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www.stc.mo.gov

July 10, 2020

Mr. Scott Shipman
St. Charles County Assessor
201 N. Second Street, Room 250
St. Charles, MO 63301

Dear Mr. Shipman:

Enclosed you will find copies of the Final Residential *Traditional Sales Study* report. The results are within the acceptable parameters for 2019.

As you will recall, our office had emailed you the *OrigAssdValues_SoldProperties.xls* spreadsheet to review the Tentative Ratio Report information for any errors or omission of data. This Final *Traditional Sales Study* report reflects any changes identified by your review of the tentative sales ratio data.

If you have any questions or concerns regarding the final ratio, please contact me before August 11, 2020 at rodney.cole@stc.mo.gov or 816-390-7849; otherwise, we will conclude your county's 2019 residential study.

Sincerely,

A handwritten signature in cursive script that reads 'Rodney Cole'.

Rodney Cole
Local Assistance

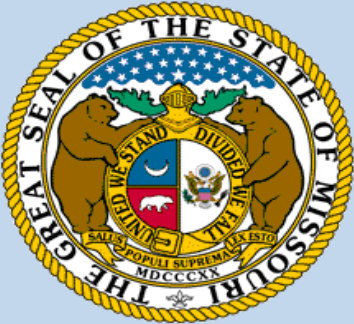
Cc: Dan Roe, Assessment Representative Local Assistance
Jim Kyle, Supervisor Local Assistance

State Tax Commission of Missouri

Residential ◇

(Final Sales Study)

◇ 2019 Reassessment



State Tax Commission of Missouri
421 East Dunklin Street
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Two ratio study procedures are available for analysis:

1) Traditional Sales Study

A sales study that analyzes assessment levels based on sales stratified by land use, location, and characteristics of property.

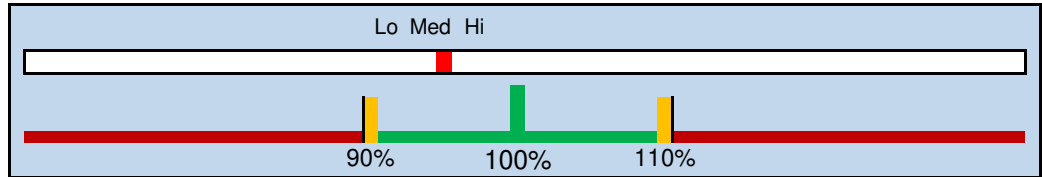
The Decision Model Statistics listed on this page are overall weighted calculations based on the data submitted from the county and, except for Mean Ratio, are weighted by both time and location. Statistics found on the pages stratified for Land Use, Assessed Value, and Year Built are weighted only by time, not location.

2) Random Appraisals

For some jurisdictions, the availability of sales is scarce. In such scenarios, parcels will be randomly appraised. Every parcel will have an equal chance to be selected in the random appraisal study.

<http://www.stc.mo.gov/>

St. Charles County



Decision Model Statistics

@19% @100%

Time and Location Weighted Median Ratio.....	18.02%	94.83%
<i>95% Low Confidence Interval.....</i>	17.97%	94.59%
<i>95% High Confidence Interval.....</i>	18.06%	95.04%
<i>Time, Location Weighted Coefficient of Dispersion (COD)...</i>		7.06%

Additional Statistics

@19% @100%

<i>Mean Ratio.....</i>	17.98%	94.61%
<i>Weighted Mean Ratio.....</i>	17.92%	94.34%
<i>Time, Location Weighted Price Related Differential (PRD)</i>		100.29%

Sample Data

<i>Pre-Trim Sample Size.....</i>	6102
<i>Low Trims.....</i>	26
<i>High Trims.....</i>	18
<i>Post-Trim Sample Size.....</i>	6058
<i>Number of Assessments.....</i>	137739

