Division of Property Valuation

2021

Kansas Real Estate Ratio Study

DAVID HARPER, RMA, AAS DIRECTOR

ABBREVIATIONS

Ag.	Agricultural
BMed.	Broadened Median Ratio
BOTA	Board of Tax Appeals
C/I	Commercial/Industrial
COD	Coefficient of Dispersion
Comm.	Commercial
Ex.	Exempt
IAAO	International Association of Assessing Officers
Imp.	Improvement
Ind.	Industrial
K.S.A.	Kansas Statutes Annotated
LOC	Level of confidence
N/A	Not applicable
NP	Not-for-profit
PRB	Price-Related Bias
PRD	Price-Related Differential
PVD	Property Valuation Division
Res.	Residential
S	Supplemental sales
T	Time trended
Ut.	Utility
w	With

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IV. KANSAS STATUTES PERTAINING TO THE SALES RATIO STUDY

INTRODUCTION

This publication contains the Official 2021 Kansas Appraisal/Sales Ratio Study that is based upon real estate transfers occurring from January 1, 2021, through December 31, 2021. This study is conducted annually by the Kansas Department of Revenue, Division of Property Valuation for all 105 Kansas Counties.
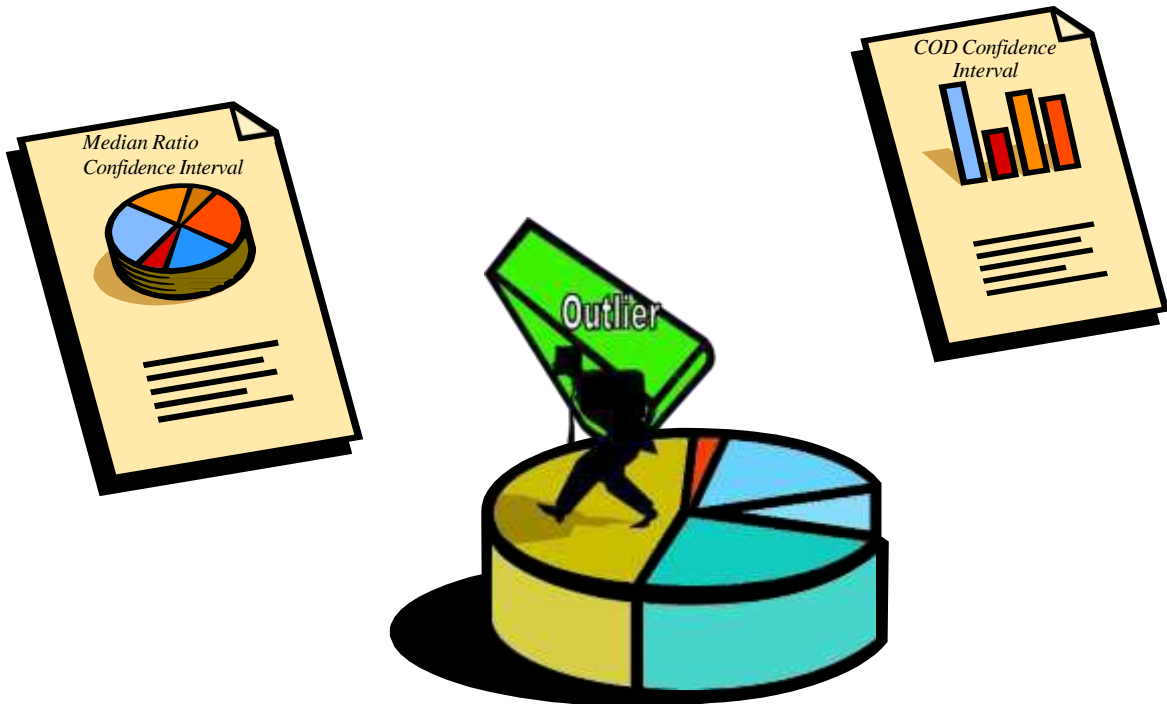

https://www.ksrevenue.org/pvdratiostats.htm

Section 1

Year 2021

Official Appraisal/Sales Ratio Study

Median Ratio Confidence Interval

COD Confidence Interval

Outlier

Purpose and Overview

Fundamental to the administration of the property tax is the concept that all property should be appraised and assessed on a uniform basis. The Kansas Constitution requires that all taxable property be appraised and assessed uniformly as to class. Uniformity of like property assures an equitable distribution of the property tax burden.

The *purpose* of the 2021 Official *Kansas Appraisal/Sales Ratio Study* is to meet the requirements pursuant to K.S.A. 79-1489. It also provides statistical information used to evaluate appraisal *level* and *uniformity* for substantial statutory compliance as set forth in Property Valuation's Directive #14-046 pursuant to the provisions of K.S.A 79-505. A copy of this Directive is located in Section IV of this publication.

The study includes sales that are considered to be *valid* arm's-length transactions. These real property transfers have been qualified independently by PVD research analyst and appraisal staff and can serve as a useful indicator of market value. Supplemental valid sales from the four prior years have been included for the commercial/industrial subclass if less than five valid commercial sales were available in the year 2021. In addition, the sample of sales were trimmed of outliers prior to the computation of some statistical measures. A further explanation of the validation and trimming procedures are discussed in Section III of this publication.

In 1994, changes in statute permitted the use of a sampling process for the residential subclass of property in counties in excess of 15,000 parcels. These counties must also have experienced at least 250 valid residential sales based on previous studies to be considered for sampling. The 2021 ratio study has used a representative sampling for those counties meeting the statutory criteria. A brief explanation of the sampling process is included in Section III of this publication.

The letter **T** denotes the subclass (residential or commercial/industrial) where sale prices have been trended <u>back</u> to January 1, 2021, the date of appraisal, where inflation or deflationary market trends were identifiable and documented by the county appraiser. Seventy counties requested a residential trend adjustment for 2021.

The ratios analyzed in this study are appraisal/sales ratios computed by dividing the appraised value of real estate as determined by the county appraiser by the total selling price of the real property. A perfect ratio would be 100.0. Care should be taken when reviewing the agricultural (subclass A) and Farm with Homesite (subclass F) p e r f o r m a n c e   m e a s u r e s . Agricultural land is appraised according to its *use* value; therefore, for *Agricultural Land Only* and *Agricultural with/Improvements* no ideal sales ratio exists. The total statistical measures can be misleading because the ratios for agricultural land are included with the ratios of all other real property subclasses to determine the county *TOTAL with/Agricultural & Farm* category.

We are grateful to the Kansas County Appraisers and their professional organization for their cooperation in this annual task. Our appreciation further extends to our support staff at the Department of Revenue, our associates within the Division and to the Ratio Study Technical Advisory Committee for their service and guidance.

2021 Ratio Study Technical Advisory Committee			11

Dr. John Boyer	Dr. Ronald L. Wasserstein	Dr. Paul Byrne
Emeritu s Prof.	Executive Director	Assoc. Prof. of Economics
of Statistics	American Statistical Assn.	WashburnUniversity
Kansas State	732 N Washington St.	School of Business
University	Alexandria, Virginia 22314-3402	Henderson 310-P
Manhattan, KS		1700 SW College Ave.
66506		Topeka, KS 66621

2021 Kansas County Appraiser's Association (KCAA) Ratio Committee		
Truette McQueen - Chair	otappraiser@nckcn.com	Ottawa Co.
Barry Porter	rpappraiser@republiccounty.org	Republic Co.
Lois Schlegel	lschlegel@pottcounty.org	Pottawatomie Co.
Diana Carter	dcarter@mgcountyks.org	Montgomery Co.

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

001 : ALLEN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.8	87.5	to	96.7	21.3	18.3	to	25.1	1.04	1.01	to	1.07	135	8
Commercial/Ind.	72.1	38.9	to	91.7	42.6	22.9	to	88.6	1.35	0.95	to	2.15	11	1
Vacant Lot	63.0	-	N/A	-	39.5	-	N/A	-	2.32	-	N/A	-	8	1
Farm & Home	46.9	-	N/A	-	40.4	-	N/A	-	1.01	-	N/A	-	8	0
Ag. Land Only	4.4	-	N/A	-	23.2	-	N/A	-	0.95	-	N/A	-	12	1
Ag. (Impr.+ Land)	4.4	-	N/A	-	32.3	-	N/A	-	0.92	-	N/A	-	17	1
Other/Ex/Ut/NP/M	71.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	84.3	-	N/A	-	34.4	-	N/A	-	1.25	-	N/A	-	180	8
Total Market	90.2	-	N/A	-	23.9	-	N/A	-	1.03	-	N/A	-	155	10

002 : ANDERSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	87.3	80.1	to	93.3	23.5	19.8	to	27.6	1.03	1.01	to	1.07	127	13
Commercial/Ind.	61.6	34.6	to	97.3	36.8	18.0	to	69.0	1.14	1.00	to	1.41	9	0
Vacant Lot	90.4	-	N/A	-	68.1	-	N/A	-	1.55	-	N/A	-	12	1
Farm & Home	48.2	-	N/A	-	30.7	-	N/A	-	1.11	-	N/A	-	21	0
Ag. Land Only	5.0	-	N/A	-	50.4	-	N/A	-	0.81	-	N/A	-	21	0
Ag. (Impr.+ Land)	5.2	-	N/A	-	48.5	-	N/A	-	0.81	-	N/A	-	24	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	76.2	-	N/A	-	40.4	-	N/A	-	1.37	-	N/A	-	193	13
Total Market	85.9	-	N/A	-	26.6	-	N/A	-	1.04	-	N/A	-	148	15

003 : ATCHISON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.7	87.5	to	94.9	19.1	16.7	to	21.8	1.00	0.98	to	1.03	199	19
Commercial/Ind.	94.1	77.9	to	99.6	18.6	12.0	to	32.4	1.30	0.93	to	1.72	15	0
Vacant Lot	118.8	-	N/A	-	80.5	-	N/A	-	1.87	-	N/A	-	13	1
Farm & Home	54.0	-	N/A	-	37.9	-	N/A	-	1.02	-	N/A	-	11	0
Ag. Land Only	14.7	-	N/A	-	29.2	-	N/A	-	0.96	-	N/A	-	7	0
Ag. (Impr.+ Land)	14.7	-	N/A	-	34.3	-	N/A	-	1.02	-	N/A	-	9	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	89.7	-	N/A	-	20.1	-	N/A	-	1.05	-	N/A	-	247	36
Total Market	91.2	-	N/A	-	19.4	-	N/A	-	1.03	-	N/A	-	227	25

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

004 : BARBER COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	99.7	89.2	to	109.2	21.6	17.7	to	27.5	1.05	1.01	to	1.10	52	2
Commercial/Ind. *S-3*	86.0	67.0	to	210.1	77.5	41.5	to	629.9	1.88	1.21	to	5.33	7	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	58.3	-	N/A	-	18.9	-	N/A	-	0.94	-	N/A	-	6	0
Ag. Land Only	2.7	-	N/A	-	96.3	-	N/A	-	0.93	-	N/A	-	7	0
Ag. (Impr.+ Land)	3.0	-	N/A	-	75.5	-	N/A	-	0.89	-	N/A	-	11	0
Other/Ex/Ut/NP/M	149.5	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	88.1	-	N/A	-	38.4	-	N/A	-	1.69	-	N/A	-	77	4
Total Market	99.7	-	N/A	-	22.6	-	N/A	-	1.06	-	N/A	-	60	5

005 : BARTON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	96.5	92.7	to	99.3	13.9	12.4	to	15.6	1.02	1.00	to	1.04	205	21
Commercial/Ind.	91.5	75.3	to	108.5	29.3	21.8	to	42.4	2.38	1.09	to	3.03	30	2
Vacant Lot	58.0	-	N/A	-	25.4	-	N/A	-	1.11	-	N/A	-	13	1
Farm & Home	66.2	-	N/A	-	26.2	-	N/A	-	0.94	-	N/A	-	8	0
Ag. Land Only	8.9	-	N/A	-	53.7	-	N/A	-	1.25	-	N/A	-	14	0
Ag. (Impr.+ Land)	12.1	-	N/A	-	43.4	-	N/A	-	1.26	-	N/A	-	18	0
Other/Ex/Ut/NP/M	107.3	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	91.9	-	N/A	-	17.6	-	N/A	-	1.06	-	N/A	-	275	42
Total Market	94.8	-	N/A	-	16.5	-	N/A	-	1.03	-	N/A	-	249	26

006 : BOURBON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	99.9	95.6	to	106.0	25.0	22.4	to	28.0	1.07	1.04	to	1.11	232	12
Commercial/Ind.	60.7	39.0	to	84.2	42.3	25.4	to	69.0	1.06	0.86	to	1.37	20	2
Vacant Lot	79.0	-	N/A	-	50.8	-	N/A	-	1.14	-	N/A	-	34	3
Farm & Home	39.8	-	N/A	-	48.1	-	N/A	-	1.02	-	N/A	-	21	1
Ag. Land Only	4.7	-	N/A	-	40.9	-	N/A	-	1.01	-	N/A	-	29	0
Ag. (Impr.+ Land)	4.7	-	N/A	-	37.3	-	N/A	-	0.99	-	N/A	-	36	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	88.1	-	N/A	-	41.0	-	N/A	-	1.32	-	N/A	-	343	18
Total Market	97.3	-	N/A	-	29.1	-	N/A	-	1.14	-	N/A	-	286	18

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

007 : BROWN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	94.7	84.3	to	104.7	35.2	30.3	to	42.7	1.19	1.11	to	1.31	111	8
Commercial/Ind.	82.8	31.7	to	137.5	67.2	37.6	to	136.7	1.35	1.07	to	1.96	15	1
Vacant Lot	68.8	-	N/A	-	253.1	-	N/A	-	4.86	-	N/A	-	4	0
Farm & Home	66.6	-	N/A	-	6.0	-	N/A	-	1.00	-	N/A	-	2	0
Ag. Land Only	16.6	-	N/A	-	37.9	-	N/A	-	1.05	-	N/A	-	11	1
Ag. (Impr.+ Land)	18.7	-	N/A	-	32.5	-	N/A	-	1.01	-	N/A	-	14	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	84.7	-	N/A	-	43.6	-	N/A	-	1.53	-	N/A	-	146	10
Total Market	91.8	-	N/A	-	38.3	-	N/A	-	1.18	-	N/A	-	130	10

008 : BUTLER COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.9	90.2	to	93.9	11.4	10.2	to	12.8	1.00	0.99	to	1.02	239	21
Commercial/Ind.	97.2	90.2	to	99.9	16.7	10.8	to	24.8	1.24	1.01	to	1.48	39	7
Vacant Lot	84.1	-	N/A	-	30.4	-	N/A	-	1.23	-	N/A	-	91	2
Farm & Home	49.2	-	N/A	-	37.5	-	N/A	-	0.99	-	N/A	-	49	0
Ag. Land Only	1.5	-	N/A	-	148.2	-	N/A	-	0.68	-	N/A	-	42	4
Ag. (Impr.+ Land)	1.7	-	N/A	-	142.8	-	N/A	-	0.67	-	N/A	-	50	5
Other/Ex/Ut/NP/M	70.2	-	N/A	-	123.8	-	N/A	-	2.18	-	N/A	-	3	0
Total w/Ag.&F&H	85.4	-	N/A	-	31.4	-	N/A	-	1.11	-	N/A	-	471	15
Total Market	90.7	-	N/A	-	15.1	-	N/A	-	1.03	-	N/A	-	372	37

009 : CHASE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	83.2	73.3	to	95.1	18.1	12.6	to	28.2	1.05	1.01	to	1.12	20	2
Commercial/Ind. *S-5*	96.5	67.2	to	136.4	25.5	13.7	to	44.2	1.10	0.99	to	1.30	7	0
Vacant Lot	1688.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	44.3	-	N/A	-	42.1	-	N/A	-	1.15	-	N/A	-	3	0
Ag. Land Only	3.6	-	N/A	-	24.7	-	N/A	-	0.93	-	N/A	-	5	0
Ag. (Impr.+ Land)	3.6	-	N/A	-	24.7	-	N/A	-	0.93	-	N/A	-	5	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	80.5	-	N/A	-	35.6	-	N/A	-	1.52	-	N/A	-	36	3
Total Market	85.9	-	N/A	-	19.7	-	N/A	-	1.07	-	N/A	-	28	4

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

010 : CHAUTAUQUA COUNTY

PROPERTY CLASS	Median Ratio	Confidence	Interval		COD	Confidence	Interval		PRD	Confidence	Interval		Valid Sales	Trim Sales
Residential	90.7	73.2	to	98.5	23.0	16.6	to	33.9	1.09	1.00	to	1.24	34	2
Commercial/Ind.	84.4	17.1	to	113.8	44.0	18.5	to	161.7	2.11	1.38	to	4.25	8	0
Vacant Lot	105.4	-	N/A	-	70.1	-	N/A	-	2.43	-	N/A	-	4	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	4.1	-	N/A	-	16.0	-	N/A	-	0.92	-	N/A	-	15	0
Ag. (Impr.+ Land)	4.5	-	N/A	-	173.9	-	N/A	-	1.02	-	N/A	-	28	3
Other/Ex/Ut/NP/M	48.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	68.1	-	N/A	-	57.9	-	N/A	-	1.87	-	N/A	-	75	2
Total Market	89.2	-	N/A	-	29.2	-	N/A	-	1.27	-	N/A	-	47	2

011 : CHEROKEE COUNTY

PROPERTY CLASS	Median Ratio	Confidence	Interval		COD	Confidence	Interval		PRD	Confidence	Interval		Valid Sales	Trim Sales
Residential	96.0	93.0	to	101.0	23.5	21.3	to	26.2	1.03	1.00	to	1.05	293	28
Commercial/Ind.	86.0	69.4	to	113.4	31.1	21.2	to	42.1	0.98	0.86	to	1.14	22	1
Vacant Lot	45.7	-	N/A	-	49.1	-	N/A	-	1.21	-	N/A	-	29	4
Farm & Home	33.8	-	N/A	-	29.5	-	N/A	-	1.03	-	N/A	-	2	0
Ag. Land Only	7.7	-	N/A	-	41.2	-	N/A	-	0.95	-	N/A	-	20	1
Ag. (Impr.+ Land)	10.4	-	N/A	-	182.7	-	N/A	-	1.04	-	N/A	-	35	0
Other/Ex/Ut/NP/M	142.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	91.2	-	N/A	-	34.5	-	N/A	-	1.11	-	N/A	-	382	26
Total Market	93.7	-	N/A	-	27.8	-	N/A	-	1.00	-	N/A	-	345	28

012 : CHEYENNE COUNTY

PROPERTY CLASS	Median Ratio	Confidence	Interval		COD	Confidence	Interval		PRD	Confidence	Interval		Valid Sales	Trim Sales
Residential	96.4	90.0	to	101.5	14.4	11.6	to	18.3	1.00	0.97	to	1.03	59	1
Commercial/Ind. *S-6*	67.9	31.2	to	97.4	35.5	16.5	to	91.1	1.06	0.82	to	1.50	9	0
Vacant Lot	18.3	-	N/A	-	84.1	-	N/A	-	1.39	-	N/A	-	3	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	10.5	-	N/A	-	11.2	-	N/A	-	1.01	-	N/A	-	12	2
Ag. (Impr.+ Land)	10.5	-	N/A	-	30.0	-	N/A	-	1.05	-	N/A	-	19	2
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	83.9	-	N/A	-	37.4	-	N/A	-	1.22	-	N/A	-	90	0
Total Market	94.7	-	N/A	-	17.3	-	N/A	-	1.04	-	N/A	-	71	4

S – Supplemental sales added from previous years   15

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

013 : CLARK COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	86.9	76.1	to	100.0	23.5	15.4	to	35.7	1.11	1.03	to	1.28	25	3
Commercial/Ind. *S-4*	94.8	24.1	to	180.0	71.2	28.9	to	311.6	1.36	0.99	to	2.31	7	0
Vacant Lot	130.7	-	N/A	-	35.9	-	N/A	-	0.96	-	N/A	-	3	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	5.0	-	N/A	-	46.3	-	N/A	-	0.92	-	N/A	-	2	0
Ag. (Impr.+ Land)	7.3	-	N/A	-	212.3	-	N/A	-	1.20	-	N/A	-	3	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	86.7	-	N/A	-	44.5	-	N/A	-	1.35	-	N/A	-	38	2
Total Market	87.4	-	N/A	-	40.0	-	N/A	-	1.22	-	N/A	-	35	2

014 : CLAY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.5	88.1	to	97.2	17.8	15.3	to	20.8	1.02	1.00	to	1.05	138	9
Commercial/Ind.	58.7	21.5	to	98.8	43.8	22.6	to	114.7	1.49	1.09	to	2.89	8	0
Vacant Lot	72.3	-	N/A	-	32.3	-	N/A	-	0.95	-	N/A	-	2	0
Farm & Home	22.8	-	N/A	-	109.7	-	N/A	-	1.30	-	N/A	-	5	0
Ag. Land Only	12.6	-	N/A	-	46.0	-	N/A	-	0.97	-	N/A	-	10	0
Ag. (Impr.+ Land)	12.6	-	N/A	-	46.0	-	N/A	-	0.97	-	N/A	-	10	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	88.8	-	N/A	-	25.6	-	N/A	-	1.16	-	N/A	-	163	8
Total Market	92.1	-	N/A	-	19.4	-	N/A	-	1.02	-	N/A	-	148	9

015 : CLOUD COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.0	86.5	to	93.0	17.4	15.2	to	20.2	1.04	1.01	to	1.08	151	13
Commercial/Ind.	69.9	34.5	to	90.2	39.7	19.8	to	94.8	1.40	1.06	to	2.05	7	0
Vacant Lot	83.7	-	N/A	-	94.2	-	N/A	-	1.72	-	N/A	-	4	0
Farm & Home	26.7	-	N/A	-	14.7	-	N/A	-	1.09	-	N/A	-	4	0
Ag. Land Only	8.7	-	N/A	-	43.6	-	N/A	-	0.96	-	N/A	-	15	0
Ag. (Impr.+ Land)	9.2	-	N/A	-	43.6	-	N/A	-	0.96	-	N/A	-	16	1
Other/Ex/Ut/NP/M	168.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	86.6	-	N/A	-	21.9	-	N/A	-	1.19	-	N/A	-	183	25
Total Market	89.4	-	N/A	-	19.0	-	N/A	-	1.07	-	N/A	-	163	13

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

016 : COFFEY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	87.1	83.6	to	90.6	16.7	14.1	to	20.1	1.01	0.99	to	1.04	112	10
Commercial/Ind.	74.8	47.0	to	99.6	33.6	19.6	to	58.9	0.95	0.73	to	1.17	17	2
Vacant Lot	67.1	-	N/A	-	20.3	-	N/A	-	1.31	-	N/A	-	11	0
Farm & Home	38.2	-	N/A	-	37.0	-	N/A	-	1.14	-	N/A	-	8	0
Ag. Land Only	6.0	-	N/A	-	42.3	-	N/A	-	1.05	-	N/A	-	14	0
Ag. (Impr.+ Land)	6.0	-	N/A	-	42.2	-	N/A	-	1.01	-	N/A	-	18	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	77.8	-	N/A	-	34.1	-	N/A	-	1.17	-	N/A	-	166	6
Total Market	84.0	-	N/A	-	20.5	-	N/A	-	1.01	-	N/A	-	140	11

017 : COMANCHE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	85.8	79.1	to	92.4	18.9	13.7	to	27.1	1.16	1.00	to	1.33	29	1
Commercial/Ind. *S-5*	111.5	68.6	to	142.4	23.1	10.9	to	52.1	0.96	0.87	to	1.18	6	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	2.4	-	N/A	-	115.9	-	N/A	-	1.39	-	N/A	-	15	0
Ag. (Impr.+ Land)	4.7	-	N/A	-	111.7	-	N/A	-	1.25	-	N/A	-	20	2
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	75.3	-	N/A	-	53.4	-	N/A	-	2.09	-	N/A	-	55	0
Total Market	87.1	-	N/A	-	22.1	-	N/A	-	1.14	-	N/A	-	35	1

018 : COWLEY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	83.2	80.7	to	85.6	17.9	15.7	to	20.2	1.05	1.02	to	1.08	202	13
Commercial/Ind.	92.8	76.5	to	111.8	21.6	15.4	to	34.3	0.97	0.88	to	1.09	15	0
Vacant Lot	97.4	-	N/A	-	54.7	-	N/A	-	2.17	-	N/A	-	21	1
Farm & Home	44.5	-	N/A	-	27.6	-	N/A	-	1.08	-	N/A	-	19	2
Ag. Land Only	4.4	-	N/A	-	61.7	-	N/A	-	0.92	-	N/A	-	19	1
Ag. (Impr.+ Land)	4.4	-	N/A	-	57.9	-	N/A	-	0.93	-	N/A	-	21	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	81.1	-	N/A	-	22.3	-	N/A	-	1.11	-	N/A	-	278	40
Total Market	84.1	-	N/A	-	19.7	-	N/A	-	1.05	-	N/A	-	238	19

S – Supplemental sales added from previous years   17

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

019 : CRAWFORD COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.3	89.6	to	96.4	18.8	16.8	to	21.0	1.03	1.01	to	1.05	222	18
Commercial/Ind.	61.1	48.2	to	75.0	37.6	26.8	to	55.4	1.14	0.97	to	1.57	22	0
Vacant Lot	85.8	-	N/A	-	49.3	-	N/A	-	1.42	-	N/A	-	33	2
Farm & Home	65.3	-	N/A	-	39.0	-	N/A	-	1.02	-	N/A	-	27	0
Ag. Land Only	4.1	-	N/A	-	80.3	-	N/A	-	0.76	-	N/A	-	25	3
Ag. (Impr.+ Land)	4.1	-	N/A	-	81.5	-	N/A	-	0.76	-	N/A	-	29	3
Other/Ex/Ut/NP/M	45.2	-	N/A	-	212.3	-	N/A	-	2.51	-	N/A	-	3	0
Total w/Ag.&F&H	86.5	-	N/A	-	33.6	-	N/A	-	1.18	-	N/A	-	336	17
Total Market	91.1	-	N/A	-	23.1	-	N/A	-	1.12	-	N/A	-	280	24

020 : DECATUR COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	72.5	70.1	to	78.5	19.7	14.6	to	26.0	1.08	1.04	to	1.14	43	4
Commercial/Ind. S-3	83.0	68.3	to	95.3	14.7	5.4	to	34.9	0.88	0.78	to	1.00	7	1
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	38.0	-	N/A	-	39.8	-	N/A	-	1.53	-	N/A	-	4	0
Ag. Land Only	12.9	-	N/A	-	30.6	-	N/A	-	1.03	-	N/A	-	13	0
Ag. (Impr.+ Land)	12.9	-	N/A	-	29.9	-	N/A	-	1.03	-	N/A	-	15	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	69.1	-	N/A	-	39.3	-	N/A	-	1.58	-	N/A	-	69	3
Total Market	73.5	-	N/A	-	19.8	-	N/A	-	1.03	-	N/A	-	50	5

021 : DICKINSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	89.9	86.4	to	93.1	17.6	15.7	to	19.7	1.02	1.00	to	1.03	260	22
Commercial/Ind.	82.2	64.7	to	112.7	32.2	19.7	to	61.8	1.37	1.04	to	1.99	17	2
Vacant Lot	77.4	-	N/A	-	44.3	-	N/A	-	5.59	-	N/A	-	6	0
Farm & Home	62.2	-	N/A	-	13.9	-	N/A	-	1.05	-	N/A	-	4	0
Ag. Land Only	9.1	-	N/A	-	84.2	-	N/A	-	1.01	-	N/A	-	19	0
Ag. (Impr.+ Land)	32.8	-	N/A	-	89.3	-	N/A	-	0.86	-	N/A	-	46	0
Other/Ex/Ut/NP/M	100.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	85.5	-	N/A	-	21.5	-	N/A	-	1.09	-	N/A	-	335	38
Total Market	89.3	-	N/A	-	18.5	-	N/A	-	1.08	-	N/A	-	285	26

S – Supplemental sales added from previous years   18

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

022 : DONIPHAN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	81.5	76.2	to	88.2	24.8	20.6	to	31.0	1.08	1.04	to	1.14	66	3
Commercial/Ind. *S-5*	89.6	35.7	to	101.0	32.8	14.1	to	96.6	1.25	1.09	to	1.58	7	0
Vacant Lot	32.0	-	N/A	-	41.6	-	N/A	-	1.09	-	N/A	-	9	0
Farm & Home	81.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	16.3	-	N/A	-	84.6	-	N/A	-	1.00	-	N/A	-	8	0
Ag. (Impr.+ Land)	20.1	-	N/A	-	132.8	-	N/A	-	1.51	-	N/A	-	19	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	74.6	-	N/A	-	35.8	-	N/A	-	1.30	-	N/A	-	102	4
Total Market	78.1	-	N/A	-	29.6	-	N/A	-	1.04	-	N/A	-	82	3

023 : DOUGLAS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.2	90.2	to	93.8	10.3	9.3	to	11.3	0.99	0.98	to	1.00	245	9
Commercial/Ind.	87.5	77.6	to	94.2	21.5	16.9	to	27.9	1.00	0.94	to	1.06	42	1
Vacant Lot	82.6	-	N/A	-	31.3	-	N/A	-	1.12	-	N/A	-	84	3
Farm & Home	53.6	-	N/A	-	31.6	-	N/A	-	1.04	-	N/A	-	23	0
Ag. Land Only	1.6	-	N/A	-	145.7	-	N/A	-	0.92	-	N/A	-	43	2
Ag. (Impr.+ Land)	1.6	-	N/A	-	150.8	-	N/A	-	0.92	-	N/A	-	45	3
Other/Ex/Ut/NP/M	66.9	-	N/A	-	34.7	-	N/A	-	0.86	-	N/A	-	3	0
Total w/Ag.&F&H	87.2	-	N/A	-	17.0	-	N/A	-	1.01	-	N/A	-	442	59
Total Market	90.7	-	N/A	-	13.0	-	N/A	-	1.01	-	N/A	-	374	31

024 : EDWARDS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.1	82.0	to	98.3	21.9	16.2	to	30.9	1.09	1.04	to	1.17	34	2
Commercial/Ind. *S-6*	84.9	36.2	to	115.8	35.4	18.0	to	117.0	1.10	0.89	to	1.54	7	0
Vacant Lot	29.8	-	N/A	-	12.0	-	N/A	-	0.90	-	N/A	-	2	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	7.8	-	N/A	-	31.6	-	N/A	-	1.10	-	N/A	-	11	0
Ag. (Impr.+ Land)	8.9	-	N/A	-	49.8	-	N/A	-	1.08	-	N/A	-	17	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	76.0	-	N/A	-	50.2	-	N/A	-	2.00	-	N/A	-	60	1
Total Market	89.0	-	N/A	-	27.4	-	N/A	-	1.06	-	N/A	-	43	2

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

025 : ELK COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.2	78.4	to	108.3	31.7	21.8	to	46.8	1.24	1.05	to	1.60	21	1
Commercial/Ind. *S-3*	74.3	49.5	to	119.5	43.2	22.5	to	82.2	1.53	1.07	to	2.53	8	0
Vacant Lot	63.7	-	N/A	-	36.1	-	N/A	-	1.18	-	N/A	-	2	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	3.1	-	N/A	-	23.9	-	N/A	-	1.02	-	N/A	-	6	0
Ag. (Impr.+ Land)	6.1	-	N/A	-	261.6	-	N/A	-	1.29	-	N/A	-	15	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	69.8	-	N/A	-	55.3	-	N/A	-	2.12	-	N/A	-	46	2
Total Market	82.5	-	N/A	-	34.7	-	N/A	-	1.39	-	N/A	-	31	1

026 : ELLIS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.2	89.2	to	93.2	9.4	8.5	to	10.5	1.01	1.00	to	1.02	206	12
Commercial/Ind.	90.7	65.0	to	101.9	23.9	16.3	to	39.2	1.27	1.09	to	1.49	17	0
Vacant Lot	87.3	-	N/A	-	27.2	-	N/A	-	1.09	-	N/A	-	19	1
Farm & Home	63.0	-	N/A	-	23.1	-	N/A	-	1.11	-	N/A	-	5	0
Ag. Land Only	8.0	-	N/A	-	50.3	-	N/A	-	0.92	-	N/A	-	22	0
Ag. (Impr.+ Land)	8.7	-	N/A	-	45.6	-	N/A	-	0.99	-	N/A	-	28	0
Other/Ex/Ut/NP/M	156.4	-	N/A	-	35.7	-	N/A	-	1.06	-	N/A	-	2	0
Total w/Ag.&F&H	89.1	-	N/A	-	11.5	-	N/A	-	1.05	-	N/A	-	277	44
Total Market	91.1	-	N/A	-	10.7	-	N/A	-	1.04	-	N/A	-	244	18

027 : ELLSWORTH COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.6	89.5	to	98.1	11.9	9.8	to	14.9	1.02	1.00	to	1.05	68	6
Commercial/Ind.	84.5	68.1	to	155.2	55.6	37.0	to	170.1	1.10	0.92	to	1.35	7	0
Vacant Lot	78.4	-	N/A	-	12.2	-	N/A	-	1.09	-	N/A	-	2	0
Farm & Home	50.0	-	N/A	-	20.2	-	N/A	-	1.09	-	N/A	-	5	0
Ag. Land Only	6.9	-	N/A	-	30.1	-	N/A	-	1.00	-	N/A	-	6	0
Ag. (Impr.+ Land)	11.0	-	N/A	-	126.9	-	N/A	-	1.34	-	N/A	-	12	0
Other/Ex/Ut/NP/M	76.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	88.0	-	N/A	-	18.0	-	N/A	-	1.11	-	N/A	-	95	13
Total Market	91.7	-	N/A	-	12.9	-	N/A	-	1.01	-	N/A	-	78	9

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

028 : FINNEY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	94.6	92.4	to	95.5	10.7	9.5	to	12.1	1.00	0.99	to	1.01	198	13
Commercial/Ind.	74.5	66.8	to	85.6	25.0	18.6	to	35.2	1.42	1.08	to	1.87	28	1
Vacant Lot	59.3	-	N/A	-	37.1	-	N/A	-	1.41	-	N/A	-	27	0
Farm & Home	21.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	10.9	-	N/A	-	18.2	-	N/A	-	1.06	-	N/A	-	15	2
Ag. (Impr.+ Land)	11.1	-	N/A	-	17.8	-	N/A	-	1.06	-	N/A	-	17	3
Other/Ex/Ut/NP/M	42.2	-	N/A	-	82.5	-	N/A	-	1.04	-	N/A	-	3	0
Total w/Ag.&F&H	88.9	-	N/A	-	15.0	-	N/A	-	1.06	-	N/A	-	274	32
Total Market	91.8	-	N/A	-	13.2	-	N/A	-	1.03	-	N/A	-	256	25

029 : FORD COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	84.5	81.6	to	86.5	13.9	12.4	to	15.7	0.99	0.98	to	1.01	205	21
Commercial/Ind.	73.9	60.4	to	91.6	25.6	18.4	to	43.1	1.03	0.93	to	1.17	17	1
Vacant Lot	49.5	-	N/A	-	63.7	-	N/A	-	2.78	-	N/A	-	22	0
Farm & Home	72.6	-	N/A	-	26.7	-	N/A	-	1.08	-	N/A	-	6	1
Ag. Land Only	9.6	-	N/A	-	48.6	-	N/A	-	0.85	-	N/A	-	21	2
Ag. (Impr.+ Land)	9.6	-	N/A	-	39.9	-	N/A	-	0.85	-	N/A	-	23	2
Other/Ex/Ut/NP/M	107.8	-	N/A	-	30.9	-	N/A	-	1.07	-	N/A	-	2	0
Total w/Ag.&F&H	81.2	-	N/A	-	20.1	-	N/A	-	1.02	-	N/A	-	275	38
Total Market	83.0	-	N/A	-	16.2	-	N/A	-	1.00	-	N/A	-	246	31

030 : FRANKLIN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	94.7	92.9	to	96.7	15.1	13.9	to	16.6	1.02	1.01	to	1.03	453	58
Commercial/Ind.	88.2	66.2	to	96.6	23.4	15.3	to	36.9	1.17	1.05	to	1.40	21	2
Vacant Lot	102.0	-	N/A	-	36.3	-	N/A	-	1.62	-	N/A	-	40	3
Farm & Home	57.1	-	N/A	-	2.1	-	N/A	-	1.00	-	N/A	-	2	0
Ag. Land Only	4.5	-	N/A	-	72.6	-	N/A	-	0.84	-	N/A	-	33	2
Ag. (Impr.+ Land)	25.2	-	N/A	-	112.7	-	N/A	-	0.79	-	N/A	-	88	3
Other/Ex/Ut/NP/M	56.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	90.3	-	N/A	-	19.7	-	N/A	-	1.07	-	N/A	-	605	105
Total Market	94.7	-	N/A	-	16.5	-	N/A	-	1.03	-	N/A	-	515	67

S – Supplemental sales added from previous years   21

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

031 : GEARY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.1	92.1	to	94.2	9.0	8.4	to	9.6	1.01	1.01	to	1.02	695	98
Commercial/Ind.	97.2	75.8	to	121.2	28.9	19.3	to	45.1	1.02	0.89	to	1.17	17	0
Vacant Lot	100.4	-	N/A	-	91.7	-	N/A	-	2.55	-	N/A	-	11	1
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	2.4	-	N/A	-	126.9	-	N/A	-	0.75	-	N/A	-	5	0
Ag. (Impr.+ Land)	32.5	-	N/A	-	101.0	-	N/A	-	1.08	-	N/A	-	12	0
Other/Ex/Ut/NP/M	501.0	-	N/A	-	33.7	-	N/A	-	65.06	-	N/A	-	3	0
Total w/Ag.&F&H	87.7	-	N/A	-	9.4	-	N/A	-	1.01	-	N/A	-	738	117
Total Market	87.7	-	N/A	-	9.5	-	N/A	-	1.01	-	N/A	-	726	107

032 : GOVE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.6	88.6	to	103.9	13.8	9.2	to	22.8	1.03	0.97	to	1.11	23	3
Commercial/Ind. *S-3*	61.8	47.3	to	295.4	93.1	3.3	to	177.4	1.77	0.97	to	2.46	5	0
Vacant Lot	36.6	-	N/A	-	53.6	-	N/A	-	0.83	-	N/A	-	2	0
Farm & Home	189.7	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	9.2	-	N/A	-	30.0	-	N/A	-	0.93	-	N/A	-	11	0
Ag. (Impr.+ Land)	9.4	-	N/A	-	28.6	-	N/A	-	0.94	-	N/A	-	12	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	83.0	-	N/A	-	49.5	-	N/A	-	1.92	-	N/A	-	43	2
Total Market	91.4	-	N/A	-	23.8	-	N/A	-	0.99	-	N/A	-	30	3

033 : GRAHAM COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.6	88.2	to	105.0	17.6	14.2	to	23.9	1.08	1.02	to	1.16	37	1
Commercial/Ind. *S-3*	78.7	54.8	to	98.3	19.0	9.0	to	32.3	1.03	0.92	to	1.14	6	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	11.4	-	N/A	-	35.9	-	N/A	-	0.94	-	N/A	-	21	0
Ag. (Impr.+ Land)	11.4	-	N/A	-	35.9	-	N/A	-	0.94	-	N/A	-	21	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	79.3	-	N/A	-	46.8	-	N/A	-	1.64	-	N/A	-	64	0
Total Market	91.6	-	N/A	-	18.2	-	N/A	-	1.06	-	N/A	-	43	1

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

034 : GRANT COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.7	90.1	to	95.7	7.9	6.4	to	9.8	1.01	0.99	to	1.02	81	10
Commercial/Ind.	59.1	31.8	to	89.8	51.2	11.2	to	65.2	1.13	0.88	to	1.56	8	1
Vacant Lot	58.6	-	N/A	-	89.5	-	N/A	-	1.23	-	N/A	-	6	0
Farm & Home	65.2	-	N/A	-	8.0	-	N/A	-	1.00	-	N/A	-	2	0
Ag. Land Only	2.0	-	N/A	-	66.3	-	N/A	-	0.49	-	N/A	-	9	1
Ag. (Impr.+ Land)	2.1	-	N/A	-	151.8	-	N/A	-	0.55	-	N/A	-	11	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	89.8	-	N/A	-	20.0	-	N/A	-	1.11	-	N/A	-	108	10
Total Market	92.2	-	N/A	-	10.2	-	N/A	-	1.01	-	N/A	-	95	14

035 : GRAY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.2	89.0	to	96.0	12.0	9.9	to	14.8	1.03	1.01	to	1.08	79	7
Commercial/Ind.	77.8	41.0	to	200.6	84.5	34.5	to	208.1	1.19	0.92	to	1.88	7	0
Vacant Lot	83.1	-	N/A	-	21.2	-	N/A	-	1.07	-	N/A	-	5	0
Farm & Home	90.3	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	9.0	-	N/A	-	34.2	-	N/A	-	1.03	-	N/A	-	15	0
Ag. (Impr.+ Land)	12.6	-	N/A	-	195.7	-	N/A	-	1.29	-	N/A	-	25	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	88.0	-	N/A	-	18.6	-	N/A	-	1.07	-	N/A	-	117	20
Total Market	91.1	-	N/A	-	13.4	-	N/A	-	1.04	-	N/A	-	91	10

036 : GREELEY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.2	79.6	to	106.4	21.0	16.7	to	29.4	0.99	0.93	to	1.05	33	3
Commercial/Ind. *S-5*	98.0	65.5	to	139.0	29.3	17.1	to	58.3	1.35	1.13	to	1.81	7	0
Vacant Lot	138.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	6.6	-	N/A	-	15.2	-	N/A	-	1.05	-	N/A	-	14	2
Ag. (Impr.+ Land)	7.2	-	N/A	-	17.3	-	N/A	-	1.06	-	N/A	-	16	3
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	78.9	-	N/A	-	52.7	-	N/A	-	2.12	-	N/A	-	57	0
Total Market	92.0	-	N/A	-	23.9	-	N/A	-	1.05	-	N/A	-	41	3

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

037 : GREENWOOD COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	77.5	69.1	to	86.7	27.3	22.6	to	34.0	1.04	0.99	to	1.09	74	7
Commercial/Ind.	67.1	29.9	to	110.4	37.9	15.4	to	83.1	1.42	0.95	to	2.01	7	1
Vacant Lot	92.0	-	N/A	-	262.3	-	N/A	-	11.81	-	N/A	-	5	0
Farm & Home	29.0	-	N/A	-	70.4	-	N/A	-	1.23	-	N/A	-	6	0
Ag. Land Only	4.5	-	N/A	-	29.5	-	N/A	-	1.00	-	N/A	-	25	2
Ag. (Impr.+ Land)	5.6	-	N/A	-	56.6	-	N/A	-	0.99	-	N/A	-	38	5
Other/Ex/Ut/NP/M	53.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	59.9	-	N/A	-	62.1	-	N/A	-	1.78	-	N/A	-	131	5
Total Market	76.1	-	N/A	-	30.3	-	N/A	-	1.06	-	N/A	-	87	9

038 : HAMILTON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	79.3	70.9	to	110.5	31.3	23.6	to	55.3	1.04	0.94	to	1.12	18	0
Commercial/Ind. *S-4*	68.8	31.6	to	94.1	28.9	6.3	to	52.5	1.45	1.02	to	1.59	4	0
Vacant Lot	17.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	3.9	-	N/A	-	22.5	-	N/A	-	0.95	-	N/A	-	8	0
Ag. (Impr.+ Land)	4.1	-	N/A	-	22.5	-	N/A	-	0.95	-	N/A	-	9	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	70.9	-	N/A	-	50.7	-	N/A	-	1.06	-	N/A	-	32	0
Total Market	75.9	-	N/A	-	30.7	-	N/A	-	1.09	-	N/A	-	23	1

039 : HARPER COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.9	86.9	to	98.7	17.9	14.9	to	21.7	1.02	0.97	to	1.07	73	2
Commercial/Ind.	85.1	10.2	to	176.5	67.0	27.1	to	489.1	2.57	0.83	to	3.80	6	0
Vacant Lot	51.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	35.1	-	N/A	-	16.5	-	N/A	-	1.09	-	N/A	-	2	0
Ag. Land Only	6.8	-	N/A	-	38.7	-	N/A	-	1.01	-	N/A	-	28	0
Ag. (Impr.+ Land)	8.2	-	N/A	-	37.7	-	N/A	-	1.01	-	N/A	-	40	5
Other/Ex/Ut/NP/M	133.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	80.4	-	N/A	-	48.3	-	N/A	-	1.55	-	N/A	-	123	0
Total Market	92.6	-	N/A	-	18.6	-	N/A	-	1.01	-	N/A	-	81	6

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

040 : HARVEY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.6	89.6	to	93.5	11.7	10.3	to	13.3	1.00	0.99	to	1.02	222	24
Commercial/Ind.	72.3	53.2	to	88.7	40.6	29.0	to	60.8	1.57	1.05	to	2.19	28	2
Vacant Lot	41.4	-	N/A	-	106.2	-	N/A	-	1.30	-	N/A	-	25	0
Farm & Home	56.1	-	N/A	-	12.2	-	N/A	-	1.03	-	N/A	-	20	4
Ag. Land Only	4.3	-	N/A	-	71.2	-	N/A	-	1.10	-	N/A	-	25	3
Ag. (Impr.+ Land)	4.3	-	N/A	-	73.2	-	N/A	-	1.04	-	N/A	-	28	3
Other/Ex/Ut/NP/M	85.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	86.2	-	N/A	-	25.7	-	N/A	-	1.16	-	N/A	-	324	30
Total Market	90.0	-	N/A	-	14.1	-	N/A	-	1.00	-	N/A	-	276	46

041 : HASKELL COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.0	84.3	to	97.3	11.0	9.4	to	13.7	1.00	0.99	to	1.02	60	7
Commercial/Ind. *S-3*	57.5	39.1	to	199.0	25.5	5.1	to	44.4	1.03	0.95	to	1.07	6	1
Vacant Lot	80.6	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	5.7	-	N/A	-	67.5	-	N/A	-	1.01	-	N/A	-	5	0
Ag. (Impr.+ Land)	6.8	-	N/A	-	63.2	-	N/A	-	1.03	-	N/A	-	8	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	85.2	-	N/A	-	16.3	-	N/A	-	1.02	-	N/A	-	75	13
Total Market	88.4	-	N/A	-	12.5	-	N/A	-	1.00	-	N/A	-	67	9

042 : HODGEMAN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.6	74.3	to	100.2	14.9	9.2	to	24.4	1.01	0.97	to	1.07	15	0
Commercial/Ind. *S-4*	70.1	32.0	to	111.6	39.6	13.3	to	76.3	1.53	1.03	to	1.88	5	0
Vacant Lot	57.6	-	N/A	-	14.3	-	N/A	-	0.95	-	N/A	-	2	0
Farm & Home	21.7	-	N/A	-	44.9	-	N/A	-	0.78	-	N/A	-	2	0
Ag. Land Only	10.1	-	N/A	-	37.7	-	N/A	-	1.03	-	N/A	-	11	0
Ag. (Impr.+ Land)	11.7	-	N/A	-	66.7	-	N/A	-	0.91	-	N/A	-	21	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	34.6	-	N/A	-	101.4	-	N/A	-	1.43	-	N/A	-	45	1
Total Market	87.2	-	N/A	-	22.8	-	N/A	-	1.28	-	N/A	-	22	0

S – Supplemental sales added from previous years   25

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

043 : JACKSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.5	89.0	to	97.6	19.4	16.3	to	23.3	1.08	1.05	to	1.12	117	11
Commercial/Ind.	67.6	55.7	to	108.4	19.7	10.5	to	36.5	1.22	1.07	to	1.56	9	1
Vacant Lot	84.5	-	N/A	-	44.3	-	N/A	-	8.58	-	N/A	-	6	1
Farm & Home	60.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	3.7	-	N/A	-	154.0	-	N/A	-	0.80	-	N/A	-	29	0
Ag. (Impr.+ Land)	21.0	-	N/A	-	123.0	-	N/A	-	0.96	-	N/A	-	70	1
Other/Ex/Ut/NP/M	97.9	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	77.5	-	N/A	-	41.3	-	N/A	-	1.26	-	N/A	-	204	10
Total Market	90.9	-	N/A	-	20.2	-	N/A	-	1.11	-	N/A	-	133	14

044 : JEFFERSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.3	87.3	to	92.7	16.0	14.2	to	18.2	1.03	1.01	to	1.05	228	24
Commercial/Ind.	63.1	49.0	to	100.7	37.3	24.9	to	62.3	1.15	0.98	to	1.48	11	0
Vacant Lot	97.4	-	N/A	-	45.0	-	N/A	-	2.15	-	N/A	-	27	3
Farm & Home	57.3	-	N/A	-	24.4	-	N/A	-	1.06	-	N/A	-	9	0
Ag. Land Only	2.4	-	N/A	-	135.3	-	N/A	-	0.76	-	N/A	-	46	4
Ag. (Impr.+ Land)	7.5	-	N/A	-	277.6	-	N/A	-	0.91	-	N/A	-	80	1
Other/Ex/Ut/NP/M	48.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	82.4	-	N/A	-	35.8	-	N/A	-	1.13	-	N/A	-	356	24
Total Market	90.4	-	N/A	-	18.1	-	N/A	-	1.03	-	N/A	-	267	32

045 : JEWELL COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.3	82.5	to	99.1	21.0	14.9	to	31.8	1.06	0.99	to	1.19	29	4
Commercial/Ind. *S-4*	93.5	69.3	to	107.4	19.4	4.6	to	21.7	0.98	0.91	to	1.10	7	1
Vacant Lot	245.5	-	N/A	-	3.4	-	N/A	-	1.00	-	N/A	-	2	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	13.7	-	N/A	-	33.3	-	N/A	-	1.01	-	N/A	-	14	0
Ag. (Impr.+ Land)	15.7	-	N/A	-	34.0	-	N/A	-	1.03	-	N/A	-	20	3
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	72.7	-	N/A	-	58.1	-	N/A	-	1.91	-	N/A	-	58	2
Total Market	94.3	-	N/A	-	24.9	-	N/A	-	1.08	-	N/A	-	38	5

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

046 : JOHNSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.9	90.4	to	93.2	8.9	8.2	to	9.7	1.00	0.99	to	1.01	347	16
Commercial/Ind.	81.8	77.5	to	86.1	24.3	21.7	to	27.5	0.98	0.93	to	1.05	205	2
Vacant Lot	67.4	-	N/A	-	21.7	-	N/A	-	1.03	-	N/A	-	990	70
Farm & Home	49.4	-	N/A	-	51.4	-	N/A	-	1.47	-	N/A	-	46	1
Ag. Land Only	0.6	-	N/A	-	526.1	-	N/A	-	2.38	-	N/A	-	75	14
Ag. (Impr.+ Land)	0.7	-	N/A	-	190.9	-	N/A	-	1.11	-	N/A	-	87	17
Other/Ex/Ut/NP/M	118.3	-	N/A	-	12.1	-	N/A	-	0.98	-	N/A	-	4	0
Total w/Ag.&F&H	73.3	-	N/A	-	24.9	-	N/A	-	0.93	-	N/A	-	1679	108
Total Market	75.3	-	N/A	-	23.9	-	N/A	-	0.93	-	N/A	-	1546	42

047 : KEARNY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.9	83.9	to	95.0	20.0	16.1	to	25.0	1.05	1.02	to	1.09	64	2
Commercial/Ind. *S-6*	78.9	56.4	to	90.7	17.6	9.9	to	24.0	1.05	1.00	to	1.14	6	0
Vacant Lot	101.4	-	N/A	-	5.9	-	N/A	-	0.98	-	N/A	-	2	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	7.4	-	N/A	-	33.2	-	N/A	-	0.83	-	N/A	-	8	0
Ag. (Impr.+ Land)	7.5	-	N/A	-	46.1	-	N/A	-	0.81	-	N/A	-	11	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	86.6	-	N/A	-	18.3	-	N/A	-	1.03	-	N/A	-	83	14
Total Market	90.1	-	N/A	-	19.6	-	N/A	-	1.05	-	N/A	-	72	2

048 : KINGMAN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.7	87.7	to	97.0	15.4	12.8	to	19.0	1.02	1.00	to	1.06	92	9
Commercial/Ind.	90.1	50.9	to	160.2	48.2	24.6	to	118.8	1.30	1.08	to	2.24	6	0
Vacant Lot	78.6	-	N/A	-	21.6	-	N/A	-	1.30	-	N/A	-	3	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	3.6	-	N/A	-	66.4	-	N/A	-	0.96	-	N/A	-	27	1
Ag. (Impr.+ Land)	5.7	-	N/A	-	111.7	-	N/A	-	1.07	-	N/A	-	46	8
Other/Ex/Ut/NP/M	80.2	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	79.2	-	N/A	-	46.6	-	N/A	-	1.52	-	N/A	-	148	1
Total Market	92.3	-	N/A	-	16.7	-	N/A	-	1.03	-	N/A	-	102	10

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

049 : KIOWA COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	95.6	86.2	to	99.5	8.2	5.8	to	11.8	1.00	0.99	to	1.02	20	3
Commercial/Ind. *S-2*	46.5	-	N/A	-	8.5	-	N/A	-	0.99	-	N/A	-	2	0
Vacant Lot	70.5	-	N/A	-	298.4	-	N/A	-	4.80	-	N/A	-	4	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	10.6	-	N/A	-	44.0	-	N/A	-	1.11	-	N/A	-	11	0
Ag. (Impr.+ Land)	10.6	-	N/A	-	44.0	-	N/A	-	1.11	-	N/A	-	11	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	77.2	-	N/A	-	47.7	-	N/A	-	1.19	-	N/A	-	37	1
Total Market	91.9	-	N/A	-	16.8	-	N/A	-	1.05	-	N/A	-	26	3

050 : LABETTE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	97.7	95.4	to	101.0	19.5	17.2	to	21.8	1.05	1.02	to	1.08	239	24
Commercial/Ind.	98.6	54.6	to	132.1	40.3	25.2	to	79.4	1.20	0.98	to	1.64	18	2
Vacant Lot	128.0	-	N/A	-	50.6	-	N/A	-	3.77	-	N/A	-	10	1
Farm & Home	23.7	-	N/A	-	79.3	-	N/A	-	1.00	-	N/A	-	8	0
Ag. Land Only	6.2	-	N/A	-	42.1	-	N/A	-	0.88	-	N/A	-	17	2
Ag. (Impr.+ Land)	8.3	-	N/A	-	66.1	-	N/A	-	1.01	-	N/A	-	26	3
Other/Ex/Ut/NP/M	187.1	-	N/A	-	63.2	-	N/A	-	1.39	-	N/A	-	4	0
Total w/Ag.&F&H	96.2	-	N/A	-	27.5	-	N/A	-	1.22	-	N/A	-	305	39
Total Market	98.0	-	N/A	-	22.0	-	N/A	-	1.06	-	N/A	-	271	30

051 : LANE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	94.6	81.7	to	107.3	21.4	16.4	to	30.9	1.09	1.01	to	1.21	23	1
Commercial/Ind. *S-7*	109.9	79.9	to	127.9	16.8	9.1	to	29.6	1.09	1.01	to	1.23	10	1
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	6.9	-	N/A	-	20.2	-	N/A	-	1.11	-	N/A	-	8	0
Ag. (Impr.+ Land)	7.1	-	N/A	-	20.7	-	N/A	-	1.08	-	N/A	-	11	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	85.1	-	N/A	-	43.8	-	N/A	-	2.63	-	N/A	-	44	2
Total Market	98.6	-	N/A	-	20.5	-	N/A	-	1.11	-	N/A	-	33	2

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

052 : LEAVENWORTH COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.6	91.2	to	95.3	12.6	11.2	to	14.2	0.99	0.98	to	1.00	243	17
Commercial/Ind.	81.3	65.8	to	98.3	23.5	18.3	to	32.3	1.11	1.00	to	1.24	26	2
Vacant Lot	83.5	-	N/A	-	13.6	-	N/A	-	1.02	-	N/A	-	120	13
Farm & Home	68.8	-	N/A	-	24.0	-	N/A	-	1.07	-	N/A	-	85	2
Ag. Land Only	1.1	-	N/A	-	140.2	-	N/A	-	0.83	-	N/A	-	65	6
Ag. (Impr.+ Land)	1.1	-	N/A	-	135.8	-	N/A	-	0.83	-	N/A	-	71	7
Other/Ex/Ut/NP/M	134.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	82.4	-	N/A	-	19.7	-	N/A	-	1.07	-	N/A	-	546	81
Total Market	90.9	-	N/A	-	14.1	-	N/A	-	1.00	-	N/A	-	390	32

053 : LINCOLN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	88.0	70.4	to	97.7	24.3	19.1	to	34.2	0.99	0.92	to	1.08	35	4
Commercial/Ind. *S-3*	98.4	53.7	to	160.2	32.8	12.1	to	53.7	1.31	1.03	to	1.44	5	0
Vacant Lot	87.0	-	N/A	-	25.9	-	N/A	-	0.83	-	N/A	-	9	1
Farm & Home	57.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	11.3	-	N/A	-	42.0	-	N/A	-	1.18	-	N/A	-	8	0
Ag. (Impr.+ Land)	12.2	-	N/A	-	33.2	-	N/A	-	1.10	-	N/A	-	14	2
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	70.7	-	N/A	-	43.9	-	N/A	-	1.79	-	N/A	-	64	5
Total Market	88.0	-	N/A	-	25.2	-	N/A	-	0.99	-	N/A	-	49	6

054 : LINN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	88.9	81.8	to	95.6	27.9	24.1	to	32.9	0.98	0.94	to	1.02	155	9
Commercial/Ind.	100.6	71.2	to	139.7	15.7	7.0	to	29.8	1.02	0.93	to	1.13	9	1
Vacant Lot	60.8	-	N/A	-	35.1	-	N/A	-	1.50	-	N/A	-	286	24
Farm & Home	24.7	-	N/A	-	69.7	-	N/A	-	0.91	-	N/A	-	2	0
Ag. Land Only	5.9	-	N/A	-	48.0	-	N/A	-	0.98	-	N/A	-	44	2
Ag. (Impr.+ Land)	10.0	-	N/A	-	131.5	-	N/A	-	1.09	-	N/A	-	83	4
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	63.0	-	N/A	-	46.5	-	N/A	-	1.37	-	N/A	-	535	26
Total Market	66.7	-	N/A	-	38.7	-	N/A	-	0.80	-	N/A	-	450	26

