0.0107	0.0482
ADAMS	93.77%	110.74%	89.62%	107.69%	76.90%	94.88%	Normal	46,886	-0.2195	-0.3354	-0.1037
BANNOCK	82.24%	91.16%	83.65%	90.75%	78.98%	89.75%	Normal	73,057	0.0350	-0.0400	0.1101
BEARLAKE	79.02%	88.41%	76.75%	91.41%	72.98%	87.15%	Normal	88,657	-0.0159	-0.0642	0.0323
BENEWAH	88.13%	102.98%	82.16%	99.81%	83.93%	94.44%	Non-Normal	42,188	-0.0656	-0.1449	0.0137
BINGHAM	87.15%	98.73%	86.24%	100.34%	86.25%	94.48%	Normal	41,882	-0.1045	-0.1977	-0.0112
BLAINE	90.14%	95.43%	92.20%	95.68%	86.85%	95.44%	Normal	331,804	0.0066	-0.0157	0.0290
BOISE	94.82%	101.93%	93.06%	102.06%	87.61%	96.28%	Non-Normal	55,050	-0.0331	-0.0814	0.0153
BONNER	91.27%	97.51%	90.43%	98.91%	86.37%	94.50%	Normal	126,062	-0.0111	-0.0496	0.0274
BONNEVILLE	87.93%	95.88%	89.78%	95.65%	83.23%	91.82%	Normal	63,052	-0.0529	-0.1489	0.0430
BOUNDARY	78.50%	91.31%	77.17%	90.53%	71.88%	85.98%	Normal	50,049	-0.0717	-0.1525	0.0091
BUTTE	86.65%	135.38%	73.57%	146.02%	72.74%	118.95%	Normal	22,021	-0.2996	-0.6254	0.0262
CAMAS	92.84%	107.24%	91.83%	107.35%	91.32%	102.25%	Normal	28,402	-0.0777	-0.1974	0.0420
CANYON	89.58%	93.55%	89.31%	95.08%	84.86%	89.53%	Non-Normal	94,305	-0.0669	-0.1022	-0.0317
CARIBOU	91.16%	124.38%	82.41%	138.64%	81.36%	109.90%	Normal	14,188	-0.4161	-0.7005	-0.1317
CASSIA	71.86%	103.22%	66.28%	106.45%	62.26%	92.90%	Normal	54,750	-0.0788	-0.2898	0.1321
CLARK											
CLEARWATER	73.85%	103.77%	77.77%	107.27%	61.06%	93.21%	Normal	41,750	-0.1566	-0.3298	0.0167
CUSTER	79.60%	100.81%	69.43%	97.52%	69.54%	98.83%	Normal	89,385	-0.0109	-0.1286	0.1068
ELMORE	82.57%	96.22%	77.46%	93.94%	73.80%	90.61%	Normal	45,899	-0.1194	-0.2287	-0.0100
FRANKLIN											
FREMONT	90.11%	100.55%	83.41%	102.48%	78.71%	92.74%	Normal	63,172	-0.0274	-0.1017	0.0469
GEM	55.24%	65.76%	49.27%	66.08%	56.10%	65.50%	Non-Normal	73,562	0.0488	-0.1049	0.2025
GOODING	82.56%	107.64%	79.45%	99.38%	77.46%	100.45%	Normal	36,665	-0.0378	-0.1240	0.0484
IDAHO	90.29%	107.57%	85.62%	102.85%	83.56%	102.36%	Normal	59,357	-0.0041	-0.1478	0.1397
JEFFERSON	78.17%	84.80%	77.70%	86.96%	72.98%	81.06%	Normal	47,296	-0.1027	-0.1915	-0.0139
JEROME	52.87%	78.27%	46.09%	76.52%	43.62%	78.77%	Normal	72,700	-0.1349	-0.4582	0.1885
KOOTENAI	91.83%	95.41%	91.56%	95.24%	86.74%	92.82%	Non-Normal	160,260	0.0031	-0.0170	0.0231
LATAH	82.17%	95.88%	80.76%	98.27%	78.43%	93.10%	Normal	72,489	-0.0121	-0.0798	0.0555
LEMHI	81.44%	96.64%	78.16%	95.86%	75.41%	90.82%	Non-Normal	21,572	-0.0458	-0.1051	0.0136
LEWIS	71.96%	97.34%	68.34%	101.75%	72.05%	93.11%	Normal	17,286	-0.0289	-0.1966	0.1388
LINCOLN	63.05%	102.51%	60.51%	116.74%	59.16%	91.99%	Normal	43,143	-0.1861	-0.6347	0.2625
MADISON	81.53%	95.52%	86.31%	99.44%	79.48%	93.66%	Normal	52,214	0.1499	-0.0561	0.3558
MINIDOKA	66.88%	86.04%	65.53%	90.46%	64.94%	81.73%	Normal	52,367	-0.0243	-0.1853	0.1367
NEZPERCE	90.98%	101.44%	88.35%	100.12%	85.88%	97.32%	Normal	80,813	-0.1095	-0.1930	-0.0260
ONEIDA	78.46%	93.25%	73.19%	92.95%	74.91%	93.65%	Normal	42,238	-0.0102	-0.2010	0.1807
OWYHEE	88.03%	119.07%	88.19%	123.40%	87.53%	117.66%	Normal	49,625	0.1332	-0.1046	0.3711
PAYETTE	76.98%	93.23%	66.60%	97.58%	72.51%	86.65%	Normal	60,562	-0.1182	-0.3109	0.0744
POWER	61.17%	108.63%	67.31%	121.68%	64.07%	85.93%	Normal	36,300	-0.1086	-0.4789	0.2616
SHOSHONE	66.72%	81.86%	59.97%	74.13%	59.28%	77.53%	Non-Normal	29,671	0.0379	-0.1463	0.2220
TETON	93.13%	100.24%	91.08%	96.62%	91.09%	104.79%	Non-Normal	65,374	0.0434	-0.0244	0.1112
TWINFALLS	90.81%	95.92%	88.40%	94.32%	88.25%	93.42%	Non-Normal	71,532	-0.0541	-0.0922	-0.0161
VALLEY	86.03%	91.52%	84.53%	90.64%	79.58%	85.89%	Non-Normal	91,519	-0.0418	-0.0783	-0.0052
WASHINGTON	85.43%	103.18%	88.40%	103.01%	76.50%	98.92%	Normal	45,475	-0.1346	-0.3734	0.1042
STATEWIDE	91.32%	92.81%	90.91%	92.39%	87.83%	89.97%	Non-Normal	106,696	-0.0012	-0.0059	0.0035

- Vacant Residential Properties

	Vacant Residential	Combined Categories	Observed Sales Dates:	
FINAL Study when Initialed and dated.	Using 2019 Assessed Values	Assessment Date:	From:	To:
		01/01/2019	01/01/2018	11/05/2019
Sales Price is/may be Time Adjusted	Sales Prices adjusted for time at County Level		Selected Time Period:	
			01/01/2017	12/31/2019

SAMPLE STATISTICS	
Sample size (n)	3,198
Total Assessed Value	\$303,340,625
Total Sales Price	\$341,213,861
Mean Assessed Value	\$94,853
Mean Sales Price	\$106,696
Standard Deviation AV	\$124,968
Standard Deviation SP	\$139,853
Median Assessed Value	\$63,396
Median Sales Price	\$70,000
ASSESSMENT LEVEL	
Arithmetic Mean Ratio	92.07%
Median Ratio	91.67%
Weighted Mean Ratio	88.90%
Geometric Mean Ratio	88.34%
UNIFORMITY	
Lowest Ratio	13.20%
Highest Ratio	203.43%
Coefficient of Dispersion	21.13%
Standard Deviation	25.69%
Coefficient of Variation	27.90%



Price-related Differential	1.04	PRB	-0.0012
RELIABILITY		T-Score: -0.5	
90% Confidence Intervals:	Lower	Upper	
Around the Mean	91.32%	92.81%	
BINOM - Around the Median	90.91%	92.39%	
Around the Weighted Mean	87.83%	89.97%	
Around the COD	20.71%	21.99%	
Probability True Mean 90-110	Approx. 100%		
80% Confidence Intervals:	Lower	Upper	
Around the Mean	91.48%	92.65%	
BINOM - Around the Median	91.15%	92.25%	
Around the Weighted Mean	88.07%	89.73%	

