

# Arizona Tax Conference - 2024

## Sales Ratio Studies and the Annual Reappraisal Process In Yavapai County



# Annual Reappraisal Process

What is done during the Annual Reappraisal Process?

- Projects
- Data, Valuation and Model Review
- Time Trend Analysis
- Preliminary Sales Ratio Reports
- Valuation Updates
- Review of Challenging Areas
- Review of Potential Sale Issues
- Final Ratio Report(s)



# Annual Reappraisal Process - Equalization Calendar

ITEM	DATE: ON OR BEFORE	GROUP DUTIES	ACTION / DEADLINE	COMMENTS
4	9/16/2024	DOR	TY2026 VACANT LAND TAFS-Complete TY2026 Vacant Land Time Trend analysis for All Counties. Provided we have received sufficient number of sales through June.	Any counties producing time trends please submit your vacant land TAFS to DOR for comparison.
5	9/18/2024	DOR	PRELIMINARY TY2026 SALE RATIO REPORT-Forward results of preliminary TY2026 sales ratio studies to All County assessors who have sufficient sales for time trends and ratio reports.	The ratio results are calculated using the current year 2025 values divided by the new time adjusted sales for Vacant land and the unadjusted sales for all other property types. However, if you have already submitted TY2026 values then the ratio report will reflect the ratio results for the TY2026 values divided by the Vacant Land time adjusted sales and the unadjusted sales.
7	10/18/2024	DOR	TY2026 RESIDENTIAL TAFS-Complete the TY2026 Residential properties Time Trend Analysis for All Counties.	Any county producing time trends please submit your residential TAFS to DOR for comparison.
8	10/21/2024	DOR	PRELIMINARY TY2026 SALE RATIO REPORT-Forward results of the preliminary TY2026 sales ratio studies to county assessors.	The ratio results are calculated using the current year 2025 values divided by the new time adjusted sales for VL and Residential properties and the unadjusted sales for all other property types. However, if you have already submitted TY2026 values then the ratio report will reflect the ratio results for the TY2026 values divided by the VL and Residential time adjusted sales and the unadjusted sales.
9	11/7/2024	DOR	TY2026 COMMERCIAL TAFS-Complete the TY2026 Commercial time adjustment analysis for All Counties.	Any county producing time trends please submit your commercial TAFS to DOR for comparison.
10	11/7/2024	DOR	PRELIMINARY TY2026 SALE RATIO REPORT-Forward results of preliminary TY2026 sales ratio studies to county assessors upon request.	The ratio results are calculated using the current year 2025 values divided by the time adjusted sales for all property types. However, if you have already submitted TY2026 values then the ratio report will reflect the ratio results for the TY2026 values divided by the time adjusted sales.
13	12/20/2024	DOR	TY2026 FINAL SALE RATIO REPORT- Forward results of TY2026 sales ratio studies from the 12/15 data files to county assessors.	For counties that have completed their 2026 values and are in compliance, this will be your Final Sales Ratio results for "Equalization" purposes.
15	1/6/2025	ALL COUNTIES	FINAL TY2026 FILES DUE-Additional work must be completed and submitted to DOR to avoid an Equalization Order.	In order to meet the January 15 deadline for issuing Equalization Orders, any additional valuation work must be completed as of this date.
16	1/7/2025	DOR	FINAL TY2026 SALE RATIO REPORT-Forward results of TY2026 sales ratio studies from adjustments submitted on 1/6 data files to county assessors.	For the counties that submitted further adjustments on 1/6 to achieve compliance, this will be your Final Sales Ratio results for "Equalization" purposes.
17	1/15/2025	DOR	<b>Deadline for DOR to issue Equalization Orders for the 2026 Tax Year.</b>	<b>All counties that have not finished TY2026 Valuation will be subject to Equalization Orders. A.R.S. 42-13254</b>
18	1/15/2025	ALL COUNTIES	TY2025 CERTIFIED FULL CASH VALUES-Forward copies of Parcel, Cost, MAS and Market detail files to DOR with TY2025 Certified full cash values	Applies to <b>All</b> Counties and reflects the values on the Certified Roll.
19	2/21/2025	APPROVED COUNTIES	TY2026 RE-APPRAISAL PLANS DEADLINE-Deadline to submit to DOR a re-appraisal plan for TY2026 for the counties that are not in compliance and have been approved by DOR to do so.	Re-appraisal plans must be in writing to DOR by this date.

