



2017 Real Property Ratio Summary Statistics Report



Direct questions and comments regarding this report to
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Each year the Department of Revenue Property Tax Division (DOR) gathers real property sales data from all 39 counties in the State of Washington. Sales, occurring from May 1, 2016, thru April 30, 2017, are determined to be either valid or invalid based on criteria set out in WAC 458-53-070 and WAC 458-53-080. The data from the valid sales is analyzed to determine the general level of assessment and the level of uniformity. Each county's results are broken down by property type and shown in this report. Other than requiring assessment at 100 percent of market value, Washington has not established appraisal performance standards in state law or by administrative rule. However, the International Association of Assessing Officers (IAAO) suggests performance standards for both the level and uniformity of assessments. This report focuses on three recognized IAAO standards, and two additional statistical measures of vertical equity. The standards promulgated by the IAAO include median ratio, coefficient of dispersion (COD), and price related differential (PRD). Other metrics that measure vertical equity are quintile mean ratios (QMR) and vertical equity index (VEI).

It should be noted this report includes all valid sales with no additional trimming of outliers. This report gives the results of each statistical analysis with no consideration given to the number of observations. For this report no binomial test or 'bootstrap' analysis was completed to determine the level of confidence in the results. In many cases, with the limited number of observations, it cannot be said with certainty that the standard was or was not met.

The median ratio is a measure of the level of assessment. A ratio is calculated for each sale by dividing the assessed value by the sales price. The median ratio is the middle ratio, meaning that half the properties have a ratio greater than the median ratio and half have ratios less than the median ratio. The IAAO standard suggests the median ratio for the jurisdiction being reviewed should be between .90 and 1.10 which on a percentage basis is between 90 and 110 percent.

COD is the most common measure of horizontal uniformity used in the assessment community. COD is referred to as a measure of horizontal uniformity because it measures uniformity across the data being reviewed without influences from the value of the properties. It measures, on average, how far each individual ratio is from the median ratio. A smaller COD indicates more uniform assessment. IAAO offers the following guidance for CODs by property types and or other neighborhood influences.

General Property Class	Jurisdiction Size/Profile/Market Activity	COD Range
Residential improved (single family dwelling, condominiums, manuf. Housing, 2-4 family units)	Very large jurisdictions/densely populated/newer properties/active markets	5.0 to 10.0
	Large to mid-sized jurisdictions/older & newer properties/less active markets	5.0 to 15.0
	Rural or small jurisdictions/older properties/depressed market areas	5.0 to 20.0
Income-producing properties (commercial, industrial, apartments)	Very large jurisdictions/densely populated/newer properties/active markets	5.0 to 15.0
	Large to mid-sized jurisdictions/older & newer properties/less active markets	5.0 to 20.0
	Rural or small jurisdictions/older properties/depressed market areas	5.0 to 25.0
Residential vacant land	Very large jurisdictions/rapid development/active markets	5.0 to 15.0
	Large to mid-sized jurisdictions/slow development/less active markets	5.0 to 20.0
	Rural or small jurisdictions/little development/depressed markets	5.0 to 25.0
Other (non-agriculture) vacant land	Very large jurisdictions/rapid development/active markets	5.0 to 20.0
	Large to mid-sized jurisdictions/slow development/less active markets	5.0 to 25.0
	Rural or small jurisdictions/little development/depressed markets	5.0 to 30.0

IAAO states that “CODs lower than five (5.0) may indicate sales chasing or non-representative samples.” The above chart and quote are from the April 2013 volume of IAAO Standards on Ratio Studies pages 33-37. Although the goal is to assess ‘all’ properties at 100 percent of market value, IAAO believes that due to the many factors of a real estate transaction, it is improbable that assessed values will be within the tight range of the sales price needed to achieve a COD of less than five. IAAO therefore, believes a COD of less than five could be a result of the selective reappraisal of sold properties.

The PRD is a measure of the vertical uniformity of the assessment of properties at different price levels. PRD is a statistic used to measure whether high-value properties and low-value properties are assessed at the same ratio to market value. The PRD is calculated by dividing the mean ratio by the weighted mean ratio. A PRD of 1.00 indicates uniform assessment between high and low value properties. A PRD greater than 1.00 indicates that higher valued properties are assessed at a lower ratio to market than lower valued properties. A PRD of less than 1.00 indicates that lower valued properties are assessed at a lower ratio to market than higher valued properties. IAAO suggests the PRD should fall between .98 and 1.03.

The sum of the sales price and a sum of the assessed value has been included in this report for informational purposes. The number of observations (number of sales) are shown in this report and should be considered when reviewing the statistical measure. The number of observations can help determine the reliability of the results, as the greater the number of observations the less influence a single outlier will have on the results.

On the pages that follow are each county’s results for the above mentioned measures. First are the overall county wide results including all property types. This is followed by each county’s results broken down by four general property types, and then each county’s results broken down by single family residential (residential) and all other property types (non-residential).

Statistics by County

	Frequency	Adj Sale Price	Assessed	Ratio	Weighted Mean	Ratio		
County	N	SUM	SUM	MEAN	MEAN	Median	PRD	COD
Adams	226	\$33,383,547	\$29,253,900	92.11	87.63	90.33	1.05	16.32
Asotin	347	\$66,619,757	\$61,038,500	92.43	91.62	90.75	1.01	16.35
Benton	4058	\$1,039,585,219	\$871,783,930	84.60	83.86	83.06	1.01	12.25
Chelan	1850	\$566,460,258	\$484,520,892	86.85	85.53	88.00	1.02	14.11
Clallam	1758	\$443,534,591	\$404,682,210	93.58	91.24	92.06	1.03	13.99
Clark	9759	\$3,388,919,885	\$3,226,540,816	96.29	95.21	95.89	1.01	8.04
Columbia	94	\$13,635,967	\$13,268,590	99.64	97.31	99.19	1.02	7.27
Cowlitz	2244	\$498,159,533	\$454,558,500	92.85	91.25	91.75	1.02	16.32
Douglas	794	\$203,511,949	\$194,238,400	95.77	95.44	95.12	1.00	10.47
Ferry	188	\$19,007,412	\$18,019,300	101.58	94.80	98.34	1.07	21.14
Franklin	1564	\$377,269,080	\$350,233,600	94.08	92.83	93.52	1.01	9.13
Garfield	33	\$3,927,231	\$3,702,299	93.21	94.27	98.84	0.99	18.01
Grant	1354	\$263,890,978	\$227,662,195	88.43	86.27	89.19	1.03	12.94
Grays Harbor	1539	\$250,180,578	\$238,004,301	96.89	95.13	96.18	1.02	12.88
Island	2368	\$813,070,959	\$763,585,613	95.73	93.91	95.91	1.02	10.65
Jefferson	1003	\$279,990,097	\$255,958,946	91.78	91.42	93.98	1.00	10.91
King	7151	\$9,064,220,301	\$8,253,275,390	94.73	91.05	94.66	1.04	12.29
Kitsap	5428	\$1,920,628,700	\$1,720,888,081	90.66	89.60	91.03	1.01	10.53
Kittitas	1466	\$426,357,179	\$347,462,010	83.41	81.50	82.78	1.02	19.14
Klickitat	475	\$96,294,317	\$87,035,990	91.38	90.39	92.53	1.01	10.09
Lewis	1336	\$247,465,983	\$227,679,753	94.44	92.00	93.54	1.03	16.07
Lincoln	298	\$35,378,649	\$29,778,660	86.22	84.17	86.93	1.02	19.54
Mason	1493	\$314,334,453	\$307,850,270	100.03	97.94	97.89	1.02	16.27
Okanogan	876	\$146,448,646	\$123,314,900	89.13	84.20	86.82	1.06	22.55
Pacific	805	\$112,912,259	\$103,703,600	94.96	91.84	94.28	1.03	14.27
Pend Oreille	421	\$58,167,578	\$52,570,622	93.64	90.38	92.61	1.04	19.15
Pierce	15811	\$5,288,379,584	\$4,985,023,900	95.41	94.26	94.94	1.01	8.84
San Juan	554	\$235,262,313	\$216,500,510	95.22	92.03	94.38	1.03	15.40
Skagit	2768	\$866,678,512	\$805,816,050	94.10	92.98	93.31	1.01	12.33
Skamania	276	\$68,069,424	\$60,208,900	92.79	88.45	92.80	1.05	17.14
Snohomish	15728	\$6,884,608,091	\$6,524,495,480	95.83	94.77	95.94	1.01	8.01
Spokane	9273	\$2,228,587,960	\$2,142,627,700	96.52	96.14	96.15	1.00	6.57
Stevens	691	\$117,464,782	\$106,020,534	93.28	90.26	91.13	1.03	16.03
Thurston	5441	\$1,609,109,353	\$1,547,271,900	95.95	96.16	95.65	1.00	10.18
Wahkiakum	94	\$20,401,127	\$18,305,700	95.96	89.73	90.76	1.07	22.95
Walla Walla	893	\$221,005,104	\$207,897,110	94.76	94.07	95.96	1.01	6.42
Whatcom	5074	\$1,636,758,174	\$1,387,931,719	86.21	84.80	85.66	1.02	12.13
Whitman	616	\$130,677,767	\$106,967,042	83.66	81.86	84.27	1.02	19.62
Yakima	2861	\$617,874,420	\$541,140,600	87.79	87.58	85.87	1.00	14.10
Total	109008	\$40,608,231,717	\$37,500,818,413	93.68	92.35	94.02		

Statistics by County by Property Type

	Frequency	Adj. Sale Price	Assessed	Ratio	Ratio		
Property Type	N	SUM	SUM	MEAN	Median	PRD	COD
County = Adams							
AG/Other	15	\$1,238,589	\$639,900	68.86	73.70	1.33	27.03
Comm/Mfg	15	\$2,361,085	\$1,687,100	102.76	88.49	1.44	37.39
MFR	2	\$366,300	\$314,800	85.94	85.94	1.00	0.00
SFR	194	\$29,417,573	\$26,612,100	93.14	91.71	1.03	13.65
	226	\$33,383,547	\$29,253,900	92.11	90.33		
County = Asotin							
Comm/Mfg	8	\$1,552,518	\$1,337,700	89.07	89.55	1.03	13.72
MFR	8	\$1,618,056	\$1,650,800	101.40	104.43	0.99	10.62
SFR	331	\$63,449,183	\$58,050,000	92.30	90.74	1.01	16.43
	347	\$66,619,757	\$61,038,500	92.43	90.75		
County = Benton							
Ag/Other	13	\$2,158,448	\$1,774,590	86.61	91.21	1.05	25.15
Comm/Mfg	93	\$79,038,608	\$65,720,930	92.50	92.68	1.11	20.18
Multi Family	83	\$26,431,398	\$22,532,500	85.77	84.72	1.01	11.47
SFR	3869	\$931,956,765	\$781,755,910	84.38	82.93	1.01	11.92
	4058	\$1,039,585,219	\$871,783,930	84.60	83.06		
County = Chelan							
Ag/Other	55	\$7,299,946	\$6,054,293	88.99	93.22	1.07	19.68
Comm/Mfg	55	\$42,916,926	\$29,538,348	76.24	75.97	1.11	22.65
Multi Family	20	\$15,312,494	\$14,024,923	83.29	87.57	0.91	12.85
SFR	1720	\$500,930,892	\$434,903,328	87.16	88.13	1.00	13.58
	1850	\$566,460,258	\$484,520,892	86.85	88.00		
County = Clallam							
Ag/Other	251	\$22,351,522	\$20,663,570	98.49	95.22	1.07	22.88
Comm/Mfg	59	\$28,018,516	\$23,068,661	88.01	86.07	1.07	21.99
Multi Family	28	\$11,932,604	\$9,210,928	90.30	93.81	1.17	11.95
SFR	1420	\$381,231,949	\$351,739,051	93.01	91.81	1.01	11.98
	1758	\$443,534,591	\$404,682,210	93.58	92.06		
County = Clark							
Ag/Other	283	\$103,431,319	\$83,322,630	90.36	93.55	1.12	18.35
Comm/Mfg	108	\$114,400,187	\$92,181,424	84.44	86.07	1.05	16.80
Multi Family	114	\$64,614,669	\$58,662,637	95.90	93.34	1.06	13.82
SFR	9254	\$3,106,473,710	\$2,992,374,125	96.62	95.98	1.00	7.54
	9759	\$3,388,919,885	\$3,226,540,816	96.29	95.89		
SFR = single family residential							

	Frequency	Adj. Sale Price	Assessed	Ratio	Ratio		
Property Type	N	SUM	SUM	MEAN	Median	PRD	COD
County = Columbia							
Comm/Mfg	9	\$910,800	\$890,050	98.41	100.97	1.01	3.43
MFR	1	\$123,750	\$120,240	97.16	97.16	1.00	0.00
SFR	84	\$12,601,417	\$12,258,300	99.80	99.19	1.03	7.71
	94	\$13,635,967	\$13,268,590	99.64	99.19		
County = Cowlitz							
AG/Other	219	\$34,902,510	\$31,714,420	96.04	96.37	1.06	22.00
Comm/Mfg	55	\$42,000,720	\$39,581,340	91.86	95.23	0.97	18.71
MFR	84	\$22,596,520	\$18,967,450	86.28	83.76	1.03	18.79
SFR	1886	\$398,659,783	\$364,295,290	92.80	91.69	1.02	15.30
	2244	\$498,159,533	\$454,558,500	92.85	91.75		
County = Douglas							
Ag/Other	141	\$19,549,263	\$16,917,600	92.56	92.69	1.07	18.33
Comm/Mfg	13	\$7,572,510	\$7,535,100	95.16	98.34	0.96	5.53
Multi Family	7	\$2,020,095	\$1,838,400	91.80	86.13	1.01	12.32
SFR	633	\$174,370,081	\$167,947,300	96.53	95.39	1.00	8.80
	794	\$203,511,949	\$194,238,400	95.77	95.12		
County = Ferry							
Ag/Other	66	\$2,722,688	\$2,624,800	99.73	101.01	1.03	19.21
Comm/Mfg	7	\$1,053,190	\$905,100	89.42	85.15	1.04	13.89
SFR	115	\$15,231,534	\$14,489,400	103.39	98.37	1.09	21.97
	188	\$19,007,412	\$18,019,300	101.58	98.34		
County = Franklin							
Ag/Other	75	\$22,198,163	\$19,452,200	87.80	81.62	1.00	26.09
Comm/Mfg	32	\$23,150,676	\$18,654,800	84.45	82.84	1.05	21.90
Multi Family	22	\$6,638,178	\$5,632,100	87.12	88.73	1.03	8.09
SFR	1435	\$325,282,063	\$306,494,500	94.73	93.83	1.01	8.03
	1564	\$377,269,080	\$350,233,600	94.08	93.52		
County = Garfield							
AG/Other	1	\$15,840	\$21,278	134.33	134.33	1.00	0.00
Comm/Mfg	4	\$650,430	\$548,500	78.90	79.92	0.94	31.76
SFR	28	\$3,260,961	\$3,132,521	93.78	97.10	0.98	16.57
	33	\$3,927,231	\$3,702,299	93.21	98.84		

	Frequency	Adj. Sale Price	Assessed	Ratio	Ratio		
Property Type	N	SUM	SUM	MEAN	Median	PRD	COD
County = Grant							
Ag/Other	31	\$9,779,147	\$6,070,900	71.99	65.31	1.16	38.24
Comm/Mfg	56	\$25,039,170	\$18,453,840	82.80	86.93	1.12	24.11
Multi Family	30	\$6,731,505	\$7,010,205	98.40	93.37	0.94	13.88
SFR	1237	\$222,341,156	\$196,127,250	88.85	89.31	1.01	11.88
	1354	\$263,890,978	\$227,662,195	88.43	89.19		
County = Grays Harbor							
Ag/Other	246	\$9,250,848	\$8,645,852	102.73	101.01	1.10	21.09
Comm/Mfg	56	\$16,276,000	\$15,658,496	103.44	100.23	1.08	19.13
Multi Family	30	\$7,019,909	\$6,349,431	93.71	95.69	1.04	14.57
SFR	1207	\$217,633,821	\$207,350,522	95.48	95.60	1.00	10.51
	1539	\$250,180,578	\$238,004,301	96.89	96.18		
County = Island							
Ag/Other	291	\$33,135,196	\$31,204,917	101.47	99.59	1.08	23.27
Comm/Mfg	20	\$24,596,444	\$19,077,389	81.94	83.47	1.06	21.87
Multi Family	25	\$8,067,666	\$6,773,883	86.00	85.06	1.02	8.56
SFR	2032	\$747,271,653	\$706,529,424	95.16	95.88	1.01	8.57
	2368	\$813,070,959	\$763,585,613	95.73	95.91		
County = Jefferson							
Ag/Other	220	\$18,258,347	\$15,912,145	90.57	92.56	1.04	18.35
Comm/Mfg	16	\$11,602,800	\$10,231,054	83.65	82.71	0.95	12.02
Multi Family	2	\$1,257,795	\$1,185,334	94.78	94.78	1.01	1.91
SFR	765	\$248,871,155	\$228,630,413	92.29	94.45	1.00	8.74
	1003	\$279,990,097	\$255,958,946	91.78	93.98		
County = King							
Ag/Other	821	\$463,592,948	\$410,415,300	95.80	96.35	1.08	24.01
Comm/Mfg	546	\$3,381,634,118	\$2,963,921,404	87.03	89.58	0.99	17.17
Multi Fam	3521	\$3,423,156,112	\$3,166,243,925	94.84	94.79	1.03	9.56
SFR	2263	\$1,795,837,123	\$1,712,694,761	96.03	95.10	1.01	10.88
	7151	\$9,064,220,301	\$8,253,275,390	94.73	94.66		
County = Kitsap							
Ag/Other	287	\$36,014,582	\$28,871,480	89.01	89.40	1.11	20.01
Comm/Mfg	77	\$88,103,948	\$69,263,098	92.08	91.91	1.17	20.76
Multi Family	125	\$54,183,636	\$50,139,330	89.57	88.65	0.97	13.43
SFR	4939	\$1,742,326,534	\$1,572,614,173	90.76	91.13	1.01	9.75
	5428	\$1,920,628,700	\$1,720,888,081	90.66	91.03		