Compliance Checks:			
Level:	MEDIAN	90% Confidence Interval:	PASSED
	MEDIAN	80% Confidence Interval:	PASSED
Uniformity:	COD Standards met?		NO
	COD:	Somewhat Poor	
	COV:	Somewhat Poor	
	PRD:	Favors High Priced	

NORMALITY Test Results:		Non-Normal
Chi Square Test	Non-Normal	
Binomial Test	N/A	
Mann-Whitney Test	-6.9805	
Value Related Inequity		
D'Agostino-Pearson	Non-Normal	
Shapiro-Wilk W	N/A	
Kurtosis (2.5 - 4) = 4.01	Not Trimmed?	
Skew (-0.5 - 1) = 0.48	Acceptable	
COD Standard	Maximum	
Vacant Residential	20.00%	

Secondary Category(ies) with sales		
Count	Category	Description
432	12	Unimproved Rural Res Tract
1,717	15	Unimproved Rural Res Sub
81	18	Unimproved Other Land
968	20	Unimproved Urban Res Lot/Acre

COMMENTS:	

March 24, 2020
STC Staff

COV/COD	
Expected	125%
Observed	132%

Maybe a Non-Representative Sample

2019 Statewide Ratio Study Summary for Primary Category: Improved Residential

<u>County</u>	<u>Sales Count</u>	<u>Total Assessed Value (\$)</u>	<u>Total Sales Price or Value (\$)</u>	<u>Mean Ratio</u>	<u>Median Ratio</u>	<u>Geometric Mean Ratio</u>	<u>Weighted Mean Ratio</u>	<u>Price Related Differential</u>	<u>Coefficient of Dispersion (COD)</u>	<u>Coefficient of Variation (COV)</u>	<u>Probability of 90/110% Actual Mean</u>
ADA	12,371	4,427,727,500	4,537,942,719	97.76%	98.28%	97.28%	97.57%	1.00	6.83%	9.71%	Approx.100%
ADAMS	66	13,699,715	15,799,839	94.23%	83.67%	89.66%	86.71%	1.09	28.55%	34.31%	85.54%
BANNOCK	1,069	196,767,275	207,730,491	94.80%	94.73%	93.95%	94.72%	1.00	10.32%	13.41%	Approx.100%
BEARLAKE	73	14,769,752	16,950,361	87.79%	87.68%	86.86%	87.14%	1.01	11.91%	14.64%	6.94%
BENEWAH	52	6,116,980	7,103,175	92.69%	89.11%	87.60%	86.12%	1.08	27.06%	35.92%	71.89%
BINGHAM	146	26,020,343	27,782,654	94.77%	94.76%	94.10%	93.66%	1.01	9.41%	11.93%	Approx.100%
BLAINE	701	433,295,359	486,804,348	90.06%	90.87%	89.36%	89.01%	1.01	9.42%	12.30%	55.57%
BOISE	253	59,597,325	64,803,491	92.39%	91.53%	90.21%	91.97%	1.00	17.00%	21.93%	96.93%
BONNER	479	166,880,630	175,888,863	93.92%	93.56%	92.47%	94.88%	0.99	13.40%	17.36%	Approx.100%
BONNEVILLE	1,828	378,315,686	422,846,618	89.15%	89.60%	88.44%	89.47%	1.00	9.62%	12.46%	Approx. 100%
BOUNDARY	85	13,049,300	16,660,291	81.88%	79.91%	79.55%	78.33%	1.05	18.62%	24.59%	Approx. 100%
BUTTE	12	1,286,135	1,540,915	86.22%	86.58%	84.85%	83.47%	1.03	14.42%	18.67%	21.63%
CAMAS	17	2,236,467	2,396,682	92.04%	94.07%	91.53%	93.32%	0.99	6.71%	10.28%	80.62%
CANYON	5,482	1,322,245,980	1,410,794,220	93.51%	93.47%	93.14%	93.72%	1.00	6.75%	8.85%	Approx.100%
CARIBOU	37	5,095,764	5,556,840	91.29%	89.26%	90.55%	91.70%	1.00	10.57%	12.91%	74.54%
CASSIA	119	20,573,106	22,756,682	90.95%	88.04%	90.25%	90.40%	1.01	9.72%	12.91%	81.06%
CLARK	5	343,550	490,000	72.99%	69.99%	72.00%	70.11%	1.04	16.10%	18.54%	2.25%
CLEARWATER	58	8,561,579	9,892,909	88.69%	87.56%	86.52%	86.54%	1.02	18.35%	22.30%	30.50%
CLUSTER	87	11,715,410	13,496,377	94.81%	85.84%	90.55%	86.80%	1.09	26.29%	31.93%	93.06%
ELMORE	430	69,338,305	75,219,600	92.06%	92.83%	90.96%	92.18%	1.00	10.72%	15.20%	99.87%
FRANKLIN	169	30,597,493	35,737,926	85.82%	83.97%	84.51%	85.62%	1.00	14.21%	17.37%	Approx. 100%
FREMONT	124	30,683,795	34,853,289	90.82%	90.00%	88.38%	88.04%	1.03	17.34%	22.75%	67.00%
GEM	219	44,943,228	48,861,179	92.59%	92.09%	91.39%	91.98%	1.01	12.72%	16.12%	99.48%
GOODING	172	22,618,203	27,353,736	84.76%	82.13%	82.86%	82.69%	1.03	17.31%	22.09%	Approx. 100%
IDAHO	132	20,381,586	22,746,439	92.27%	90.15%	90.64%	89.60%	1.03	15.87%	19.42%	92.65%
JEFFERSON	281	66,218,191	74,634,596	88.71%	89.91%	88.09%	88.72%	1.00	8.67%	11.49%	1.70%
JEROME	97	17,211,206	18,765,923	93.56%	92.30%	91.70%	91.72%	1.02	15.17%	20.41%	96.64%
KOOTENAI	4,339	1,425,518,287	1,565,748,869	91.40%	91.84%	90.92%	91.04%	1.00	7.65%	10.18%	Approx.100%
LATAH	376	90,458,723	98,833,591	91.48%	92.33%	90.32%	91.53%	1.00	11.63%	15.39%	97.88%
LEMHI	111	19,111,980	20,821,062	92.06%	92.78%	89.92%	91.79%	1.00	14.83%	21.09%	86.65%
LEWIS	49	6,229,025	6,808,504	93.26%	88.15%	90.46%	91.49%	1.02	20.78%	25.42%	83.15%
LINCOLN	20	2,411,590	3,229,300	73.97%	75.41%	71.94%	74.68%	0.99	18.36%	23.61%	0.03%
MADISON	267	50,276,478	60,294,917	83.70%	85.43%	82.91%	83.38%	1.00	10.16%	13.42%	Approx. 100%
MINIDOKA	191	31,406,660	33,521,311	93.50%	94.00%	92.22%	93.69%	1.00	12.63%	16.41%	99.90%
NEZPERCE	497	102,330,557	111,466,165	92.16%	91.56%	91.51%	91.80%	1.00	8.86%	11.80%	Approx.100%
ONEIDA	42	6,647,430	6,295,822	92.07%	89.75%	90.06%	89.70%	1.03	17.12%	21.80%	74.54%
OWYHEE	83	15,958,534	20,124,049	77.63%	77.60%	75.94%	79.30%	0.98	15.88%	19.96%	Approx. 100%
PAYETTE	321	61,148,925	67,035,228	93.12%	93.39%	91.10%	91.22%	1.02	15.22%	20.99%	99.79%
POWER	42	5,126,605	6,132,138	84.74%	82.49%	83.43%	83.60%	1.01	14.22%	17.61%	1.10%
SHOSHONE	265	32,202,720	36,633,164	90.15%	88.92%	87.56%	87.91%	1.03	19.33%	24.28%	54.38%
TETON	31	13,301,554	14,272,352	94.47%	93.67%	94.08%	93.20%	1.01	7.27%	9.36%	99.75%
TWINFALLS	1,527	318,918,250	341,898,558	93.39%	94.43%	92.27%	93.28%	1.00	10.98%	15.05%	Approx.100%
VALLEY	359	132,081,330	151,940,493	86.22%	85.97%	84.71%	86.93%	0.99	14.92%	18.41%	Approx. 100%
WASHINGTON	151	21,536,350	23,213,495	94.41%	92.55%	93.15%	92.78%	1.02	12.78%	16.44%	99.97%
STATEWIDE	33,235	9,743,954,861	10,353,679,178	94.02%	94.71%	96.55%	94.11%	1.00	9.13%	12.66%	Approx.100%