S – Supplemental sales added from previous years   29

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

055 : LOGAN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	96.3	84.5	to	104.9	17.7	13.3	to	23.9	0.98	0.94	to	1.01	41	0
Commercial/Ind. *S-3*	43.7	29.0	to	94.4	58.6	33.2	to	139.9	1.52	1.05	to	2.39	7	0
Vacant Lot	227.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	38.1	-	N/A	-	51.1	-	N/A	-	1.23	-	N/A	-	2	0
Ag. Land Only	11.6	-	N/A	-	28.4	-	N/A	-	1.15	-	N/A	-	16	0
Ag. (Impr.+ Land)	11.6	-	N/A	-	28.4	-	N/A	-	1.15	-	N/A	-	16	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	76.6	-	N/A	-	46.6	-	N/A	-	1.79	-	N/A	-	67	0
Total Market	90.9	-	N/A	-	22.6	-	N/A	-	1.24	-	N/A	-	49	1

056 : LYON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.6	88.4	to	92.9	11.6	10.3	to	13.2	1.01	1.00	to	1.02	206	27
Commercial/Ind.	99.2	89.5	to	112.8	19.8	14.1	to	28.6	1.22	1.07	to	1.52	24	0
Vacant Lot	88.9	-	N/A	-	33.7	-	N/A	-	1.14	-	N/A	-	13	1
Farm & Home	68.5	-	N/A	-	25.9	-	N/A	-	0.99	-	N/A	-	17	0
Ag. Land Only	5.7	-	N/A	-	39.2	-	N/A	-	0.89	-	N/A	-	16	0
Ag. (Impr.+ Land)	6.2	-	N/A	-	39.9	-	N/A	-	0.91	-	N/A	-	20	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	89.2	-	N/A	-	16.3	-	N/A	-	1.03	-	N/A	-	280	39
Total Market	90.9	-	N/A	-	12.2	-	N/A	-	1.01	-	N/A	-	243	36

057 : MARION COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.7	87.2	to	96.8	21.0	18.5	to	24.2	1.04	1.01	to	1.06	164	12
Commercial/Ind.	90.3	64.7	to	141.8	28.5	20.8	to	55.6	1.18	1.08	to	1.35	8	1
Vacant Lot	76.4	-	N/A	-	31.3	-	N/A	-	1.13	-	N/A	-	5	0
Farm & Home	58.0	-	N/A	-	29.6	-	N/A	-	0.98	-	N/A	-	7	0
Ag. Land Only	8.7	-	N/A	-	34.7	-	N/A	-	0.91	-	N/A	-	9	0
Ag. (Impr.+ Land)	11.3	-	N/A	-	89.3	-	N/A	-	0.92	-	N/A	-	18	2
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	87.7	-	N/A	-	26.1	-	N/A	-	1.14	-	N/A	-	202	18
Total Market	92.4	-	N/A	-	21.5	-	N/A	-	1.04	-	N/A	-	177	13

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

058 : MARSHALL COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	83.9	77.3	to	88.8	21.3	18.7	to	24.5	1.04	1.02	to	1.08	136	5
Commercial/Ind.	70.1	60.7	to	102.2	25.3	19.2	to	38.6	0.92	0.83	to	1.03	10	0
Vacant Lot	313.2	-	N/A	-	68.7	-	N/A	-	2.17	-	N/A	-	2	0
Farm & Home	76.8	-	N/A	-	22.7	-	N/A	-	1.05	-	N/A	-	2	0
Ag. Land Only	11.1	-	N/A	-	9.7	-	N/A	-	1.03	-	N/A	-	10	1
Ag. (Impr.+ Land)	13.4	-	N/A	-	86.9	-	N/A	-	1.17	-	N/A	-	19	2
Other/Ex/Ut/NP/M	63.1	-	N/A	-	161.0	-	N/A	-	2.36	-	N/A	-	4	0
Total w/Ag.&F&H	78.6	-	N/A	-	28.0	-	N/A	-	1.27	-	N/A	-	173	8
Total Market	83.2	-	N/A	-	22.0	-	N/A	-	1.04	-	N/A	-	152	7

059 : MCPHERSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	96.5	94.2	to	99.0	10.7	9.5	to	12.0	0.99	0.98	to	1.00	205	14
Commercial/Ind.	89.5	62.0	to	108.9	25.3	13.7	to	52.7	1.19	0.98	to	1.79	12	1
Vacant Lot	55.9	-	N/A	-	71.8	-	N/A	-	2.82	-	N/A	-	4	0
Farm & Home	70.9	-	N/A	-	26.2	-	N/A	-	1.10	-	N/A	-	17	0
Ag. Land Only	8.7	-	N/A	-	47.4	-	N/A	-	0.98	-	N/A	-	22	0
Ag. (Impr.+ Land)	8.7	-	N/A	-	47.4	-	N/A	-	0.98	-	N/A	-	22	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	93.2	-	N/A	-	12.9	-	N/A	-	1.00	-	N/A	-	260	38
Total Market	96.3	-	N/A	-	11.0	-	N/A	-	0.99	-	N/A	-	221	19

060 : MEADE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	84.9	79.8	to	100.4	27.3	22.8	to	37.3	1.11	1.03	to	1.25	43	1
Commercial/Ind. *S-5*	72.3	39.5	to	90.2	34.7	15.5	to	97.2	1.30	1.10	to	1.66	7	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	5.5	-	N/A	-	57.2	-	N/A	-	1.02	-	N/A	-	9	0
Ag. (Impr.+ Land)	5.9	-	N/A	-	51.8	-	N/A	-	0.98	-	N/A	-	12	2
Other/Ex/Ut/NP/M	162.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	78.9	-	N/A	-	42.1	-	N/A	-	1.33	-	N/A	-	63	1
Total Market	82.5	-	N/A	-	30.1	-	N/A	-	1.11	-	N/A	-	51	1

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

061 : MIAMI COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.2	89.1	to	93.0	12.3	10.9	to	14.0	1.03	1.01	to	1.04	214	16
Commercial/Ind.	92.7	70.7	to	111.2	25.5	16.2	to	43.4	1.02	0.93	to	1.09	12	0
Vacant Lot	73.7	-	N/A	-	37.9	-	N/A	-	1.11	-	N/A	-	52	3
Farm & Home	51.2	-	N/A	-	31.0	-	N/A	-	1.10	-	N/A	-	51	0
Ag. Land Only	2.0	-	N/A	-	88.1	-	N/A	-	0.75	-	N/A	-	77	5
Ag. (Impr.+ Land)	2.1	-	N/A	-	81.5	-	N/A	-	0.80	-	N/A	-	91	7
Other/Ex/Ut/NP/M	62.8	-	N/A	-	101.9	-	N/A	-	1.91	-	N/A	-	8	0
Total w/Ag.&F&H	78.3	-	N/A	-	42.7	-	N/A	-	1.13	-	N/A	-	428	9
Total Market	89.5	-	N/A	-	16.4	-	N/A	-	1.02	-	N/A	-	286	27

062 : MITCHELL COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.9	89.2	to	98.8	18.7	15.5	to	22.4	1.05	1.02	to	1.09	84	5
Commercial/Ind. *S-5*	74.7	55.9	to	99.7	30.7	17.6	to	100.4	1.09	0.98	to	1.42	8	0
Vacant Lot	80.5	-	N/A	-	32.4	-	N/A	-	0.94	-	N/A	-	3	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	11.3	-	N/A	-	10.3	-	N/A	-	0.99	-	N/A	-	5	0
Ag. (Impr.+ Land)	31.8	-	N/A	-	77.9	-	N/A	-	1.21	-	N/A	-	12	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	89.5	-	N/A	-	23.2	-	N/A	-	1.07	-	N/A	-	107	8
Total Market	93.4	-	N/A	-	20.8	-	N/A	-	1.03	-	N/A	-	95	4

063 : MONTGOMERY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	96.6	90.7	to	102.6	19.2	17.3	to	22.0	1.05	1.02	to	1.09	205	26
Commercial/Ind.	84.6	74.3	to	99.3	25.9	19.7	to	40.6	1.05	0.99	to	1.17	31	2
Vacant Lot	119.7	-	N/A	-	36.3	-	N/A	-	1.30	-	N/A	-	21	4
Farm & Home	51.5	-	N/A	-	32.3	-	N/A	-	1.06	-	N/A	-	36	1
Ag. Land Only	5.3	-	N/A	-	46.6	-	N/A	-	1.06	-	N/A	-	31	0
Ag. (Impr.+ Land)	5.6	-	N/A	-	41.2	-	N/A	-	1.06	-	N/A	-	37	1
Other/Ex/Ut/NP/M	115.6	-	N/A	-	32.3	-	N/A	-	0.99	-	N/A	-	2	0
Total w/Ag.&F&H	87.6	-	N/A	-	34.9	-	N/A	-	1.22	-	N/A	-	332	31
Total Market	96.4	-	N/A	-	20.9	-	N/A	-	1.06	-	N/A	-	259	34

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

064 : MORRIS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.4	89.0	to	98.1	16.6	13.4	to	21.2	1.01	0.98	to	1.05	61	4
Commercial/Ind.	75.3	55.0	to	84.0	20.2	8.8	to	85.8	1.18	0.99	to	1.66	7	0
Vacant Lot	39.1	-	N/A	-	43.5	-	N/A	-	1.27	-	N/A	-	3	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	4.2	-	N/A	-	92.7	-	N/A	-	1.15	-	N/A	-	15	0
Ag. (Impr.+ Land)	8.2	-	N/A	-	73.2	-	N/A	-	1.05	-	N/A	-	22	2
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	81.9	-	N/A	-	39.0	-	N/A	-	1.40	-	N/A	-	93	2
Total Market	90.3	-	N/A	-	18.7	-	N/A	-	1.00	-	N/A	-	71	4

065 : MORTON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	96.6	84.9	to	101.0	16.6	12.8	to	22.4	1.03	1.00	to	1.07	41	4
Commercial/Ind. *S-6*	95.9	83.6	to	108.1	9.8	5.1	to	19.7	0.96	0.93	to	1.01	6	0
Vacant Lot	110.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	2.7	-	N/A	-	87.2	-	N/A	-	1.04	-	N/A	-	13	0
Ag. (Impr.+ Land)	3.5	-	N/A	-	81.3	-	N/A	-	0.91	-	N/A	-	15	1
Other/Ex/Ut/NP/M	88.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	86.2	-	N/A	-	38.4	-	N/A	-	1.26	-	N/A	-	64	2
Total Market	96.6	-	N/A	-	15.4	-	N/A	-	1.03	-	N/A	-	49	4

066 : NEMAHA COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.3	88.6	to	97.5	17.0	14.4	to	20.2	1.02	0.99	to	1.04	105	7
Commercial/Ind.	61.9	54.1	to	65.5	20.4	10.1	to	35.7	1.17	1.03	to	1.47	13	1
Vacant Lot	147.7	-	N/A	-	41.8	-	N/A	-	1.30	-	N/A	-	5	0
Farm & Home	50.3	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	9.3	-	N/A	-	35.2	-	N/A	-	0.85	-	N/A	-	20	0
Ag. (Impr.+ Land)	10.1	-	N/A	-	37.8	-	N/A	-	0.94	-	N/A	-	31	4
Other/Ex/Ut/NP/M	115.8	-	N/A	-	18.5	-	N/A	-	1.10	-	N/A	-	2	0
Total w/Ag.&F&H	82.4	-	N/A	-	37.0	-	N/A	-	1.58	-	N/A	-	157	7
Total Market	92.3	-	N/A	-	20.8	-	N/A	-	1.06	-	N/A	-	125	8

S – Supplemental sales added from previous years   33

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

067 : NEOSHO COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	95.7	92.2	to	100.3	21.4	18.6	to	24.8	1.04	1.01	to	1.08	160	16
Commercial/Ind.	106.7	69.1	to	129.0	37.3	24.9	to	63.5	1.04	0.89	to	1.26	20	2
Vacant Lot	314.0	-	N/A	-	57.0	-	N/A	-	1.80	-	N/A	-	7	0
Farm & Home	112.8	-	N/A	-	64.7	-	N/A	-	1.43	-	N/A	-	2	0
Ag. Land Only	6.4	-	N/A	-	42.6	-	N/A	-	1.05	-	N/A	-	16	0
Ag. (Impr.+ Land)	7.3	-	N/A	-	44.9	-	N/A	-	0.99	-	N/A	-	22	4
Other/Ex/Ut/NP/M	99.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	93.8	-	N/A	-	33.0	-	N/A	-	1.15	-	N/A	-	212	20
Total Market	97.4	-	N/A	-	23.9	-	N/A	-	1.04	-	N/A	-	188	20

068 : NESS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	98.7	90.7	to	109.5	29.7	22.0	to	42.1	1.11	1.03	to	1.21	50	7
Commercial/Ind.	52.3	24.7	to	101.9	68.8	29.2	to	172.5	1.37	0.87	to	2.07	7	0
Vacant Lot	125.5	-	N/A	-	61.6	-	N/A	-	0.98	-	N/A	-	4	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	12.5	-	N/A	-	22.7	-	N/A	-	1.10	-	N/A	-	9	0
Ag. (Impr.+ Land)	13.5	-	N/A	-	29.6	-	N/A	-	0.98	-	N/A	-	18	2
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	86.8	-	N/A	-	52.1	-	N/A	-	1.72	-	N/A	-	79	8
Total Market	98.5	-	N/A	-	31.8	-	N/A	-	1.16	-	N/A	-	61	8

069 : NORTON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	99.3	92.2	to	107.1	18.3	15.3	to	21.9	1.03	1.00	to	1.07	82	5
Commercial/Ind. *S-5*	83.4	45.9	to	225.6	47.3	23.2	to	120.6	1.60	1.10	to	3.28	9	1
Vacant Lot	112.5	-	N/A	-	12.1	-	N/A	-	1.07	-	N/A	-	2	0
Farm & Home	63.4	-	N/A	-	25.0	-	N/A	-	1.02	-	N/A	-	3	0
Ag. Land Only	5.0	-	N/A	-	67.0	-	N/A	-	0.77	-	N/A	-	9	0
Ag. (Impr.+ Land)	5.0	-	N/A	-	66.1	-	N/A	-	0.81	-	N/A	-	11	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	93.5	-	N/A	-	22.5	-	N/A	-	1.16	-	N/A	-	107	14
Total Market	99.1	-	N/A	-	19.3	-	N/A	-	1.11	-	N/A	-	93	7

S – Supplemental sales added from previous years   34

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

070 : OSAGE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.9	88.9	to	96.9	24.1	21.3	to	27.0	1.07	1.05	to	1.10	231	20
Commercial/Ind.	63.0	33.2	to	544.3	191.3	91.6	to	555.7	3.27	1.69	to	7.43	9	1
Vacant Lot	51.0	-	N/A	-	60.4	-	N/A	-	1.64	-	N/A	-	15	1
Farm & Home	64.4	-	N/A	-	30.5	-	N/A	-	1.12	-	N/A	-	10	1
Ag. Land Only	5.0	-	N/A	-	67.3	-	N/A	-	0.95	-	N/A	-	51	0
Ag. (Impr.+ Land)	11.4	-	N/A	-	214.7	-	N/A	-	1.04	-	N/A	-	98	1
Other/Ex/Ut/NP/M	104.2	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	79.1	-	N/A	-	42.6	-	N/A	-	1.26	-	N/A	-	364	26
Total Market	92.4	-	N/A	-	27.3	-	N/A	-	1.08	-	N/A	-	256	24

071 : OSBORNE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	75.8	68.0	to	90.7	29.2	21.5	to	44.6	0.99	0.90	to	1.09	31	3
Commercial/Ind. *S-4*	98.0	83.3	to	163.8	42.3	28.5	to	122.4	1.11	0.99	to	1.36	7	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	12.9	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	17.0	-	N/A	-	22.8	-	N/A	-	1.02	-	N/A	-	7	0
Ag. (Impr.+ Land)	17.0	-	N/A	-	21.7	-	N/A	-	1.04	-	N/A	-	9	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	73.6	-	N/A	-	49.4	-	N/A	-	1.45	-	N/A	-	48	2
Total Market	85.8	-	N/A	-	31.7	-	N/A	-	1.05	-	N/A	-	38	3

072 : OTTAWA COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	94.7	90.5	to	99.9	14.0	11.2	to	18.0	1.02	0.99	to	1.07	61	5
Commercial/Ind. *S-5*	91.6	66.5	to	98.0	16.3	7.3	to	35.3	1.10	0.98	to	1.43	7	0
Vacant Lot	111.9	-	N/A	-	38.6	-	N/A	-	1.32	-	N/A	-	7	0
Farm & Home	62.0	-	N/A	-	30.5	-	N/A	-	1.13	-	N/A	-	7	0
Ag. Land Only	7.8	-	N/A	-	43.8	-	N/A	-	1.00	-	N/A	-	24	1
Ag. (Impr.+ Land)	8.1	-	N/A	-	50.2	-	N/A	-	1.01	-	N/A	-	35	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	79.5	-	N/A	-	49.0	-	N/A	-	1.76	-	N/A	-	117	0
Total Market	94.7	-	N/A	-	15.3	-	N/A	-	1.02	-	N/A	-	75	7

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0 COD: 20.0 or less PRD: .98 to 1.02

073 : PAWNEE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.0	89.6	to	98.3	16.3	13.8	to	19.6	1.03	1.01	to	1.06	109	6
Commercial/Ind. *S-4*	90.3	40.9	to	98.5	21.5	2.8	to	40.1	1.19	0.98	to	1.29	5	0
Vacant Lot	74.5	-	N/A	-	17.8	-	N/A	-	0.87	-	N/A	-	3	0
Farm & Home	361.9	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	11.4	-	N/A	-	35.8	-	N/A	-	0.95	-	N/A	-	33	1
Ag. (Impr.+ Land)	11.6	-	N/A	-	33.8	-	N/A	-	0.95	-	N/A	-	38	5
Other/Ex/Ut/NP/M	186.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	82.4	-	N/A	-	37.7	-	N/A	-	1.43	-	N/A	-	157	5
Total Market	92.5	-	N/A	-	17.1	-	N/A	-	1.03	-	N/A	-	118	7

074 : PHILLIPS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	82.8	77.7	to	90.1	23.2	19.7	to	27.8	1.01	0.98	to	1.05	87	5
Commercial/Ind.	61.0	20.2	to	272.3	117.4	23.5	to	181.0	3.29	1.22	to	5.48	5	0
Vacant Lot	42.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	36.8	-	N/A	-	24.0	-	N/A	-	0.97	-	N/A	-	2	0
Ag. Land Only	11.0	-	N/A	-	40.9	-	N/A	-	1.08	-	N/A	-	11	0
Ag. (Impr.+ Land)	10.3	-	N/A	-	48.0	-	N/A	-	1.04	-	N/A	-	12	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	78.5	-	N/A	-	34.7	-	N/A	-	1.22	-	N/A	-	107	6
Total Market	82.3	-	N/A	-	25.0	-	N/A	-	1.04	-	N/A	-	93	6

075 : POTTAWATOMIE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.7	91.3	to	93.5	9.3	8.5	to	10.1	1.00	1.00	to	1.01	464	60
Commercial/Ind.	78.3	61.2	to	89.0	15.4	10.5	to	22.4	1.02	0.95	to	1.11	12	0
Vacant Lot	79.0	-	N/A	-	53.9	-	N/A	-	1.87	-	N/A	-	60	0
Farm & Home	303.9	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	4.1	-	N/A	-	108.4	-	N/A	-	0.71	-	N/A	-	34	1
Ag. (Impr.+ Land)	4.6	-	N/A	-	253.4	-	N/A	-	0.73	-	N/A	-	78	8
Other/Ex/Ut/NP/M	129.7	-	N/A	-	30.7	-	N/A	-	1.06	-	N/A	-	2	0
Total w/Ag.&F&H	89.5	-	N/A	-	15.4	-	N/A	-	1.02	-	N/A	-	617	102
Total Market	92.0	-	N/A	-	11.0	-	N/A	-	1.01	-	N/A	-	538	80

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

076 : PRATT COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.9	86.1	to	93.6	16.5	14.5	to	18.7	1.03	1.01	to	1.05	182	7
Commercial/Ind. *S-5*	86.0	79.5	to	131.4	14.8	4.5	to	30.7	1.00	0.97	to	1.09	7	1
Vacant Lot	84.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	9.6	-	N/A	-	40.7	-	N/A	-	0.98	-	N/A	-	24	0
Ag. (Impr.+ Land)	9.6	-	N/A	-	44.3	-	N/A	-	0.99	-	N/A	-	28	2
Other/Ex/Ut/NP/M	143.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	85.7	-	N/A	-	17.8	-	N/A	-	1.04	-	N/A	-	219	32
Total Market	90.4	-	N/A	-	16.6	-	N/A	-	1.03	-	N/A	-	191	9

077 : RAWLINS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	95.4	84.2	to	104.2	22.0	15.2	to	31.9	1.06	1.00	to	1.15	29	3
Commercial/Ind. *S-4*	62.5	59.4	to	103.6	15.6	3.7	to	32.4	1.12	1.00	to	1.34	7	1
Vacant Lot	128.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	8.5	-	N/A	-	28.9	-	N/A	-	0.91	-	N/A	-	12	1
Ag. (Impr.+ Land)	10.3	-	N/A	-	117.8	-	N/A	-	1.31	-	N/A	-	18	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	68.0	-	N/A	-	58.3	-	N/A	-	1.65	-	N/A	-	55	2
Total Market	94.6	-	N/A	-	28.5	-	N/A	-	1.14	-	N/A	-	37	2

078 : RENO COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.0	89.8	to	94.7	13.0	11.6	to	14.6	1.03	1.01	to	1.04	242	25
Commercial/Ind.	83.9	71.1	to	96.8	24.4	19.4	to	33.1	1.19	1.06	to	1.40	38	0
Vacant Lot	61.9	-	N/A	-	66.0	-	N/A	-	1.79	-	N/A	-	53	6
Farm & Home	48.3	-	N/A	-	33.5	-	N/A	-	1.10	-	N/A	-	34	3
Ag. Land Only	9.1	-	N/A	-	62.0	-	N/A	-	1.00	-	N/A	-	76	5
Ag. (Impr.+ Land)	9.3	-	N/A	-	62.0	-	N/A	-	1.11	-	N/A	-	86	6
Other/Ex/Ut/NP/M	92.3	-	N/A	-	5.5	-	N/A	-	0.97	-	N/A	-	2	0
Total w/Ag.&F&H	82.3	-	N/A	-	38.9	-	N/A	-	1.24	-	N/A	-	455	25
Total Market	90.3	-	N/A	-	16.7	-	N/A	-	1.04	-	N/A	-	335	46

S – Supplemental sales added from previous years   37

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

079 : REPUBLIC COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.3	86.5	to	95.3	16.8	13.7	to	20.8	1.06	1.01	to	1.11	79	6
Commercial/Ind.	100.1	62.4	to	108.1	16.2	4.6	to	32.3	1.29	1.08	to	1.49	6	0
Vacant Lot	82.4	-	N/A	-	78.0	-	N/A	-	1.02	-	N/A	-	6	0
Farm & Home	58.9	-	N/A	-	53.7	-	N/A	-	1.58	-	N/A	-	3	0
Ag. Land Only	12.5	-	N/A	-	14.3	-	N/A	-	1.01	-	N/A	-	21	3
Ag. (Impr.+ Land)	13.0	-	N/A	-	18.4	-	N/A	-	0.99	-	N/A	-	24	4
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	84.6	-	N/A	-	36.6	-	N/A	-	1.47	-	N/A	-	118	5
Total Market	91.6	-	N/A	-	17.9	-	N/A	-	1.07	-	N/A	-	91	8

080 : RICE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.5	86.6	to	95.0	21.0	18.3	to	24.4	1.03	1.00	to	1.06	142	8
Commercial/Ind.	60.1	25.5	to	103.7	51.0	28.5	to	137.8	1.26	1.01	to	1.69	9	0
Vacant Lot	186.0	-	N/A	-	129.6	-	N/A	-	1.51	-	N/A	-	3	0
Farm & Home	61.7	-	N/A	-	32.9	-	N/A	-	1.14	-	N/A	-	5	0
Ag. Land Only	11.4	-	N/A	-	41.8	-	N/A	-	1.20	-	N/A	-	17	0
Ag. (Impr.+ Land)	13.0	-	N/A	-	41.6	-	N/A	-	1.19	-	N/A	-	21	3
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	86.3	-	N/A	-	32.1	-	N/A	-	1.34	-	N/A	-	180	9
Total Market	90.2	-	N/A	-	22.6	-	N/A	-	1.04	-	N/A	-	154	10

081 : RILEY COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.3	91.6	to	95.5	8.6	7.8	to	9.7	1.01	1.00	to	1.01	227	18
Commercial/Ind.	89.8	79.0	to	96.3	12.5	8.8	to	19.7	0.96	0.92	to	1.00	16	0
Vacant Lot	29.5	-	N/A	-	54.0	-	N/A	-	1.47	-	N/A	-	85	3
Farm & Home	40.9	-	N/A	-	31.4	-	N/A	-	1.14	-	N/A	-	12	0
Ag. Land Only	1.0	-	N/A	-	173.8	-	N/A	-	0.66	-	N/A	-	6	0
Ag. (Impr.+ Land)	3.7	-	N/A	-	89.8	-	N/A	-	0.66	-	N/A	-	10	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	87.7	-	N/A	-	28.3	-	N/A	-	0.97	-	N/A	-	350	5
Total Market	88.4	-	N/A	-	22.6	-	N/A	-	0.92	-	N/A	-	328	16

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

082 : ROOKS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	89.2	83.6	to	94.2	19.8	16.4	to	24.8	1.02	0.99	to	1.07	78	9
Commercial/Ind.	71.9	40.3	to	98.5	25.1	14.2	to	59.7	1.07	0.95	to	1.24	8	1
Vacant Lot	316.4	-	N/A	-	13.8	-	N/A	-	1.07	-	N/A	-	2	0
Farm & Home	19.2	-	N/A	-	39.3	-	N/A	-	0.98	-	N/A	-	3	0
Ag. Land Only	10.2	-	N/A	-	51.3	-	N/A	-	1.04	-	N/A	-	26	0
Ag. (Impr.+ Land)	10.0	-	N/A	-	52.5	-	N/A	-	1.02	-	N/A	-	32	1
Other/Ex/Ut/NP/M	44.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	76.6	-	N/A	-	47.4	-	N/A	-	1.46	-	N/A	-	124	7
Total Market	88.5	-	N/A	-	21.8	-	N/A	-	1.01	-	N/A	-	89	11

083 : RUSH COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.4	82.4	to	101.1	23.9	18.3	to	32.3	1.04	0.98	to	1.12	40	3
Commercial/Ind. _S-5_	145.1	63.2	to	268.4	88.0	40.5	to	234.5	2.09	1.41	to	4.36	8	0
Vacant Lot	69.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	46.1	-	N/A	-	21.1	-	N/A	-	0.97	-	N/A	-	2	0
Ag. Land Only	10.6	-	N/A	-	32.7	-	N/A	-	1.01	-	N/A	-	16	0
Ag. (Impr.+ Land)	9.9	-	N/A	-	32.9	-	N/A	-	1.02	-	N/A	-	20	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	72.4	-	N/A	-	57.6	-	N/A	-	1.85	-	N/A	-	71	4
Total Market	91.2	-	N/A	-	28.5	-	N/A	-	1.07	-	N/A	-	49	5

084 : RUSSELL COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.5	85.5	to	94.2	18.0	15.6	to	20.8	1.03	0.98	to	1.10	138	8
Commercial/Ind.	63.3	39.3	to	103.5	37.9	15.4	to	80.3	1.08	0.83	to	1.50	10	1
Vacant Lot	72.6	-	N/A	-	61.2	-	N/A	-	1.08	-	N/A	-	11	1
Farm & Home	41.5	-	N/A	-	79.0	-	N/A	-	0.71	-	N/A	-	2	0
Ag. Land Only	5.5	-	N/A	-	89.1	-	N/A	-	0.98	-	N/A	-	15	0
Ag. (Impr.+ Land)	6.8	-	N/A	-	78.3	-	N/A	-	0.89	-	N/A	-	25	4
Other/Ex/Ut/NP/M	75.3	-	N/A	-	13.5	-	N/A	-	1.10	-	N/A	-	2	0
Total w/Ag.&F&H	83.4	-	N/A	-	33.4	-	N/A	-	1.11	-	N/A	-	188	6
Total Market	89.2	-	N/A	-	21.8	-	N/A	-	1.02	-	N/A	-	161	10

_S_ – Supplemental sales added from previous years   39

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

085 : SALINE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	94.4	92.2	to	96.5	10.8	9.7	to	12.0	1.01	1.00	to	1.02	249	22
Commercial/Ind.	93.3	82.3	to	104.2	27.4	20.7	to	37.7	1.23	1.08	to	1.45	41	3
Vacant Lot	27.8	-	N/A	-	61.4	-	N/A	-	1.10	-	N/A	-	47	0
Farm & Home	50.8	-	N/A	-	29.7	-	N/A	-	1.12	-	N/A	-	13	0
Ag. Land Only	8.5	-	N/A	-	53.5	-	N/A	-	0.95	-	N/A	-	29	0
Ag. (Impr.+ Land)	8.5	-	N/A	-	54.8	-	N/A	-	0.92	-	N/A	-	33	0
Other/Ex/Ut/NP/M	128.9	-	N/A	-	30.8	-	N/A	-	1.31	-	N/A	-	7	1
Total w/Ag.&F&H	89.9	-	N/A	-	24.1	-	N/A	-	1.05	-	N/A	-	390	41
Total Market	92.0	-	N/A	-	13.4	-	N/A	-	1.03	-	N/A	-	344	61

086 : SCOTT COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.0	85.3	to	96.0	17.4	14.8	to	21.1	1.01	0.99	to	1.04	62	1
Commercial/Ind.	47.6	34.4	to	59.8	17.4	6.3	to	24.1	0.98	0.96	to	1.01	5	0
Vacant Lot	70.4	-	N/A	-	37.2	-	N/A	-	1.92	-	N/A	-	8	0
Farm & Home	43.8	-	N/A	-	30.3	-	N/A	-	1.15	-	N/A	-	4	0
Ag. Land Only	11.8	-	N/A	-	6.8	-	N/A	-	1.01	-	N/A	-	18	2
Ag. (Impr.+ Land)	12.1	-	N/A	-	6.8	-	N/A	-	1.01	-	N/A	-	20	4
Other/Ex/Ut/NP/M	15.3	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	76.3	-	N/A	-	40.0	-	N/A	-	1.23	-	N/A	-	100	0
Total Market	87.9	-	N/A	-	20.9	-	N/A	-	1.00	-	N/A	-	76	3

087 : SEDGWICK COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.1	88.2	to	92.6	13.2	12.1	to	14.5	1.04	1.00	to	1.12	357	32
Commercial/Ind.	87.1	81.0	to	90.5	21.5	19.0	to	24.4	0.98	0.94	to	1.03	167	5
Vacant Lot	61.5	-	N/A	-	47.4	-	N/A	-	1.16	-	N/A	-	365	19
Farm & Home	2.5	-	N/A	-	233.1	-	N/A	-	1.51	-	N/A	-	56	9
Ag. Land Only	0.7	-	N/A	-	118.2	-	N/A	-	0.74	-	N/A	-	131	12
Ag. (Impr.+ Land)	0.8	-	N/A	-	126.8	-	N/A	-	0.75	-	N/A	-	145	17
Other/Ex/Ut/NP/M	59.5	-	N/A	-	22.0	-	N/A	-	0.80	-	N/A	-	3	0
Total w/Ag.&F&H	77.0	-	N/A	-	43.5	-	N/A	-	0.96	-	N/A	-	1093	25
Total Market	84.2	-	N/A	-	27.2	-	N/A	-	0.93	-	N/A	-	892	38

S – Supplemental sales added from previous years

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

088 : SEWARD COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.5	90.4	to	94.5	10.1	9.1	to	11.5	1.01	1.00	to	1.02	220	26
Commercial/Ind.	83.4	59.1	to	101.8	42.4	25.9	to	68.5	2.06	1.15	to	3.58	19	1
Vacant Lot	101.9	-	N/A	-	83.3	-	N/A	-	4.41	-	N/A	-	4	0
Farm & Home	49.9	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	4.7	-	N/A	-	163.4	-	N/A	-	1.54	-	N/A	-	6	0
Ag. (Impr.+ Land)	18.9	-	N/A	-	149.2	-	N/A	-	1.14	-	N/A	-	10	1
Other/Ex/Ut/NP/M	275.0	-	N/A	-	29.2	-	N/A	-	1.11	-	N/A	-	2	0
Total w/Ag.&F&H	92.1	-	N/A	-	11.5	-	N/A	-	1.02	-	N/A	-	256	42
Total Market	92.5	-	N/A	-	11.1	-	N/A	-	1.02	-	N/A	-	245	34

089 : SHAWNEE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.3	89.3	to	92.9	11.4	10.4	to	12.6	1.00	0.99	to	1.02	305	27
Commercial/Ind.	92.6	85.5	to	98.2	22.7	18.6	to	28.0	1.25	1.11	to	1.45	88	7
Vacant Lot	76.9	-	N/A	-	42.6	-	N/A	-	1.38	-	N/A	-	112	8
Farm & Home	61.3	-	N/A	-	29.1	-	N/A	-	1.04	-	N/A	-	25	0
Ag. Land Only	3.7	-	N/A	-	120.6	-	N/A	-	1.02	-	N/A	-	42	2
Ag. (Impr.+ Land)	3.8	-	N/A	-	130.6	-	N/A	-	1.00	-	N/A	-	44	1
Other/Ex/Ut/NP/M	93.4	-	N/A	-	15.2	-	N/A	-	1.09	-	N/A	-	7	1
Total w/Ag.&F&H	88.0	-	N/A	-	18.7	-	N/A	-	1.12	-	N/A	-	581	91
Total Market	90.1	-	N/A	-	15.4	-	N/A	-	1.09	-	N/A	-	512	73

090 : SHERIDAN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	85.4	73.9	to	90.5	16.4	11.8	to	23.3	1.03	1.01	to	1.07	30	3
Commercial/Ind. *S-3*	80.2	67.0	to	136.3	25.1	3.6	to	29.9	1.14	1.01	to	1.25	4	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	61.2	-	N/A	-	22.7	-	N/A	-	1.01	-	N/A	-	4	0
Ag. Land Only	8.7	-	N/A	-	47.8	-	N/A	-	1.29	-	N/A	-	6	0
Ag. (Impr.+ Land)	10.2	-	N/A	-	47.8	-	N/A	-	1.29	-	N/A	-	7	1
Other/Ex/Ut/NP/M	27.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	74.0	-	N/A	-	35.7	-	N/A	-	1.56	-	N/A	-	46	0
Total Market	84.2	-	N/A	-	16.0	-	N/A	-	1.03	-	N/A	-	35	5

S – Supplemental sales added from previous years   41

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

091 : SHERMAN COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.3	84.6	to	95.9	19.0	15.7	to	23.4	0.99	0.96	to	1.03	86	6
Commercial/Ind. *S-4*	81.0	66.0	to	123.0	27.4	17.2	to	38.9	0.79	0.74	to	1.04	6	0
Vacant Lot	53.9	-	N/A	-	8.2	-	N/A	-	1.03	-	N/A	-	2	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	8.3	-	N/A	-	21.6	-	N/A	-	1.03	-	N/A	-	14	1
Ag. (Impr.+ Land)	8.7	-	N/A	-	32.9	-	N/A	-	1.00	-	N/A	-	19	1
Other/Ex/Ut/NP/M	122.9	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	83.7	-	N/A	-	34.6	-	N/A	-	1.24	-	N/A	-	114	3
Total Market	89.3	-	N/A	-	20.6	-	N/A	-	0.96	-	N/A	-	95	5

092 : SMITH COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.2	85.1	to	98.3	17.2	12.9	to	23.1	0.97	0.92	to	1.01	46	2
Commercial/Ind. *S-3*	95.2	72.3	to	98.8	20.4	5.0	to	217.4	2.65	1.03	to	4.79	7	1
Vacant Lot	96.7	-	N/A	-	26.5	-	N/A	-	1.48	-	N/A	-	3	0
Farm & Home	32.6	-	N/A	-	50.9	-	N/A	-	1.21	-	N/A	-	2	0
Ag. Land Only	14.5	-	N/A	-	35.5	-	N/A	-	0.92	-	N/A	-	8	0
Ag. (Impr.+ Land)	18.2	-	N/A	-	68.9	-	N/A	-	0.94	-	N/A	-	12	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	87.4	-	N/A	-	31.6	-	N/A	-	1.47	-	N/A	-	70	2
Total Market	93.5	-	N/A	-	16.8	-	N/A	-	0.98	-	N/A	-	56	4

093 : STAFFORD COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	95.3	88.6	to	99.7	15.8	11.9	to	21.1	1.06	1.01	to	1.12	40	2
Commercial/Ind.	89.6	41.2	to	97.7	14.7	0.8	to	61.3	1.11	1.00	to	1.27	5	0
Vacant Lot	51.3	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Farm & Home	69.4	-	N/A	-	49.2	-	N/A	-	1.28	-	N/A	-	6	0
Ag. Land Only	8.1	-	N/A	-	59.6	-	N/A	-	1.10	-	N/A	-	19	0
Ag. (Impr.+ Land)	11.0	-	N/A	-	57.4	-	N/A	-	1.30	-	N/A	-	24	1
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	78.1	-	N/A	-	47.2	-	N/A	-	2.05	-	N/A	-	76	0
Total Market	92.7	-	N/A	-	15.7	-	N/A	-	1.04	-	N/A	-	46	3

S – Supplemental sales added from previous years   42

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

094 : STANTON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	90.6	77.9	to	98.5	15.5	10.5	to	23.9	1.00	0.97	to	1.05	21	3
Commercial/Ind. *S-6*	100.9	76.4	to	113.1	14.5	8.3	to	26.0	1.11	1.00	to	1.23	6	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	5.6	-	N/A	-	3.2	-	N/A	-	1.00	-	N/A	-	2	0
Ag. (Impr.+ Land)	16.0	-	N/A	-	92.4	-	N/A	-	1.14	-	N/A	-	4	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	86.6	-	N/A	-	29.6	-	N/A	-	0.95	-	N/A	-	31	1
Total Market	93.1	-	N/A	-	15.4	-	N/A	-	1.04	-	N/A	-	27	3

095 : STEVENS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	88.8	79.9	to	94.4	18.5	14.6	to	23.5	1.04	1.00	to	1.09	53	7
Commercial/Ind. *S-5*	70.7	49.7	to	84.5	22.6	15.7	to	48.2	1.37	1.03	to	1.62	10	1
Vacant Lot	50.2	-	N/A	-	19.4	-	N/A	-	0.97	-	N/A	-	4	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	4.8	-	N/A	-	40.7	-	N/A	-	1.02	-	N/A	-	16	0
Ag. (Impr.+ Land)	5.2	-	N/A	-	40.7	-	N/A	-	1.02	-	N/A	-	18	2
Other/Ex/Ut/NP/M	113.1	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	77.8	-	N/A	-	42.7	-	N/A	-	1.17	-	N/A	-	86	2
Total Market	81.3	-	N/A	-	23.9	-	N/A	-	1.07	-	N/A	-	68	6

096 : SUMNER COUNTY (Under BOTA Appeal)

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	84.3	82.0	to	88.3	21.9	20.0	to	24.1	1.03	1.01	to	1.06	306	8
Commercial/Ind.	98.7	65.9	to	114.9	32.6	21.6	to	53.5	0.98	0.82	to	1.13	18	0
Vacant Lot	95.9	-	N/A	-	28.1	-	N/A	-	1.31	-	N/A	-	16	1
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	7.2	-	N/A	-	38.1	-	N/A	-	0.94	-	N/A	-	38	1
Ag. (Impr.+ Land)	8.5	-	N/A	-	76.3	-	N/A	-	0.88	-	N/A	-	65	10
Other/Ex/Ut/NP/M	89.9	-	N/A	-	50.4	-	N/A	-	0.75	-	N/A	-	3	1
Total w/Ag.&F&H	81.1	-	N/A	-	34.4	-	N/A	-	1.17	-	N/A	-	420	10
Total Market	84.6	-	N/A	-	23.6	-	N/A	-	1.04	-	N/A	-	343	14

S – Supplemental sales added from previous years   43

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

097 : THOMAS COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.3	89.3	to	93.7	11.0	9.6	to	12.8	1.02	1.00	to	1.04	132	11
Commercial/Ind.	82.6	64.6	to	104.1	45.2	19.3	to	90.9	1.07	0.88	to	1.50	13	1
Vacant Lot	69.3	-	N/A	-	50.0	-	N/A	-	1.25	-	N/A	-	4	0
Farm & Home	51.9	-	N/A	-	30.0	-	N/A	-	1.13	-	N/A	-	4	0
Ag. Land Only	9.2	-	N/A	-	36.2	-	N/A	-	0.99	-	N/A	-	9	0
Ag. (Impr.+ Land)	10.1	-	N/A	-	48.3	-	N/A	-	0.99	-	N/A	-	12	1
Other/Ex/Ut/NP/M	147.8	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	89.5	-	N/A	-	14.2	-	N/A	-	1.03	-	N/A	-	166	23
Total Market	90.5	-	N/A	-	12.7	-	N/A	-	1.01	-	N/A	-	150	14

098 : TREGO COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	83.7	80.0	to	88.1	14.5	11.5	to	18.3	1.02	1.00	to	1.05	57	5
Commercial/Ind.	81.7	58.0	to	107.8	23.7	14.7	to	34.6	0.88	0.83	to	1.00	6	0
Vacant Lot	60.1	-	N/A	-	20.0	-	N/A	-	1.13	-	N/A	-	3	0
Farm & Home	33.5	-	N/A	-	26.7	-	N/A	-	0.99	-	N/A	-	6	1
Ag. Land Only	11.3	-	N/A	-	32.6	-	N/A	-	1.21	-	N/A	-	14	0
Ag. (Impr.+ Land)	10.7	-	N/A	-	34.8	-	N/A	-	1.19	-	N/A	-	15	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	78.7	-	N/A	-	35.5	-	N/A	-	1.50	-	N/A	-	87	2
Total Market	82.8	-	N/A	-	16.1	-	N/A	-	1.00	-	N/A	-	66	5

099 : WABAUNSEE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.2	88.5	to	100.7	17.8	15.0	to	21.6	1.05	1.01	to	1.09	78	7
Commercial/Ind.	86.3	14.7	to	412.2	112.5	15.4	to	302.1	2.36	0.87	to	3.98	5	0
Vacant Lot	95.1	-	N/A	-	27.3	-	N/A	-	1.32	-	N/A	-	2	0
Farm & Home	23.3	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	3.3	-	N/A	-	97.6	-	N/A	-	1.05	-	N/A	-	17	0
Ag. (Impr.+ Land)	7.1	-	N/A	-	239.2	-	N/A	-	1.02	-	N/A	-	32	0
Other/Ex/Ut/NP/M	88.9	-	N/A	-	43.5	-	N/A	-	1.66	-	N/A	-	2	0
Total w/Ag.&F&H	85.3	-	N/A	-	38.8	-	N/A	-	1.35	-	N/A	-	120	7
Total Market	92.9	-	N/A	-	19.1	-	N/A	-	1.10	-	N/A	-	87	8

S – Supplemental sales added from previous years   44

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

100 : WALLACE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	79.0	61.6	to	91.4	25.2	16.7	to	39.8	1.04	0.97	to	1.14	15	0
Commercial/Ind. S-2	71.3	67.2	to	156.7	35.3	2.4	to	40.7	1.23	0.98	to	1.44	4	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	75.4	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	7.0	-	N/A	-	42.3	-	N/A	-	0.77	-	N/A	-	9	0
Ag. (Impr.+ Land)	7.5	-	N/A	-	39.7	-	N/A	-	0.81	-	N/A	-	13	2
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	64.6	-	N/A	-	52.6	-	N/A	-	2.30	-	N/A	-	33	0
Total Market	77.9	-	N/A	-	23.2	-	N/A	-	1.03	-	N/A	-	19	1

101 : WASHINGTON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	92.8	77.5	to	99.5	20.2	14.5	to	30.1	1.03	0.99	to	1.07	33	3
Commercial/Ind. S-4	160.0	85.7	to	204.4	37.9	19.9	to	123.0	1.42	1.05	to	2.15	7	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	48.3	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Ag. Land Only	9.9	-	N/A	-	37.5	-	N/A	-	0.82	-	N/A	-	15	0
Ag. (Impr.+ Land)	11.5	-	N/A	-	127.7	-	N/A	-	0.92	-	N/A	-	22	2
Other/Ex/Ut/NP/M	180.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	76.6	-	N/A	-	53.4	-	N/A	-	1.68	-	N/A	-	64	3
Total Market	96.7	-	N/A	-	26.7	-	N/A	-	1.09	-	N/A	-	41	5

102 : WICHITA COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	85.1	70.7	to	93.7	20.1	14.0	to	29.8	0.98	0.92	to	1.04	25	2
Commercial/Ind. S-5	84.7	52.1	to	124.1	31.4	19.5	to	68.6	1.32	1.15	to	1.64	9	0
Vacant Lot	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Farm & Home	74.9	-	N/A	-	65.6	-	N/A	-	0.81	-	N/A	-	3	0
Ag. Land Only	7.2	-	N/A	-	43.1	-	N/A	-	0.95	-	N/A	-	9	0
Ag. (Impr.+ Land)	7.0	-	N/A	-	40.8	-	N/A	-	0.95	-	N/A	-	10	0
Other/Ex/Ut/NP/M	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Total w/Ag.&F&H	73.3	-	N/A	-	45.0	-	N/A	-	1.33	-	N/A	-	47	2
Total Market	84.9	-	N/A	-	23.3	-	N/A	-	1.03	-	N/A	-	34	2

S – Supplemental sales added from previous years   45

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

103 : WILSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	88.2	77.6	to	99.5	32.3	27.1	to	40.0	1.14	1.07	to	1.24	82	4
Commercial/Ind. *S-7*	83.0	68.9	to	130.2	37.6	18.7	to	76.2	0.94	0.72	to	1.50	11	1
Vacant Lot	49.0	-	N/A	-	83.4	-	N/A	-	1.82	-	N/A	-	8	1
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	4.4	-	N/A	-	46.7	-	N/A	-	0.85	-	N/A	-	15	2
Ag. (Impr.+ Land)	6.7	-	N/A	-	223.7	-	N/A	-	0.93	-	N/A	-	22	1
Other/Ex/Ut/NP/M	259.5	-	N/A	-	51.1	-	N/A	-	1.35	-	N/A	-	4	1
Total w/Ag.&F&H	77.8	-	N/A	-	48.2	-	N/A	-	1.15	-	N/A	-	127	7
Total Market	85.8	-	N/A	-	37.2	-	N/A	-	1.07	-	N/A	-	105	7

104 : WOODSON COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	93.0	87.9	to	100.0	22.1	15.4	to	32.5	1.08	1.00	to	1.21	36	4
Commercial/Ind. *S-4*	86.5	44.6	to	112.0	25.0	7.1	to	39.6	1.05	0.92	to	1.34	5	0
Vacant Lot	56.9	-	N/A	-	47.6	-	N/A	-	1.34	-	N/A	-	5	0
Farm & Home	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Ag. Land Only	7.3	-	N/A	-	30.4	-	N/A	-	1.00	-	N/A	-	13	1
Ag. (Impr.+ Land)	8.4	-	N/A	-	71.2	-	N/A	-	1.02	-	N/A	-	22	2
Other/Ex/Ut/NP/M	282.0	-	N/A	-	-	-	N/A	-	-	-	N/A	-	1	0
Total w/Ag.&F&H	72.4	-	N/A	-	56.9	-	N/A	-	2.28	-	N/A	-	69	3
Total Market	92.6	-	N/A	-	26.7	-	N/A	-	1.07	-	N/A	-	47	4

105 : WYANDOTTE COUNTY

PROPERTY CLASS	Median Ratio	Confidence Interval			COD	Confidence Interval			PRD	Confidence Interval			Valid Sales	Trim Sales
Residential	91.4	88.3	to	93.2	16.6	15.0	to	18.5	1.01	1.00	to	1.03	288	18
Commercial/Ind.	84.2	75.1	to	98.3	32.5	28.1	to	40.3	1.12	1.01	to	1.30	88	6
Vacant Lot	52.6	-	N/A	-	34.4	-	N/A	-	1.10	-	N/A	-	88	10
Farm & Home	58.5	-	N/A	-	16.0	-	N/A	-	1.01	-	N/A	-	9	0
Ag. Land Only	1.8	-	N/A	-	37.8	-	N/A	-	0.95	-	N/A	-	8	1
Ag. (Impr.+ Land)	1.9	-	N/A	-	36.7	-	N/A	-	0.96	-	N/A	-	10	1
Other/Ex/Ut/NP/M	97.9	-	N/A	-	74.6	-	N/A	-	2.19	-	N/A	-	11	0
Total w/Ag.&F&H	84.7	-	N/A	-	28.8	-	N/A	-	1.12	-	N/A	-	494	25
Total Market	85.8	-	N/A	-	26.3	-	N/A	-	1.12	-	N/A	-	475	28

S – Supplemental sales added from previous years   46

Confidence intervals have been calculated for the Residential and Commercial/Industrial subclasses only

Median Ratio: 90.0 to 110.0   COD: 20.0 or less   PRD: .98 to 1.02

PROPERTY CLASS	Median Ratio		Confidence Interval		COD		Confidence Interval		PRD		Confidence Interval		Valid Sales	Trim Sales
Residential 1	91.5	-	N/A	-	13.6	-	N/A	-	1.02	-	N/A	-	13,844	1,169
Commercial/Ind.1 S-177	84.4	-	N/A	-	29.9	-	N/A	-	1.19	-	N/A	-	1,732	78
Vacant Lot	67,2	-	N/A	-	37.1	-	N/A	-	1.09	-	N/A	-	3,062	201
Farm & Home	52.5	-	N/A	-	40.6	-	N/A	-	1.13	-	N/A	-	788	20
Ag. Land Only	5.5	-	N/A	-	81.7	-	N/A	-	0.93	-	N/A	-	2,109	71
Ag. (Impr.+ Land)	7.5	-	N/A	-	85.2	-	N/A	-	0.95	-	N/A	-	2,938	420
Other/Ex/Ut/NP/M	97.9	-	N/A	-	46.9	-	N/A	-	1.46	-	N/A	-	121	14
Total w/Ag. & F&H	84.2	-	N/A	-	22.8	-	N/A	-	1.12	-	N/A	-	22,485	1,054
Total Market	89.3	-	N/A	-	19.6	-	N/A	-	1.04	-	N/A	-	18,759	1,788

STATEWIDE TOTALS

1 Parcel weighted estimates   S- Supplemental sales added from previous years

Charts & Graphs

Residential - COD Confidence Interval
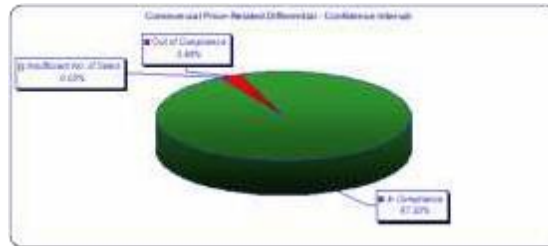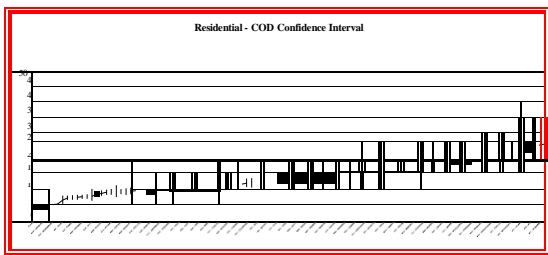
Charts

Overview

The summary statistics provided in this ratio study report include the standard industry measures used to evaluate appraisal performance: these consist of the Median Ratio, Coefficient of Dispersion *(COD),* Price-Related Differential *(PRD)* and their 95% confidence intervals. This study also uses supplemental sales where needed to increase the sample size of the commercial/ industrial subclass. Additional sales validation documentation has been reviewed and outliers have been trimmed for the uniformity measurements *(COD and PRD)*.

The information provided by this 2021 Final Ratio Study, *pages 15-49,* indicates that a large portion o f t h e statewide property value estimates in the residential subclasses of property meet the state mandated mass appraisal performance standards. Commercial performance measures suggest that improvements are needed in both level and uniformity.

GRAPHICS:

The following pie charts depict an overall appraisal performance for residential and commercial properties based on state standards. Value weighting calculations are based on the 2021 certified appraisal values. These numbers are proportional to county abstract assessed valuation.

1. ***Exhibit I*** depicts the residential and commercial *median ratios.* The residential chart indicates that almost 98% percent of property value statewide falls within a median ratio range of 90.0 percent to 110.0 percent which is the recognized standard according to IAAO *(International Association of Assessing Officers).* Over 57% of the commercial/industrial property values are found in counties that meet the standard.

2. ***Exhibit II*** presents the residential and commercial *coefficient of dispersion (COD).* The acceptable standard for horizontal appraisal equity in Kansas is a COD range of 20 or less. The pie charts indicates that about 98 percent of the residential property value and about 52 percent of the commercial/industrial property values are found in counties that meet the state performance standard COD of 20.0 or less.

3. ***Exhibit III*** is a display of residential and commercial appraisal bias. The *price-related differential* provides only a general indication of vertical appraisal bias. When sample sizes are small, a price-related differential outside the acceptable range may occur simply because of random sampling error[1]. The acceptable range for the PRD is between .98 and 1.03. This chart indicates that about 98 percent of the residential property value and about 83 percent of the c o m m e r c i a l / i n d u s t r i a l property values statewide fall within the acceptable range for the PRD.

4. ***Bar Charts*** have been prepared to show the r e s i d e n t i a l a n d c o m m e r c i a l / i n d u s t r i a l s a m p l e p o i n t e s t i m a t e s a n d confidence interval widths for the Median Ratio, Coefficient of Dispersion *(COD)* and the Price-Related Differential *(PRD)*. Confidence intervals provide a range of values that can be used to estimate performance measures for each county with a specified degree of probability (95% is the level of confidence adopted for ratio study measures). A county with many sales in the study will tend to have a more compressed confidence interval range. A county with fewer sales and greater dispersion in the real estate market will tend to have wider confidence intervals.

[1] International Association of Assessing Officers, 1990. *Property appraisal & assessment administration.* Chicago: International Association of Assessing Officers.