	Frequency	Adj. Sale Price	Assessed	Ratio	Ratio		
Property Type	N	SUM	SUM	MEAN	Median	PRD	COD
County = Kittitas							
Ag/Other	337	\$45,336,299	\$35,833,780	85.51	83.55	1.08	25.63
Comm/Mfg	27	\$18,027,603	\$17,682,810	99.15	98.78	1.01	11.77
Multi Family	11	\$18,546,660	\$17,332,780	95.93	96.41	1.03	7.06
SFR	1091	\$344,446,617	\$276,612,640	82.24	81.92	1.02	17.08
	1466	\$426,357,179	\$347,462,010	83.41	82.78		
County = Klickitat							
Ag/Other	138	\$11,266,889	\$9,935,910	91.76	92.67	1.04	12.40
SFR	337	\$85,027,428	\$77,100,080	91.23	92.39	1.01	9.15
	475	\$96,294,317	\$87,035,990	91.38	92.53		
County = Lewis							
Ag/Other	160	\$11,815,072	\$11,833,700	102.04	98.84	1.02	21.27
Comm/Mfg	46	\$13,566,806	\$13,637,560	102.21	101.01	1.02	15.43
Multi Family	16	\$6,036,656	\$5,287,400	92.06	87.90	1.05	14.40
SFR	1114	\$216,047,449	\$196,921,093	93.06	92.29	1.02	15.09
	1336	\$247,465,983	\$227,679,753	94.44	93.54		
County = Lincoln							
Ag/Other	99	\$11,769,240	\$9,445,640	81.57	85.06	1.02	24.10
Comm/Mfg	11	\$1,054,845	\$838,800	85.44	88.38	1.07	21.42
Multi Family	5	\$856,845	\$651,630	77.84	77.52	1.02	11.03
SFR	183	\$21,697,719	\$18,842,590	89.02	88.50	1.03	16.90
	298	\$35,378,649	\$29,778,660	86.22	86.93		
County = Mason							
Ag/Other	250	\$17,977,472	\$18,029,675	106.45	104.83	1.06	22.18
Comm/Mfg	15	\$18,232,335	\$20,373,685	99.31	93.91	0.89	21.94
Multi Family	13	\$2,949,012	\$2,622,935	87.49	83.25	0.98	15.79
SFR	1215	\$275,175,634	\$266,823,975	98.85	97.46	1.02	14.58
	1493	\$314,334,453	\$307,850,270	100.03	97.89		
County = Okanogan							
Ag/Other	305	\$26,601,811	\$21,783,200	89.93	87.59	1.10	27.01
Comm/Mfg	35	\$16,210,781	\$11,641,100	91.59	85.29	1.28	29.89
Multi Family	15	\$2,925,057	\$3,144,200	105.45	104.93	0.98	24.13
SFR	521	\$100,710,997	\$86,746,400	88.02	85.98	1.02	19.20
	876	\$146,448,646	\$123,314,900	89.13	86.82		

	Frequency	Adj. Sale Price	Assessed	Ratio	Ratio		
Property Type	N	SUM	SUM	MEAN	Median	PRD	COD
County = Pacific							
Ag/Other	123	\$5,519,102	\$5,161,300	96.10	93.24	1.03	16.25
Comm/Mfg	18	\$5,261,355	\$4,329,300	94.08	93.45	1.14	18.08
Multi Family	7	\$1,160,577	\$1,111,100	97.88	86.00	1.02	35.56
SFR	657	\$100,971,225	\$93,101,900	94.74	94.32	1.03	13.62
	805	\$112,912,259	\$103,703,600	94.96	94.28		
County = Pend Oreille							
Ag/Other	128	\$9,141,734	\$8,935,211	97.96	97.11	1.00	23.57
Comm/Mfg	10	\$1,328,531	\$1,208,509	103.18	96.92	1.13	18.89
Multi Family	2	\$274,973	\$265,700	96.45	96.45	1.00	2.89
SFR	281	\$47,422,340	\$42,161,202	91.30	91.50	1.03	16.69
	421	\$58,167,578	\$52,570,622	93.64	92.61		
County = Pierce							
Ag/Other	518	\$66,643,875	\$60,902,500	99.07	95.70	1.08	21.13
Comm/Mfg	190	\$202,838,638	\$168,039,300	91.65	91.98	1.11	18.73
Multi Family	433	\$340,060,573	\$303,239,600	94.09	93.51	1.06	9.29
SFR	14670	\$4,678,836,498	\$4,452,842,500	95.37	95.00	1.00	8.25
	15811	\$5,288,379,584	\$4,985,023,900	95.41	94.94		
County = San Juan							
Ag/Other	46	\$11,213,117	\$9,926,820	94.21	94.76	1.06	16.66
Comm/Mfg	15	\$6,430,545	\$5,890,170	97.31	103.22	1.06	13.12
Multi Family	5	\$3,831,300	\$3,089,540	88.60	96.81	1.10	16.27
SFR	488	\$213,787,351	\$197,593,980	95.32	94.05	1.03	15.26
	554	\$235,262,313	\$216,500,510	95.22	94.38		
County = Skagit							
Ag/Other	179	\$27,472,040	\$25,009,500	93.90	90.29	1.03	22.34
Comm/Mfg	123	\$58,489,083	\$52,877,500	91.88	91.35	1.02	14.24
Multi Fam	76	\$24,347,412	\$22,120,600	93.24	92.52	1.03	11.72
SFR	2390	\$756,369,977	\$705,808,450	94.25	93.44	1.01	11.54
	2768	\$866,678,512	\$805,816,050	94.10	93.31		
County = Skamania							
Ag/Other	57	\$7,658,959	\$6,538,000	96.62	96.20	1.13	24.30
Comm/Mfg	6	\$1,546,380	\$925,500	75.22	65.10	1.26	47.09
Multi Family	6	\$2,195,289	\$2,085,200	93.30	100.39	0.98	9.36
SFR	207	\$56,668,796	\$50,660,200	92.23	92.42	1.03	14.52
	276	\$68,069,424	\$60,208,900	92.79	92.80		

	Frequency	Adj. Sale Price	Assessed	Ratio	Ratio		
Property Type	N	SUM	SUM	MEAN	Median	PRD	COD
County = Snohomish							
Ag/Other	318	\$116,881,095	\$98,377,500	89.28	91.09	1.06	23.31
Comm/Mfg	225	\$440,163,725	\$382,298,600	93.42	94.43	1.08	14.78
Multi Family	293	\$282,845,325	\$271,886,600	96.36	95.87	1.00	10.55
SFR	14892	\$6,044,717,946	\$5,771,932,780	96.00	96.00	1.01	7.55
	15728	\$6,884,608,091	\$6,524,495,480	95.83	95.94		
County = Spokane							
Ag/Other	499	\$56,172,377	\$51,250,980	94.77	94.87	1.04	14.78
Comm/Mfg	213	\$164,619,771	\$152,688,520	94.22	95.42	1.02	8.68
Multi Family	341	\$117,443,957	\$119,648,590	97.66	96.60	0.96	7.75
SFR	8220	\$1,890,351,855	\$1,819,039,610	96.63	96.19	1.00	5.98
	9273	\$2,228,587,960	\$2,142,627,700	96.52	96.15		
County = Stevens							
Ag/Other	127	\$6,750,741	\$6,378,591	98.18	95.27	1.04	21.87
Comm/Mfg	15	\$3,938,616	\$3,837,871	106.14	108.86	1.09	14.27
Multi Family	9	\$1,413,201	\$1,357,581	98.14	98.61	1.02	7.57
SFR	540	\$105,362,224	\$94,446,491	91.68	89.35	1.02	14.41
	691	\$117,464,782	\$106,020,534	93.28	91.13		
County = Thurston							
Ag/Other	184	\$28,148,542	\$25,789,200	98.49	96.98	1.07	21.46
Comm/Mfg	78	\$54,161,959	\$51,191,100	96.43	95.98	1.02	14.54
Multi Family	89	\$44,517,033	\$42,709,400	98.62	98.70	1.03	8.51
SFR	5090	\$1,482,281,819	\$1,427,582,200	95.81	95.57	0.99	9.72
	5441	\$1,609,109,353	\$1,547,271,900	95.95	95.65		
County = Wahkiakum							
Ag/Other	15	\$1,067,121	\$975,600	92.10	88.95	1.01	19.19
Comm/Mfg	4	\$3,289,176	\$2,288,900	81.45	79.70	1.17	17.89
Multi Family	1	\$188,100	\$255,400	135.78	135.78	1.00	0.00
SFR	74	\$15,856,730	\$14,785,800	96.98	91.17	1.04	23.66
	94	\$20,401,127	\$18,305,700	95.96	90.76		
County = Walla Walla							
Ag/Other	10	\$2,407,856	\$2,012,490	92.56	97.43	1.11	21.52
Comm/Mfg	18	\$6,966,630	\$5,985,190	91.21	87.87	1.06	20.81
Multi Family	28	\$8,788,502	\$7,646,260	91.73	95.61	1.05	10.15
SFR	837	\$202,842,116	\$192,253,170	94.96	95.99	1.00	5.80
	893	\$221,005,104	\$207,897,110	94.76	95.96		

	Frequency	Adj. Sale Price	Assessed	Ratio	Ratio		
Property Type	N	SUM	SUM	MEAN	Median	PRD	COD
County = Whatcom							
Ag/Other	548	\$82,526,288	\$70,041,136	88.01	86.58	1.04	19.91
Comm/Mfg	142	\$78,445,307	\$61,817,847	87.59	87.29	1.11	12.61
Multi Family	103	\$89,530,002	\$69,080,279	85.38	84.64	1.11	11.86
SFR	4281	\$1,386,256,577	\$1,186,992,457	85.95	85.59	1.00	11.09
	5074	\$1,636,758,174	\$1,387,931,719	86.21	85.66		
County = Whitman							
Ag/Other	4	\$938,124	\$638,340	68.47	67.91	1.01	2.77
Comm/Mfg	19	\$5,643,583	\$4,430,547	72.16	73.38	0.92	30.44
Multi Family	28	\$6,272,739	\$5,640,808	92.58	92.60	1.03	14.82
SFR	565	\$117,823,321	\$96,257,347	83.72	83.89	1.02	19.45
	616	\$130,677,767	\$106,967,042	83.66	84.27		
County = Yakima							
Ag/Other	244	\$22,754,981	\$19,609,500	83.07	78.81	0.96	28.18
Comm/Mfg	116	\$60,717,971	\$52,526,000	88.96	84.81	1.03	23.88
Multi Family	85	\$23,296,115	\$20,913,200	92.65	89.68	1.03	13.50
SFR	2416	\$511,105,353	\$448,091,900	88.04	85.97	1.00	12.31
	2861	\$617,874,420	\$541,140,600	87.79	85.87		
State Total	109008	\$40,608,231,717	\$37,500,818,413	93.68			

Statistics by County by Residential and Non-Residential

Property Class	Frequency (N)	Adj. Sale Price	Assessed	Weighted	Ratio	PRD	COD
		SUM	SUM	MEAN	Median		
County = Adams							
Non-Residential	32	\$3,965,974	\$2,641,800	85.82	81.91	1.29	32.56
Residential	194	\$29,417,573	\$26,612,100	93.14	91.71	1.03	13.65
	226	\$33,383,547	\$29,253,900	92.11			
County = Asotin							
Non-Residential	16	\$3,170,574	\$2,988,500	95.23	95.24	1.01	13.44
Residential	331	\$63,449,183	\$58,050,000	92.30	90.74	1.01	16.43
	347	\$66,619,757	\$61,038,500	92.43			
County = Benton							
Non-Residential	189	\$107,628,454	\$90,028,020	89.14	88.14	1.07	17.51
Residential	3869	\$931,956,765	\$781,755,910	84.38	82.93	1.01	11.92
	4058	\$1,039,585,219	\$871,783,930	84.60			
County = Chelan							
Non-Residential	130	\$65,529,366	\$49,617,564	82.72	81.90	1.09	22.03
Residential	1720	\$500,930,892	\$434,903,328	87.16	88.13	1.00	13.58
	1850	\$566,460,258	\$484,520,892	86.85			
County = Clallam							
Non-Residential	338	\$62,302,642	\$52,943,159	95.98	93.41	1.13	22.16
Residential	1420	\$381,231,949	\$351,739,051	93.01	91.81	1.01	11.98
	1758	\$443,534,591	\$404,682,210	93.58			
County = Clark							
Non-Residential	505	\$282,446,175	\$234,166,691	90.35	91.27	1.09	17.46
Residential	9254	\$3,106,473,710	\$2,992,374,125	96.62	95.98	1.00	7.54
	9759	\$3,388,919,885	\$3,226,540,816	96.29			
County = Columbia							
Non-Residential	10	\$1,034,550	\$1,010,290	98.28	99.06	1.01	3.53
Residential	84	\$12,601,417	\$12,258,300	99.80	99.19	1.03	7.71
	94	\$13,635,967	\$13,268,590	99.64			
County = Cowlitz							
Non-Residential	358	\$99,499,750	\$90,263,210	93.10	93.24	1.03	21.42
Residential	1886	\$398,659,783	\$364,295,290	92.80	91.69	1.02	15.30
	2244	\$498,159,533	\$454,558,500	92.85			
County = Douglas							
Non-Residential	161	\$29,141,868	\$26,291,100	92.74	93.36	1.03	17.15
Residential	633	\$174,370,081	\$167,947,300	96.53	95.39	1.00	8.80
	794	\$203,511,949	\$194,238,400	95.77			

		Adj. Sale Price	Assessed	Weighted	Ratio		
Property Class	Frequency (N)	SUM	SUM	MEAN	Median	PRD	COD
County = Ferry							
Non-Residential	73	\$3,775,878	\$3,529,900	98.74	98.32	1.06	19.82
Residential	115	\$15,231,534	\$14,489,400	103.39	98.37	1.09	21.97
	188	\$19,007,412	\$18,019,300	101.58			
County = Franklin							
Non-Residential	129	\$51,987,017	\$43,739,100	86.85	84.16	1.03	21.70
Residential	1435	\$325,282,063	\$306,494,500	94.73	93.83	1.01	8.03
	1564	\$377,269,080	\$350,233,600	94.08			
County = Garfield							
Non-Residential	5	\$666,270	\$569,778	89.98	104.27	1.05	25.24
Residential	28	\$3,260,961	\$3,132,521	93.78	97.10	0.98	16.57
	33	\$3,927,231	\$3,702,299	93.21			
County = Grant							
Non-Residential	117	\$41,549,822	\$31,534,945	83.94	87.59	1.11	24.33
Residential	1237	\$222,341,156	\$196,127,250	88.85	89.31	1.01	11.88
	1354	\$263,890,978	\$227,662,195	88.43			
County = Grays Harbor							
Non-Residential	332	\$32,546,757	\$30,653,779	102.03	101.01	1.08	20.17
Residential	1207	\$217,633,821	\$207,350,522	95.48	95.60	1.00	10.51
	1539	\$250,180,578	\$238,004,301	96.89			
County = Island							
Non-Residential	336	\$65,799,306	\$57,056,189	99.16	96.79	1.14	23.06
Residential	2032	\$747,271,653	\$706,529,424	95.16	95.88	1.01	8.57
	2368	\$813,070,959	\$763,585,613	95.73			
County = Jefferson							
Non-Residential	238	\$31,118,942	\$27,328,533	90.14	91.93	1.03	17.99
Residential	765	\$248,871,155	\$228,630,413	92.29	94.45	1.00	8.74
	1003	\$279,990,097	\$255,958,946	91.78			
County = King							
Non-Residential	4888	\$7,268,383,178	\$6,540,580,629	94.13	94.52	1.05	12.94
Residential	2263	\$1,795,837,123	\$1,712,694,761	96.03	95.10	1.01	10.88
	7151	\$9,064,220,301	\$8,253,275,390	94.73			
County = Kitsap							
Non-Residential	489	\$178,302,166	\$148,273,908	89.64	89.81	1.08	18.46
Residential	4939	\$1,742,326,534	\$1,572,614,173	90.76	91.13	1.01	9.75
	5428	\$1,920,628,700	\$1,720,888,081	90.66			

		Adj. Sale Price	Assessed	Weighted	Ratio		
Property Class	Frequency (N)	SUM	SUM	MEAN	Median	PRD	COD
County = Kittitas							
Non-Residential	375	\$81,910,562	\$70,849,370	86.79	86.36	1.00	24.37
Residential	1091	\$344,446,617	\$276,612,640	82.24	81.92	1.02	17.08
	1466	\$426,357,179	\$347,462,010	83.41			
County = Klickitat							
Non-Residential	138	\$11,266,889	\$9,935,910	91.76	92.67	1.04	12.40
Residential	337	\$85,027,428	\$77,100,080	91.23	92.39	1.01	9.15
	475	\$96,294,317	\$87,035,990	91.38			
County = Lewis							
Non-Residential	222	\$31,418,534	\$30,758,660	101.36	98.99	1.04	19.71
Residential	1114	\$216,047,449	\$196,921,093	93.06	92.29	1.02	15.09
	1336	\$247,465,983	\$227,679,753	94.44			
County = Lincoln							
Non-Residential	115	\$13,680,930	\$10,936,070	81.78	84.18	1.02	23.77
Residential	183	\$21,697,719	\$18,842,590	89.02	88.50	1.03	16.90
	298	\$35,378,649	\$29,778,660	86.22			
County = Mason							
Non-Residential	278	\$39,158,819	\$41,026,295	105.18	101.44	1.00	22.76
Residential	1215	\$275,175,634	\$266,823,975	98.85	97.46	1.02	14.58
	1493	\$314,334,453	\$307,850,270	100.03			
County = Okanogan							
Non-Residential	355	\$45,737,649	\$36,568,500	90.75	87.59	1.14	27.47
Residential	521	\$100,710,997	\$86,746,400	88.02	85.98	1.02	19.20
	876	\$146,448,646	\$123,314,900	89.13			
County = Pacific							
Non-Residential	148	\$11,941,034	\$10,601,700	95.94	93.17	1.08	17.33
Residential	657	\$100,971,225	\$93,101,900	94.74	94.32	1.03	13.62
	805	\$112,912,259	\$103,703,600	94.96			
County = Pend Oreille							
Non-Residential	140	\$10,745,238	\$10,409,420	98.31	96.94	1.01	22.98
Residential	281	\$47,422,340	\$42,161,202	91.30	91.50	1.03	16.69
	421	\$58,167,578	\$52,570,622	93.64			
County = Pierce							
Non-Residential	1141	\$609,543,086	\$532,181,400	95.95	94.02	1.10	16.38
Residential	14670	\$4,678,836,498	\$4,452,842,500	95.37	95.00	1.00	8.25
	15811	\$5,288,379,584	\$4,985,023,900	95.41			

		Adj. Sale Price	Assessed	Weighted	Ratio		
Property Class	Frequency (N)	SUM	SUM	MEAN	Median	PRD	COD
County = San Juan							
Non-Residential	66	\$21,474,962	\$18,906,530	94.49	97.39	1.07	16.04
Residential	488	\$213,787,351	\$197,593,980	95.32	94.05	1.03	15.26
	554	\$235,262,313	\$216,500,510	95.22			
County = Skagit							
Non-Residential	378	\$110,308,535	\$100,007,600	93.11	91.32	1.03	17.51
Residential	2390	\$756,369,977	\$705,808,450	94.25	93.44	1.01	11.54
	2768	\$866,678,512	\$805,816,050	94.10			
County = Skamania							
Non-Residential	69	\$11,400,628	\$9,548,700	94.47	96.20	1.13	24.20
Residential	207	\$56,668,796	\$50,660,200	92.23	92.42	1.03	14.52
	276	\$68,069,424	\$60,208,900	92.79			
County = Snohomish							
Non-Residential	836	\$839,890,145	\$752,562,700	92.87	93.90	1.04	16.49
Residential	14892	\$6,044,717,946	\$5,771,932,780	96.00	96.00	1.01	7.55
	15728	\$6,884,608,091	\$6,524,495,480	95.83			
County = Spokane							
Non-Residential	1053	\$338,236,105	\$323,588,090	95.59	95.74	1.00	11.25
Residential	8220	\$1,890,351,855	\$1,819,039,610	96.63	96.19	1.00	5.98
	9273	\$2,228,587,960	\$2,142,627,700	96.52			
County = Stevens							
Non-Residential	151	\$12,102,558	\$11,574,043	98.97	96.71	1.03	20.44
Residential	540	\$105,362,224	\$94,446,491	91.68	89.35	1.02	14.41
	691	\$117,464,782	\$106,020,534	93.28			
County = Thurston							
Non-Residential	351	\$126,827,534	\$119,689,700	98.06	97.89	1.04	16.53
Residential	5090	\$1,482,281,819	\$1,427,582,200	95.81	95.57	0.99	9.72
	5441	\$1,609,109,353	\$1,547,271,900	95.95			
County = Wahkiakum							
Non-Residential	20	\$4,544,397	\$3,519,900	92.15	89.67	1.19	20.07
Residential	74	\$15,856,730	\$14,785,800	96.98	91.17	1.04	23.66
	94	\$20,401,127	\$18,305,700	95.96			
County = Walla Walla							
Non-Residential	56	\$18,162,988	\$15,643,940	91.71	94.10	1.06	15.78
Residential	837	\$202,842,116	\$192,253,170	94.96	95.99	1.00	5.80
	893	\$221,005,104	\$207,897,110	94.76			

		Adj. Sale Price	Assessed	Weighted	Ratio		
Property Class	Frequency (N)	SUM	SUM	MEAN	Median	PRD	COD
County = Whatcom							
Non-Residential	793	\$250,501,597	\$200,939,262	87.59	86.39	1.09	17.60
Residential	4281	\$1,386,256,577	\$1,186,992,457	85.95	85.59	1.00	11.09
	5074	\$1,636,758,174	\$1,387,931,719	86.21			
County = Whitman							
Non-Residential	51	\$12,854,446	\$10,709,695	83.08	89.46	1.00	20.72
Residential	565	\$117,823,321	\$96,257,347	83.72	83.89	1.02	19.45
	616	\$130,677,767	\$106,967,042	83.66			
County = Yakima							
Non-Residential	445	\$106,769,067	\$93,048,700	86.43	83.60	0.99	24.34
Residential	2416	\$511,105,353	\$448,091,900	88.04	85.97	1.00	12.31
	2861	\$617,874,420	\$541,140,600	87.79			
Total	109008	\$40,608,231,717	\$37,500,818,413				

Like the PRD; QMR and VEI are means of looking at vertical uniformity. QMR is calculated by first arraying the data in order (lowest to highest) by market value. Then the data is divided into five equal groups (quintiles). Then, an average ratio is calculated for each quintile. Looking at the ratio for each quintile, you can visually see if there is a difference in the ratio of each value range. The closer these quintile ratios are, the better the vertical equity.