2019 Statewide Ratio Study Summary for Primary Category: Improved Residential

<u>County</u>	<u>Mean Lower Confidence Interval (90%)</u>	<u>Mean Upper Confidence Interval (90%)</u>	<u>Median Lower Confidence Interval (90%)</u>	<u>Median Upper Confidence Interval (90%)</u>	<u>Weighted Mean Lower Confidence Interval (90%)</u>	<u>Weighted Mean Upper Confidence Interval (90%)</u>	<u>Distribution</u>	<u>Average Sale Price or Value (\$)</u>	<u>PRB</u>	<u>Lower 95% CI on PRB</u>	<u>Upper 95% CI on PRB</u>
ADA	97.62%	97.90%	98.15%	98.41%	97.38%	97.76%	Non-Normal	366,821	0.0212	0.0180	0.0244
ADAMS	87.69%	100.78%	79.92%	92.39%	82.08%	91.34%	Non-Normal	239,391	-0.0907	-0.1780	-0.0033
BANNOCK	94.16%	95.44%	93.99%	95.50%	94.01%	95.44%	Non-Normal	194,322	0.0200	0.0068	0.0331
BEARLAKE	85.31%	90.26%	84.91%	91.12%	83.66%	90.61%	Normal	232,197	-0.0051	-0.0420	0.0319
BENEWAH	85.09%	100.28%	79.28%	95.52%	80.08%	92.15%	Non-Normal	136,600	-0.0788	-0.2101	0.0525
BINGHAM	93.23%	96.31%	92.18%	96.00%	92.12%	95.19%	Normal	190,292	-0.0229	-0.0532	0.0074
BLAINE	89.37%	90.75%	89.74%	91.69%	87.78%	90.24%	Normal	694,443	0.0005	-0.0074	0.0084
BOISE	90.30%	94.49%	88.58%	93.27%	89.75%	94.18%	Non-Normal	256,140	0.0180	-0.0124	0.0484
BONNER	92.69%	95.14%	92.29%	94.83%	93.32%	96.44%	Non-Normal	367,200	0.0408	0.0216	0.0600
BONNEVILLE	88.72%	89.58%	89.23%	90.19%	88.98%	89.96%	Non-Normal	231,317	0.0425	0.0331	0.0519
BOUNDARY	78.29%	85.47%	75.66%	83.61%	75.14%	81.51%	Non-Normal	196,003	-0.1346	-0.2193	-0.0498
BUTTE	77.87%	94.56%	73.05%	93.85%	73.72%	93.21%	Normal	128,410	-0.0150	-0.1382	0.1083
CAMAS	88.03%	96.04%	90.06%	96.58%	90.04%	96.59%	Normal	140,981	0.0053	-0.0381	0.0487
CANYON	93.32%	93.69%	93.24%	93.67%	93.51%	93.94%	Non-Normal	257,350	0.0368	0.0320	0.0415
CARIBOU	88.10%	94.48%	87.49%	94.61%	87.75%	95.65%	Normal	150,185	0.0056	-0.0393	0.0506
CASSIA	89.18%	92.72%	86.38%	90.53%	88.75%	92.06%	Non-Normal	191,233	-0.0132	-0.0463	0.0200
CLARK	60.09%	85.89%	60.33%	88.78%	57.78%	82.44%	Normal	98,000	-0.2472	-0.7137	0.2193
CLEARWATER	84.42%	92.96%	81.65%	93.33%	80.88%	92.21%	Normal	170,567	-0.0071	-0.0763	0.0621
CLUSTER	89.47%	100.15%	82.04%	89.96%	82.40%	91.21%	Non-Normal	155,131	-0.1206	-0.1979	-0.0434
ELMORE	90.95%	93.17%	92.34%	93.55%	91.05%	93.31%	Non-Normal	174,929	0.0515	0.0276	0.0753
FRANKLIN	83.94%	87.71%	82.27%	87.52%	83.83%	87.40%	Non-Normal	211,467	0.0500	-0.0034	0.1033
FREMONT	87.77%	93.87%	86.62%	92.54%	84.38%	91.70%	Normal	281,075	-0.0198	-0.0576	0.0180
GEM	90.93%	94.25%	89.46%	93.57%	90.17%	93.79%	Non-Normal	223,110	0.0148	-0.0233	0.0529
GOODING	82.41%	87.11%	79.81%	84.51%	80.36%	85.02%	Non-Normal	159,033	-0.0417	-0.0882	0.0049
IDAHO	89.71%	94.84%	86.49%	93.28%	87.16%	92.05%	Non-Normal	172,322	-0.0327	-0.0738	0.0083
JEFFERSON	87.71%	89.72%	89.03%	90.92%	87.63%	89.82%	Normal	265,604	0.0401	0.0183	0.0620
JEROME	90.37%	96.75%	89.17%	96.09%	88.58%	94.85%	Non-Normal	193,463	-0.0281	-0.0902	0.0340
KOOTENAI	91.17%	91.64%	91.61%	92.12%	90.70%	91.39%	Non-Normal	360,855	0.0079	0.0030	0.0127
LATAH	90.28%	92.67%	90.74%	93.60%	90.34%	92.71%	Normal	262,855	0.0450	0.0208	0.0692
LEMHI	89.03%	95.09%	90.18%	95.03%	88.70%	94.88%	Normal	187,577	0.0178	-0.0293	0.0649
LEWIS	87.68%	98.83%	83.77%	95.45%	86.63%	96.34%	Non-Normal	138,949	0.0114	-0.0772	0.1000
LINCOLN	67.22%	80.72%	63.52%	81.53%	68.77%	80.58%	Normal	161,465	0.1464	-0.0319	0.3246
MADISON	82.57%	84.83%	83.74%	86.38%	82.15%	84.62%	Normal	225,824	0.0260	-0.0030	0.0550
MINIDOKA	91.67%	95.32%	92.33%	95.23%	92.06%	95.33%	Normal	175,504	0.0361	-0.0007	0.0729
NEZPERCE	91.36%	92.97%	90.54%	92.57%	91.03%	92.58%	Normal	224,278	0.0014	-0.0168	0.0197
ONEIDA	86.98%	97.17%	83.92%	95.55%	84.91%	94.49%	Normal	149,901	-0.0681	-0.1646	0.0285
OWYHEE	74.83%	80.43%	74.33%	81.33%	76.08%	82.52%	Normal	242,458	0.0790	0.0274	0.1307
PAYETTE	91.33%	94.92%	91.90%	94.66%	89.50%	92.93%	Non-Normal	208,832	-0.0216	-0.0576	0.0145
POWER	80.95%	88.52%	78.81%	88.94%	80.00%	87.20%	Normal	146,003	0.0167	-0.0604	0.0939
SHOSHONE	87.94%	92.36%	86.86%	91.79%	85.79%	90.02%	Non-Normal	138,238	-0.0050	-0.0451	0.0352
TETON	91.77%	97.16%	91.90%	97.39%	90.09%	96.31%	Normal	460,398	-0.0201	-0.0757	0.0356
TWINFALLS	92.80%	93.98%	93.87%	94.97%	92.70%	93.85%	Non-Normal	223,902	0.0276	0.0164	0.0387
VALLEY	84.84%	87.60%	84.40%	87.75%	85.07%	88.79%	Normal	423,233	0.0399	0.0208	0.0590
WASHINGTON	92.34%	96.49%	91.26%	95.16%	90.42%	95.13%	Normal	153,732	-0.0251	-0.0629	0.0127
STATEWIDE	93.91%	94.12%	94.61%	94.83%	93.98%	94.24%	Non-Normal	311,529	0.0149	0.0132	0.0166