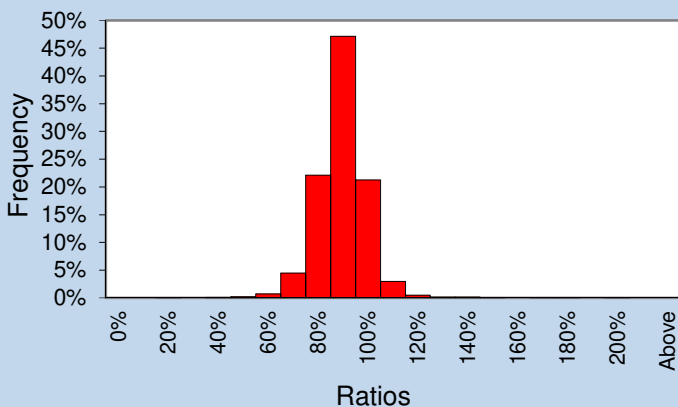
Overall Descriptive Statistics

Page 2 statistics are weighted by time, not location

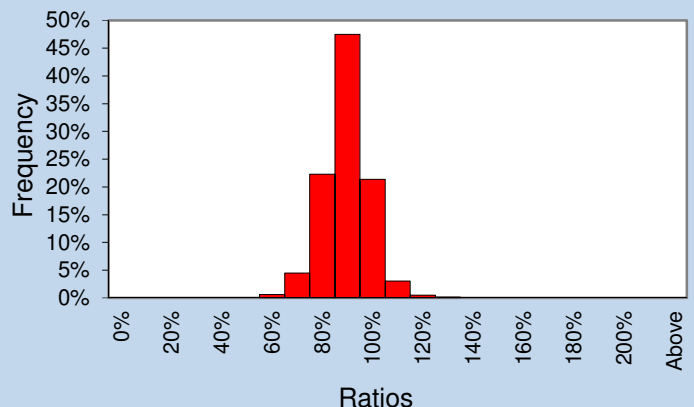
	Pre-Trim	Post-Trim	Description	Required
Sample Size	6,102	6,058	The number of sales from July 2018 to June 2019	Minimum 1378
Median	94.82%	94.83%	The middle ratio when ratios are arranged in ascending order.	90%-110%
95% - Low Ratio	94.57%	94.59%	<i>The range where the population median most likely exists</i>	<i>Overlaps with 90%-110%</i>
95% - High Ratio	95.03%	95.04%		
Weighted Mean	94.22%	94.34%	An average in which ratios are weighted in proportion to their sold amounts.	90%-110%
95% - Low Ratio	93.96%	94.09%	<i>The range where the population weighted mean most likely exists</i>	<i>Overlaps with 90%-110%</i>
95% - High Ratio	94.48%	94.59%		
Mean	94.64%	94.61%	The arithmetic average of ratios	90%-110%
95% - Low Ratio	94.39%	94.39%	<i>The range where the population mean most likely exists</i>	<i>Overlaps with 90%-110%</i>
95% - High Ratio	94.89%	94.83%		
Coefficient of Dispersion	7.06%	7.06%	The average percent deviation from the median ratio	Less than 25%
Price Related Differential	100.45%	100.29%	A gauge of assessment uniformity for high and low valued properties	98%-103%

Following Section 5.2 and Appendix B of the IAAO Standard on Ratio Studies, the STC employs outlier trimming guidelines to detect extreme outliers that might otherwise skew statistical results. The STC uses a uniform trimming process that tends to remove as many high outliers as low outliers, thus keeping the median relatively stable.