Pie Charts Based Upon Statewide Proportion of Appraised Value

Exhibit 1
Median Ratio

Residential Median Ratio 2021 Final Ratio Study

2.2% Out of Compliance

97.8% In Compliance

Comm./Indu. Median Ratio 2021 Final Ratio Study

42.4% Out of Compliance

57.6% In Compliance
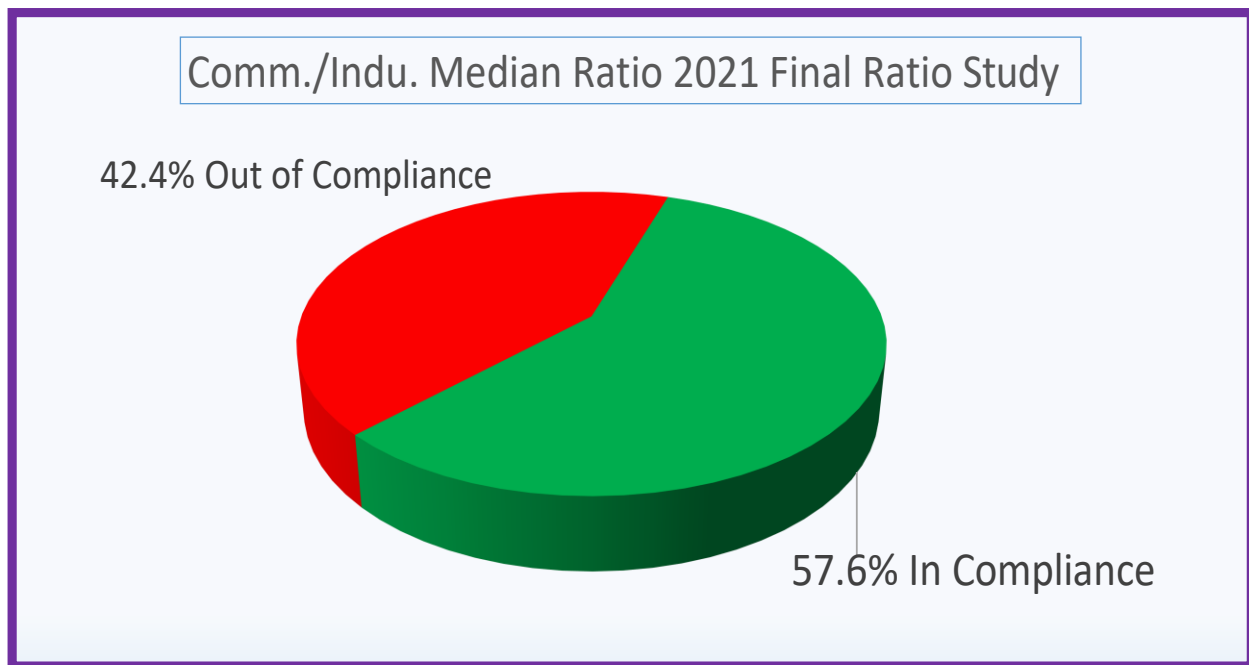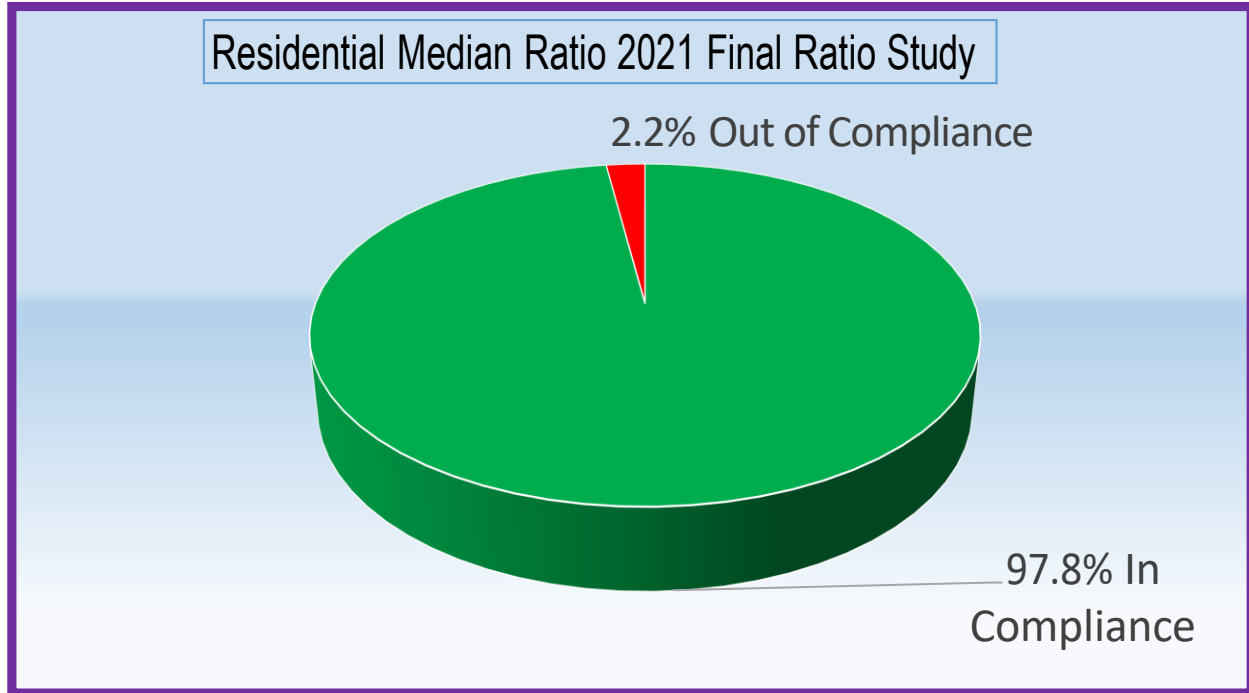
Pie Charts Based Upon Statewide Proportion of Appraised Value
Exhibit 2

Coefficient of Dispersion (COD)

Residential COD 2021 Final Ratio Study

2.0% Out of Compliance

98.0% In Compliance

Comm./Indu. COD 2021 Final Ratio Study

52.6% Out of Compliance

52.4% In Compliance
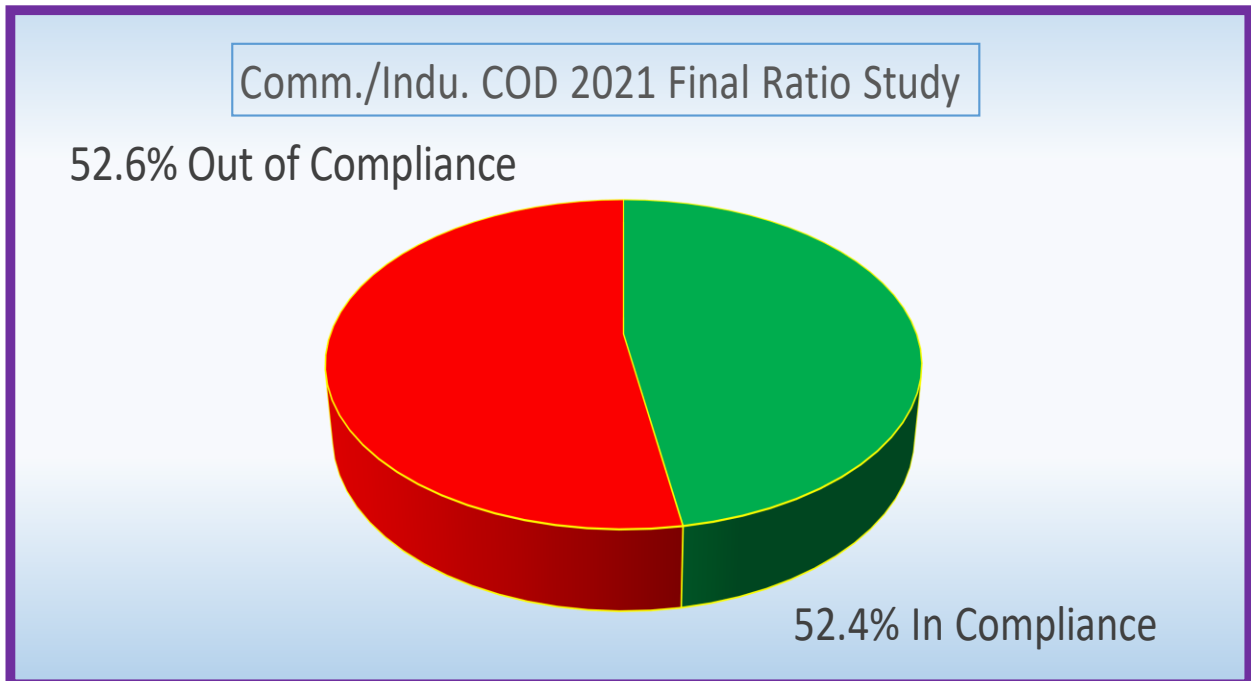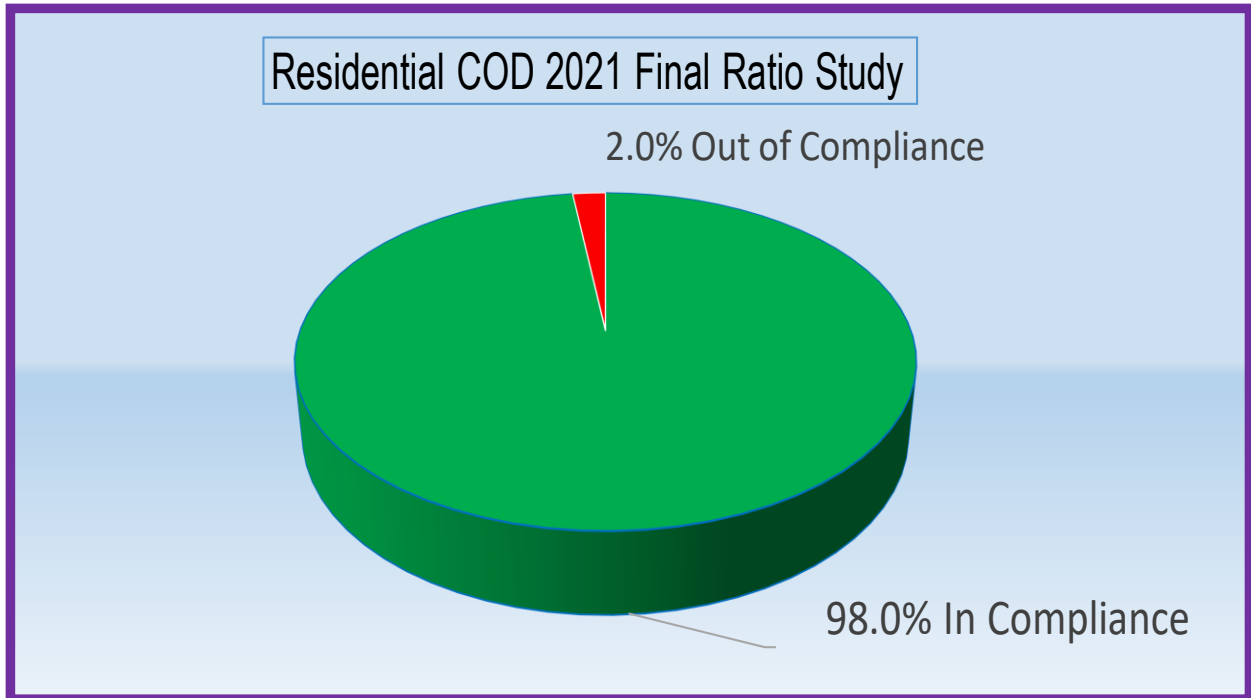
Pie Charts Based Upon Statewide Proportion of Appraised Value

Exhibit 3

Price Related Differential (PRD)

Residential PRD 2021 Final Ratio Study

1.5% Out of Compliance

98.5% In Compliance

Comm./Indu. PRD 2021 Final Ratio Study

17.2% Out of Compliance

82.8% In Compliance
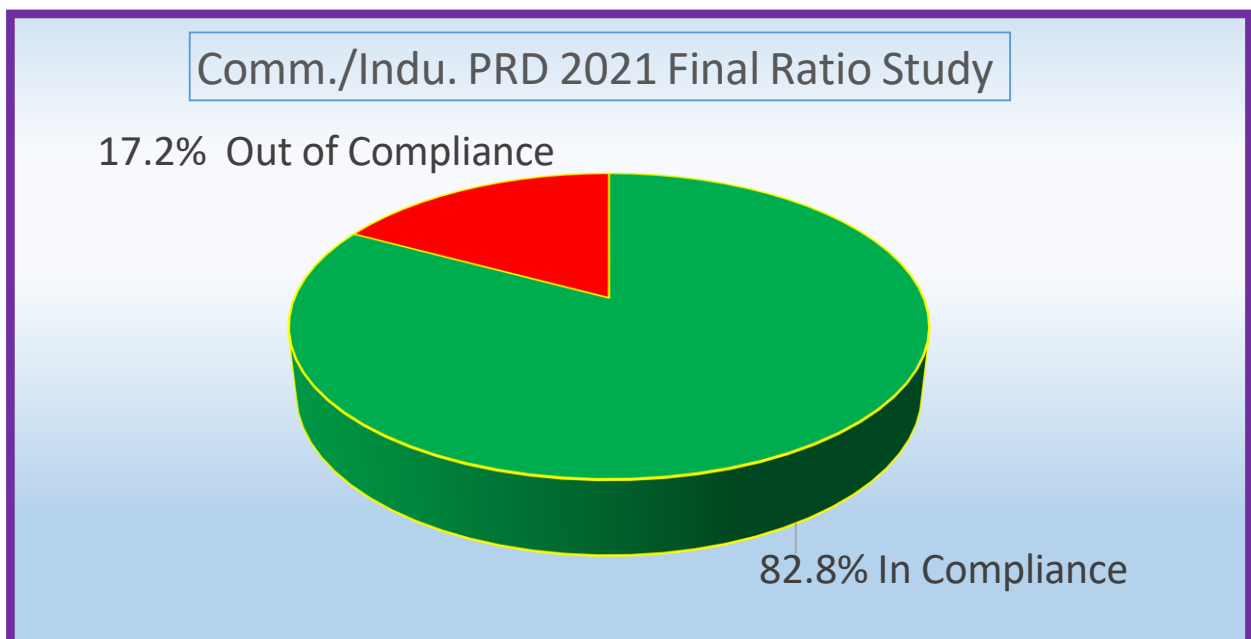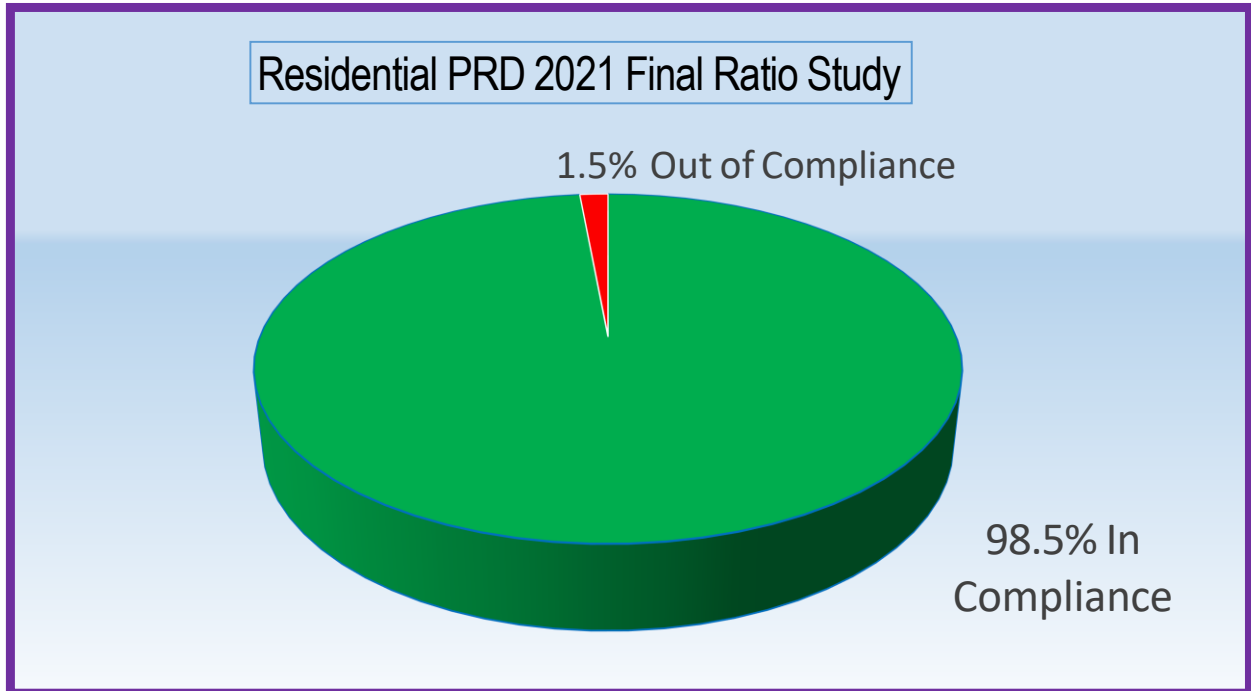
Residential - Median Ratio Confidence Interval
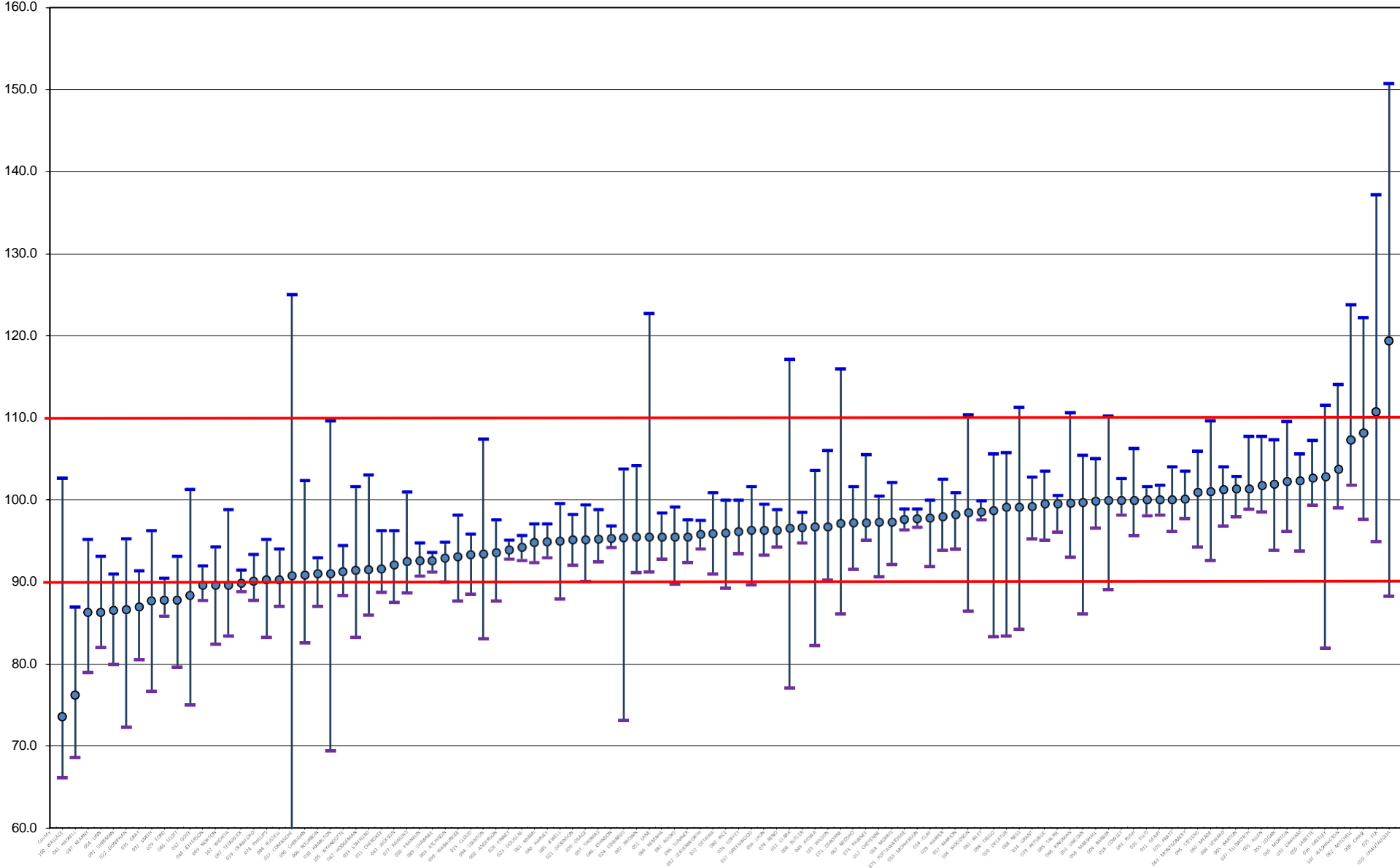
Residential - COD Confidence Interval
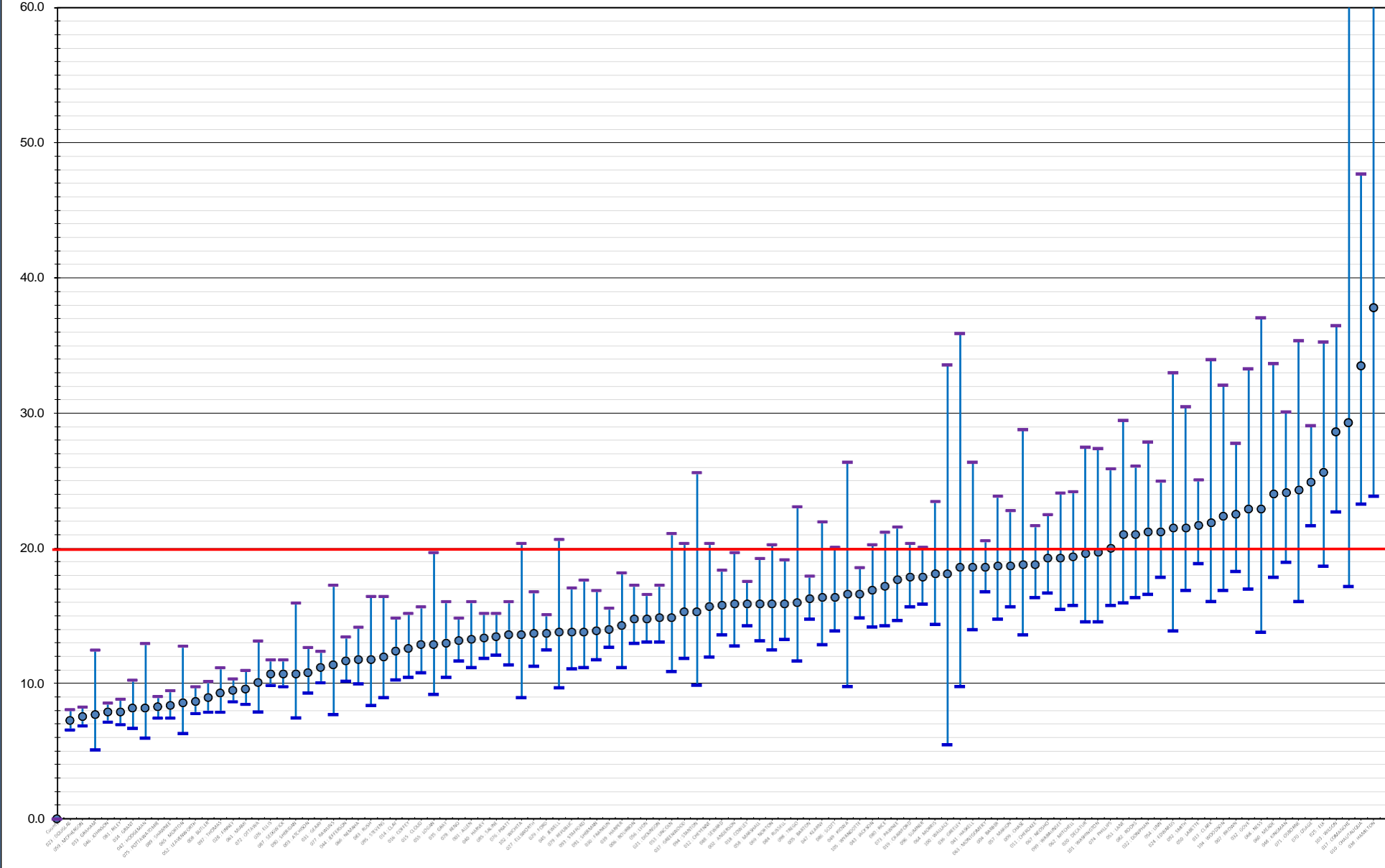
Residential - PRD Confidence Interval
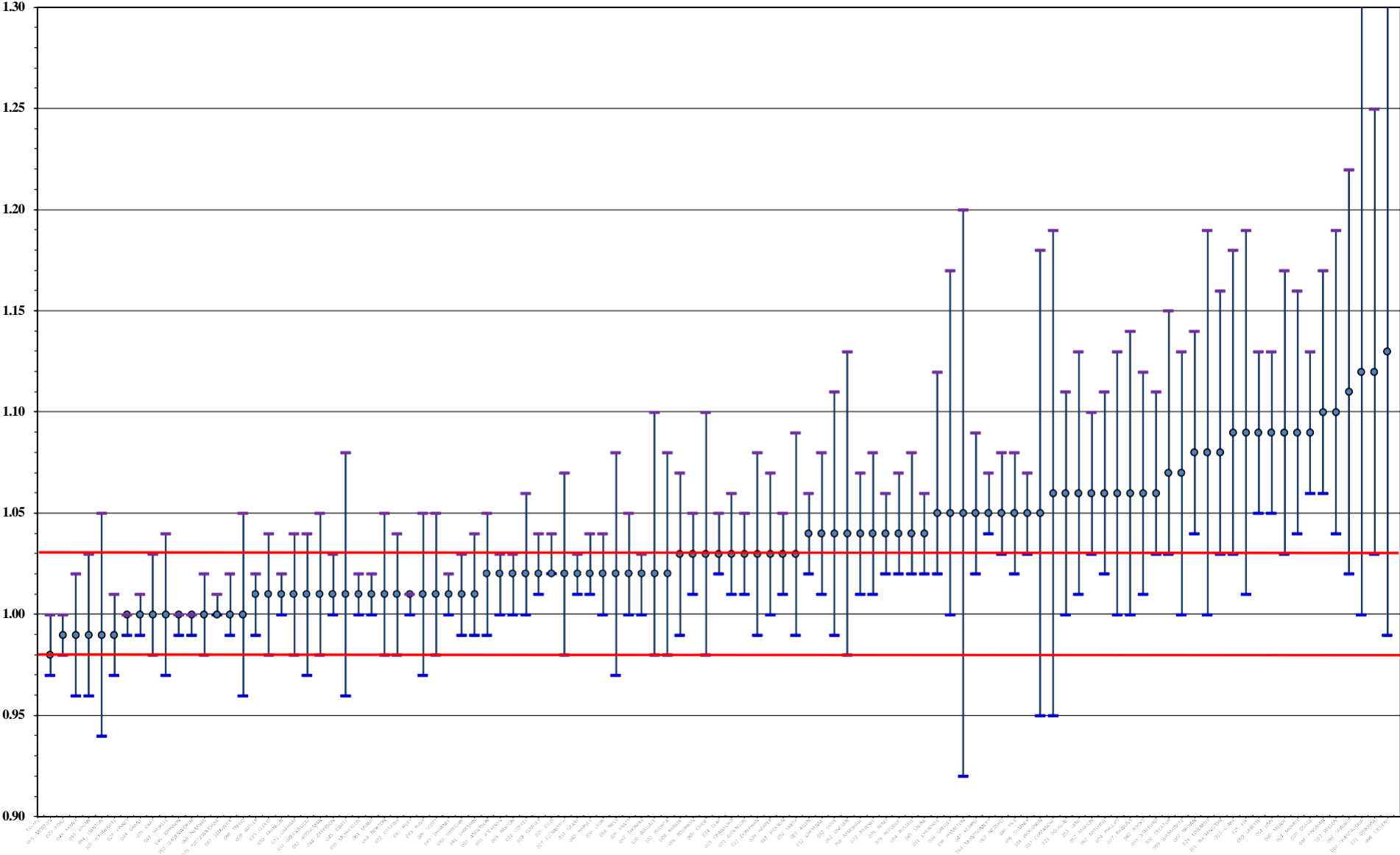
Commercial/Industrial - Median Ratio Confidence Interval

Commercial/Industrial - COD Confidence Interval
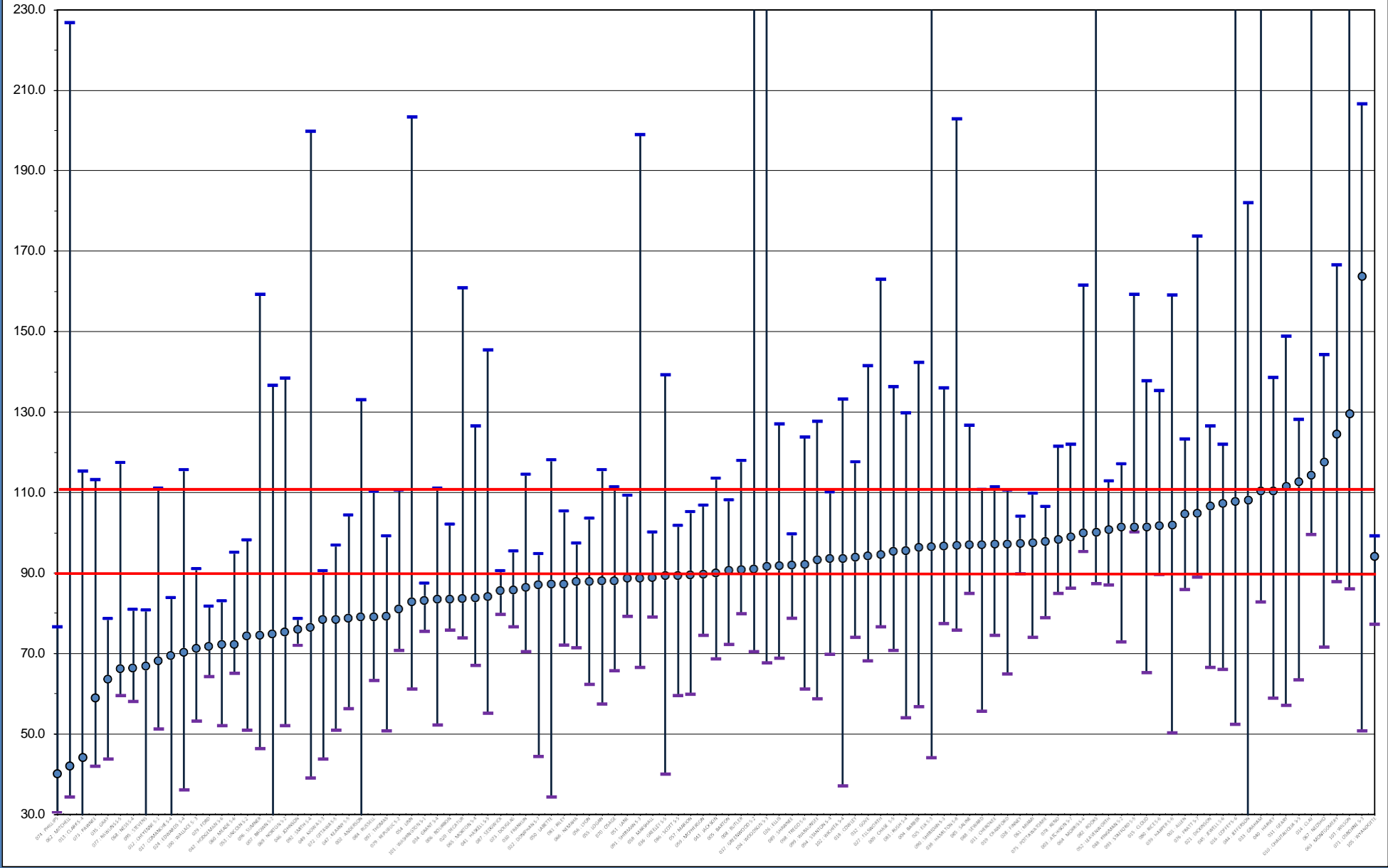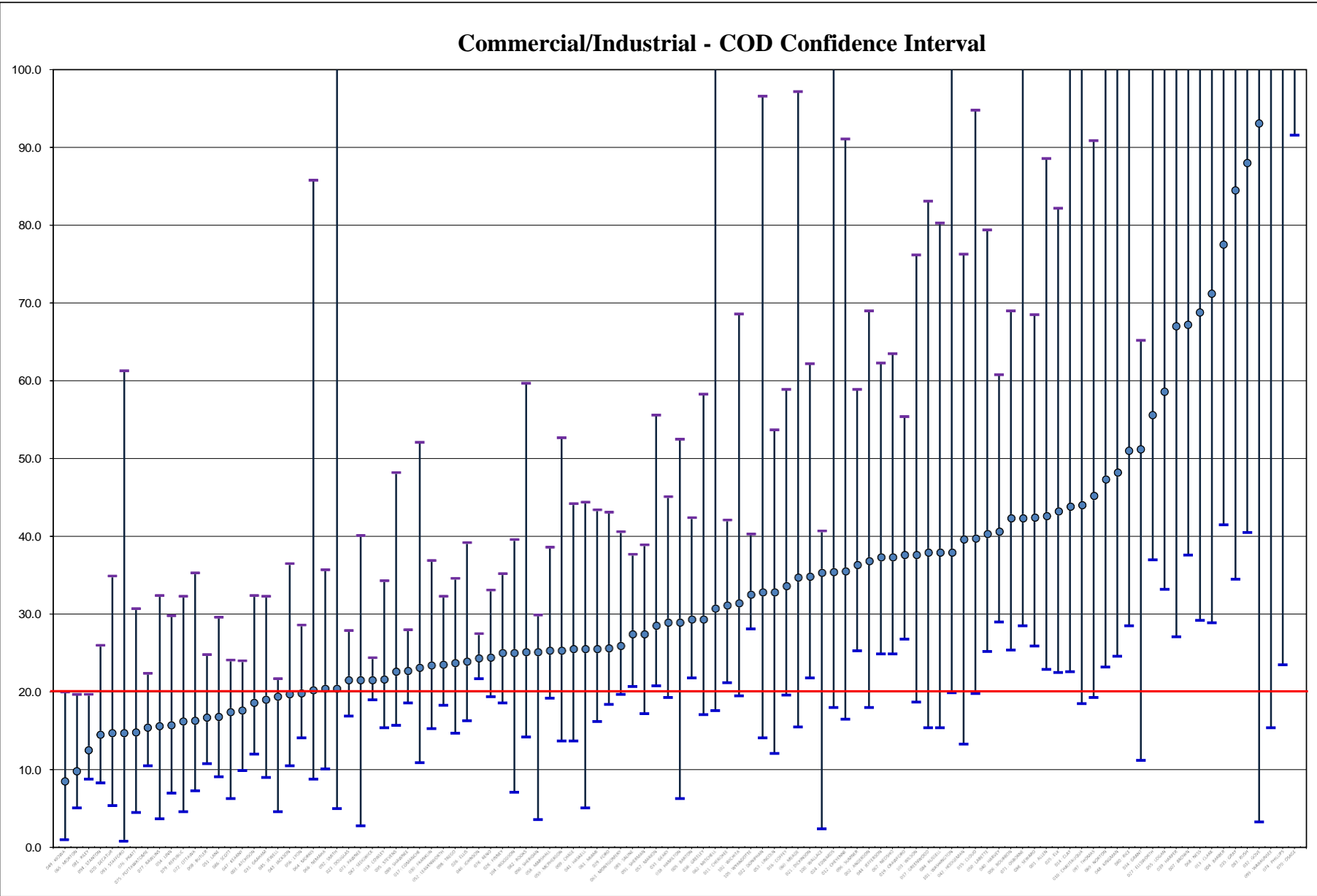
Commercial/Industrial - PRD Confidence Interval
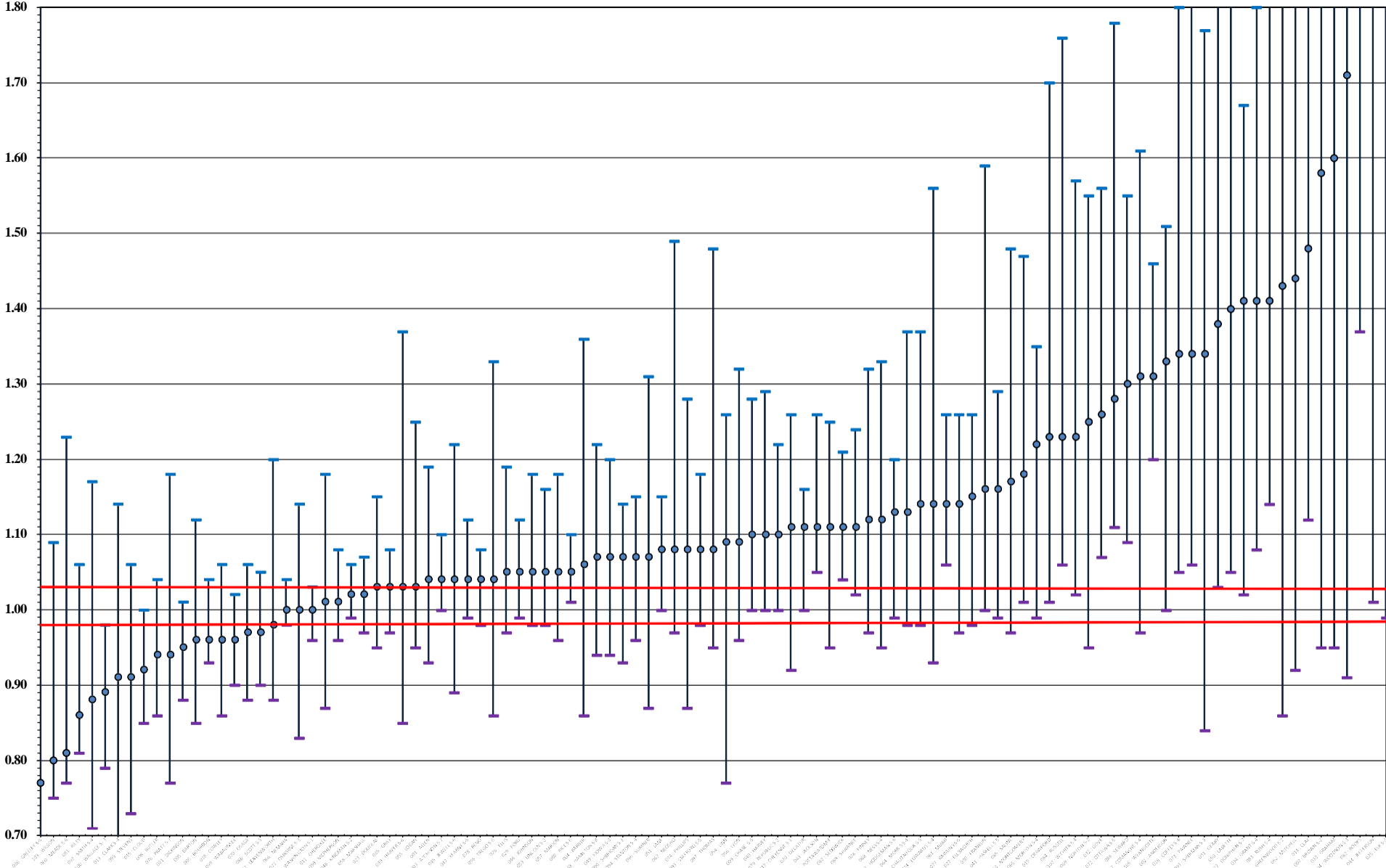
Detailed Statistics

Residential and Commercial/Industrial

Subclass

Detailed Sample Statistics for the Residential and Commercial Subclasses

001 : ALLEN			002 : ANDERSON		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	135	11	Original Number of Sales	127	9
Trimmed Outliers	8	1	Trimmed Outliers	13	0
Number of Ratios: Outliers Removed	127	10	Number of Ratios: Outliers Removed	114	9
Minimum Ratio	23.9	16.0	Minimum Ratio	9.3	31.6
Maximum Ratio	614.8	218.2	Maximum Ratio	1286.5	119.6
Minimum Sale Price	527	12,500	Minimum Sale Price	1,840	20,000
Maximum Sale Price	357,934	500,000	Maximum Sale Price	339,640	325,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	93.8	72.1	Median Ratio	87.3	61.6
Lower Median Confidence Interval	87.5	38.9	Lower Median Confidence Interval	80.1	34.6
Upper Median Confidence Interval	96.7	91.7	Upper Median Confidence Interval	93.3	97.3
Broadened Median Ratio	93.6	65.1	Broadened Median Ratio	87.1	56.4
Coefficient of Dispersion (COD)	21.3	42.6	Coefficient of Dispersion (COD)	23.5	36.8
Lower COD Confidence Interval	18.3	22.9	Lower COD Confidence Interval	19.8	18.0
Upper COD Confidence Interval	25.1	88.6	Upper COD Confidence Interval	27.6	69.0
Value Weighted COD	18.9	50.9	Value Weighted COD	21.5	36.5
Coefficient of Concentration @10%	29.6	18.2	Coefficient of Concentration @10%	27.6	22.2
Coefficient of Concentration @15%	40.0	18.2	Coefficient of Concentration @15%	41.7	33.3
Coefficient of Concentration @20%	56.3	27.3	Coefficient of Concentration @20%	49.6	33.3
Coefficient of Concentration @50%	84.4	72.7	Coefficient of Concentration @50%	79.5	77.8
Coefficient of Concentration @100%	94.8	90.9	Coefficient of Concentration @100%	91.3	100.0
Coefficient of Interquartile Deviation	18.2	36.6	Coefficient of Interquartile Deviation	19.6	38.2
Median Percent Deviation	18.6	39.6	Median Percent Deviation	20.6	39.2
Lower Quartile (25th Percentile)	77.5	38.9	Lower Quartile (25th Percentile)	72.8	36.0
Upper Quartile (75th Percentile	111.7	91.7	Upper Quartile (75th Percentile)	106.9	83.0
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	AcceptK	Reject4	Normality Test	RejectK	RejectK
Relative Skewness	0.01	-0.07	Relative Skewness	0.30	0.80
Relative Kurtosis	3.31	1.64	Relative Kurtosis	3.29	2.47
Arithmetic Mean Ratio	90.9	59.5	Arithmetic Mean Ratio	85.6	62.0
Weighted Mean Ratio	87.6	44.2	Weighted Mean Ratio	82.7	54.3
Geometric Mean Ratio	87.0	51.5	Geometric Mean Ratio	81.3	56.2
Harmonic Mean Ratio	82.3	42.8	Harmonic Mean Ratio	76.5	51.3
Standard Deviation	25.3	29.3	Standard Deviation	26.1	30.1
Coefficient of Variation (COV)	27.8	49.3	Coefficient of Variation (COV)	30.6	48.6
Price-Related Differential (PRD)	1.04	1.35	Price-Related Differential (PRD)	1.03	1.14
Lower PRD Confidence Interval	1.01	0.95	Lower PRD Confidence Interval	1.01	1.00
Upper PRD Confidence interval	1.07	2.15	Upper PRD Confidence interval	1.07	1.41
Coef. of Price-Related Bias (PRB)	-0.19	-0.19	Coef. of Price-Related Bias (PRB)	-0.50	0.00
Lower PRB Confidence Interval	-0.28	-0.59	Lower PRB Confidence Interval	-0.75	-0.41
Upper PRB Confidence Interval	-0.11	0.21	Upper PRB Confidence Interval	-0.24	0.40
Average Sale Price	85,907	120,950	Average Sale Price	96,393	105,000
Average Appraised Value	75,245	53,449	Average Appraised Value	79,700	56,991

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

003 : ATCHISON			004 : BARBER		*S-3*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	199	15	Original Number of Sales	52	7
Trimmed Outliers	19	0	Trimmed Outliers	2	0
Number of Ratios: Outliers Removed	180	15	Number of Ratios: Outliers Removed	50	7
Minimum Ratio	33.9	39.6	Minimum Ratio	57.4	12.2
Maximum Ratio	529.1	128.8	Maximum Ratio	280.5	279.4
Minimum Sale Price	4,260	27,500	Minimum Sale Price	4,410	5,000
Maximum Sale Price	443,220	1,700,000	Maximum Sale Price	241,100	243,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	90.7	94.1	Median Ratio	99.7	86.0
Lower Median Confidence Interval	87.5	77.9	Lower Median Confidence Interval	89.2	67.0
Upper Median Confidence Interval	94.9	99.6	Upper Median Confidence Interval	109.2	210.1
Broadened Median Ratio	90.8	93.9	Broadened Median Ratio	99.2	94.3
Coefficient of Dispersion (COD)	19.1	18.6	Coefficient of Dispersion (COD)	21.6	77.5
Lower COD Confidence Interval	16.7	12.0	Lower COD Confidence Interval	17.7	41.5
Upper COD Confidence Interval	21.8	32.4	Upper COD Confidence Interval	27.5	629.9
Value Weighted COD	15.9	35.8	Value Weighted COD	18.4	53.5
Coefficient of Concentration @10%	34.2	46.7	Coefficient of Concentration @10%	23.1	14.3
Coefficient of Concentration @15%	48.2	46.7	Coefficient of Concentration @15%	44.2	14.3
Coefficient of Concentration @20%	60.3	60.0	Coefficient of Concentration @20%	59.6	28.6
Coefficient of Concentration @50%	84.4	93.3	Coefficient of Concentration @50%	88.5	57.1
Coefficient of Concentration @100%	94.0	100.0	Coefficient of Concentration @100%	96.2	71.4
Coefficient of Interquartile Deviation	16.0	16.5	Coefficient of Interquartile Deviation	16.3	83.3
Median Percent Deviation	15.2	15.8	Median Percent Deviation	15.5	47.2
Lower Quartile (25th Percentile)	75.3	77.9	Lower Quartile (25th Percentile)	84.4	67.0
Upper Quartile (75th Percentile	104.2	109.0	Upper Quartile (75th Percentile)	116.9	210.1
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	-0.03	-0.59	Relative Skewness	0.53	0.67
Relative Kurtosis	3.22	2.94	Relative Kurtosis	2.73	2.21
Arithmetic Mean Ratio	87.1	91.1	Arithmetic Mean Ratio	101.0	121.7
Weighted Mean Ratio	86.7	70.3	Weighted Mean Ratio	96.3	64.6
Geometric Mean Ratio	84.1	87.6	Geometric Mean Ratio	97.7	86.7
Harmonic Mean Ratio	80.6	83.3	Harmonic Mean Ratio	94.4	50.4
Standard Deviation	22.0	23.6	Standard Deviation	26.5	92.7
Coefficient of Variation (COV)	25.2	25.9	Coefficient of Variation (COV)	26.2	76.2
Price-Related Differential (PRD)	1.00	1.30	Price-Related Differential (PRD)	1.05	1.88
Lower PRD Confidence Interval	0.98	0.93	Lower PRD Confidence Interval	1.01	1.21
Upper PRD Confidence interval	1.03	1.72	Upper PRD Confidence interval	1.10	5.33
Coef. of Price-Related Bias (PRB)	-0.17	-0.06	Coef. of Price-Related Bias (PRB)	-0.11	-0.44
Lower PRB Confidence Interval	-0.25	-0.16	Lower PRB Confidence Interval	-0.21	-1.08
Upper PRB Confidence Interval	-0.09	0.05	Upper PRB Confidence Interval	-0.01	0.20
Average Sale Price	116,030	237,600	Average Sale Price	65,211	92,143
Average Appraised Value	100,629	167,057	Average Appraised Value	62,799	59,486

Detailed Sample Statistics for the Residential and Commercial Subclasses

005 : BARTON		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	205	30
Trimmed Outliers	21	2
Number of Ratios: Outliers Removed	184	28
Minimum Ratio	19.5	22.0
Maximum Ratio	387.6	427.3
Minimum Sale Price	1,370	4,950
Maximum Sale Price	503,110	31,066,160
DISTRIBUTION FREE STATISTICS		
Median Ratio	96.5	91.5
Lower Median Confidence Interval	92.7	75.3
Upper Median Confidence Interval	99.3	108.5
Broadened Median Ratio	96.5	91.3
Coefficient of Dispersion (COD)	13.9	29.3
Lower COD Confidence Interval	12.4	21.8
Upper COD Confidence Interval	15.6	42.4
Value Weighted COD	12.0	60.9
Coefficient of Concentration @10%	38.5	20.0
Coefficient of Concentration @15%	57.1	23.3
Coefficient of Concentration @20%	71.2	36.7
Coefficient of Concentration @50%	89.8	76.7
Coefficient of Concentration @100%	95.1	93.3
Coefficient of Interquartile Deviation	12.7	26.5
Median Percent Deviation	13.1	25.4
Lower Quartile (25th Percentile)	84.9	69.0
Upper Quartile (75th Percentile	109.3	117.5
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptK
Relative Skewness	0.12	-0.12
Relative Kurtosis	3.16	2.52
Arithmetic Mean Ratio	95.3	88.7
Weighted Mean Ratio	93.3	37.3
Geometric Mean Ratio	93.8	81.4
Harmonic Mean Ratio	92.2	72.1
Standard Deviation	16.8	32.8
Coefficient of Variation (COV)	17.7	37.0
Price-Related Differential (PRD)	1.02	2.38
Lower PRD Confidence Interval	1.00	1.09
Upper PRD Confidence interval	1.04	3.03
Coef. of Price-Related Bias (PRB)	-0.16	-0.13
Lower PRB Confidence Interval	-0.21	-0.25
Upper PRB Confidence Interval	-0.12	0.00
Average Sale Price	115,147	1,350,633
Average Appraised Value	107,422	503,594

006 : BOURBON		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	232	20
Trimmed Outliers	12	2
Number of Ratios: Outliers Removed	220	18
Minimum Ratio	27.8	11.0
Maximum Ratio	2161.8	424.0
Minimum Sale Price	530	11,000
Maximum Sale Price	450,090	3,625,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	99.9	60.7
Lower Median Confidence Interval	95.6	39.0
Upper Median Confidence Interval	106.0	84.2
Broadened Median Ratio	99.9	59.9
Coefficient of Dispersion (COD)	25.0	42.3
Lower COD Confidence Interval	22.4	25.4
Upper COD Confidence Interval	28.0	69.0
Value Weighted COD	21.7	20.3
Coefficient of Concentration @10%	25.0	25.0
Coefficient of Concentration @15%	37.1	25.0
Coefficient of Concentration @20%	47.8	35.0
Coefficient of Concentration @50%	82.8	55.0
Coefficient of Concentration @100%	95.3	85.0
Coefficient of Interquartile Deviation	22.6	57.8
Median Percent Deviation	21.7	48.3
Lower Quartile (25th Percentile)	78.8	32.6
Upper Quartile (75th Percentile)	123.9	102.9
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	0.29	0.72
Relative Kurtosis	3.00	2.72
Arithmetic Mean Ratio	99.8	60.1
Weighted Mean Ratio	93.1	56.8
Geometric Mean Ratio	94.5	51.0
Harmonic Mean Ratio	88.6	41.5
Standard Deviation	31.3	33.6
Coefficient of Variation (COV)	31.4	56.0
Price-Related Differential (PRD)	1.07	1.06
Lower PRD Confidence Interval	1.04	0.86
Upper PRD Confidence interval	1.11	1.37
Coef. of Price-Related Bias (PRB)	-0.21	0.10
Lower PRB Confidence Interval	-0.33	-0.29
Upper PRB Confidence Interval	-0.08	0.50
Average Sale Price	92,282	466,980
Average Appraised Value	85,926	265,331

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

007 : BROWN			008 : BUTLER		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	111	15	Original Number of Sales	239	39
Trimmed Outliers	8	1	Trimmed Outliers	21	7
Number of Ratios: Outliers Removed	103	14	Number of Ratios: Outliers Removed	218	32
Minimum Ratio	19.4	14.1	Minimum Ratio	35.2	32.6
Maximum Ratio	502.1	371.9	Maximum Ratio	1837.7	589.0
Minimum Sale Price	450	10,000	Minimum Sale Price	980	7,500
Maximum Sale Price	506,700	400,000	Maximum Sale Price	1,609,460	3,132,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	94.7	82.8	Median Ratio	91.9	97.2
Lower Median Confidence Interval	84.3	31.7	Lower Median Confidence Interval	90.2	90.2
Upper Median Confidence Interval	104.7	137.5	Upper Median Confidence Interval	93.9	99.9
Broadened Median Ratio	93.8	77.0	Broadened Median Ratio	92.0	97.7
Coefficient of Dispersion (COD)	35.2	67.2	Coefficient of Dispersion (COD)	11.4	16.7
Lower COD Confidence Interval	30.3	37.6	Lower COD Confidence Interval	10.2	10.8
Upper COD Confidence Interval	42.7	136.7	Upper COD Confidence Interval	12.8	24.8
Value Weighted COD	27.8	46.6	Value Weighted COD	10.9	29.0
Coefficient of Concentration @10%	16.2	6.7	Coefficient of Concentration @10%	50.6	46.2
Coefficient of Concentration @15%	35.1	13.3	Coefficient of Concentration @15%	66.1	53.8
Coefficient of Concentration @20%	37.8	13.3	Coefficient of Concentration @20%	72.8	59.0
Coefficient of Concentration @50%	72.1	40.0	Coefficient of Concentration @50%	93.3	74.4
Coefficient of Concentration @100%	88.3	80.0	Coefficient of Concentration @100%	97.9	87.2
Coefficient of Interquartile Deviation	32.1	63.9	Coefficient of Interquartile Deviation	9.8	12.6
Median Percent Deviation	27.1	61.7	Median Percent Deviation	9.9	10.2
Lower Quartile (25th Percentile)	72.1	31.7	Lower Quartile (25th Percentile)	82.2	82.1
Upper Quartile (75th Percentile)	132.9	137.5	Upper Quartile (75th Percentile)	100.1	106.6
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK	Normality Test	RejectK	RejectK
Relative Skewness	0.78	0.58	Relative Skewness	-0.32	-0.19
Relative Kurtosis	3.38	2.11	Relative Kurtosis	2.88	3.59
Arithmetic Mean Ratio	98.3	81.4	Arithmetic Mean Ratio	90.1	88.6
Weighted Mean Ratio	82.8	60.5	Weighted Mean Ratio	90.0	71.4
Geometric Mean Ratio	89.6	61.7	Geometric Mean Ratio	89.0	85.3
Harmonic Mean Ratio	80.1	45.1	Harmonic Mean Ratio	87.9	81.5
Standard Deviation	41.4	57.6	Standard Deviation	13.4	23.0
Coefficient of Variation (COV)	42.2	70.8	Coefficient of Variation (COV)	14.9	26.0
Price-Related Differential (PRD)	1.19	1.35	Price-Related Differential (PRD)	1.00	1.24
Lower PRD Confidence Interval	1.11	1.07	Lower PRD Confidence Interval	0.99	1.01
Upper PRD Confidence interval	1.31	1.96	Upper PRD Confidence interval	1.02	1.48
Coef. of Price-Related Bias (PRB)	-0.35	0.05	Coef. of Price-Related Bias (PRB)	-0.45	-0.12
Lower PRB Confidence Interval	-0.46	-0.44	Lower PRB Confidence Interval	-0.64	-0.31
Upper PRB Confidence Interval	-0.24	0.54	Upper PRB Confidence Interval	-0.27	0.07
Average Sale Price	96,573	76,336	Average Sale Price	188,912	310,857
Average Appraised Value	79,953	46,171	Average Appraised Value	169,950	222,000

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

009 : CHASE		*S-5*	010 : CHAUTAUQUA		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	20	7	Original Number of Sales	34	8
Trimmed Outliers	2	0	Trimmed Outliers	2	0
Number of Ratios: Outliers Removed	18	7	Number of Ratios: Outliers Removed	32	8
Minimum Ratio	47.2	61.6	Minimum Ratio	22.7	11.9
Maximum Ratio	289.0	148.1	Maximum Ratio	264.8	157.9
Minimum Sale Price	1,000	7,200	Minimum Sale Price	1,670	8,000
Maximum Sale Price	295,000	125,000	Maximum Sale Price	289,730	345,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	83.2	96.5	Median Ratio	90.7	84.4
Lower Median Confidence Interval	73.3	67.2	Lower Median Confidence Interval	73.2	17.1
Upper Median Confidence Interval	95.1	136.4	Upper Median Confidence Interval	98.5	113.8
Broadened Median Ratio	83.5	92.9	Broadened Median Ratio	91.1	78.3
Coefficient of Dispersion (COD)	18.1	25.5	Coefficient of Dispersion (COD)	23.0	44.0
Lower COD Confidence Interval	12.6	13.7	Lower COD Confidence Interval	16.6	18.5
Upper COD Confidence Interval	28.2	44.2	Upper COD Confidence Interval	33.9	161.7
Value Weighted COD	15.8	20.4	Value Weighted COD	25.1	64.5
Coefficient of Concentration @10%	30.0	28.6	Coefficient of Concentration @10%	29.4	37.5
Coefficient of Concentration @15%	45.0	42.9	Coefficient of Concentration @15%	38.2	37.5
Coefficient of Concentration @20%	60.0	42.9	Coefficient of Concentration @20%	47.1	37.5
Coefficient of Concentration @50%	90.0	85.7	Coefficient of Concentration @50%	82.4	50.0
Coefficient of Concentration @100%	95.0	100.0	Coefficient of Concentration @100%	97.1	100.0
Coefficient of Interquartile Deviation	17.6	35.8	Coefficient of Interquartile Deviation	18.5	50.8
Median Percent Deviation	15.5	30.4	Median Percent Deviation	21.7	43.9
Lower Quartile (25th Percentile)	67.0	67.2	Lower Quartile (25th Percentile)	69.9	22.8
Upper Quartile (75th Percentile	96.2	136.4	Upper Quartile (75th Percentile)	103.4	108.5
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	AcceptK	AcceptW	Normality Test	RejectK	AcceptK
Relative Skewness	0.09	0.43	Relative Skewness	-0.32	0.16
Relative Kurtosis	2.71	1.80	Relative Kurtosis	2.83	2.05
Arithmetic Mean Ratio	79.6	98.9	Arithmetic Mean Ratio	84.1	75.2
Weighted Mean Ratio	76.1	90.2	Weighted Mean Ratio	77.0	35.6
Geometric Mean Ratio	77.4	94.3	Geometric Mean Ratio	79.0	55.9
Harmonic Mean Ratio	75.1	90.1	Harmonic Mean Ratio	72.5	36.8
Standard Deviation	18.9	32.9	Standard Deviation	26.6	49.9
Coefficient of Variation (COV)	23.7	33.3	Coefficient of Variation (COV)	31.6	66.4
Price-Related Differential (PRD)	1.05	1.10	Price-Related Differential (PRD)	1.09	2.11
Lower PRD Confidence Interval	1.01	0.99	Lower PRD Confidence Interval	1.00	1.38
Upper PRD Confidence interval	1.12	1.30	Upper PRD Confidence interval	1.24	4.25
Coef. of Price-Related Bias (PRB)	-0.37	-0.07	Coef. of Price-Related Bias (PRB)	-0.14	-0.28
Lower PRB Confidence Interval	-0.48	-0.33	Lower PRB Confidence Interval	-0.24	-0.54
Upper PRB Confidence Interval	-0.26	0.19	Upper PRB Confidence Interval	-0.04	-0.03
Average Sale Price	108,365	56,457	Average Sale Price	68,537	101,188
Average Appraised Value	82,423	50,914	Average Appraised Value	52,759	36,046

Detailed Sample Statistics for the Residential and Commercial Subclasses

011 : CHEROKEE			012 : CHEYENNE		*S-6*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	293	22	Original Number of Sales	59	9
Trimmed Outliers	28	1	Trimmed Outliers	1	0
Number of Ratios: Outliers Removed	265	21	Number of Ratios: Outliers Removed	58	9
Minimum Ratio	24.6	48.7	Minimum Ratio	43.3	10.6
Maximum Ratio	788.7	545.4	Maximum Ratio	154.2	113.2
Minimum Sale Price	1,210	5,000	Minimum Sale Price	7,280	40,000
Maximum Sale Price	453,470	275,000	Maximum Sale Price	287,180	975,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	96.0	86.0	Median Ratio	96.4	67.9
Lower Median Confidence Interval	93.0	69.4	Lower Median Confidence Interval	90.0	31.2
Upper Median Confidence Interval	101.0	113.4	Upper Median Confidence Interval	101.5	97.4
Broadened Median Ratio	95.8	84.4	Broadened Median Ratio	96.3	64.8
Coefficient of Dispersion (COD)	23.5	31.1	Coefficient of Dispersion (COD)	14.4	35.5
Lower COD Confidence Interval	21.3	21.2	Lower COD Confidence Interval	11.6	16.5
Upper COD Confidence Interval	26.2	42.1	Upper COD Confidence Interval	18.3	91.1
Value Weighted COD	19.1	31.8	Value Weighted COD	11.6	20.4
Coefficient of Concentration @10%	28.3	22.7	Coefficient of Concentration @10%	39.0	33.3
Coefficient of Concentration @15%	37.2	36.4	Coefficient of Concentration @15%	59.3	44.4
Coefficient of Concentration @20%	48.1	40.9	Coefficient of Concentration @20%	71.2	44.4
Coefficient of Concentration @50%	80.5	72.7	Coefficient of Concentration @50%	96.6	55.6
Coefficient of Concentration @100%	92.8	95.5	Coefficient of Concentration @100%	100.0	100.0
Coefficient of Interquartile Deviation	21.6	41.9	Coefficient of Interquartile Deviation	13.5	38.5
Median Percent Deviation	20.8	32.4	Median Percent Deviation	12.1	43.4
Lower Quartile (25th Percentile)	77.9	59.6	Lower Quartile (25th Percentile)	82.0	31.9
Upper Quartile (75th Percentile	119.4	131.7	Upper Quartile (75th Percentile)	108.1	84.3
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptK
Relative Skewness	0.44	0.60	Relative Skewness	-0.57	0.04
Relative Kurtosis	3.44	2.04	Relative Kurtosis	3.08	2.13
Arithmetic Mean Ratio	95.2	90.8	Arithmetic Mean Ratio	93.5	61.2
Weighted Mean Ratio	92.7	92.3	Weighted Mean Ratio	93.2	57.8
Geometric Mean Ratio	90.6	85.3	Geometric Mean Ratio	91.7	50.9
Harmonic Mean Ratio	85.5	80.3	Harmonic Mean Ratio	89.5	38.0
Standard Deviation	28.9	33.6	Standard Deviation	17.5	32.6
Coefficient of Variation (COV)	30.3	37.0	Coefficient of Variation (COV)	18.7	53.2
Price-Related Differential (PRD)	1.03	0.98	Price-Related Differential (PRD)	1.00	1.06
Lower PRD Confidence Interval	1.00	0.86	Lower PRD Confidence Interval	0.97	0.82
Upper PRD Confidence interval	1.05	1.14	Upper PRD Confidence interval	1.03	1.50
Coef. of Price-Related Bias (PRB)	-0.17	-0.27	Coef. of Price-Related Bias (PRB)	0.02	-0.04
Lower PRB Confidence Interval	-0.25	-0.75	Lower PRB Confidence Interval	-0.03	-0.34
Upper PRB Confidence Interval	-0.10	0.21	Upper PRB Confidence Interval	0.07	0.25
Average Sale Price	87,214	76,690	Average Sale Price	94,927	213,667
Average Appraised Value	80,890	70,809	Average Appraised Value	88,506	123,532