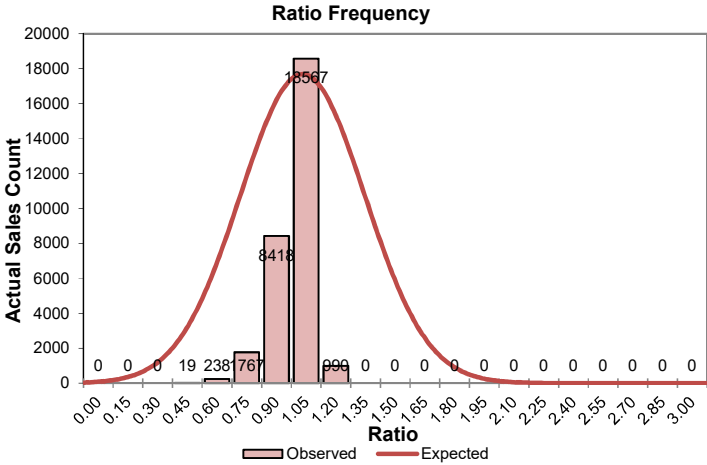
- Improved Residential Properties

	Improved Residential	Combined Categories	Observed Sales Dates:	
FINAL Study when Initialed and dated.	Using 2019 Assessed Values	Assessment Date:	From:	To:
		01/01/2019	10/01/2018	09/30/2019
Sales Price is/may be Time Adjusted	Sales Prices adjusted for time at County Level		Selected Time Period:	
			01/01/2017	12/31/2019

SAMPLE STATISTICS	
Sample size (n)	33,235
Total Assessed Value	\$9,743,954,861
Total Sales Price	\$10,353,679,178
Mean Assessed Value	\$293,184
Mean Sales Price	\$311,529
Standard Deviation AV	\$194,726
Standard Deviation SP	\$210,721
Median Assessed Value	\$254,200
Median Sales Price	\$268,975

ASSESSMENT LEVEL	
Arithmetic Mean Ratio	94.02%
Median Ratio	94.71%
Weighted Mean Ratio	94.11%
Geometric Mean Ratio	96.55%

UNIFORMITY	
Lowest Ratio	34.29%
Highest Ratio	206.34%
Coefficient of Dispersion	9.13%
Standard Deviation	11.90%
Coefficient of Variation	12.66%



Price-related Differential	1.00	PRB	0.0149
			T-Score: 17.2

RELIABILITY		
90% Confidence Intervals:	Lower	Upper
Around the Mean	93.91%	94.12%
BINOM - Around the Median	94.61%	94.83%
Around the Weighted Mean	93.98%	94.24%
Around the COD	9.05%	9.24%
Probability True Mean 90-110	Approx. 100%	
80% Confidence Intervals:	Lower	Upper
Around the Mean	93.93%	94.10%
BINOM - Around the Median	94.63%	94.81%
Around the Weighted Mean	94.01%	94.21%

Compliance Checks:		
Level:	MEDIAN	90% Confidence Interval:
	MEDIAN	80% Confidence Interval:
Uniformity:	COD Standards met?	YES
	COD:	Excellent
	COV:	Very Good
	PRD:	No Observed Bias

NORMALITY Test Results:	
Chi Square Test	Non-Normal
Binomial Test	N/A

Mann-Whitney Test	
Value Related Inequity	93.0403
D'Agostino-Pearson	
Shapiro-Wilk W	Non-Normal
Kurtosis (2.5 - 4) = 6.19	Not Trimmed?
Skew (-0.5 - 1) = 0.06	Acceptable
COD Standard	
Improved Residential	Maximum 15.00%

Secondary Category(ies) with sales		
Count	Category	Description
891	26	Res Condominiums
1,516	1234	Improved Rural Res Tract
16	1246	Mfg. House on Rural Res Tract
150	1248	Dec.Mfg. House on Rural Res Tract
4,355	1537	Improved Rural Res Sub
28	1546	Mfg. House on Rural Res Sub
138	1548	Dec.Mfg. House on Rural Res Sub
2	1840	Improved Other Land
25,792	2041	Improved Urban Res
57	2046	Mfg. House on Urban Res
251	2048	Dec.Mfg. House on Urban Res

COMMENTS:		
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March 24, 2020
STC Staff

COV/COD	
Expected	125%
Observed	139%

Maybe a Non-Representative Sample

2019 Statewide Ratio Study Summary for Primary Category: Manufactured Housing

<u>County</u>	<u>Sales Count</u>	<u>Total Assessed Value (\$)</u>	<u>Total Sales Price or Value (\$)</u>	<u>Mean Ratio</u>	<u>Median Ratio</u>	<u>Geometric Mean Ratio</u>	<u>Weighted Mean Ratio</u>	<u>Price Related Differential</u>	<u>Coefficient of Dispersion (COD)</u>	<u>Coefficient of Variation (COV)</u>	<u>Probability of 90/110% Actual Mean</u>
ADA	224	11,739,000	12,617,646	95.02%	93.73%	90.89%	93.04%	1.02	21.94%	28.41%	99.73%
ADAMS											
BANNOCK	76	1,525,779	1,519,310	113.34%	110.00%	105.76%	100.43%	1.13	28.87%	36.11%	23.89%
BEARLAKE											
BENEWAH											
BINGHAM	5	98,231	99,795	95.04%	99.67%	94.24%	98.43%	0.97	10.20%	14.53%	73.31%
BLAINE	9	117,580	161,500	98.67%	77.30%	77.93%	72.80%	1.36	65.04%	64.96%	34.70%
BOISE											
BONNER	18	1,859,018	1,710,619	112.33%	109.63%	107.46%	108.68%	1.03	20.56%	30.75%	38.21%
BONNEVILLE	34	644,060	714,240	102.09%	98.41%	94.41%	90.17%	1.13	33.51%	39.44%	83.48%
BOUNDARY											
BUTTE											
CAMAS											
CANYON	156	3,167,100	3,896,172	99.67%	85.22%	88.79%	81.29%	1.23	45.29%	49.23%	98.88%
CARIBOU											
CASSIA	12	143,410	173,850	88.87%	84.97%	84.81%	82.49%	1.08	20.64%	31.11%	43.35%
CLARK											
CLEARWATER											
CUSTER											
ELMORE	7	13,222	16,100	98.62%	100.00%	88.08%	82.12%	1.20	32.54%	43.77%	43.60%
FRANKLIN	12	358,350	396,336	96.10%	101.42%	94.85%	90.42%	1.06	9.14%	15.56%	9035.00%
FREMONT	9	79,270	94,800	81.12%	62.96%	67.16%	83.62%	0.97	69.20%	64.70%	24.40%
GEM	11	323,625	463,500	77.76%	81.05%	73.40%	69.82%	1.11	24.22%	32.92%	7.10%
GOODING	14	197,874	243,628	87.67%	91.03%	83.43%	81.22%	1.08	26.01%	32.02%	37.53%
IDAHO	8	34,236	34,800	162.94%	162.50%	127.01%	98.38%	1.66	53.19%	62.74%	5.15%
JEFFERSON	7	142,822	166,000	110.24%	111.11%	103.62%	86.04%	1.28	27.91%	34.91%	38.68%
JEROME											
KOOTENAI	118	8,028,404	8,760,140	90.20%	91.73%	89.32%	91.65%	0.98	10.91%	13.89%	56.75%
LATAH	76	1,441,129	1,576,468	94.19%	89.32%	86.89%	91.42%	1.03	32.91%	40.16%	83.14%
LEMHI											
LEWIS											
LINCOLN											
MADISON	45	998,805	1,458,866	74.02%	64.91%	68.57%	68.46%	1.08	37.47%	39.76%	Approx. 100%
MINIDOKA	6	102,440	77,500	108.79%	95.94%	101.13%	132.18%	0.82	36.42%	42.14%	34.37%
NEZPERCE	17	181,722	254,000	84.41%	71.73%	76.14%	71.54%	1.18	40.92%	55.85%	29.60%
ONEIDA											
OWYHEE											
PAYETTE	10	367,224	633,913	64.49%	52.39%	61.01%	57.93%	1.11	38.64%	35.86%	0.34%
POWER											
SHOSHONE	8	156,003	240,488	69.59%	67.64%	67.57%	64.87%	1.07	19.36%	26.99%	0.88%
TETON											
TWINFALLS	33	475,532	587,298	110.69%	82.19%	93.61%	80.97%	1.37	65.76%	55.81%	44.87%
VALLEY											
WASHINGTON											
STATEWIDE	915	32,194,836	35,896,969	96.37%	92.13%	89.10%	89.69%	1.07	30.56%	40.30%	Approx.100%