Source: AzDOR - 2026 Equalization Calendar



# Projects

After the Annual Notices of Value are sent, work begins right away on the next valuation year. Some of the potential projects include:

- New appraisal procedures
- Conversion of old appraisal methods
- Verification of MLS data to CAMA data
- Adding of new attributes
- Updating of markets, submarkets, neighborhood boundaries
- Canvassing
- Data integrity review



# Data Review/Updating

- Data & Valuation Review:
  - Running quality control checks
  - Verification of quality grading
  - Verification of land data/attributes
  - Verification of sales data
- Updating & Refining of Models:
  - Creating in house preliminary ratio studies
  - Reviewing potential early market trends
  - Verification of model performance/changes



# Time Trend Analysis

- Time trend analysis begins by extracting account information from the prior year, as well as recent valid sales data.

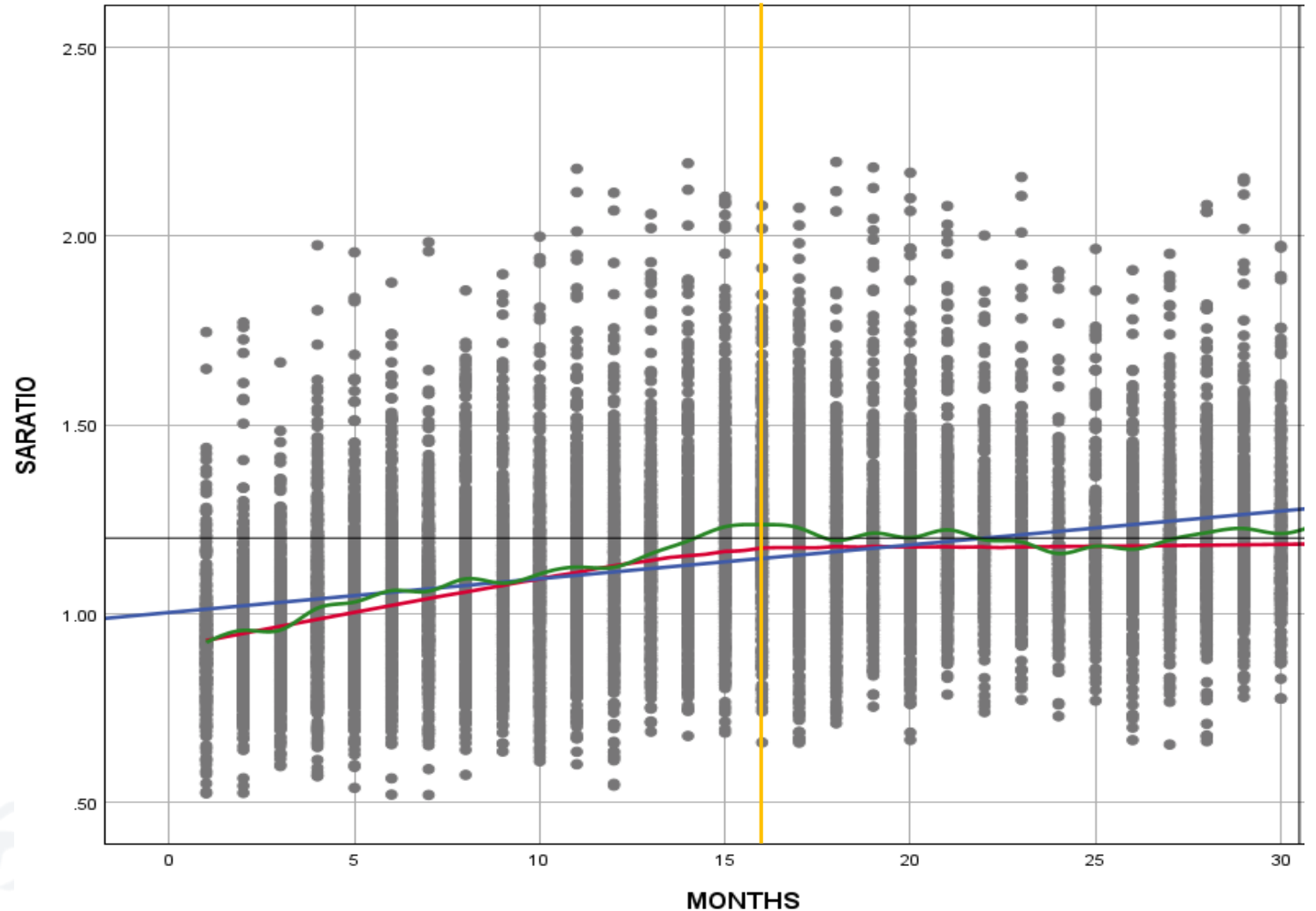
RECEPTIONNO	ACCOUNTNO	PARCELNO	Market	Market Sub	Use Code	SALEDATE	SALEPRICE	Assr Code	SALE SAFF PROP.	FCV	LPV	Acres	LFCV
20210027771	R000104976	40210040	02	0206	0130	3/1/2021	350000	W1	B	337595	172627	.23	29242
20230039640	R000117697	40418132	20	2004	0130	7/1/2023	795000	W1	B	573527	314897	1.06	81452
20220033717	R010059126	10219058	01	0107	0130	5/1/2022	440103	W1	B	440833	251646	.16	103217
20210050287	R000136634	40629119	20	2001	0130	7/1/2021	365000	X	B	369751	233566	.37	46389
20220063371	R000038763	10717125	01	0102	0130	9/1/2022	576000	W1	B	409510	238043	.26	73354
20220057626	R010057439	10304043	01	0107	0140	8/1/2022	710000	X	B	603857	384903	.23	96917
20220054227	R000131568	40606037	20	2002	0130	9/1/2022	335000	W1	B	329307	145677	.23	41879