VEI is a method of scoring the QMR results. Noted assessment expert, J. Wayne Moore proposed computing a VEI using quintile ratios as Dr. Moore believes “VEI may be more sensitive to differences in vertical equity than the PRD.” The VEI is calculated by subtracting the lowest quintile ratio from the highest quintile ratio. Then, the results are divided by the average of all five quintile ratios and the results are multiplied by 100.

$$((\text{Maximum Quintile Ratio} - \text{Minimum Quintile Ratio}) / \text{Avg. Quintile Ratio}) * 100$$

As a guideline, VEI values above 14.0 indicate vertical inequity; values between 14.0 and 7.0 indicate acceptable vertical equity; values below 7.0 indicate good vertical equity, with those below 3.5 indicating excellent vertical equity¹.

The following tables show the QMR and VEI for residential (single family dwelling) and non-residential (all other types) properties in each county.

¹ Property Tax Equity Implications of Assessment Capping and Homestead Exemptions for Owner-Occupied Single-Family Housing. Journal of Property tax Assessment & Administration, Volume 5, Issue 3

QMR and VEI for Residential and Non-Residential by County

2017 Real Property Quintile Ratio and VEI

County=Adams Property Class=Residential	
Quintile	Mean
Quintile_1	103.46
Quintile_2	96.05
Quintile_3	89.47
Quintile_4	88.91
Quintile_5	88.29
VEI (Vertical Equity Index)	16.27

County=Adams Property Class=Non-Residential	
Quintile	Mean
Quintile_1	67.13
Quintile_2	130.68
Quintile_3	102.76
Quintile_4	64.06
Quintile_5	70.17
VEI (Vertical Equity Index)	76.61

County=Asotin Property Class=Residential	
Quintile	Mean
Quintile_1	102.90
Quintile_2	85.61
Quintile_3	88.47
Quintile_4	90.54
Quintile_5	93.75
VEI (Vertical Equity Index)	18.74

County=Asotin Property Class=Non-Residential	
Quintile	Mean
Quintile_1	95.55
Quintile_2	86.62
Quintile_3	93.83
Quintile_4	114.31
Quintile_5	86.31
VEI (Vertical Equity Index)	29.37

County=Benton Property Class=Residential	
Quintile	Mean
Quintile_1	87.97
Quintile_2	82.32
Quintile_3	82.75
Quintile_4	84.85
Quintile_5	83.98
VEI (Vertical Equity Index)	6.70

County=Benton Property Class=Non-Residential	
Quintile	Mean
Quintile_1	95.58
Quintile_2	90.07
Quintile_3	84.70
Quintile_4	87.48
Quintile_5	87.78
VEI (Vertical Equity Index)	12.21

2017 Real Property Quintile Ratio and VEI

County=Chelan Property Class=Residential		County=Chelan Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	91.92	Quintile_1	94.12
Quintile_2	83.26	Quintile_2	91.02
Quintile_3	84.74	Quintile_3	83.59
Quintile_4	87.44	Quintile_4	67.73
Quintile_5	88.33	Quintile_5	77.00
VEI (Vertical Equity Index)	9.94	VEI (Vertical Equity Index)	31.91

County=Clallam Property Class=Residential		County=Clallam Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	96.73	Quintile_1	115.82
Quintile_2	91.35	Quintile_2	100.39
Quintile_3	92.13	Quintile_3	91.46
Quintile_4	92.85	Quintile_4	86.86
Quintile_5	92.03	Quintile_5	85.80
VEI (Vertical Equity Index)	5.78	VEI (Vertical Equity Index)	31.25

County=Clark Property Class=Residential		County=Clark Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	98.45	Quintile_1	96.20
Quintile_2	95.50	Quintile_2	94.46
Quintile_3	96.20	Quintile_3	93.19
Quintile_4	96.34	Quintile_4	86.52
Quintile_5	96.58	Quintile_5	81.41
VEI (Vertical Equity Index)	3.05	VEI (Vertical Equity Index)	16.37

County=Columbia Property Class=Residential		County=Columbia Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	103.20	Quintile_1	97.10
Quintile_2	104.15	Quintile_2	99.28
Quintile_3	100.84	Quintile_3	101.64
Quintile_4	95.07	Quintile_4	99.31
Quintile_5	95.90	Quintile_5	93.00
VEI (Vertical Equity Index)	9.10	VEI (Vertical Equity Index)	8.81

2017 Real Property Quintile Ratio and VEI

County=Cowlitz Property Class=Residential		County=Cowlitz Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	102.26	Quintile_1	107.50
Quintile_2	90.38	Quintile_2	97.00
Quintile_3	90.25	Quintile_3	90.23
Quintile_4	89.41	Quintile_4	83.18
Quintile_5	91.73	Quintile_5	87.80
VEI (Vertical Equity Index)	13.85	VEI (Vertical Equity Index)	26.11

County=Douglas Property Class=Residential		County=Douglas Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	96.16	Quintile_1	90.23
Quintile_2	96.40	Quintile_2	102.24
Quintile_3	96.74	Quintile_3	90.75
Quintile_4	98.78	Quintile_4	93.26
Quintile_5	94.61	Quintile_5	86.98
VEI (Vertical Equity Index)	4.32	VEI (Vertical Equity Index)	16.46

County=Ferry Property Class=Residential		County=Ferry Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	131.46	Quintile_1	110.65
Quintile_2	112.20	Quintile_2	102.26
Quintile_3	91.23	Quintile_3	90.28
Quintile_4	89.76	Quintile_4	95.27
Quintile_5	94.88	Quintile_5	94.39
VEI (Vertical Equity Index)	40.13	VEI (Vertical Equity Index)	20.67

County=Franklin Property Class=Residential		County=Franklin Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	95.69	Quintile_1	96.72
Quintile_2	94.10	Quintile_2	78.23
Quintile_3	95.66	Quintile_3	87.60
Quintile_4	94.77	Quintile_4	86.36
Quintile_5	93.39	Quintile_5	85.73
VEI (Vertical Equity Index)	2.43	VEI (Vertical Equity Index)	21.27

2017 Real Property Quintile Ratio and VEI

County=Garfield Property Class=Residential		County=Garfield Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	87.93	Quintile_1	134.33
Quintile_2	91.38	Quintile_2	55.58
Quintile_3	107.96	Quintile_3	104.27
Quintile_4	83.06	Quintile_4	51.44
Quintile_5	99.06	Quintile_5	104.29
VEI (Vertical Equity Index)	26.52	VEI (Vertical Equity Index)	92.12

County=Grant Property Class=Residential		County=Grant Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	91.19	Quintile_1	89.14
Quintile_2	86.87	Quintile_2	85.23
Quintile_3	89.13	Quintile_3	79.24
Quintile_4	88.52	Quintile_4	90.00
Quintile_5	88.58	Quintile_5	76.92
VEI (Vertical Equity Index)	4.86	VEI (Vertical Equity Index)	15.55

County=Grays Harbor Property Class=Residential		County=Grays Harbor Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	100.39	Quintile_1	118.11
Quintile_2	93.81	Quintile_2	101.55
Quintile_3	93.06	Quintile_3	101.81
Quintile_4	94.29	Quintile_4	96.46
Quintile_5	95.83	Quintile_5	92.63
VEI (Vertical Equity Index)	7.68	VEI (Vertical Equity Index)	24.95

County=Island Property Class=Residential		County=Island Property Class=Non-Residential	
Quintile	Mean	Quintile	Mean
Quintile_1	96.50	Quintile_1	105.94
Quintile_2	95.53	Quintile_2	115.86
Quintile_3	94.34	Quintile_3	101.24
Quintile_4	95.77	Quintile_4	88.22
Quintile_5	93.65	Quintile_5	84.37
VEI (Vertical Equity Index)	3.00	VEI (Vertical Equity Index)	31.77

2017 Real Property Quintile Ratio and VEI

County=Jefferson Property Class=Residential	
Quintile	Mean
Quintile_1	92.73
Quintile_2	92.47
Quintile_3	92.91
Quintile_4	92.48
Quintile_5	90.90
VEI (Vertical Equity Index)	2.18

County=Jefferson Property Class=Non-Residential	
Quintile	Mean
Quintile_1	96.70
Quintile_2	90.09
Quintile_3	94.41
Quintile_4	85.81
Quintile_5	83.94
VEI (Vertical Equity Index)	14.15

County=King Property Class=Residential	
Quintile	Mean
Quintile_1	98.20
Quintile_2	94.87
Quintile_3	95.11
Quintile_4	97.83
Quintile_5	94.20
VEI (Vertical Equity Index)	4.16

County=King Property Class=Non-Residential	
Quintile	Mean
Quintile_1	101.07
Quintile_2	94.04
Quintile_3	93.97
Quintile_4	93.67
Quintile_5	87.13
VEI (Vertical Equity Index)	14.83

County=Kitsap Property Class=Residential	
Quintile	Mean
Quintile_1	90.24
Quintile_2	90.06
Quintile_3	90.94
Quintile_4	91.63
Quintile_5	90.94
VEI (Vertical Equity Index)	1.73

County=Kitsap Property Class=Non-Residential	
Quintile	Mean
Quintile_1	100.26
Quintile_2	89.51
Quintile_3	90.01
Quintile_4	85.66
Quintile_5	82.97
VEI (Vertical Equity Index)	19.28

County=Kittitas Property Class=Residential	
Quintile	Mean
Quintile_1	89.67
Quintile_2	84.24
Quintile_3	81.48
Quintile_4	79.46
Quintile_5	76.44
VEI (Vertical Equity Index)	16.08

County=Kittitas Property Class=Non-Residential	
Quintile	Mean
Quintile_1	99.90
Quintile_2	90.35
Quintile_3	90.66
Quintile_4	73.88
Quintile_5	79.36
VEI (Vertical Equity Index)	29.97

2017 Real Property Quintile Ratio and VEI

County=Klickitat Property Class=Residential	
Quintile	Mean
Quintile_1	95.98
Quintile_2	92.17
Quintile_3	87.28
Quintile_4	88.93
Quintile_5	91.82
VEI (Vertical Equity Index)	9.54

County=Klickitat Property Class=Non-Residential	
Quintile	Mean
Quintile_1	97.63
Quintile_2	95.80
Quintile_3	94.96
Quintile_4	88.22
Quintile_5	82.29
VEI (Vertical Equity Index)	16.71

County=Lewis Property Class=Residential	
Quintile	Mean
Quintile_1	102.84
Quintile_2	91.51
Quintile_3	91.43
Quintile_4	89.85
Quintile_5	89.53
VEI (Vertical Equity Index)	14.31

County=Lewis Property Class=Non-Residential	
Quintile	Mean
Quintile_1	107.96
Quintile_2	101.72
Quintile_3	104.61
Quintile_4	97.19
Quintile_5	95.57
VEI (Vertical Equity Index)	12.22

County=Lincoln Property Class=Residential	
Quintile	Mean
Quintile_1	95.26
Quintile_2	92.06
Quintile_3	86.03
Quintile_4	86.78
Quintile_5	85.02
VEI (Vertical Equity Index)	11.50

County=Lincoln Property Class=Non-Residential	
Quintile	Mean
Quintile_1	97.57
Quintile_2	79.35
Quintile_3	70.97
Quintile_4	74.81
Quintile_5	86.21
VEI (Vertical Equity Index)	32.53

County=Mason Property Class=Residential	
Quintile	Mean
Quintile_1	109.31
Quintile_2	94.15
Quintile_3	97.81
Quintile_4	95.46
Quintile_5	97.43
VEI (Vertical Equity Index)	15.34

County=Mason Property Class=Non-Residential	
Quintile	Mean
Quintile_1	116.05
Quintile_2	116.93
Quintile_3	99.42
Quintile_4	95.34
Quintile_5	97.33
VEI (Vertical Equity Index)	20.56

2017 Real Property Quintile Ratio and VEI

County=Okanogan Property Class=Residential	
Quintile	Mean
Quintile_1	101.39
Quintile_2	83.14
Quintile_3	84.36
Quintile_4	83.78
Quintile_5	87.59
VEI (Vertical Equity Index)	20.73

County=Okanogan Property Class=Non-Residential	
Quintile	Mean
Quintile_1	111.66
Quintile_2	87.33
Quintile_3	85.16
Quintile_4	85.45
Quintile_5	82.84
VEI (Vertical Equity Index)	31.85

County=Pacific Property Class=Residential	
Quintile	Mean
Quintile_1	104.64
Quintile_2	96.35
Quintile_3	91.13
Quintile_4	90.67
Quintile_5	90.95
VEI (Vertical Equity Index)	14.74

County=Pacific Property Class=Non-Residential	
Quintile	Mean
Quintile_1	104.41
Quintile_2	96.56
Quintile_3	89.06
Quintile_4	98.96
Quintile_5	91.16
VEI (Vertical Equity Index)	15.98

County=Pend Oreille Property Class=Residential	
Quintile	Mean
Quintile_1	101.08
Quintile_2	90.05
Quintile_3	88.50
Quintile_4	89.92
Quintile_5	87.17
VEI (Vertical Equity Index)	15.23

County=Pend Oreille Property Class=Non-Residential	
Quintile	Mean
Quintile_1	104.88
Quintile_2	107.50
Quintile_3	91.80
Quintile_4	91.41
Quintile_5	95.89
VEI (Vertical Equity Index)	16.37

County=Pierce Property Class=Residential	
Quintile	Mean
Quintile_1	95.74
Quintile_2	95.24
Quintile_3	95.39
Quintile_4	95.17
Quintile_5	95.31
VEI (Vertical Equity Index)	0.60

County=Pierce Property Class=Non-Residential	
Quintile	Mean
Quintile_1	108.16
Quintile_2	94.76
Quintile_3	94.58
Quintile_4	93.78
Quintile_5	88.40
VEI (Vertical Equity Index)	20.60

2017 Real Property Quintile Ratio and VEI

County=San Juan Property Class=Residential	
Quintile	Mean
Quintile_1	102.47
Quintile_2	90.82
Quintile_3	92.87
Quintile_4	97.00
Quintile_5	93.41
VEI (Vertical Equity Index)	12.22

County=San Juan Property Class=Non-Residential	
Quintile	Mean
Quintile_1	102.13
Quintile_2	100.04
Quintile_3	99.89
Quintile_4	85.39
Quintile_5	84.59
VEI (Vertical Equity Index)	18.58

County=Skagit Property Class=Residential	
Quintile	Mean
Quintile_1	99.40
Quintile_2	92.22
Quintile_3	92.46
Quintile_4	93.03
Quintile_5	94.13
VEI (Vertical Equity Index)	7.62

County=Skagit Property Class=Non-Residential	
Quintile	Mean
Quintile_1	97.21
Quintile_2	93.96
Quintile_3	93.96
Quintile_4	93.17
Quintile_5	87.31
VEI (Vertical Equity Index)	10.63

County=Skamania Property Class=Residential	
Quintile	Mean
Quintile_1	107.19
Quintile_2	92.01
Quintile_3	86.53
Quintile_4	87.83
Quintile_5	87.23
VEI (Vertical Equity Index)	22.42

County=Skamania Property Class=Non-Residential	
Quintile	Mean
Quintile_1	122.86
Quintile_2	107.28
Quintile_3	92.77
Quintile_4	75.85
Quintile_5	75.64
VEI (Vertical Equity Index)	49.77

County=Snohomish Property Class=Residential	
Quintile	Mean
Quintile_1	97.42
Quintile_2	96.29
Quintile_3	96.15
Quintile_4	95.65
Quintile_5	94.49
VEI (Vertical Equity Index)	3.05

County=Snohomish Property Class=Non-Residential	
Quintile	Mean
Quintile_1	95.82
Quintile_2	95.29
Quintile_3	94.44
Quintile_4	89.34
Quintile_5	89.47
VEI (Vertical Equity Index)	6.98

2017 Real Property Quintile Ratio and VEI

County=Spokane Property Class=Residential	
Quintile	Mean
Quintile_1	99.24
Quintile_2	95.87
Quintile_3	95.78
Quintile_4	96.03
Quintile_5	96.26
VEI (Vertical Equity Index)	3.58

County=Spokane Property Class=Non-Residential	
Quintile	Mean
Quintile_1	98.41
Quintile_2	96.28
Quintile_3	95.27
Quintile_4	95.49
Quintile_5	92.48
VEI (Vertical Equity Index)	6.20

County=Stevens Property Class=Residential	
Quintile	Mean
Quintile_1	104.15
Quintile_2	90.74
Quintile_3	86.01
Quintile_4	87.22
Quintile_5	90.31
VEI (Vertical Equity Index)	19.78

County=Stevens Property Class=Non-Residential	
Quintile	Mean
Quintile_1	106.33
Quintile_2	104.75
Quintile_3	93.66
Quintile_4	95.16
Quintile_5	95.12
VEI (Vertical Equity Index)	12.80

County=Thurston Property Class=Residential	
Quintile	Mean
Quintile_1	94.19
Quintile_2	92.75
Quintile_3	96.02
Quintile_4	96.89
Quintile_5	99.25
VEI (Vertical Equity Index)	6.78