2019 Statewide Ratio Study Summary for Primary Category: Manufactured Housing

<u>County</u>	<u>Mean Lower Confidence Interval (90%)</u>	<u>Mean Upper Confidence Interval (90%)</u>	<u>Median Lower Confidence Interval (90%)</u>	<u>Median Upper Confidence Interval (90%)</u>	<u>Weighted Mean Lower Confidence Interval (90%)</u>	<u>Weighted Mean Upper Confidence Interval (90%)</u>	<u>Distribution</u>	<u>Average Sale Price or Value (\$)</u>	<u>PRB</u>	<u>Lower 95% CI on PRB</u>	<u>Upper 95% CI on PRB</u>
ADA	92.05%	97.98%	91.27%	95.84%	90.05%	96.02%	Non-Normal	56,329	0.0124	-0.0190	0.0437
ADAMS											
BANNOCK	105.62%	121.07%	103.66%	117.63%	93.36%	107.49%	Normal	19,991	-0.0454	-0.1060	0.0152
BEARLAKE											
BENEWAH											
BINGHAM	81.88%	108.20%	80.28%	111.60%	86.95%	109.92%	Normal	19,959	0.0232	-0.0672	0.1135
BLAINE	58.93%	138.41%	47.28%	160.95%	32.00%	113.61%	Normal	17,944	-0.1024	-0.7185	0.5137
BOISE											
BONNER	98.17%	126.50%	100.79%	116.02%	100.26%	117.09%	Normal	95,034	-0.0072	-0.1783	0.1639
BONNEVILLE	90.73%	113.45%	73.74%	117.59%	82.25%	98.10%	Normal	21,007	-0.0544	-0.1349	0.0262
BOUNDARY											
BUTTE											
CAMAS											
CANYON	93.21%	106.13%	80.31%	96.32%	75.76%	86.81%	Non-Normal	24,975	-0.1480	-0.2190	-0.0769
CARIBOU											
CASSIA	74.53%	103.20%	78.54%	95.29%	76.49%	88.49%	Normal	14,488	-0.0444	-0.1874	0.0985
CLARK											
CLEARWATER											
CUSTER											
ELMORE	66.92%	130.32%	46.19%	139.48%	44.06%	120.19%	Normal	2,300	-0.3489	-0.9630	0.2652
FRANKLIN	88.35%	103.86%	94.87%	103.64%	79.66%	101.17%	Normal	33,028	-0.0390	-0.0977	0.0197
FREMONT	48.58%	113.66%	35.52%	118.19%	59.02%	108.21%	Normal	10,533	0.0420	-0.4805	0.5645
GEM	63.77%	91.74%	54.57%	97.48%	44.39%	95.26%	Normal	42,136	-0.0043	-0.1429	0.1344
GOODING	74.38%	100.96%	62.36%	106.42%	66.76%	95.68%	Normal	17,402	-0.0367	-0.1623	0.0889
IDAHO	94.44%	231.43%	47.03%	258.64%	33.50%	163.26%	Normal	4,350	-0.2276	-0.6901	0.2349
JEFFERSON	81.98%	138.51%	64.10%	146.56%	49.07%	123.00%	Normal	23,714	-0.0645	-0.2232	0.0941
JEROME											
KOOTENAI	88.31%	92.10%	89.48%	93.13%	89.49%	93.81%	Normal	74,238	0.0649	0.0352	0.0946
LATAH	87.05%	101.32%	82.02%	99.13%	85.69%	97.14%	Non-Normal	20,743	-0.0249	-0.0838	0.0340
LEMHI											
LEWIS											
LINCOLN											
MADISON	66.80%	81.24%	60.23%	81.50%	62.68%	74.24%	Non-Normal	32,419	-0.0460	-0.2387	0.1467
MINIDOKA	71.08%	146.49%	65.10%	166.83%	89.40%	174.96%	Normal	12,917	0.2400	0.0397	0.4404
NEZPERCE	64.45%	104.38%	57.31%	86.65%	56.07%	87.02%	Non-Normal	14,941	-0.0178	-0.4162	0.3807
ONEIDA											
OWYHEE											
PAYETTE	51.09%	77.90%	48.63%	85.09%	45.53%	70.33%	Normal	63,391	-0.1205	-0.3403	0.0993
POWER											
SHOSHONE	57.01%	82.18%	51.79%	81.87%	57.29%	72.45%	Normal	30,061	-0.1040	-0.2710	0.0629
TETON											
TWINFALLS	93.00%	128.38%	73.43%	141.07%	68.99%	92.95%	Normal	17,797	-0.3017	-0.5143	-0.0892
VALLEY											
WASHINGTON											
STATEWIDE	94.25%	98.48%	90.04%	93.74%	88.00%	91.37%	Non-Normal	39,232	-0.0209	-0.0388	-0.0031

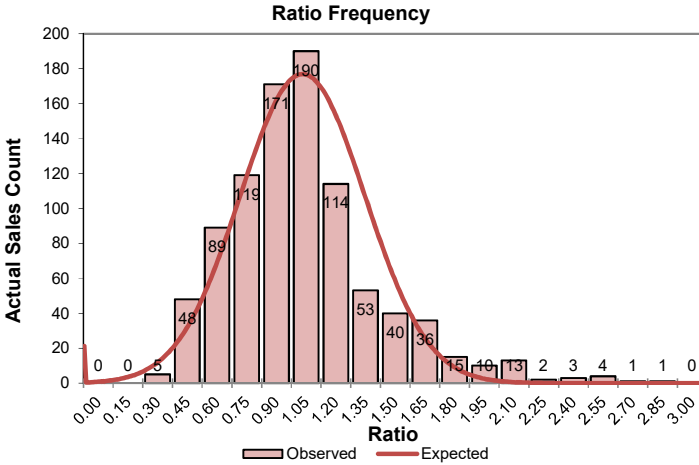
- Manufactured Housing Properties

	Manufactured Housing	Combined Categories	Observed Sales Dates:	
FINAL Study when Initialed and dated.	Using 2019 Assessed Values	Assessment Date:	From:	To:
		01/01/2019	09/01/2017	01/03/2020
Sales Price is/may be Time Adjusted	Sales Prices adjusted for time at County Level		Selected Time Period:	
			01/01/2017	01/31/2020

SAMPLE STATISTICS	
Sample size (n)	915
Total Assessed Value	\$32,194,836
Total Sales Price	\$35,896,969
Mean Assessed Value	\$35,186
Mean Sales Price	\$39,232
Standard Deviation AV	\$34,521
Standard Deviation SP	\$36,580
Median Assessed Value	\$23,176
Median Sales Price	\$28,425

ASSESSMENT LEVEL	
Arithmetic Mean Ratio	96.37%
Median Ratio	92.13%
Weighted Mean Ratio	89.69%
Geometric Mean Ratio	89.10%

UNIFORMITY	
Lowest Ratio	16.95%
Highest Ratio	300.00%
Coefficient of Dispersion	30.56%
Standard Deviation	38.84%
Coefficient of Variation	40.30%



Price-related Differential	1.07	PRB	-0.0209
		T-Score:	-2.30

RELIABILITY		
90% Confidence Intervals:	Lower	Upper
Around the Mean	94.25%	98.48%
BINOM - Around the Median	90.04%	93.74%
Around the Weighted Mean	88.00%	91.37%
Around the COD	29.50%	33.40%
Probability True Mean 90-110	Approx. 100%	
80% Confidence Intervals:	Lower	Upper
Around the Mean	94.72%	98.01%
BINOM - Around the Median	90.47%	93.44%
Around the Weighted Mean	88.37%	91.00%

Compliance Checks:		
Level:	MEDIAN 90% Confidence Interval:	PASSED
	MEDIAN 80% Confidence Interval:	PASSED
Uniformity:	COD Standards met?	NO
	COD:	Very Poor
	COV:	Very Poor
	PRD:	Favors High Priced

NORMALITY Test Results:	
Chi Square Test	Non-Normal
Binomial Test	N/A

Mann-Whitney Test	
Value Related Inequity	-3.4237
D'Agostino-Pearson	Non-Normal
Shapiro-Wilk W	N/A
Kurtosis (2.5 - 4) = 5.62	Not Trimmed?
Skew (-0.5 - 1) = 1.19	Possible Outliers
COD Standard	Maximum
Manufactured Housing	20.00%