- 30 months of sales are generally used for trend analysis.
- Data is reviewed by:
  - Property type (Vacant, Residential, Condo/Townhome, Commercial)
  - Location
  - Use Type (for commercial groupings)



# Time Trend Analysis

- Current Ratios are calculated.
- Outliers are removed.
- Ratios are plotted to determine the end point(s).



# Time Trend Analysis

- Sales are then grouped based on market trends.
- The groupings are then used to run the regression analysis.
- Predicted monthly rates are shown in the regression results.
- Monthly rates are then used to create time adjustment factors and calculate final time adjusted sales prices.

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.084	.004		-19.934	<.001
	MONTHS1	.017	.000	.428	42.715	<.001
	MONTHS2	-.002	.000	-.034	-3.383	<.001

a. Dependent Variable: LN\_SAR

```
RECODE SARATIO (.50 THRU 2.2=0)(ELSE=1) INTO OUT.
IF (MONTHS LE 10 AND SARATIO GT 2.0)OUT=1.
IF (MONTHS GE 14 AND SARATIO LT 0.6)OUT=1.
GRAPH/SCATTER=MONTHS WITH SARATIO BY OUT.
COMPUTE KEEP=1.
EXE.
IF (OUT=1) KEEP=0.
FILTER BY KEEP.
GRAPH/SCATTER=MONTHS WITH SARATIO
/TEMPLATE='G:\CAMA\Time Adjustments\TASP Analysis.sgt'.
GRAPH/LINE=MED(SARATIO) BY MONTHS.
SPLIT FILE OFF.
```

```
COMPUTE END1=16.
COMPUTE END2=30.
COMPUTE MONTHS1=MONTHS.
IF (MONTHS>END1) MONTHS1=END1.
COMPUTE MONTHS2=0.
IF (MONTHS>END1) MONTHS2=MONTHS-END1.
IF (MONTHS>END2) MONTHS2=END2-END1.
MEANS MONTHS1 MONTHS2 BY MONTHS/CELLS=MEAN.
```

\*CHECK OUTPUT TO ENSURE THAT SUM OF MONTHS1, MONTHS2, AND MONTH3 = MONTHS.

```
COMPUTE LN_SAR=LN(SARATIO).
REG/DEP=LN_SAR/BACKWARD=MONTHS1 MONTHS2.
```

```
COMPUTE r1=0.017.
COMPUTE r2=-0.002.
```

```
COMPUTE PRICE_INDEX = (1+r1)**MONTHS1 * (1+r2)**MONTHS2.
GRAPH/SCATTER=MONTHS WITH PRICE_INDEX.
MEANS PRICE_INDEX BY MONTHS.
COMPUTE END_INDEX=1.2734
```

```
COMPUTE TAF = END_INDEX/PRICE_INDEX.
GRAPH/SCATTER=MONTHS WITH TAF.
COMPUTE NEW_TASP=TAF*SALEPRICE.
```

```
MEANS SALEPRICE NEW_TASP BY MARKETSUB/CELLS=COUNT MEDIAN MEAN.
MEANS SALEPRICE NEW_TASP BY SYEAR/CELLS=COUNT MEDIAN MEAN.
```