County=Thurston Property Class=Non-Residential	
Quintile	Mean
Quintile_1	113.49
Quintile_2	92.44
Quintile_3	92.49
Quintile_4	95.21
Quintile_5	96.78
VEI (Vertical Equity Index)	21.46

County=Wahkiakum Property Class=Residential	
Quintile	Mean
Quintile_1	121.37
Quintile_2	88.09
Quintile_3	99.55
Quintile_4	88.58
Quintile_5	88.96
VEI (Vertical Equity Index)	34.20

County=Wahkiakum Property Class=Non-Residential	
Quintile	Mean
Quintile_1	96.95
Quintile_2	94.45
Quintile_3	74.75
Quintile_4	108.25
Quintile_5	86.37
VEI (Vertical Equity Index)	36.35

2017 Real Property Quintile Ratio and VEI

County=Walla Walla Property Class=Residential	
Quintile	Mean
Quintile_1	96.49
Quintile_2	93.98
Quintile_3	94.49
Quintile_4	95.39
Quintile_5	94.46
VEI (Vertical Equity Index)	2.64

County=Walla Walla Property Class=Non-Residential	
Quintile	Mean
Quintile_1	106.91
Quintile_2	97.16
Quintile_3	88.71
Quintile_4	81.37
Quintile_5	84.67
VEI (Vertical Equity Index)	27.83

County=Whatcom Property Class=Residential	
Quintile	Mean
Quintile_1	88.29
Quintile_2	85.23
Quintile_3	85.51
Quintile_4	84.67
Quintile_5	86.06
VEI (Vertical Equity Index)	4.21

County=Whatcom Property Class=Non-Residential	
Quintile	Mean
Quintile_1	95.37
Quintile_2	90.66
Quintile_3	82.08
Quintile_4	86.40
Quintile_5	83.31
VEI (Vertical Equity Index)	15.18

County=Whitman Property Class=Residential	
Quintile	Mean
Quintile_1	96.36
Quintile_2	77.85
Quintile_3	79.76
Quintile_4	81.35
Quintile_5	83.25
VEI (Vertical Equity Index)	22.11

County=Whitman Property Class=Non-Residential	
Quintile	Mean
Quintile_1	86.20
Quintile_2	75.00
Quintile_3	92.74
Quintile_4	86.12
Quintile_5	74.39
VEI (Vertical Equity Index)	22.14

County=Yakima Property Class=Residential	
Quintile	Mean
Quintile_1	92.45
Quintile_2	86.37
Quintile_3	87.46
Quintile_4	85.66
Quintile_5	88.30
VEI (Vertical Equity Index)	7.71

County=Yakima Property Class=Non-Residential	
Quintile	Mean
Quintile_1	86.39
Quintile_2	82.60
Quintile_3	84.74
Quintile_4	89.37
Quintile_5	89.13
VEI (Vertical Equity Index)	7.83

The following tables show the mean ratio, standard deviation, number of observations (N), and median ratio for each property type statewide.

Statewide by Property Type

Property Type=Ag/Other			
Mean	Std Dev	N	Median
93.85	27.88	7304	93.12

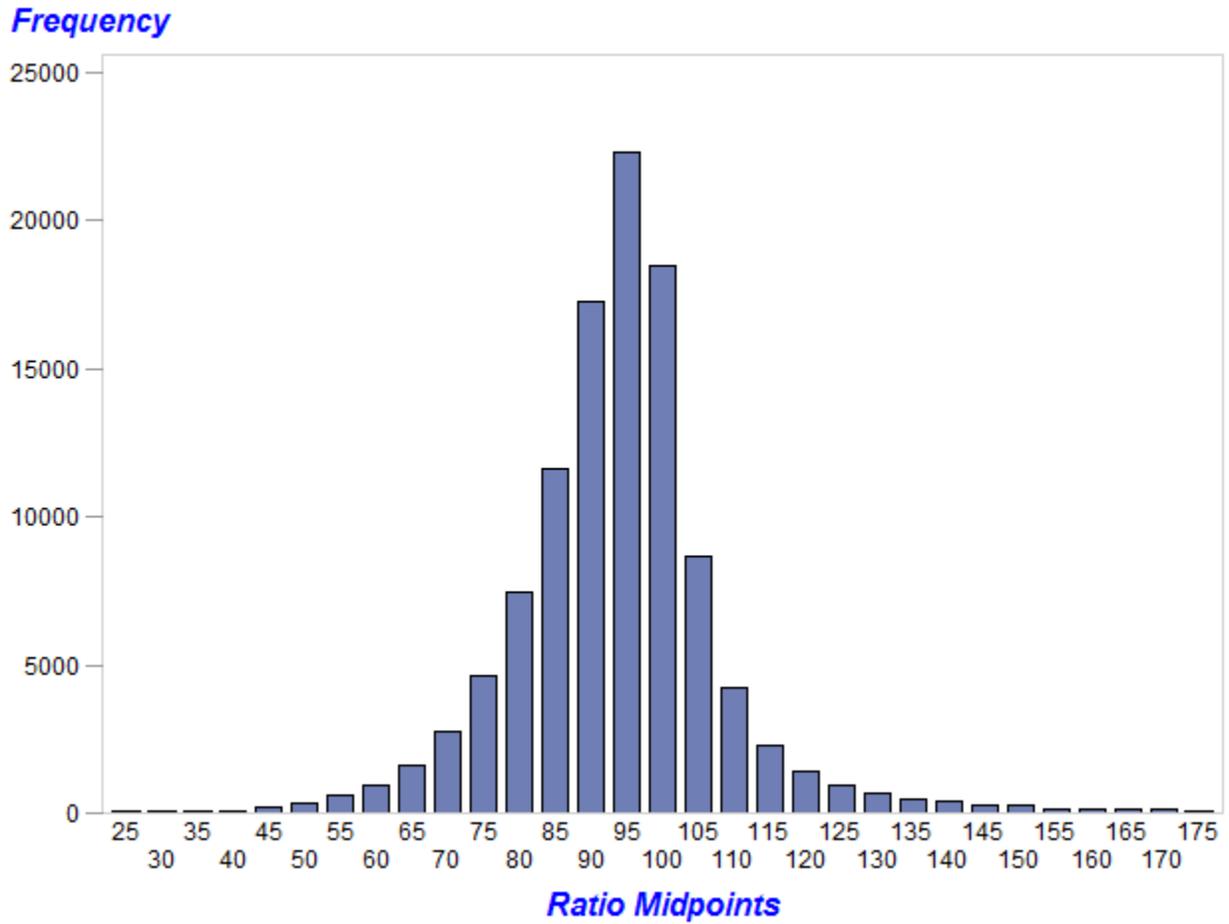
Property Type=Comm/Mfg			
Mean	Std Dev	N	Median
90.36	21.96	2555	91.50

Property Type=Multi Family			
Mean	Std Dev	N	Median
94.37	13.70	5668	94.38

Property Type=SFR			
Mean	Std Dev	N	Median
93.73	13.51	93481	94.08

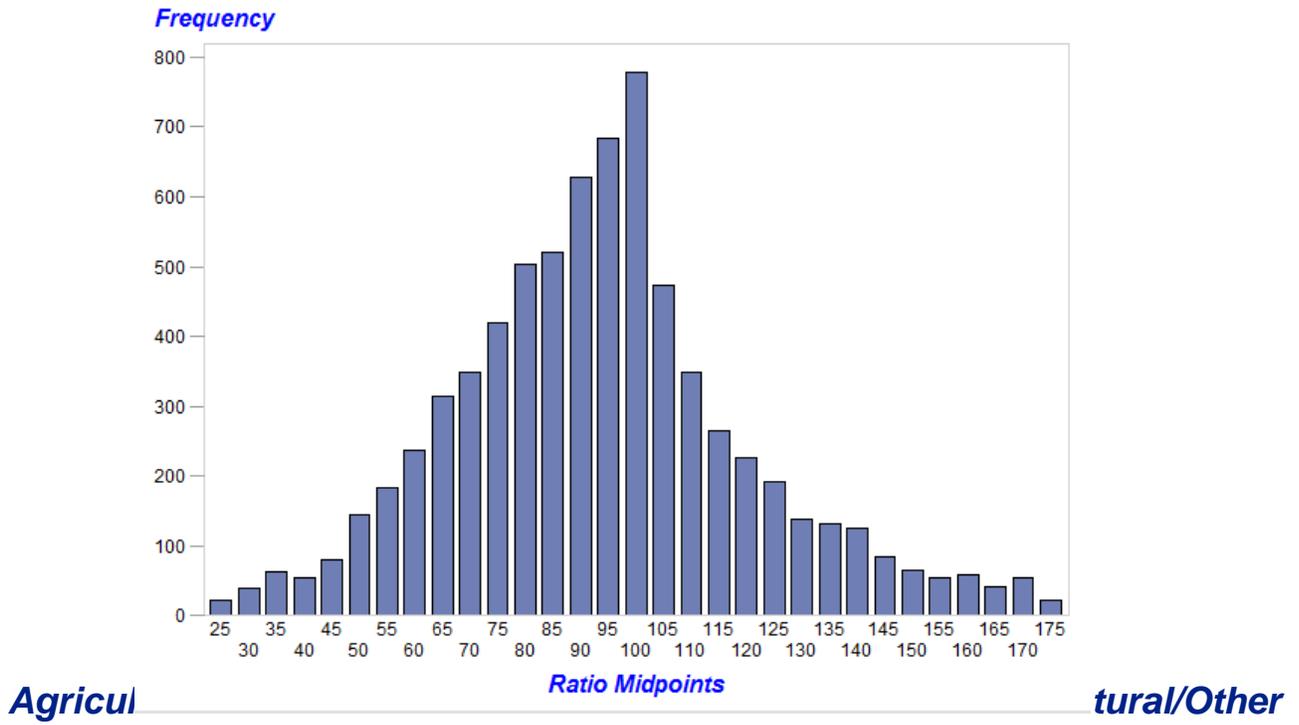
Another visual indication of horizontal uniformity is a histogram. On a histogram each ratio contributes to the length of a bar representing the range in which the ratio falls. Good uniformity is indicated when the highest bars are near the median (approximately the same number of observations on each side) with the bars decreasing in length the farther they are from the median (forming the shape of a bell). A histogram indicates a good level of assessment when the top of the bell is at or near 100. The following histogram is for all valid real property sales statewide. The graph shows that the top of the bell is in the range of 95, which is consistent with the 94.02 statewide median ratio shown in the table on page 3. The graph, with the tallest bar in the middle, also shows that statewide the level of assessment is uniform horizontally. Horizontal uniformity means uniformity across the data being reviewed without influences from the value of the properties. Vertical uniformity, a measure of uniformity in the level of assessment of properties at different value levels cannot be illustrated on a histogram.

Statewide Ratio Distribution

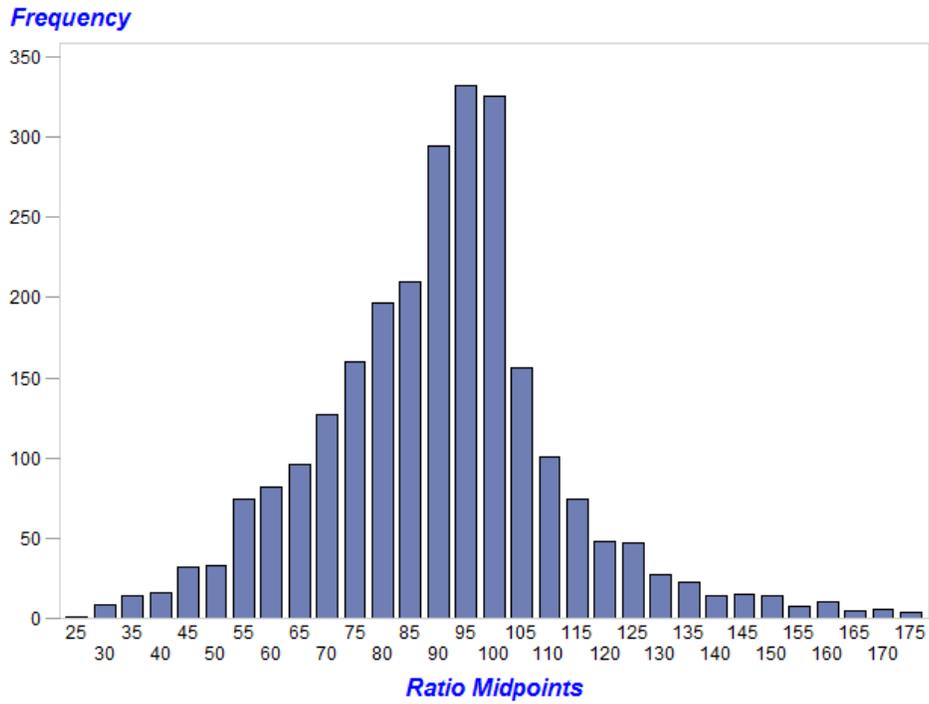


The following four histograms are for each of the four major property types on a statewide basis. They are followed by a histogram for each county including all property types.

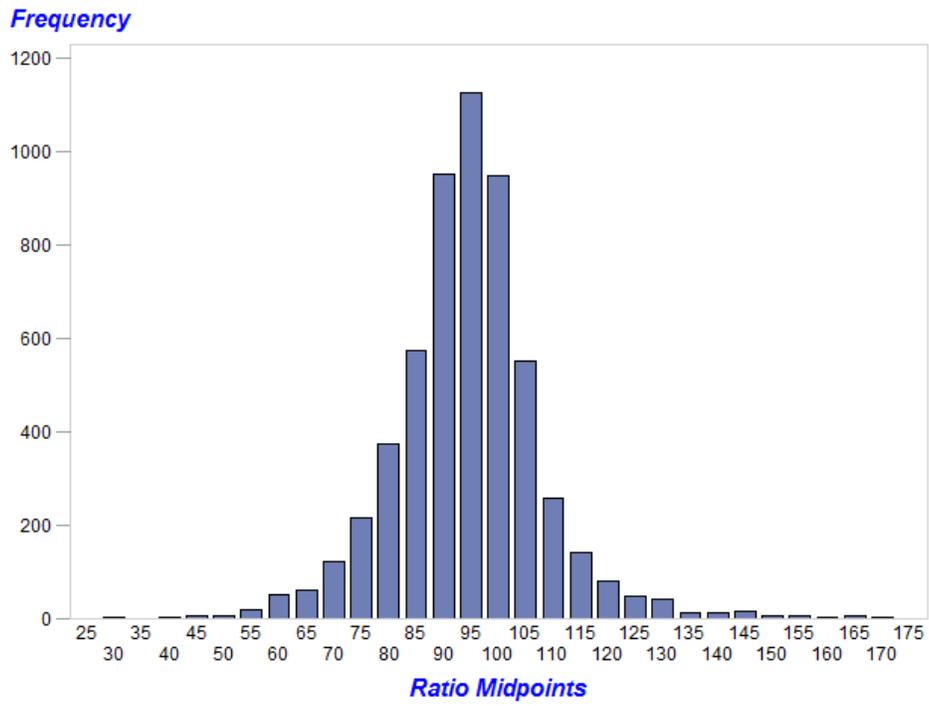
Statewide Ratio Distribution by Property Type