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

013 : CLARK		S-4	014 : CLAY		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	25	7	Original Number of Sales	138	8
Trimmed Outliers	3	0	Trimmed Outliers	9	0
Number of Ratios: Outliers Removed	22	7	Number of Ratios: Outliers Removed	129	8
Minimum Ratio	50.7	14.4	Minimum Ratio	29.3	14.0
Maximum Ratio	372.6	281.9	Maximum Ratio	450.9	99.8
Minimum Sale Price	1,500	5,000	Minimum Sale Price	550	1,700
Maximum Sale Price	220,000	70,000	Maximum Sale Price	393,400	400,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	86.9	94.8	Median Ratio	92.5	58.7
Lower Median Confidence Interval	76.1	24.1	Lower Median Confidence Interval	88.1	21.5
Upper Median Confidence Interval	100.0	180.0	Upper Median Confidence Interval	97.2	98.8
Broadened Median Ratio	86.2	86.9	Broadened Median Ratio	92.6	58.5
Coefficient of Dispersion (COD)	23.5	71.2	Coefficient of Dispersion (COD)	17.8	43.8
Lower COD Confidence Interval	15.4	28.9	Lower COD Confidence Interval	15.3	22.6
Upper COD Confidence Interval	35.7	311.6	Upper COD Confidence Interval	20.8	114.7
Value Weighted COD	18.0	48.7	Value Weighted COD	16.5	43.6
Coefficient of Concentration @10%	36.0	14.3	Coefficient of Concentration @10%	39.1	25.0
Coefficient of Concentration @15%	40.0	28.6	Coefficient of Concentration @15%	49.3	25.0
Coefficient of Concentration @20%	44.0	28.6	Coefficient of Concentration @20%	60.9	25.0
Coefficient of Concentration @50%	80.0	42.9	Coefficient of Concentration @50%	92.0	50.0
Coefficient of Concentration @100%	88.0	85.7	Coefficient of Concentration @100%	94.9	100.0
Coefficient of Interquartile Deviation	29.0	82.2	Coefficient of Interquartile Deviation	14.9	57.9
Median Percent Deviation	22.7	74.6	Median Percent Deviation	15.4	49.5
Lower Quartile (25th Percentile)	67.4	24.1	Lower Quartile (25th Percentile)	75.4	25.6
Upper Quartile (75th Percentile	117.9	180.0	Upper Quartile (75th Percentile)	103.0	93.6
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	AcceptK
Relative Skewness	1.18	0.84	Relative Skewness	-0.25	-0.01
Relative Kurtosis	4.40	2.56	Relative Kurtosis	2.64	1.66
Arithmetic Mean Ratio	86.5	108.7	Arithmetic Mean Ratio	88.9	58.4
Weighted Mean Ratio	77.7	80.2	Weighted Mean Ratio	87.2	39.3
Geometric Mean Ratio	82.5	72.5	Geometric Mean Ratio	86.3	48.4
Harmonic Mean Ratio	79.1	44.6	Harmonic Mean Ratio	83.3	37.9
Standard Deviation	28.4	94.7	Standard Deviation	20.7	32.7
Coefficient of Variation (COV)	32.8	87.1	Coefficient of Variation (COV)	23.3	56.0
Price-Related Differential (PRD)	1.11	1.36	Price-Related Differential (PRD)	1.02	1.49
Lower PRD Confidence Interval	1.03	0.99	Lower PRD Confidence Interval	1.00	1.09
Upper PRD Confidence interval	1.28	2.31	Upper PRD Confidence interval	1.05	2.89
Coef. of Price-Related Bias (PRB)	-0.20	0.03	Coef. of Price-Related Bias (PRB)	-0.21	-0.15
Lower PRB Confidence Interval	-0.40	-0.84	Lower PRB Confidence Interval	-0.27	-0.36
Upper PRB Confidence Interval	-0.01	0.90	Upper PRB Confidence Interval	-0.14	0.06
Average Sale Price	82,852	32,143	Average Sale Price	115,177	132,588
Average Appraised Value	64,417	25,773	Average Appraised Value	100,488	52,145

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

015 : CLOUD		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	151	7
Trimmed Outliers	13	0
Number of Ratios: Outliers Removed	138	7
Minimum Ratio	34.1	34.5
Maximum Ratio	1023.1	131.1
Minimum Sale Price	910	22,500
Maximum Sale Price	917,570	1,253,541
DISTRIBUTION FREE STATISTICS		
Median Ratio	90.0	69.9
Lower Median Confidence Interval	86.5	34.5
Upper Median Confidence Interval	93.0	90.2
Broadened Median Ratio	89.8	66.6
Coefficient of Dispersion (COD)	17.4	39.7
Lower COD Confidence Interval	15.2	19.8
Upper COD Confidence Interval	20.2	94.8
Value Weighted COD	14.9	36.1
Coefficient of Concentration @10%	35.8	14.3
Coefficient of Concentration @15%	51.0	14.3
Coefficient of Concentration @20%	58.9	14.3
Coefficient of Concentration @50%	87.4	57.1
Coefficient of Concentration @100%	97.4	100.0
Coefficient of Interquartile Deviation	14.4	39.9
Median Percent Deviation	14.4	36.9
Lower Quartile (25th Percentile)	77.0	34.5
Upper Quartile (75th Percentile	102.9	90.2
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW
Relative Skewness	0.18	0.53
Relative Kurtosis	3.14	2.16
Arithmetic Mean Ratio	88.5	70.0
Weighted Mean Ratio	85.1	50.1
Geometric Mean Ratio	86.1	62.5
Harmonic Mean Ratio	83.6	55.8
Standard Deviation	20.0	35.6
Coefficient of Variation (COV)	22.6	50.8
Price-Related Differential (PRD)	1.04	1.40
Lower PRD Confidence Interval	1.01	1.06
Upper PRD Confidence interval	1.08	2.05
Coef. of Price-Related Bias (PRB)	-0.22	-0.10
Lower PRB Confidence Interval	-0.34	-0.42
Upper PRB Confidence Interval	-0.10	0.22
Average Sale Price	91,533	234,577
Average Appraised Value	77,869	117,536

016 : COFFEY		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	112	17
Trimmed Outliers	10	2
Number of Ratios: Outliers Removed	102	15
Minimum Ratio	31.1	26.1
Maximum Ratio	467.0	369.8
Minimum Sale Price	1,790	12,500
Maximum Sale Price	422,010	1,229,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	87.1	74.8
Lower Median Confidence Interval	83.6	47.0
Upper Median Confidence Interval	90.6	99.6
Broadened Median Ratio	87.0	71.7
Coefficient of Dispersion (COD)	16.7	33.6
Lower COD Confidence Interval	14.1	19.6
Upper COD Confidence Interval	20.1	58.9
Value Weighted COD	15.0	36.5
Coefficient of Concentration @10%	38.4	29.4
Coefficient of Concentration @15%	54.5	29.4
Coefficient of Concentration @20%	65.2	35.3
Coefficient of Concentration @50%	86.6	70.6
Coefficient of Concentration @100%	97.3	88.2
Coefficient of Interquartile Deviation	14.5	37.8
Median Percent Deviation	14.5	37.1
Lower Quartile (25th Percentile)	74.4	44.9
Upper Quartile (75th Percentile)	99.6	101.5
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	0.08	0.96
Relative Kurtosis	3.56	3.75
Arithmetic Mean Ratio	84.5	68.6
Weighted Mean Ratio	83.3	71.9
Geometric Mean Ratio	82.3	62.4
Harmonic Mean Ratio	79.8	56.6
Standard Deviation	19.0	31.5
Coefficient of Variation (COV)	22.4	45.9
Price-Related Differential (PRD)	1.01	0.95
Lower PRD Confidence Interval	0.99	0.73
Upper PRD Confidence interval	1.04	1.17
Coef. of Price-Related Bias (PRB)	-0.18	-0.05
Lower PRB Confidence Interval	-0.25	-0.42
Upper PRB Confidence Interval	-0.11	0.32
Average Sale Price	137,896	197,993
Average Appraised Value	114,927	142,419

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

017 : COMANCHE		S-5	018 : COWLEY		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	29	6	Original Number of Sales	202	15
Trimmed Outliers	1	0	Trimmed Outliers	13	0
Number of Ratios: Outliers Removed	28	6	Number of Ratios: Outliers Removed	189	15
Minimum Ratio	39.8	51.9	Minimum Ratio	27.2	58.9
Maximum Ratio	210.0	146.9	Maximum Ratio	374.9	145.2
Minimum Sale Price	5,000	10,000	Minimum Sale Price	1,460	6,000
Maximum Sale Price	297,000	85,000	Maximum Sale Price	545,990	150,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	85.8	111.5	Median Ratio	83.2	92.8
Lower Median Confidence Interval	79.1	68.6	Lower Median Confidence Interval	80.7	76.5
Upper Median Confidence Interval	92.4	142.4	Upper Median Confidence Interval	85.6	111.8
Broadened Median Ratio	85.5	111.5	Broadened Median Ratio	83.3	93.1
Coefficient of Dispersion (COD)	18.9	23.1	Coefficient of Dispersion (COD)	17.9	21.6
Lower COD Confidence Interval	13.7	10.9	Lower COD Confidence Interval	15.7	15.4
Upper COD Confidence Interval	27.1	52.1	Upper COD Confidence Interval	20.2	34.3
Value Weighted COD	26.5	21.4	Value Weighted COD	15.8	24.4
Coefficient of Concentration @10%	41.4	33.3	Coefficient of Concentration @10%	35.1	26.7
Coefficient of Concentration @15%	48.3	33.3	Coefficient of Concentration @15%	48.0	40.0
Coefficient of Concentration @20%	62.1	33.3	Coefficient of Concentration @20%	60.9	46.7
Coefficient of Concentration @50%	89.7	83.3	Coefficient of Concentration @50%	87.6	93.3
Coefficient of Concentration @100%	96.6	100.0	Coefficient of Concentration @100%	96.5	100.0
Coefficient of Interquartile Deviation	14.7	28.3	Coefficient of Interquartile Deviation	15.5	22.5
Median Percent Deviation	15.6	23.6	Median Percent Deviation	16.1	20.5
Lower Quartile (25th Percentile)	75.4	76.9	Lower Quartile (25th Percentile)	71.5	70.2
Upper Quartile (75th Percentile	100.6	140.1	Upper Quartile (75th Percentile)	97.3	111.8
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	AcceptK	AcceptW	Normality Test	RejectK	RejectK
Relative Skewness	-0.06	-0.48	Relative Skewness	0.23	0.37
Relative Kurtosis	3.24	2.10	Relative Kurtosis	3.27	2.32
Arithmetic Mean Ratio	85.1	107.5	Arithmetic Mean Ratio	83.3	93.9
Weighted Mean Ratio	73.5	111.5	Weighted Mean Ratio	79.4	96.6
Geometric Mean Ratio	82.1	101.8	Geometric Mean Ratio	80.9	90.8
Harmonic Mean Ratio	78.7	95.2	Harmonic Mean Ratio	78.3	87.8
Standard Deviation	21.9	35.0	Standard Deviation	19.5	25.1
Coefficient of Variation (COV)	25.7	32.5	Coefficient of Variation (COV)	23.4	26.8
Price-Related Differential (PRD)	1.16	0.96	Price-Related Differential (PRD)	1.05	0.97
Lower PRD Confidence Interval	1.00	0.87	Lower PRD Confidence Interval	1.02	0.88
Upper PRD Confidence interval	1.33	1.18	Upper PRD Confidence interval	1.08	1.09
Coef. of Price-Related Bias (PRB)	-0.17	0.05	Coef. of Price-Related Bias (PRB)	-0.17	0.03
Lower PRB Confidence Interval	-0.30	-0.27	Lower PRB Confidence Interval	-0.22	-0.09
Upper PRB Confidence Interval	-0.04	0.37	Upper PRB Confidence Interval	-0.12	0.15
Average Sale Price	61,625	36,417	Average Sale Price	119,943	55,573
Average Appraised Value	45,317	40,610	Average Appraised Value	95,283	53,676

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

019 : CRAWFORD			020 : DECATUR		*S-3*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	222	22	Original Number of Sales	43	7
Trimmed Outliers	18	0	Trimmed Outliers	4	1
Number of Ratios: Outliers Removed	204	22	Number of Ratios: Outliers Removed	39	6
Minimum Ratio	13.9	19.1	Minimum Ratio	39.8	46.1
Maximum Ratio	845.3	127.4	Maximum Ratio	1208.0	372.8
Minimum Sale Price	2,330	18,000	Minimum Sale Price	1,000	20,000
Maximum Sale Price	443,650	1,780,000	Maximum Sale Price	249,000	655,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	92.3	61.1	Median Ratio	72.5	83.0
Lower Median Confidence Interval	89.6	48.2	Lower Median Confidence Interval	70.1	68.3
Upper Median Confidence Interval	96.4	75.0	Upper Median Confidence Interval	78.5	95.3
Broadened Median Ratio	92.3	59.9	Broadened Median Ratio	72.8	85.9
Coefficient of Dispersion (COD)	18.8	37.6	Coefficient of Dispersion (COD)	19.7	14.7
Lower COD Confidence Interval	16.8	26.8	Lower COD Confidence Interval	14.6	5.4
Upper COD Confidence Interval	21.0	55.4	Upper COD Confidence Interval	26.0	34.9
Value Weighted COD	16.4	27.6	Value Weighted COD	16.7	11.8
Coefficient of Concentration @10%	31.5	22.7	Coefficient of Concentration @10%	41.9	28.6
Coefficient of Concentration @15%	44.1	22.7	Coefficient of Concentration @15%	46.5	57.1
Coefficient of Concentration @20%	59.0	31.8	Coefficient of Concentration @20%	48.8	71.4
Coefficient of Concentration @50%	88.3	68.2	Coefficient of Concentration @50%	83.7	85.7
Coefficient of Concentration @100%	96.4	90.9	Coefficient of Concentration @100%	95.3	85.7
Coefficient of Interquartile Deviation	17.1	35.1	Coefficient of Interquartile Deviation	22.0	16.3
Median Percent Deviation	17.0	26.8	Median Percent Deviation	21.7	14.8
Lower Quartile (25th Percentile)	76.5	45.7	Lower Quartile (25th Percentile)	63.1	68.3
Upper Quartile (75th Percentile	108.1	88.6	Upper Quartile (75th Percentile)	94.9	95.3
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	0.04	0.58	Relative Skewness	0.64	-0.90
Relative Kurtosis	3.06	2.60	Relative Kurtosis	2.95	2.55
Arithmetic Mean Ratio	90.6	65.7	Arithmetic Mean Ratio	74.4	77.9
Weighted Mean Ratio	88.1	57.6	Weighted Mean Ratio	68.6	88.2
Geometric Mean Ratio	87.8	58.9	Geometric Mean Ratio	72.1	75.8
Harmonic Mean Ratio	84.6	52.0	Harmonic Mean Ratio	69.7	73.3
Standard Deviation	21.8	30.1	Standard Deviation	19.5	18.2
Coefficient of Variation (COV)	24.1	45.8	Coefficient of Variation (COV)	26.2	23.3
Price-Related Differential (PRD)	1.03	1.14	Price-Related Differential (PRD)	1.08	0.88
Lower PRD Confidence Interval	1.01	0.97	Lower PRD Confidence Interval	1.04	0.78
Upper PRD Confidence interval	1.05	1.57	Upper PRD Confidence interval	1.14	1.00
Coef. of Price-Related Bias (PRB)	-0.16	-0.03	Coef. of Price-Related Bias (PRB)	-0.98	0.03
Lower PRB Confidence Interval	-0.25	-0.17	Lower PRB Confidence Interval	-1.58	-0.95
Upper PRB Confidence Interval	-0.07	0.12	Upper PRB Confidence Interval	-0.37	1.01
Average Sale Price	104,370	284,432	Average Sale Price	85,728	142,750
Average Appraised Value	91,934	163,961	Average Appraised Value	58,845	125,938

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

021 : DICKINSON			022 : DONIPHAN		*S-5*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	260	18	Original Number of Sales	66	7
Trimmed Outliers	22	2	Trimmed Outliers	3	0
Number of Ratios: Outliers Removed	238	16	Number of Ratios: Outliers Removed	63	7
Minimum Ratio	27.9	38.6	Minimum Ratio	37.3	35.7
Maximum Ratio	715.0	377.4	Maximum Ratio	338.3	152.4
Minimum Sale Price	2,860	22,500	Minimum Sale Price	6,000	35,000
Maximum Sale Price	468,440	3,500,000	Maximum Sale Price	295,000	159,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	89.9	79.5	Median Ratio	81.5	89.6
Lower Median Confidence Interval	86.4	62.2	Lower Median Confidence Interval	76.2	35.7
Upper Median Confidence Interval	93.1	102.1	Upper Median Confidence Interval	88.2	101.0
Broadened Median Ratio	89.9	78.7	Broadened Median Ratio	81.7	85.2
Coefficient of Dispersion (COD)	17.6	34.8	Coefficient of Dispersion (COD)	24.8	32.8
Lower COD Confidence Interval	15.7	21.8	Lower COD Confidence Interval	20.6	14.1
Upper COD Confidence Interval	19.7	62.2	Upper COD Confidence Interval	31.0	96.6
Value Weighted COD	15.9	31.5	Value Weighted COD	17.5	38.3
Coefficient of Concentration @10%	35.4	16.7	Coefficient of Concentration @10%	33.3	28.6
Coefficient of Concentration @15%	50.0	33.3	Coefficient of Concentration @15%	40.9	42.9
Coefficient of Concentration @20%	62.7	44.4	Coefficient of Concentration @20%	51.5	42.9
Coefficient of Concentration @50%	85.8	72.2	Coefficient of Concentration @50%	83.3	57.1
Coefficient of Concentration @100%	94.6	83.3	Coefficient of Concentration @100%	93.9	100.0
Coefficient of Interquartile Deviation	15.2	36.7	Coefficient of Interquartile Deviation	23.9	36.5
Median Percent Deviation	15.1	27.9	Median Percent Deviation	19.6	20.6
Lower Quartile (25th Percentile)	75.9	58.5	Lower Quartile (25th Percentile)	70.2	35.7
Upper Quartile (75th Percentile	103.3	116.9	Upper Quartile (75th Percentile)	109.2	101.0
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	-0.10	1.64	Relative Skewness	0.82	0.35
Relative Kurtosis	3.38	5.66	Relative Kurtosis	3.26	2.36
Arithmetic Mean Ratio	87.1	82.1	Arithmetic Mean Ratio	87.4	82.9
Weighted Mean Ratio	85.7	59.9	Weighted Mean Ratio	80.6	66.5
Geometric Mean Ratio	84.5	75.5	Geometric Mean Ratio	83.8	73.7
Harmonic Mean Ratio	81.6	70.3	Harmonic Mean Ratio	80.5	64.6
Standard Deviation	20.2	38.3	Standard Deviation	26.0	40.7
Coefficient of Variation (COV)	23.2	46.7	Coefficient of Variation (COV)	29.8	49.1
Price-Related Differential (PRD)	1.02	1.37	Price-Related Differential (PRD)	1.08	1.25
Lower PRD Confidence Interval	1.00	1.04	Lower PRD Confidence Interval	1.04	1.09
Upper PRD Confidence interval	1.03	1.99	Upper PRD Confidence interval	1.14	1.58
Coef. of Price-Related Bias (PRB)	-0.21	-0.10	Coef. of Price-Related Bias (PRB)	-0.28	-0.42
Lower PRB Confidence Interval	-0.28	-0.38	Lower PRB Confidence Interval	-0.41	-1.12
Upper PRB Confidence Interval	-0.14	0.17	Upper PRB Confidence Interval	-0.16	0.29
Average Sale Price	134,714	525,188	Average Sale Price	97,379	84,071
Average Appraised Value	115,443	314,644	Average Appraised Value	78,471	55,891

Detailed Sample Statistics for the Residential and Commercial Subclasses

023 : DOUGLAS			024 : EDWARDS		*S-6*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	245	42	Original Number of Sales	34	7
Trimmed Outliers	9	1	Trimmed Outliers	2	0
Number of Ratios: Outliers Removed	236	41	Number of Ratios: Outliers Removed	32	7
Minimum Ratio	54.7	47.9	Minimum Ratio	25.6	25.4
Maximum Ratio	958.8	178.8	Maximum Ratio	226.6	131.6
Minimum Sale Price	58,240	92,440	Minimum Sale Price	5,800	5,000
Maximum Sale Price	1,318,100	4,290,920	Maximum Sale Price	200,000	120,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	92.2	87.5	Median Ratio	91.1	84.9
Lower Median Confidence Interval	90.2	77.6	Lower Median Confidence Interval	82.0	36.2
Upper Median Confidence Interval	93.8	94.2	Upper Median Confidence Interval	98.3	115.8
Broadened Median Ratio	92.1	87.2	Broadened Median Ratio	90.7	83.3
Coefficient of Dispersion (COD)	10.3	21.5	Coefficient of Dispersion (COD)	21.9	35.4
Lower COD Confidence Interval	9.3	16.9	Lower COD Confidence Interval	16.2	18.0
Upper COD Confidence Interval	11.3	27.9	Upper COD Confidence Interval	30.9	117.0
Value Weighted COD	10.4	20.8	Value Weighted COD	17.5	24.5
Coefficient of Concentration @10%	52.7	28.6	Coefficient of Concentration @10%	35.3	14.3
Coefficient of Concentration @15%	77.1	40.5	Coefficient of Concentration @15%	47.1	28.6
Coefficient of Concentration @20%	84.9	50.0	Coefficient of Concentration @20%	55.9	42.9
Coefficient of Concentration @50%	98.4	92.9	Coefficient of Concentration @50%	85.3	57.1
Coefficient of Concentration @100%	99.6	97.6	Coefficient of Concentration @100%	94.1	100.0
Coefficient of Interquartile Deviation	9.4	19.6	Coefficient of Interquartile Deviation	19.5	46.9
Median Percent Deviation	9.3	19.7	Median Percent Deviation	16.5	36.4
Lower Quartile (25th Percentile)	82.9	68.4	Lower Quartile (25th Percentile)	76.2	36.2
Upper Quartile (75th Percentile	100.2	102.7	Upper Quartile (75th Percentile)	111.8	115.8
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	0.27	0.45	Relative Skewness	0.31	-0.17
Relative Kurtosis	3.03	2.66	Relative Kurtosis	3.64	1.77
Arithmetic Mean Ratio	91.8	87.6	Arithmetic Mean Ratio	90.9	79.9
Weighted Mean Ratio	92.5	87.7	Weighted Mean Ratio	83.2	72.5
Geometric Mean Ratio	91.1	84.5	Geometric Mean Ratio	86.6	69.6
Harmonic Mean Ratio	90.3	81.4	Harmonic Mean Ratio	81.3	58.4
Standard Deviation	11.8	23.9	Standard Deviation	26.7	39.1
Coefficient of Variation (COV)	12.8	27.2	Coefficient of Variation (COV)	29.4	49.0
Price-Related Differential (PRD)	0.99	1.00	Price-Related Differential (PRD)	1.09	1.10
Lower PRD Confidence Interval	0.98	0.94	Lower PRD Confidence Interval	1.04	0.89
Upper PRD Confidence interval	1.00	1.06	Upper PRD Confidence interval	1.17	1.54
Coef. of Price-Related Bias (PRB)	0.38	0.00	Coef. of Price-Related Bias (PRB)	-0.15	-0.12
Lower PRB Confidence Interval	0.28	-0.08	Lower PRB Confidence Interval	-0.25	-0.46
Upper PRB Confidence Interval	0.48	0.09	Upper PRB Confidence Interval	-0.04	0.21
Average Sale Price	259,482	883,306	Average Sale Price	70,673	62,479
Average Appraised Value	239,966	774,999	Average Appraised Value	58,825	45,313

Detailed Sample Statistics for the Residential and Commercial Subclasses

025 : ELK		S-3	026 : ELLIS		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	21	8	Original Number of Sales	206	17
Trimmed Outliers	1	0	Trimmed Outliers	12	0
Number of Ratios: Outliers Removed	20	8	Number of Ratios: Outliers Removed	194	17
Minimum Ratio	40.1	39.1	Minimum Ratio	50.7	51.6
Maximum Ratio	305.2	177.3	Maximum Ratio	268.8	153.5
Minimum Sale Price	3,050	3,000	Minimum Sale Price	25,000	66,320
Maximum Sale Price	253,180	1,000,000	Maximum Sale Price	855,000	3,528,140
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	91.2	74.3	Median Ratio	91.2	90.7
Lower Median Confidence Interval	78.4	49.5	Lower Median Confidence Interval	89.2	65.0
Upper Median Confidence Interval	108.3	119.5	Upper Median Confidence Interval	93.2	101.9
Broadened Median Ratio	89.2	72.8	Broadened Median Ratio	91.2	90.1
Coefficient of Dispersion (COD)	31.7	43.2	Coefficient of Dispersion (COD)	9.4	23.9
Lower COD Confidence Interval	21.8	22.5	Lower COD Confidence Interval	8.5	16.3
Upper COD Confidence Interval	46.8	82.2	Upper COD Confidence Interval	10.5	39.2
Value Weighted COD	31.1	32.1	Value Weighted COD	9.2	27.0
Coefficient of Concentration @10%	23.8	25.0	Coefficient of Concentration @10%	56.3	29.4
Coefficient of Concentration @15%	38.1	25.0	Coefficient of Concentration @15%	74.8	41.2
Coefficient of Concentration @20%	42.9	37.5	Coefficient of Concentration @20%	86.4	41.2
Coefficient of Concentration @50%	76.2	75.0	Coefficient of Concentration @50%	97.1	94.1
Coefficient of Concentration @100%	90.5	87.5	Coefficient of Concentration @100%	99.5	100.0
Coefficient of Interquartile Deviation	27.5	41.1	Coefficient of Interquartile Deviation	8.7	24.0
Median Percent Deviation	20.6	31.2	Median Percent Deviation	8.7	27.7
Lower Quartile (25th Percentile)	72.6	50.3	Lower Quartile (25th Percentile)	83.1	64.7
Upper Quartile (75th Percentile	122.8	111.3	Upper Quartile (75th Percentile)	99.1	108.3
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK	Normality Test	RejectK	RejectK
Relative Skewness	0.86	1.11	Relative Skewness	0.26	0.53
Relative Kurtosis	3.23	3.20	Relative Kurtosis	2.74	2.72
Arithmetic Mean Ratio	95.1	84.2	Arithmetic Mean Ratio	91.2	89.6
Weighted Mean Ratio	76.7	54.9	Weighted Mean Ratio	90.3	70.4
Geometric Mean Ratio	88.6	75.3	Geometric Mean Ratio	90.5	85.7
Harmonic Mean Ratio	82.5	68.1	Harmonic Mean Ratio	89.9	81.9
Standard Deviation	37.3	45.4	Standard Deviation	10.7	27.8
Coefficient of Variation (COV)	39.3	54.0	Coefficient of Variation (COV)	11.7	31.0
Price-Related Differential (PRD)	1.24	1.53	Price-Related Differential (PRD)	1.01	1.27
Lower PRD Confidence Interval	1.05	1.07	Lower PRD Confidence Interval	1.00	1.09
Upper PRD Confidence interval	1.60	2.53	Upper PRD Confidence interval	1.02	1.49
Coef. of Price-Related Bias (PRB)	-0.23	-0.05	Coef. of Price-Related Bias (PRB)	-0.02	-0.09
Lower PRB Confidence Interval	-0.46	-0.27	Lower PRB Confidence Interval	-0.06	-0.18
Upper PRB Confidence Interval	-0.01	0.17	Upper PRB Confidence Interval	0.02	0.01
Average Sale Price	49,080	147,500	Average Sale Price	197,350	574,492
Average Appraised Value	37,651	81,026	Average Appraised Value	178,151	404,368

Detailed Sample Statistics for the Residential and Commercial Subclasses

027 : ELLSWORTH		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	68	7
Trimmed Outliers	6	0
Number of Ratios: Outliers Removed	62	7
Minimum Ratio	35.3	49.9
Maximum Ratio	1191.9	248.0
Minimum Sale Price	4,690	20,000
Maximum Sale Price	412,010	105,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	93.6	84.5
Lower Median Confidence Interval	89.5	68.1
Upper Median Confidence Interval	98.1	155.2
Broadened Median Ratio	93.3	98.8
Coefficient of Dispersion (COD)	11.9	55.6
Lower COD Confidence Interval	9.8	37.0
Upper COD Confidence Interval	14.9	170.1
Value Weighted COD	11.5	41.1
Coefficient of Concentration @10%	51.5	28.6
Coefficient of Concentration @15%	66.2	28.6
Coefficient of Concentration @20%	70.6	42.9
Coefficient of Concentration @50%	94.1	57.1
Coefficient of Concentration @100%	98.5	85.7
Coefficient of Interquartile Deviation	10.2	51.5
Median Percent Deviation	9.8	40.9
Lower Quartile (25th Percentile)	83.2	68.1
Upper Quartile (75th Percentile	102.4	155.2
PARAMETRIC STATISTICS		
Normality Test	RejectK	Reject3
Relative Skewness	-0.26	1.05
Relative Kurtosis	2.89	2.96
Arithmetic Mean Ratio	92.6	116.8
Weighted Mean Ratio	90.4	106.3
Geometric Mean Ratio	91.4	102.5
Harmonic Mean Ratio	90.2	91.2
Standard Deviation	14.5	68.0
Coefficient of Variation (COV)	15.6	58.2
Price-Related Differential (PRD)	1.02	1.10
Lower PRD Confidence Interval	1.00	0.92
Upper PRD Confidence interval	1.05	1.35
Coef. of Price-Related Bias (PRB)	-0.11	0.06
Lower PRB Confidence Interval	-0.36	-1.09
Upper PRB Confidence Interval	0.15	1.20
Average Sale Price	105,759	55,686
Average Appraised Value	95,650	59,174

028 : FINNEY		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	198	28
Trimmed Outliers	13	1
Number of Ratios: Outliers Removed	185	27
Minimum Ratio	45.3	25.1
Maximum Ratio	304.2	221.4
Minimum Sale Price	33,960	20,000
Maximum Sale Price	695,200	5,900,884
DISTRIBUTION FREE STATISTICS		
Median Ratio	94.6	74.5
Lower Median Confidence Interval	92.4	66.8
Upper Median Confidence Interval	95.5	85.6
Broadened Median Ratio	94.6	74.9
Coefficient of Dispersion (COD)	10.7	25.0
Lower COD Confidence Interval	9.5	18.6
Upper COD Confidence Interval	12.1	35.2
Value Weighted COD	10.6	40.9
Coefficient of Concentration @10%	52.0	28.6
Coefficient of Concentration @15%	70.2	39.3
Coefficient of Concentration @20%	79.3	46.4
Coefficient of Concentration @50%	96.5	89.3
Coefficient of Concentration @100%	99.0	96.4
Coefficient of Interquartile Deviation	9.5	25.5
Median Percent Deviation	9.4	23.8
Lower Quartile (25th Percentile)	84.9	59.3
Upper Quartile (75th Percentile)	102.8	97.4
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptK
Relative Skewness	0.02	-0.04
Relative Kurtosis	2.94	2.49
Arithmetic Mean Ratio	92.8	74.7
Weighted Mean Ratio	92.5	52.5
Geometric Mean Ratio	91.9	70.3
Harmonic Mean Ratio	91.0	65.3
Standard Deviation	12.8	24.2
Coefficient of Variation (COV)	13.8	32.4
Price-Related Differential (PRD)	1.00	1.42
Lower PRD Confidence Interval	0.99	1.08
Upper PRD Confidence interval	1.01	1.87
Coef. of Price-Related Bias (PRB)	-0.11	-0.04
Lower PRB Confidence Interval	-0.18	-0.16
Upper PRB Confidence Interval	-0.04	0.08
Average Sale Price	205,893	713,097
Average Appraised Value	190,470	374,226

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

029 : FORD			030 : FRANKLIN		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	205	17	Original Number of Sales	453	21
Trimmed Outliers	21	1	Trimmed Outliers	58	2
Number of Ratios: Outliers Removed	184	16	Number of Ratios: Outliers Removed	395	19
Minimum Ratio	21.5	43.4	Minimum Ratio	11.2	19.0
Maximum Ratio	857.2	493.5	Maximum Ratio	845.2	409.1
Minimum Sale Price	19,630	17,000	Minimum Sale Price	4,780	20,000
Maximum Sale Price	627,980	1,304,000	Maximum Sale Price	546,240	1,500,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	84.5	73.9	Median Ratio	94.7	88.2
Lower Median Confidence Interval	81.6	60.4	Lower Median Confidence Interval	92.9	66.2
Upper Median Confidence Interval	86.5	91.6	Upper Median Confidence Interval	96.7	96.6
Broadened Median Ratio	84.3	76.2	Broadened Median Ratio	94.7	86.4
Coefficient of Dispersion (COD)	13.9	25.6	Coefficient of Dispersion (COD)	15.1	23.4
Lower COD Confidence Interval	12.4	18.4	Lower COD Confidence Interval	13.9	15.3
Upper COD Confidence Interval	15.7	43.1	Upper COD Confidence Interval	16.6	36.9
Value Weighted COD	13.0	28.6	Value Weighted COD	13.4	27.7
Coefficient of Concentration @10%	39.5	17.6	Coefficient of Concentration @10%	38.6	28.6
Coefficient of Concentration @15%	58.5	35.3	Coefficient of Concentration @15%	53.4	33.3
Coefficient of Concentration @20%	67.3	52.9	Coefficient of Concentration @20%	65.3	38.1
Coefficient of Concentration @50%	89.8	88.2	Coefficient of Concentration @50%	86.1	85.7
Coefficient of Concentration @100%	97.1	94.1	Coefficient of Concentration @100%	93.2	90.5
Coefficient of Interquartile Deviation	11.9	25.2	Coefficient of Interquartile Deviation	13.7	23.3
Median Percent Deviation	11.9	19.0	Median Percent Deviation	13.7	25.0
Lower Quartile (25th Percentile)	74.1	60.1	Lower Quartile (25th Percentile)	80.7	63.0
Upper Quartile (75th Percentile	94.2	97.4	Upper Quartile (75th Percentile)	106.7	104.0
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	RejectK
Relative Skewness	-0.13	1.01	Relative Skewness	-0.01	-0.47
Relative Kurtosis	2.89	3.89	Relative Kurtosis	3.42	3.06
Arithmetic Mean Ratio	82.6	77.8	Arithmetic Mean Ratio	90.8	79.8
Weighted Mean Ratio	83.2	75.3	Weighted Mean Ratio	89.2	68.3
Geometric Mean Ratio	81.3	74.4	Geometric Mean Ratio	88.9	74.8
Harmonic Mean Ratio	79.8	71.3	Harmonic Mean Ratio	86.9	67.3
Standard Deviation	14.6	24.9	Standard Deviation	17.9	24.7
Coefficient of Variation (COV)	17.7	32.0	Coefficient of Variation (COV)	19.7	31.0
Price-Related Differential (PRD)	0.99	1.03	Price-Related Differential (PRD)	1.02	1.17
Lower PRD Confidence Interval	0.98	0.93	Lower PRD Confidence Interval	1.01	1.05
Upper PRD Confidence interval	1.01	1.17	Upper PRD Confidence interval	1.03	1.40
Coef. of Price-Related Bias (PRB)	-0.06	-0.27	Coef. of Price-Related Bias (PRB)	-0.29	-0.25
Lower PRB Confidence Interval	-0.18	-0.73	Lower PRB Confidence Interval	-0.35	-0.50
Upper PRB Confidence Interval	0.07	0.20	Upper PRB Confidence Interval	-0.22	0.00
Average Sale Price	151,733	448,125	Average Sale Price	161,903	340,132
Average Appraised Value	126,286	337,256	Average Appraised Value	144,377	232,374

Detailed Sample Statistics for the Residential and Commercial Subclasses

031 : GEARY			032 : GOVE		*S-3*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	695	17	Original Number of Sales	23	5
Trimmed Outliers	98	0	Trimmed Outliers	3	0
Number of Ratios: Outliers Removed	597	17	Number of Ratios: Outliers Removed	20	5
Minimum Ratio	11.7	23.6	Minimum Ratio	48.1	45.6
Maximum Ratio	883.2	162.8	Maximum Ratio	242.3	326.6
Minimum Sale Price	5,000	11,400	Minimum Sale Price	9,000	5,000
Maximum Sale Price	3,950,000	825,000	Maximum Sale Price	225,000	125,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	93.1	97.2	Median Ratio	93.6	61.8
Lower Median Confidence Interval	92.1	75.8	Lower Median Confidence Interval	88.6	47.3
Upper Median Confidence Interval	94.2	121.2	Upper Median Confidence Interval	103.9	295.4
Broadened Median Ratio	93.1	94.9	Broadened Median Ratio	95.8	62.7
Coefficient of Dispersion (COD)	9.0	28.9	Coefficient of Dispersion (COD)	13.8	93.1
Lower COD Confidence Interval	8.4	19.3	Lower COD Confidence Interval	9.2	3.3
Upper COD Confidence Interval	9.6	45.1	Upper COD Confidence Interval	22.8	177.4
Value Weighted COD	9.0	16.6	Value Weighted COD	15.1	13.1
Coefficient of Concentration @10%	55.1	23.5	Coefficient of Concentration @10%	43.5	60.0
Coefficient of Concentration @15%	70.1	29.4	Coefficient of Concentration @15%	65.2	60.0
Coefficient of Concentration @20%	76.5	41.2	Coefficient of Concentration @20%	69.6	60.0
Coefficient of Concentration @50%	90.8	82.4	Coefficient of Concentration @50%	87.0	80.0
Coefficient of Concentration @100%	95.4	100.0	Coefficient of Concentration @100%	95.7	80.0
Coefficient of Interquartile Deviation	8.9	25.9	Coefficient of Interquartile Deviation	14.1	116.4
Median Percent Deviation	8.4	22.4	Median Percent Deviation	10.9	7.5
Lower Quartile (25th Percentile)	81.0	75.6	Lower Quartile (25th Percentile)	85.4	52.8
Upper Quartile (75th Percentile	96.6	126.0	Upper Quartile (75th Percentile)	111.8	196.5
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	AcceptK	Normality Test	RejectK	RejectW
Relative Skewness	0.22	0.06	Relative Skewness	-0.86	1.48
Relative Kurtosis	3.66	2.67	Relative Kurtosis	4.00	3.23
Arithmetic Mean Ratio	87.8	97.8	Arithmetic Mean Ratio	92.0	112.1
Weighted Mean Ratio	86.8	96.2	Weighted Mean Ratio	89.6	63.4
Geometric Mean Ratio	87.2	89.8	Geometric Mean Ratio	89.9	81.8
Harmonic Mean Ratio	86.5	79.2	Harmonic Mean Ratio	87.3	68.5
Standard Deviation	10.8	37.1	Standard Deviation	18.5	120.2
Coefficient of Variation (COV)	12.3	37.9	Coefficient of Variation (COV)	20.1	107.3
Price-Related Differential (PRD)	1.01	1.02	Price-Related Differential (PRD)	1.03	1.77
Lower PRD Confidence Interval	1.01	0.89	Lower PRD Confidence Interval	0.97	0.97
Upper PRD Confidence interval	1.02	1.17	Upper PRD Confidence interval	1.11	2.46
Coef. of Price-Related Bias (PRB)	-0.27	0.07	Coef. of Price-Related Bias (PRB)	-0.29	-1.23
Lower PRB Confidence Interval	-0.33	-0.05	Lower PRB Confidence Interval	-0.46	-3.21
Upper PRB Confidence Interval	-0.22	0.19	Upper PRB Confidence Interval	-0.12	0.75
Average Sale Price	172,557	187,112	Average Sale Price	96,500	61,200
Average Appraised Value	149,811	180,077	Average Appraised Value	86,465	38,786

Detailed Sample Statistics for the Residential and Commercial Subclasses

033 : GRAHAM		S-3
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	37	6
Trimmed Outliers	1	0
Number of Ratios: Outliers Removed	36	6
Minimum Ratio	47.3	50.3
Maximum Ratio	197.0	101.1
Minimum Sale Price	8,550	9,500
Maximum Sale Price	269,410	70,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	92.6	78.7
Lower Median Confidence Interval	88.2	54.8
Upper Median Confidence Interval	105.0	98.3
Broadened Median Ratio	94.2	78.3
Coefficient of Dispersion (COD)	17.6	19.0
Lower COD Confidence Interval	14.2	9.0
Upper COD Confidence Interval	23.9	32.3
Value Weighted COD	18.0	12.0
Coefficient of Concentration @10%	37.8	33.3
Coefficient of Concentration @15%	45.9	33.3
Coefficient of Concentration @20%	56.8	33.3
Coefficient of Concentration @50%	97.3	100.0
Coefficient of Concentration @100%	97.3	100.0
Coefficient of Interquartile Deviation	13.8	25.3
Median Percent Deviation	15.4	23.0
Lower Quartile (25th Percentile)	85.1	57.0
Upper Quartile (75th Percentile	110.6	96.9
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW
Relative Skewness	-0.26	-0.16
Relative Kurtosis	2.75	1.67
Arithmetic Mean Ratio	94.5	77.3
Weighted Mean Ratio	87.8	74.8
Geometric Mean Ratio	92.1	75.0
Harmonic Mean Ratio	89.4	72.7
Standard Deviation	20.6	19.8
Coefficient of Variation (COV)	21.8	25.6
Price-Related Differential (PRD)	1.08	1.03
Lower PRD Confidence Interval	1.02	0.92
Upper PRD Confidence interval	1.16	1.14
Coef. of Price-Related Bias (PRB)	-0.08	-0.03
Lower PRB Confidence Interval	-0.17	-0.33
Upper PRB Confidence Interval	0.01	0.26
Average Sale Price	76,420	33,333
Average Appraised Value	67,094	24,937

034 : GRANT		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	81	8
Trimmed Outliers	10	1
Number of Ratios: Outliers Removed	71	7
Minimum Ratio	35.8	31.6
Maximum Ratio	156.1	198.3
Minimum Sale Price	35,620	29,000
Maximum Sale Price	371,240	754,175
DISTRIBUTION FREE STATISTICS		
Median Ratio	93.7	59.1
Lower Median Confidence Interval	90.1	31.8
Upper Median Confidence Interval	95.7	89.8
Broadened Median Ratio	93.8	59.4
Coefficient of Dispersion (COD)	7.9	51.2
Lower COD Confidence Interval	6.4	11.2
Upper COD Confidence Interval	9.8	65.2
Value Weighted COD	7.6	47.3
Coefficient of Concentration @10%	64.2	0.0
Coefficient of Concentration @15%	74.1	0.0
Coefficient of Concentration @20%	80.2	0.0
Coefficient of Concentration @50%	95.1	75.0
Coefficient of Concentration @100%	100.0	87.5
Coefficient of Interquartile Deviation	7.2	47.0
Median Percent Deviation	7.1	44.2
Lower Quartile (25th Percentile)	85.8	32.9
Upper Quartile (75th Percentile)	99.2	88.4
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectW
Relative Skewness	-0.46	0.31
Relative Kurtosis	3.66	1.24
Arithmetic Mean Ratio	93.2	55.9
Weighted Mean Ratio	92.7	49.6
Geometric Mean Ratio	92.6	50.8
Harmonic Mean Ratio	92.1	46.4
Standard Deviation	9.9	26.2
Coefficient of Variation (COV)	10.7	46.8
Price-Related Differential (PRD)	1.01	1.13
Lower PRD Confidence Interval	0.99	0.88
Upper PRD Confidence interval	1.02	1.56
Coef. of Price-Related Bias (PRB)	-0.01	-0.18
Lower PRB Confidence Interval	-0.07	-0.75
Upper PRB Confidence Interval	0.05	0.39
Average Sale Price	139,575	269,539
Average Appraised Value	129,321	133,753

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

035 : GRAY			036 : GREELEY		S-5
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	79	7	Original Number of Sales	33	7
Trimmed Outliers	7	0	Trimmed Outliers	3	0
Number of Ratios: Outliers Removed	72	7	Number of Ratios: Outliers Removed	30	7
Minimum Ratio	33.2	28.7	Minimum Ratio	29.4	51.8
Maximum Ratio	156.9	274.9	Maximum Ratio	243.3	150.0
Minimum Sale Price	12,440	30,000	Minimum Sale Price	1,410	10,000
Maximum Sale Price	1,484,940	200,000	Maximum Sale Price	272,210	153,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	91.2	77.8	Median Ratio	91.2	98.0
Lower Median Confidence Interval	89.0	41.0	Lower Median Confidence Interval	79.6	65.5
Upper Median Confidence Interval	96.0	200.6	Upper Median Confidence Interval	106.4	139.0
Broadened Median Ratio	91.3	76.0	Broadened Median Ratio	90.7	95.0
Coefficient of Dispersion (COD)	12.0	84.5	Coefficient of Dispersion (COD)	21.0	29.3
Lower COD Confidence Interval	9.9	34.5	Lower COD Confidence Interval	16.7	17.1
Upper COD Confidence Interval	14.8	208.1	Upper COD Confidence Interval	29.4	58.3
Value Weighted COD	11.6	88.3	Value Weighted COD	16.9	32.1
Coefficient of Concentration @10%	49.4	14.3	Coefficient of Concentration @10%	21.2	14.3
Coefficient of Concentration @15%	63.3	14.3	Coefficient of Concentration @15%	36.4	28.6
Coefficient of Concentration @20%	74.7	14.3	Coefficient of Concentration @20%	48.5	42.9
Coefficient of Concentration @50%	92.4	57.1	Coefficient of Concentration @50%	87.9	85.7
Coefficient of Concentration @100%	100.0	71.4	Coefficient of Concentration @100%	90.9	100.0
Coefficient of Interquartile Deviation	10.6	102.6	Coefficient of Interquartile Deviation	20.5	37.5
Median Percent Deviation	10.3	47.3	Median Percent Deviation	20.0	33.1
Lower Quartile (25th Percentile)	82.5	41.0	Lower Quartile (25th Percentile)	74.4	65.5
Upper Quartile (75th Percentile	101.9	200.6	Upper Quartile (75th Percentile)	111.8	139.0
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	AcceptW
Relative Skewness	0.05	0.90	Relative Skewness	-0.44	0.19
Relative Kurtosis	3.31	2.31	Relative Kurtosis	2.79	1.71
Arithmetic Mean Ratio	90.6	110.5	Arithmetic Mean Ratio	87.8	98.7
Weighted Mean Ratio	87.7	92.9	Weighted Mean Ratio	88.3	73.3
Geometric Mean Ratio	89.4	81.9	Geometric Mean Ratio	84.4	92.7
Harmonic Mean Ratio	88.2	62.8	Harmonic Mean Ratio	80.2	86.9
Standard Deviation	14.4	92.8	Standard Deviation	22.5	36.6
Coefficient of Variation (COV)	15.9	84.1	Coefficient of Variation (COV)	25.6	37.1
Price-Related Differential (PRD)	1.03	1.19	Price-Related Differential (PRD)	0.99	1.35
Lower PRD Confidence Interval	1.01	0.92	Lower PRD Confidence Interval	0.93	1.13
Upper PRD Confidence interval	1.08	1.88	Upper PRD Confidence interval	1.05	1.81
Coef. of Price-Related Bias (PRB)	-0.13	0.28	Coef. of Price-Related Bias (PRB)	-0.09	-0.27
Lower PRB Confidence Interval	-0.18	-0.89	Lower PRB Confidence Interval	-0.19	-0.44
Upper PRB Confidence Interval	-0.08	1.44	Upper PRB Confidence Interval	0.01	-0.10
Average Sale Price	187,620	109,661	Average Sale Price	108,253	50,000
Average Appraised Value	164,597	101,909	Average Appraised Value	95,593	36,659

Detailed Sample Statistics for the Residential and Commercial Subclasses

037 : GREENWOOD			038 : HAMILTON		*S-4*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	74	7	Original Number of Sales	18	4
Trimmed Outliers	7	1	Trimmed Outliers	0	0
Number of Ratios: Outliers Removed	67	6	Number of Ratios: Outliers Removed	18	4
Minimum Ratio	24.1	28.8	Minimum Ratio	6.2	30.0
Maximum Ratio	2920.0	258.0	Maximum Ratio	142.3	95.1
Minimum Sale Price	100	8,000	Minimum Sale Price	20,310	30,000
Maximum Sale Price	260,000	365,000	Maximum Sale Price	167,050	240,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	77.5	67.1	Median Ratio	79.3	68.8
Lower Median Confidence Interval	69.1	29.9	Lower Median Confidence Interval	70.9	31.6
Upper Median Confidence Interval	86.7	110.4	Upper Median Confidence Interval	110.5	94.1
Broadened Median Ratio	77.2	76.6	Broadened Median Ratio	85.8	66.7
Coefficient of Dispersion (COD)	27.3	37.9	Coefficient of Dispersion (COD)	31.3	28.9
Lower COD Confidence Interval	22.6	15.4	Lower COD Confidence Interval	23.6	6.3
Upper COD Confidence Interval	34.0	83.1	Upper COD Confidence Interval	55.3	52.5
Value Weighted COD	24.7	43.6	Value Weighted COD	22.1	42.1
Coefficient of Concentration @10%	20.3	28.6	Coefficient of Concentration @10%	27.8	0.0
Coefficient of Concentration @15%	28.4	28.6	Coefficient of Concentration @15%	44.4	50.0
Coefficient of Concentration @20%	44.6	28.6	Coefficient of Concentration @20%	50.0	50.0
Coefficient of Concentration @50%	77.0	42.9	Coefficient of Concentration @50%	77.8	75.0
Coefficient of Concentration @100%	90.5	85.7	Coefficient of Concentration @100%	100.0	100.0
Coefficient of Interquartile Deviation	23.0	59.9	Coefficient of Interquartile Deviation	27.0	38.1
Median Percent Deviation	22.6	55.4	Median Percent Deviation	25.3	24.3
Lower Quartile (25th Percentile)	59.4	29.9	Lower Quartile (25th Percentile)	70.2	37.9
Upper Quartile (75th Percentile	95.0	110.4	Upper Quartile (75th Percentile)	113.1	90.3
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	AcceptW
Relative Skewness	0.37	0.07	Relative Skewness	-0.55	-0.35
Relative Kurtosis	3.06	1.59	Relative Kurtosis	3.64	1.86
Arithmetic Mean Ratio	75.4	66.5	Arithmetic Mean Ratio	89.3	65.7
Weighted Mean Ratio	72.7	46.7	Weighted Mean Ratio	86.0	45.4
Geometric Mean Ratio	70.9	58.6	Geometric Mean Ratio	78.5	60.4
Harmonic Mean Ratio	65.9	51.0	Harmonic Mean Ratio	50.9	54.6
Standard Deviation	25.4	33.6	Standard Deviation	32.2	27.5
Coefficient of Variation (COV)	33.7	50.5	Coefficient of Variation (COV)	36.1	41.8
Price-Related Differential (PRD)	1.04	1.42	Price-Related Differential (PRD)	1.04	1.45
Lower PRD Confidence Interval	0.99	0.95	Lower PRD Confidence Interval	0.94	1.02
Upper PRD Confidence interval	1.09	2.01	Upper PRD Confidence interval	1.12	1.59
Coef. of Price-Related Bias (PRB)	-0.99	-0.34	Coef. of Price-Related Bias (PRB)	0.13	0.00
Lower PRB Confidence Interval	-1.56	-1.20	Lower PRB Confidence Interval	-0.11	0.00
Upper PRB Confidence Interval	-0.42	0.52	Upper PRB Confidence Interval	0.36	0.00
Average Sale Price	76,622	96,917	Average Sale Price	83,129	93,750
Average Appraised Value	55,717	45,297	Average Appraised Value	71,528	42,540

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

039 : HARPER			040 : HARVEY		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	73	6	Original Number of Sales	222	28
Trimmed Outliers	2	0	Trimmed Outliers	24	2
Number of Ratios: Outliers Removed	71	6	Number of Ratios: Outliers Removed	198	26
Minimum Ratio	44.5	8.9	Minimum Ratio	23.0	0.1
Maximum Ratio	198.0	198.1	Maximum Ratio	774.3	270.5
Minimum Sale Price	3,520	10,000	Minimum Sale Price	3,810	10,000
Maximum Sale Price	808,930	342,000	Maximum Sale Price	709,110	2,487,360
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	92.9	85.1	Median Ratio	91.6	72.3
Lower Median Confidence Interval	86.9	10.2	Lower Median Confidence Interval	89.6	53.2
Upper Median Confidence Interval	98.7	176.5	Upper Median Confidence Interval	93.5	88.7
Broadened Median Ratio	92.5	84.4	Broadened Median Ratio	91.6	69.8
Coefficient of Dispersion (COD)	17.9	67.0	Coefficient of Dispersion (COD)	11.7	40.6
Lower COD Confidence Interval	14.9	27.1	Lower COD Confidence Interval	10.3	29.0
Upper COD Confidence Interval	21.7	489.1	Upper COD Confidence Interval	13.3	60.8
Value Weighted COD	15.8	88.8	Value Weighted COD	10.8	55.6
Coefficient of Concentration @10%	28.8	33.3	Coefficient of Concentration @10%	48.6	10.7
Coefficient of Concentration @15%	50.7	33.3	Coefficient of Concentration @15%	64.9	21.4
Coefficient of Concentration @20%	65.8	33.3	Coefficient of Concentration @20%	74.8	25.0
Coefficient of Concentration @50%	94.5	33.3	Coefficient of Concentration @50%	91.4	71.4
Coefficient of Concentration @100%	97.3	83.3	Coefficient of Concentration @100%	96.8	92.9
Coefficient of Interquartile Deviation	14.6	91.0	Coefficient of Interquartile Deviation	10.5	35.6
Median Percent Deviation	14.6	84.3	Median Percent Deviation	10.4	34.8
Lower Quartile (25th Percentile)	80.6	10.8	Lower Quartile (25th Percentile)	82.0	47.0
Upper Quartile (75th Percentile	107.7	165.7	Upper Quartile (75th Percentile)	101.2	98.5
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	AcceptK	AcceptW	Normality Test	RejectK	AcceptK
Relative Skewness	0.05	0.24	Relative Skewness	0.22	0.08
Relative Kurtosis	2.70	1.70	Relative Kurtosis	3.64	2.64
Arithmetic Mean Ratio	92.1	90.6	Arithmetic Mean Ratio	91.2	67.9
Weighted Mean Ratio	90.6	35.2	Weighted Mean Ratio	91.0	43.4
Geometric Mean Ratio	89.6	53.2	Geometric Mean Ratio	90.1	49.9
Harmonic Mean Ratio	87.0	25.6	Harmonic Mean Ratio	88.9	2.7
Standard Deviation	20.9	75.8	Standard Deviation	14.3	32.6
Coefficient of Variation (COV)	22.7	83.7	Coefficient of Variation (COV)	15.7	48.0
Price-Related Differential (PRD)	1.02	2.57	Price-Related Differential (PRD)	1.00	1.57
Lower PRD Confidence Interval	0.97	0.83	Lower PRD Confidence Interval	0.99	1.05
Upper PRD Confidence interval	1.07	3.80	Upper PRD Confidence interval	1.02	2.19
Coef. of Price-Related Bias (PRB)	-0.02	-0.11	Coef. of Price-Related Bias (PRB)	-0.23	0.00
Lower PRB Confidence Interval	-0.08	-0.78	Lower PRB Confidence Interval	-0.33	-0.20
Upper PRB Confidence Interval	0.04	0.56	Upper PRB Confidence Interval	-0.14	0.19
Average Sale Price	73,207	125,803	Average Sale Price	145,138	330,055
Average Appraised Value	66,329	44,262	Average Appraised Value	132,029	143,249