# Time Trend Analysis

- Time trends are submitted to the DOR for review.
- County preliminary rates are entered within the county line.
- DOR rates are entered within the DOR line.
- Final rates are entered on the final line and are used to create the final rate load files for the CAMA system.
- This process is done for Vacant Land, Residential, Condo/Townhomes and Commercial property types.

DOR Month		13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Compound Factor From		Compound Factor from	
County	Office	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jan 2021	Difference	Jan 2022	Difference
Yavapai Countywide RES	Final	1.018	1.018	1.018	1.000	1.000	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	1.000	1.295	0.295	1.030	0.030
Yavapai Countywide RES	DOR	1.018	1.018	1.018	1.000	1.000	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	1.000	1.307	0.307	1.030	0.030
Yavapai Countywide RES	County	1.019	1.019	1.019	0.995	0.995	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	1.000	1.294	0.294	1.023	0.023
MKT		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23				
01 Prescott Res	Final	1.017	1.017	1.017	0.995	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.275	0.275	1.041	0.041
01 Prescott Res	DOR	1.017	1.017	1.017	0.995	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.275	0.275	1.041	0.041
01 Prescott Res	County	1.017	1.017	1.017	0.989	0.989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.260	0.260	1.029	0.029



# Preliminary Sale Ratio Report

- Preliminary ratio studies are generally released by mid September and based on the prior year values.
- Preliminary ratios are done after each property group's time trends are finalized.
- These reports give the county a good starting point of where focus may be needed.

TY2025 Preliminary Sales Ratio Report - Yavapai County  
TY2024 Values - Includes VL & RES TAFS

County	Type	Market Area	Market Name	MEDIAN	COD	Sales	95% CI		MAX COD
							LOWER LIMIT	UPPER LIMIT	
13	VAC	Countywide		0.743	0.257	2309	0.731	0.755	0.256
13	VAC		1 Prescott	0.745	<b>0.275</b>	465	0.717	0.774	0.263
13	VAC		2 Prescott Valley	0.753	0.222	362	0.727	0.784	0.265
13	VAC		4 Chino Valley	0.717	0.233	223	0.661	0.742	0.269
13	VAC		5 West Yavapai	0.748	<b>0.263</b>	759	0.728	0.766	0.261
13	VAC		20 Verde Valley	<b>0.699</b>	0.265	334	0.664	0.721	0.266
13	VAC		92 Sedona VOC	0.850	0.215	166	0.805	0.903	0.272
13	RES	Countywide		0.839	0.123	5715	0.835	0.843	0.203
13	RES		1 Prescott	0.809	0.140	1852	0.804	0.818	0.205
13	RES		2 Prescott Valley	0.866	0.080	1609	0.862	0.871	0.206
13	RES		4 Chino Valley	0.823	0.110	335	0.810	0.839	0.213
13	RES		5 West Yavapai	0.806	0.143	362	0.793	0.826	0.212
13	RES		20 Verde Valley	0.816	0.124	952	0.808	0.826	0.208
13	RES		92 Sedona VOC	0.888	0.154	605	0.865	0.905	0.209
13	COM	Countywide		0.778	<b>0.272</b>	433	0.755	0.799	0.264