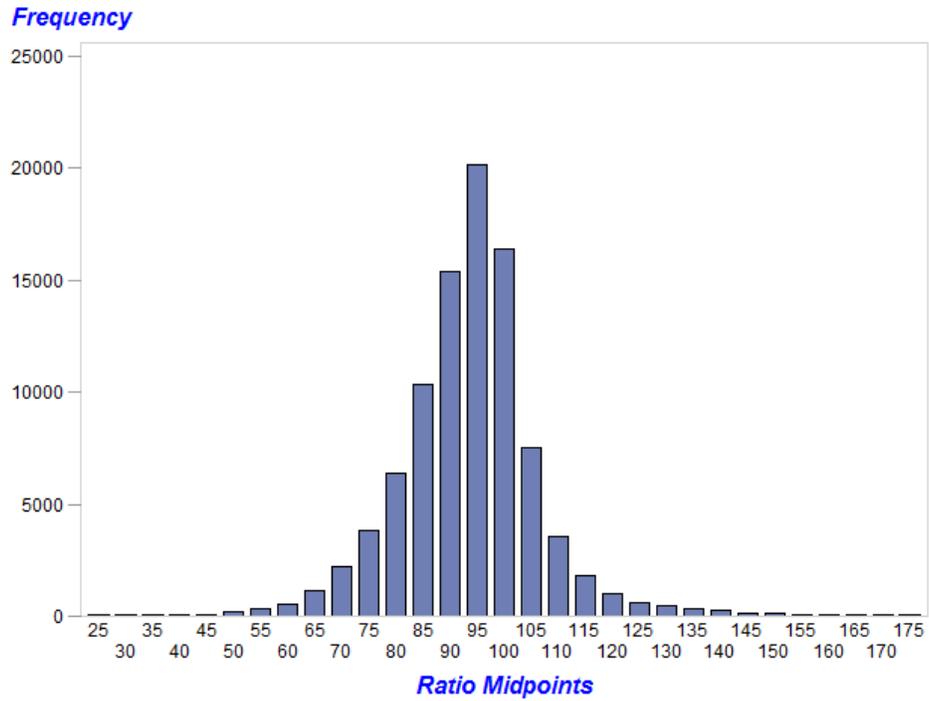
Commercial/Manufacturing



Multi-Family Residential

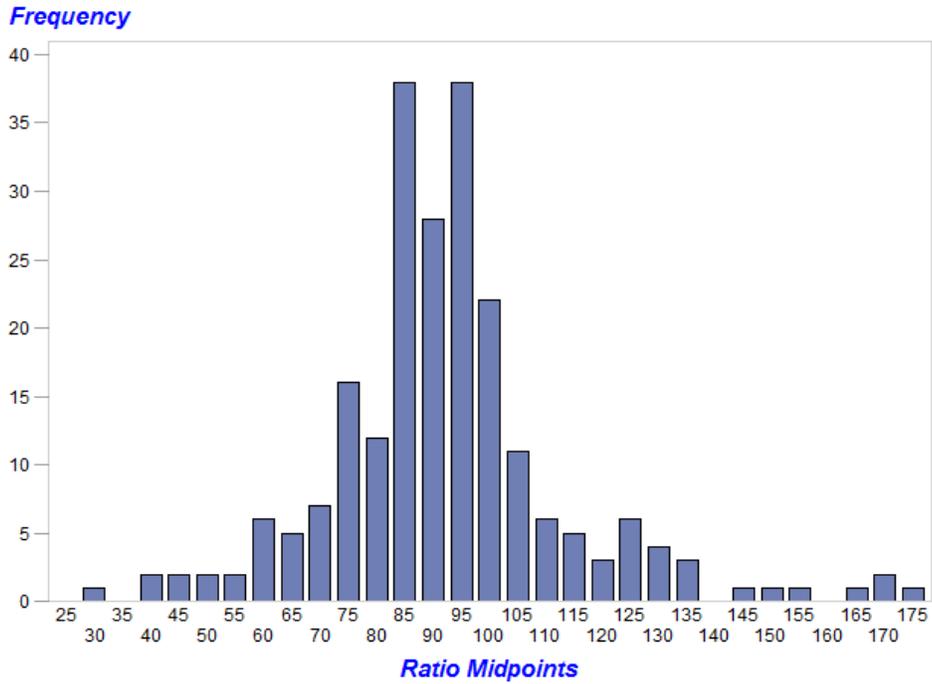


Single-Family Residential

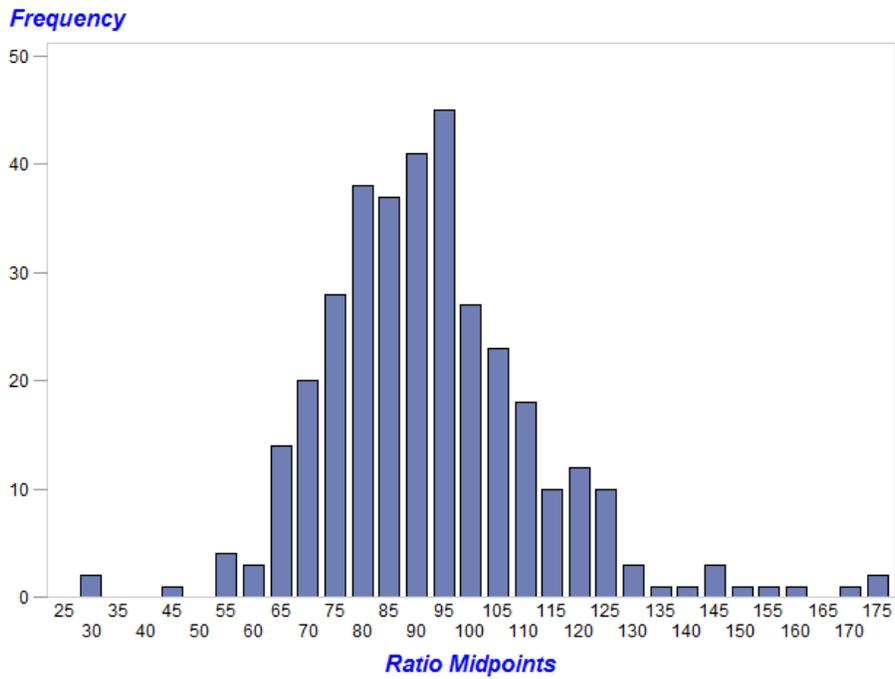


Ratio Distribution by County

Adams

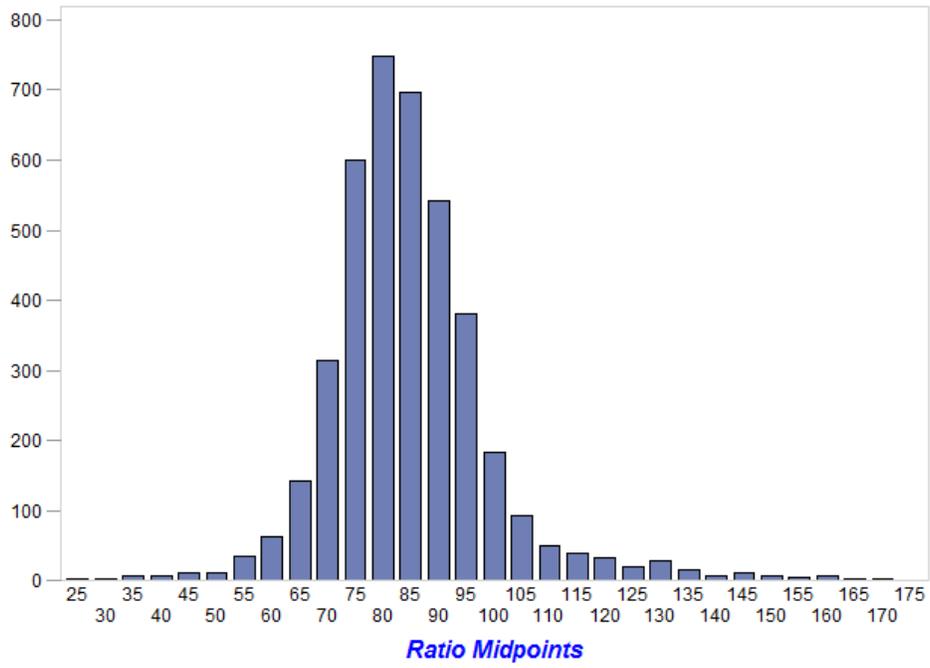


Asotin



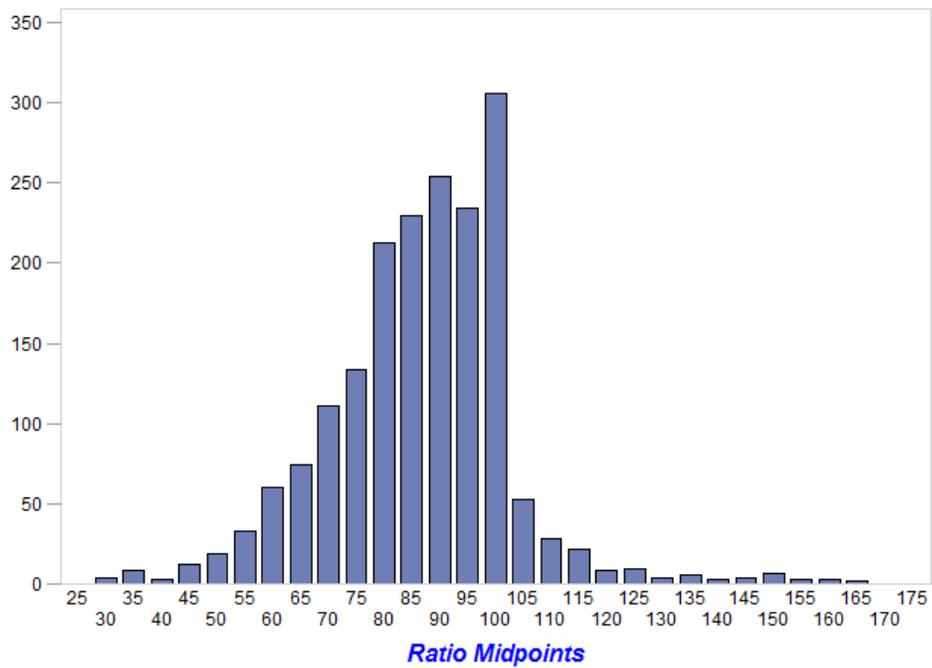
Benton

Frequency

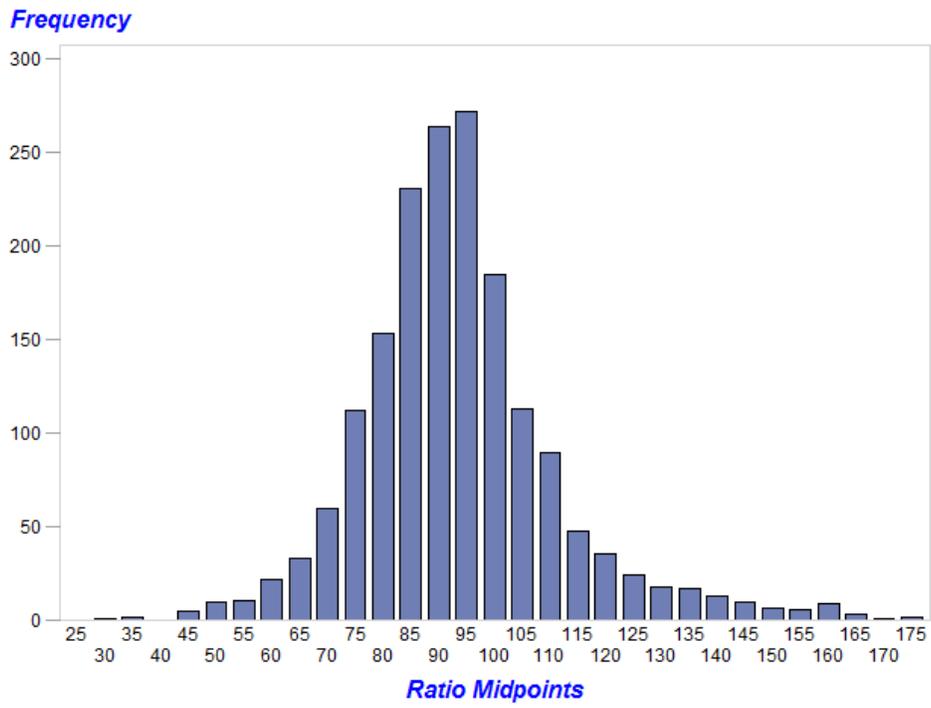


Chelan

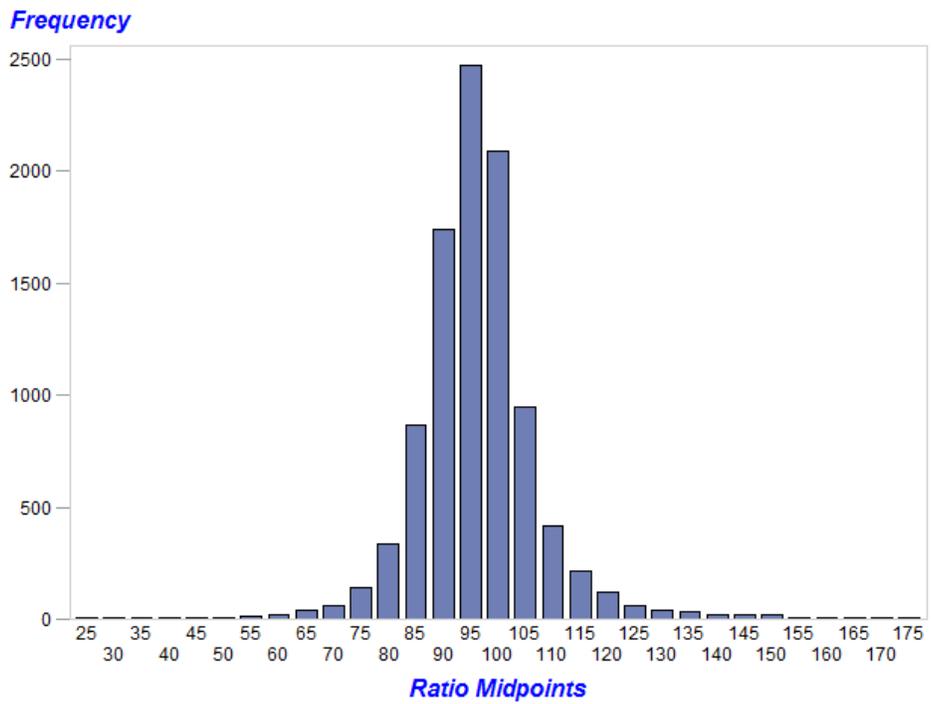
Frequency



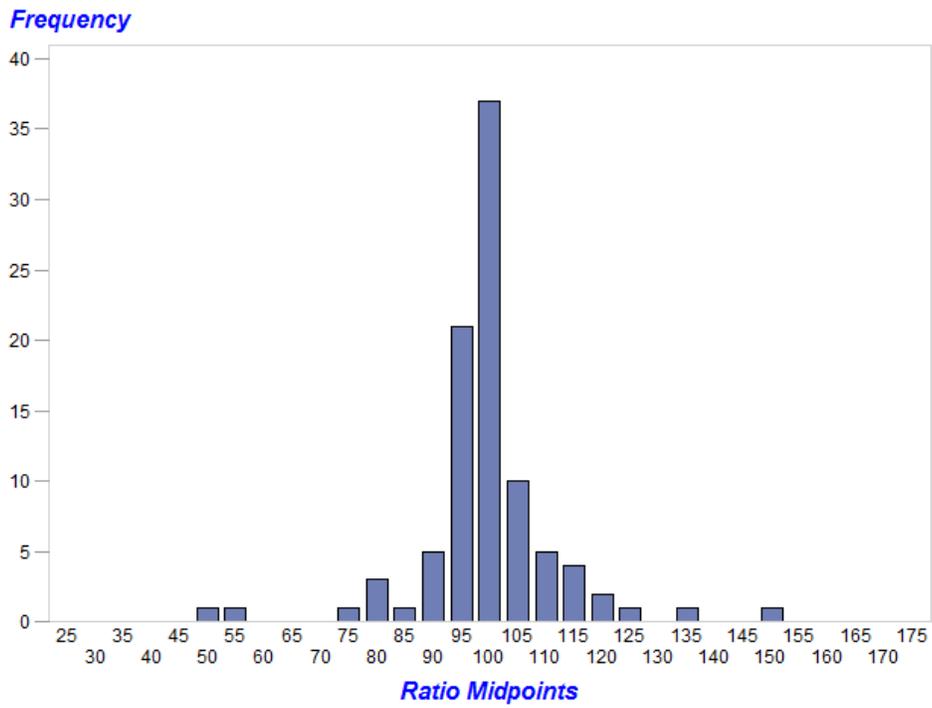
Clallam



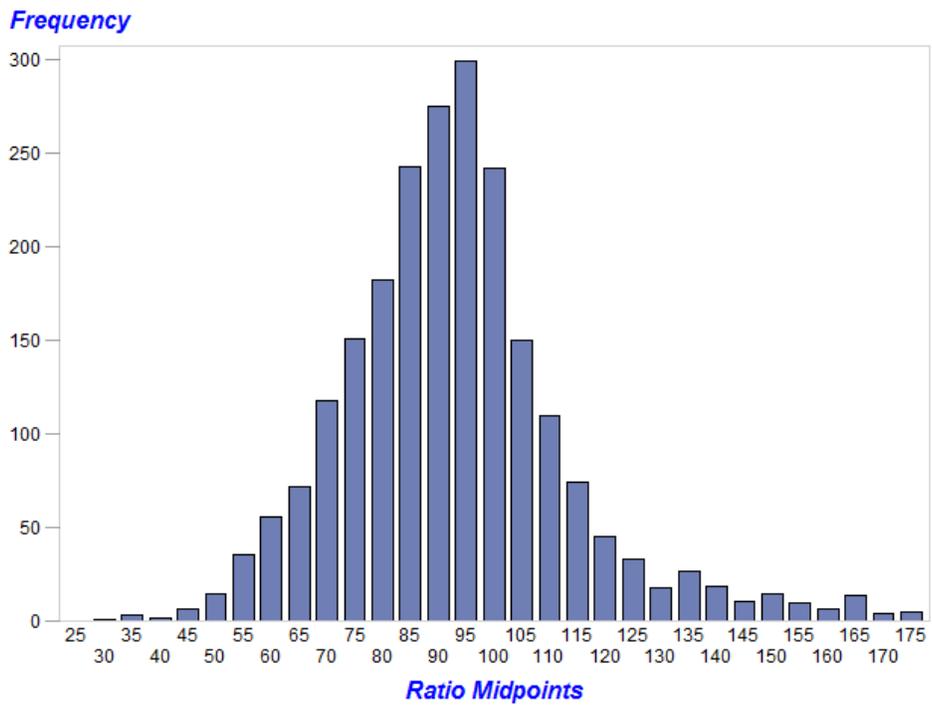
Clark



Columbia