Detailed Sample Statistics for the Residential and Commercial Subclasses

041 : HASKELL		S-3	042 : HODGEMAN		S-4
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	60	6	Original Number of Sales	15	5
Trimmed Outliers	7	1	Trimmed Outliers	0	0
Number of Ratios: Outliers Removed	53	5	Number of Ratios: Outliers Removed	15	5
Minimum Ratio	15.4	26.4	Minimum Ratio	55.3	31.1
Maximum Ratio	166.6	311.3	Maximum Ratio	111.7	113.9
Minimum Sale Price	9,190	24,000	Minimum Sale Price	28,750	21,000
Maximum Sale Price	417,420	135,000	Maximum Sale Price	242,000	1,181,270
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	90.0	57.5	Median Ratio	93.6	70.1
Lower Median Confidence Interval	84.3	39.1	Lower Median Confidence Interval	74.3	32.0
Upper Median Confidence Interval	97.3	199.0	Upper Median Confidence Interval	100.2	111.6
Broadened Median Ratio	90.0	61.4	Broadened Median Ratio	92.3	67.6
Coefficient of Dispersion (COD)	11.0	25.5	Coefficient of Dispersion (COD)	14.9	39.6
Lower COD Confidence Interval	9.4	5.1	Lower COD Confidence Interval	9.2	13.3
Upper COD Confidence Interval	13.7	44.4	Upper COD Confidence Interval	24.4	76.3
Value Weighted COD	10.5	19.5	Value Weighted COD	14.4	38.7
Coefficient of Concentration @10%	41.7	50.0	Coefficient of Concentration @10%	46.7	20.0
Coefficient of Concentration @15%	65.0	50.0	Coefficient of Concentration @15%	60.0	20.0
Coefficient of Concentration @20%	78.3	50.0	Coefficient of Concentration @20%	73.3	20.0
Coefficient of Concentration @50%	88.3	50.0	Coefficient of Concentration @50%	100.0	60.0
Coefficient of Concentration @100%	100.0	83.3	Coefficient of Concentration @100%	100.0	100.0
Coefficient of Interquartile Deviation	11.6	84.7	Coefficient of Interquartile Deviation	13.9	49.5
Median Percent Deviation	11.7	30.3	Median Percent Deviation	10.4	45.4
Lower Quartile (25th Percentile)	79.7	45.5	Lower Quartile (25th Percentile)	74.3	34.7
Upper Quartile (75th Percentile	100.6	142.8	Upper Quartile (75th Percentile)	100.2	104.2
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	AcceptK	AcceptW	Normality Test	RejectK	AcceptW
Relative Skewness	0.00	0.08	Relative Skewness	-0.56	0.09
Relative Kurtosis	2.64	2.39	Relative Kurtosis	2.06	1.45
Arithmetic Mean Ratio	91.2	56.0	Arithmetic Mean Ratio	87.5	69.6
Weighted Mean Ratio	91.0	54.4	Weighted Mean Ratio	86.9	45.5
Geometric Mean Ratio	90.5	52.3	Geometric Mean Ratio	85.7	61.8
Harmonic Mean Ratio	89.7	48.2	Harmonic Mean Ratio	83.7	54.4
Standard Deviation	12.0	21.5	Standard Deviation	17.7	35.5
Coefficient of Variation (COV)	13.1	38.5	Coefficient of Variation (COV)	20.2	51.0
Price-Related Differential (PRD)	1.00	1.03	Price-Related Differential (PRD)	1.01	1.53
Lower PRD Confidence Interval	0.99	0.95	Lower PRD Confidence Interval	0.97	1.03
Upper PRD Confidence interval	1.02	1.07	Upper PRD Confidence interval	1.07	1.88
Coef. of Price-Related Bias (PRB)	-0.05	-0.30	Coef. of Price-Related Bias (PRB)	0.01	-0.16
Lower PRB Confidence Interval	-0.14	-6.37	Lower PRB Confidence Interval	-0.14	-0.50
Upper PRB Confidence Interval	0.04	5.77	Upper PRB Confidence Interval	0.17	0.17
Average Sale Price	120,270	89,580	Average Sale Price	80,913	331,254
Average Appraised Value	109,455	48,720	Average Appraised Value	70,329	150,632

Detailed Sample Statistics for the Residential and Commercial Subclasses

043 : JACKSON			044 : JEFFERSON		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	117	9	Original Number of Sales	228	11
Trimmed Outliers	11	1	Trimmed Outliers	24	0
Number of Ratios: Outliers Removed	106	8	Number of Ratios: Outliers Removed	204	11
Minimum Ratio	24.0	50.1	Minimum Ratio	23.1	34.0
Maximum Ratio	360.9	183.1	Maximum Ratio	1363.6	107.1
Minimum Sale Price	4,860	5,000	Minimum Sale Price	4,400	10,000
Maximum Sale Price	386,980	1,280,000	Maximum Sale Price	560,500	242,500
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	91.5	67.6	Median Ratio	90.3	63.1
Lower Median Confidence Interval	89.0	55.7	Lower Median Confidence Interval	87.3	49.0
Upper Median Confidence Interval	97.6	108.4	Upper Median Confidence Interval	92.7	100.7
Broadened Median Ratio	91.4	67.9	Broadened Median Ratio	90.3	70.2
Coefficient of Dispersion (COD)	19.4	19.7	Coefficient of Dispersion (COD)	16.0	37.3
Lower COD Confidence Interval	16.3	10.5	Lower COD Confidence Interval	14.2	24.9
Upper COD Confidence Interval	23.3	36.5	Upper COD Confidence Interval	18.2	62.3
Value Weighted COD	15.4	16.9	Value Weighted COD	15.3	34.1
Coefficient of Concentration @10%	33.3	33.3	Coefficient of Concentration @10%	37.3	9.1
Coefficient of Concentration @15%	47.9	33.3	Coefficient of Concentration @15%	50.4	27.3
Coefficient of Concentration @20%	56.4	55.6	Coefficient of Concentration @20%	64.0	27.3
Coefficient of Concentration @50%	82.1	77.8	Coefficient of Concentration @50%	86.4	72.7
Coefficient of Concentration @100%	94.9	88.9	Coefficient of Concentration @100%	92.5	100.0
Coefficient of Interquartile Deviation	17.3	29.5	Coefficient of Interquartile Deviation	14.8	40.9
Median Percent Deviation	17.2	17.7	Median Percent Deviation	14.6	46.0
Lower Quartile (25th Percentile)	78.1	56.1	Lower Quartile (25th Percentile)	77.2	49.0
Upper Quartile (75th Percentile	109.7	96.0	Upper Quartile (75th Percentile)	103.9	100.7
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	RejectA
Relative Skewness	0.72	1.09	Relative Skewness	0.31	0.04
Relative Kurtosis	3.84	3.24	Relative Kurtosis	3.62	1.37
Arithmetic Mean Ratio	92.5	69.7	Arithmetic Mean Ratio	88.8	72.5
Weighted Mean Ratio	85.5	57.3	Weighted Mean Ratio	86.3	62.9
Geometric Mean Ratio	89.5	67.8	Geometric Mean Ratio	86.8	67.7
Harmonic Mean Ratio	86.3	66.1	Harmonic Mean Ratio	84.6	62.9
Standard Deviation	24.2	18.8	Standard Deviation	18.7	27.0
Coefficient of Variation (COV)	26.1	27.0	Coefficient of Variation (COV)	21.1	37.2
Price-Related Differential (PRD)	1.08	1.22	Price-Related Differential (PRD)	1.03	1.15
Lower PRD Confidence Interval	1.05	1.07	Lower PRD Confidence Interval	1.01	0.98
Upper PRD Confidence interval	1.12	1.56	Upper PRD Confidence interval	1.05	1.48
Coef. of Price-Related Bias (PRB)	-0.25	-0.11	Coef. of Price-Related Bias (PRB)	-0.54	-0.11
Lower PRB Confidence Interval	-0.31	-0.33	Lower PRB Confidence Interval	-0.70	-0.33
Upper PRB Confidence Interval	-0.18	0.10	Upper PRB Confidence Interval	-0.38	0.11
Average Sale Price	135,236	301,788	Average Sale Price	163,862	102,773
Average Appraised Value	115,581	172,841	Average Appraised Value	141,427	64,651

Detailed Sample Statistics for the Residential and Commercial Subclasses

045 : JEWELL		S-4	046 : JOHNSON		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	29	7	Original Number of Sales	347	205
Trimmed Outliers	4	1	Trimmed Outliers	16	2
Number of Ratios: Outliers Removed	25	6	Number of Ratios: Outliers Removed	331	203
Minimum Ratio	31.2	66.1	Minimum Ratio	36.8	22.5
Maximum Ratio	203.9	201.8	Maximum Ratio	172.9	181.2
Minimum Sale Price	1,474	2,000	Minimum Sale Price	86,630	50,000
Maximum Sale Price	245,507	35,000	Maximum Sale Price	1,828,620	50,300,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	93.3	93.5	Median Ratio	91.9	81.8
Lower Median Confidence Interval	82.5	69.3	Lower Median Confidence Interval	90.4	77.5
Upper Median Confidence Interval	99.1	107.4	Upper Median Confidence Interval	93.2	86.1
Broadened Median Ratio	92.5	87.9	Broadened Median Ratio	91.8	82.0
Coefficient of Dispersion (COD)	21.0	19.4	Coefficient of Dispersion (COD)	8.9	24.3
Lower COD Confidence Interval	14.9	4.6	Lower COD Confidence Interval	8.2	21.7
Upper COD Confidence Interval	31.8	21.7	Upper COD Confidence Interval	9.7	27.5
Value Weighted COD	21.7	21.2	Value Weighted COD	9.1	21.4
Coefficient of Concentration @10%	34.5	28.6	Coefficient of Concentration @10%	60.8	27.8
Coefficient of Concentration @15%	44.8	42.9	Coefficient of Concentration @15%	80.1	38.0
Coefficient of Concentration @20%	48.3	42.9	Coefficient of Concentration @20%	88.2	48.8
Coefficient of Concentration @50%	82.8	85.7	Coefficient of Concentration @50%	98.0	88.3
Coefficient of Concentration @100%	93.1	85.7	Coefficient of Concentration @100%	100.0	99.5
Coefficient of Interquartile Deviation	21.0	20.4	Coefficient of Interquartile Deviation	8.0	21.1
Median Percent Deviation	20.2	25.0	Median Percent Deviation	8.0	20.5
Lower Quartile (25th Percentile)	72.7	69.3	Lower Quartile (25th Percentile)	83.6	63.2
Upper Quartile (75th Percentile	111.9	107.4	Upper Quartile (75th Percentile)	98.4	97.7
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	RejectK
Relative Skewness	-0.23	0.16	Relative Skewness	0.15	0.07
Relative Kurtosis	2.67	1.26	Relative Kurtosis	3.17	2.72
Arithmetic Mean Ratio	84.7	84.4	Arithmetic Mean Ratio	91.1	80.7
Weighted Mean Ratio	79.8	86.3	Weighted Mean Ratio	91.0	82.1
Geometric Mean Ratio	81.0	82.8	Geometric Mean Ratio	90.5	76.5
Harmonic Mean Ratio	76.6	81.3	Harmonic Mean Ratio	89.9	71.6
Standard Deviation	23.8	18.0	Standard Deviation	10.3	24.7
Coefficient of Variation (COV)	28.1	21.3	Coefficient of Variation (COV)	11.3	30.6
Price-Related Differential (PRD)	1.06	0.98	Price-Related Differential (PRD)	1.00	0.98
Lower PRD Confidence Interval	0.99	0.91	Lower PRD Confidence Interval	0.99	0.93
Upper PRD Confidence interval	1.19	1.10	Upper PRD Confidence interval	1.01	1.05
Coef. of Price-Related Bias (PRB)	-0.07	-0.05	Coef. of Price-Related Bias (PRB)	-0.03	0.01
Lower PRB Confidence Interval	-0.18	-0.45	Lower PRB Confidence Interval	-0.05	-0.02
Upper PRB Confidence Interval	0.04	0.35	Upper PRB Confidence Interval	0.00	0.04
Average Sale Price	69,498	19,500	Average Sale Price	388,675	2,512,088
Average Appraised Value	55,457	16,835	Average Appraised Value	353,837	2,061,217

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

047 : KEARNY		*S-6*	048 : KINGMAN		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	64	6	Original Number of Sales	92	6
Trimmed Outliers	2	0	Trimmed Outliers	9	0
Number of Ratios: Outliers Removed	62	6	Number of Ratios: Outliers Removed	83	6
Minimum Ratio	34.1	56.2	Minimum Ratio	25.5	35.4
Maximum Ratio	284.7	92.0	Maximum Ratio	250.7	204.7
Minimum Sale Price	7,320	55,000	Minimum Sale Price	2,840	1,000
Maximum Sale Price	269,270	185,000	Maximum Sale Price	299,960	69,300
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	90.9	78.9	Median Ratio	92.7	90.1
Lower Median Confidence Interval	83.9	56.4	Lower Median Confidence Interval	87.7	50.9
Upper Median Confidence Interval	95.0	90.7	Upper Median Confidence Interval	97.0	160.2
Broadened Median Ratio	90.8	76.9	Broadened Median Ratio	92.7	90.4
Coefficient of Dispersion (COD)	20.0	17.6	Coefficient of Dispersion (COD)	15.4	48.2
Lower COD Confidence Interval	16.1	9.9	Lower COD Confidence Interval	12.8	24.6
Upper COD Confidence Interval	25.0	24.0	Upper COD Confidence Interval	19.0	118.8
Value Weighted COD	16.3	20.0	Value Weighted COD	13.5	50.2
Coefficient of Concentration @10%	34.4	33.3	Coefficient of Concentration @10%	35.9	0.0
Coefficient of Concentration @15%	45.3	50.0	Coefficient of Concentration @15%	52.2	0.0
Coefficient of Concentration @20%	51.6	66.7	Coefficient of Concentration @20%	67.4	0.0
Coefficient of Concentration @50%	90.6	100.0	Coefficient of Concentration @50%	87.0	66.7
Coefficient of Concentration @100%	98.4	100.0	Coefficient of Concentration @100%	95.7	83.3
Coefficient of Interquartile Deviation	19.6	21.2	Coefficient of Interquartile Deviation	14.9	44.0
Median Percent Deviation	19.4	14.9	Median Percent Deviation	14.9	27.3
Lower Quartile (25th Percentile)	73.0	56.5	Lower Quartile (25th Percentile)	78.7	58.7
Upper Quartile (75th Percentile	108.6	90.0	Upper Quartile (75th Percentile)	106.3	137.9
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	AcceptW
Relative Skewness	0.37	-0.25	Relative Skewness	0.15	0.84
Relative Kurtosis	3.24	1.32	Relative Kurtosis	3.83	2.69
Arithmetic Mean Ratio	90.1	75.3	Arithmetic Mean Ratio	91.3	100.4
Weighted Mean Ratio	86.0	71.5	Weighted Mean Ratio	89.2	77.3
Geometric Mean Ratio	87.0	73.8	Geometric Mean Ratio	89.3	86.8
Harmonic Mean Ratio	83.7	72.2	Harmonic Mean Ratio	87.1	74.7
Standard Deviation	23.6	16.3	Standard Deviation	18.9	59.3
Coefficient of Variation (COV)	26.1	21.6	Coefficient of Variation (COV)	20.6	59.1
Price-Related Differential (PRD)	1.05	1.05	Price-Related Differential (PRD)	1.02	1.30
Lower PRD Confidence Interval	1.02	1.00	Lower PRD Confidence Interval	1.00	1.08
Upper PRD Confidence interval	1.09	1.14	Upper PRD Confidence interval	1.06	2.24
Coef. of Price-Related Bias (PRB)	-0.16	-0.13	Coef. of Price-Related Bias (PRB)	-0.08	-0.04
Lower PRB Confidence Interval	-0.25	-0.49	Lower PRB Confidence Interval	-0.14	-0.41
Upper PRB Confidence Interval	-0.07	0.23	Upper PRB Confidence Interval	-0.01	0.32
Average Sale Price	128,874	113,333	Average Sale Price	99,360	36,383
Average Appraised Value	110,791	80,988	Average Appraised Value	88,626	28,125

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

049 : KIOWA			050 : LABETTE		*S-7*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	20	2	Original Number of Sales	239	18
Trimmed Outliers	3	0	Trimmed Outliers	24	2
Number of Ratios: Outliers Removed	17	6	Number of Ratios: Outliers Removed	215	16
Minimum Ratio	47.2	42.5	Minimum Ratio	22.1	11.6
Maximum Ratio	167.0	50.5	Maximum Ratio	1549.7	3474.5
Minimum Sale Price	40,000	215,000	Minimum Sale Price	840	1,000
Maximum Sale Price	245,000	290,000	Maximum Sale Price	418,480	350,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	95.6	46.5	Median Ratio	97.7	98.6
Lower Median Confidence Interval	86.2	0.0	Lower Median Confidence Interval	95.4	54.6
Upper Median Confidence Interval	99.5	0.0	Upper Median Confidence Interval	101.0	132.1
Broadened Median Ratio	95.1	0.0	Broadened Median Ratio	97.8	101.4
Coefficient of Dispersion (COD)	8.2	8.5	Coefficient of Dispersion (COD)	19.5	40.3
Lower COD Confidence Interval	5.8	0.0	Lower COD Confidence Interval	17.2	25.2
Upper COD Confidence Interval	11.8	0.0	Upper COD Confidence Interval	21.8	79.4
Value Weighted COD	7.6	0.0	Value Weighted COD	16.3	43.2
Coefficient of Concentration @10%	55.0	0.0	Coefficient of Concentration @10%	31.8	16.7
Coefficient of Concentration @15%	70.0	0.0	Coefficient of Concentration @15%	43.1	16.7
Coefficient of Concentration @20%	80.0	0.0	Coefficient of Concentration @20%	54.8	27.8
Coefficient of Concentration @50%	90.0	0.0	Coefficient of Concentration @50%	84.1	55.6
Coefficient of Concentration @100%	100.0	0.0	Coefficient of Concentration @100%	92.5	88.9
Coefficient of Interquartile Deviation	8.9	0.0	Coefficient of Interquartile Deviation	17.9	45.9
Median Percent Deviation	9.1	0.0	Median Percent Deviation	17.3	44.8
Lower Quartile (25th Percentile)	85.1	0.0	Lower Quartile (25th Percentile)	79.4	51.1
Upper Quartile (75th Percentile	102.0	0.0	Upper Quartile (75th Percentile)	114.4	141.5
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	N/A	Normality Test	RejectK	AcceptK
Relative Skewness	-0.30	0.00	Relative Skewness	0.21	0.05
Relative Kurtosis	2.10	0.00	Relative Kurtosis	3.26	1.92
Arithmetic Mean Ratio	92.6	46.5	Arithmetic Mean Ratio	96.0	90.0
Weighted Mean Ratio	92.2	0.0	Weighted Mean Ratio	91.6	75.1
Geometric Mean Ratio	92.1	0.0	Geometric Mean Ratio	92.7	74.9
Harmonic Mean Ratio	91.6	0.0	Harmonic Mean Ratio	89.0	55.5
Standard Deviation	9.7	0.0	Standard Deviation	24.7	47.2
Coefficient of Variation (COV)	10.5	0.0	Coefficient of Variation (COV)	25.7	52.4
Price-Related Differential (PRD)	1.00	0.99	Price-Related Differential (PRD)	1.05	1.20
Lower PRD Confidence Interval	0.99	0.00	Lower PRD Confidence Interval	1.02	0.98
Upper PRD Confidence interval	1.02	0.00	Upper PRD Confidence interval	1.08	1.64
Coef. of Price-Related Bias (PRB)	-0.08	0.00	Coef. of Price-Related Bias (PRB)	-0.25	-1.57
Lower PRB Confidence Interval	-0.26	0.00	Lower PRB Confidence Interval	-0.37	-4.74
Upper PRB Confidence Interval	0.11	0.00	Upper PRB Confidence Interval	-0.13	1.59
Average Sale Price	115,959	252,500	Average Sale Price	76,490	90,650
Average Appraised Value	106,927	118,935	Average Appraised Value	70,075	68,040

Detailed Sample Statistics for the Residential and Commercial Subclasses

051 : LANE			052 : LEAVENWORTH		*S-3*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	23	10	Original Number of Sales	243	26
Trimmed Outliers	1	1	Trimmed Outliers	17	2
Number of Ratios: Outliers Removed	22	9	Number of Ratios: Outliers Removed	226	24
Minimum Ratio	51.5	63.7	Minimum Ratio	27.1	50.4
Maximum Ratio	246.3	298.3	Maximum Ratio	507.2	159.5
Minimum Sale Price	6,240	4,000	Minimum Sale Price	3,880	15,200
Maximum Sale Price	160,810	55,000	Maximum Sale Price	951,700	2,184,387
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	94.6	109.9	Median Ratio	93.6	81.3
Lower Median Confidence Interval	81.7	79.9	Lower Median Confidence Interval	91.2	65.8
Upper Median Confidence Interval	107.3	127.9	Upper Median Confidence Interval	95.3	98.3
Broadened Median Ratio	95.3	108.8	Broadened Median Ratio	93.6	81.2
Coefficient of Dispersion (COD)	21.4	16.8	Coefficient of Dispersion (COD)	12.6	23.5
Lower COD Confidence Interval	16.4	9.1	Lower COD Confidence Interval	11.2	18.3
Upper COD Confidence Interval	30.9	29.6	Upper COD Confidence Interval	14.2	32.3
Value Weighted COD	23.1	20.1	Value Weighted COD	11.1	22.6
Coefficient of Concentration @10%	30.4	30.0	Coefficient of Concentration @10%	47.7	19.2
Coefficient of Concentration @15%	39.1	40.0	Coefficient of Concentration @15%	62.1	23.1
Coefficient of Concentration @20%	43.5	50.0	Coefficient of Concentration @20%	73.3	42.3
Coefficient of Concentration @50%	95.7	90.0	Coefficient of Concentration @50%	94.2	88.5
Coefficient of Concentration @100%	95.7	90.0	Coefficient of Concentration @100%	97.9	100.0
Coefficient of Interquartile Deviation	27.0	22.5	Coefficient of Interquartile Deviation	11.6	22.3
Median Percent Deviation	26.5	18.6	Median Percent Deviation	10.7	21.6
Lower Quartile (25th Percentile)	69.5	79.7	Lower Quartile (25th Percentile)	79.8	65.1
Upper Quartile (75th Percentile	120.6	129.2	Upper Quartile (75th Percentile)	101.5	101.4
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	AcceptK	AcceptK	Normality Test	RejectK	RejectK
Relative Skewness	-0.10	-0.27	Relative Skewness	-0.13	0.44
Relative Kurtosis	1.82	1.86	Relative Kurtosis	3.36	2.17
Arithmetic Mean Ratio	93.1	101.8	Arithmetic Mean Ratio	91.4	80.8
Weighted Mean Ratio	85.1	93.8	Weighted Mean Ratio	92.1	72.7
Geometric Mean Ratio	89.9	99.2	Geometric Mean Ratio	90.0	78.0
Harmonic Mean Ratio	86.6	96.5	Harmonic Mean Ratio	88.5	75.3
Standard Deviation	24.0	23.5	Standard Deviation	15.5	22.0
Coefficient of Variation (COV)	25.8	23.1	Coefficient of Variation (COV)	16.9	27.2
Price-Related Differential (PRD)	1.09	1.09	Price-Related Differential (PRD)	0.99	1.11
Lower PRD Confidence Interval	1.01	1.01	Lower PRD Confidence Interval	0.98	1.00
Upper PRD Confidence interval	1.21	1.23	Upper PRD Confidence interval	1.00	1.24
Coef. of Price-Related Bias (PRB)	-0.11	-0.09	Coef. of Price-Related Bias (PRB)	-0.13	0.01
Lower PRB Confidence Interval	-0.25	-0.51	Lower PRB Confidence Interval	-0.19	-0.09
Upper PRB Confidence Interval	0.02	0.32	Upper PRB Confidence Interval	-0.08	0.12
Average Sale Price	57,856	20,428	Average Sale Price	232,925	349,379
Average Appraised Value	49,251	19,159	Average Appraised Value	214,495	254,091

Detailed Sample Statistics for the Residential and Commercial Subclasses

053 : LINCOLN		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	35	5
Trimmed Outliers	4	0
Number of Ratios: Outliers Removed	31	5
Minimum Ratio	37.6	52.2
Maximum Ratio	273.6	166.8
Minimum Sale Price	2,140	25,000
Maximum Sale Price	136,160	225,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	88.0	98.4
Lower Median Confidence Interval	70.4	53.7
Upper Median Confidence Interval	97.7	160.2
Broadened Median Ratio	85.1	91.6
Coefficient of Dispersion (COD)	24.3	32.8
Lower COD Confidence Interval	19.1	12.1
Upper COD Confidence Interval	34.2	53.7
Value Weighted COD	21.8	34.3
Coefficient of Concentration @10%	20.0	20.0
Coefficient of Concentration @15%	34.3	40.0
Coefficient of Concentration @20%	42.9	40.0
Coefficient of Concentration @50%	80.0	80.0
Coefficient of Concentration @100%	88.6	100.0
Coefficient of Interquartile Deviation	24.5	41.0
Median Percent Deviation	22.6	34.1
Lower Quartile (25th Percentile)	68.1	58.5
Upper Quartile (75th Percentile	111.2	139.3
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW
Relative Skewness	0.30	0.54
Relative Kurtosis	2.75	2.09
Arithmetic Mean Ratio	81.5	98.8
Weighted Mean Ratio	82.4	75.3
Geometric Mean Ratio	78.0	90.9
Harmonic Mean Ratio	74.3	83.8
Standard Deviation	24.0	45.1
Coefficient of Variation (COV)	29.4	45.6
Price-Related Differential (PRD)	0.99	1.31
Lower PRD Confidence Interval	0.92	1.03
Upper PRD Confidence interval	1.08	1.44
Coef. of Price-Related Bias (PRB)	-0.04	-0.30
Lower PRB Confidence Interval	-0.17	-0.89
Upper PRB Confidence Interval	0.09	0.29
Average Sale Price	42,071	82,300
Average Appraised Value	34,665	61,958

054 : LINN		S-3
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	155	9
Trimmed Outliers	9	1
Number of Ratios: Outliers Removed	146	8
Minimum Ratio	11.2	68.5
Maximum Ratio	784.0	230.5
Minimum Sale Price	730	8,500
Maximum Sale Price	420,610	150,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	88.9	100.6
Lower Median Confidence Interval	81.8	71.2
Upper Median Confidence Interval	95.6	139.7
Broadened Median Ratio	89.0	99.1
Coefficient of Dispersion (COD)	27.9	15.7
Lower COD Confidence Interval	24.1	7.0
Upper COD Confidence Interval	32.9	29.8
Value Weighted COD	22.8	12.0
Coefficient of Concentration @10%	22.6	44.4
Coefficient of Concentration @15%	32.9	44.4
Coefficient of Concentration @20%	43.9	55.6
Coefficient of Concentration @50%	78.1	88.9
Coefficient of Concentration @100%	95.5	88.9
Coefficient of Interquartile Deviation	23.3	21.3
Median Percent Deviation	23.4	16.0
Lower Quartile (25th Percentile)	66.9	77.9
Upper Quartile (75th Percentile)	108.3	120.7
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	-0.14	0.73
Relative Kurtosis	2.77	3.12
Arithmetic Mean Ratio	84.0	95.4
Weighted Mean Ratio	85.9	93.5
Geometric Mean Ratio	77.1	93.2
Harmonic Mean Ratio	67.0	91.2
Standard Deviation	30.2	22.3
Coefficient of Variation (COV)	35.9	23.4
Price-Related Differential (PRD)	0.98	1.02
Lower PRD Confidence Interval	0.94	0.93
Upper PRD Confidence interval	1.02	1.13
Coef. of Price-Related Bias (PRB)	-0.11	-0.02
Lower PRB Confidence Interval	-0.20	-0.38
Upper PRB Confidence Interval	-0.03	0.33
Average Sale Price	100,076	63,188
Average Appraised Value	85,997	59,109

Detailed Sample Statistics for the Residential and Commercial Subclasses

055 : LOGAN			056 : LYON		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	41	7	Original Number of Sales	206	24
Trimmed Outliers	0	0	Trimmed Outliers	27	0
Number of Ratios: Outliers Removed	41	7	Number of Ratios: Outliers Removed	179	24
Minimum Ratio	33.6	19.0	Minimum Ratio	33.1	44.6
Maximum Ratio	121.1	105.4	Maximum Ratio	580.0	153.2
Minimum Sale Price	10,990	25,000	Minimum Sale Price	5,300	45,690
Maximum Sale Price	295,780	1,278,500	Maximum Sale Price	480,000	2,599,250
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	96.3	43.7	Median Ratio	90.6	99.2
Lower Median Confidence Interval	84.5	29.0	Lower Median Confidence Interval	88.4	89.5
Upper Median Confidence Interval	104.9	94.4	Upper Median Confidence Interval	92.9	112.8
Broadened Median Ratio	95.3	48.9	Broadened Median Ratio	90.6	98.0
Coefficient of Dispersion (COD)	17.7	58.6	Coefficient of Dispersion (COD)	11.6	19.8
Lower COD Confidence Interval	13.3	33.2	Lower COD Confidence Interval	10.3	14.1
Upper COD Confidence Interval	23.9	139.9	Upper COD Confidence Interval	13.2	28.6
Value Weighted COD	17.2	33.4	Value Weighted COD	10.7	23.9
Coefficient of Concentration @10%	26.8	14.3	Coefficient of Concentration @10%	46.1	37.5
Coefficient of Concentration @15%	53.7	28.6	Coefficient of Concentration @15%	61.2	45.8
Coefficient of Concentration @20%	65.9	28.6	Coefficient of Concentration @20%	70.9	66.7
Coefficient of Concentration @50%	97.6	57.1	Coefficient of Concentration @50%	89.3	87.5
Coefficient of Concentration @100%	100.0	71.4	Coefficient of Concentration @100%	95.6	100.0
Coefficient of Interquartile Deviation	17.0	74.8	Coefficient of Interquartile Deviation	10.9	16.8
Median Percent Deviation	13.5	49.4	Median Percent Deviation	10.6	15.3
Lower Quartile (25th Percentile)	75.9	29.0	Lower Quartile (25th Percentile)	80.2	85.1
Upper Quartile (75th Percentile	108.5	94.4	Upper Quartile (75th Percentile)	99.9	118.5
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	AcceptK
Relative Skewness	-0.76	0.46	Relative Skewness	-0.16	-0.12
Relative Kurtosis	2.88	1.70	Relative Kurtosis	3.21	3.02
Arithmetic Mean Ratio	91.1	56.4	Arithmetic Mean Ratio	88.7	100.0
Weighted Mean Ratio	93.3	37.2	Weighted Mean Ratio	87.9	81.7
Geometric Mean Ratio	88.3	48.1	Geometric Mean Ratio	87.6	96.3
Harmonic Mean Ratio	84.8	40.8	Harmonic Mean Ratio	86.5	91.9
Standard Deviation	20.8	33.1	Standard Deviation	13.6	26.3
Coefficient of Variation (COV)	22.8	58.7	Coefficient of Variation (COV)	15.3	26.3
Price-Related Differential (PRD)	0.98	1.52	Price-Related Differential (PRD)	1.01	1.22
Lower PRD Confidence Interval	0.94	1.05	Lower PRD Confidence Interval	1.00	1.07
Upper PRD Confidence interval	1.01	2.39	Upper PRD Confidence interval	1.02	1.52
Coef. of Price-Related Bias (PRB)	0.06	-0.06	Coef. of Price-Related Bias (PRB)	-0.19	-0.09
Lower PRB Confidence Interval	-0.01	-0.45	Lower PRB Confidence Interval	-0.26	-0.15
Upper PRB Confidence Interval	0.12	0.33	Upper PRB Confidence Interval	-0.12	-0.02
Average Sale Price	99,359	423,357	Average Sale Price	152,644	366,338
Average Appraised Value	92,670	157,387	Average Appraised Value	134,248	299,450

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

057 : MARION			058 : MARSHALL		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	164	8	Original Number of Sales	136	10
Trimmed Outliers	12	1	Trimmed Outliers	5	0
Number of Ratios: Outliers Removed	152	7	Number of Ratios: Outliers Removed	131	10
Minimum Ratio	22.0	61.7	Minimum Ratio	43.6	56.4
Maximum Ratio	1833.7	242.5	Maximum Ratio	289.8	116.1
Minimum Sale Price	860	22,000	Minimum Sale Price	4,000	5,000
Maximum Sale Price	310,690	285,000	Maximum Sale Price	327,000	110,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	92.7	90.3	Median Ratio	83.9	70.1
Lower Median Confidence Interval	87.2	64.7	Lower Median Confidence Interval	77.3	60.7
Upper Median Confidence Interval	96.8	141.8	Upper Median Confidence Interval	88.8	102.2
Broadened Median Ratio	92.6	91.2	Broadened Median Ratio	83.8	73.1
Coefficient of Dispersion (COD)	21.0	28.5	Coefficient of Dispersion (COD)	21.3	25.3
Lower COD Confidence Interval	18.5	20.8	Lower COD Confidence Interval	18.7	19.2
Upper COD Confidence Interval	24.2	55.6	Upper COD Confidence Interval	24.5	38.6
Value Weighted COD	18.4	23.8	Value Weighted COD	19.4	28.4
Coefficient of Concentration @10%	33.5	0.0	Coefficient of Concentration @10%	27.9	40.0
Coefficient of Concentration @15%	42.1	25.0	Coefficient of Concentration @15%	36.0	40.0
Coefficient of Concentration @20%	54.3	37.5	Coefficient of Concentration @20%	52.2	60.0
Coefficient of Concentration @50%	86.6	75.0	Coefficient of Concentration @50%	93.4	80.0
Coefficient of Concentration @100%	94.5	87.5	Coefficient of Concentration @100%	96.3	100.0
Coefficient of Interquartile Deviation	18.5	37.5	Coefficient of Interquartile Deviation	20.0	25.7
Median Percent Deviation	18.1	26.5	Median Percent Deviation	19.1	19.5
Lower Quartile (25th Percentile)	75.9	66.8	Lower Quartile (25th Percentile)	65.3	62.6
Upper Quartile (75th Percentile	110.2	134.5	Upper Quartile (75th Percentile)	98.9	98.7
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	RejectK
Relative Skewness	0.16	0.69	Relative Skewness	0.29	0.53
Relative Kurtosis	2.88	2.17	Relative Kurtosis	2.52	1.78
Arithmetic Mean Ratio	90.5	90.6	Arithmetic Mean Ratio	82.4	79.8
Weighted Mean Ratio	87.3	76.9	Weighted Mean Ratio	78.8	86.6
Geometric Mean Ratio	87.1	86.9	Geometric Mean Ratio	79.6	77.2
Harmonic Mean Ratio	83.4	83.5	Harmonic Mean Ratio	76.9	74.8
Standard Deviation	24.1	29.4	Standard Deviation	21.2	22.2
Coefficient of Variation (COV)	26.6	32.4	Coefficient of Variation (COV)	25.8	27.8
Price-Related Differential (PRD)	1.04	1.18	Price-Related Differential (PRD)	1.04	0.92
Lower PRD Confidence Interval	1.01	1.08	Lower PRD Confidence Interval	1.02	0.83
Upper PRD Confidence interval	1.06	1.35	Upper PRD Confidence interval	1.08	1.03
Coef. of Price-Related Bias (PRB)	-0.41	-0.27	Coef. of Price-Related Bias (PRB)	-0.14	0.10
Lower PRB Confidence Interval	-0.61	-0.85	Lower PRB Confidence Interval	-0.20	-0.03
Upper PRB Confidence Interval	-0.22	0.31	Upper PRB Confidence Interval	-0.08	0.24
Average Sale Price	97,157	102,986	Average Sale Price	113,483	52,950
Average Appraised Value	84,799	79,196	Average Appraised Value	89,478	45,878

Detailed Sample Statistics for the Residential and Commercial Subclasses

059 : MCPHERSON		*S-5*	060 : MEADE		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	205	12	Original Number of Sales	43	7
Trimmed Outliers	14	1	Trimmed Outliers	1	0
Number of Ratios: Outliers Removed	191	11	Number of Ratios: Outliers Removed	42	7
Minimum Ratio	43.5	30.8	Minimum Ratio	30.5	36.3
Maximum Ratio	366.2	435.3	Maximum Ratio	207.5	151.4
Minimum Sale Price	7,010	5,000	Minimum Sale Price	14,290	12,500
Maximum Sale Price	419,560	640,000	Maximum Sale Price	863,890	115,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	96.5	89.5	Median Ratio	84.9	72.3
Lower Median Confidence Interval	94.2	62.0	Lower Median Confidence Interval	79.8	39.5
Upper Median Confidence Interval	99.0	108.9	Upper Median Confidence Interval	100.4	90.2
Broadened Median Ratio	96.5	90.2	Broadened Median Ratio	87.0	72.9
Coefficient of Dispersion (COD)	10.7	25.3	Coefficient of Dispersion (COD)	27.3	34.7
Lower COD Confidence Interval	9.5	13.7	Lower COD Confidence Interval	22.8	15.5
Upper COD Confidence Interval	12.0	52.7	Upper COD Confidence Interval	37.3	97.2
Value Weighted COD	10.4	27.4	Value Weighted COD	22.7	37.3
Coefficient of Concentration @10%	53.7	41.7	Coefficient of Concentration @10%	25.6	42.9
Coefficient of Concentration @15%	70.2	41.7	Coefficient of Concentration @15%	39.5	42.9
Coefficient of Concentration @20%	78.0	41.7	Coefficient of Concentration @20%	51.2	42.9
Coefficient of Concentration @50%	95.1	75.0	Coefficient of Concentration @50%	81.4	85.7
Coefficient of Concentration @100%	98.5	91.7	Coefficient of Concentration @100%	95.3	85.7
Coefficient of Interquartile Deviation	9.3	29.4	Coefficient of Interquartile Deviation	23.4	35.0
Median Percent Deviation	9.0	30.7	Median Percent Deviation	18.3	24.7
Lower Quartile (25th Percentile)	86.9	61.6	Lower Quartile (25th Percentile)	74.8	39.5
Upper Quartile (75th Percentile	104.9	114.2	Upper Quartile (75th Percentile)	114.5	90.2
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	-0.21	-0.40	Relative Skewness	0.56	0.96
Relative Kurtosis	2.91	2.10	Relative Kurtosis	3.16	3.19
Arithmetic Mean Ratio	95.1	81.0	Arithmetic Mean Ratio	93.6	76.6
Weighted Mean Ratio	96.2	67.9	Weighted Mean Ratio	84.0	59.1
Geometric Mean Ratio	94.2	74.6	Geometric Mean Ratio	89.0	69.2
Harmonic Mean Ratio	93.2	67.0	Harmonic Mean Ratio	84.1	62.6
Standard Deviation	13.0	30.2	Standard Deviation	29.5	38.5
Coefficient of Variation (COV)	13.7	37.3	Coefficient of Variation (COV)	31.5	50.2
Price-Related Differential (PRD)	0.99	1.19	Price-Related Differential (PRD)	1.11	1.30
Lower PRD Confidence Interval	0.98	0.98	Lower PRD Confidence Interval	1.03	1.10
Upper PRD Confidence interval	1.00	1.79	Upper PRD Confidence interval	1.25	1.66
Coef. of Price-Related Bias (PRB)	-0.11	0.09	Coef. of Price-Related Bias (PRB)	-0.06	-0.18
Lower PRB Confidence Interval	-0.16	-0.38	Lower PRB Confidence Interval	-0.17	-0.70
Upper PRB Confidence Interval	-0.06	0.56	Upper PRB Confidence Interval	0.05	0.34
Average Sale Price	167,688	191,370	Average Sale Price	104,824	52,393
Average Appraised Value	161,367	129,867	Average Appraised Value	88,028	30,977

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

061 : MIAMI		S-5
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	214	12
Trimmed Outliers	16	0
Number of Ratios: Outliers Removed	198	12
Minimum Ratio	16.8	41.4
Maximum Ratio	275.5	145.9
Minimum Sale Price	11,000	4,979
Maximum Sale Price	1,175,000	1,185,076
DISTRIBUTION FREE STATISTICS		
Median Ratio	91.2	92.7
Lower Median Confidence Interval	89.1	70.7
Upper Median Confidence Interval	93.0	111.2
Broadened Median Ratio	91.2	91.8
Coefficient of Dispersion (COD)	12.3	25.5
Lower COD Confidence Interval	10.9	16.2
Upper COD Confidence Interval	14.0	43.4
Value Weighted COD	11.4	18.4
Coefficient of Concentration @10%	47.2	25.0
Coefficient of Concentration @15%	65.4	25.0
Coefficient of Concentration @20%	73.8	41.7
Coefficient of Concentration @50%	93.5	83.3
Coefficient of Concentration @100%	98.1	100.0
Coefficient of Interquartile Deviation	11.1	23.6
Median Percent Deviation	11.0	22.3
Lower Quartile (25th Percentile)	81.5	69.3
Upper Quartile (75th Percentile	101.7	113.1
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptK
Relative Skewness	0.20	0.07
Relative Kurtosis	3.56	2.30
Arithmetic Mean Ratio	90.5	91.1
Weighted Mean Ratio	88.1	89.7
Geometric Mean Ratio	89.2	86.0
Harmonic Mean Ratio	87.9	80.6
Standard Deviation	14.8	30.2
Coefficient of Variation (COV)	16.4	33.2
Price-Related Differential (PRD)	1.03	1.02
Lower PRD Confidence Interval	1.01	0.93
Upper PRD Confidence interval	1.04	1.09
Coef. of Price-Related Bias (PRB)	-0.12	0.01
Lower PRB Confidence Interval	-0.16	-0.11
Upper PRB Confidence Interval	-0.08	0.13
Average Sale Price	268,305	240,361
Average Appraised Value	236,474	215,586

062 : MITCHELL		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	84	8
Trimmed Outliers	5	0
Number of Ratios: Outliers Removed	79	8
Minimum Ratio	23.0	18.1
Maximum Ratio	473.6	107.1
Minimum Sale Price	9,680	12,250
Maximum Sale Price	381,880	70,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	93.9	74.7
Lower Median Confidence Interval	89.2	55.9
Upper Median Confidence Interval	98.8	99.7
Broadened Median Ratio	93.8	75.3
Coefficient of Dispersion (COD)	18.7	30.7
Lower COD Confidence Interval	15.5	17.6
Upper COD Confidence Interval	22.4	100.4
Value Weighted COD	17.2	32.6
Coefficient of Concentration @10%	34.5	25.0
Coefficient of Concentration @15%	44.0	25.0
Coefficient of Concentration @20%	53.6	25.0
Coefficient of Concentration @50%	90.5	87.5
Coefficient of Concentration @100%	97.6	100.0
Coefficient of Interquartile Deviation	17.5	28.8
Median Percent Deviation	17.5	27.4
Lower Quartile (25th Percentile)	75.1	55.9
Upper Quartile (75th Percentile)	108.0	99.0
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	-0.11	-0.60
Relative Kurtosis	2.66	2.45
Arithmetic Mean Ratio	91.9	72.9
Weighted Mean Ratio	87.1	66.9
Geometric Mean Ratio	88.9	65.2
Harmonic Mean Ratio	85.7	54.2
Standard Deviation	22.3	29.5
Coefficient of Variation (COV)	24.3	40.5
Price-Related Differential (PRD)	1.05	1.09
Lower PRD Confidence Interval	1.02	0.98
Upper PRD Confidence interval	1.09	1.42
Coef. of Price-Related Bias (PRB)	-0.09	-0.05
Lower PRB Confidence Interval	-0.20	-0.52
Upper PRB Confidence Interval	0.01	0.42
Average Sale Price	112,959	40,594
Average Appraised Value	98,367	27,138

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

063 : MONTGOMERY			064 : MORRIS		*S-6*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	205	31	Original Number of Sales	61	7
Trimmed Outliers	26	2	Trimmed Outliers	4	0
Number of Ratios: Outliers Removed	179	29	Number of Ratios: Outliers Removed	57	7
Minimum Ratio	28.8	20.0	Minimum Ratio	33.4	28.4
Maximum Ratio	2420.7	435.0	Maximum Ratio	241.2	96.6
Minimum Sale Price	290	6,000	Minimum Sale Price	8,050	11,000
Maximum Sale Price	507,030	1,179,112	Maximum Sale Price	431,900	220,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	96.6	84.6	Median Ratio	92.4	75.3
Lower Median Confidence Interval	90.7	74.3	Lower Median Confidence Interval	89.0	55.0
Upper Median Confidence Interval	102.6	99.3	Upper Median Confidence Interval	98.1	84.0
Broadened Median Ratio	96.4	84.0	Broadened Median Ratio	93.0	78.0
Coefficient of Dispersion (COD)	19.2	25.9	Coefficient of Dispersion (COD)	16.6	20.2
Lower COD Confidence Interval	17.3	19.7	Lower COD Confidence Interval	13.4	8.8
Upper COD Confidence Interval	22.0	40.6	Upper COD Confidence Interval	21.2	85.8
Value Weighted COD	16.6	17.7	Value Weighted COD	15.7	28.6
Coefficient of Concentration @10%	30.7	22.6	Coefficient of Concentration @10%	32.8	28.6
Coefficient of Concentration @15%	46.3	32.3	Coefficient of Concentration @15%	52.5	57.1
Coefficient of Concentration @20%	58.5	48.4	Coefficient of Concentration @20%	59.0	57.1
Coefficient of Concentration @50%	83.9	80.6	Coefficient of Concentration @50%	90.2	85.7
Coefficient of Concentration @100%	89.3	96.8	Coefficient of Concentration @100%	96.7	100.0
Coefficient of Interquartile Deviation	16.9	21.6	Coefficient of Interquartile Deviation	17.4	19.3
Median Percent Deviation	16.0	20.5	Median Percent Deviation	14.1	11.6
Lower Quartile (25th Percentile)	82.1	64.0	Lower Quartile (25th Percentile)	72.8	55.0
Upper Quartile (75th Percentile	114.8	100.5	Upper Quartile (75th Percentile)	105.1	84.0
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	0.19	-0.16	Relative Skewness	-0.53	-0.94
Relative Kurtosis	3.23	3.00	Relative Kurtosis	2.99	2.83
Arithmetic Mean Ratio	94.1	79.7	Arithmetic Mean Ratio	88.7	71.2
Weighted Mean Ratio	89.2	75.6	Weighted Mean Ratio	87.7	60.2
Geometric Mean Ratio	91.2	74.5	Geometric Mean Ratio	86.3	66.9
Harmonic Mean Ratio	88.1	67.7	Harmonic Mean Ratio	83.4	61.3
Standard Deviation	22.6	26.3	Standard Deviation	19.4	22.7
Coefficient of Variation (COV)	24.0	33.1	Coefficient of Variation (COV)	21.9	31.9
Price-Related Differential (PRD)	1.05	1.05	Price-Related Differential (PRD)	1.01	1.18
Lower PRD Confidence Interval	1.02	0.99	Lower PRD Confidence Interval	0.98	0.99
Upper PRD Confidence interval	1.09	1.17	Upper PRD Confidence interval	1.05	1.66
Coef. of Price-Related Bias (PRB)	-0.67	-0.13	Coef. of Price-Related Bias (PRB)	-0.10	-0.14
Lower PRB Confidence Interval	-0.86	-0.35	Lower PRB Confidence Interval	-0.18	-0.38
Upper PRB Confidence Interval	-0.48	0.09	Upper PRB Confidence Interval	-0.02	0.10
Average Sale Price	90,824	129,032	Average Sale Price	121,681	91,000
Average Appraised Value	80,996	97,593	Average Appraised Value	106,730	54,741

Detailed Sample Statistics for the Residential and Commercial Subclasses

065 : MORTON			066 : NEMAHA		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	41	6	Original Number of Sales	105	13
Trimmed Outliers	4	0	Trimmed Outliers	7	1
Number of Ratios: Outliers Removed	37	6	Number of Ratios: Outliers Removed	98	12
Minimum Ratio	48.5	74.8	Minimum Ratio	44.8	30.5
Maximum Ratio	550.3	113.2	Maximum Ratio	938.8	161.2
Minimum Sale Price	4,500	23,000	Minimum Sale Price	2,760	26,000
Maximum Sale Price	190,000	89,280	Maximum Sale Price	324,830	850,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	96.6	95.9	Median Ratio	92.3	61.9
Lower Median Confidence Interval	84.9	83.6	Lower Median Confidence Interval	88.6	54.1
Upper Median Confidence Interval	101.0	108.1	Upper Median Confidence Interval	97.5	65.5
Broadened Median Ratio	95.4	96.5	Broadened Median Ratio	92.6	61.3
Coefficient of Dispersion (COD)	16.6	9.8	Coefficient of Dispersion (COD)	17.0	20.4
Lower COD Confidence Interval	12.8	5.1	Lower COD Confidence Interval	14.4	10.1
Upper COD Confidence Interval	22.4	19.7	Upper COD Confidence Interval	20.2	35.7
Value Weighted COD	16.4	11.4	Value Weighted COD	15.1	19.9
Coefficient of Concentration @10%	34.1	66.7	Coefficient of Concentration @10%	33.3	46.2
Coefficient of Concentration @15%	51.2	66.7	Coefficient of Concentration @15%	53.3	61.5
Coefficient of Concentration @20%	61.0	83.3	Coefficient of Concentration @20%	64.8	61.5
Coefficient of Concentration @50%	90.2	100.0	Coefficient of Concentration @50%	91.4	69.2
Coefficient of Concentration @100%	97.6	100.0	Coefficient of Concentration @100%	95.2	92.3
Coefficient of Interquartile Deviation	13.3	9.2	Coefficient of Interquartile Deviation	14.3	21.3
Median Percent Deviation	13.7	5.6	Median Percent Deviation	13.8	12.7
Lower Quartile (25th Percentile)	80.6	88.0	Lower Quartile (25th Percentile)	76.8	53.4
Upper Quartile (75th Percentile	106.2	105.6	Upper Quartile (75th Percentile)	103.3	79.8
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	RejectK
Relative Skewness	0.30	-0.39	Relative Skewness	0.06	0.62
Relative Kurtosis	3.06	2.51	Relative Kurtosis	2.83	3.16
Arithmetic Mean Ratio	91.7	95.8	Arithmetic Mean Ratio	89.2	62.2
Weighted Mean Ratio	89.0	99.4	Weighted Mean Ratio	87.9	53.1
Geometric Mean Ratio	89.6	95.1	Geometric Mean Ratio	87.0	59.5
Harmonic Mean Ratio	87.5	94.3	Harmonic Mean Ratio	84.6	56.9
Standard Deviation	19.6	12.9	Standard Deviation	19.7	19.0
Coefficient of Variation (COV)	21.4	13.5	Coefficient of Variation (COV)	22.1	30.5
Price-Related Differential (PRD)	1.03	0.96	Price-Related Differential (PRD)	1.02	1.17
Lower PRD Confidence Interval	1.00	0.93	Lower PRD Confidence Interval	0.99	1.03
Upper PRD Confidence interval	1.07	1.01	Upper PRD Confidence interval	1.04	1.47
Coef. of Price-Related Bias (PRB)	-0.13	0.13	Coef. of Price-Related Bias (PRB)	-0.32	-0.08
Lower PRB Confidence Interval	-0.32	-0.07	Lower PRB Confidence Interval	-0.49	-0.32
Upper PRB Confidence Interval	0.07	0.33	Upper PRB Confidence Interval	-0.15	0.17
Average Sale Price	83,400	44,130	Average Sale Price	128,920	180,144
Average Appraised Value	74,187	43,883	Average Appraised Value	113,262	95,588

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

067 : NEOSHO			068 : NESS		*S-5*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	160	20	Original Number of Sales	50	7
Trimmed Outliers	16	2	Trimmed Outliers	7	0
Number of Ratios: Outliers Removed	144	18	Number of Ratios: Outliers Removed	43	7
Minimum Ratio	12.8	50.5	Minimum Ratio	15.0	20.8
Maximum Ratio	1112.6	3380.0	Maximum Ratio	581.7	133.4
Minimum Sale Price	860	500	Minimum Sale Price	600	2,500
Maximum Sale Price	320,340	290,460	Maximum Sale Price	197,500	347,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	95.7	106.7	Median Ratio	98.7	52.3
Lower Median Confidence Interval	92.2	69.1	Lower Median Confidence Interval	90.7	24.7
Upper Median Confidence Interval	100.3	129.0	Upper Median Confidence Interval	109.5	101.9
Broadened Median Ratio	95.5	107.0	Broadened Median Ratio	98.4	59.6
Coefficient of Dispersion (COD)	21.4	37.3	Coefficient of Dispersion (COD)	29.7	68.8
Lower COD Confidence Interval	18.6	24.9	Lower COD Confidence Interval	22.0	29.2
Upper COD Confidence Interval	24.8	63.5	Upper COD Confidence Interval	42.1	172.5
Value Weighted COD	18.7	28.0	Value Weighted COD	18.2	50.2
Coefficient of Concentration @10%	27.5	15.0	Coefficient of Concentration @10%	30.0	14.3
Coefficient of Concentration @15%	41.3	25.0	Coefficient of Concentration @15%	34.0	14.3
Coefficient of Concentration @20%	52.5	35.0	Coefficient of Concentration @20%	40.0	14.3
Coefficient of Concentration @50%	85.0	65.0	Coefficient of Concentration @50%	74.0	28.6
Coefficient of Concentration @100%	91.9	85.0	Coefficient of Concentration @100%	82.0	85.7
Coefficient of Interquartile Deviation	19.9	42.3	Coefficient of Interquartile Deviation	33.7	73.8
Median Percent Deviation	18.9	40.2	Median Percent Deviation	26.2	60.3
Lower Quartile (25th Percentile)	77.6	62.3	Lower Quartile (25th Percentile)	77.2	24.7
Upper Quartile (75th Percentile	115.7	152.6	Upper Quartile (75th Percentile)	143.8	101.9
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	0.47	0.85	Relative Skewness	1.24	0.38
Relative Kurtosis	3.70	3.11	Relative Kurtosis	5.41	1.61
Arithmetic Mean Ratio	94.2	103.7	Arithmetic Mean Ratio	100.8	65.7
Weighted Mean Ratio	90.2	99.4	Weighted Mean Ratio	90.8	48.1
Geometric Mean Ratio	90.4	93.9	Geometric Mean Ratio	92.6	52.6
Harmonic Mean Ratio	86.0	85.3	Harmonic Mean Ratio	81.8	42.0
Standard Deviation	26.4	48.4	Standard Deviation	41.3	44.2
Coefficient of Variation (COV)	28.0	46.7	Coefficient of Variation (COV)	41.0	67.3
Price-Related Differential (PRD)	1.04	1.04	Price-Related Differential (PRD)	1.11	1.37
Lower PRD Confidence Interval	1.01	0.89	Lower PRD Confidence Interval	1.03	0.87
Upper PRD Confidence interval	1.08	1.26	Upper PRD Confidence interval	1.21	2.07
Coef. of Price-Related Bias (PRB)	-0.39	-1.97	Coef. of Price-Related Bias (PRB)	-0.32	0.09
Lower PRB Confidence Interval	-0.51	-4.10	Lower PRB Confidence Interval	-0.49	-0.33
Upper PRB Confidence Interval	-0.26	0.17	Upper PRB Confidence Interval	-0.14	0.51
Average Sale Price	91,096	73,087	Average Sale Price	53,626	77,071
Average Appraised Value	82,154	72,633	Average Appraised Value	48,718	37,054

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

069 : NORTON			070 : OSAGE		*S-4*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	82	9	Original Number of Sales	231	9
Trimmed Outliers	5	1	Trimmed Outliers	20	1
Number of Ratios: Outliers Removed	77	8	Number of Ratios: Outliers Removed	211	8
Minimum Ratio	33.0	34.4	Minimum Ratio	17.4	29.4
Maximum Ratio	265.0	491.7	Maximum Ratio	645.5	1870.0
Minimum Sale Price	6,900	5,000	Minimum Sale Price	3,580	2,000
Maximum Sale Price	307,900	850,000	Maximum Sale Price	408,250	840,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	99.3	83.4	Median Ratio	92.9	63.0
Lower Median Confidence Interval	92.2	45.9	Lower Median Confidence Interval	88.9	33.2
Upper Median Confidence Interval	107.1	225.6	Upper Median Confidence Interval	96.9	544.3
Broadened Median Ratio	99.3	86.3	Broadened Median Ratio	92.9	93.4
Coefficient of Dispersion (COD)	18.3	47.3	Coefficient of Dispersion (COD)	24.1	191.3
Lower COD Confidence Interval	15.3	23.2	Lower COD Confidence Interval	21.3	91.6
Upper COD Confidence Interval	21.9	120.6	Upper COD Confidence Interval	27.0	555.7
Value Weighted COD	15.9	46.5	Value Weighted COD	19.9	43.0
Coefficient of Concentration @10%	26.8	22.2	Coefficient of Concentration @10%	27.7	11.1
Coefficient of Concentration @15%	48.8	22.2	Coefficient of Concentration @15%	37.7	11.1
Coefficient of Concentration @20%	58.5	33.3	Coefficient of Concentration @20%	51.1	11.1
Coefficient of Concentration @50%	90.2	66.7	Coefficient of Concentration @50%	81.0	44.4
Coefficient of Concentration @100%	97.6	77.8	Coefficient of Concentration @100%	91.3	55.6
Coefficient of Interquartile Deviation	16.7	70.1	Coefficient of Interquartile Deviation	22.9	271.1
Median Percent Deviation	15.1	44.2	Median Percent Deviation	19.8	53.4
Lower Quartile (25th Percentile)	86.9	56.1	Lower Quartile (25th Percentile)	76.5	36.9
Upper Quartile (75th Percentile	120.1	172.9	Upper Quartile (75th Percentile)	119.0	378.5
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	RejectK
Relative Skewness	0.13	1.39	Relative Skewness	0.52	1.67
Relative Kurtosis	2.82	4.08	Relative Kurtosis	3.35	4.49
Arithmetic Mean Ratio	100.7	93.9	Arithmetic Mean Ratio	94.3	142.6
Weighted Mean Ratio	97.7	58.5	Weighted Mean Ratio	88.0	43.6
Geometric Mean Ratio	98.0	80.7	Geometric Mean Ratio	89.7	83.2
Harmonic Mean Ratio	95.1	70.3	Harmonic Mean Ratio	84.4	57.8
Standard Deviation	23.0	59.8	Standard Deviation	28.9	176.4
Coefficient of Variation (COV)	22.9	63.7	Coefficient of Variation (COV)	30.6	123.7
Price-Related Differential (PRD)	1.03	1.60	Price-Related Differential (PRD)	1.07	3.27
Lower PRD Confidence Interval	1.00	1.10	Lower PRD Confidence Interval	1.05	1.69
Upper PRD Confidence interval	1.07	3.28	Upper PRD Confidence interval	1.10	7.43
Coef. of Price-Related Bias (PRB)	-0.06	-0.46	Coef. of Price-Related Bias (PRB)	-0.35	-1.95
Lower PRB Confidence Interval	-0.12	-1.22	Lower PRB Confidence Interval	-0.44	-6.03
Upper PRB Confidence Interval	0.00	0.30	Upper PRB Confidence Interval	-0.25	2.12
Average Sale Price	77,600	195,688	Average Sale Price	116,937	240,813
Average Appraised Value	75,821	114,481	Average Appraised Value	102,891	104,936