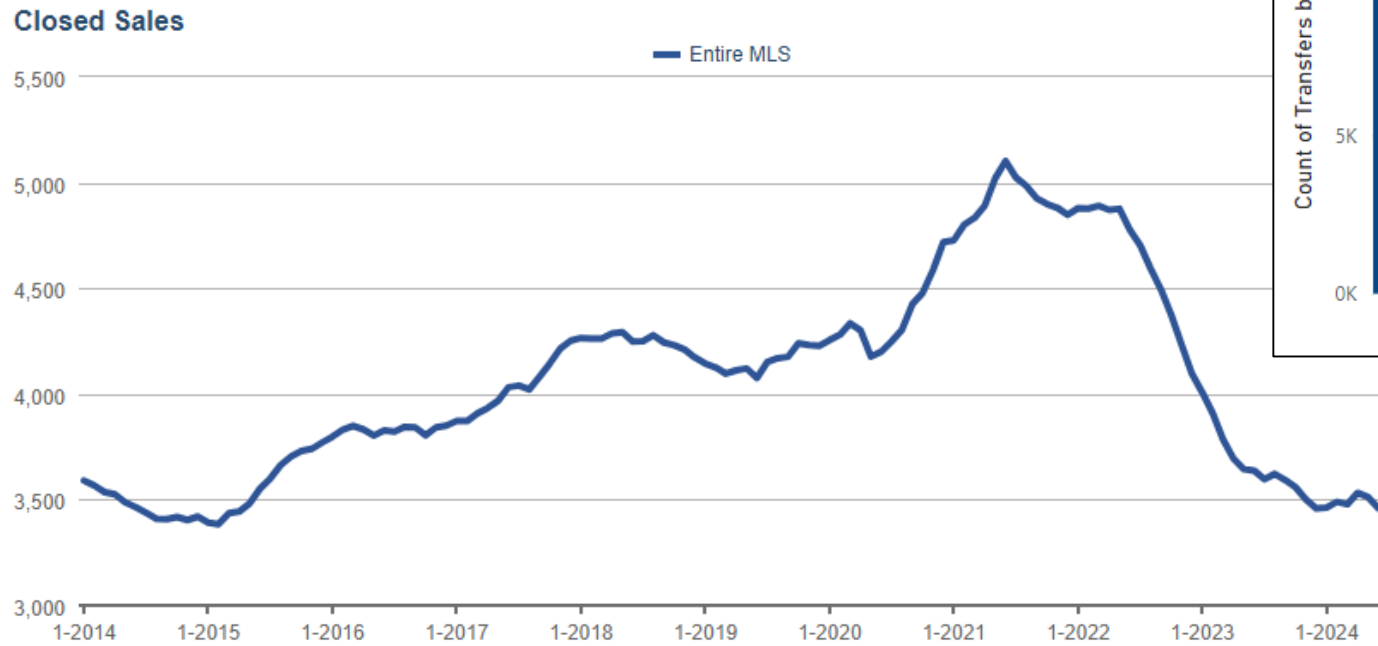
# After Preliminary Reports, What Do We Do?

- Update land models using final time adjustments
- Update improvement models/market adjustments using final time adjustments
- Review troubled areas
- Review ratios by subdivision
- Verify year over year percent change
- Review Outliers
  - MLS
  - Websites such as Zillow, Realtor.com & Costar
  - Current assessor listing vs. how it sold
  - Contact realtors/agent