Secondary Category(ies) with sales		
Count	Category	Description
151	46	Manufactured House (46)
764	65	Mfg. House (65) on Leased Land

April 2, 2020
STC Staff

COV/COD	
Expected	125%
Observed	132%

Maybe a Non-Representative Sample

2019 Statewide Ratio Study Summary for Primary Category: Vacant Commercial

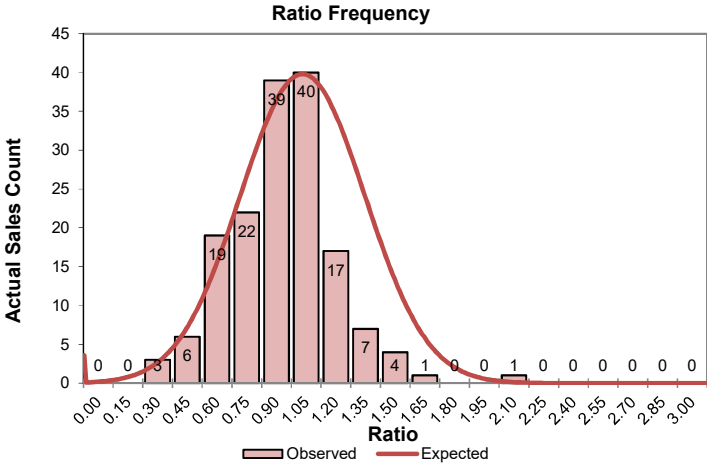
<u>County</u>	<u>Sales Count</u>	<u>Total Assessed Value (\$)</u>	<u>Total Sales Price or Value (\$)</u>	<u>Mean Ratio</u>	<u>Median Ratio</u>	<u>Geometric Mean Ratio</u>	<u>Weighted Mean Ratio</u>	<u>Price Related Differential</u>	<u>Coefficient of Dispersion (COD)</u>	<u>Coefficient of Variation (COV)</u>	<u>Probability of 90/110% Actual Mean</u>
ADA	37	14,328,100	15,867,621	93.20%	93.71%	89.68%	90.30%	1.03	22.91%	28.12%	77.03%
ADAMS											
BANNOCK	5	903,750	1,311,900	87.76%	95.05%	82.73%	68.89%	1.27	26.28%	36.10%	34.50%
BEARLAKE											
BENEWAH											
BINGHAM											
BLAINE	9	3,109,460	4,249,217	71.88%	88.99%	57.46%	73.18%	0.98	32.23%	55.47%	9.46%
BOISE											
BONNER	5	531,592	1,035,985	70.99%	57.93%	63.98%	51.31%	1.38	51.29%	51.07%	11.62%
BONNEVILLE	10	1,379,053	1,650,900	91.30%	78.51%	83.17%	83.53%	1.09	41.91%	51.09%	41.58%
BOUNDARY											
BUTTE											
CAMAS											
CANYON	29	11,340,520	12,546,501	89.01%	85.48%	86.99%	90.39%	0.98	17.53%	20.85%	38.77%
CARIBOU											
CASSIA											
CLARK											
CLEARWATER											
CUSTER											
ELMORE											
FRANKLIN											
FREMONT											
GEM	5	191,446	319,000	64.73%	60.63%	61.67%	60.01%	1.08	27.31%	36.73%	3.17%
GOODING											
IDAHO											
JEFFERSON											
JEROME											
KOOTENAI	42	17,216,636	22,589,562	86.74%	88.47%	84.52%	76.22%	1.14	15.38%	22.33%	13.79%
LATAH											
LEMHI											
LEWIS											
LINCOLN											
MADISON											
MINIDOKA											
NEZPERCE	5	683,563	719,500	98.51%	99.05%	95.59%	95.01%	1.04	18.22%	26.96%	54.87%
ONEIDA											
OWYHEE											
PAYETTE											
POWER											
SHOSHONE											
TETON											
TWINFALLS	12	3,064,864	4,697,018	66.61%	60.63%	61.49%	65.25%	1.02	38.67%	40.23%	0.57%
VALLEY											
WASHINGTON											
STATEWIDE	159	52,748,984	64,987,204	85.80%	88.27%	80.94%	81.17%	1.06	23.36%	31.75%	2.56%

2019 Statewide Ratio Study Summary for Primary Category: Vacant Commercial

<u>County</u>	<u>Mean Lower Confidence Interval (90%)</u>	<u>Mean Upper Confidence Interval (90%)</u>	<u>Median Lower Confidence Interval (90%)</u>	<u>Median Upper Confidence Interval (90%)</u>	<u>Weighted Mean Lower Confidence Interval (90%)</u>	<u>Weighted Mean Upper Confidence Interval (90%)</u>	<u>Distribution</u>	<u>Average Sale Price or Value (\$)</u>	<u>PRB</u>	<u>Lower 95% CI on PRB</u>	<u>Upper 95% CI on PRB</u>
ADA	86.11%	100.28%	77.55%	102.32%	79.20%	101.39%	Normal	428,855	0.0086	-0.0587	0.0758
ADAMS											
BANNOCK	57.55%	117.98%	50.97%	117.50%	48.36%	89.42%	Normal	262,380	-0.1506	-0.4390	0.1379
BEARLAKE											
BENEWAH											
BINGHAM											
BLAINE	47.16%	96.61%	23.43%	97.29%	44.43%	101.92%	Normal	472,135	-0.0192	-0.2596	0.2212
BOISE											
BONNER	36.42%	105.56%	36.97%	119.06%	25.94%	76.69%	Normal	207,197	-0.4725	-1.2643	0.3194
BONNEVILLE	64.26%	118.34%	54.24%	115.47%	70.29%	96.78%	Non-Normal	165,090	-0.0209	-0.4112	0.3693
BOUNDARY											
BUTTE											
CAMAS											
CANYON	83.15%	94.87%	82.47%	98.19%	81.95%	98.82%	Normal	432,638	0.0070	-0.0457	0.0598
CARIBOU											
CASSIA											
CLARK											
CLEARWATER											
CUSTER											
ELMORE											
FRANKLIN											
FREMONT											
GEM	42.06%	87.39%	43.60%	99.33%	34.81%	85.22%	Normal	63,800	0.0258	-0.6658	0.7173
GOODING											
IDAHO											
JEFFERSON											
JEROME											
KOOTENAI	81.83%	91.66%	85.94%	90.00%	67.36%	85.07%	Normal	537,847	-0.0555	-0.0973	-0.0138
LATAH											
LEMHI											
LEWIS											
LINCOLN											
MADISON											
MINIDOKA											
NEZPERCE	73.19%	123.84%	66.61%	132.92%	81.57%	108.45%	Normal	143,900	0.0380	-0.1671	0.2430
ONEIDA											
OWYHEE											
PAYETTE											
POWER											
SHOSHONE											
TETON											
TWINFALLS	52.72%	80.51%	42.74%	96.48%	52.42%	78.08%	Normal	391,418	0.0533	-0.2033	0.3099
VALLEY											
WASHINGTON											
STATEWIDE	82.24%	89.35%	84.13%	90.97%	76.05%	86.29%	Non-Normal	408,725	-0.0019	-0.0154	0.0115