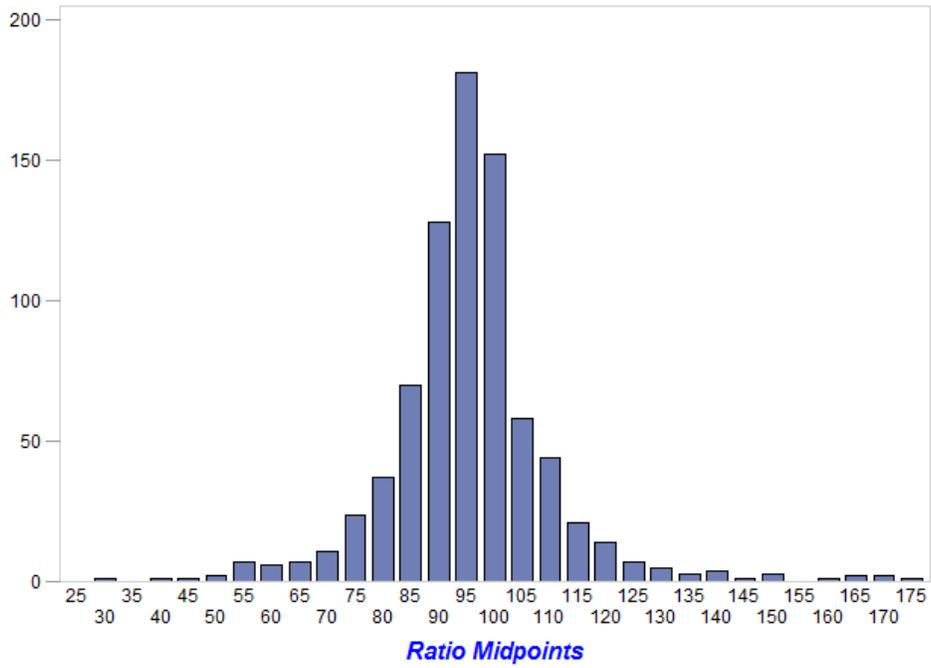


Cowlitz



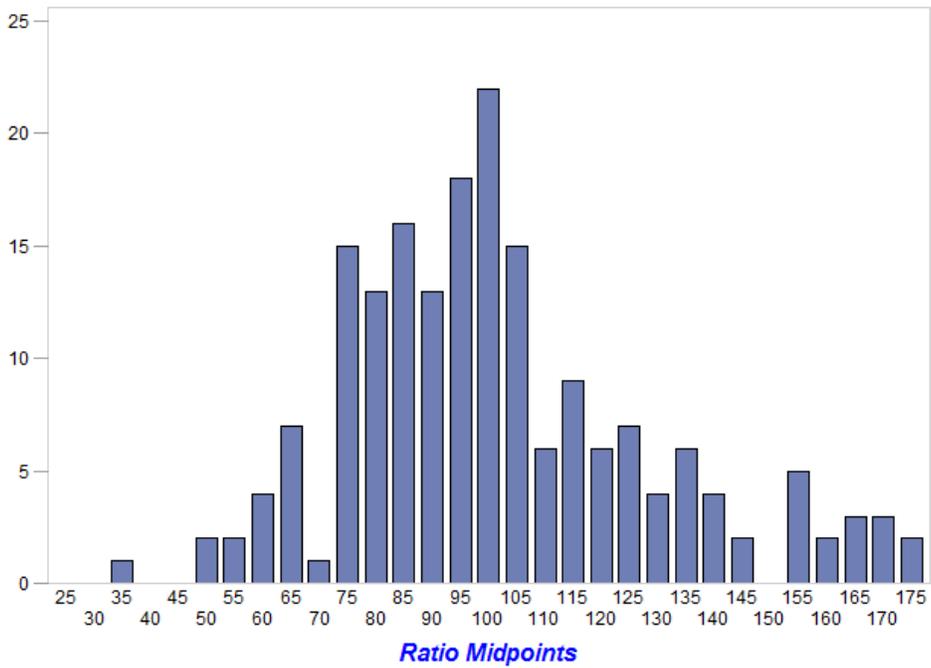
Douglas

Frequency

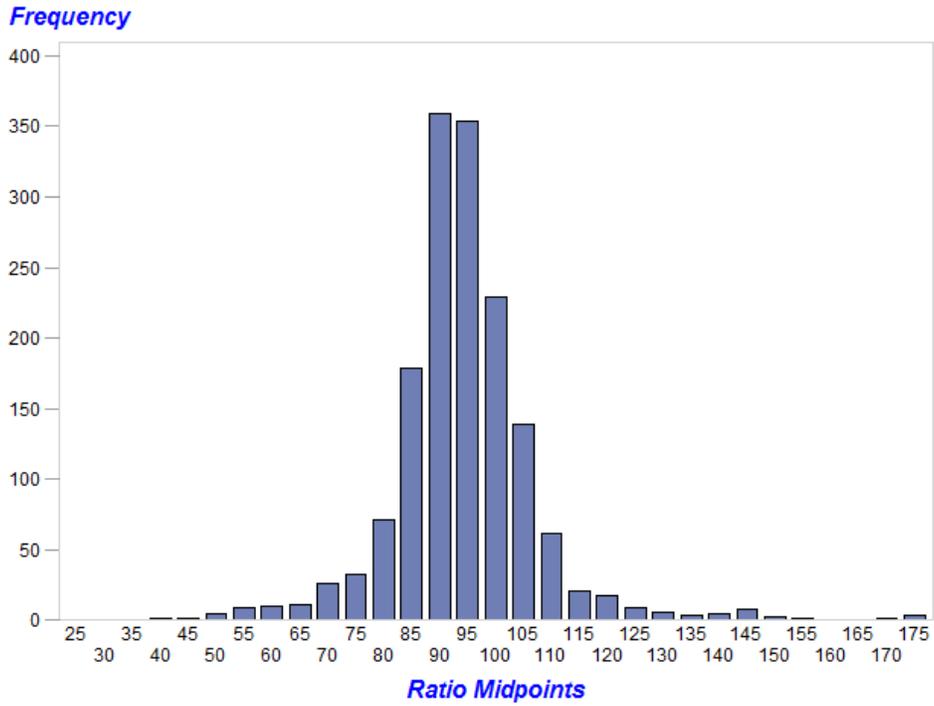


Ferry

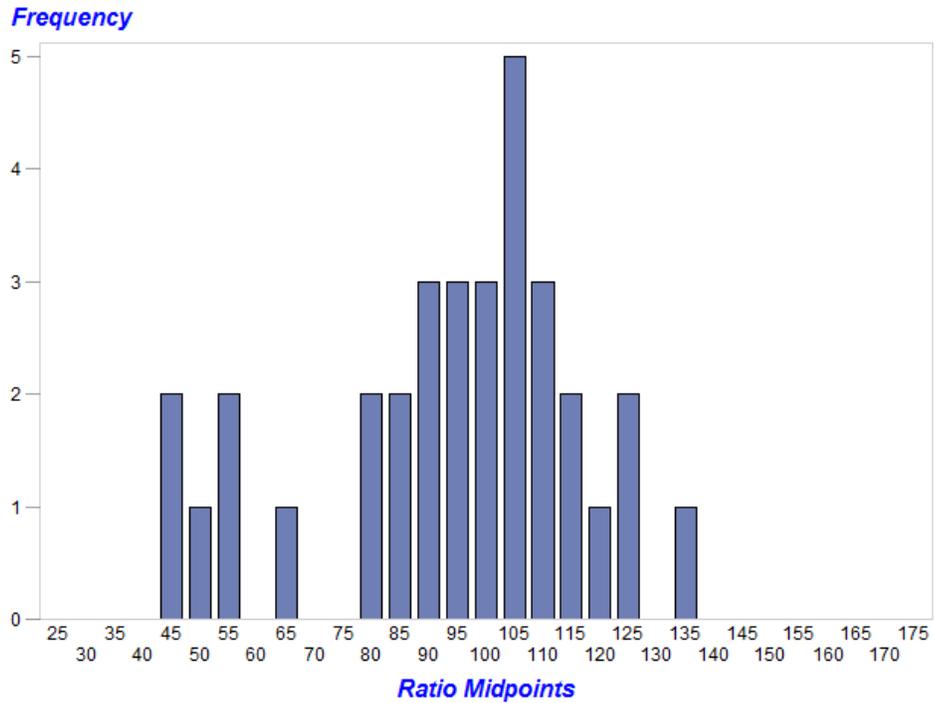
Frequency



Franklin

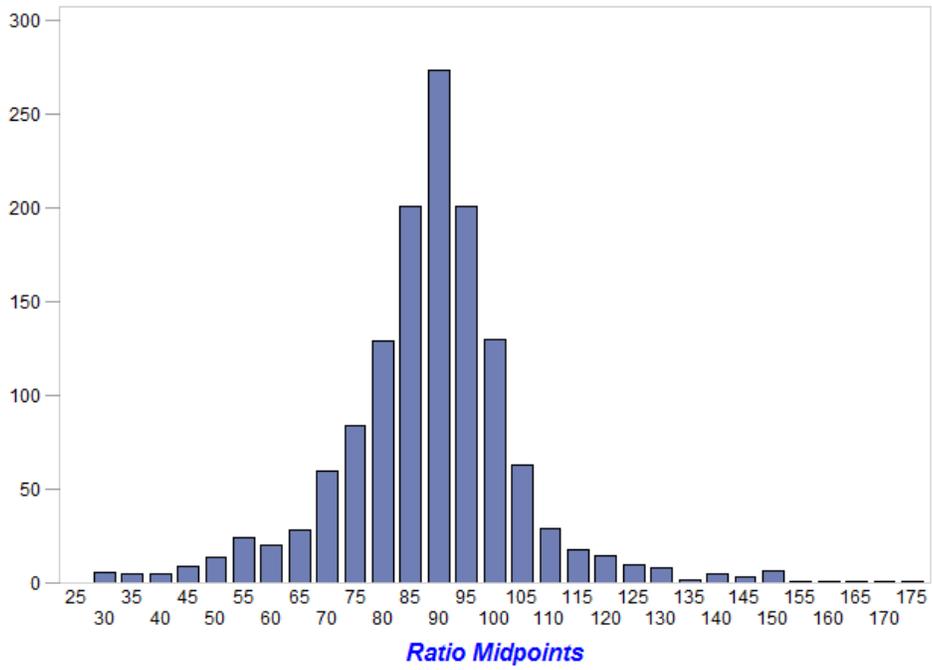


Garfield



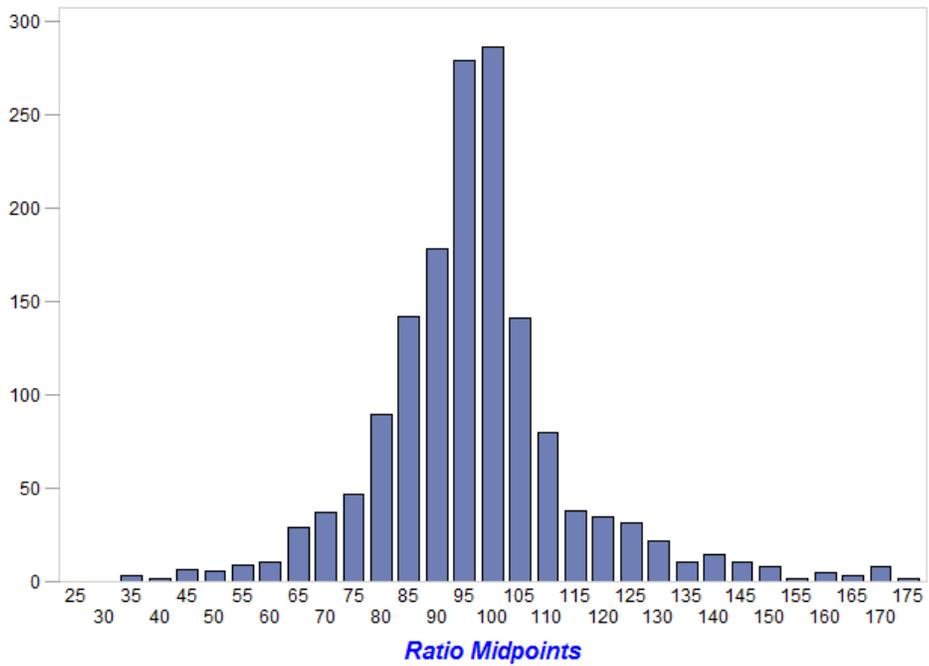
Grant

Frequency



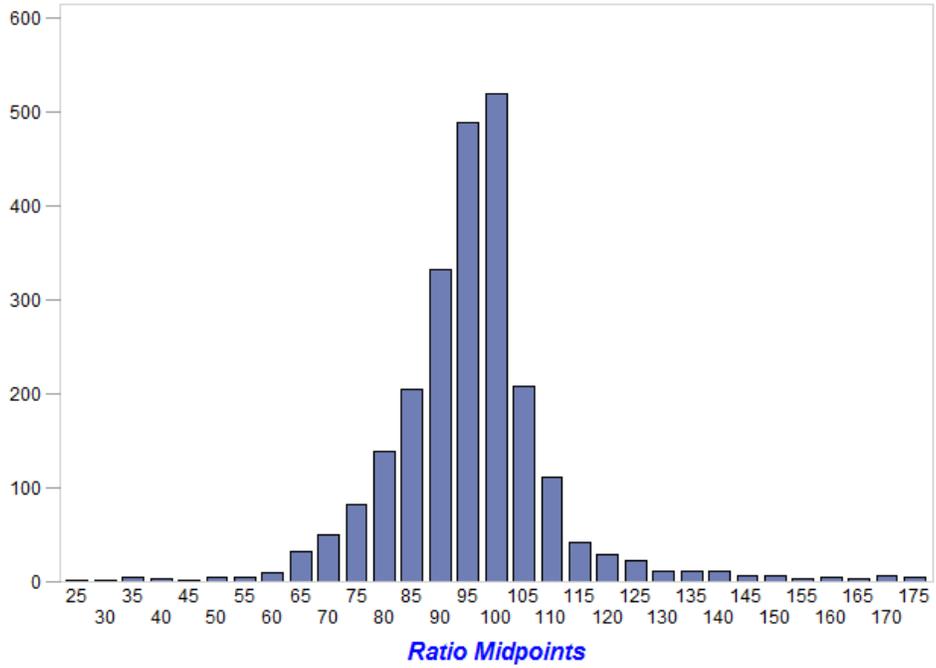
Grays Harbor

Frequency



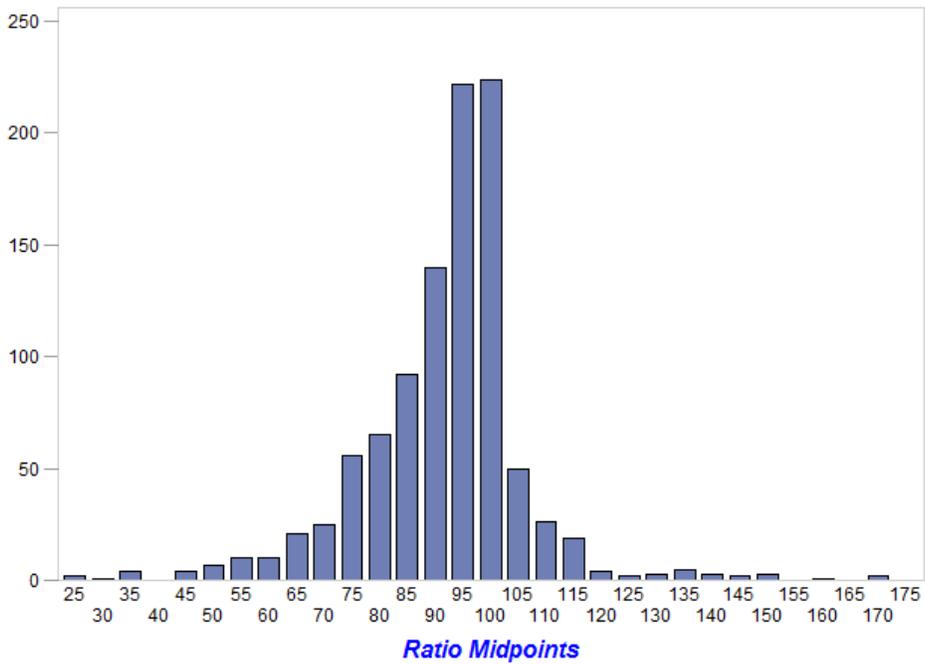
Island

Frequency



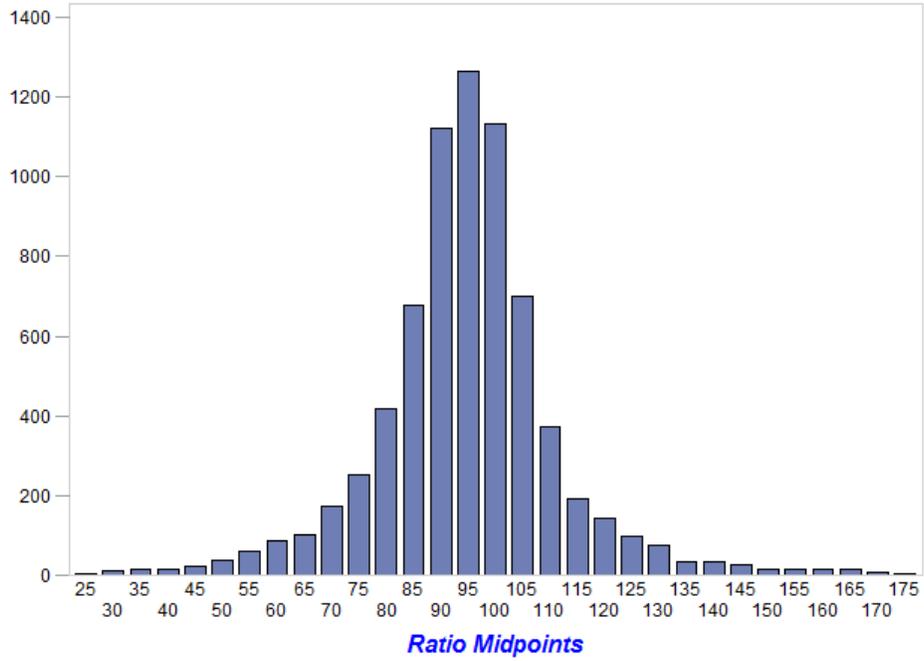
Jefferson

Frequency



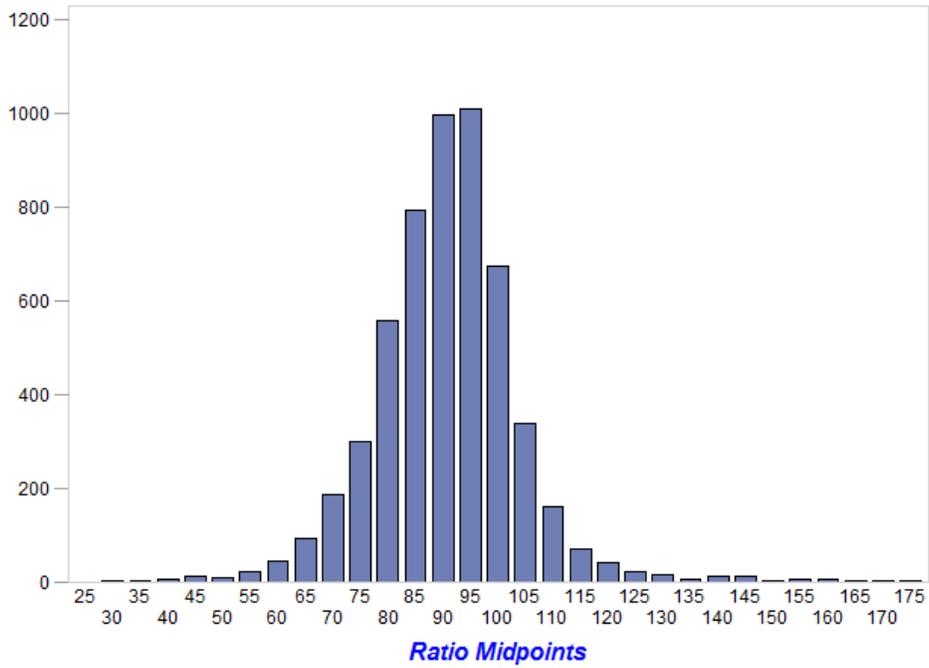
King

Frequency