Histogram of Ratios (Prior to Trimming)



Histogram of Ratios (After Trimming)



2019 Reassessment

Sales from July 2018 to June 2019

Assessed Value	2308- 31523	31524- 40027	40028- 51681	51682- 270771
Sample Size	1525	1525	1526	1526
High Trims	12	4	3	0
Low Trims	16	2	5	2
Total Trimmed	28	6	8	2
Remaining	1497	1519	1518	1524
Population	36,817	31,160	32,522	34,847
Proportion	27.20%	23.02%	24.03%	25.75%
Post Trim Statistics	2308- 31523	31524- 40027	40028- 51681	51682- 270771
Sample Size	1497	1519	1518	1524
Median	92.42%	94.24%	96.19%	96.72%
Low 95% Conf Int	91.97%	93.79%	95.70%	96.28%
High 95% Conf Int	92.97%	94.69%	96.63%	97.13%
Mean	92.10%	94.26%	95.88%	96.13%
Low 95% Conf Int	91.60%	93.83%	95.49%	95.70%
High 95% Conf Int	92.59%	94.69%	96.26%	96.56%
Weighted Mean	91.35%	93.50%	95.28%	95.27%
Low 95% Conf Int	90.86%	93.07%	94.89%	94.78%
High 95% Conf Int	91.83%	93.94%	95.67%	95.76%
Coefficient of Dispersion	7.86%	6.85%	6.08%	6.88%
Low 95% Conf Int	7.51%	6.56%	5.84%	6.61%
High 95% Conf Int	8.22%	7.17%	6.35%	7.18%
Price Related Differential	100.82%	100.81%	100.63%	100.90%

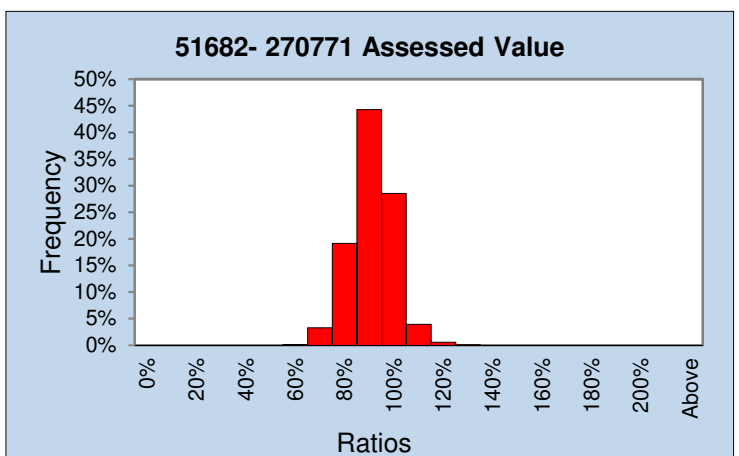
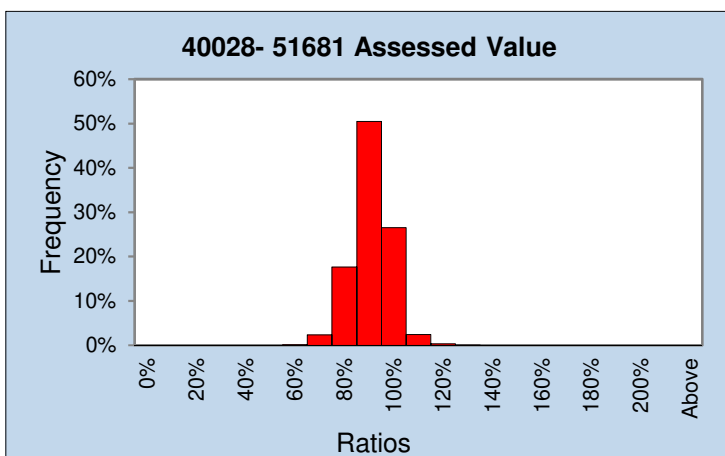
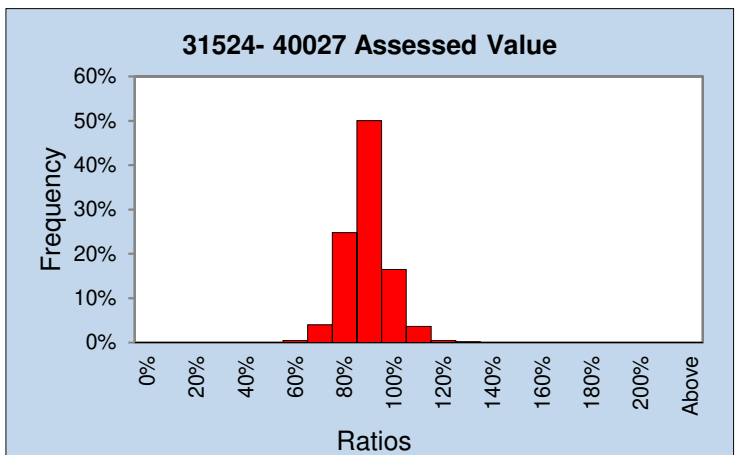
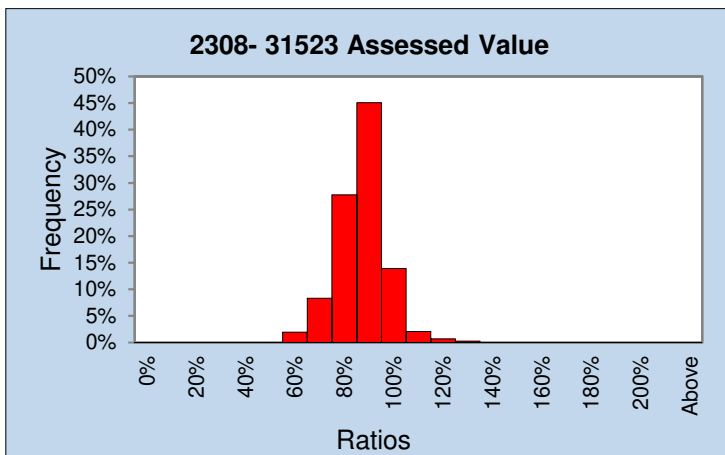
Statistical results for each stratum are provided for informational purposes only. The STC does not employ a sample size estimator for each individual stratum and cannot validate the individual stratum results with statistical certainty. The information is being provided in that it might assist the user in identifying areas for further study and analysis. Readers are cautioned to disregard statistics for individual strata with pre-trim sample sizes of 25 or less.

