MAAO
MINNESOTA ASSOCIATION *of* ASSESSING OFFICERS

MAAO Sales Ratio Committee 2013 Fall Conference Seminar

Presented By:
Al Whitcomb – Dakota County (Retired)
John Keefe – Chisago County Assessor
Brent Reid – City of Coon Rapids
Michael Thompson – Scott County Assessor

Agenda

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Al Whitcomb - MAAO Analysis Tool Overview and Additions
John Keefe – Real world Ratio Study Examples

2

Brent Reid – Sales Chasing Definitions, Examples, and Real World Application

3

Michael Thompson – Sales Chasing Tests and PRB Overview

Agenda

1

Al Whitcomb - MAAO Analysis Tool Overview and Additions

John Keefe – Real world Ratio Study Examples

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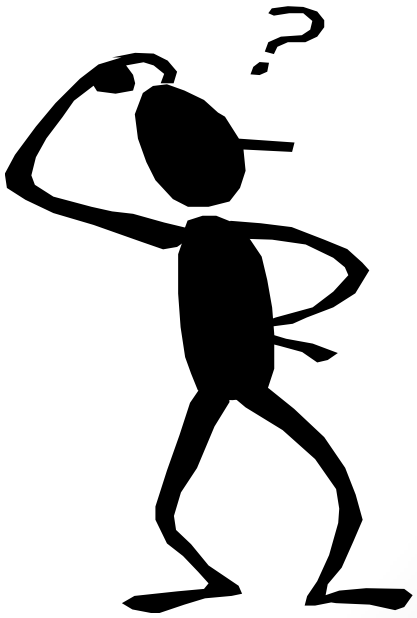
2

Brent Reid – Sales Chasing Definitions, Examples, and Real World Application

Help provide an understanding between the I.A.A.O. and D.O.R. definitions of sales chasing through sales scenario's



Why did the Department of Revenue Revisit the Definition of "Sales Chasing"?

1. MN D.O.R. changed how they look "forward" instead of "backward" for the sales study.

2. Limit the potential for sales chasing now that they are looking forward instead of backward.

3. Provide clarity and guidance on acceptable practices for Minnesota assessors.

IAAO Definition of Sales Chasing

Sales chasing is the practice of using the sale of a property to trigger a reappraisal of that property at or near the selling price. If sales with such appraisal adjustments are used in a ratio study, the practice causes invalid uniformity results and causes invalid appraisal level results, unless similar unsold parcels are reappraised by a method that produces an appraisal level of sold properties. By extension, any practice that causes the analyzed sample to misrepresent the assessment performance for the entire population as a result of acts by the assessor's office. A subtle, possible inadvertent, variety of sales chasing occurs when the recorded property characteristics of sold properties are differently changed relative to unsold properties. Then the application of a uniform valuation model to all properties results in the recently sold properties being more accurately appraised than the unsold ones.

DOR Definition of Sales Chasing

Sales chasing is the practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.

DOR Sales Chasing Definition continued…

Sales chasing is the practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.

- **Allows assessor to make non-subjective changes to value (i.e. missing square footage, construction, fireplace, or bathroom etc.) to properties that have recently sold. Construction could mean remodeling, which could be reflected in a change in depreciation or effective age, but such a change should be reported as new construction for the year it was picked up, regardless of when the work was completed. Property characteristics can be updated from MLS listings, but any major changes, such as finished basement or a new deck should be verified with an onsite inspection. The listing price of property should not be a consideration in the value determination.**

DOR Sales Chasing Definition continued…

Sales chasing is the practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.

- **Allows assessors to make changes to properties that have recently sold that do not affect value (property characteristics etc.). Property characteristics that might not affect value include roof and floor coverings, type of siding, casement vs. double hung windows, # of bedrooms, type of heating system, etc….**

DOR Sales Chasing Definition continued…

Sales chasing is the practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.

- **Prohibits assessors from making any subjective value changes to properties that have recently sold (i.e. grade changes, quality factors, effective age, etc.) when the same criteria is not also applied to similar properties. Similar properties could be an area as large as a quintile area or as small as a neighborhood**.

DOR Sales Chasing Definition continued…

Sales chasing is the practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.

- **Allows assessors to make both subjective and non-subjective value changes to recently sold properties, as long as the assessments of similar properties are also reviewed and the same criteria are applied.**

DOR Sales Chasing Definition continued…

Sales chasing is the practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.

- **Boards of appeal are not prevented from changing the values of sold properties. However they should bear in mind that they are a board that must consider equalization as well as market value. It should be noted that Local Boards cannot make changes to multiple properties with one action, they must act on each parcel individually, while county boards can make changes to classes or groups of properties. Open book meetings should not be construed to have any more authority than a Local Board. Any appearance of impropriety should be avoided. No changes may be made at an open book meeting that would be prohibited by the DOR sales chasing criteria.**

Sale

Accurate Data

Inaccurate Data

Change Data

No Change

Change Non-Subjective Data

Change Subjective Data

Change Subjective Data

Change Non-Subjective Data

Scenario#1

Scenario #2

Scenario #3

Scenario #4

Scenario #5

Scenario #6

Scenario #1 – Changing Accurate Data

Sale → **Accurate Data**

A sale produced a ratio outside the acceptable range of 90% - 105%. Verification by the assessor indicated that all non-subjective data on the field card was accurate and that all subjective data appeared consistent with similar properties in the neighborhood.