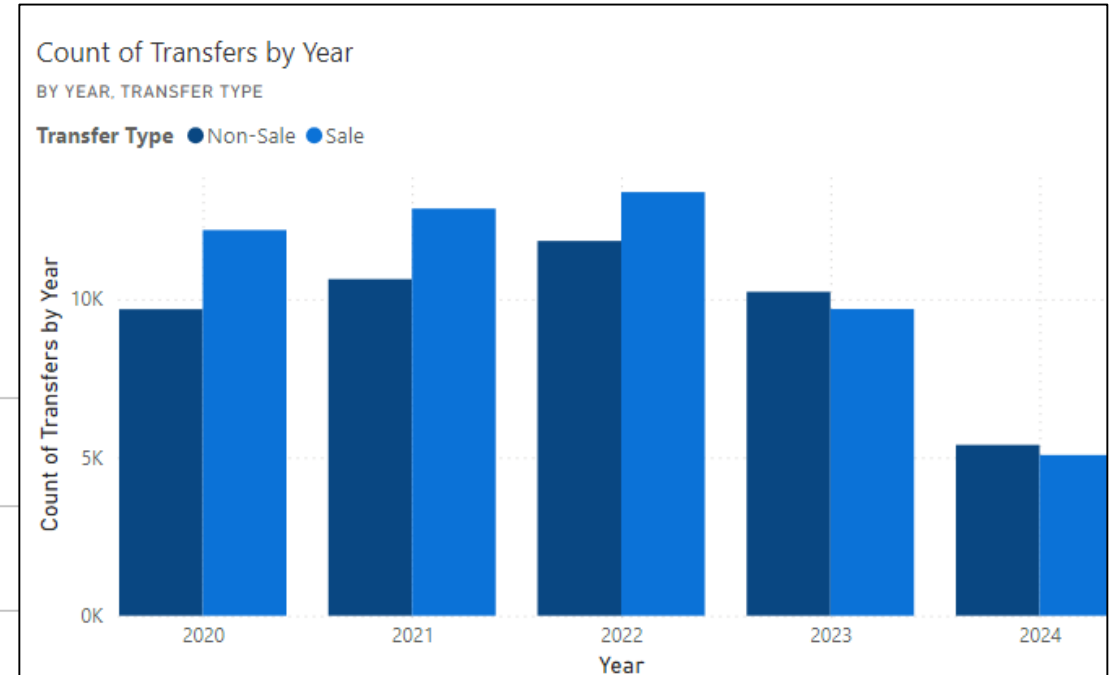


# Sales Ratio Compliance Challenges

- Fewer Sales Transactions



Source: PAAR MLS - InfoSparks (Single Family Homes)



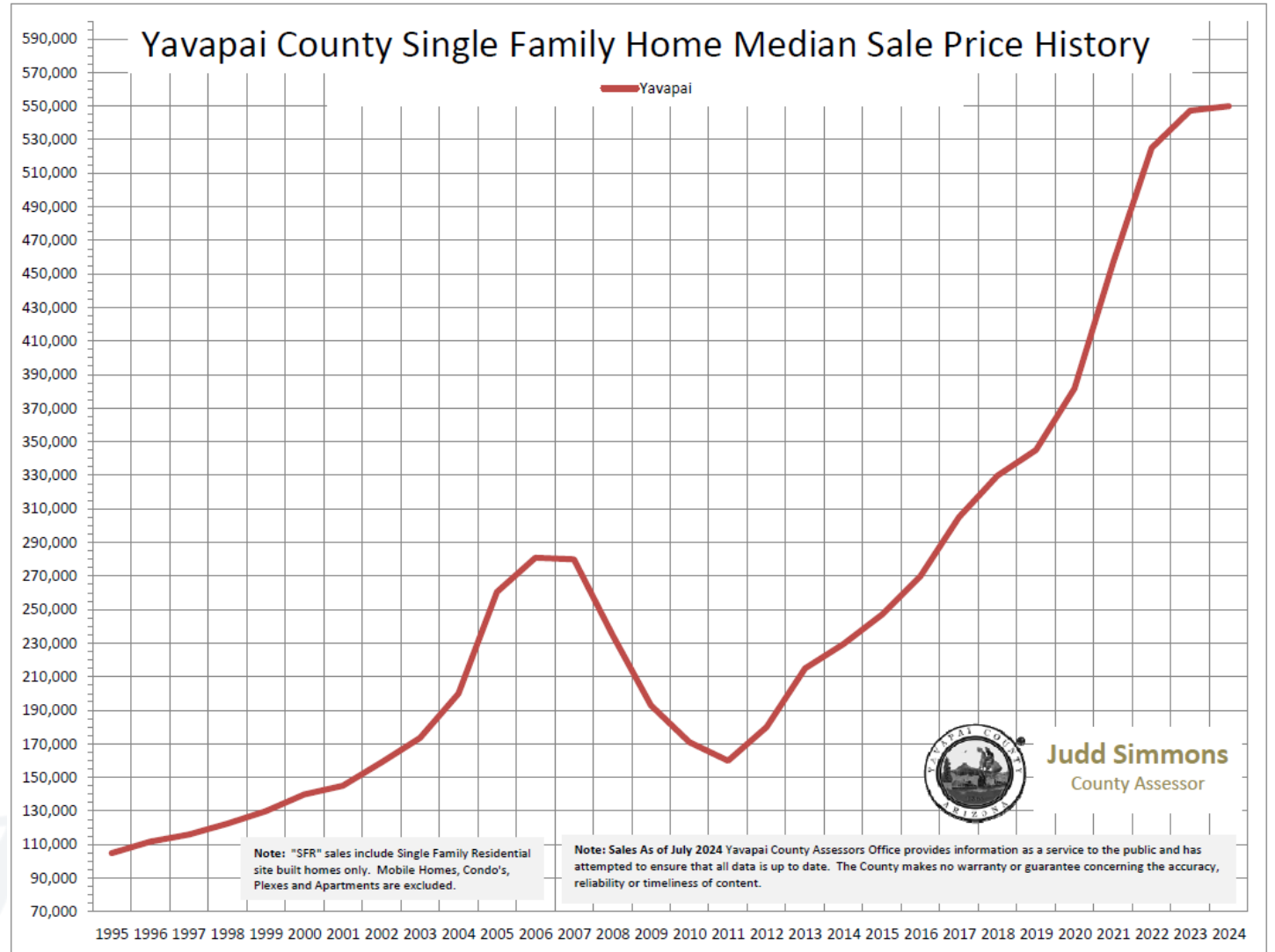
Source: Yavapai County Recorded Transfers (All Property Types)