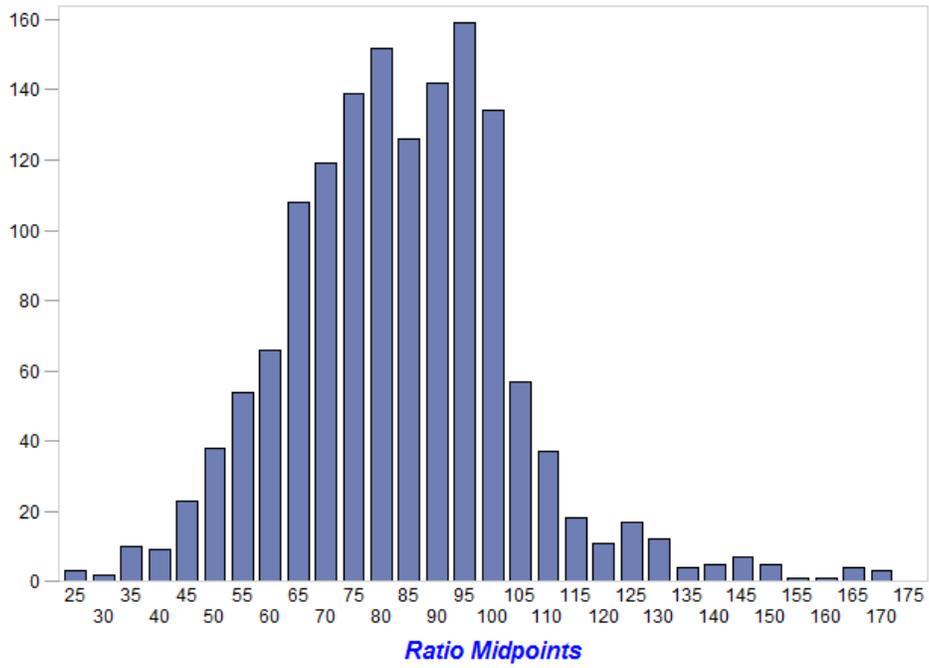
Kitsap

Frequency



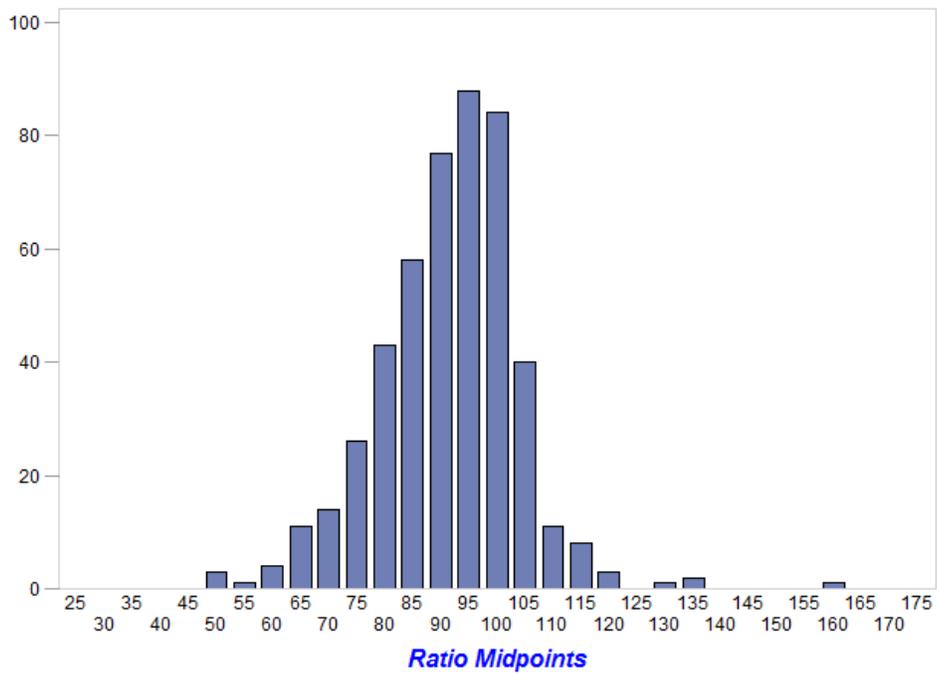
Kittitas

Frequency

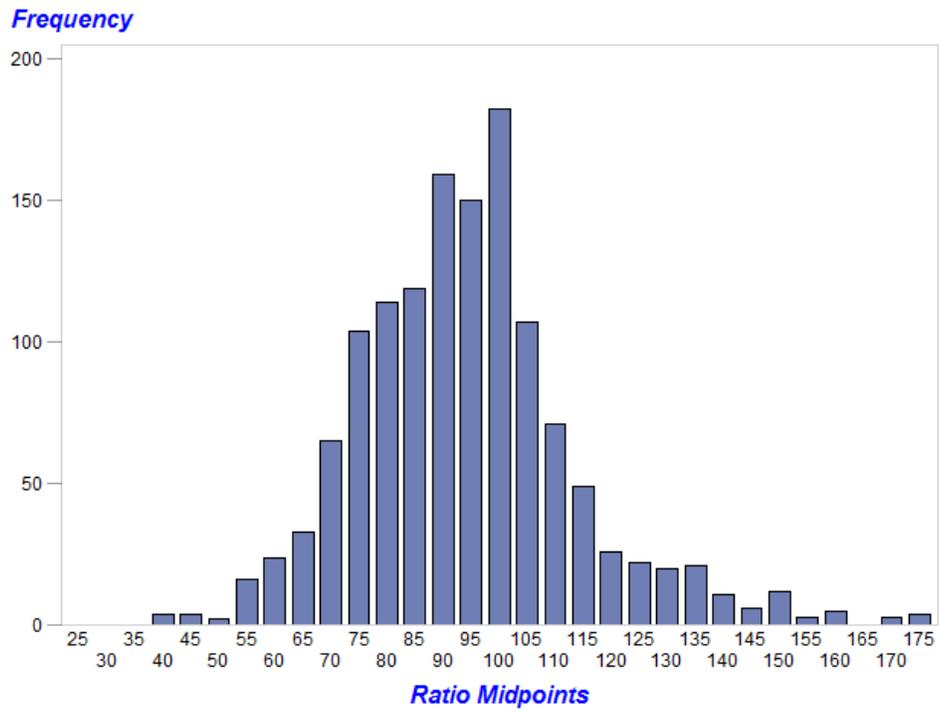


Klickitat

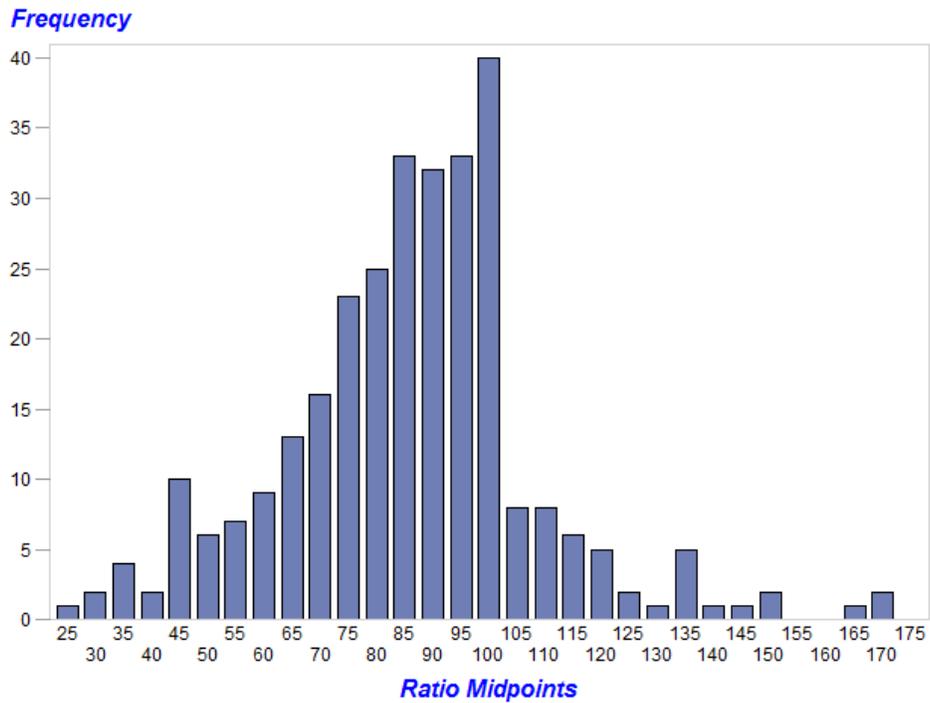
Frequency



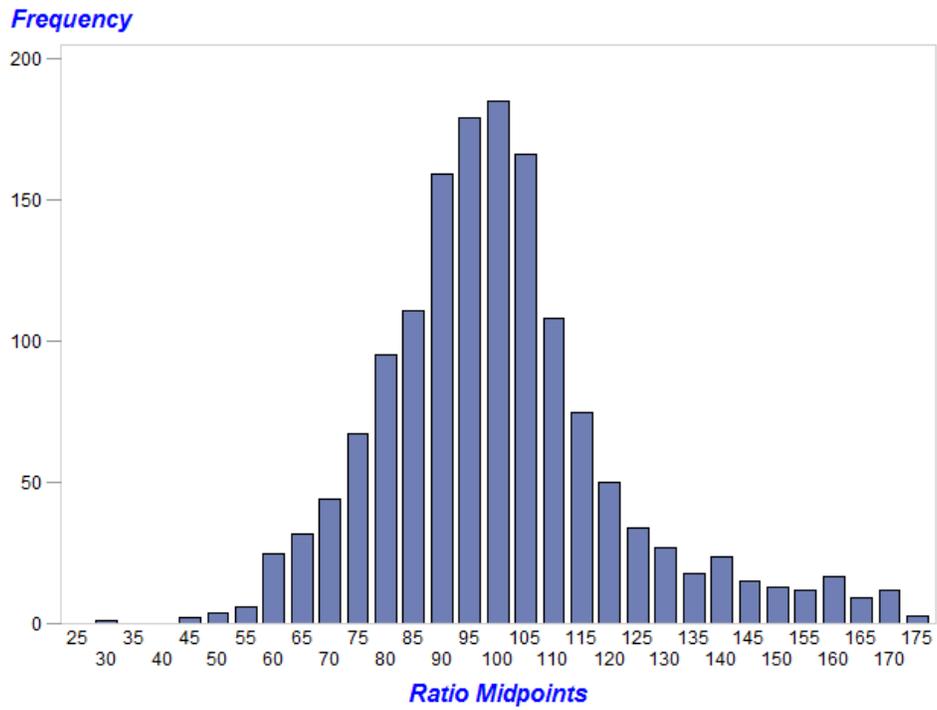
Lewis



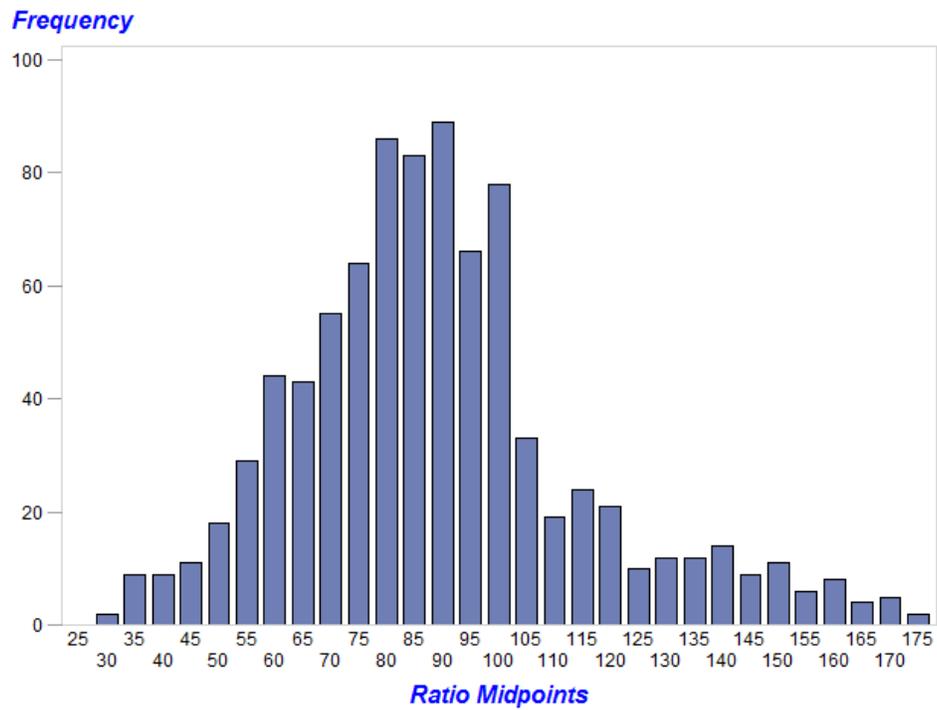
Lincoln



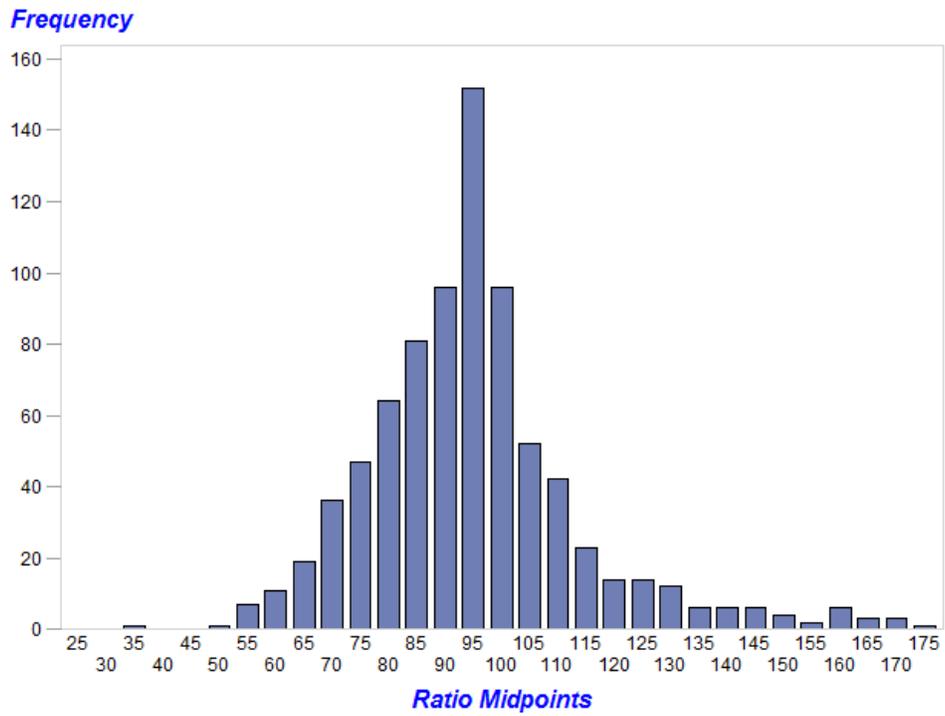
Mason



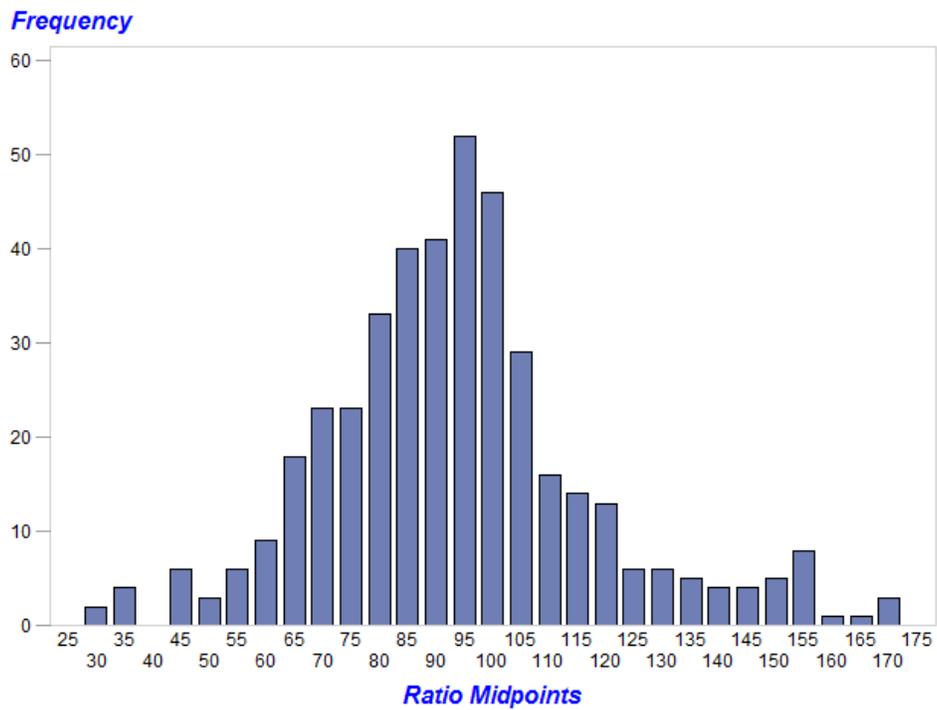
Okanogan



Pacific

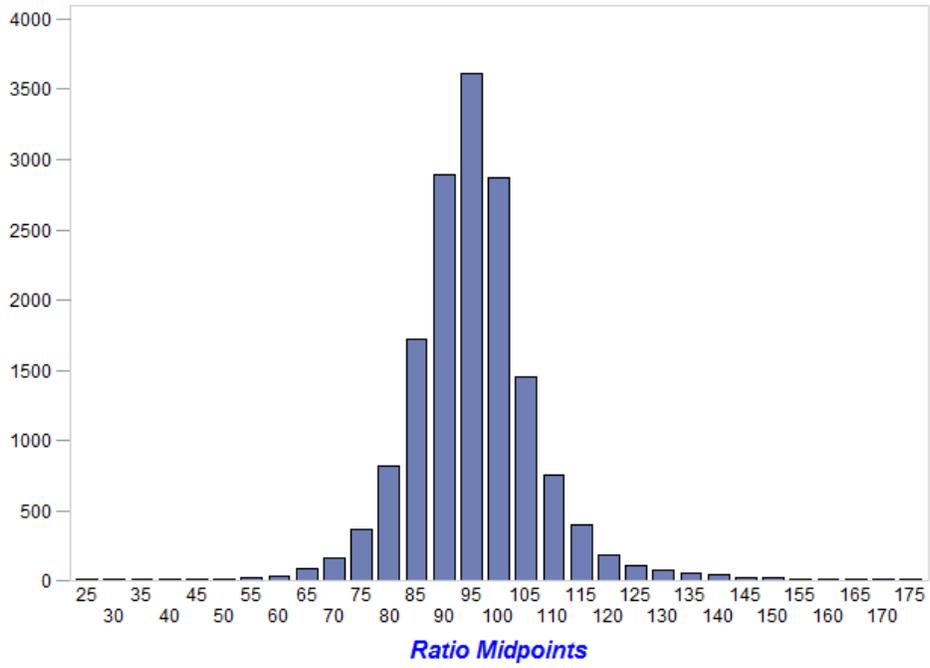


Pend Oreille



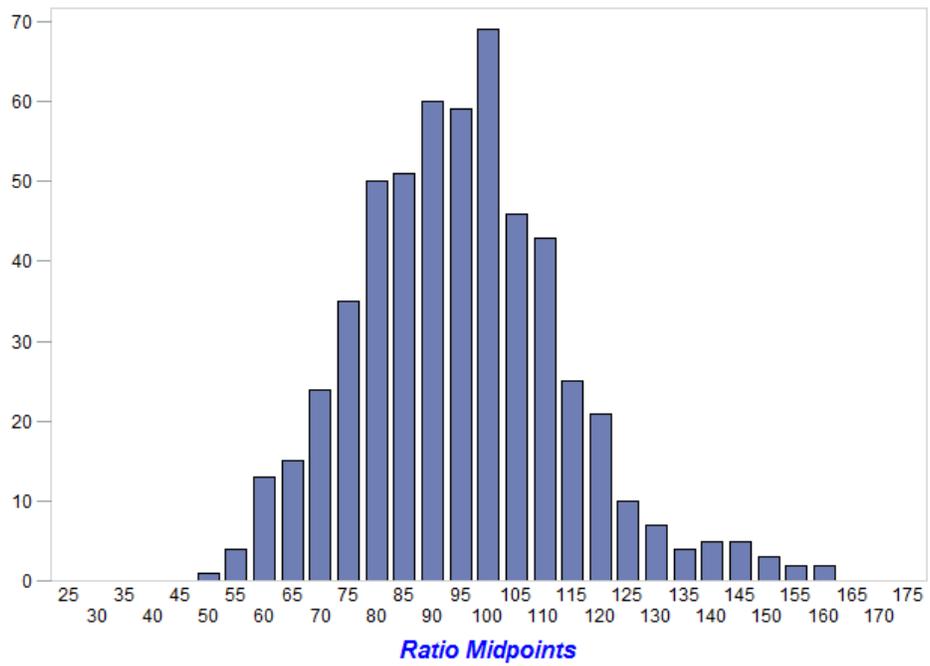
Pierce

Frequency

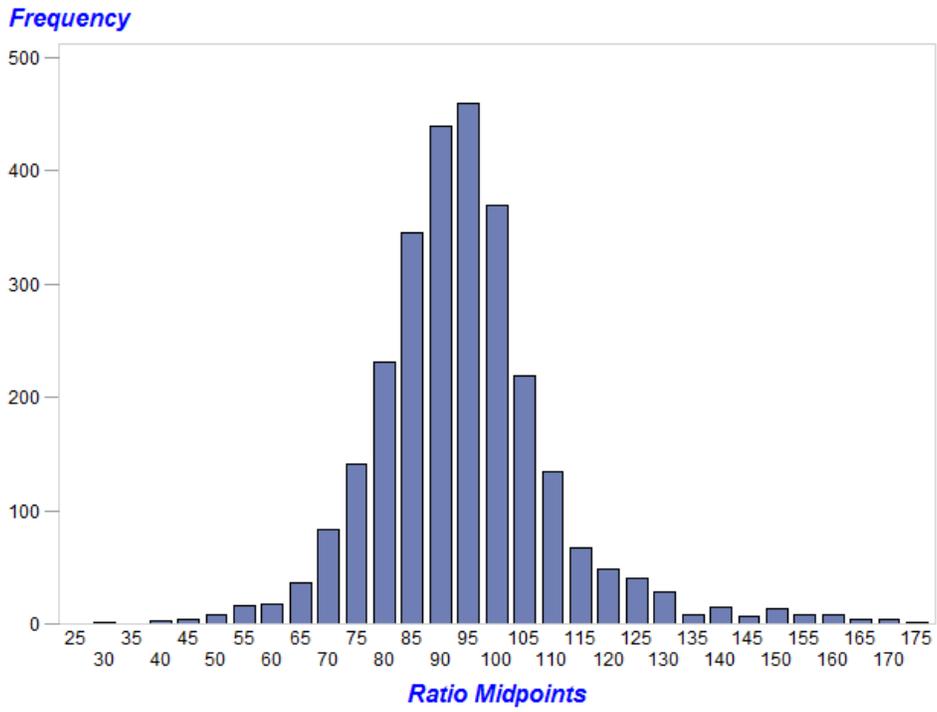


