

## STARS- Statistical Tool for Analytics and Ratio Studies

STARS is a free statistical tool developed by the Washington DOR and based on Excel that is available to Washington Counties for use in analysis.

Screenshot #1 - Quartile position calculations and outlier identification is automated.

Outlier & Non-Market Sale Trim Procedure							
200	Count		0.937078	Mean Ratio			
Outlier Identification				Value Below	Value Above	Quartile	
		Percentile	Position	Percentile Position	Percentile Position	Point	Range
	First Quartile	25%	50.25	0.8818	0.8821	0.8819	0.0962
	Third Quartile	75%	150.75	0.9780	0.9781	0.9781	
		(Lower Boundary)	(Upper Boundary)				
	Outlier Ranges		Below	Above			
		Standard Outliers	0.7376	1.1223			
		Extreme Outliers	0.5934	1.2666			

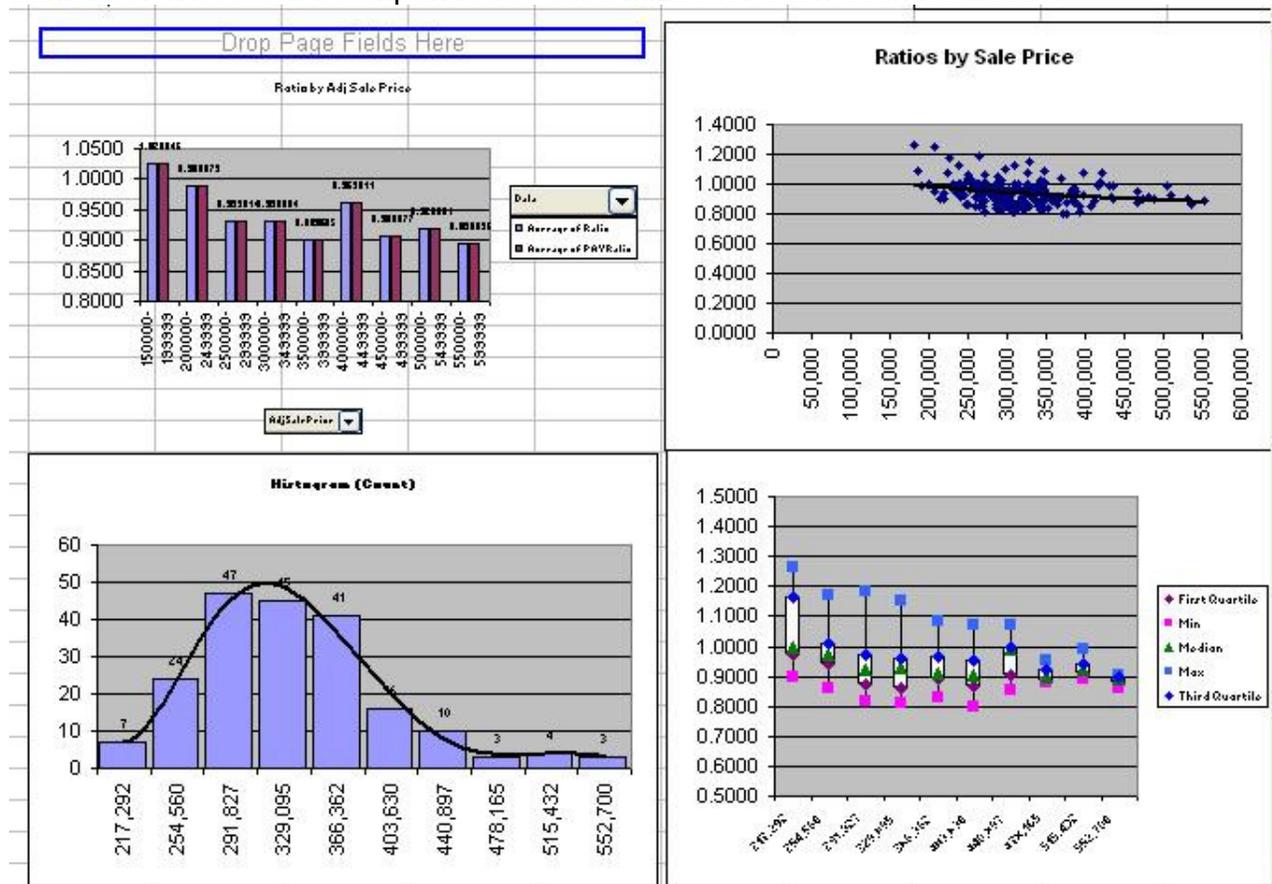
Insert Formulas <--(These can take a few minutes if you have a large data set. Please be patient.)

Sort

Add Rank

Highlight Outliers

Snapshot #2 – STARS is set up to generate tables and graphs for 18 different property attributes. These can be expanded or customized for each counties needs.



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Screenshot #3 – Key statistics are automatically calculated for whatever size dataset you have. Including side by side comparison of current values and proposed values.

1	<b>Statistics</b>	<b>Trending Factors and Notations</b>			Refresh Data
2					
3	<b>Statistics</b>				
4	Current	Proposed			
5	200	200	Count	(Number of Records with Ratio)	IAAO Standard- All strata should be within 5% of overall level. (If overall=0.95 then all should be within range of 0.90 & 1.00)
6	0.7989	0.7989	Minimum Ratio		
7	1.2615	1.2615	Maximum Ratio		
8	0.4626	0.4626	Range		
9	0.9371	0.9371	Mean	(This is the average ratio for your sample.)	
10	0.9259	0.9259	<b>Median</b>	(This is the mid-point value for your sample. Preferred measure of central tendency.)	
11	0.9333	0.9333	<b>Weighted Mean</b>		
12	1.2650	1.2650	Sum of the Square of Deviations		
13	0.0608	0.0608	AAD		
14	0.0797	0.0797	<b>Standard Deviation</b>		<b>IAAO Standards for COD</b>
15	6.5691	6.5691	COD	(Good indicator of confidence level.)	SFR 15.0 or less
16	8.5082	8.5082	COV		SFR-newer/homog 10.0 or less
17	1.0041	1.0041	<b>PRD- Price-Related or Factor Differential</b>		Income Properties 20.0 or less
18			(PRD s/b between 0.98 & 1.03, IAAO)		Income-Urban area 15.0 or less
19			(PRD over 1=Regressive & under 1=Progressive- see description in instructions.)		Vacant Land 20.0 or less
20					
21	<b>Trending Factors</b>	(These are the factors that you would trend by to reach your target assessment level.)			
22		1.00	Target Level		
23		1.0671	Trending Factor on Mean		
24		<b>1.0800</b>	<b>Trending Factor on Median</b>	(Median is preferred measure for equalization and analysis.)	
25		1.0715	Trending Factor on Weighted Mean		
26					
27	<b>Proposed Factors</b>		%	\$	
28		Land		or	(Enter % or \$)
29		Improvements		or	(Enter % or \$)
30					
31	<b>Notations</b>				
32	(This is a text box for making notations regarding your analysis process and conclusions.)				
33					

### Examples of Possible Uses or Applications for STARS

- Analysis of markets and appraisal adjustments.
- Analysis of appraisals.
- Analysis of assessment levels and uniformity.
- Determination of trending factor.
- Basis for your valuation model.
- Identification of areas for review, research or attention.
- Basis for presentations to BOE.
- Useful in analysis of both residential and commercial properties or markets.