- Vacant Commercial Properties

	Vacant Commercial	Combined Categories	Observed Sales Dates:	
FINAL Study when Initialed and dated.	Using 2019 Assessed Values	Assessment Date:	From:	To:
		01/01/2019	01/01/2018	01/03/2020
Sales Price is/may be Time Adjusted	Sales Prices adjusted for time at County Level	Selected Time Period:		
		01/01/2017	01/31/2020	
SAMPLE STATISTICS				
Sample size (n)	159			
Total Assessed Value	\$52,748,984			
Total Sales Price	\$64,987,204			
Mean Assessed Value	\$331,755			
Mean Sales Price	\$408,725			
Standard Deviation AV	\$493,080			
Standard Deviation SP	\$630,313			
Median Assessed Value	\$162,950			
Median Sales Price	\$200,000			
ASSESSMENT LEVEL				
Arithmetic Mean Ratio	85.80%			
Median Ratio	88.27%			
Weighted Mean Ratio	81.17%			
Geometric Mean Ratio	80.94%			
UNIFORMITY				
Lowest Ratio	15.18%			
Highest Ratio	205.71%			
Coefficient of Dispersion	23.36%			
Standard Deviation	27.24%			
Coefficient of Variation	31.75%			
Price-related Differential	1.06	PRB	Compliance Checks:	
		-0.0019	Level:	
RELIABILITY		T-Score: -0.27	MEDIAN 90% Confidence Interval:	PASSED
90% Confidence Intervals:	Lower	Upper	MEDIAN 80% Confidence Interval:	FAILED
Around the Mean	82.24%	89.35%	Uniformity:	COD Standards met? NO
BINOM - Around the Median	84.13%	90.97%	COD:	Somewhat Poor
Around the Weighted Mean	76.05%	86.29%	COV:	Poor
Around the COD	21.70%	28.10%	PRD:	Favors High Priced
Probability True Mean 90-110	2.56%		COMMENTS:	
80% Confidence Intervals:	Lower	Upper		
Around the Mean	83.03%	88.57%		
BINOM - Around the Median	85.11%	89.99%		
Around the Weighted Mean	77.18%	85.16%		
NORMALITY Test Results:				
Chi Square Test	Non-Normal			
Binomial Test	N/A			
Secondary Category(ies) with sales				
Mann-Whitney Test	-2.0551			
Value Related Inequity	Count	Category	Description	
D'Agostino-Pearson	2	13	Unimproved Rural Com Tract	
Shapiro-Wilk W	3	16	Unimproved Rural Com Sub	
Kurtosis (2.5 - 4) = 4.73	6	17	Unimproved Rural Ind Sub Lot/Acre	
Skew (-0.5 - 1) = 0.38	130	21	Unimproved Urban Com Lot/Acre	
COD Standard	18	22	Unimproved Urban Ind Lot/Acre	
Vacant Commercial	Maximum 20.00%			
			COV/COD	
			Expected	125%
			Observed	136%



March 24, 2020
STC Staff

COV/COD	
Expected	125%
Observed	136%

Maybe a Non-Representative Sample

2019 Statewide Ratio Study Summary for Primary Category: Improved Commercial

<u>County</u>	<u>Sales Count</u>	<u>Total Assessed Value (\$)</u>	<u>Total Sales Price or Value (\$)</u>	<u>Mean Ratio</u>	<u>Median Ratio</u>	<u>Geometric Mean Ratio</u>	<u>Weighted Mean Ratio</u>	<u>Price Related Differential</u>	<u>Coefficient of Dispersion (COD)</u>	<u>Coefficient of Variation (COV)</u>	<u>Probability of 90/110% Actual Mean</u>
ADA	148	123,119,400	133,536,323	94.01%	95.28%	91.81%	92.20%	1.02	15.36%	21.27%	99.27%
ADAMS											
BANNOCK	42	10,603,240	11,960,800	95.30%	93.96%	90.77%	88.65%	1.08	22.62%	30.95%	87.65%
BEARLAKE											
BENEWAH											
BINGHAM	5	1,012,600	1,065,000	103.73%	87.57%	101.01%	95.08%	1.09	23.21%	26.31%	52.04%
BLAINE	35	18,407,517	23,276,161	85.45%	88.10%	83.02%	79.08%	1.08	17.30%	23.14%	8.53%
BOISE	11	3,982,403	4,322,000	98.62%	93.34%	94.81%	92.14%	1.07	24.16%	29.67%	71.11%
BONNER	8	3,022,015	2,827,000	104.69%	104.72%	96.22%	106.90%	0.98	30.31%	38.94%	46.71%
BONNEVILLE	39	15,606,213	17,552,834	87.45%	85.24%	85.10%	88.91%	0.98	19.74%	23.89%	22.06%
BOUNDARY											
BUTTE											
CAMAS											
CANYON	90	68,691,190	79,449,702	92.34%	95.11%	89.56%	86.46%	1.07	17.72%	24.21%	83.89%
CARIBOU											
CASSIA	5	918,694	820,999	112.48%	105.91%	110.70%	111.90%	1.01	13.89%	21.17%	36.21%
CLARK											
CLEARWATER	6	551,226	765,000	77.34%	71.77%	75.85%	72.06%	1.07	18.64%	22.16%	6.25%
CLUSTER	7	532,950	724,808	78.43%	70.38%	75.30%	73.53%	1.07	27.17%	31.82%	12.53%
ELMORE	5	521,101	662,500	100.57%	104.31%	94.73%	78.66%	1.28	20.92%	33.11%	46.06%
FRANKLIN											
FREMONT	6	621,850	1,202,500	66.12%	66.67%	59.87%	51.71%	1.28	41.27%	46.21%	4.85%
GEM	10	3,589,283	5,420,000	80.47%	74.87%	77.35%	66.22%	1.22	25.52%	31.59%	13.05%
GOODING	9	1,220,770	1,317,625	96.66%	86.93%	93.51%	92.65%	1.04	24.25%	29.12%	65.46%
IDAHO	5	953,369	985,675	105.40%	100.08%	95.72%	96.72%	1.09	37.68%	51.07%	29.23%
JEFFERSON											
JEROME	7	818,939	688,173	113.39%	128.50%	100.08%	119.00%	0.95	31.51%	46.44%	29.29%
KOOTENAI	176	110,781,050	127,511,958	90.46%	91.68%	89.48%	86.88%	1.04	11.22%	14.35%	67.72%
LATAH	14	4,503,230	6,138,150	76.73%	76.21%	74.42%	73.36%	1.05	18.44%	25.78%	1.30%
LEMHI	6	935,139	1,064,000	102.28%	94.09%	94.34%	87.89%	1.16	34.14%	42.40%	39.99%
LEWIS											
LINCOLN											
MADISON	11	7,625,010	8,243,000	92.47%	92.17%	91.09%	92.50%	1.00	13.76%	18.36%	67.71%
MINIDOKA	11	1,654,660	2,373,500	81.05%	84.14%	78.95%	69.71%	1.16	18.91%	23.51%	7.50%
NEZPERCE	16	7,380,978	7,982,500	93.41%	95.02%	92.40%	92.46%	1.01	10.18%	14.41%	83.62%
ONEIDA											
OWYHEE	8	533,521	721,500	73.37%	79.01%	69.33%	73.95%	0.99	26.06%	33.71%	4.75%
PAYETTE	13	1,800,076	2,772,800	81.65%	72.47%	74.72%	64.92%	1.26	39.22%	46.66%	21.24%
POWER											
SHOSHONE	9	1,040,772	1,158,450	88.98%	83.92%	87.77%	89.84%	0.99	16.16%	17.56%	42.27%
TETON											
TWINFALLS	37	9,463,481	11,596,168	85.01%	85.58%	81.51%	81.61%	1.04	23.16%	28.53%	10.38%
VALLEY	8	2,161,850	3,076,365	76.22%	80.67%	73.46%	70.27%	1.08	20.99%	27.66%	5.22%
WASHINGTON	8	712,982	831,000	120.80%	92.59%	106.55%	85.80%	1.41	60.84%	53.42%	21.56%
STATEWIDE	755	402,765,509	460,046,492	91.02%	91.42%	88.00%	87.55%	1.04	18.64%	25.91%	88.30%

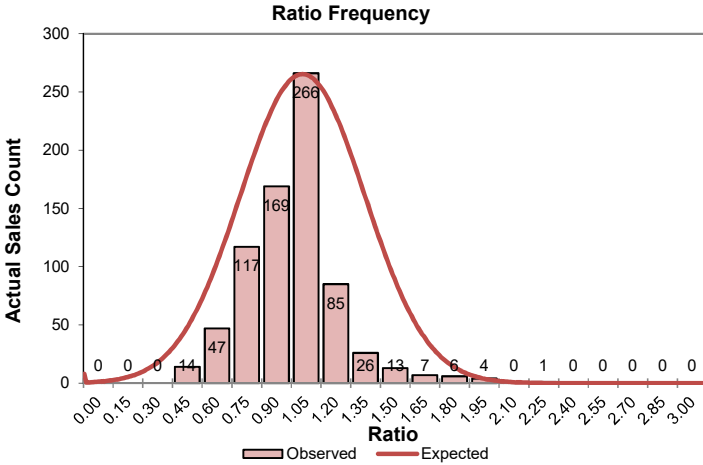
2019 Statewide Ratio Study Summary for Primary Category: Improved Commercial