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

071 : OSBORNE		S-5	072 : OTTAWA		S-4
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	31	7	Original Number of Sales	61	7
Trimmed Outliers	3	0	Trimmed Outliers	5	0
Number of Ratios: Outliers Removed	28	7	Number of Ratios: Outliers Removed	56	7
Minimum Ratio	11.3	54.2	Minimum Ratio	35.7	62.4
Maximum Ratio	354.1	209.1	Maximum Ratio	186.6	129.3
Minimum Sale Price	3,500	12,000	Minimum Sale Price	2,730	1,500
Maximum Sale Price	350,000	80,000	Maximum Sale Price	365,060	135,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	75.8	98.0	Median Ratio	94.7	91.6
Lower Median Confidence Interval	68.0	83.3	Lower Median Confidence Interval	90.5	66.5
Upper Median Confidence Interval	90.7	163.8	Upper Median Confidence Interval	99.9	98.0
Broadened Median Ratio	79.4	112.1	Broadened Median Ratio	94.9	93.1
Coefficient of Dispersion (COD)	29.2	42.3	Coefficient of Dispersion (COD)	14.0	16.3
Lower COD Confidence Interval	21.5	28.5	Lower COD Confidence Interval	11.2	7.3
Upper COD Confidence Interval	44.6	122.4	Upper COD Confidence Interval	18.0	35.3
Value Weighted COD	20.1	31.2	Value Weighted COD	12.7	14.7
Coefficient of Concentration @10%	16.1	28.6	Coefficient of Concentration @10%	42.6	57.1
Coefficient of Concentration @15%	25.8	42.9	Coefficient of Concentration @15%	57.4	57.1
Coefficient of Concentration @20%	38.7	42.9	Coefficient of Concentration @20%	67.2	57.1
Coefficient of Concentration @50%	77.4	71.4	Coefficient of Concentration @50%	90.2	100.0
Coefficient of Concentration @100%	90.3	85.7	Coefficient of Concentration @100%	100.0	100.0
Coefficient of Interquartile Deviation	25.5	41.1	Coefficient of Interquartile Deviation	13.0	17.2
Median Percent Deviation	23.6	44.7	Median Percent Deviation	12.2	7.0
Lower Quartile (25th Percentile)	59.7	83.3	Lower Quartile (25th Percentile)	81.4	66.5
Upper Quartile (75th Percentile	98.4	163.8	Upper Quartile (75th Percentile)	105.9	98.0
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	AcceptK	AcceptW	Normality Test	AcceptK	AcceptW
Relative Skewness	0.06	0.45	Relative Skewness	-0.04	0.34
Relative Kurtosis	3.53	1.99	Relative Kurtosis	3.33	2.54
Arithmetic Mean Ratio	75.7	121.0	Arithmetic Mean Ratio	92.6	90.8
Weighted Mean Ratio	76.6	109.1	Weighted Mean Ratio	90.8	82.2
Geometric Mean Ratio	68.4	110.7	Geometric Mean Ratio	91.0	88.5
Harmonic Mean Ratio	56.6	101.1	Harmonic Mean Ratio	89.2	86.2
Standard Deviation	29.1	54.0	Standard Deviation	17.3	22.3
Coefficient of Variation (COV)	38.4	44.7	Coefficient of Variation (COV)	18.7	24.5
Price-Related Differential (PRD)	0.99	1.11	Price-Related Differential (PRD)	1.02	1.10
Lower PRD Confidence Interval	0.90	0.99	Lower PRD Confidence Interval	0.99	0.98
Upper PRD Confidence interval	1.09	1.36	Upper PRD Confidence interval	1.07	1.43
Coef. of Price-Related Bias (PRB)	-0.03	-0.21	Coef. of Price-Related Bias (PRB)	-0.02	-0.06
Lower PRB Confidence Interval	-0.22	-1.08	Lower PRB Confidence Interval	-0.08	-0.18
Upper PRB Confidence Interval	0.16	0.65	Upper PRB Confidence Interval	0.03	0.06
Average Sale Price	82,314	41,500	Average Sale Price	116,710	46,571
Average Appraised Value	63,027	45,294	Average Appraised Value	106,004	38,290

Detailed Sample Statistics for the Residential and Commercial Subclasses

073 : PAWNEE			074 : PHILLIPS		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	109	5	Original Number of Sales	87	5
Trimmed Outliers	6	0	Trimmed Outliers	5	0
Number of Ratios: Outliers Removed	103	5	Number of Ratios: Outliers Removed	82	5
Minimum Ratio	44.5	38.5	Minimum Ratio	17.2	17.2
Maximum Ratio	304.8	98.9	Maximum Ratio	205.1	292.4
Minimum Sale Price	2,760	10,000	Minimum Sale Price	4,520	5,750
Maximum Sale Price	334,110	275,000	Maximum Sale Price	252,850	315,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	93.0	90.3	Median Ratio	82.8	61.0
Lower Median Confidence Interval	89.6	40.9	Lower Median Confidence Interval	77.7	20.2
Upper Median Confidence Interval	98.3	98.5	Upper Median Confidence Interval	90.1	272.3
Broadened Median Ratio	93.4	81.2	Broadened Median Ratio	82.9	76.1
Coefficient of Dispersion (COD)	16.3	21.5	Coefficient of Dispersion (COD)	23.2	117.4
Lower COD Confidence Interval	13.8	2.8	Lower COD Confidence Interval	19.7	23.5
Upper COD Confidence Interval	19.6	40.1	Upper COD Confidence Interval	27.8	181.0
Value Weighted COD	16.8	32.9	Value Weighted COD	20.0	65.7
Coefficient of Concentration @10%	38.5	60.0	Coefficient of Concentration @10%	25.3	20.0
Coefficient of Concentration @15%	55.0	60.0	Coefficient of Concentration @15%	36.8	20.0
Coefficient of Concentration @20%	62.4	60.0	Coefficient of Concentration @20%	48.3	20.0
Coefficient of Concentration @50%	91.7	80.0	Coefficient of Concentration @50%	85.1	40.0
Coefficient of Concentration @100%	97.2	100.0	Coefficient of Concentration @100%	94.3	60.0
Coefficient of Interquartile Deviation	14.1	26.9	Coefficient of Interquartile Deviation	22.1	146.8
Median Percent Deviation	12.5	9.6	Median Percent Deviation	21.1	71.8
Lower Quartile (25th Percentile)	76.5	48.4	Lower Quartile (25th Percentile)	68.1	29.8
Upper Quartile (75th Percentile	102.6	97.0	Upper Quartile (75th Percentile)	104.8	208.7
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	Reject3
Relative Skewness	-0.27	-0.57	Relative Skewness	0.13	1.07
Relative Kurtosis	2.77	1.62	Relative Kurtosis	2.88	2.61
Arithmetic Mean Ratio	89.0	76.2	Arithmetic Mean Ratio	83.3	107.6
Weighted Mean Ratio	86.0	64.0	Weighted Mean Ratio	82.2	32.7
Geometric Mean Ratio	86.8	71.8	Geometric Mean Ratio	79.5	69.5
Harmonic Mean Ratio	84.3	66.8	Harmonic Mean Ratio	74.7	45.6
Standard Deviation	19.0	26.5	Standard Deviation	23.9	110.7
Coefficient of Variation (COV)	21.3	34.8	Coefficient of Variation (COV)	28.7	102.9
Price-Related Differential (PRD)	1.03	1.19	Price-Related Differential (PRD)	1.01	3.29
Lower PRD Confidence Interval	1.01	0.98	Lower PRD Confidence Interval	0.98	1.22
Upper PRD Confidence interval	1.06	1.29	Upper PRD Confidence interval	1.05	5.48
Coef. of Price-Related Bias (PRB)	-0.15	-0.09	Coef. of Price-Related Bias (PRB)	-0.05	-1.03
Lower PRB Confidence Interval	-0.22	-0.37	Lower PRB Confidence Interval	-0.13	-2.56
Upper PRB Confidence Interval	-0.07	0.20	Upper PRB Confidence Interval	0.03	0.50
Average Sale Price	95,853	110,900	Average Sale Price	76,514	88,550
Average Appraised Value	82,389	70,936	Average Appraised Value	62,914	28,978

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

075 : POTTAWATOMIE		S-5	076 : PRATT		S-4
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	464	12	Original Number of Sales	182	7
Trimmed Outliers	60	0	Trimmed Outliers	7	1
Number of Ratios: Outliers Removed	404	12	Number of Ratios: Outliers Removed	175	6
Minimum Ratio	20.0	57.4	Minimum Ratio	22.9	68.9
Maximum Ratio	479.3	98.2	Maximum Ratio	528.0	216.8
Minimum Sale Price	4,590	95,000	Minimum Sale Price	4,000	25,000
Maximum Sale Price	681,600	1,322,000	Maximum Sale Price	370,000	135,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	92.7	78.3	Median Ratio	90.9	86.0
Lower Median Confidence Interval	91.3	61.2	Lower Median Confidence Interval	86.1	79.5
Upper Median Confidence Interval	93.5	89.0	Upper Median Confidence Interval	93.6	131.4
Broadened Median Ratio	92.7	77.4	Broadened Median Ratio	90.9	86.0
Coefficient of Dispersion (COD)	9.3	15.4	Coefficient of Dispersion (COD)	16.5	14.8
Lower COD Confidence Interval	8.5	10.5	Lower COD Confidence Interval	14.5	4.5
Upper COD Confidence Interval	10.1	22.4	Upper COD Confidence Interval	18.7	30.7
Value Weighted COD	8.8	13.4	Value Weighted COD	15.2	10.7
Coefficient of Concentration @10%	57.1	33.3	Coefficient of Concentration @10%	36.3	57.1
Coefficient of Concentration @15%	69.2	41.7	Coefficient of Concentration @15%	53.3	57.1
Coefficient of Concentration @20%	75.9	50.0	Coefficient of Concentration @20%	64.3	71.4
Coefficient of Concentration @50%	92.2	100.0	Coefficient of Concentration @50%	94.5	71.4
Coefficient of Concentration @100%	98.1	100.0	Coefficient of Concentration @100%	98.4	85.7
Coefficient of Interquartile Deviation	8.5	18.8	Coefficient of Interquartile Deviation	14.1	30.2
Median Percent Deviation	8.5	19.0	Median Percent Deviation	14.0	7.6
Lower Quartile (25th Percentile)	83.2	60.9	Lower Quartile (25th Percentile)	75.7	79.5
Upper Quartile (75th Percentile	98.8	90.3	Upper Quartile (75th Percentile)	101.4	131.4
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptK	Normality Test	RejectK	RejectW
Relative Skewness	-0.34	0.06	Relative Skewness	0.11	1.35
Relative Kurtosis	3.40	1.62	Relative Kurtosis	2.88	3.56
Arithmetic Mean Ratio	91.2	76.6	Arithmetic Mean Ratio	88.2	89.6
Weighted Mean Ratio	90.8	75.2	Weighted Mean Ratio	85.5	89.3
Geometric Mean Ratio	90.5	75.3	Geometric Mean Ratio	86.2	87.8
Harmonic Mean Ratio	89.7	74.0	Harmonic Mean Ratio	84.1	86.2
Standard Deviation	11.4	14.5	Standard Deviation	18.7	21.6
Coefficient of Variation (COV)	12.5	19.0	Coefficient of Variation (COV)	21.2	24.1
Price-Related Differential (PRD)	1.00	1.02	Price-Related Differential (PRD)	1.03	1.00
Lower PRD Confidence Interval	1.00	0.95	Lower PRD Confidence Interval	1.01	0.97
Upper PRD Confidence interval	1.01	1.11	Upper PRD Confidence interval	1.05	1.09
Coef. of Price-Related Bias (PRB)	-0.16	-0.01	Coef. of Price-Related Bias (PRB)	-0.11	-0.13
Lower PRB Confidence Interval	-0.20	-0.12	Lower PRB Confidence Interval	-0.18	-1.08
Upper PRB Confidence Interval	-0.12	0.10	Upper PRB Confidence Interval	-0.05	0.82
Average Sale Price	238,763	515,717	Average Sale Price	108,308	69,500
Average Appraised Value	216,817	387,794	Average Appraised Value	92,571	62,067

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

077 : RAWLIN			078 : RENO		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	29	7	Original Number of Sales	242	38
Trimmed Outliers	3	1	Trimmed Outliers	25	0
Number of Ratios: Outliers Removed	26	6	Number of Ratios: Outliers Removed	217	38
Minimum Ratio	42.9	52.6	Minimum Ratio	34.8	32.5
Maximum Ratio	599.0	181.0	Maximum Ratio	511.0	137.9
Minimum Sale Price	970	5,000	Minimum Sale Price	4,000	7,139
Maximum Sale Price	234,700	205,000	Maximum Sale Price	750,000	2,035,714
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	95.4	62.5	Median Ratio	92.0	83.9
Lower Median Confidence Interval	84.2	59.4	Lower Median Confidence Interval	89.8	71.1
Upper Median Confidence Interval	104.2	103.6	Upper Median Confidence Interval	94.7	96.8
Broadened Median Ratio	96.3	63.7	Broadened Median Ratio	92.0	84.7
Coefficient of Dispersion (COD)	22.0	15.6	Coefficient of Dispersion (COD)	13.0	24.4
Lower COD Confidence Interval	15.2	3.7	Lower COD Confidence Interval	11.6	19.4
Upper COD Confidence Interval	31.9	32.4	Upper COD Confidence Interval	14.6	33.1
Value Weighted COD	15.9	6.2	Value Weighted COD	11.8	27.2
Coefficient of Concentration @10%	34.5	57.1	Coefficient of Concentration @10%	42.6	21.1
Coefficient of Concentration @15%	48.3	57.1	Coefficient of Concentration @15%	61.6	26.3
Coefficient of Concentration @20%	58.6	71.4	Coefficient of Concentration @20%	69.8	47.4
Coefficient of Concentration @50%	79.3	71.4	Coefficient of Concentration @50%	90.5	89.5
Coefficient of Concentration @100%	89.7	85.7	Coefficient of Concentration @100%	96.3	100.0
Coefficient of Interquartile Deviation	19.8	35.4	Coefficient of Interquartile Deviation	11.5	21.2
Median Percent Deviation	16.4	6.1	Median Percent Deviation	11.5	20.6
Lower Quartile (25th Percentile)	81.4	59.4	Lower Quartile (25th Percentile)	81.1	66.6
Upper Quartile (75th Percentile	119.2	103.6	Upper Quartile (75th Percentile)	102.2	102.1
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectW	Normality Test	RejectK	AcceptK
Relative Skewness	0.51	1.53	Relative Skewness	0.21	0.06
Relative Kurtosis	3.33	3.79	Relative Kurtosis	3.33	2.47
Arithmetic Mean Ratio	94.0	67.8	Arithmetic Mean Ratio	90.6	84.7
Weighted Mean Ratio	88.6	60.7	Weighted Mean Ratio	88.3	71.1
Geometric Mean Ratio	89.8	66.1	Geometric Mean Ratio	89.3	80.6
Harmonic Mean Ratio	85.4	64.8	Harmonic Mean Ratio	88.0	76.1
Standard Deviation	28.6	18.1	Standard Deviation	15.3	25.4
Coefficient of Variation (COV)	30.4	26.8	Coefficient of Variation (COV)	16.9	30.0
Price-Related Differential (PRD)	1.06	1.12	Price-Related Differential (PRD)	1.03	1.19
Lower PRD Confidence Interval	1.00	1.00	Lower PRD Confidence Interval	1.01	1.06
Upper PRD Confidence interval	1.15	1.34	Upper PRD Confidence interval	1.04	1.40
Coef. of Price-Related Bias (PRB)	-0.55	-0.36	Coef. of Price-Related Bias (PRB)	-0.21	-0.05
Lower PRB Confidence Interval	-0.78	-0.64	Lower PRB Confidence Interval	-0.26	-0.11
Upper PRB Confidence Interval	-0.31	-0.08	Upper PRB Confidence Interval	-0.15	0.01
Average Sale Price	87,965	102,167	Average Sale Price	132,405	301,213
Average Appraised Value	77,927	61,967	Average Appraised Value	116,861	214,210

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

079 : REPUBLIC			080 : RICE		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	79	6	Original Number of Sales	142	9
Trimmed Outliers	6	0	Trimmed Outliers	8	0
Number of Ratios: Outliers Removed	73	6	Number of Ratios: Outliers Removed	134	9
Minimum Ratio	6.2	57.1	Minimum Ratio	31.7	22.8
Maximum Ratio	371.7	112.2	Maximum Ratio	459.1	138.3
Minimum Sale Price	2,650	20,000	Minimum Sale Price	910	13,000
Maximum Sale Price	250,000	585,000	Maximum Sale Price	388,290	250,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	91.3	100.1	Median Ratio	90.5	60.1
Lower Median Confidence Interval	86.5	62.4	Lower Median Confidence Interval	86.6	25.5
Upper Median Confidence Interval	95.3	108.1	Upper Median Confidence Interval	95.0	103.7
Broadened Median Ratio	91.2	95.4	Broadened Median Ratio	90.5	59.3
Coefficient of Dispersion (COD)	16.8	16.2	Coefficient of Dispersion (COD)	21.0	51.0
Lower COD Confidence Interval	13.7	4.6	Lower COD Confidence Interval	18.3	28.5
Upper COD Confidence Interval	20.8	32.3	Upper COD Confidence Interval	24.4	137.8
Value Weighted COD	16.3	31.8	Value Weighted COD	18.3	44.6
Coefficient of Concentration @10%	40.5	50.0	Coefficient of Concentration @10%	28.2	11.1
Coefficient of Concentration @15%	54.4	66.7	Coefficient of Concentration @15%	40.8	11.1
Coefficient of Concentration @20%	62.0	66.7	Coefficient of Concentration @20%	55.6	22.2
Coefficient of Concentration @50%	91.1	100.0	Coefficient of Concentration @50%	88.0	44.4
Coefficient of Concentration @100%	96.2	100.0	Coefficient of Concentration @100%	95.1	88.9
Coefficient of Interquartile Deviation	14.4	20.4	Coefficient of Interquartile Deviation	18.6	57.2
Median Percent Deviation	13.1	8.0	Median Percent Deviation	18.4	55.2
Lower Quartile (25th Percentile)	79.5	65.1	Lower Quartile (25th Percentile)	73.8	26.2
Upper Quartile (75th Percentile	105.8	106.1	Upper Quartile (75th Percentile)	107.5	94.9
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	RejectK
Relative Skewness	-0.06	-0.63	Relative Skewness	-0.18	0.60
Relative Kurtosis	3.14	1.70	Relative Kurtosis	2.77	2.29
Arithmetic Mean Ratio	89.9	90.2	Arithmetic Mean Ratio	87.2	64.6
Weighted Mean Ratio	85.2	69.8	Weighted Mean Ratio	84.8	51.1
Geometric Mean Ratio	87.4	87.6	Geometric Mean Ratio	83.6	53.9
Harmonic Mean Ratio	84.6	84.8	Harmonic Mean Ratio	79.5	44.8
Standard Deviation	20.5	22.3	Standard Deviation	23.5	39.5
Coefficient of Variation (COV)	22.8	24.7	Coefficient of Variation (COV)	26.9	61.1
Price-Related Differential (PRD)	1.06	1.29	Price-Related Differential (PRD)	1.03	1.26
Lower PRD Confidence Interval	1.01	1.08	Lower PRD Confidence Interval	1.00	1.01
Upper PRD Confidence interval	1.11	1.49	Upper PRD Confidence interval	1.06	1.69
Coef. of Price-Related Bias (PRB)	-0.11	-0.11	Coef. of Price-Related Bias (PRB)	-0.10	0.05
Lower PRB Confidence Interval	-0.19	-0.21	Lower PRB Confidence Interval	-0.18	-0.40
Upper PRB Confidence Interval	-0.04	-0.01	Upper PRB Confidence Interval	-0.03	0.50
Average Sale Price	80,743	167,167	Average Sale Price	91,758	85,172
Average Appraised Value	68,777	116,732	Average Appraised Value	77,852	43,548

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

081 : RILEY			082 : ROOKS		*S-5*
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	227	16	Original Number of Sales	78	8
Trimmed Outliers	18	0	Trimmed Outliers	9	1
Number of Ratios: Outliers Removed	209	16	Number of Ratios: Outliers Removed	69	7
Minimum Ratio	33.4	66.6	Minimum Ratio	12.1	39.2
Maximum Ratio	188.1	125.1	Maximum Ratio	327.4	181.3
Minimum Sale Price	45,000	30,000	Minimum Sale Price	3,280	11,500
Maximum Sale Price	1,150,000	3,300,000	Maximum Sale Price	330,200	205,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	93.3	89.8	Median Ratio	89.2	71.9
Lower Median Confidence Interval	91.6	79.0	Lower Median Confidence Interval	83.6	40.3
Upper Median Confidence Interval	95.5	96.3	Upper Median Confidence Interval	94.2	98.5
Broadened Median Ratio	93.3	89.9	Broadened Median Ratio	88.9	74.2
Coefficient of Dispersion (COD)	8.6	12.5	Coefficient of Dispersion (COD)	19.8	25.1
Lower COD Confidence Interval	7.8	8.8	Lower COD Confidence Interval	16.4	14.2
Upper COD Confidence Interval	9.7	19.7	Upper COD Confidence Interval	24.8	59.7
Value Weighted COD	8.3	10.0	Value Weighted COD	18.1	16.7
Coefficient of Concentration @10%	59.0	50.0	Coefficient of Concentration @10%	35.9	37.5
Coefficient of Concentration @15%	76.7	68.8	Coefficient of Concentration @15%	46.2	37.5
Coefficient of Concentration @20%	86.3	87.5	Coefficient of Concentration @20%	53.8	37.5
Coefficient of Concentration @50%	96.0	100.0	Coefficient of Concentration @50%	79.5	87.5
Coefficient of Concentration @100%	99.6	100.0	Coefficient of Concentration @100%	92.3	87.5
Coefficient of Interquartile Deviation	7.9	11.5	Coefficient of Interquartile Deviation	18.2	34.6
Median Percent Deviation	7.9	10.0	Median Percent Deviation	16.7	31.9
Lower Quartile (25th Percentile)	86.0	76.2	Lower Quartile (25th Percentile)	76.1	46.8
Upper Quartile (75th Percentile	100.7	96.8	Upper Quartile (75th Percentile)	108.6	96.6
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	-0.15	0.60	Relative Skewness	0.50	-0.13
Relative Kurtosis	2.93	3.43	Relative Kurtosis	3.39	1.75
Arithmetic Mean Ratio	93.1	89.3	Arithmetic Mean Ratio	89.3	68.5
Weighted Mean Ratio	92.6	93.1	Weighted Mean Ratio	87.2	64.1
Geometric Mean Ratio	92.5	88.2	Geometric Mean Ratio	86.4	64.9
Harmonic Mean Ratio	92.0	87.2	Harmonic Mean Ratio	83.4	61.2
Standard Deviation	10.0	14.5	Standard Deviation	22.9	22.8
Coefficient of Variation (COV)	10.8	16.3	Coefficient of Variation (COV)	25.7	33.3
Price-Related Differential (PRD)	1.01	0.96	Price-Related Differential (PRD)	1.02	1.07
Lower PRD Confidence Interval	1.00	0.92	Lower PRD Confidence Interval	0.99	0.95
Upper PRD Confidence interval	1.01	1.00	Upper PRD Confidence interval	1.07	1.24
Coef. of Price-Related Bias (PRB)	-0.05	0.02	Coef. of Price-Related Bias (PRB)	-0.20	-0.27
Lower PRB Confidence Interval	-0.08	-0.02	Lower PRB Confidence Interval	-0.31	-0.76
Upper PRB Confidence Interval	-0.01	0.07	Upper PRB Confidence Interval	-0.09	0.22
Average Sale Price	231,951	740,875	Average Sale Price	87,323	69,214
Average Appraised Value	214,737	689,736	Average Appraised Value	76,150	44,351

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

083 : RUSH			084 : RUSSELL		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	40	8	Original Number of Sales	138	10
Trimmed Outliers	3	0	Trimmed Outliers	8	1
Number of Ratios: Outliers Removed	37	8	Number of Ratios: Outliers Removed	130	9
Minimum Ratio	49.0	45.0	Minimum Ratio	17.2	12.9
Maximum Ratio	254.8	570.0	Maximum Ratio	542.0	300.2
Minimum Sale Price	4,570	500	Minimum Sale Price	1,880	7,500
Maximum Sale Price	130,900	64,000	Maximum Sale Price	1,147,660	290,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	90.4	145.1	Median Ratio	90.5	63.3
Lower Median Confidence Interval	82.4	63.2	Lower Median Confidence Interval	85.5	39.3
Upper Median Confidence Interval	101.1	268.4	Upper Median Confidence Interval	94.2	103.5
Broadened Median Ratio	91.9	152.6	Broadened Median Ratio	90.3	61.7
Coefficient of Dispersion (COD)	23.9	88.0	Coefficient of Dispersion (COD)	18.0	37.9
Lower COD Confidence Interval	18.3	40.5	Lower COD Confidence Interval	15.6	15.4
Upper COD Confidence Interval	32.3	234.5	Upper COD Confidence Interval	20.8	80.3
Value Weighted COD	22.0	54.5	Value Weighted COD	17.6	20.3
Coefficient of Concentration @10%	30.0	0.0	Coefficient of Concentration @10%	28.3	30.0
Coefficient of Concentration @15%	42.5	0.0	Coefficient of Concentration @15%	50.0	30.0
Coefficient of Concentration @20%	50.0	0.0	Coefficient of Concentration @20%	63.0	30.0
Coefficient of Concentration @50%	82.5	25.0	Coefficient of Concentration @50%	89.9	60.0
Coefficient of Concentration @100%	92.5	87.5	Coefficient of Concentration @100%	99.3	80.0
Coefficient of Interquartile Deviation	22.3	69.9	Coefficient of Interquartile Deviation	15.0	42.8
Median Percent Deviation	20.5	62.7	Median Percent Deviation	15.2	30.8
Lower Quartile (25th Percentile)	73.0	64.9	Lower Quartile (25th Percentile)	77.3	37.6
Upper Quartile (75th Percentile	113.4	267.6	Upper Quartile (75th Percentile)	104.4	91.8
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK	Normality Test	RejectK	RejectK
Relative Skewness	0.83	1.24	Relative Skewness	-0.23	0.99
Relative Kurtosis	3.26	3.55	Relative Kurtosis	2.92	3.78
Arithmetic Mean Ratio	93.0	196.5	Arithmetic Mean Ratio	89.5	60.1
Weighted Mean Ratio	89.2	93.9	Weighted Mean Ratio	87.3	55.9
Geometric Mean Ratio	89.0	140.5	Geometric Mean Ratio	86.9	50.7
Harmonic Mean Ratio	85.4	103.8	Harmonic Mean Ratio	83.9	40.5
Standard Deviation	28.5	175.7	Standard Deviation	20.6	35.5
Coefficient of Variation (COV)	30.7	89.4	Coefficient of Variation (COV)	23.0	59.0
Price-Related Differential (PRD)	1.04	2.09	Price-Related Differential (PRD)	1.03	1.08
Lower PRD Confidence Interval	0.98	1.41	Lower PRD Confidence Interval	0.98	0.83
Upper PRD Confidence interval	1.12	4.36	Upper PRD Confidence interval	1.10	1.50
Coef. of Price-Related Bias (PRB)	-0.04	-0.65	Coef. of Price-Related Bias (PRB)	-0.05	-0.07
Lower PRB Confidence Interval	-0.18	-0.84	Lower PRB Confidence Interval	-0.12	-0.66
Upper PRB Confidence Interval	0.10	-0.46	Upper PRB Confidence Interval	0.02	0.53
Average Sale Price	53,354	34,125	Average Sale Price	107,857	117,833
Average Appraised Value	47,609	32,031	Average Appraised Value	94,170	65,860

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

085 : SALINE			086 : SCOTT		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	249	41	Original Number of Sales	62	5
Trimmed Outliers	22	3	Trimmed Outliers	1	0
Number of Ratios: Outliers Removed	227	38	Number of Ratios: Outliers Removed	61	5
Minimum Ratio	31.5	34.6	Minimum Ratio	56.5	34.3
Maximum Ratio	532.7	966.5	Maximum Ratio	167.7	61.1
Minimum Sale Price	5,950	8,360	Minimum Sale Price	4,860	49,000
Maximum Sale Price	914,740	2,196,870	Maximum Sale Price	409,910	121,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	94.4	93.3	Median Ratio	90.0	47.6
Lower Median Confidence Interval	92.2	82.3	Lower Median Confidence Interval	85.3	34.4
Upper Median Confidence Interval	96.5	104.2	Upper Median Confidence Interval	96.0	59.8
Broadened Median Ratio	94.5	92.9	Broadened Median Ratio	90.4	44.1
Coefficient of Dispersion (COD)	10.8	27.4	Coefficient of Dispersion (COD)	17.4	17.4
Lower COD Confidence Interval	9.7	20.7	Lower COD Confidence Interval	14.8	6.3
Upper COD Confidence Interval	12.0	37.7	Upper COD Confidence Interval	21.1	24.1
Value Weighted COD	9.7	35.3	Value Weighted COD	15.9	15.6
Coefficient of Concentration @10%	49.0	26.8	Coefficient of Concentration @10%	30.6	40.0
Coefficient of Concentration @15%	65.5	39.0	Coefficient of Concentration @15%	43.5	40.0
Coefficient of Concentration @20%	78.7	46.3	Coefficient of Concentration @20%	59.7	40.0
Coefficient of Concentration @50%	93.6	75.6	Coefficient of Concentration @50%	96.8	100.0
Coefficient of Concentration @100%	96.0	92.7	Coefficient of Concentration @100%	100.0	100.0
Coefficient of Interquartile Deviation	10.1	22.6	Coefficient of Interquartile Deviation	16.8	21.8
Median Percent Deviation	10.2	22.4	Median Percent Deviation	17.2	26.3
Lower Quartile (25th Percentile)	84.4	68.3	Lower Quartile (25th Percentile)	76.6	34.7
Upper Quartile (75th Percentile	103.5	110.5	Upper Quartile (75th Percentile)	106.9	55.4
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	-0.07	0.26	Relative Skewness	0.19	0.25
Relative Kurtosis	2.96	2.78	Relative Kurtosis	2.29	1.74
Arithmetic Mean Ratio	93.2	89.0	Arithmetic Mean Ratio	91.3	45.6
Weighted Mean Ratio	92.7	72.1	Weighted Mean Ratio	90.0	46.3
Geometric Mean Ratio	92.3	82.8	Geometric Mean Ratio	89.3	44.5
Harmonic Mean Ratio	91.4	76.0	Harmonic Mean Ratio	87.3	43.4
Standard Deviation	12.8	32.5	Standard Deviation	19.1	11.2
Coefficient of Variation (COV)	13.8	36.5	Coefficient of Variation (COV)	20.9	24.5
Price-Related Differential (PRD)	1.01	1.23	Price-Related Differential (PRD)	1.01	0.98
Lower PRD Confidence Interval	1.00	1.08	Lower PRD Confidence Interval	0.99	0.96
Upper PRD Confidence interval	1.02	1.45	Upper PRD Confidence interval	1.04	1.01
Coef. of Price-Related Bias (PRB)	-0.16	-0.24	Coef. of Price-Related Bias (PRB)	-0.07	0.23
Lower PRB Confidence Interval	-0.22	-0.51	Lower PRB Confidence Interval	-0.12	-0.41
Upper PRB Confidence Interval	-0.10	0.03	Upper PRB Confidence Interval	-0.01	0.86
Average Sale Price	168,308	575,023	Average Sale Price	135,862	78,600
Average Appraised Value	156,015	414,861	Average Appraised Value	122,280	36,400

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

087 : SEDGWICK		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	357	167
Trimmed Outliers	32	5
Number of Ratios: Outliers Removed	325	162
Minimum Ratio	2.7	36.0
Maximum Ratio	212.9	405.9
Minimum Sale Price	13,060	7,910
Maximum Sale Price	5,971,440	5,863,460
DISTRIBUTION FREE STATISTICS		
Median Ratio	90.1	87.1
Lower Median Confidence Interval	88.2	81.0
Upper Median Confidence Interval	92.6	90.5
Broadened Median Ratio	89.9	87.0
Coefficient of Dispersion (COD)	13.2	21.5
Lower COD Confidence Interval	12.1	19.0
Upper COD Confidence Interval	14.5	24.4
Value Weighted COD	14.5	20.1
Coefficient of Concentration @10%	43.4	27.5
Coefficient of Concentration @15%	61.9	40.1
Coefficient of Concentration @20%	72.3	52.7
Coefficient of Concentration @50%	92.4	91.6
Coefficient of Concentration @100%	99.4	97.6
Coefficient of Interquartile Deviation	11.9	19.3
Median Percent Deviation	11.8	19.0
Lower Quartile (25th Percentile)	79.8	70.8
Upper Quartile (75th Percentile	101.2	104.4
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	0.02	0.30
Relative Kurtosis	3.36	2.90
Arithmetic Mean Ratio	89.4	86.9
Weighted Mean Ratio	85.7	88.4
Geometric Mean Ratio	88.1	83.7
Harmonic Mean Ratio	86.6	80.5
Standard Deviation	15.3	23.1
Coefficient of Variation (COV)	17.1	26.6
Price-Related Differential (PRD)	1.04	0.98
Lower PRD Confidence Interval	1.00	0.94
Upper PRD Confidence interval	1.12	1.03
Coef. of Price-Related Bias (PRB)	0.01	-0.01
Lower PRB Confidence Interval	-0.02	-0.06
Upper PRB Confidence Interval	0.03	0.03
Average Sale Price	215,246	575,986
Average Appraised Value	184,415	509,009

088 : SEWARD		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	220	19
Trimmed Outliers	26	1
Number of Ratios: Outliers Removed	194	18
Minimum Ratio	12.7	11.7
Maximum Ratio	342.0	217.2
Minimum Sale Price	10,000	45,500
Maximum Sale Price	362,500	7,950,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	92.5	83.4
Lower Median Confidence Interval	90.4	59.1
Upper Median Confidence Interval	94.5	101.8
Broadened Median Ratio	92.5	81.6
Coefficient of Dispersion (COD)	10.1	42.4
Lower COD Confidence Interval	9.1	25.9
Upper COD Confidence Interval	11.5	68.5
Value Weighted COD	9.5	67.9
Coefficient of Concentration @10%	55.5	21.1
Coefficient of Concentration @15%	66.8	31.6
Coefficient of Concentration @20%	76.8	31.6
Coefficient of Concentration @50%	92.3	63.2
Coefficient of Concentration @100%	96.4	84.2
Coefficient of Interquartile Deviation	8.7	39.2
Median Percent Deviation	8.6	38.7
Lower Quartile (25th Percentile)	84.4	51.2
Upper Quartile (75th Percentile)	100.5	116.6
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	0.11	0.57
Relative Kurtosis	3.33	2.81
Arithmetic Mean Ratio	91.1	82.5
Weighted Mean Ratio	90.3	40.1
Geometric Mean Ratio	90.3	67.7
Harmonic Mean Ratio	89.5	50.3
Standard Deviation	12.0	47.0
Coefficient of Variation (COV)	13.2	57.0
Price-Related Differential (PRD)	1.01	2.06
Lower PRD Confidence Interval	1.00	1.15
Upper PRD Confidence interval	1.02	3.58
Coef. of Price-Related Bias (PRB)	-0.13	-0.06
Lower PRB Confidence Interval	-0.19	-0.24
Upper PRB Confidence Interval	-0.07	0.12
Average Sale Price	146,873	1,150,509
Average Appraised Value	132,615	460,839

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

089 : SHAWNEE		S-3
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	305	88
Trimmed Outliers	27	7
Number of Ratios: Outliers Removed	278	81
Minimum Ratio	44.9	16.9
Maximum Ratio	397.8	710.0
Minimum Sale Price	3,670	2,000
Maximum Sale Price	626,370	9,000,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	91.3	92.6
Lower Median Confidence Interval	89.3	85.5
Upper Median Confidence Interval	92.9	98.2
Broadened Median Ratio	91.3	92.9
Coefficient of Dispersion (COD)	11.4	22.7
Lower COD Confidence Interval	10.4	18.6
Upper COD Confidence Interval	12.6	28.0
Value Weighted COD	10.6	28.7
Coefficient of Concentration @10%	51.1	34.1
Coefficient of Concentration @15%	65.6	44.3
Coefficient of Concentration @20%	75.4	52.3
Coefficient of Concentration @50%	93.1	81.8
Coefficient of Concentration @100%	97.4	94.3
Coefficient of Interquartile Deviation	9.8	18.2
Median Percent Deviation	9.9	17.6
Lower Quartile (25th Percentile)	83.1	73.7
Upper Quartile (75th Percentile	101.0	107.5
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	0.26	0.05
Relative Kurtosis	3.10	2.90
Arithmetic Mean Ratio	90.8	88.6
Weighted Mean Ratio	90.4	71.0
Geometric Mean Ratio	89.8	84.1
Harmonic Mean Ratio	88.8	79.0
Standard Deviation	13.2	26.9
Coefficient of Variation (COV)	14.5	30.4
Price-Related Differential (PRD)	1.00	1.25
Lower PRD Confidence Interval	0.99	1.11
Upper PRD Confidence interval	1.02	1.45
Coef. of Price-Related Bias (PRB)	-0.12	-0.14
Lower PRB Confidence Interval	-0.16	-0.21
Upper PRB Confidence Interval	-0.08	-0.06
Average Sale Price	165,030	958,780
Average Appraised Value	149,136	680,962

090 : SHERIDAN		S-4
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	30	4
Trimmed Outliers	3	0
Number of Ratios: Outliers Removed	27	4
Minimum Ratio	34.5	66.6
Maximum Ratio	137.9	139.1
Minimum Sale Price	40,000	20,000
Maximum Sale Price	657,000	107,500
DISTRIBUTION FREE STATISTICS		
Median Ratio	85.4	80.2
Lower Median Confidence Interval	73.9	67.0
Upper Median Confidence Interval	90.5	136.3
Broadened Median Ratio	84.9	87.7
Coefficient of Dispersion (COD)	16.4	25.1
Lower COD Confidence Interval	11.8	3.6
Upper COD Confidence Interval	23.3	29.9
Value Weighted COD	15.2	16.3
Coefficient of Concentration @10%	36.7	50.0
Coefficient of Concentration @15%	50.0	50.0
Coefficient of Concentration @20%	63.3	75.0
Coefficient of Concentration @50%	86.7	75.0
Coefficient of Concentration @100%	100.0	100.0
Coefficient of Interquartile Deviation	13.5	35.2
Median Percent Deviation	14.8	11.0
Lower Quartile (25th Percentile)	72.1	69.0
Upper Quartile (75th Percentile)	95.2	125.3
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW
Relative Skewness	0.16	0.99
Relative Kurtosis	3.26	2.21
Arithmetic Mean Ratio	84.3	91.5
Weighted Mean Ratio	81.7	80.0
Geometric Mean Ratio	82.2	87.8
Harmonic Mean Ratio	79.9	84.7
Standard Deviation	18.5	32.5
Coefficient of Variation (COV)	22.0	35.5
Price-Related Differential (PRD)	1.03	1.14
Lower PRD Confidence Interval	1.01	1.01
Upper PRD Confidence interval	1.07	1.25
Coef. of Price-Related Bias (PRB)	-0.12	0.00
Lower PRB Confidence Interval	-0.27	0.00
Upper PRB Confidence Interval	0.04	0.00
Average Sale Price	122,114	58,625
Average Appraised Value	99,727	46,918

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

091 : SHERMAN		*S-3*	092 : SMITH		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	86	6	Original Number of Sales	46	7
Trimmed Outliers	6	0	Trimmed Outliers	2	1
Number of Ratios: Outliers Removed	80	6	Number of Ratios: Outliers Removed	44	6
Minimum Ratio	36.0	65.3	Minimum Ratio	34.0	12.9
Maximum Ratio	449.6	141.7	Maximum Ratio	179.8	200.9
Minimum Sale Price	2,270	45,000	Minimum Sale Price	3,910	2,700
Maximum Sale Price	399,060	520,000	Maximum Sale Price	227,810	443,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	90.3	81.0	Median Ratio	93.2	95.2
Lower Median Confidence Interval	84.6	66.0	Lower Median Confidence Interval	85.1	72.3
Upper Median Confidence Interval	95.9	123.0	Upper Median Confidence Interval	98.3	98.8
Broadened Median Ratio	90.3	82.5	Broadened Median Ratio	92.8	94.3
Coefficient of Dispersion (COD)	19.0	27.4	Coefficient of Dispersion (COD)	17.2	20.4
Lower COD Confidence Interval	15.7	17.2	Lower COD Confidence Interval	12.9	5.0
Upper COD Confidence Interval	23.4	38.9	Upper COD Confidence Interval	23.1	217.4
Value Weighted COD	17.0	49.9	Value Weighted COD	15.3	68.8
Coefficient of Concentration @10%	36.0	0.0	Coefficient of Concentration @10%	45.7	57.1
Coefficient of Concentration @15%	52.3	33.3	Coefficient of Concentration @15%	54.3	57.1
Coefficient of Concentration @20%	59.3	66.7	Coefficient of Concentration @20%	58.7	57.1
Coefficient of Concentration @50%	89.5	83.3	Coefficient of Concentration @50%	89.1	71.4
Coefficient of Concentration @100%	96.5	100.0	Coefficient of Concentration @100%	100.0	85.7
Coefficient of Interquartile Deviation	15.2	29.3	Coefficient of Interquartile Deviation	14.4	13.9
Median Percent Deviation	14.1	18.6	Median Percent Deviation	12.8	4.1
Lower Quartile (25th Percentile)	73.3	66.3	Lower Quartile (25th Percentile)	74.8	72.3
Upper Quartile (75th Percentile	100.7	113.7	Upper Quartile (75th Percentile)	101.6	98.8
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW	Normality Test	RejectK	RejectW
Relative Skewness	-0.37	0.90	Relative Skewness	-0.42	-1.50
Relative Kurtosis	2.59	2.49	Relative Kurtosis	3.15	3.59
Arithmetic Mean Ratio	84.6	90.0	Arithmetic Mean Ratio	89.0	77.8
Weighted Mean Ratio	85.3	114.0	Weighted Mean Ratio	92.1	29.4
Geometric Mean Ratio	81.6	86.4	Geometric Mean Ratio	86.0	65.2
Harmonic Mean Ratio	78.2	83.3	Harmonic Mean Ratio	82.4	45.0
Standard Deviation	21.0	29.6	Standard Deviation	21.6	33.2
Coefficient of Variation (COV)	24.9	32.9	Coefficient of Variation (COV)	24.2	42.7
Price-Related Differential (PRD)	0.99	0.79	Price-Related Differential (PRD)	0.97	2.65
Lower PRD Confidence Interval	0.96	0.74	Lower PRD Confidence Interval	0.92	1.03
Upper PRD Confidence interval	1.03	1.04	Upper PRD Confidence interval	1.01	4.79
Coef. of Price-Related Bias (PRB)	-0.20	0.22	Coef. of Price-Related Bias (PRB)	0.02	-0.09
Lower PRB Confidence Interval	-0.33	0.02	Lower PRB Confidence Interval	-0.05	-0.38
Upper PRB Confidence Interval	-0.07	0.42	Upper PRB Confidence Interval	0.09	0.20
Average Sale Price	124,639	157,333	Average Sale Price	76,447	97,283
Average Appraised Value	106,372	179,305	Average Appraised Value	70,409	28,592

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

093 : STAFFORD		S-6	094 : STANTON		S-5
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	40	5	Original Number of Sales	21	6
Trimmed Outliers	2	0	Trimmed Outliers	3	0
Number of Ratios: Outliers Removed	38	5	Number of Ratios: Outliers Removed	18	6
Minimum Ratio	54.7	34.8	Minimum Ratio	12.2	67.9
Maximum Ratio	188.1	98.7	Maximum Ratio	251.6	115.6
Minimum Sale Price	7,240	21,500	Minimum Sale Price	14,200	60,000
Maximum Sale Price	301,540	85,000	Maximum Sale Price	200,980	1,900,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	95.3	89.6	Median Ratio	90.6	100.9
Lower Median Confidence Interval	88.6	41.2	Lower Median Confidence Interval	77.9	76.4
Upper Median Confidence Interval	99.7	97.7	Upper Median Confidence Interval	98.5	113.1
Broadened Median Ratio	94.8	89.4	Broadened Median Ratio	89.9	99.8
Coefficient of Dispersion (COD)	15.8	14.7	Coefficient of Dispersion (COD)	15.5	14.5
Lower COD Confidence Interval	11.9	0.8	Lower COD Confidence Interval	10.5	8.3
Upper COD Confidence Interval	21.1	61.3	Upper COD Confidence Interval	23.9	26.0
Value Weighted COD	16.1	21.0	Value Weighted COD	13.3	15.4
Coefficient of Concentration @10%	50.0	60.0	Coefficient of Concentration @10%	38.1	50.0
Coefficient of Concentration @15%	55.0	80.0	Coefficient of Concentration @15%	52.4	66.7
Coefficient of Concentration @20%	65.0	80.0	Coefficient of Concentration @20%	66.7	83.3
Coefficient of Concentration @50%	97.5	80.0	Coefficient of Concentration @50%	81.0	100.0
Coefficient of Concentration @100%	100.0	100.0	Coefficient of Concentration @100%	95.2	100.0
Coefficient of Interquartile Deviation	12.4	18.4	Coefficient of Interquartile Deviation	15.5	15.5
Median Percent Deviation	11.2	1.6	Median Percent Deviation	14.0	12.1
Lower Quartile (25th Percentile)	80.3	61.5	Lower Quartile (25th Percentile)	74.8	80.6
Upper Quartile (75th Percentile	103.9	94.5	Upper Quartile (75th Percentile)	102.8	111.9
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	AcceptK	RejectW	Normality Test	RejectK	AcceptW
Relative Skewness	-0.02	-1.40	Relative Skewness	0.44	-0.55
Relative Kurtosis	2.73	3.14	Relative Kurtosis	3.35	1.95
Arithmetic Mean Ratio	92.3	80.3	Arithmetic Mean Ratio	91.6	96.8
Weighted Mean Ratio	87.4	72.6	Weighted Mean Ratio	91.5	87.5
Geometric Mean Ratio	90.2	75.5	Geometric Mean Ratio	89.7	95.2
Harmonic Mean Ratio	87.9	69.0	Harmonic Mean Ratio	87.8	93.5
Standard Deviation	19.6	25.8	Standard Deviation	19.2	18.2
Coefficient of Variation (COV)	21.3	32.1	Coefficient of Variation (COV)	21.0	18.8
Price-Related Differential (PRD)	1.06	1.11	Price-Related Differential (PRD)	1.00	1.11
Lower PRD Confidence Interval	1.01	1.00	Lower PRD Confidence Interval	0.97	1.00
Upper PRD Confidence interval	1.12	1.27	Upper PRD Confidence interval	1.05	1.23
Coef. of Price-Related Bias (PRB)	-0.01	-0.13	Coef. of Price-Related Bias (PRB)	0.01	-0.03
Lower PRB Confidence Interval	-0.09	-0.71	Lower PRB Confidence Interval	-0.24	-0.16
Upper PRB Confidence Interval	0.06	0.45	Upper PRB Confidence Interval	0.25	0.10
Average Sale Price	56,814	52,500	Average Sale Price	99,663	389,867
Average Appraised Value	49,634	38,140	Average Appraised Value	91,203	341,252

Detailed Sample Statistics for the Residential and Commercial Subclasses

095 : STEVENS			096 : SUMNER		
GENERAL STATISTICS	Residential	Comm./Ind	*GENERAL STATISTICS*	Residential	Comm./Ind
Original Number of Sales	53	10	Original Number of Sales	315	20
Trimmed Outliers	7	1	Trimmed Outliers	11	0
Number of Ratios: Outliers Removed	46	9	Number of Ratios: Outliers Removed	304	20
Minimum Ratio	14.0	41.0	Minimum Ratio	13.8	34.0
Maximum Ratio	225.3	190.3	Maximum Ratio	219.3	195.2
Minimum Sale Price	6,000	7,000	Minimum Sale Price	2,000	7,500
Maximum Sale Price	523,000	1,413,836	Maximum Sale Price	472,000	186,000
DISTRIBUTION FREE STATISTICS			*DISTRIBUTION FREE STATISTICS*		
Median Ratio	88.8	70.7	Median Ratio	84.5	90.5
Lower Median Confidence Interval	79.9	49.7	Lower Median Confidence Interval	82.1	64.0
Upper Median Confidence Interval	94.4	84.5	Upper Median Confidence Interval	88.3	111.1
Broadened Median Ratio	87.3	69.9	Broadened Median Ratio	84.4	91.3
Coefficient of Dispersion (COD)	18.5	22.6	Coefficient of Dispersion (COD)	22.5	36.3
Lower COD Confidence Interval	14.6	15.7	Lower COD Confidence Interval	20.5	25.3
Upper COD Confidence Interval	23.5	48.2	Upper COD Confidence Interval	24.8	58.9
Value Weighted COD	14.9	30.3	Value Weighted COD	20.5	25.6
Coefficient of Concentration @10%	30.2	20.0	Coefficient of Concentration @10%	29.5	15.0
Coefficient of Concentration @15%	50.9	30.0	Coefficient of Concentration @15%	41.6	25.0
Coefficient of Concentration @20%	56.6	60.0	Coefficient of Concentration @20%	50.8	30.0
Coefficient of Concentration @50%	83.0	90.0	Coefficient of Concentration @50%	85.7	75.0
Coefficient of Concentration @100%	98.1	90.0	Coefficient of Concentration @100%	98.7	95.0
Coefficient of Interquartile Deviation	18.9	21.5	Coefficient of Interquartile Deviation	19.7	32.4
Median Percent Deviation	13.6	17.7	Median Percent Deviation	19.2	30.8
Lower Quartile (25th Percentile)	76.8	53.7	Lower Quartile (25th Percentile)	68.3	57.6
Upper Quartile (75th Percentile	110.3	84.1	Upper Quartile (75th Percentile)	101.5	116.3
PARAMETRIC STATISTICS			*PARAMETRIC STATISTICS*		
Normality Test	RejectK	AcceptK	Normality Test	RejectK	RejectK
Relative Skewness	0.57	-0.16	Relative Skewness	0.15	0.63
Relative Kurtosis	3.40	1.79	Relative Kurtosis	2.94	3.01
Arithmetic Mean Ratio	89.9	65.6	Arithmetic Mean Ratio	84.1	93.2
Weighted Mean Ratio	86.6	48.0	Weighted Mean Ratio	80.9	95.2
Geometric Mean Ratio	87.6	63.3	Geometric Mean Ratio	80.4	84.6
Harmonic Mean Ratio	85.2	60.9	Harmonic Mean Ratio	76.2	76.3
Standard Deviation	20.9	17.8	Standard Deviation	24.1	41.1
Coefficient of Variation (COV)	23.3	27.1	Coefficient of Variation (COV)	28.7	44.1
Price-Related Differential (PRD)	1.04	1.37	Price-Related Differential (PRD)	1.04	0.98
Lower PRD Confidence Interval	1.00	1.03	Lower PRD Confidence Interval	1.02	0.85
Upper PRD Confidence interval	1.09	1.62	Upper PRD Confidence interval	1.07	1.15
Coef. of Price-Related Bias (PRB)	-0.10	-0.22	Coef. of Price-Related Bias (PRB)	-0.05	0.06
Lower PRB Confidence Interval	-0.20	-0.45	Lower PRB Confidence Interval	-0.09	-0.10
Upper PRB Confidence Interval	0.01	0.00	Upper PRB Confidence Interval	-0.02	0.22
Average Sale Price	155,495	217,982	Average Sale Price	118,422	59,828
Average Appraised Value	134,650	104,571	Average Appraised Value	95,768	56,943

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

097 : THOMAS			098 : TREGO		
GENERAL STATISTICS	Residential	Comm./Ind	GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	132	13	Original Number of Sales	57	6
Trimmed Outliers	11	1	Trimmed Outliers	5	0
Number of Ratios: Outliers Removed	121	12	Number of Ratios: Outliers Removed	52	6
Minimum Ratio	40.5	43.2	Minimum Ratio	20.5	55.7
Maximum Ratio	211.0	368.4	Maximum Ratio	202.3	113.6
Minimum Sale Price	6,250	5,000	Minimum Sale Price	9,720	10,000
Maximum Sale Price	634,930	275,000	Maximum Sale Price	237,520	115,000
DISTRIBUTION FREE STATISTICS			DISTRIBUTION FREE STATISTICS		
Median Ratio	91.3	82.6	Median Ratio	83.7	81.7
Lower Median Confidence Interval	89.3	64.6	Lower Median Confidence Interval	80.0	58.0
Upper Median Confidence Interval	93.7	104.1	Upper Median Confidence Interval	88.1	107.8
Broadened Median Ratio	91.1	81.9	Broadened Median Ratio	83.7	81.5
Coefficient of Dispersion (COD)	11.0	45.2	Coefficient of Dispersion (COD)	14.5	23.7
Lower COD Confidence Interval	9.6	19.3	Lower COD Confidence Interval	11.5	14.7
Upper COD Confidence Interval	12.8	90.9	Upper COD Confidence Interval	18.3	34.6
Value Weighted COD	12.0	30.8	Value Weighted COD	11.6	28.4
Coefficient of Concentration @10%	47.7	23.1	Coefficient of Concentration @10%	47.4	0.0
Coefficient of Concentration @15%	70.5	30.8	Coefficient of Concentration @15%	57.9	33.3
Coefficient of Concentration @20%	81.1	38.5	Coefficient of Concentration @20%	63.2	33.3
Coefficient of Concentration @50%	95.5	76.9	Coefficient of Concentration @50%	91.2	100.0
Coefficient of Concentration @100%	98.5	76.9	Coefficient of Concentration @100%	98.2	100.0
Coefficient of Interquartile Deviation	10.5	49.4	Coefficient of Interquartile Deviation	14.3	28.0
Median Percent Deviation	10.4	22.8	Median Percent Deviation	11.3	25.5
Lower Quartile (25th Percentile)	81.6	64.2	Lower Quartile (25th Percentile)	76.4	59.2
Upper Quartile (75th Percentile	100.7	145.7	Upper Quartile (75th Percentile)	100.4	104.9
PARAMETRIC STATISTICS			PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK	Normality Test	RejectK	AcceptW
Relative Skewness	-0.32	1.74	Relative Skewness	0.29	0.12
Relative Kurtosis	3.09	4.85	Relative Kurtosis	2.89	1.53
Arithmetic Mean Ratio	90.1	98.9	Arithmetic Mean Ratio	86.1	82.5
Weighted Mean Ratio	88.6	92.7	Weighted Mean Ratio	84.4	93.6
Geometric Mean Ratio	89.2	86.7	Geometric Mean Ratio	84.6	79.8
Harmonic Mean Ratio	88.2	78.6	Harmonic Mean Ratio	83.1	77.1
Standard Deviation	12.7	62.1	Standard Deviation	16.0	23.2
Coefficient of Variation (COV)	14.1	62.8	Coefficient of Variation (COV)	18.6	28.1
Price-Related Differential (PRD)	1.02	1.07	Price-Related Differential (PRD)	1.02	0.88
Lower PRD Confidence Interval	1.00	0.88	Lower PRD Confidence Interval	1.00	0.83
Upper PRD Confidence interval	1.04	1.50	Upper PRD Confidence interval	1.05	1.00
Coef. of Price-Related Bias (PRB)	-0.06	0.10	Coef. of Price-Related Bias (PRB)	-0.09	0.16
Lower PRB Confidence Interval	-0.11	-0.42	Lower PRB Confidence Interval	-0.17	-0.04
Upper PRB Confidence Interval	-0.01	0.61	Upper PRB Confidence Interval	0.00	0.36
Average Sale Price	140,594	89,865	Average Sale Price	83,933	52,417
Average Appraised Value	124,612	83,335	Average Appraised Value	70,802	49,040

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

099 : WABAUNSEE		S-3
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	78	5
Trimmed Outliers	7	0
Number of Ratios: Outliers Removed	71	5
Minimum Ratio	38.0	8.6
Maximum Ratio	752.3	455.0
Minimum Sale Price	860	3,000
Maximum Sale Price	361,230	1,280,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	93.2	86.3
Lower Median Confidence Interval	88.5	14.7
Upper Median Confidence Interval	100.7	412.2
Broadened Median Ratio	93.5	81.2
Coefficient of Dispersion (COD)	17.8	112.5
Lower COD Confidence Interval	15.0	15.4
Upper COD Confidence Interval	21.6	302.1
Value Weighted COD	15.6	33.0
Coefficient of Concentration @10%	39.7	20.0
Coefficient of Concentration @15%	50.0	40.0
Coefficient of Concentration @20%	57.7	40.0
Coefficient of Concentration @50%	89.7	60.0
Coefficient of Concentration @100%	92.3	80.0
Coefficient of Interquartile Deviation	15.4	140.6
Median Percent Deviation	14.6	31.5
Lower Quartile (25th Percentile)	83.1	33.9
Upper Quartile (75th Percentile	111.8	276.6
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectW
Relative Skewness	0.37	1.36
Relative Kurtosis	2.66	3.08
Arithmetic Mean Ratio	94.7	141.4
Weighted Mean Ratio	90.4	60.0
Geometric Mean Ratio	92.5	72.2
Harmonic Mean Ratio	90.3	31.9
Standard Deviation	20.8	178.6
Coefficient of Variation (COV)	21.9	126.3
Price-Related Differential (PRD)	1.05	2.36
Lower PRD Confidence Interval	1.01	0.87
Upper PRD Confidence interval	1.09	3.98
Coef. of Price-Related Bias (PRB)	-0.31	-0.43
Lower PRB Confidence Interval	-0.41	-1.69
Upper PRB Confidence Interval	-0.20	0.82
Average Sale Price	136,029	282,600
Average Appraised Value	122,948	169,648

100 : WALLACE		S-4
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	15	4
Trimmed Outliers	0	0
Number of Ratios: Outliers Removed	15	4
Minimum Ratio	48.0	67.2
Maximum Ratio	135.7	161.0
Minimum Sale Price	29,330	9,100
Maximum Sale Price	135,270	85,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	79.0	71.3
Lower Median Confidence Interval	61.6	67.2
Upper Median Confidence Interval	91.4	156.7
Broadened Median Ratio	80.0	85.6
Coefficient of Dispersion (COD)	25.2	35.3
Lower COD Confidence Interval	16.7	2.4
Upper COD Confidence Interval	39.8	40.7
Value Weighted COD	18.4	11.3
Coefficient of Concentration @10%	33.3	75.0
Coefficient of Concentration @15%	33.3	75.0
Coefficient of Concentration @20%	46.7	75.0
Coefficient of Concentration @50%	86.7	75.0
Coefficient of Concentration @100%	100.0	75.0
Coefficient of Interquartile Deviation	26.1	50.6
Median Percent Deviation	22.0	5.4
Lower Quartile (25th Percentile)	61.6	67.3
Upper Quartile (75th Percentile)	102.9	139.5
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectW
Relative Skewness	0.64	1.14
Relative Kurtosis	2.58	2.32
Arithmetic Mean Ratio	83.7	92.7
Weighted Mean Ratio	80.1	75.4
Geometric Mean Ratio	79.8	86.1
Harmonic Mean Ratio	76.2	81.3
Standard Deviation	27.0	45.7
Coefficient of Variation (COV)	32.3	49.2
Price-Related Differential (PRD)	1.04	1.23
Lower PRD Confidence Interval	0.97	0.98
Upper PRD Confidence interval	1.14	1.44
Coef. of Price-Related Bias (PRB)	-0.02	0.00
Lower PRB Confidence Interval	-0.27	0.00
Upper PRB Confidence Interval	0.24	0.00
Average Sale Price	84,670	45,900
Average Appraised Value	67,839	34,623