Sales Ratio Histograms by Stratum

Section 3.3 of the IAAO Standard on Ratio Studies recommends stratification to facilitate a more complete and detailed picture of appraisal performance and to enhance sample representativeness.

The STC defaults to stratification into quartiles whenever there is sufficient information available. Depending on the available data, the STC may range from two to eight stratifications, however the STC will avoid over-stratification.

It should be noted that the lowest value stratification(s) may include vacant land which can skew those results.



2019 Reassessment

Sales from July 2018 to June 2019

Year Built	1850- 1983	1984- 1995	1996- 2003	2004- 2017
Sample Size	1457	1502	1391	1752
High Trims	7	1	0	0
Low Trims	9	3	0	1
Total Trimmed	16	4	0	1
Remaining	1441	1498	1391	1751
Population	39,616	32,819	29,166	30,057
Proportion	30.09%	24.93%	22.15%	22.83%
Post Trim Statistics	1850- 1983	1984- 1995	1996- 2003	2004- 2017
Sample Size	1441	1498	1391	1751
Median	92.28%	94.46%	95.38%	96.16%
Low 95% Conf Int	91.61%	93.89%	94.86%	95.70%
High 95% Conf Int	93.05%	94.89%	95.98%	96.50%
Mean	92.65%	94.49%	95.28%	95.85%
Low 95% Conf Int	92.01%	94.03%	94.88%	95.51%
High 95% Conf Int	93.28%	94.93%	95.68%	96.19%
Weighted Mean	91.45%	93.94%	95.00%	95.59%
Low 95% Conf Int	90.80%	93.45%	94.52%	95.16%
High 95% Conf Int	92.10%	94.43%	95.48%	96.02%
Coefficient of Dispersion	9.81%	7.07%	6.23%	5.78%
Low 95% Conf Int	9.35%	6.78%	5.98%	5.56%
High 95% Conf Int	10.29%	7.41%	6.50%	6.01%
Price Related Differential	101.31%	100.58%	100.30%	100.27%