<u>County</u>	<u>Mean Lower Confidence Interval (90%)</u>	<u>Mean Upper Confidence Interval (90%)</u>	<u>Median Lower Confidence Interval (90%)</u>	<u>Median Upper Confidence Interval (90%)</u>	<u>Weighted Mean Lower Confidence Interval (90%)</u>	<u>Weighted Mean Upper Confidence Interval (90%)</u>	<u>Distribution</u>	<u>Average Sale Price or Value (\$)</u>	<u>PRB</u>	<u>Lower 95% CI on PRB</u>	<u>Upper 95% CI on PRB</u>
ADA	91.31%	96.72%	91.71%	97.79%	89.07%	95.33%	Normal	902,272	0.0053	-0.0184	0.0291
ADAMS											
BANNOCK	87.81%	102.79%	89.20%	98.64%	77.86%	99.44%	Normal	284,781	-0.0104	-0.1176	0.0968
BEARLAKE											
BENEWAH											
BINGHAM	77.71%	129.76%	82.37%	137.74%	72.61%	117.55%	Normal	213,000	-0.0599	-0.4719	0.3522
BLAINE	79.95%	90.95%	78.74%	93.90%	72.63%	85.54%	Normal	665,033	-0.0219	-0.0701	0.0262
BOISE	82.63%	114.61%	82.73%	113.51%	80.86%	103.42%	Normal	392,909	0.0438	-0.1020	0.1896
BONNER	77.38%	132.01%	76.66%	139.96%	66.07%	147.73%	Normal	353,375	0.1042	-0.1468	0.3551
BONNEVILLE	81.95%	92.95%	77.65%	95.86%	82.72%	95.10%	Normal	450,073	0.0448	-0.0153	0.1049
BOUNDARY											
BUTTE											
CAMAS											
CANYON	88.46%	96.21%	87.81%	97.18%	80.82%	92.10%	Normal	882,774	-0.0146	-0.0424	0.0132
CARIBOU											
CASSIA	89.78%	135.18%	94.16%	148.20%	89.99%	133.80%	Normal	164,200	0.0810	-0.3325	0.4945
CLARK											
CLEARWATER	63.24%	91.44%	62.23%	99.29%	56.70%	87.41%	Normal	127,500	-0.0589	-0.3676	0.2498
CLUSTER	60.10%	96.76%	56.04%	106.11%	62.24%	84.82%	Normal	103,544	-0.1021	-0.4385	0.2343
ELMORE	68.82%	132.32%	52.87%	133.60%	35.83%	121.49%	Normal	132,500	-0.3140	-0.5238	-0.1043
FRANKLIN											
FREMONT	40.99%	91.26%	35.27%	96.61%	22.51%	80.92%	Normal	200,417	-0.1446	-0.4217	0.1326
GEM	65.73%	95.21%	61.13%	91.36%	59.21%	73.24%	Normal	542,000	-0.0377	-0.1984	0.1231
GOODING	79.21%	114.12%	74.16%	114.63%	79.35%	105.95%	Normal	146,403	0.0052	-0.3531	0.3634
IDAHO	54.08%	156.72%	58.44%	182.65%	59.12%	134.33%	Normal	197,135	0.0175	-1.1588	1.1939
JEFFERSON											
JEROME	74.71%	152.06%	56.76%	167.20%	83.37%	154.63%	Normal	98,310	0.1299	-0.2387	0.4984
KOOTENAI	88.85%	92.07%	89.90%	93.36%	81.81%	91.94%	Normal	724,500	-0.0063	-0.0196	0.0070
LATAH	67.37%	86.09%	63.89%	81.72%	59.81%	86.92%	Normal	438,439	0.0351	-0.1201	0.1904
LEMHI	66.61%	137.95%	56.73%	155.80%	57.89%	117.89%	Normal	177,333	-0.5725	-1.3950	0.2501
LEWIS											
LINCOLN											
MADISON	83.20%	101.75%	82.85%	102.29%	85.40%	99.60%	Normal	749,364	0.0134	-0.0920	0.1188
MINIDOKA	70.65%	91.46%	65.08%	95.24%	58.46%	80.97%	Normal	215,773	-0.0551	-0.1620	0.0517
NEZPERCE	87.51%	99.31%	92.43%	99.94%	84.02%	100.91%	Normal	498,906	-0.0078	-0.0864	0.0707
ONEIDA											
OWYHEE	56.80%	89.94%	46.87%	92.23%	56.12%	91.77%	Normal	90,188	0.1462	-0.2475	0.5398
PAYETTE	62.82%	100.48%	58.96%	99.01%	49.27%	80.57%	Non-Normal	213,292	-0.1956	-0.4771	0.0859
POWER											
SHOSHONE	79.29%	98.66%	74.57%	101.18%	79.90%	99.78%	Normal	128,717	0.0923	-0.1602	0.3448
TETON											
TWINFALLS	78.45%	91.57%	72.58%	92.77%	64.69%	98.52%	Normal	313,410	0.0376	-0.0375	0.1128
VALLEY	62.10%	90.35%	51.69%	90.29%	55.68%	84.87%	Normal	384,546	-0.0838	-0.3694	0.2017
WASHINGTON	77.56%	164.04%	66.23%	191.74%	68.75%	102.84%	Normal	103,875	-0.2817	-0.5952	0.0318
STATEWIDE	89.61%	92.44%	90.43%	92.84%	85.41%	89.69%	Non-Normal	609,333	-0.0023	-0.0076	0.0029

- Improved Commercial Properties

	Improved Commercial	Combined Categories	Observed Sales Dates:	
FINAL Study when Initialed and dated.	Using 2019 Assessed Values	Assessment Date:	From:	To:
		01/01/2019	01/01/2018	12/03/2019
Sales Price is/may be Time Adjusted	Sales Prices adjusted for time at County Level		Selected Time Period:	
			01/01/2017	12/31/2019

SAMPLE STATISTICS	
Sample size (n)	755
Total Assessed Value	\$402,765,509
Total Sales Price	\$460,046,492
Mean Assessed Value	\$533,464
Mean Sales Price	\$609,333
Standard Deviation AV	\$838,123
Standard Deviation SP	\$1,017,011
Median Assessed Value	\$265,814
Median Sales Price	\$300,000
ASSESSMENT LEVEL	
Arithmetic Mean Ratio	91.02%
Median Ratio	91.42%
Weighted Mean Ratio	87.55%
Geometric Mean Ratio	88.00%
UNIFORMITY	
Lowest Ratio	32.34%
Highest Ratio	217.00%
Coefficient of Dispersion	18.64%
Standard Deviation	23.59%
Coefficient of Variation	25.91%



Price-related Differential	1.04	PRB	-0.0023
RELIABILITY		T-Score: -0.87	
90% Confidence Intervals:	Lower	Upper	
Around the Mean	89.61%	92.44%	
BINOM - Around the Median	90.43%	92.84%	
Around the Weighted Mean	85.41%	89.69%	
Around the COD	17.67%	20.25%	
Probability True Mean 90-110	88.30%		
80% Confidence Intervals:	Lower	Upper	
Around the Mean	89.92%	92.12%	
BINOM - Around the Median	90.64%	92.36%	
Around the Weighted Mean	85.88%	89.21%	

Compliance Checks:		
Level:	MEDIAN	90% Confidence Interval: PASSED
	MEDIAN	80% Confidence Interval: PASSED
Uniformity:	COD Standards met?	YES
	COD:	Good
	COV:	Somewhat Poor
	PRD:	Favors High Priced

NORMALITY Test Results:	Non-Normal
Chi Square Test	Non-Normal
Binomial Test	N/A
Mann-Whitney Test	-0.6870
Value Related Inequity CANNOT be proven	
D'Agostino-Pearson	Non-Normal
Shapiro-Wilk W	N/A
Kurtosis (2.5 - 4) = 5.91	Not Trimmed?
Skew (-0.5 - 1) = 0.84	Acceptable
COD Standard	Maximum
Improved Commercial	20.00%

Secondary Category(ies) with sales		
Count	Category	Description
50	27	Com Condominiums
25	1335	Improved Rural Com Tract
1	1436	Improved Rural Ind Tract
10	1638	Improved Rural Com Sub
632	2142	Improved Urban Com
17	2243	Improved Urban Ind
20	51	Cml Imps on Exempt Land

March 24, 2020
STC Staff

COV/COD	
Expected	125%
Observed	139%

Maybe a Non-Representative Sample