# Sales Ratio Compliance Challenges

## Quickly Changing Market

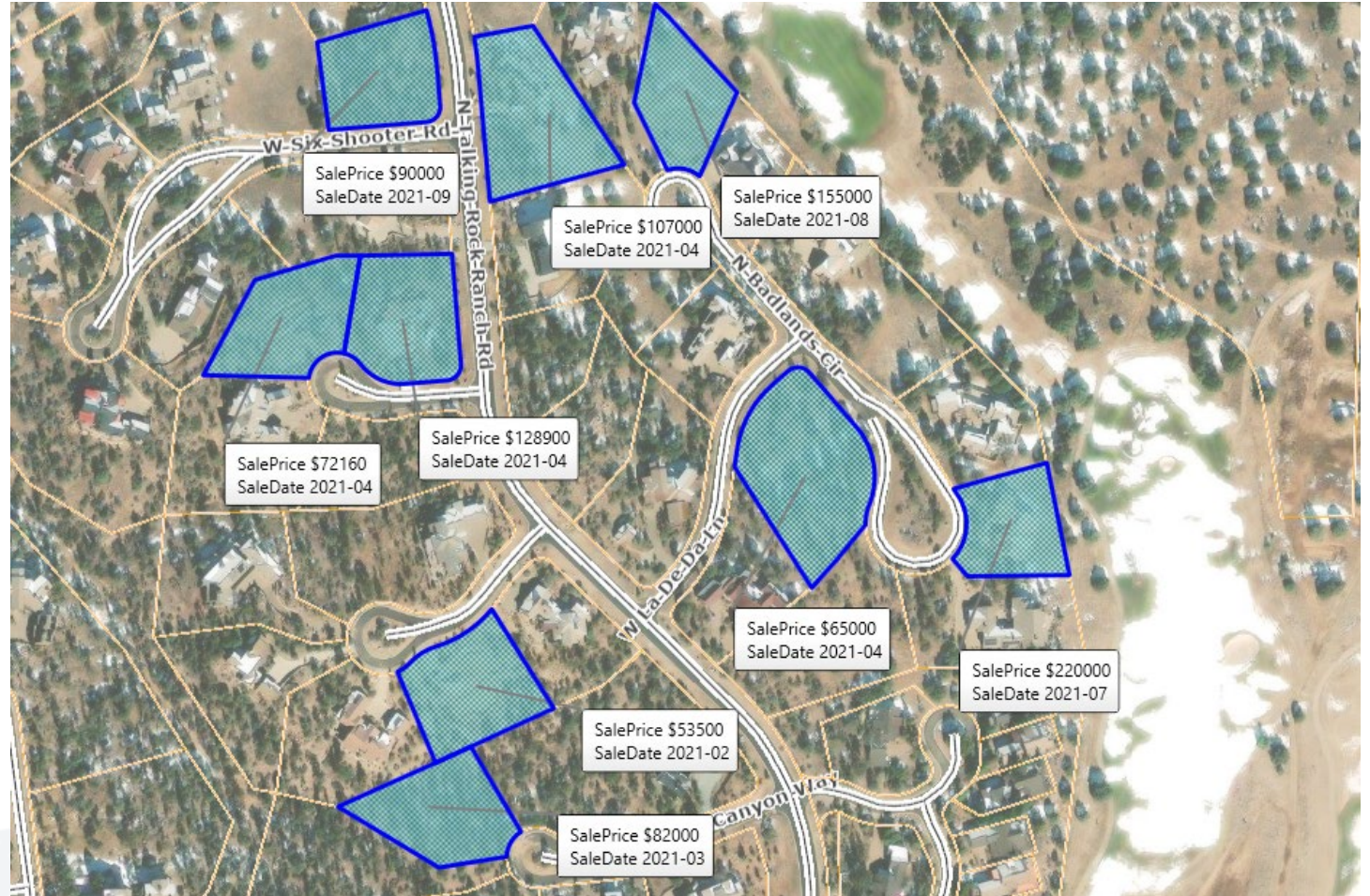
SALE YEAR	Sale Count	Yavapai SFR Median Sale Price	Yavapai % Chg Over Previous
2002	4,507	\$159,033	9.7%
2003	5,105	\$173,500	9.1%
2004	6,637	\$200,000	15.3%
2005	6,908	\$260,502	30.3%
2006	4,987	\$280,900	7.8%
2007	3,630	\$280,000	-0.3%
2008	2,660	\$235,000	-16.1%
2009	3,027	\$193,000	-17.9%
2010	3,326	\$171,000	-11.4%
2011	3,482	\$160,000	-6.4%
2012	3,340	\$180,000	12.5%
2013	3,135	\$215,000	19.4%
2014	3,734	\$229,500	6.7%
2015	4,336	\$247,000	7.6%
2016	4,675	\$270,000	9.3%
2017	5,173	\$305,000	13.0%
2018	5,194	\$329,815	8.1%
2019	5,213	\$345,000	4.6%
2020	6,054	\$381,711	10.6%
2021	6,294	\$456,599	19.6%
2022	4,761	\$525,000	15.0%
2023	3,542	\$547,208	4.2%
2024	1,070	\$549,900	0.5%