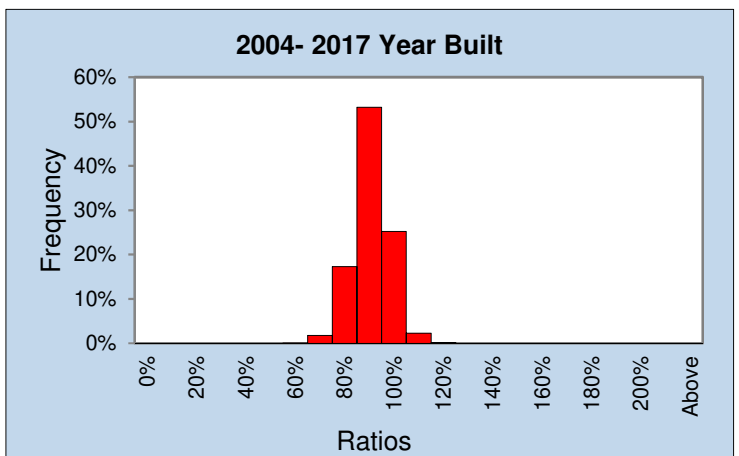
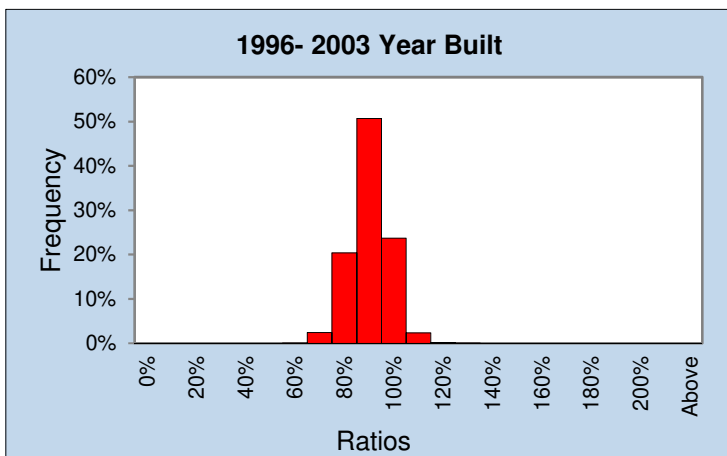
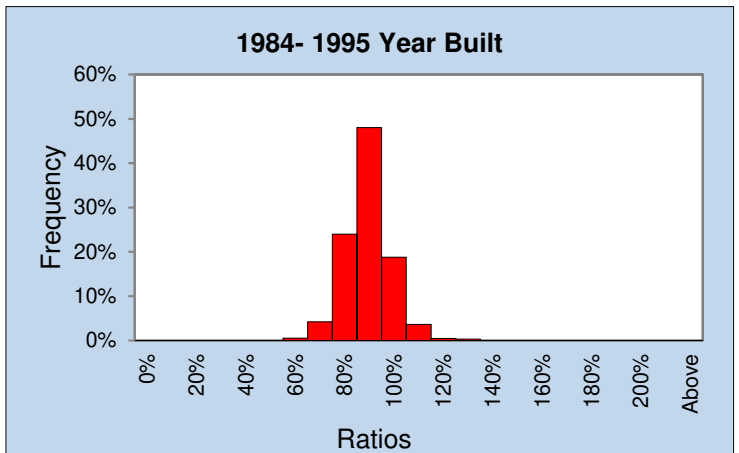
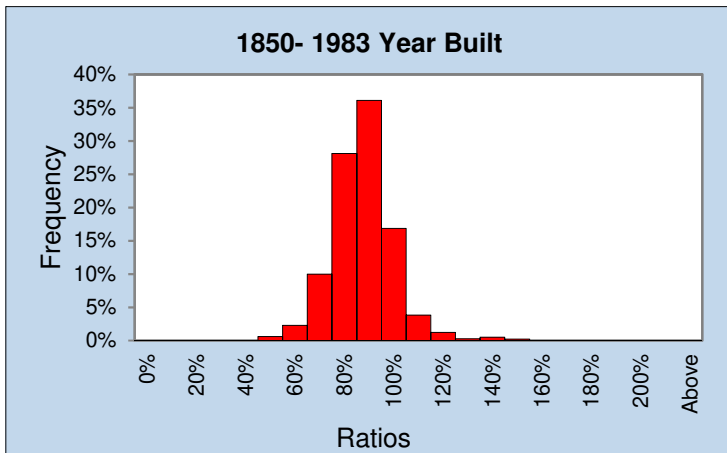
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2019 Reassessment