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

101 : WASHINGTON		S-5
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	33	7
Trimmed Outliers	3	0
Number of Ratios: Outliers Removed	30	7
Minimum Ratio	23.0	58.2
Maximum Ratio	685.0	319.8
Minimum Sale Price	1,000	5,000
Maximum Sale Price	185,000	65,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	92.8	160.0
Lower Median Confidence Interval	77.5	85.7
Upper Median Confidence Interval	99.5	204.4
Broadened Median Ratio	92.8	169.4
Coefficient of Dispersion (COD)	20.2	37.9
Lower COD Confidence Interval	14.5	19.9
Upper COD Confidence Interval	30.1	123.0
Value Weighted COD	18.4	44.4
Coefficient of Concentration @10%	33.3	28.6
Coefficient of Concentration @15%	39.4	28.6
Coefficient of Concentration @20%	51.5	28.6
Coefficient of Concentration @50%	84.8	71.4
Coefficient of Concentration @100%	93.9	100.0
Coefficient of Interquartile Deviation	17.3	37.1
Median Percent Deviation	18.3	27.8
Lower Quartile (25th Percentile)	71.6	85.7
Upper Quartile (75th Percentile	103.7	204.4
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW
Relative Skewness	-0.20	0.48
Relative Kurtosis	3.57	2.58
Arithmetic Mean Ratio	87.3	168.1
Weighted Mean Ratio	85.2	118.2
Geometric Mean Ratio	83.4	148.0
Harmonic Mean Ratio	78.3	127.8
Standard Deviation	24.0	85.9
Coefficient of Variation (COV)	27.5	51.1
Price-Related Differential (PRD)	1.03	1.42
Lower PRD Confidence Interval	0.99	1.05
Upper PRD Confidence interval	1.07	2.15
Coef. of Price-Related Bias (PRB)	-0.38	-0.29
Lower PRB Confidence Interval	-0.74	-0.82
Upper PRB Confidence Interval	-0.02	0.23
Average Sale Price	82,183	19,873
Average Appraised Value	70,001	23,487

102 : WICHITA		S-7
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	25	9
Trimmed Outliers	2	0
Number of Ratios: Outliers Removed	23	9
Minimum Ratio	37.4	30.0
Maximum Ratio	992.2	136.6
Minimum Sale Price	5,000	10,000
Maximum Sale Price	250,000	165,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	85.1	84.7
Lower Median Confidence Interval	70.7	52.1
Upper Median Confidence Interval	93.7	124.1
Broadened Median Ratio	85.3	83.8
Coefficient of Dispersion (COD)	20.1	31.4
Lower COD Confidence Interval	14.0	19.5
Upper COD Confidence Interval	29.8	68.6
Value Weighted COD	17.3	35.5
Coefficient of Concentration @10%	28.0	11.1
Coefficient of Concentration @15%	40.0	33.3
Coefficient of Concentration @20%	64.0	44.4
Coefficient of Concentration @50%	84.0	77.8
Coefficient of Concentration @100%	92.0	100.0
Coefficient of Interquartile Deviation	18.2	33.0
Median Percent Deviation	18.1	28.8
Lower Quartile (25th Percentile)	69.0	60.6
Upper Quartile (75th Percentile)	99.9	116.6
PARAMETRIC STATISTICS		
Normality Test	AcceptK	AcceptK
Relative Skewness	-0.02	-0.06
Relative Kurtosis	2.92	2.08
Arithmetic Mean Ratio	80.7	85.8
Weighted Mean Ratio	82.6	65.2
Geometric Mean Ratio	77.7	78.7
Harmonic Mean Ratio	74.3	70.4
Standard Deviation	21.7	34.2
Coefficient of Variation (COV)	26.9	39.8
Price-Related Differential (PRD)	0.98	1.32
Lower PRD Confidence Interval	0.92	1.15
Upper PRD Confidence interval	1.04	1.64
Coef. of Price-Related Bias (PRB)	-0.25	-0.22
Lower PRB Confidence Interval	-0.90	-0.48
Upper PRB Confidence Interval	0.39	0.05
Average Sale Price	104,978	48,444
Average Appraised Value	86,673	31,573

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

103 : WILSON		S-4
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	82	11
Trimmed Outliers	4	1
Number of Ratios: Outliers Removed	78	10
Minimum Ratio	6.1	15.1
Maximum Ratio	480.1	940.0
Minimum Sale Price	1,640	200
Maximum Sale Price	321,070	2,000,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	88.2	83.0
Lower Median Confidence Interval	77.6	68.9
Upper Median Confidence Interval	99.5	130.2
Broadened Median Ratio	88.2	80.6
Coefficient of Dispersion (COD)	32.3	37.6
Lower COD Confidence Interval	27.1	18.7
Upper COD Confidence Interval	40.0	76.2
Value Weighted COD	26.7	28.7
Coefficient of Concentration @10%	15.9	36.4
Coefficient of Concentration @15%	24.4	36.4
Coefficient of Concentration @20%	37.8	45.5
Coefficient of Concentration @50%	76.8	63.6
Coefficient of Concentration @100%	92.7	81.8
Coefficient of Interquartile Deviation	30.6	37.0
Median Percent Deviation	27.8	26.2
Lower Quartile (25th Percentile)	64.3	68.9
Upper Quartile (75th Percentile	118.4	130.2
PARAMETRIC STATISTICS		
Normality Test	RejectK	RejectK
Relative Skewness	0.52	0.86
Relative Kurtosis	3.09	3.82
Arithmetic Mean Ratio	90.4	89.0
Weighted Mean Ratio	79.2	94.8
Geometric Mean Ratio	82.6	76.2
Harmonic Mean Ratio	68.8	58.8
Standard Deviation	35.1	47.0
Coefficient of Variation (COV)	38.9	52.8
Price-Related Differential (PRD)	1.14	0.94
Lower PRD Confidence Interval	1.07	0.72
Upper PRD Confidence interval	1.24	1.50
Coef. of Price-Related Bias (PRB)	-0.18	-0.78
Lower PRB Confidence Interval	-0.30	-1.41
Upper PRB Confidence Interval	-0.07	-0.16
Average Sale Price	75,760	281,939
Average Appraised Value	60,024	267,194

104 : WOODSON		
GENERAL STATISTICS	Residential	Comm./Ind
Original Number of Sales	36	5
Trimmed Outliers	4	0
Number of Ratios: Outliers Removed	32	5
Minimum Ratio	19.1	40.8
Maximum Ratio	396.4	112.4
Minimum Sale Price	1,660	825
Maximum Sale Price	139,310	95,000
DISTRIBUTION FREE STATISTICS		
Median Ratio	93.0	86.5
Lower Median Confidence Interval	87.9	44.6
Upper Median Confidence Interval	100.0	112.0
Broadened Median Ratio	92.8	89.3
Coefficient of Dispersion (COD)	22.1	25.0
Lower COD Confidence Interval	15.4	7.1
Upper COD Confidence Interval	32.5	39.6
Value Weighted COD	19.0	16.0
Coefficient of Concentration @10%	38.9	20.0
Coefficient of Concentration @15%	44.4	20.0
Coefficient of Concentration @20%	52.8	40.0
Coefficient of Concentration @50%	77.8	80.0
Coefficient of Concentration @100%	91.7	100.0
Coefficient of Interquartile Deviation	19.1	31.3
Median Percent Deviation	17.4	26.1
Lower Quartile (25th Percentile)	71.7	56.6
Upper Quartile (75th Percentile)	107.3	110.8
PARAMETRIC STATISTICS		
Normality Test	RejectK	AcceptW
Relative Skewness	-0.25	-0.51
Relative Kurtosis	3.37	1.94
Arithmetic Mean Ratio	86.2	84.3
Weighted Mean Ratio	79.6	80.0
Geometric Mean Ratio	80.5	79.3
Harmonic Mean Ratio	72.4	73.6
Standard Deviation	28.0	29.3
Coefficient of Variation (COV)	32.5	34.8
Price-Related Differential (PRD)	1.08	1.05
Lower PRD Confidence Interval	1.00	0.92
Upper PRD Confidence interval	1.21	1.34
Coef. of Price-Related Bias (PRB)	-0.27	-0.05
Lower PRB Confidence Interval	-0.42	-0.29
Upper PRB Confidence Interval	-0.11	0.19
Average Sale Price	54,739	32,965
Average Appraised Value	43,559	26,360

S- Supplemental sales included from previous years

Detailed Sample Statistics for the Residential and Commercial Subclasses

105 : WYANDOTTE						
GENERAL STATISTICS	Residential	Comm./Ind				
Original Number of Sales	288	88				
Trimmed Outliers	18	6				
Number of Ratios: Outliers Removed	270	82				
Minimum Ratio	35.7	22.3				
Maximum Ratio	561.8	325.5				
Minimum Sale Price	7,880	11,410				
Maximum Sale Price	743,010	5,972,540				
DISTRIBUTION FREE STATISTICS						
Median Ratio	91.4	84.2				
Lower Median Confidence Interval	88.3	75.1				
Upper Median Confidence Interval	93.2	98.3				
Broadened Median Ratio	91.3	84.1				
Coefficient of Dispersion (COD)	16.6	32.5				
Lower COD Confidence Interval	15.0	28.1				
Upper COD Confidence Interval	18.5	40.3				
Value Weighted COD	14.3	31.5				
Coefficient of Concentration @10%	39.9	18.2				
Coefficient of Concentration @15%	51.4	21.6				
Coefficient of Concentration @20%	65.6	31.8				
Coefficient of Concentration @50%	92.0	76.1				
Coefficient of Concentration @100%	97.9	93.2				
Coefficient of Interquartile Deviation	14.3	27.2				
Median Percent Deviation	14.5	27.5				
Lower Quartile (25th Percentile)	77.7	63.0				
Upper Quartile (75th Percentile	103.7	108.9				
PARAMETRIC STATISTICS						
Normality Test	RejectK	RejectK				
Relative Skewness	0.04	0.42				
Relative Kurtosis	3.15	2.63				
Arithmetic Mean Ratio	88.8	85.1				
Weighted Mean Ratio	87.8	76.1				
Geometric Mean Ratio	86.6	78.8				
Harmonic Mean Ratio	84.2	71.9				
Standard Deviation	19.3	32.0				
Coefficient of Variation (COV)	21.7	37.6				
Price-Related Differential (PRD)	1.01	1.12				
Lower PRD Confidence Interval	1.00	1.01				
Upper PRD Confidence interval	1.03	1.30				
Coef. of Price-Related Bias (PRB)	-0.10	-0.05				
Lower PRB Confidence Interval	-0.15	-0.13				
Upper PRB Confidence Interval	-0.05	0.03				
Average Sale Price	156,774	625,251				
Average Appraised Value	137,576	475,977				

Section II

Kansas Real Estate

Sales Validation Questionnaire

ONLY FOR USE IN COUNTIES APPROVED TO ACCEPT ONE-PART FORMS *(See website information below)*

KANSAS REAL ESTATE SALES VALIDATION QUESTIONNAIRE

FOR COUNTY USE ONLY: DEED BOOK _____ PAGE _____	COV # __ __ __ __ __	CO. NO.	MAP	SEC	SHEET	QTR.	BLOCK	PARCEL	OWN
RECORDING DATE ___/___/___	TYPE OF INSTRUMENT _____ CR _____ RA _____	SPLIT ☐ DE _____ MULTI ☐	MO	YR	TY		AMOUNT	S	V

SELLER (Grantor)
NAME _____

MAILING _____

CITY/ST/ZIP _____

PHONE NO. (____) _____

email (optional) _____

BUYER (Grantee)
NAME _____

MAILING _____

CITY/ST/ZIP _____

PHONE NO. (____) _____

email (optional) _____

IF AN AGENT SIGNS THIS FORM, BOTH BUYER AND SELLER TELEPHONE NUMBERS MUST BE ENTERED.

BRIEF LEGAL DESCRIPTION
_____
_____
_____
_____

Property / Situs Address: _____
Name and Mailing Address for Tax Statements
_____
_____
_____

1. Check any special factors that apply:

☐ Sale between immediate family members:
   Specify the relationship _____
☐ Sale involved corporate affiliates or related entities
☐ Auction sale (absolute auction ☐ Yes ☐ No)
☐ Short sale (amount of lien(s) exceeds sale proceeds)
☐ Transfer in lieu of foreclosure or repossession
☐ Sale involved a build-to-suit or leaseback arrangement
☐ Sale by judicial order (by a guardian, executor, conservator, administrator, or trustee of an estate)
☐ Sale involved a government agency or public utility
☐ Buyer (new owner) is a religious, charitable, or benevolent organization, school or educational association
☐ Buyer (new owner) is a financial institution, insurance company, pension fund, or mortgage corporation
☐ Sale of only a partial interest in the real estate
☐ Sale involved a trade or exchange of properties
☐ **None of the above**

2. Check use of property at the time of sale:
☐ Single family residence   ☐ Agricultural land
☐ Farm/Ranch with residence   Mineral rights included?
☐ Condominium unit   ☐ Yes ☐ No
☐ Vacant land   ☐ Apartment building
☐ Other: (Specify)   ☐ Commercial/Industrial bldg.
_____

3. Was the property rented or leased at the time of sale?
☐ Yes (number of years remaining on lease _____)
☐ Tenant is buyer   ☐ No

4. Did the sale price include an operating business?
☐ Yes (estimated value $_____)   ☐ No

5. Was any personal property included in the sale price (such as furniture, equipment, inventory, machinery, crops, etc.)?
☐ Yes ☐ No If yes, please describe _____
_____
_____
Estimated value of all personal property items included in the sale price $_____

If **Mobile Home:** Year _____ Model _____

6. Were any changes made to the property since January 1st?
☐ Yes ☐ No
☐ Demolition ☐ New construction ☐ Remodeling ☐ Additions
Date completed _____ Amount $_____

7. Were any **delinquent** property taxes paid by the buyer? Amt.$_____
☐ Yes **AND** the amount was included in the total sale price
☐ Yes but the amount was not included in the total sale price
☐ No delinquent property taxes were included in the sale

8. Method of financing (check all that apply):
☐ New loan(s) from a financial institution   ☐ IRS 1031Exchange
☐ Seller financing   ☐ Assumption of an existing loan(s)
☐ All cash   ☐ Trade of property   ☐ Not applicable

9. Was the property offered to other potential buyers?
☐ Yes: Advertised (listed, Internet, yard sign, word-of-mouth, etc.)
☐ No: Private purchase (not offered on the open market)

10. Does the buyer hold title to any adjoining property?
☐ Yes ☐ No

11. Are there any additional facts that would cause this sale to be a distressed, forced, or non-arm's length exchange?
☐ Yes ☐ No If yes, please describe _____
_____
_____

K.S.A. 79-1437g. Same; penalty for violations. Any person who shall falsify the value of real estate transferred shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined not more than $500.

12. **TOTAL SALE PRICE** $_____

DEED DATE ___/___/___

13. I have read the instructions for completing this form and certify that the above information is true and accurate.

Print name _____

Signature _____

☐ Grantor (Seller)   ☐ Grantee (Buyer)
☐ Agent Daytime phone number (____)_____

PV-RE-22-OP
(Rev. 08/12)

INSTRUCTIONS FOR COMPLETING THE SALES VALIDATION QUESTIONNAIRE
One Part Form

ITEM 1   Please check all boxes which pertain to the sale.

ITEM 2   Check the box which describes the current or most recent use of the property at the time of sale. Check all boxes which are applicable if the property has multiple uses.

ITEM 3   Check yes if the buyer assumed any long term lease(s) (more than 3 years remaining) at the time of sale. Enter the years remaining if known. Check the box if a tenant (renter or lessee) purchased the property.

ITEM 4   Check yes if the purchase price included an operating business that may include intangible personal property such as a franchise, trade license, patent, trademark, stocks, bonds, and/or goodwill. Estimate the value of the intangibles if this was part of the purchase agreement and included in the total sale price.

ITEM 5   Check yes if any tangible items of property were included in the sale price. If possible, provide a brief description and your estimate of all personal property included in the total sale price.

ITEM 6   Check yes if the property characteristics changed after January 1st of the sale year. Indicate what type of major change(s) (such as demolition, new construction, remodeling, rehabilitation) took place by marking the appropriate box. Indicate the approximate date the changes took place and the approximate cost.

ITEM 7   Check yes if any delinquent property taxes were paid by the buyer and included as part of the sale price. Do not include the estimated real estate taxes prorated for the year the property sold included as part of the typical escrow closing cost.

ITEM 8   Check the predominate method of financing used to acquire the property. Check "Not Applicable" if money did not exchange hands.

ITEM 9   Check yes if the property was advertised on the open market, listed with a real estate agent or broker, displayed a for sale sign, advertised in a newspaper or other publication, listed on the internet, and/or offered by word of mouth. A private sale is an exchange that was not made available to the general public or the property was not exposed on the open market.

ITEM 10   Check yes if the buyer owns or controls the property adjoining or adjacent to the property being purchased.

ITEM 11   Provide a brief explanation if either the buyer or seller did not act prudently, was not fully informed about the property, did not have knowledge of the local market, was poorly advised, did not use good judgment in the negotiations, was acting under duress, or was compelled to sell or buy the property out of necessity.

ITEM 12   Provide the total sale price and date of sale. The date should be the date that either the deed or the contract for deed was signed, not the date the deed was recorded.

ITEM 13   Please sign the questionnaire and list a daytime phone number. The county appraiser may need to make a follow up phone call to clarify unusual terms or conditions.

When a real estate sales validation questionnaire is not required due to one or more of the exemptions provided in 1-16 below, the exemption must be clearly stated on the document being filed. The Register of Deeds cannot add this information to the deed at filing.

TRANSFERS OF TITLE THAT DO NOT REQUIRE A SALES VALIDATION QUESTIONNAIRE:

(1)   Recorded prior to the effective date of this act, i.e., July 1, 1991;
(2)   made solely for the purpose of securing or releasing security for a debt or other obligation;
(3)   made for the purpose of confirming, correcting, modifying or supplementing a deed previously recorded, and without additional consideration;
(4)   by way of gift, donation or contribution stated in the deed or other instruments;
(5)   to cemetery lots;
(6)   by leases and transfers of severed mineral interests;
(7)   to or from a trust, and without consideration;
(8)   resulting from a divorce settlement where one party transfers interest in property to the other;
(9)   made solely for the purpose of creating a joint tenancy or tenancy in common;
(10)   by way of a sheriff's deed;
(11)   by way of a deed which has been in escrow for longer than five years;
(12)   by way of a quit claim deed filed for the purpose of clearing title encumbrances;
(13)   when title is transferred to convey right-of-way or pursuant to eminent domain;
(14)   made by a guardian, executor, administrator, conservator or trustee of an estate pursuant to judicial order;
(15)   when title is transferred due to repossession; or
(16)   made for the purpose of releasing an equitable lien on a previously recorded affidavit of equitable interest, and without additional consideration.

    (b)   When a real estate sales validation questionnaire is not required due to one or more of the exemptions provided in 1-16 above, the exemption shall be clearly stated on the document being filed.

If you have any questions or need assistance completing this form, please call the county appraiser's office.

Section III

Statistical Methods

&

Procedures

$$A = \pi r^2$$
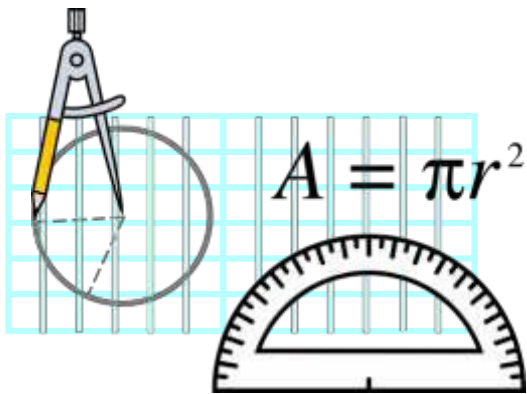
Introduction

The sales ratio study is an important performance evaluation tool in the mass appraisal process. It can be used to measure the county's overall appraisal accuracy by indicating the general level of appraisal and the degree of uniformity. The study can also be used to monitor the need for a general reappraisal or identify neighborhoods that may require a review. Information from the study can also be used to develop market trends affecting various types of properties. By identifying problem areas or selected groups of properties in need of attention, resources can be efficiently allocated.

The ratio study makes a comparison of recently sold properties to the county appraiser's estimate of market value. Recent sales of property can often serve as representatives of true market value if the buyer and seller are well informed, the market is open and competitive and neither party is acting with undue compulsion. The appraiser will also consider other factors that may influence the price paid for a property. In some cases, an adjustment to the sale price must be made before it can be used as a good indicator of market value.

The principal information source used to confirm the sale price and determine validity of a real estate transfer is the Kansas Real Estate Sales Validation Questionnaire. Kansas statutes requires that a questionnaire be completed and filed with the register of deeds before a deed, affidavit of equitable interest or other recording instrument is accepted for recording (with some exceptions per K.S.A. 79-1437e).

Information provided by the Kansas Real Estate Sales Validation Questionnaire is not always sufficient to make a validation decision and a follow-up verification may be required. The buyer, seller or agent may have to be interviewed in order to make a final decision on the validity or obtain additional information for needed adjustments. The determination to classify a sale as valid or invalid is based upon industry standards promulgated by the International Association of Assessing Officers (IAAO). Various factors will be considered during the screening process before invalidating a sale. Any sale that is affected by the following conditions will be considered invalid for ratio study purposes:

- Property not exposed for sale on the open market
- Physical characteristics of the property changed after January 1, of the study year and before the sale occurred

- Highest and best use of the property changed after January 1, of the study year the sale occurred
- Sale involved a governmental agency liquidating repossessed property
- Transfer was a satisfaction of a contract for deed signed prior to the study year
- Transaction was a forced sale
- Sale included an excessive amount of tangible or intangible personal property
- Sale/transfer date not within the current study timeframe
- The parcel sold was a split from parent parcel appraised on January 1
- Uninformed buyer and/or seller discovered through validation research.

The study concept is a simple one. The degree to which an appraisal made for tax purposes reflects market value can be indicated by the sale price of that property. If a sufficient number of recent sales are available, statistical measures can often provide reliable estimates of performance. Because property in Kansas is grouped into several assessment subclasses, such as residential and commercial/industrial, a ratio study is conducted on each group to provide more detailed information.

The ratio for each property is calculated by dividing the appraised value by the sale price. The resulting ratios indicate how closely the appraiser achieved the goal of fair market value with a ratio of 100 percent being the most desirable. For the Kansas Real Estate Ratio Study, ratios are expressed as a percentage.

For example, consider the following five residential properties that have recently sold.

Sale	Appraised Value	Sale Price	Ratio	Ratio as a Percentage
1	$25,000	$20,000	1.25	125.0
2	$45,000	$50,000	0.90	90.0
3	$12,000	$15,000	0.80	80.0
4	$30,000	$30,000	1.00	100.0

Distribution-Free Statistics

Distribution-free statistics do not require assumptions about the shape of the population distribution from which the ratio study sample was drawn. Distribution-free statistics are nonparametric estimates that include the median and median absolution deviation.

Median Ratio

The median ratio is one of the most common statistical measures used in mass appraisal performance. It is considered a very robust measure of the overall level of assessment (central tendency) because of its insensitivity to low or high ratios in the sample.

The ratios must first be sorted in ascending or descending order *(arrayed).* If the number of sample ratios is odd, the median is the value halfway through the arrayed data set with an equal number of ratios above and below the median.

Sale	Ratio	
1	*80.0*	
2	*90.0*	
3	***100.0***	***Median Ratio***
4	*120.0*	
5	*125.0*	

If the number of sample ratios is even, the median value is determined by adding the two middle values that fall in the center of the array and dividing by 2.

Sale	Ratio	
1	*80.0*	
2	*90.0*	
3	*100.0*	
4	*120.0*	← ***Median Ratio***
5	*125.0*	
6	*130.0*	

The ratios 100.0 and 120.0 *(sample no. 3 & 4)* are in the middle of the array and should be added together and divided by 2.

$$\frac{100.0 + 120.0}{2} = \boldsymbol{110.0\ Median\ Ratio}$$

Broadened Median Ratio *(BMED)*

The broadened median is a useful measure because it preserves the resistance of the median to outliers while achieving insensitivity to rounding and grouping of the middle observations. It is computed by averaging the median and up to six of the ratios around the median. The exact number depends on the sample size. Data sets with an odd number of ratios for sample sizes between five and eleven use the average of the three central ratios. For sample sizes greater than eleven the five central ratios are averaged. For data sets with an even number of ratios in sample sizes less than fourteen, the broadened median uses the four central ratios with weights 1/6, 1/3, 1/3 and 1/6. For data sets larger than fourteen, the broadened median uses the six central ratios with an assigned weight of 1/5 to each of the middle four ratios and 1/10 to the ratios at each end.

Broadened Median Ratio Computation

Example of odd numbered data set: 70.0 80.0, 90.0, 100.0, 120.0, 135.0, 143.0

1. *Sum of the three central values: 90.0 + 100.0 + 120.0 = 310.0*
2. *Divide by 3 (310.0 ÷ 3) =* **103.3 Broadened Median Ratio**

Example of even numbered data set: 62.0, 75.0, 80.0, 90.0, 100.0, 120.0, 135.0, 143.0

$$(80.0 \times 1/6) + (90.0 \times 1/3) + (100.0 \times 1/3) + (120.0 \times 1/3)$$
$$13.3 + 30.0 + 33.3 + 20.0 = \textbf{96.7} \textbf{Broadened Median Ratio}$$
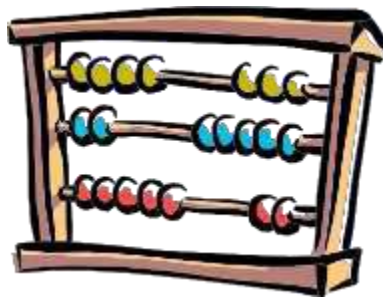
<u>Coefficient of Dispersion</u> *(COD)*

The coefficient of dispersion *(COD)* is the most common measure of uniformity in the mass appraisal industry. It measures the average amount of dispersion from the median and expresses it as a percentage of the median ratio. The statistic indicates how close the ratios are clustered around the median ratio.

<u>CODComputation</u>

1. *Subtract the median ratio from each ratio to find the absolute deviation (ignore plus or minus signs)*
2. *Sum the absolute deviations and divide by the sample size to find the average absolute deviation*
3. *Divide the **average absolute deviation** by the **median ratio** to obtain the percentage measure known as the COD*

Sale	*Ratio*	*Median Ratio*	*Absolute Deviation from Median*
1	*80.0*	*95.0*	*15.0*
2	*90.0*	*95.0*	*5.0*
3	***95.0***	*95.0*	*0.0*
4	*100.0*	*95.0*	*5.0*
5	*105.0*	*95.0*	*10.0*
		Sum of Deviations	***35.0***

$$\frac{15.0 + 5.0 + 0.0 + 5.0 + 10.0}{5} = \frac{35.0}{5} = \mathbf{7.0} \quad \text{average deviation from median}$$

$$\frac{7.0}{95.0} = \mathbf{7.4} \quad \textbf{Coefficient of Dispersion (COD)}$$

The lower the coefficient of deviation, the more uniform the assessments. A high COD suggest a lack of uniformity. The ideal value is *0*; however, this cannot be considered a realistic goal in an imperfect real estate market. Confidence intervals are used to evaluate this performance measure.

Example of Two Coefficients of Dispersion

County A   County B

50%

40%

30%

20%

10% MEDIAN RATIO

40 Coefficient of Dispersion   20 Coefficient of Dispersion

Each dot represents one individual sales ratio observation

- *In County A the sales ratios are spread out, or dispersed considerably more in relation to the median ratio for the sample of properties sold.*

- *In County B the sale ratios are grouped closely together in relation to the median ratio for the sample of properties sold.*

The two counties in the illustration above both have a median ratio of 100 percent. However, one of the counties has a COD of 20 while the other county has a COD of 40. This difference suggests that appraisals in the county with a COD of 20 came twice as close to the median level of appraisal as the county with a COD of 40.

Weighted Coefficient of Dispersion

To calculate a value weighted COD, the contribution of each sale is factored into the deviation of each ratio about the median. If the weighted COD is greater than the COD, relatively high-value properties have been appraised with greater variability than low-value properties. If the weighted COD is less than the COD, high-value properties have been appraised with less variability than low-value properties.

__Weighted CODComputation__

1. *Calculate the mean sale price*
2. *Divide each sale price by the mean sale price to find the weight*
3. *Subtract each ratio from the median and take the absolute value (ignore plus or minus signs)*
4. *Multiply each weight times the absolute deviation from the median*
5. *Sum the weighted absolute deviations from the median*
6. *Divide by the number of ratios (61.9 / 5 = 12.4)*
7. *Divide by the median and multiply by 100 12.4/100.0 * 100.0 = 12.4*

Sale	Appraised Value	Sale Price	Mean Sale Price	Weight	Ratio	Median Ratio	Absolute Deviation from Median	Weight x Absolute Deviation from Median
1	$25,000	$20,000	$26,200	0.7634	125.0	100.0	25.0	19.1
2	$45,000	$50,000	$26,200	1.9084	90.0	100.0	10.0	19.1
3	$12,000	$15,000	$26,200	0.5725	80.0	100.0	20.0	11.5
4	$30,000	$30,000	$26,200	1.1450	100.0	100.0	00.0	00.0
5	$19,200	$16,000	$26,200	0.6107	120.0	100.0	20.0	12.2
Total	$131,200	$131,000						61.9

$$\frac{61.9}{5} = \quad \textbf{12.4} \text{ (Value) Weighted Coefficient of Dispersion}$$

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Coefficient of Concentration *(COC)*

The coefficient of concentration *(COC)* is another measure of appraisal uniformity. It is found by determining the portion of ratios falling within a specified percentage of the median. The higher the coefficient of concentration is the better the measure of uniformity. Coefficients are calculated for 10 percent, 15 percent, 20 percent, 50 percent and 100 percent.

Example: **COC @ 15%**

Sale	Ratio	
1	70.0	
2	75.0	
3	81.0	← 95.0 − 14.3 = 80.7
4	82.0	
5	85.0	
6	90.0	
7	90.0	
8	95.0	*Median Ratio*
9	100.0	
10	105.0	
11	107.0	
12	108.0	← 95.0 + 14.3 = 109.3
13	120.0	
14	130.0	
15	135.0	

15%: find the proportion of ratios that falls within the range:
95.0 × 15.0 = 14.3
95.0 − 14.3 = 80.7
95.0 + 14.3 = 109.3
10 ratios in the sample fall within the range of 80.7 to 109.3

10 ÷ 15 = 0.667 × 100 = **66.7** *Coefficient of Concentration @ 15%*

Coefficient of Interquartile Deviation

This measure was the original coefficient of dispersion recommended for use in ratio studies by the National Association of Tax Administrators. It is the interquartile range of ratios divided by 2, divided by the median ratio and multiplied by 100. The statistic is less sensitive to outliers than the COD currently defined by the IAAO.

Sale	Ratio
1	60.0
2	80.8
3	88.1
4	**96.0**
5	115.2
6	120.4
7	145.7

Median Ratio 96.0

1st *Quartile = (Sale 2) Ratio = 80.8*
3rd *Quartile = (Sale 6) Ratio = 120.4*

Interquartile range 120.4 - 80.8 = 39.6

39.6 / 2 / 96.0 * 100 = 20.625 round to **20.6** ***Coefficient Interquartile Deviation***

Median Percent Deviation

The median percent deviation is the *median* of the absolute deviations about the median, divided by the median ratio. It is an alternative to the COD and is highly resistant to the influence of outlier ratios.

Median Percent Deviation Computation
1. *Subtract the median ratio from each ratio and find the absolute value of the deviation*
2. *Array the absolute deviations and find the median value deviation in the array*
3. *Divide the median absolute deviation by the median ratio and multiply by 100*

Sale	Ratio	Median Ratio	Absolute Deviation from Median
1	80.0	100.0	20.0
2	90.0	100.0	10.0
3	100.0	100.0	0.0
4	105.0	100.0	5.0
5	115.0	100.0	15.0

Arrayed Deviations: 0.0, 5.0, 10.0, 15.0, 22.0, - Median Absolute Deviation (MAD) = 10.0

$$\frac{10.0}{100.0} = 0.1 \times 100 = \textbf{10.0 } \textit{\textbf{Median Percent Deviation}}$$

Percentiles and Quartiles

Percentiles are dividing points for specific percentages of the data. The dividing points are the 25th percentile *(1ˢᵗ quartile)*, the 50th percentile *(median or 2ⁿᵈ quartile)* and the 75th *(3ʳᵈ quartile)* percentile. The interquartile range is the difference between the 25th and the 75th percentiles.

25th Percentile (1ˢᵗ Quartile)

The 25th percentile is the first percentile and exceeds one-quarter of the ratios. The formula for finding the lower 25th percentile is $k = 0.25 * n + 0.25$. The rank of the 25th percentile in an array of 99 ratios is $0.25 * 99 + 0.25 = 25$

75th Percentile (3ʳᵈ Quartile)

The 75th percentile is the third percentile and exceeds three quarters of the ratios. The formula for finding the rank of the 75th percentile is $k = 0.75 * n + 0.75$. Usually, the rank of the percentile will not be a whole number, which means one must interpolate between ratios in the sorted array. In a sample that has 100 ratios, the 75th percentile is $0.75 * 100 + 0.75 = 75.75$. If the 75th and 76th highest ratios are 0.98 and 1.00 respectively, the 75th percentile is $0.98 + ((0.75) * (1.00 - 0.98)) = 0.995$.

Normality Testing

A normality test of the sample data can be used to evaluate if the spread of ratios in the sample and make inferences about the population. A normal population conforms to a standard normal distribution or bell-shaped curve *(Gaussian shape).* Although ratio data seldom conforms to a normal distribution, an effort has been made to examine and test the residential and commercial/industrial sample data. Parametric statistics generally depend upon an underlying assumption of normality. Numerous statistical tests can be employed to detect departures from a normal distribution. The ratio study program employs newer and more powerful procedures based on the empirical distribution function or standardized moments of skewness and kurtosis. These also include the D'Agostino-Pearson K^2, Shapiro-Wilk W (or Shapiro-Francia W') and Anderson- Darling A^2 tests. Several tests are used to evaluate each ratio study sample. The primary normality test selected for an individual ratio sample can be identified by a letter code below.

M: 3rd and 4th standardized moment's critical values
3: 3rd standardized moment critical value
4: 4th standardized moment critical value
A: Anderson-Darling A^2
K: D'Agostino-Pearson K^2
W: Shapiro-Wilk W (*Shapiro-Francia W' for n > 50 to 99*)

Null hypothesis (H_0) used for these tests: The study sample was drawn from a population with a normal distribution of ratios.

No statistical procedure is expected to perform perfectly under all circumstances. There is a small probability that an individual sample drawn from a population with a standard normal distribution of ratios may not pass a mathematical test. Thus, the null hypothesis will sometimes be rejected, when in fact it should not be (this is a type *I* error). The testing methods used by PVD are designed to limit the probability of rejection to 10% or less.

Skewness

Skewness is a descriptive measure of symmetry about the ratio distribution. Most ratio study frequency distributions tend to have longer tails that stretch to the right of the mean. This indication of positive skewness can often be attributed to high ratio outliers. Several approaches are available to calculate measures of skewness. The degree of skewness in this analysis is measured by the moment coefficient of skewness (based on the third moment about the mean). It is also called a measure of relative skewness. The normal distribution has no skewness and the value of this measure should be close to zero. Highly skewed sample distributions will have a measure greater than +3 or lower than –3.

Kurtosis

Kurtosis is a measure that is used to describe the concentration of ratio data in a frequency distribution. A normal distribution is bell shaped and referred to as mesokurtic, or neutral. It will have a value close to 3 (closer to 2 in small samples). Ratio study samples tend to have heavy tails to the right of the median (mean) ratio.

<div align="center">**Parametric Statistics**</div>

Parametric statistics make certain assumptions about the distribution of the population ratios or samples drawn from these populations. When these assumptions are met, parametric statistics make more efficient use of the data than distribution-free statistics.

Arithmetic Mean Ratio

The arithmetic mean ratio is the average of the sample ratios.

Arithmetic Mean Ratio Computation
1. *Sum the sample ratios*
2. *Divide by the sample number*

In a normal distribution, the mean will equal the median. If the distribution is skewed to the right, the mean will be greater than the median, which is typical of ratio study data. If the distribution is skewed to the left, the mean will be less than the median.

Sale	Ratio
1	80.0
2	90.0
3	100.0
4	120.0
5	125.0

$$\frac{80.0+90.0+100.0+120.0+125.0}{5} = \textbf{103.0 (Arithmetic) Mean Ratio}$$

Weighted Mean Ratio

The value weighted mean ratio is the average of a sample of ratios where proportional weights have been assigned to the sales prices. The weighted mean ratio gives weight to each dollar of value in the sample whereas the median and mean give equal weight to each ratio. The weighted mean ratio is often referred to as the aggregate ratio and is used in computing the price-related differential *(PRD)*.

Weighted Mean Ratio Computation
1. Sum the appraised values
2. Sum the sales prices
3. Divide the sum of the total appraised value by the sum of the total sale price
4. Multiply by 100

Sale	Appraised Value	Sale Price
1	$55,000	$50,000
2	$125,000	$128,800
3	$75,000	$75,000
4	$40,000	$32,000
5	$15,000	$59,900
Total	$310,000	$345,700

$$\frac{310,000}{345,700} = .897 \times 100 = \textbf{89.7 (Value) Weighted Mean Ratio}$$

Geometric Mean Ratio

The geometric mean offers a measure of appraisal level that, like the median, is not as susceptible to the influence of outliers as the mean and weighted mean. Large differences between the geometric mean and the arithmetic mean indicate the presence of significant outlier ratios.

Geometric Mean Ratio Computation
1. *Multiply the ratios in the sample together and finding the nth root of the result, where n equals the number of ratios in the sample*
2. *Find the nth root of the product*

Sale	Ratio
1	80.0
2	90.0
3	100.0
4	120.0
5	125.0

$$(80.0 \times 90.0 \times 100.0 \times 120. \times 125.0)^{1/5} = \textbf{101.6} \text{ Geometric Mean Ratio}$$

Harmonic Mean Ratio

The harmonic mean is used to calculate average rates. The rate usually indicates the relationship between two different types of measuring units that can be expressed reciprocally. The harmonic mean is less affected by extreme ratios than the geometric mean and the arithmetic mean.

Harmonic Mean Ratio Computation
1. *Find the reciprocal of each ratio value (1 divided by the ratio)*
2. *Sum the reciprocals*
3. *Divide the number of ratios in the sample by the sum of the reciprocals*

Sale	Appraised Value	Sale Price	Ratio	Reciprocal Values
1	$25,000	$20,000	125.0	0.0080
2	$45,000	$50,000	90.0	0.0111
3	$12,000	$15,000	80.0	0.0125
4	$30,000	$30,000	100.0	0.0100
5	$19,200	$16,000	120.0	0.0083
Total				**0.0499**

$$\frac{5}{0.0499} = \textbf{100.2} \textit{ Harmonic Mean Ratio}$$

Standard Deviation

The standard deviation is the most common measure of dispersion and may be a useful measure of appraisal uniformity if the underlying distribution of ratios in the population conforms to a normal distribution.

The formula for the standard deviation is $\quad s = \sqrt{\dfrac{\sum\left(A_i/S_i - \overline{A/S}\right)^2}{n-1}}$

s	= standard deviation
$\sum$	= algebraic symbol for sum
A_i	= each Appraised Value
S_i	= each Sale Price
$\overline{A/S}$	= Sample Mean Ratio
^{2}	= square or take to the 2nd Power
$\sqrt{}$	= the square root symbol

Standard Deviation Computation

1. Subtract the mean from each ratio
2. Square the difference
3. Sum the squared differences
4. Divide by the number of ratios less one to obtain the **variance**
5. Take the square root of the variance to arrive at the standard deviation

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Sale	Appraised Value	Sale Price	Ratio	Ratio Minus Mean	Square of Differences
1	$25,000	$20,000	125.0	22.0	484.0
2	$45,000	$50,000	90.0	-13.0	169.0
3	$12,000	$15,000	80.0	-23.0	529.0
4	$30,000	$30,000	100.0	-3.0	9.0
5	$19,200	$16,000	120.0	17.0	289.0
				Total	1480.0
Mean	103.0				

$$\sqrt{\frac{1480.0}{5-1}} = 370.0 \; \textbf{\textit{Variance}}$$

$$\sqrt{370.0} = \textbf{19.2} \; \textbf{\textit{Standard Deviation}}$$

Coefficient of Variation *(COV)*

The coefficient of variation *(COV)* is a relative measure of appraisal uniformity that is based on the standard deviation.

Coefficient of Variation (COV) Computation
1. *Compute the standard deviation*
2. *Divide the standard deviation by the arithmetic mean ratio*

Using the standard deviation of 19.2 from the previous example and the arithmetic mean ratio of 103.0, the calculation would be as follows.

$$\frac{19.2}{103.0} \times 100.0 = \textbf{18.6} \; \textit{Coefficient of Variation (COV)}$$

Price-Related Differential *(PRD)*

The price-related differential *(PRD)* is a statistic for measuring assessment regressivity or progressivity. Appraisals are considered regressive if high-value properties are under appraised relative to low-value properties and progressive if high-value properties are relatively over appraised.

A PRD of 1.00 is the most desirable state and indicates that no assessment bias exists between the low and high value properties. A PRD greater than 1.00 suggests that high-value property may be under appraised relative to lower valued property. If the PRD is less than 1.00, high-value property may be over appraised relative to low-valued property.

Price-Related Differential (PRD) Computation

1. *Divide the arithmetic mean ratio by the weighted mean ratio*

Sale	Appraised Value	Sale Price	Ratio
1	$25,000	$20,000	125.0
2	$45,000	$50,000	90.0
3	$12,000	$15,000	80.0
4	$30,000	$30,000	100.0
5	$19,200	$16,000	120.0
Total	**$131,200**	**$131,000**	**515.0**

$$\frac{515.0}{5.0} = \textbf{103.00} \;\; \textbf{\textit{Arithmetic Mean}}$$

$$\frac{131,200}{131,000} \times 100 = \textbf{100.15} \;\; \textbf{Value} \; \textit{\textbf{Weighted Mean Ratio}}$$

$$\frac{103.00}{100.15} = \textbf{1.03} \; \textit{\textbf{Price-Related Differential (PRD)}}$$

The arithmetic mean ratio is 103.0 and the weighted mean ratio is 100.2 *(1.002 * 100).* The PRD is found by dividing the mean ratio by the weighted mean ratio.

The example above may indicate some assessment regressivity. The International Association of Assessing Officers *Standard on Ratio Studies* recommends the price-related differential *(PRD)* should range between 0.98 and 1.03. Confidence intervals are used to evaluate this performance measure.

Coefficient of Price-Related Bias *(PRB)*

Price-related bias *(PRB)* is a coefficient that provides an index of appraisal/sale ratio change to market value change (vertical equity) obtained by regressing the ratio deviations from the median ratio (percentage changes) on a proxy of market value. The market value proxy is obtained by giving equal weight to appraised values and sales prices. The regression summary output coefficient, β_1 (X Variable 1 if developed in Microsoft Excel), or slope of the regression line represents the corresponding percentage change in ratios.

Price-Related Bias(PRB) Computation

1. *Calculate the ratio for each sale and find the median ratio of the sample.*
2. *Compute the proxy of market value. This term is composed of 50 percent of sale price + 50 percent of appraised value. To ensure that appraised values and sales prices receive equal weight, appraised values are divided by the median ratio (trended) before summing:*
      Proxy_MV = 0.5
         Where:
            AV= Appraised Value
            SP = Sale Price
3. *Take the natural logarithm of the value proxy and divide by the natural log of 2 (.693):*
      Ln_Proxy MV =LN(Proxy MV)/LN(2)
      Taking logarithms converts the market value proxy to a percentage basis, which substantially minimizes the impact of atypically high values (outliers) in the analysis. Dividing by the natural log of 2 allows each increment of 1 to be interpreted as a change of 100%. (For example: LN(100,000)/LN(2) = 16.613 and LN(200,000)/LN(2) = 17.613).
4. *Compute percentage differences of each sale ratio in the sample when compared to the sample median ratio:*
      Pct_Diff = (Sale ratio – Median ratio)/Median ratio
      Where:
         PCT_Diff = Percentage Difference
         Sale ratio = Appraised value / sale price
5. *Set up a simple linear regression where the independent variable is the log of the market value proxy (3) and the dependent variable is the associated sale ratio percentage difference (4): Pct_Diff = β_0 + β_1 × Ln_ProxyMV*
6. *Evaluate the p-Value for significance. It must be <= .05 to be significant*
7. *Examine the upper and lower 95% confidence intervals:*

   The PRB coefficient (slope) should fall between –0.05 and 0.05. If the 95 percent confidence interval does not overlap this range, one can reasonably conclude that appraisal levels change by more than 5 percent when market values are halved or doubled. PRBs for which 95 percent confidence intervals fall outside the range of –0.10 to 0.10 indicate unacceptable vertical inequities.

In the following example ratios decline by 34.0 percent when market values double (and increase by 34.0 percent when market values are halved). The 95 percent confidence interval is −0.381 to −0.300.

AV	SP	Ratio	AV/Med	MV proxy	X Ind Var LN(MV Proxy)	Y Dep Var Pct Diff
67,500	125,000	0.54	78,488	101,744	16.635	-0.372
51,000	85,000	0.60	59,302	72,151	16.139	-0.302
55,800	90,000	0.62	64,884	77,442	16.241	-0.279
50,400	70,000	0.72	58,605	64,302	15.973	-0.163
40,500	54,000	0.75	47,093	50,547	15.625	-0.128
48,360	62,000	0.78	56,233	59,116	15.851	-0.093
53,300	65,000	0.82	61,977	63,488	15.954	-0.047
44,720	52,000	0.86	52,000	52,000	15.666	0.000
36,400	40,000	0.91	42,326	41,163	15.329	0.058
37,830	39,000	0.97	43,988	41,494	15.341	0.128
30,000	30,000	1.00	34,884	32,442	14.986	0.163
33,600	32,000	1.05	39,070	35,535	15.117	0.221
33,000	30,000	1.10	38,372	34,186	15.061	0.279
9,000	6,000	1.50	10,465	8,233	13.007	0.744
8,500	5,000	1.70	9,884	7,442	12.861	0.977
	Median	**0.86**				

SUMMARY OUTPUT

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	5.292	0.2881	18.370	1.108E-10	4.670	5.915
X Variable 1 (PRB)	-0.340	0.0188	-18.137	1.300E-10	-0.381	-0.300

Note: The summary output in the example above was computed in Microsoft Excel (Data\ Data Analysis\ Regression). **No** outlier trimming was employed for this performance measure. In order to fully assess the usefulness of the statistic, extreme, influential, and leverage ratios must be identified through routine regression diagnostic test and reasonable cutoff (trimming) procedures applied. Confidence intervals are used to evaluate this performance measure. No formal IAAO performance standard has been established at this time. However, the general area of compliance for the PRB is expected to fall between -.050 and +0.050.

Average Sale Price

	Average Sale Price Computation
1.	Sum the sale prices
2.	Divide by the number of sale prices in the sample

Sale	Sale Price
1	$20,000
2	$50,000
3	$15,000
4	$30,000
5	$16,000
Total	**$131,000**

$$\frac{20,000 + 50,000 + 15,000 + 30,000 + 16,000}{5} = \mathbf{131,000} \quad \textbf{Average Sale Price}$$

Average Market Value Estimate

	Average Market Value Computation
5.	Sum the appraised values
6.	Divide by the number of observations in the sample

Sale	Appraised Value
1	$25,000
2	$45,000
3	$12,000
4	$30,000
5	$19,200
Total	**$131,200**

$$\frac{25,000 + 45,000 + 12,000 + 30,000 + 19,000}{5} = \textbf{131,200 Average Market Value Estimate}$$

Trimming Outlier Ratios

Outliers are extreme ratios that are considered highly unusual when compared to the typical observations found in the sample. These aberrant ratios can distort some statistical measures. The potential for adverse influence is greater when the sample size is small. One anomalous ratio can exert a controlling influence over a ratio study outcome and produce misleading information. Although extra steps have been taken in the sale verification and screening process to identify suspect and unqualified sales; some invalid ratios may slip through. Uniform trimming procedures have been used to identify and remove the influence of outlier ratios prior to calculating the following statistics and performance measures.

Trimmed Statistical Measures		
Coefficient of Dispersion *(COD)*	Weighted Mean	PRD Confidence
COD Confidence Intervals	Geometric Mean	Average Sale Price
Weighted COD	Standard Deviation	Average Market Value
Harmonic Mean	Coefficient of Variation	Normality testing
Arithmetic Mean	Price-Related Differential *(PRD)*	Price Related Bias (PRB)

Trimming Procedures for Removing Outlier Ratios
1. The interquartile range of the sample is calculated by locating the first and third quartile points. The first quartile point is identified by the formula (n * .25) + .25 (n is the sample size). The third quartile is identified by the formula (n * .75) + .75.
2. The interquartile range (third quartile – first quartile) is multiplied by a factor of 1.5 to establish the base width for outlier trimming. A factor of 3 can be used to remove extreme outliers only.
3. The base width is added to the third quartile and subtracted from the first quartile to establish outlier trim points.

An additional screening limitation has been built into the trimming algorithm to restrict the maximum percentage of trimmed ratios to 20 percent of the sample size.

Note: Most personal computer spreadsheets contain functions to locate the first (Q1) and third (Q3) quartile, but they do not all use the same formula to calculate quartiles. PVD uses the same formula as Minitab, SPSS and NCSS. Excel uses (n x .25) + .75 for Q1 and (n x .75) + .25 for Q3. The difference in formulas CAN cause trim points to be different.

Evaluating the Minimum Sample Size from Tolerance Limits

In order for ratio study inferences to be reliable, it is necessary to know if the sample size is sufficient. For this Kansas ratio study, nonparametric tolerance limits have been employed to interpret small sample size limitations. A tolerance limit provides an interval wherein a prescribed proportion of ratio populations is expected to lie, with a given level of statistical probability. For sales ratio study samples in the Commercial/Industrial subclass, a threshold has been selected to coincide with an 85 percent probability that at least 50 percent of the population ratios will be represented by the distribution of ratios found in the sample.

The table below provides information that can be used to evaluate sample size adequacy. For the Residential and Commercial/Industrial subclasses, a minimum of five ratios are required to achieve the minimum sample size threshold and provide a sufficient number of observations to develop confidence interval estimates. In most counties the Residential subclass sample will exceed ten sales and achieve a 95 percent probability that 85 percent of the population ratio range will be represented by the sample. Small counties will often require supplemental sales (over the past 4 years) if less than five recent sales are available to develop a ratio sample for the Commercial/Industrial subclass. Large counties that qualify for representative residential sampling are held to higher standards. The sample size goal is expected to meet a 90 percent probability that 98 percent of the population ratios will be represented by the sample distribution. To meet this threshold, a county must have more than 200 valid residential sales during the study year.

Sample Sizes for Nonparametric Tolerance Limits								
Proportion of Ratios	*50%*	*70%*	*75%*	*80%*	*85%*	*90%*	*95%*	*98%*
85% Probability	6	10	13	16	22	33	67	168
90% Probability	7	12	15	18	25	38	77	194
95% Probability	8	14	18	22	30	46	93	236

References:
Conover, W.J., 1980. *Practical nonparametric statistics.* New York: John Wiley & Sons Wilks, S.S., 1962. *Mathematical statistics.* New York: John Wiley & Sons

Bootstrap Confidence Intervals for
Statistical Compliance

Traditional statistical methods have not been very successful in assessing the accuracy of inferences when the underlying data deviates from a Gaussian *(normal or bell-shaped)* distribution. Ratio study data typically falls into this category. Statistical procedures developed over the last twenty years have improved the accuracy of reliability measures, such as confidence intervals, in many scientific and industrial applications. The *bootstrap* is one such method that employs computer simulation and re-sampling techniques to provide a more powerful way to comprehend the uncertainty associated with ratio study performance measures. This process can provide estimates for statistical measures that do not easily lend themselves to formulas by reducing the dependency on mathematical and model assumptions.

The name bootstrap is derived from the old saying, *"pulling yourself up by your bootstraps (Efron, 1999),"* that reflects the fact that one available sample gives rise to many others.

Bootstrapping produces a confidence interval in a different but natural way. Bootstrap samples are generated using a Monte Carlo simulation routine to prepare numerous re-samples of the same size as the original sample. After these samples are generated, the statistics of interest are computed *(Coefficient of Dispersion, Median Ratio and Price-Related Differential)*. A bootstrap confidence interval for each statistic can be obtained from the distribution of the sample.

****

References:

Efron, Bradley and Robert J. Tibshirani. 1993. *An introduction to the bootstrap*. New York: Chapman & Hall.

Diaconis, Persi and Bradley Efron. 1983. Computer-intensive methods in statistics. *Scientific American*. 148:116-130.

Gunter, Bert. 1991. Bootstrapping: How to make something from almost nothing and get statistically valid answers. *Quality Progress*. 24(12)97-103.

Hall, Peter. 1992. *Bootstrap and the Eedgeworth expansion*. New York: Springer-Verlag.

Residential Sampling Counties

A sample of sales ratios from a county may not accurately represent the population from which they have been drawn. Ratio study performance measures can be distorted or skewed by a disproportionate influence of new construction, highly active neighborhoods or unique properties. Depressed areas, older neighborhoods and properties with low turnover rates are often underrepresented in a sample of sales. A large sample does not mitigate these problems. Research conducted by PVD has shown that in the largest counties, a smaller representative sample can improve statistical accuracy and permit considerable savings of staff time and resources in conducting the validation process.

Legislative changes in 1994 granted the Director of Property Valuation discretion to select a *random sample* from the pool of valid sales in the residential subclass of property. This option can be used in counties with more than 15,000 parcels.

The Ratio Study Technical Advisory Committee has determined that an eligible county should have a sufficient number of transfers to construct a representative sample with at about 200 to 400 valid residential sales for the study year. The fourteen counties listed below meet the criteria for the 2021 study.

Residential Sampling Counties 2021					
County	*Sample Size*	*County*	*Sample Size*	*County*	*Sample Size*
Butler	250	Lyon	200	Shawnee	300
Crawford	200	Miami	200	Wyandotte	300
Douglas	200	Reno	200		
Harvey	200	Riley	250		
Johnson	350	Saline	250		
Leavenworth	200	Sedgwick	350		

To perform residential sampling the following procedures have been implemented:

- Changes in population property characteristics are analyzed each year before sampling goals are established for a county.
- A computer assisted sampling program is employed to track the sampling process and ensure that sales will be selected on a random basis.
- A process has been employed to develop a more representative sample based on salient property characteristics of the population, such as, year built, size and construction quality.
- Sales validation and appeal procedures are uniform between residential sampling counties and non-sampling counties.
- Residential sampling plans and results are submitted each year to the Ratio Study Technical Advisory Committee for review and evaluation.

Supplemental Commercial/Industrial Sales

If less than six valid sales occurred in a county with the commercial/industrial subclass of property during the study cycle, a review of sales from the previous four-year timeframe was made *(January 1, 2017, through December 31, 2020)* pursuant to K.S.A. 79-1488. Forty-six Kansas counties required supplemental sales for the commercial/industrial subclass for the year 2021. A total of 177 supplemental commercial sales have been included in the statistical analysis for the year 2021 ratio studies.

The appraised value for supplemental sales reflects the appraised value for the year in which the property sold.

Section IV
Statutes, Directives and Administrative Regulations Pertaining to the Ratio Study

Ratio Studies
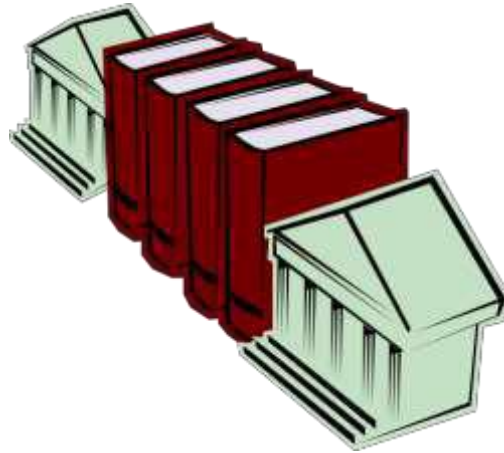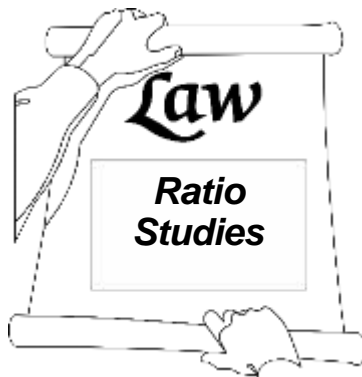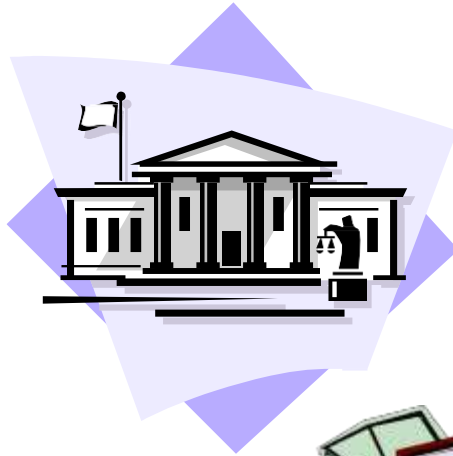
Kansas Statutes

79-503a. **Fair market value defined; allowable variance; factors to be considered in determining fair market value; generally accepted appraisal procedures to be utilized.**

79-503a. Fair market value defined; allowable variance; factors to be considered in determining fair market value; generally accepted appraisal procedures and standards to be utilized. "Fair market value" means the amount in terms of money that a well informed buyer is justified in paying and a well informed seller is justified in accepting for property in an open and competitive market, assuming that the parties are acting without undue compulsion. In the determination of fair market value of any real property which is subject to any special assessment, such value shall not be determined by adding the present value of the special assessment to the sales price. For the purposes of this definition it will be assumed that consummation of a sale occurs as of January 1. Sales in and of themselves shall not be the sole criteria of fair market value but shall be used in connection with cost, income and other factors including but not by way of exclusion:

(a) The proper classification of lands and improvements;

(b) the size thereof;

(c) the effect of location on value;

(d) depreciation, including physical deterioration or functional, economic or social obsolescence;

(e) cost of reproduction of improvements;

(f) productivity taking into account all restrictions imposed by the state or federal government and local governing bodies, including, but not limited to, restrictions on property rented or leased to low income individuals and families as authorized by section 42 of the federal internal revenue code of 1986, as amended;

(g) earning capacity as indicated by lease price, by capitalization of net income or by absorption or sell-out period;

(h) rental or reasonable rental values or rental values restricted by the state or federal government or local governing bodies, including, but not limited to, restrictions on property rented or leased to low income individuals and families, as authorized by section 42 of the federal internal revenue code of 1986, as amended;

(i) sale value on open market with due allowance to abnormal inflationary factors influencing such values;

(j) restrictions or requirements imposed upon the use of real estate by the state or federal government or local governing bodies, including zoning and planning boards or commissions, and including, but not limited to, restrictions or requirements imposed upon the use of real estate rented or leased to low income individuals and families, as authorized by section 42 of the federal internal revenue code of 1986, as amended; and

(k) comparison with values of other property of known or recognized value. The assessment-sales ratio study shall not be used as an appraisal for appraisal purposes.