San Juan

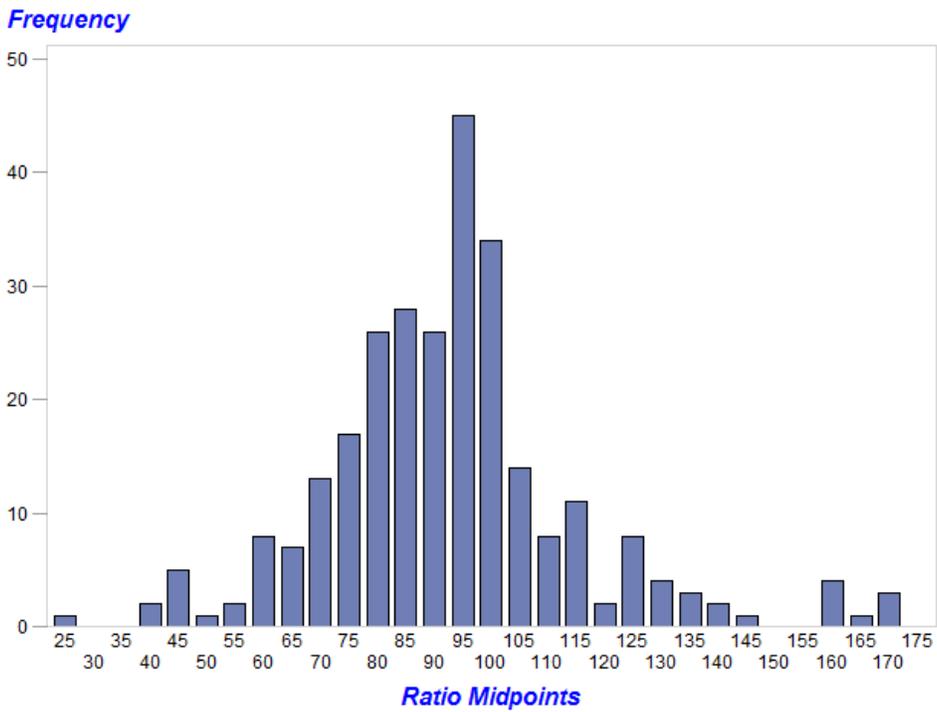
Frequency



Skagit

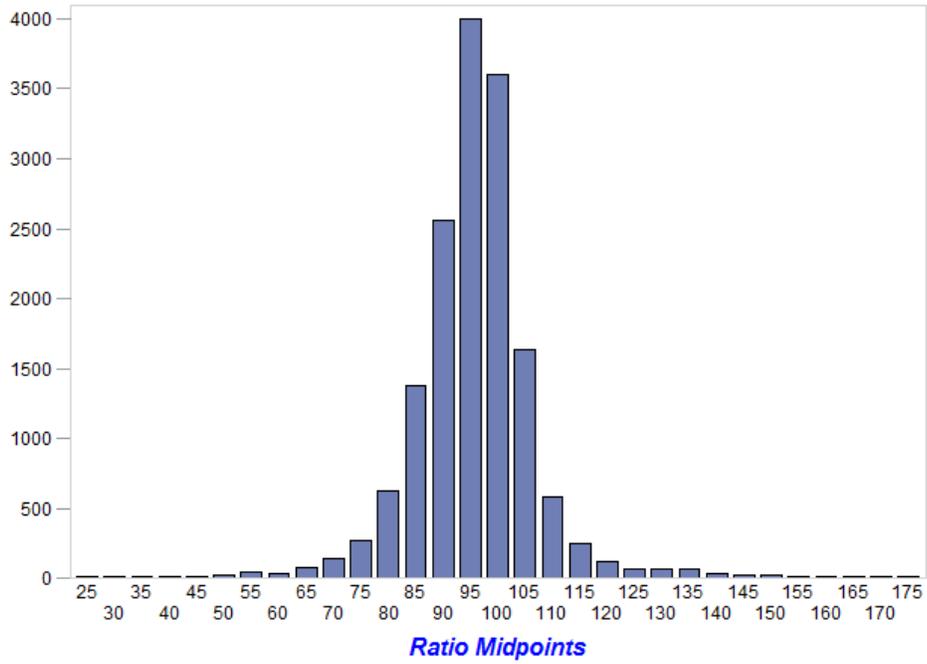


Skamania



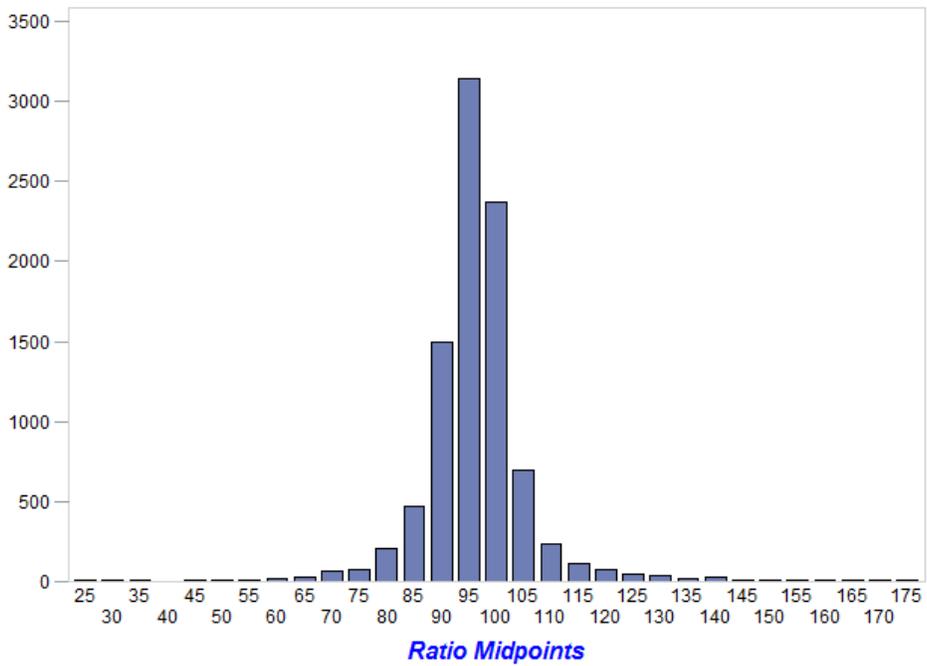
Snohomish

Frequency



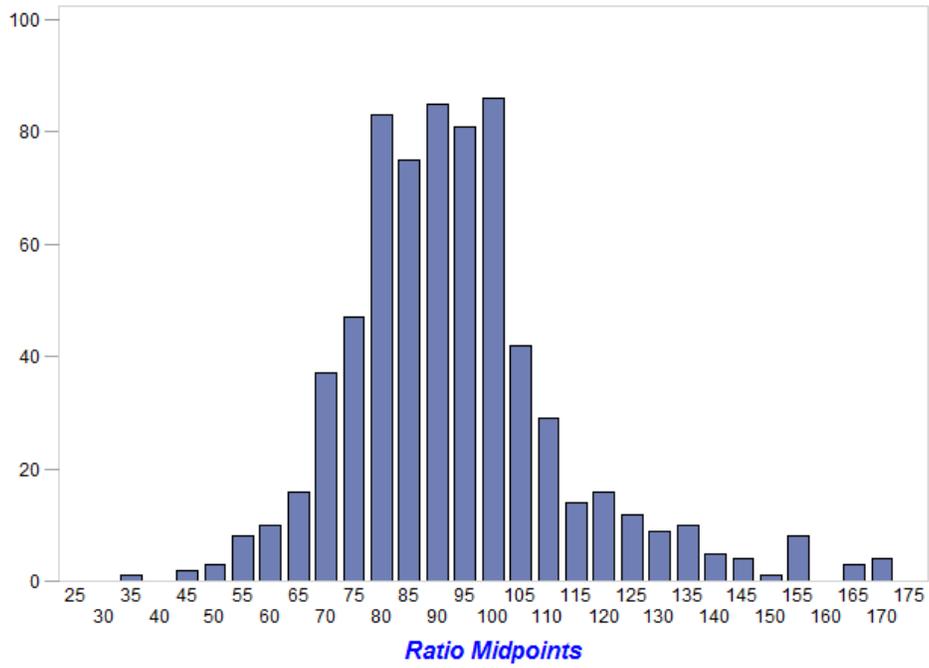
Spokane

Frequency



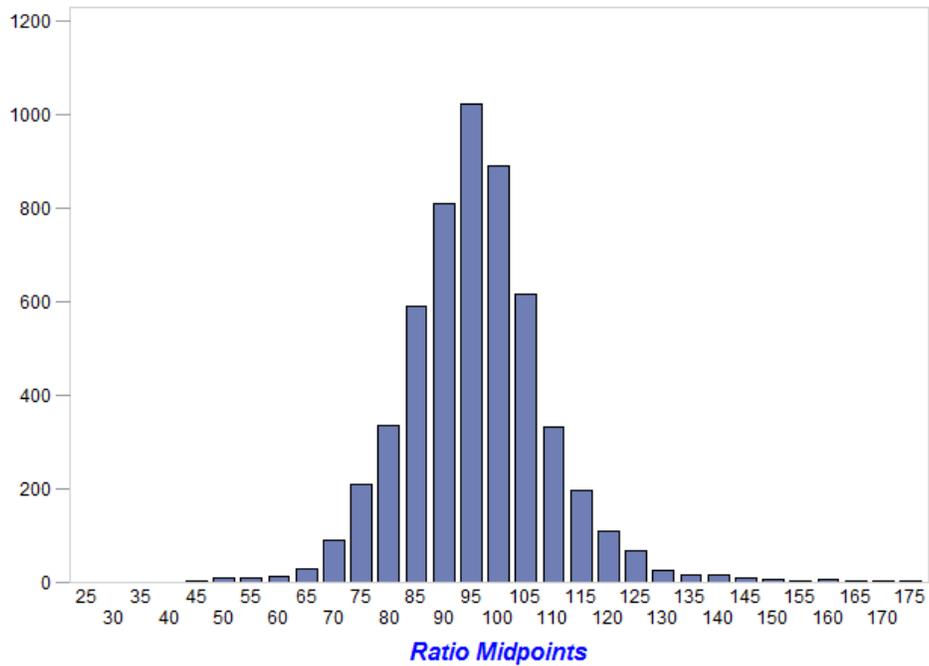
Stevens

Frequency

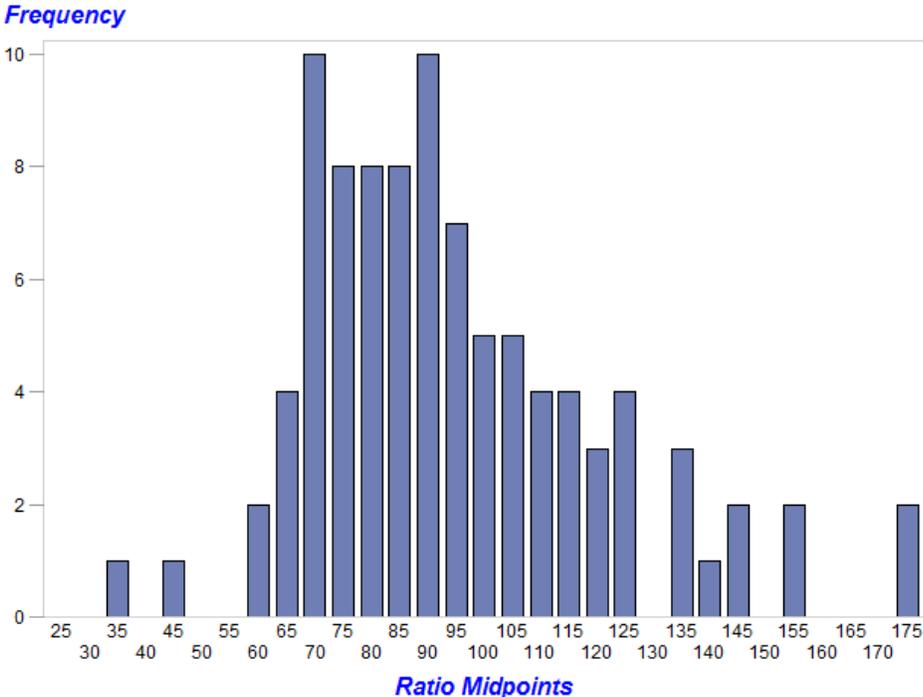


Thurston

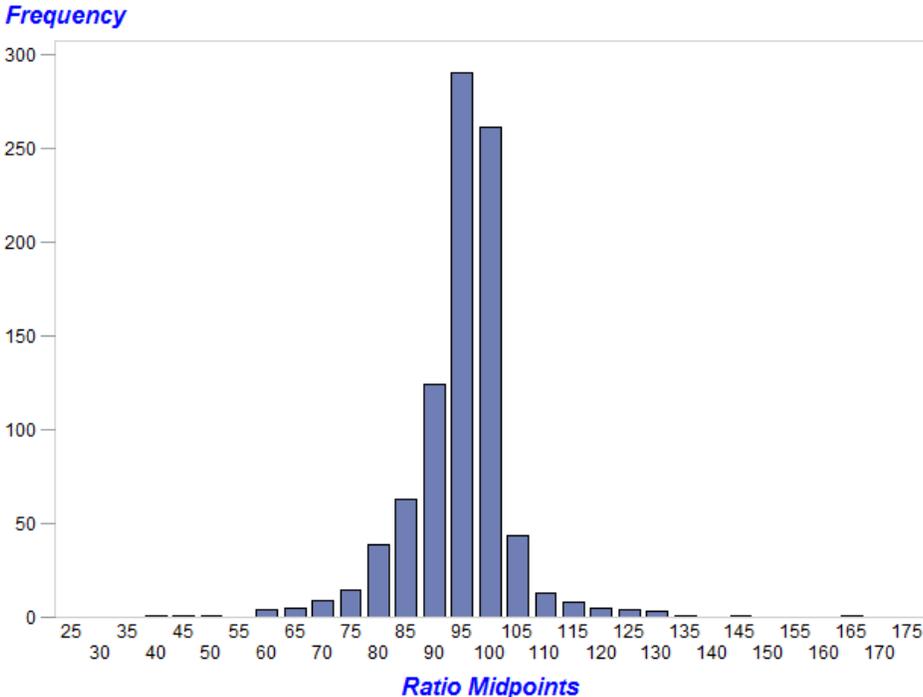
Frequency



Wahkiakum

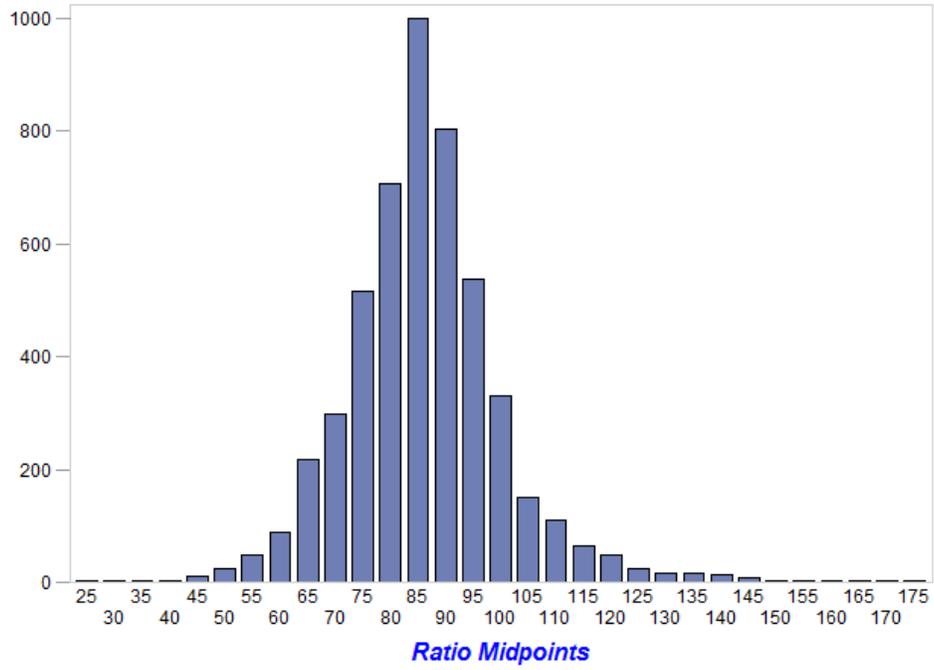


Walla Walla



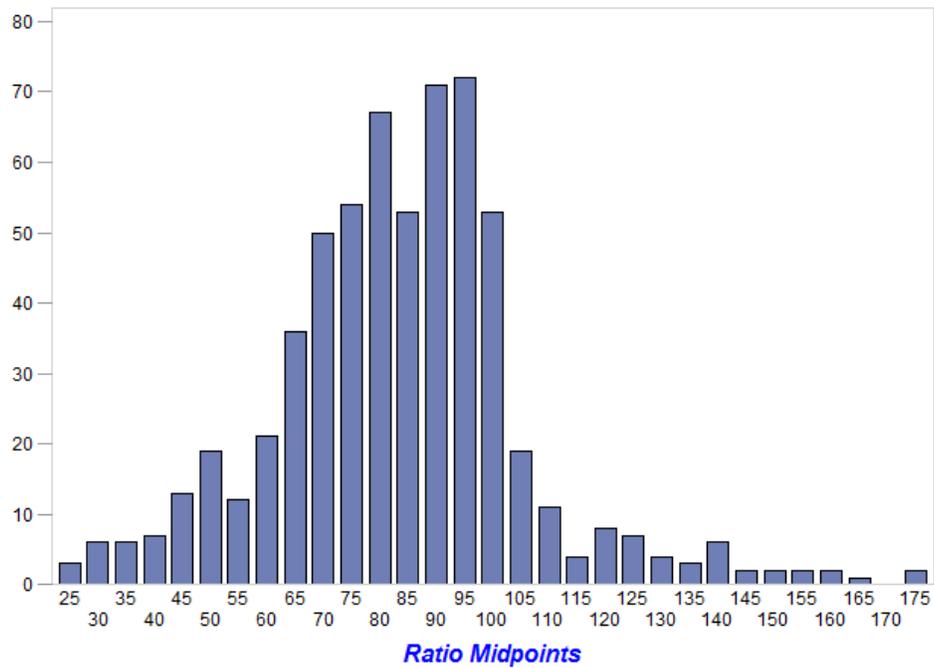
Whatcom

Frequency



Whitman

Frequency



Yakima