Sales from July 2018 to June 2019

School District	R-1	R-2	R-3	R-4	R-5	R-6
Sample Size	15	1754	1869	1583	230	651
High Trims	0	8	4	2	2	3
Low Trims	0	6	4	7	1	6
Total Trimmed	0	14	8	9	3	9
Remaining	15	1740	1861	1574	227	642
Population	538	40359	43471	31220	5705	16446
Proportion	0.39%	29.30%	31.56%	22.67%	4.14%	11.94%

Post Trim Statistics	R-1	R-2	R-3	R-4	R-5	R-6	Overall Weighted
Sample Size	15	1740	1861	1574	227	642	6102
Median	86.28%	94.91%	94.76%	95.22%	95.05%	93.47%	94.83%
Low 95% Conf Int	65.99%	94.54%	94.31%	94.81%	93.68%	92.57%	94.59%
High 95% Conf Int	98.14%	95.25%	95.17%	95.83%	95.80%	94.41%	95.04%
Mean	83.46%	94.86%	94.64%	94.66%	94.82%	93.71%	
Low 95% Conf Int	66.96%	94.25%	93.74%	93.98%	93.64%	92.44%	
High 95% Conf Int	96.79%	95.13%	94.64%	94.91%	95.86%	94.20%	
Weighted Mean	81.88%	94.69%	94.19%	94.44%	94.75%	93.32%	
Low 95% Conf Int	65.99%	94.54%	94.31%	94.81%	93.68%	92.57%	
High 95% Conf Int	98.14%	95.25%	95.17%	95.83%	95.80%	94.41%	
Coefficient of Dispersion	19.71%	6.49%	7.07%	6.79%	6.51%	9.20%	7.06%
Low 95% Conf Int	15.49%	6.23%	6.81%	6.51%	5.87%	8.65%	6.87%
High 95% Conf Int	30.74%	6.77%	7.35%	7.09%	7.33%	9.80%	7.26%
Price Related Differential	101.94%	100.18%	100.49%	100.23%	100.07%	100.41%	100.29%

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Sales Ratio Histograms by Stratum

Section 3.3 of the IAAO Standard on Ratio Studies recommends stratification to facilitate a more complete and detailed picture of appraisal performance and to enhance sample representativeness.

The default location variable is School District. County assessors can request a different variable other than School District prior to statistical analysis provided it would result in better representation of property characteristics and market tendencies.

When the overall descriptive statistics are out of compliance with STC requirements, weighted statistics are calculated using the proportions of the number of properties in the county amongst each school district strata. When the overall descriptive statistics are out of compliance, school districts with insufficient sales are combined. If the combined sales in locations with insufficient sales are equal to or greater than 25% of the residential population, then the Progressive Hybrid study is performed. If the combined sales in locations with insufficient sales are less than 25% of the residential population, then the Traditional Sales Study is performed, but with the results weighted by location.