The appraisal process utilized in the valuation of all real and tangible personal property for ad valorem tax purposes shall conform to generally accepted appraisal procedures and standards which are consistent with the definition of fair market value unless otherwise specified by law.

History: L. 1982, ch. 391, § 2; L. 1990, ch. 346, § 3; L. 1995, ch. 254, § 5; L. 1997, ch. 126, § 42; L. 2003, ch. 156, § 4; L. 2009, ch. 97, § 3; L. 2016, ch. 112, § 9; July 1.

79-1437c. **Real estate sales validation questionnaires; required to accompany transfers of title; retention time; use of information.**

No deed or instrument providing for the transfer of title to real estate or affidavit of equitable interest in real estate shall be recorded in the office of the register of deeds unless such deed, instrument or affidavit shall be accompanied by a completed real estate sales validation questionnaire completed by the grantor or grantee or the agent of such grantor or grantee concerning the property transferred. Such questionnaire shall not be filed of record by the register of deeds but shall be retained for a period of five years at which time they shall be destroyed. The register of deeds shall in conjunction with the county clerk use the

information derived from such questionnaires in cooperating with and assisting the director of property valuation in developing the information as provided for in K.S.A. 79-1487, and amendments thereto.
History: L. 1991, ch. 162, § 3; L. 1992, ch. 159, § 1; L. 1992, ch. 282, § 18; L. 1995, ch. 252, § 25; Jan. 1, 1996.

79-1437d.   Same; devised by director of property valuation; approval by legislature; information to be containedtherein.

The real estate sales questionnaire shall be devised by the director of property valuation, and the director shall furnish copies thereof to the register of deeds. Upon proposing modifications or changes to the real estate sales validation questionnaire devised and used prior to 1992 or any validation questionnaire approved by the legislature in 1992 or thereafter, the director of property valuation shall submit such proposal to the legislature. Upon the failure of the legislature to enact legislation modifying the director's proposal within 60 days of submission thereof, such proposal shall be deemed to be approved, and the director's modified questionnaire may be utilized at anytime thereafter. The questionnaire shall be devised to obtain information regarding the identification and location of the property, name and address of the purchaser, sales price, date of sale, the classification and subclassification to which such property belongs, nature and circumstances peculiar to the sale, whether any personal property was included in the sales price, whether the purchaser assumed any mortgage or liens, loans, leases or taxes, the method of financing, whether any special assessments are levied against the property and such other information as the director of property valuation shall require. No information shall be requested in such questionnaire which would require the disclosure of the interest rate paid by the purchaser or the specific term of any mortgage.
History: L. 1991, ch. 162, § 4; July 1.

79-1437e. Same; inapplicability to certain transfers of title.

(a) The real estate sales validation questionnaire required by this act shall not apply to transfers of title:

(1) Recorded prior to the effective date of this act;

(2) made solely for the purpose of securing or releasing security for a debt or other obligation;

(3) made for the purpose of confirming, correcting, modifying or supplementing a deed previously recorded, and without additional consideration;

(4) by way of gift, donation or contribution stated in the deed or other instrument;

(5) to cemetery lots;

(6) by leases and transfers of severed mineral interests;

(7) to or from a trust, and without consideration;

(8) resulting from a divorce settlement where one party transfers interest in property to the other;

(9) made solely for the purpose of creating a joint tenancy or tenancy in common;

(10) by way of a sheriff's deed;

(11) by way of a deed which has been in escrow for longer than five years;

(12) by way of a quit claim deed filed for the purpose of clearing title encumbrances;

(13) when title is transferred to convey right-of-way or pursuant to eminent domain;

(14) made by a guardian, executor, administrator, conservator or trustee of an estate pursuant to judicial order;

(15) when title is transferred due to repossession; or

(16) made for the purpose of releasing an equitable lien on a previously recorded affidavit of equitable interest, and without additional consideration.

(b) When a real estate sales validation questionnaire is not required due to one or more of the exemptions provided in subsection (a), the exemption shall be clearly stated on the document being filed.

History: L. 1991, ch. 162, § 5; L. 1992, ch. 159, § 2; L. 1994, ch. 275, § 12; L. 2002, ch.22, §1; July 1.

79-1437f.   Same; disposition and use of contents thereof, to and by whom.

Except as otherwise provided by K.S.A. 79-1460, and amendments thereto, contents of the real estate sales validation questionnaire shall be made available only to the following people for the purposes listed hereafter:

(a) County officials for cooperating with and assisting the director of property valuation in developing the information as provided for in K.S.A. 79-1487, and amendments thereto;

(b) any property owner, or the owner's representative, for prosecuting an appeal of the valuation of such owner's property or for determining whether to make such an appeal, but access shall be limited to the contents of those questionnaires concerning the same constitutionally prescribed subclass of property as that of such owner's property;

(c) the county appraiser and appraisers employed by the county for the appraisal of property located within the county;

(d) appraisers licensed or certified pursuant to K.S.A. 58-4101 et seq., and amendments thereto, for appraisal of property and preparation of appraisal reports;

(e) financial institutions for conducting appraisals and evaluations as required by federal and state regulators;

(f) the county appraiser or the appraiser's designee, hearing officers or panels appointed pursuant to K.S.A. 79-1602 or 79-1611, and amendments thereto, and the state board of tax appeals for conducting valuation appeal proceedings;

(g) the board of county commissioners for conducting any of the board's statutorily prescribed duties;

(h) the director of property valuation for conducting any of the director's statutorily prescribed duties; and

(i) a person licensed pursuant to the real estate brokers' and salespersons' act for purposes of fulfilling such person's statutory duties and providing information on market value of property to clients and customers.

History: L. 1991, ch. 162, § 6; L. 1992, ch. 282, § 19; L. 1999, ch. 123, § 2; L. 2002, ch. 23, § 1; L. 2006, ch. 151, § 3; L. 2007, ch. 63, § 1; L. 2008, ch. 109, § 87; L. 2014, ch. 141, § 96; July 1.

79-1437g.   **Same; penalty for violations.**

Any person who shall falsify the value of real estate transferred shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined not more than $500.
History: L. 1991, ch. 162, § 7; L. 1992, ch. 159, § 3; April 30.

79-1444   **Same; technical advisory committee; membership; qualifications, compensation and allowance; duties; additional advisory committee, appointment.**

There is hereby established a technical advisory committee on the assessment-sales ratio study. The committee shall consist of three (3) members, appointed by and serving at the pleasure of the secretary of revenue. Members of the committee shall have such education and training as may be necessary to advise the director in the methodology of conducting studies of the type required under the provisions of this act. Members of the advisory committee on assessment-sales ratio study attending meetings of such committee, or attending a subcommittee meeting thereof authorized by such committee, shall be paid amounts provided in subsection (e) of K.S.A. 75-3223 and amendments thereto. The same shall be paid from appropriations to the secretary of revenue upon warrants of the director of accounts and reports issued pursuant to vouchers approved by the secretary of revenue or a person or persons designated by him or her.

It shall be the duty of the committee to advise and consult with and assist the director in the review and evaluation of the procedures used by the director of property valuation in making the assessment-sales ratio study and to make recommendations for any changes deemed necessary. It shall be the duty of the board of regents and the administration of each of the state institutions thereunder to authorize any staff members so selected to participate as members in the activities of such committee. The secretary of revenue may appoint an additional advisory committee of not to exceed seven (7) members to serve at his or her pleasure.
History: L. 1965, ch. 516, § 6; L. 1968, ch. 208, § 14; L. 1972, ch. 362, § 7; L. 1974, ch. 348, § 99; L. 1974, ch. 428, § 7; L. 1975, ch. 416, § 27; July 1.

79-1485   **Kansas real estate ratio study act: purposes.**

(a)   This act shall be known and may be cited as the Kansas real estate ratio study act.

(b)   The purpose of this act is to provide statistical information regarding the relationship of the appraised value to the selling price of real estate which has sold during the study year and the relative level of uniformity of appraisal within and among counties and to report such information in convenient form to the legislature and other interested parties. The statistical information determined pursuant to this act may be used by the director in carrying out such director's duties, including, but not limited to, assisting such director in the determination of substantial compliance under K.S.A. 79-1445, and amendments thereto.
History: L. 1992, ch. 131, § 1; L. 1994, ch. 275, § 8; July 1.

79-1486   **Same; definitions. As used in this act:**

(a)   "Sale" or "sales" shall include all transfers of real estate for which a real estate sales validation questionnaire is required by K.S.A. 79-1437c, and amendments thereto; however, all sales for which a real estate sales validation questionnaire is required by K.S.A. 79-1437c, and amendments thereto, need not be included in the final ratios determined;

(b)   "valid sale" is a sale that is an indicator of fair market value as defined in K.S.A. 79-503a, and amendmentsthereto;

(c)   "invalid sale" is a sale that is not an indicator of fair market value as defined in K.S.A. 79-503a, and amendments thereto;

(d) "unvalidated sale" is a residential subclass sale that was not selected through a random sampling process and has not been determined to be either a valid sale or an invalid sale;

(e) "real estate" shall include land, improvements and structures which are appraised as real property;

(f) "director" shall mean the director of property valuation;

(g) "classification" shall mean those classifications which apply to real property contained in K.S.A. 79-1439, and amendments thereto, or any stratification which may be prescribed by the director;

(h) "average" shall mean that measure or measures of central tendency which the director shall   determine best describes a group of individual ratios;

(i) "ratio" shall mean the numerical relationship between the appraised or assessed value and the selling price; and

(j) "study year" shall mean that twelve-month period beginning annually on January 1.
History: L. 1992, ch. 131, § 2; L. 1994, ch. 275, § 9; July 1.

79-1487 **Same: duties of local officials; access of records by director.**

It shall be the duty of all county officials to cooperate with and assist the director in the development of the information required by this act. Such county officials shall exchange such information as may   be necessary to carry out the intent and purposes of this act. The director or the director's agents shall have access to all county records for the purpose of carrying out the intent and purposes of this act.
History: L. 1992, ch. 131, § 3; July 1.

79-1488 **Same; authorities and duties of director.**

It shall be the duty of the director to obtain all information relating to each sale of real estate as the director shall deem necessary to carry out the intent and purposes of this act. The director shall prescribe the form in which the data is obtained. The director shall assign agents who shall verify and categorize each sale as valid, invalid or unvalidated. The director shall determine the median ratio in relation to the county's certified value, the price-related differential, and the coefficient of dispersion for each classification of property in each county. If, in the director's opinion, sales from the study year are insufficient to determine reliable ratios for any classification of property in any county, sales from the four-year period preceding the study year may be used to supplement study year sales or the director may obtain or conduct appraisals for the purpose of supplementing, verifying or correcting ratios for the study year. The director may select random samples of residential subclass sales from counties having a total parcel count in excess of 15,000 to determine reliable residential subclass ratios for any such county. The random sample shall be selected prior to any validation process Data from deeds, other instruments of conveyance and real estate sales validation questionnaires recorded or filed with the register of deeds on or after the first day of February following the study year shall not be used in determining the ratios for any county.
History: L. 1992, ch. 131, § 4; L. 1994, ch. 275, § 10; July 1.

79-1489 **Same; notification of ratios to county by the director; appeals, procedure.**

The director shall determine the mid-year ratios for each county and notify the board of county commissioners thereof. When the final ratios are determined, the director shall notify the board of county commissioners of each county of the ratios determined for such county. If the board of county commissioners disagrees with the ratios determined for the county, such board, within 15 days after receipt of such notice, may appeal such determination to the state

board of tax appeals. Written notice of appeal shall be served on the state board of tax appeals and the director by certified mail. The notice of appeal shall clearly and specifically state the facts upon which the appeal is based. The state board of tax appeals shall conduct a summary proceeding in accordance with the provisions of the Kansas administrative procedure act within 30 days of receipt of the written notice of appeal and shall issue findings and a final order within 30 days after the conclusion of such summary proceeding. If the state board of tax appeals finds that corrections in the ratios are necessary, it shall order the director to make necessary corrections consistent with such findings prior to the publication of the study.
History: L. 1992, ch. 131, § 5; L. 1994, ch. 275, § 11; L. 2008, ch. 109, § 94; L. 2014, ch. 141, § 102; July 1

79-1490   **Same; publishing of study, when.**

The director shall publish the ratio study after the procedures prescribed in K.S.A. 79-1489 have been concluded. If it is determined that the ratio study cannot be published by April 1, the director shall provide a preliminary ratio study to the governor, the speaker of the house and the president of the senate and their respective tax committees on or before March 15.
History: L. 1992, ch. 131, § 6; July 1.

79-1491   **Same; rules and regulations.**

The secretary of revenue shall adopt rules and regulations providing for the administration of this act.
History: L. 1992, ch. 131, § 7; July 1.

79-1492   **Same; application of act.**

The provisions of K.S.A. 79-1437e, 79-1485, 79-1486, 79-1488 and 79-1489 shall apply to all taxable years commencing after December 31, 1993.
History: L. 1992, ch. 131, § 8; L. 1994, ch. 275, § 13; July 1.

79-1493   **Same; authority to compile and publish other statistics not affected.**

Nothing in this act shall preclude the director from gathering, compiling or publishing any information or statistics in addition to those required by this act.
History: L. 1992, ch. 131, § 9; July 1.

79-1495   **Computer-assisted mass-appraisal system; verification of accuracy requirements**

In any county which fails to meet the minimum appraisal standards for commercial real property established by the official Kansas appraisal/sales ratio study conducted for the preceding year by the division of property valuation of the department of revenue, the director of property valuation shall be required to perform, or to contract with an independent third party to perform, a market-based appraisal of no less than 1% of the commercial properties appraised by the computer-assisted mass-appraisal system within the county as a verification of the accuracy of such system. The properties shall be selected so to represent a sample of the commercial property types which failed to meet statistical compliance in the county. The property owner shall be allowed the opportunity to meet with the appraiser in order to offer pertinent data and insight on the issues that would affect the value of the property. This appraisal will not be an official appraisal of the property and will be used for the purposes of quality assurance of the mass-appraisal system. If the independent appraisal reveals a statistical deviation greater than 5% on more than 25% of the audited properties, then the director will perform additional audits in those counties and require corrective action necessary to ensure a fair and accurate appraisal.
History: L. 2016, ch. 112, § 22; July 1.

Division of Property Valuation Directives

Division Of Property Valuation
Docking State Office Building
915 SW Harrison St., Room 400N
Topeka, KS 66612-1588

Kansas
Department of Revenue

phone: 785-296-2365
fax: 785-296-2320
www.ksrevenue.org

Nick Jordan, Secretary
David N. Harper, Director

Sam Brownback, Governor

DIRECTIVE #14-046

TO: **County Appraisers**

SUBJECT: **Scope of Work and Substantial Compliance**

This Directive Supersedes Directive #92-002 and #92-003

This directive is adopted pursuant to the provisions of K.S.A. 79-505 and shall take effect and be in full force from and after its publication in the Kansas Register.

The following criteria and standards shall be used for appraisals developed in the 2014 valuation cycle (in preparation for January 1, 2015 valuation date) and subsequent years to determine whether a county is in substantial compliance with the statutory requirement to uniformly appraise real and personal property at its fair market value, as defined by K.S.A. 79-503a, and amendments thereto. In order to establish compliance or lack of compliance in each county, the Division of Property Valuation (PVD) shall conduct a ratio study to develop statistical performance measures as required by K.S.A. 79-1485 *et. seq.* PVD shall conduct a procedural audit in each county covering items deemed essential to establishing fair market value. PVD shall determine whether specific Kansas statutes pertaining to property taxation have been followed. In accordance with K.S.A. 79-1445, PVD will publish annually a list of the substantial compliance results for each county.

Criteria and Standards

The annual substantial compliance process uses an objective scoring system that PVD has developed to evaluate completion of key mass appraisal steps, accomplishment of assessment administration functions, and achievement of accuracy standards in each county. Points are awarded when a county meets minimum statistical performance measures, documentation is verified to confirm that mass appraisal procedures have been followed, and statutory requirements have been met. A maximum score of 100 is possible. A county must achieve a minimum score of 75 to attain substantial compliance. Any county achieving a score less than 75 shall be found in noncompliance and may be required to submit a detailed plan to correct areas of noncompliance.

Substantial compliance is based upon ratio study performance measures, an audit of procedural steps required to develop a credible mass appraisal, and verification that important statutory mandates have been met. The ratio study conducted by PVD is used to

verify that overall value conclusions meet minimum standards of reasonableness, consistency and accuracy. Refusal by county officials to cooperate in the ratio study may result in a noncompliance order. The procedural steps are tied to Kansas statutes and regulations, the International Association of Assessing Officers (IAAO) Standard on Mass Appraisal and the Uniform Standards of Professional Appraisal Practice (USPAP). Refusal by a county or district appraiser to perform any procedural step may result in a noncompliance order. Kansas statutes require critical functions to be performed and annual processing deadlines to be met by the county or district appraiser. Refusal to comply with any statutory requirement may result in a noncompliance order.

If a county is determined to be in noncompliance, the director may pursue all legal options, including, but not limited to, proceedings before the Kansas Court of Tax Appeals and/or the removal of the county or district appraiser from office. PVD may require the county to submit a detailed plan to correct areas of noncompliance. A PVD audit of all property tax functions and responsibilities may be initiated if the county does not implement its approved plan or the plan is ineffective in bringing the county back into compliance.

The director may include an administrative note on the final report if a county fails to achieve industry standard ratio study performance measures. Counties receiving an administrative note may be required to submit a plan to correct the area or areas not meeting the basic statistical standards.

The Compliance Scorecard along with the points possible follows:

Compliance Scorecard - *Example of total points possible*

Subclass	Appraised Value	Percent of Total Appraised Value
Residential		
Commercial/Industrial		
Total Appraised Value		

Subclass	Percent of Appraised Value (weighted)	Compliance Points Possible	Weighted Points	Points Received
1. Statistical Measures				
Residential				
Appraisal Level		25		
Appraisal Uniformity		25		
Commercial/Industrial				
Appraisal Level		25		
Appraisal Uniformity		25		
Statistical Compliance Points		**50**		

2. Procedures	Compliance Points Possible	Points Received
a. Scope of Work Appraisal Plan	4	
b. Sales File	4	
c. Parcel Maintenance Inspection	4	
d. Land Valuation Model Calibration	4	
e. Construction Cost Multiplier Analysis	4	
f. Depreciation Analysis	4	
g. Income Approach	4	
h. Comparable Sales Approach	4	
i. Final Review Process	4	
Total	**36**	
3. Agricultural Use Valuation	**2**	
4. Cadastral Mapping	**2**	
5. Statutory Compliance		
a. Trend Study and CVN Mailing	2	
b. Informal Hearings	2	
c. Appraised Value Certification	2	
d. Personal Property	2	
e. Preservation and Protection of Property Tax Records	2	
Total	**10**	
I. Total Points Possible	**100**	
II. Total Points Received		
III. Overall Score (II/I)*100		

1. STATISTICAL MEASURES COMPLIANCE REVIEW (50 points)

Statistical compliance for the *residential* and *commercial/industrial* subclasses shall be determined separately. A maximum of 50 ratio study compliance points are possible for a county that achieves the median ratio (25 points) and COD (25 points) performance goals through statistical point estimates in both subclasses. Subclass points shall be weighted by the percentage of appraised value within the combined subclasses, as derived from the most recent statistical abstract. The percentage of appraised value, divided between the residential and commercial/industrial subclass will be shown at the top of the form. These percentages will be used to develop the point weighting for each statistical measure in the two subclasses. Subclass weights are expected to vary from county to county and from year to year.

The following is an example of the weighting procedure:

Subclass	Appraised Value	Percent of Total Appraised Value
Residential	$250,000,000	84.7
Commercial/Industrial	$45,000,000	15.3
Total Appraised Value	$295,000,000	100.0

Subclass	Percent of Appraised Value (weighted)	Compliance Points Possible	Weighted Points	Points Received
1. Statistical Measures				
Residential				
Appraisal Level	84.7	25	21.2	
Appraisal Uniformity	84.7	25	21.2	
Commercial/Industrial				
Appraisal Level	15.3	25	3.8	
Appraisal Uniformity	15.3	25	3.8	
Statistical Compliance Points			50.0	

1. Sum the residential and commercial/industrial appraised value
($250,000,000 + $45,000,000 = $295,000,000)

2. Divide each subclass appraised value by the total appraised value.
$250,000,000/$295,000,000 = 84.7 percent (Residential)
$45,000,000/$295,000,000 = 15.3 percent (Commercial-Industrial)

3. Multiply the percent of appraised value (weighted) by the compliance points possible in each subclass for both the median ratio and COD.

$$.847 \text{ times } 25 = 21.2$$
$$.847 \text{ times } 25 = 21.2$$
$$.153 \text{ times } 25 = 3.8$$
$$.153 \text{ times } 25 = 3.8$$

Median ratio: 115.2 95% Confidence interval: 110.1 to 120.0 would not be considered in statistical compliance because the lower end (110.1) does not reach the acceptable range of 90.0 to 110.0 percent.

b. Appraisal Uniformity

The average deviation of ratios about the median appraisal level shall be measured by the coefficient of dispersion (COD). The COD measure must suggest a deviation of 20.0 or less for the *residential* subclass and the *commercial/industrial* subclass to achieve statistical compliance. If a subclass fails to meet this goal, confidence interval estimates shall be developed about the COD. If the range estimate for the subclass includes a COD of 20.0 or less at the 95% level of confidence, appraisal uniformity shall not be found out of statistical compliance.

For example:

COD: 18.0   95% Confidence interval: 13.0 to 22.0

This example is not considered out of compliance because the COD point estimate is less than 20.0. The confidence interval does suggest, however, there is a small probability the true COD could actually be greater than 20.0, due to sampling error.

COD: 30.0   95% Confidence interval: 22.0 to 38.0

This example is considered out of compliance because the COD point estimate is 30.0 and the lower range of the 95% confidence interval does not fall below 20.0 (the maximum limit for compliance).

COD: 22.0   95% Confidence interval: 17.0 to 26.0

This example is not considered out of compliance although the COD point estimate is 22.0. Due to sampling error, it is probable that the true COD is somewhere within the range of 17.0 to 26.0 at the 95% level of confidence. The county would not fail the compliance test because of insufficient statistical confirmation. The lower end of the confidence interval does fall below 20.0 (the maximum limit for compliance).

c. Sample Size

If less than six valid sales are collected for a subclass during the study period, valid sales within the same subclass from the four previous study periods may be included to develop a larger and more reliable sample for analysis.

If less than five valid sales are available in a subclass sample, ratio study performance measures will not be used to determine statistical compliance. The points allocated to the statistical measures for that subclass shall be subtracted from the total compliance points, thereby establishing a new base of total possible points.

All reinspection activity must have an inspection history record entered into the CAMA system showing the reviewer name, inspection date, and process code to adequately indicate the purpose of the review.

d. Land Valuation Model Calibration (4 points)

PVD shall verify that the county has developed and calibrated land valuation models in accordance with the Revaluation Maintenance Specifications. Neighborhood analysis forms, analysis documentation, and data summary must be complete to be considered in compliance. PVD shall also confirm land pricing tables have been updated. A market analysis for agricultural land must also be documented. Deviations from model assignments must be documented.

e. Construction Cost Multiplier Analysis (4 points)

If the county deviates from the current cost valuation system, PVD shall verify the county has a current residential and/or commercial/agricultural construction cost multiplier analysis in accordance with the Revaluation Maintenance Specifications. If the county recognizes a deviation from the current cost valuation system, cost tables must be updated to reflect the study. Deviation from the current cost valuation system without documentation will result in the loss of two points for the applicable property type. Two points for residential and two for commercial/agricultural are possible and are evaluated independently.

Sales of newly constructed properties may be used in the analysis for actual construction cost when appropriate.

f. Depreciation Analysis (4 points)

PVD shall verify the county has developed a depreciation analysis in accordance with the Revaluation Maintenance Specifications and PVD sales validation guidelines that utilizes all available valid sales. The county must include appropriate statistics, graphics reports and statistical analyses to test percent good calibration assignments. All forms of depreciation must be documented. The county must update percent good tables, if appropriate, with the results of the yearly analysis. Deviations from model assignments must be documented. Two points for residential and two for commercial/agricultural are possible and are evaluated independently.

g. Income Approach (4 points)

PVD shall verify that the county has developed or attempted to develop an income approach to value appropriate properties. The appraiser must document all income approach analysis and conclusions in accordance with the Revaluation Maintenance Specifications. Updated income and expense model calibration must be completed. Deviations from model assignments must be documented.

h. Comparable Sales Approach (4 points)

PVD shall verify the county has developed a sales comparison approach to value by analyzing the relationship between the sales prices and the real property characteristics. The county must document all sales approach analysis, model specification, model calibration and conclusions in accordance with the Revaluation Maintenance Specifications. Deviations from model assignments must be documented.

i. Final Review Process (4 points)

PVD shall verify that the county has performed the final review of values in accordance with the Revaluation Maintenance Specifications. The county must document the date and person performing the final review.

3. AGRICULTURAL USE VALUATION (2 points)

PVD shall verify that the county has met the review/inspection requirements for current agricultural use and influence factors in accordance with the Revaluation Maintenance Specifications. The county must identify current use of agricultural land, which includes cropland, grassland, irrigated land, waterways, non-productive land, and farm home sites. Agricultural use values issued annually by PVD must be updated into the CAMA system (see Appendix A. Scoring Example).

4. CADASTRAL MAPPING (2 points)

PVD shall verify that accurate property ownership maps are being maintained in accordance with the Revaluation Maintenance Specifications. Updated field maps (showing new plats, splits, and combinations), an updated assessment administration file and adherence to the parcel definition must be maintained (see Appendix A. Scoring Example).

5. STATUTORY COMPLIANCE (10 points)

The following review areas are to establish whether the county is following Kansas statutes not previously covered (see Appendix A. Scoring Example).

a. A real estate value trend study is published at least five business days prior to the mailing of the CVN's (K.S.A. 79-1460A). Change of value notices are mailed on or before the statutory deadline, provided an extension has not been granted pursuant to K.S.A. 79-1404, *Seventeenth*, or an alternate form of notification approved pursuant to K.S.A. 79-1460 (K.S.A. 79-1460).

b. Informal hearings are held within statutory timeframe, provided an extension has not been granted pursuant to K.S.A. 79-1404, *Seventeenth* (K.S.A. 79-1448).

c. Values are certified to county clerk by statutory deadline, provided an extension has not been granted pursuant to K.S.A. 79-1404, *Seventeenth* (K.S.A. 79-1466 and 79-1467).

d. Personal property is listed as required and penalties applied where applicable (K.S.A. 79-306 and 79-1422; K.S.A. 79-332a).

e. The preservation and protection of all property tax records (K.S.A. 45-403).

Approved: June 3, 2014

David N. Harper
Director of Property Valuation

APPENDIX A. Scoring Example

The scorecard on the following page demonstrates the scoring process based on the following information.

- The residential subclass failed to meet the required level of appraisal statistical standards and did not receive the 21.2 points possible.
- The commercial subclass had less than six sales; therefore, there were zero points possible for the commercial/industrial subclass. The total weighted points possible for statistical analysis changed to 42.4.
- A total of 50 points were possible for procedures, agricultural use valuation, cadastral mapping and statutory compliance.
- Compliance points possible total 92.4.
- The county deviated from the default residential construction cost multiplier and did not do a residential construction cost analysis. The county used the default commercial cost multiplier.   Therefore 2 of the 4 possible points for the construction cost multiplier were deducted for failure to provide documentation to support deviation from the use of the residential default construction cost multiplier.
- The total points received for procedures totals 34 out of a possible 36.
- The county failed to mail their change of value notices before the statutory deadline and lost two points. Eight of a possible 10 points were earned for procedural compliance.
    - Total compliance points possible 92.4
    - Total points received 67.2

Total points received (67.2) divided by the total points possible (92.4) = final substantial compliance score (72.7 percent).

The county failed substantial compliance because the county did not reach the passing score of 75.0 percent.

Compliance Scorecard
Example

Subclass	Appraised Value	Percent of Total Appraised Value
Residential	$250,000,000	84.7
Commercial/Industrial	45,000,000	15.3
Total Appraised Value	$295,000,000	100.0

Subclass	Percent of Appraised Value (weighted)	Compliance Points Possible	Weighted Points	Points Received
1. Statistical Measures				
Residential				
Appraisal Level	84.7	25	21.2	0
Appraisal Uniformity	84.7	25	21.2	21.2
Commercial/Industrial				
Appraisal Level	15.3	25		
Appraisal Uniformity	15.3	25		
Statistical Compliance Points		50	42.4	21.2

2. Procedures	Compliance Points Possible	Points Received
a. Scope of Work Appraisal Plan	4	4
b. Sales File	4	4
c. Parcel Maintenance Inspection	4	4
d. Land Valuation Model Calibration	4	4
e. Construction Cost Multiplier Analysis	4	2
f. Depreciation Analysis	4	4
g. Income Approach	4	4
h. Comparable Sales Approach	4	4
i. Final Review Process	4	4
Total	**36**	**34**
3. Agricultural Use Valuation	**2**	**2**
4. Cadastral Mapping	**2**	**2**
5. Statutory Compliance		
a. Trend Study and CVN Mailing	2	0
b. Informal Hearings	2	2
c. Appraised Value Certification	2	2
d. Personal Property	2	2
e. Preservation and Protection of Property Tax Records	2	2
Total	**10**	**8**
I. Total Points Possible	**92.4**	
II. Total Points Received		**67.2**
III. Overall Score (II/I)*100		**72.7**

Division of Property Valuation
300 SW 29th Street
PO Box 3506
Topeka KS 66601-3506

Phone: 785-296-2365
Fax: 785-296-2320
www.ksrevenue.org

Mark A. Burghart, Secretary

Laura Kelly, Governor

DIRECTIVE #19-041

TO: **Register of Deeds**
SUBJECT: **Real Estate Sales Valuation Questionnaires; Submission Requirements.**
This Directive Supersedes Directive #03-041

This directive is adopted pursuant to the provisions of K.S.A. 79-505, and shall be in force and effect from and after the director's approval date. Register of deeds shall comply with the following procedures in handling and processing real estate sales validation questionnaires.

1. The only exceptions to the requirement to file a real estate sales validation questionnaire are statutory. K.S.A. 79-1437e(a) provides as follows:

The real estate sales validation questionnaire shall not apply to transfers of title:

(1) Recorded prior to the effective date of this act;

(2) made solely for the purpose of securing or releasing security for a debt or other obligation;

(3) made for the purpose of confirming, correcting, modifying or supplementing a deed previously recorded, and without additional consideration;(4) by way of gift, donation or contribution stated in the deed or other instrument;

(5) to cemetery lots;

(6) by leases and transfers of severed mineral interests;

(7) to or from a trust, and without consideration;

(8) resulting from a divorce settlement where one party transfers interest in property to the other;

(9) made solely for the purpose of creating a joint tenancy or tenancy in common;

(10) by way of a sheriff's deed;

(11) by way of a deed which has been in escrow for longer than five years;

(12) by way of a quit claim deed filed for the purpose of clearing title encumbrances;

(13) when title is transferred to convey right-of-way or pursuant to eminent domain;

(14) made by a guardian, executor, administrator, conservator or trustee of an estate pursuant

to judicial order;

(15) when title is transferred due to repossession; or

(16) made for the purpose of releasing an equitable lien on a previously recorded affidavit of equitable interest, and without additional consideration.

Except where an exception pursuant to K.S.A. 79-1437e is applicable, no deed or instrument providing for the transfer of title to real estate or affidavit of equitable interest in real estate shall be recorded in the office of register of deeds unless such deed is accompanied by a real estate sales validation questionnaire in compliance with the provisions of K.S.A. 79-1437c. The specific requirements of K.S.A. 79-1437c supersede the general requirements of K.S.A. 58-2221(d) to record any deed to real estate immediately.

When a real estate questionnaire is not required due to one of the exemptions listed above, the exemption number or reason for an exemption must be clearly stated on the deed. The register of deeds should not make changes to the face of the deed by adding the exemption number or exemption description. *(See Att'y Gen. Op. No. 92-122).*

When a real estate questionnaire is not required due to one of the exemptions listed above, the exemption number or reason for an exemption must be clearly stated on the deed. The register of deeds should not make changes to the face of the deed by adding the exemption number or exemption description. *(See Att'y Gen. Op. No. 92-122).*

2. The division of property valuation supplies a three-part real estate sales validation questionnaire (form number PV-RE-23) which is required when an affidavit of equitable interest, deed in real estate, or any other instrument used to transfer real property is recorded in the office of the register of deeds. Only counties having prior written approval from the director may use a special one-part version of the form (PV-RE-22- OP). The one-part form is intended be used in conjunction with image document management systems. Photocopies to of the questionnaire are not acceptable; however, filers may submit a computer-printed form. The digital version of the form (PV-RE-22-OP-CG) can be obtained from the department of revenue website. Counties accepting one-part forms are required to provide the original document(s) to the division of property valuation unless the register of deeds office has prior written approval from the director to submit document image files of the real estate sales validation questionnaires. Document image files shall be transmitted in monthly sessions to the Department of Revenue File Transfer Protocol (FTP) server.

3. The "total sale price" must be entered on the real estate sales validation questionnaire. If one dollar ($1.00), ten dollars ($10.00) or any nominal sale price is entered on the real estate sales validation questionnaire, the register of deeds shall question the accuracy of the sale price as entered. If the grantor, grantee, or agent affirms that the sale price as entered is correct, the deed should be recorded.

4. A real estate sales validation questionnaire is not required on a deed that states "without consideration" or that has one dollar ($1.00), ten dollars ($10.00) or some other nominal value entered thereon. "Without consideration" as used in K.S.A. 79-1437(e)(7), as amended by L. 1992, ch. a59, § 2, means "gift." Therefore, an entered consideration of one dollar ($1), ten dollars ($10) or "love and affection" on a deed shall be construed as a "gift," and the deed accepted without a real estate sales validation questionnaire. However, if the phrase "one dollar ($1.00) and other valuable consideration" has been entered on the deed, a real estate sales validation questionnaire is required to record the deed.

5. The buyer, seller or agent thereof may complete the real estate validation questionnaire. The party completing the real estate validation questionnaire must print their name and sign section 13 to affirm the instructions have been read and the information provided is true and accurate. An agent signing the real estate validation questionnaire must also provide a daytime phone number.

6.   If a government entity, such as a county, conveys real property, the real estate sales validation questionnaire must be signed by the government official(s) who signed the deed or an agent.

7.   Multiple deeds conveying partial interests and filed simultaneously, do not require multiple real estate sales validation questionnaires, provided the real estate sales validation questionnaire filed is annotated to state that the consideration entered thereon is the total consideration for the transfer of the entire interest. The register of deeds shall indicate in the upper left-hand corner of the real estate sales validation questionnaire the deed book and page number range assigned to the corresponding deeds.

8.   A real estate sales validation questionnaire with the phrase "other valuable consideration" entered as the sales price shall not be accepted. It shall be returned for the sale price to be entered before the deed, instrument or affidavit may be recorded.

9.   The register of deeds has a legal obligation to see that the real estate sales validation questionnaire is fully completed. At a minimum, this requires that each real estate sales validation questionnaire be scrutinized for completion of the identification, contact and parcel location information and all questions thereon.

10. A real estate sales validation questionnaire without every question answered, including the sale price, the signature and phone numbers of the seller and buyer entered is not "completed". Incomplete real estate sales validation questionnaires accompanied by the deed, other instrument transferring title to real estate or affidavit of equitable interest must be returned to the filer with notice that such deed, instrument or affidavit has not been recorded.

11. Telephone numbers for both the buyer and the seller are required at the top of the form, even if the agent completes and signs section 13 of the real estate sales validation questionnaire.

12. The phrase "made for the purpose of confirming, correcting, modifying or supplementing a deed previously recorded, and without additional consideration," (K.S.A. 79-1437e) is explained as follows:

Confirm means "to support or establish the certainty or validity of; verify." The American Heritage Dictionary of the English Language, 386 (4th Edition, 2000).

Correct means "to remove errors from." Webster's II New Riverside University Dictionary, 314 (1984).

Modify means "To change in form or character; alter." The American Heritage Dictionary of the English Language, 1130 (4th Edition, 2000).

Supplement means "something added to offset a deficiency, or strengthen the whole; a section added to a document to provide additional data, or to correct errors." Webster's II New Riverside Dictionary, 1163 (1984).

The recurrent theme of these definitions is an incidental change, not a change in substance. In the case of a deed previously recorded, this would mean that the change does not change the grantor or the grantee (although, e.g., a change may be made in the spelling of the grantor or grantee's name). Whatever the change, the intent to convey the real property to a named person or entity is not changed. Also, there can be no additional consideration.

13. It is a misdemeanor to falsify the sale price of real estate transferred on a real estate sales validation questionnaire (K.S.A. 79-1437g). Any register of deeds or other county official who has information or suspects that a real estate sales validation questionnaire has been falsified shall notify the county attorney or county counselor for possible legal action.

14. Individuals may obtain photocopies of real estate sales validation questionnaires if they have statutory

access to them (K.S.A. 79-1437f). K.S.A. 45-219(a) provides that any person may make abstracts or copies of any public record to which such person has access under the Open Records Act. Public officials may require advance payment of the actual cost of furnishing copies, including the cost of staff time, to make the information available. K.S.A. 45-218(f); K.S.A. 45-219(c)(1). *(See Att'y Gen. Op. No. 92-38)* Financial institutions can also obtain copies of real estate sales validation questionnaires for conducting appraisals or evaluations that are being conducted pursuant to state and federal regulations. The Internal Revenue Service (IRS) also has access to real estate sales validation questionnaires (*United States v. Martin*, 542 F. Supp. 22 (1982)).

15. Transfer on death deeds do not require the completion of the *Kansas Real Estate Sales Validation Questionnaire* because it does not actually transfer property at the time of filing.

16. Only those deeds to and from a trust and *without consideration* do not require a questionnaire be completed.

17. The register of deeds shall also comply with K.A.R. 93-4-2.

93-4-2. Annotation and disposition of real estate sales validation questionnaires; duties of county officials.

(a) Not later than three business days after the receipt of a three-part real estate sales validation questionnaire, the register of deeds shall annotate each copy with the following information:
  (1) The volume and page entry from the general index, indicating where the deed, instrument, or affidavit of equitable interest that accompanies it is recorded;
  (2) the county official validation number;
  (3) the type of instrument; and
  (4) the recording date.

The register of deeds shall retain the original copy and forward the county appraiser's copy and the director of property valuation's copy to the county appraiser. Not later than three business days after the receipt of the county appraiser's and the director's copies, the county appraiser shall enter the parcel identification number on both paper copies of each real estate sales validation questionnaire received from the register of deeds.

(b) The register of deeds may accept a one-part real estate sales validation questionnaire when authorized by the director of property valuation to process real estate sales validation questionnaires by electronic imaging. An electronic copy may be accepted by the register of deeds if questionnaires are received by means of digital media transmission and retained in an electronic document management system. (Authorized by K.S.A. 79-1491; implementing K.S.A. 79-1487 and 79-1488; effective June 26, 1998; amended Oct. 3, 2014.)

18. The Kansas Real Estate Sales Validation Questionnaire provides crucial information to fulfill requirements of the Kansas Real Estate Ratio Study Act (K.S.A 79-1486). All county officials share in the duty to cooperate and assist the Director of Property Valuation in the development of information required by this act (K.S.A. 79-1487). Participation by the Register of Deeds is not optional.

19. Permanent Administrative Regulations and Directives promulgated by the Division of Property Valuation carry the force of law and must be given the same deference by the Register of Deeds as Kansas statutes.

Approved: August 27, 2019

David N. Harper
Director of Property Valuation

REAL PROPERTY SUBCLASSES & ASSESSMENT RATES

CONSTITUTION OF THE STATE OF KANSAS
Article II.-§ 1. Nov. 3, 1992

System of taxation; classification: exemption.

(a) The provisions of this subsection shall govern the assessment and taxation of property on and after January 1, 1993, and each year thereafter.

Class 1 shall consist of real property. Real property shall be further classified into seven subclasses. Such property shall be defined by law for the purpose of subclassification and assessed uniformly as to subclass at the following percentages of value:

(1) Real Property used for residential purposes including multi-family residential real property and real property necessary to accommodate a residential community of mobile or manufactured homes including the real property upon which same homes are located **11.5%**

(KSCAMA Suffix Codes R, F)

(2) Land devoted to agricultural use that shall be valued upon the basis of its agricultural income or agricultural productivity pursuant to section 12 of article 11 of the constitution **30.0%**

(KSCAMA Suffix Codes A)

(3) Vacant Lots **12.0%**

(KSCAMA Suffix Codes V)

(4) Real property which is owned and operated by a not-for-profit organization not subject to federal income taxation pursuant to section 501 of the federal internal revenue code, and which is included in this subclass by law **12.0%**

(KSCAMA Suffix Codes N)

(5) Public utility real property, except railroad real property that shall be assessed at the average rate that all other commercial and industrial property **33.0%**

(KSCAMA Suffix Codes U)

(6) Real property used for commercial and industrial purposes and buildings and other improvements located upon land devoted to agricultural use **25.0%**

(KSCAMA Suffix Codes C & A with agricultural improvements)

(7) All other urban and rural real property not otherwise specifically sub-classed **30.0%**

(KSCAMA Suffix Codes O)

State of Kansas

Department of Revenue
Division of Property Valuation

Article 4. REAL ESTATE RATIO STUDY

93-4-2. Annotation and disposition of real estate sales validation questionnaires; duties of county officials.

(a) Not later than three business days after the receipt of a three-part real estate sales validation questionnaire, the register of deeds shall annotate each copy with the following information:

(1) The volume and page entry from the general index, indicating where the deed, instrument, or affidavit of equitable interest that accompanies it is recorded;

(2) the county official validation number;

(3) the type of instrument; and

(4) the recording date.

The register of deeds shall retain the original copy and forward the county appraiser's copy and the director of property valuation's copy to the county appraiser. Not later than three business days after the receipt of the county appraiser's and the director's copies, the county appraiser shall enter the parcel identification number on both paper copies of each real estate sales validation questionnaire received from the register of deeds.

(b) The register of deeds may accept a one-part real estate sales validation questionnaire when authorized by the director of property valuation to process real estate sales validation questionnaires by electronic imaging. An electronic copy may be accepted by the register of deeds if questionnaires are received by means of digital media transmission and retained in an electronic document management system. (Authorized by K.S.A. 79-1491; implementing K.S.A. 79-1487 and 79-1488; effective June 26, 1998; amended Oct. 3, 2014.)

93-4-3. Split and combined real estate parcel sales; duties of county officials.

Not later than 10 business days after the receipt of a real estate sales validation questionnaire concerning the sale of a split parcel or a parcel to be combined with one or more parcels, the county appraiser shall perform one of the following:

(a) On or after January 1 of the current appraisal year and before the creation of working files for the next appraisal year, enter the sales information on the parent parcel record in the county's computer-assisted mass appraisal system; or

(b) on or after the creation of working files for the next appraisal year and before January 1 of the next appraisal year, enter the sales information on the split or combined parcel record in the county's computer-assisted mass appraisal system. (Authorized by K.S.A. 79-1491; implementing K.S.A. 79-1487; effective June 26, 1998; amended Oct. 3, 2014.)

93-4-4. Assemblage and entering of sales data; accounting for real estate sales validation questionnaires; duties of county officials.

(a) Not later than the 10th day of each month, the county appraiser shall assemble and enter into the county's computer-assisted mass appraisal system the sales data pertaining to property transfers that were recorded on or before the last day of the preceding month, as obtained from the real estate sales validation questionnaires received from the register of deeds.

(b) The county appraiser shall meet the following requirements:

(1) Account for all real estate sales validation questionnaires by entering sales information from all questionnaires into the database fields in the county's computer-assisted mass appraisal system;

(2) maintain in a void file those questionnaires that cannot be matched with a parcel of real estate, those that contain information that cannot be entered in the county's computer-assisted mass appraisal system, and those that were not required by K.S.A. 79-1437e and amendments thereto;

(3) electronically upload the recorded monthly sales data from the county's computer-assisted mass appraisal system to the current year's ratio study database at the division of property valuation, not later than the 15th day of the following month; and

(4) perform one of the following, not later than the 15th day of the following month:

(A) Submit the complete set of sales validation questionnaire documents recorded in the previous month to the director of property valuation or the director's agents; or

(B) electronically upload the complete set of recorded monthly sales as digital image files that meet specified file-naming conventions, resolution, and format standards to the sales validation questionnaire database at the division of property valuation. (Authorized by K.S.A. 79-1491; implementing K.S.A. 79-1487 and 79-1488; effective June 26, 1998; amended Oct. 3, 2014.)

93-4-5. Access to county records by the director of property valuation; duties of county officials.

(a) The county shall make its computer-assisted mass appraisal system available to the director of property valuation and the director's agents, to generate and print reports and to prepare data files to enable the electronic extraction of sale information on a monthly basis.

(b) The county appraiser shall prepare and transmit the electronic assessment administration file of all appraised values to the director not later than three business days after the mailing of the annual valuation notices pursuant to K.S.A. 79-1460, and amendments thereto. (Authorized by K.S.A. 79-1491; implementing K.S.A. 79-1487; effective June 26, 1998; amended Oct. 3, 2014.)

93-4-6. Performance standards.

Table 2-3 of the "standard on ratio studies," adopted by the executive board of the international association of assessing officers in April 2013, is hereby adopted by reference and shall constitute the performance standards used to evaluate the appraisal of residential and commercial and industrial real estate. However, the coefficient of dispersion shall have a range of 5.0 to 20.0, with a level of confidence of 95 percent. (Authorized by K.S.A. 79-1491; implementing K.S.A. 79-1485, 79-1486, 79-1487, and 79-1488, K.S.A. 2013 Supp. 79-1489, K.S.A. 79-1490, 79-1492, and 79-1493; effective June 26, 1998; amended April 20, 2001; amended Oct. 3, 2014.)

Section V

Glossary of Terms

Glossary*	

Adjusted Sale Price — The sale price that results from adjustments made to the stated sales price to account for the effects of time, personal property, financing or the like.

Aggregate Mean Ratio — See weighted mean ratio.

AlternativeHypothesis — The negation of the null hypothesis and usually consists of a statement saying "H_o is not true" or "Fail to accept H_o." It is denoted by H_1. A statement indicates the opposite of the null hypothesis.

Appraisal-Sales Price Ratio — The ratio of the appraised value to the sale price *(or adjusted sale price)* of a property. The appraised value divided by the sale price.

Array — An ordered arrangement of data such as a listing of sales ratios in order to magnitude from high to low or low to high.

Assessment Progressivity *(Regressivity)* — An appraisal bias such that high-value properties are appraised higher *(lower)* than low-value properties. *(See also Price-Related Differential.)*

Assessment Ratio — The ratio of the assessed value to an indicator of market value.

Average Absolute Deviation — The sum of the absolute *(sign ignored)* differences between the individual observations and the average of all the observations, divided by the number of observations.

Average Market Value — Sum of the market values divided by the number of values added together.

Average Sale Price — Mean sale price. The sum of all sales divided by the number of samples.

Bootstrap — A computer intensive statistical procedure designed to provide numerous random samples from the original data set, which are in turn used to generate the statistics of interest, such as point estimates and confidence intervals. This procedure is particularly helpful when the original data set is small, in order to give more accurate statistics.

BroadenedMedian — A special type of median that reduces insensivity to rounding and grouping of observations around the middle ratio.

Coefficient of Concentration *(COC)* — The percentage of ratios falling within a specified percentage range ($\pm$) of the median ratio.

Coefficient of Dispersion *(COD)* — The average of the absolute deviation of a sample of ratios from the median ratio, expressed as a percentage of the median. The most common measure of uniformity in sales ratio studies. Low COD's tend to be associated with good appraisal uniformity.

Coefficient of Quartile Deviation — The interquartile ranges of a sample of ratios divided by 2 and expressed as a percentage of the median ratio. This measure of uniformity was referred to as the coefficient of dispersion when it was first adopted for use in assessment performance in 1954. Like the median, it is very resistant to the influence of outlier ratios.

Coefficient of Variation *(COV)*	The standard deviation expressed as a percentage of the mean ratio.
ConfidenceInterval	For a given confidence level, the range within which one can conclude that a population parameter *(such as the median ratio)* lies. The reliability of confidence intervals depends on the extent to which required statistical assumptions are met. A range of numbers within that we expect the true value of the population parameter to be contained. The high and low endpoints of the interval are computed based on sample information.
Confidence Level	The degree of precision selected for a confidence interval and other statistical tests. Ratio study confidence intervals are based on 95 percent confidence levels.
Consideration	The amount of money and other valuable goods or services upon which a buyer and a seller agree to consummate a sale.
Critical Values	Hypothesis testing uses a decision rule that specifies for every possible value of a statistic whether the null hypothesis should be accepted or rejected. The test procedure divides the sample space *(a set of possible values of a sample statistic)* into mutually exclusive parts called the acceptance region and the rejection *(or critical)* region. The critical region calls for rejecting the null hypothesis. The values that lie exactly on the boundary of the region of rejection are the critical values.
DescriptiveStatistics	Statistics used to describe or summarize information about a sample. These measures include point estimates.
Dispersion	The degree to which data are distributed either tightly or loosely around a measure of central tendency. Measures of dispersion include the range, average deviation, median absolute deviation, standard deviation, coefficient of dispersion, median percent deviation and coefficient of variation.
Geometric Mean Ratio	A measure of central tendency computed by multiplying the values of all of the observations by one another and then taking the result to an exponent equal to one divided by the number of observations. The geometric mean is less sensitive to extreme ratios than the arithmetic mean.
Harmonic Mean Ratio	A specially calculated mean that is based upon the reciprocal of the arithmetic mean of the reciprocals of each value in the data set. *(Reciprocal: the inverse of a number, i.e., the reciprocal of 0.40 is 2.50.)* It is less affected of extreme values in the data set than the arithmetic mean or the geometric mean.
Histogram	A bar chart or graph of a frequency distribution in which the frequencies of the various classes are indicated by horizontal or vertical bars whose lengths are proportional to the number or percentage of observations in each class.
Hypothesis	An unproved proposition that tentatively explains certain facts; a proposition that is empirically testable; a probable answer to a question.
Inferential Statistics	Statistics used to make judgments about a population based on information obtained from a sample.

Interquartile Range *(Interquartile Deviation)*

The result obtained by subtracting the first quartile from the third quartile. The interquartile range contains the middle 50 percent of the observations.

Market

The "place" in which buyers and sellers interact. The collective body of buyers and sellers for a particular product.

Market Price

The price a particular buyer and seller agree to in a particular transaction that occurs in an open and competitive market.

Market Value

Pursuant to K.S.A. 79-503a, *"...The amount in terms of money that a well informed buyer is justified in paying and a well informed seller is justified in accepting for property in an open and competitive market, assuming that the parties are acting without undue compulsion…"*

Maximum Ratio

Largest sales ratio in the sample.

Mean Ratio

Result of adding all the ratios and dividing by the number of ratios. *(Also called the arithmetic mean or average.)*

Median

The midpoint or middle value when a set of values is ranked in order of magnitude; if the number of values is even, the midpoint or average of the two middle values. It is the second quartile.

Median Absolute Deviation *(MAD)*

The median of the absolute deviation from the median. In a symmetrical distribution, the measure approximates one-half of the interquartile range.

Median Percent Deviation

A relative measure of uniformity that is found by the median absolute deviation *(MAD)* by the median ratio.

Median Ratio

Middle ratio in a sorted array of ratios. If the number of ratios is even, it is the average of the middle two ratios.

Minimum Ratio

Lowest sales ratio in the sample.

Mode

A value most often assumed by a variable. By extension for grouped data, the class in which a plurality of the observations falls.

Nonparametric

A statistic whose interpretation or reliability does not depend on the distribution of the underlying data.

Normal Distribution

A theoretical frequency distribution often approximated in real world situations. It is a symmetrical and bell-shaped distribution where 68 percent of the observations occur within one standard deviation of the mean and 96 percent within two standard deviations of the mean.

Normality Test

A mathematical test to determine if the data is considered to be normally distributed or conforms to a bell-shaped curve *(Gaussian shape)*.

Null Hypothesis

A hypothesis that one chooses to accept in the absence of sufficient evidence to the contrary.

Observation

An observation is one recording or occurrence of the value of a variable. One ratio from a sample of ratios is an example.

Open Market

A freely competitive market in which any buyer or seller may trade and in which prices are determined by competition.

Outliers

Observations that have unusual values differing markedly from a measure of central tendency. Some outliers occur naturally. Others may be due to data errors.

Parameter

Numerical descriptive measures of the population, for example, the arithmetic mean or the standard deviation. Parameters are generally unknown and estimated from statistics calculated from a sample of the population.

Parametric Statistic

A statistic whose interpretation or reliability depends on the distribution of the underlying data.

Percentile

Values that divide a set of data into specified percentages when the data are arrayed in ascending order. The tenth percentile is the value of the observation below which the lowest 10 percent of the values fall, the twentieth percentile is the value below which the lowest 20 percent of the values fall, and so forth.

Population

All the items of interest, for example, all the properties in a subclass, jurisdiction or neighborhood.

Price-Related Differential *(PRD)*

A performance statistic used to measure appraisal regressivity or progressivity. It may also be referred to as vertical inequity. It is calculated by taking the mean ratio and dividing it by the weighted mean ratio.

Price-Related Bias *(PRB)*

A coefficient that provides an index of price-related bias (vertical equity) obtained by regressing the ratio deviations from the median ratio (percentage changes) on the proxy of market value. The PRB is the slope of the regression line. This statistical measure can supplement information provided by the price-related differential.

Quartiles

The values that divide a set of data into four equal parts when the data are arrayed in ascending order.

Random Sample

A sample in which each item in the population has an equal chance of being included and by extension, each possible combination of *n* items has an equal chance of occurrence.

Range

(1) The maximum value of a sample minus the minimum value.
(2) The difference between the maximum and minimum values that a variable may assume.

Ratio Study

A study of the relationship between appraised (or assessed) values and the market values of property. Indicators of market values may be either sales *(sales ratio study)* or independent "expert" appraisals *(appraisal ratio study)*. Of common interest in ratio studies is the level and uniformity of the appraisals or assessments.

Representative Sample

A sample of observations from a larger population of observations, such that statistics calculated from the sample can be expected to represent the characteristics of the population being studied.

Sales Price

Price a parcel of real property sold for. In some cases, this value must be adjusted to remove non-real estate components or trended back to January 1 *(the appraisal date)*.

Sales Ratio

A ratio of the county appraiser's estimate of value to the sale price of a property *(appraised value ÷ sale price)*.

Sales Data

Information about the nature of the transaction and the sale price and property characteristics as of the date of sale.

Sample

A set of observations selected from a population. If the sample was randomly selected, basic concepts of probability may be applied. *(See random sample and representative sample.)*

Skewed

Quality of a frequency distribution that makes it asymmetrical. Distributions with longer tails on the right than on the left are said to be skewed to the right or to be positively skewed. Distributions with longer tails to the left are said to be skewed to the left or to be negatively skewed.

StandardDeviation

The statistic calculated from a set of numbers by subtracting the mean from each value and squaring the remainders, adding together these squares, dividing by the size of the sample less one, and taking the square root of the result. When the data are normally distributed, one can calculate the percentage of observations within any number of standard deviations of the mean from normal probability tables. When the data are not normally distributed, the standard deviation is less meaningful and should be used with caution.

Statistics

(1) Numerical point estimates calculated from a sample *(for example, the mean, median or coefficient of dispersion)*. Statistics are used to estimate corresponding measures, termed parameters for the population.

(2) The science of studying numerical data systematically and presenting useful results. Two main branches of statistics exist: *descriptive and inferential*.

Stratify

To divide, for purposes of analysis, a sample of observations into two or more subsets according to some criterion or set of characteristics.

Stratum, Strata *(Pls.)*

A class or subset as a result of stratification.

Subclass

A group of properties with related use characteristics. In Kansas, the following subclasses of real property, defined in the Constitution, are used in the ratio study:
(1)   residential, including multi-family residential mobile homes and condominiums;
(2)   land devoted to agricultural use;
(3)   vacant lots;
(4)   property owned and operated by not-for-profit organizations;
(5)   public utility property;
(6)   commercial and industrial property and buildings and other improvements located upon land devoted to agricultural use;
(7)   all other urban and rural real property not otherwise specifically subclassed.

Tolerance Limits

Interval measure that provides a specified degree of confidence that a prescribed proportion of the population values is thought to be contained within.

Trending

Adjustment to the sale price to account for inflation or deflation that has occurred in the local market between January 1 *(the appraisal date)* and the date of sale.

Weighted Coefficient of Dispersion

The coefficient of dispersion when absolute differences between individual assessment ratios and the median ratio are weighted on the basis of sale price.

Weighted Mean

In ratio studies, the value weighted mean is calculated by weighting the ratios based on their sale prices. A shortcut method is to sum the appraisals *(or assessments)*, sum the sale prices and divide the first result by the second.

Weighted Mean Ratio

Sum of the appraised values divided by the sum of the sales price, which weights each ratio in proportion to its sale price. Also known as the sum of the aggregates.

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