# Sales Ratio Compliance Challenges

## Irrational Sales and Sales with unknown sale conditions

- Spoke with selling office within the subdivision
- Club Memberships required and range from \$35,000 - \$140,000.
- Identified properties that included club memberships
- Identified sales where memberships were not required (private contractor purchase).



### Ratio Statistics for LFCV24 / ADJPRICE

Subdivision	Count	Median	COD
TALKING ROCK RANCH	72	0.784	0.329



# County/AzDOR Communication

- Throughout the revaluation process, there is consistent communication and work being done by both the County and Department of Revenue.
- Sale files are still being delivered monthly, which most times include sales within the measured sale date range.
- Revised Parcel, Cost, MAS and Market detail files may be sent as values are adjusted (not only those designated by the Equalization Calendar).



# Final Ratio Reports

- 1) Mid December - for counties with ratios within compliance
- 2) Early January - for counties that submitted final adjustments

TY2025 Sales Ratio Report - Yavapai County  
TY2025 NOV

County	Type	Market Area	Market Name	MEDIAN	COD	Sales	95% CI LOWER LIMIT	95% CI UPPER LIMIT	MAX COD
13	VAC	Countywide		0.797	0.222	2120	0.786	0.802	0.256
13	VAC		1 Prescott	0.784	0.232	413	0.756	0.811	0.264
13	VAC		2 Prescott Valley	0.800	0.191	315	0.787	0.826	0.266
13	VAC		4 Chino Valley	0.800	0.211	202	0.760	0.830	0.270
13	VAC		5 West Yavapai	0.800	0.247	727	0.773	0.815	0.261
13	VAC		20 Verde Valley	0.787	0.224	305	0.760	0.801	0.267
13	VAC		92 Sedona VOC	0.799	0.166	158	0.764	0.828	0.273
13	RES	Countywide		0.801	0.116	5743	0.799	0.804	0.203
13	RES		1 Prescott	0.800	0.138	1851	0.793	0.807	0.205
13	RES		2 Prescott Valley	0.800	0.079	1628	0.796	0.804	0.206
13	RES		4 Chino Valley	0.806	0.104	340	0.789	0.820	0.213
13	RES		5 West Yavapai	0.798	0.135	363	0.780	0.812	0.212
13	RES		20 Verde Valley	0.805	0.115	959	0.798	0.814	0.207
13	RES		92 Sedona VOC	0.803	0.144	602	0.786	0.815	0.209
13	COM	Countywide		0.790	0.256	403	0.774	0.840	0.264







Questions? Comments?

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