Action → **A change was made (quality rating, effective age) in order to get the ratio within the acceptable range**

Scenario #1 – Changing Accurate Data

IAAO

"Sales chasing is the practice of using the sale of a property to trigger a reappraisal of that property at or near the selling price."

DOR

"Sales chasing is the practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold."

Sale

Accurate Data

Inaccurate Data

- Change Data — Scenario#1
- No Change — Scenario #2
- Change Non-Subjective Data — Scenario #3
- Change Subjective Data — Scenario #4
- Change Subjective Data — Scenario #5
- Change Non-Subjective Data — Scenario #6

Scenario #2
Not Changing Inaccurate Data

Sale → **Inaccurate Data**

A sale produced a low ratio. The basement was suspected to be finished but was not accounted for on the field card. The assessor was unable to verify the basement finish through an onsite inspection and secondary data sources such as the MLS, listing agent, selling agent, buyer or seller.

Action → **No change was made to the field card**

Scenario #2
Not Changing Inaccurate Data

IAAO

Sales chasing did not occur because no changes were made.

DOR

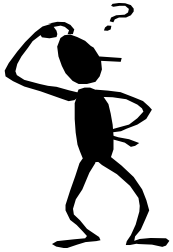
Sales chasing did not occur because no changes were made.

Sale

Accurate Data

Inaccurate Data

- Change Data — Scenario#1
- No Change — Scenario #2
- Change Non-Subjective Data — Scenario #3
- Change Subjective Data — Scenario #4
- Change Subjective Data — Scenario #5
- Change Non-Subjective Data — Scenario #6



Scenario #3
Changing Inaccurate Non-Subjective Data

Sale → **Inaccurate Data**

A sale produced a low ratio. The basement was suspected to be finished but was never verified throughout the quintile reviews. Another attempt at an onsite inspection was made. Although the assessor was unable to verify the basement finish through the onsite inspection, secondary data sources such as the MLS indicated that the basement was finished by providing detailed interior photographs and an amount of finished square footage. Verification was made through additional secondary data sources such as the listing agent, selling agent, buyer or seller.

Action → **Basement finish was added to the field card**

Scenario #3
Changing Inaccurate Non-Subjective Data

IAAO

"Sales chasing is the practice of using the sale of a property to trigger a reappraisal of that property at or near the selling price."

DOR

"Property characteristics can be updated from MLS listings, but any major changes, such as finished basement or a new deck should be verified with on onsite inspection."

Sale

Accurate Data

Inaccurate Data

Change Data

No Change

Change Non-Subjective Data

Change Subjective Data

Change Subjective Data

Change Non-Subjective Data

Scenario#1

Scenario #2

Scenario #3

Scenario #4

Scenario #5

Scenario #6

Scenario #4
Changing Inaccurate Subjective Data

Sale → **Inaccurate Data**

A sale produced a low ratio. The assessor performed an onsite inspection of the subject property along with a review of the neighborhood. Upon review, it was noted that the subject property offered a similar construction quality and offered features consistent with comparable properties in that neighborhood.

Action → **The quality rating was increased and as a result, the subject is now <u>different</u> than like properties within that neighborhood**

Scenario #4
Changing Inaccurate Subjective Data

IAAO

"Sales chasing is the practice of using the sale of a property to trigger a reappraisal of that property at or near the selling price…unless similar unsold parcels are reappraised by a method that produces an appraisal level of sold properties."

DOR

"Prohibits assessors from making any subjective value changes to properties that have recently sold (i.e. grade changes, quality factors, effective age, etc.) <u>when the same criteria is not also applied to similar properties</u>."

Sale

Accurate Data

Inaccurate Data

Change Data	No Change	Change Non-Subjective Data	Change Subjective Data	Change Subjective Data	Change Non-Subjective Data
Scenario#1	Scenario #2	Scenario #3	Scenario #4	Scenario #5	Scenario #6





Scenario #5
Changing Inaccurate Subjective Data

Sale → **Inaccurate Data**

A sale produced a high ratio. The assessor performed an onsite inspection of the subject property along with a review of the neighborhood. Upon review, it was noted that the subject property had an effective age higher than expected for that neighborhood. Where similar age and style properties were getting a 5 year adjustment to the effective age for new windows, the subject was receiving a 10 year adjustment.

Action → **The effective age was decreased and as a result, the subject is now <u>similar</u> to like properties within that neighborhood**

Scenario #5
Changing Inaccurate Subjective Data

IAAO

"A subtle, possible inadvertent, variety of sales chasing occurs when the recorded property characteristics of sold properties are differently changed relative to unsold properties. Then the application of a uniform valuation model to all properties results in the recently sold properties being more accurately appraised than the unsold ones."

DOR

"Allows assessors to make both subjective and non-subjective value changes to recently sold properties, as long as the assessments of similar properties are also reviewed and the same criteria are applied."

Sale

Accurate Data

Inaccurate Data

- Change Data — Scenario#1
- No Change — Scenario #2
- Change Non-Subjective Data — Scenario #3
- Change Subjective Data — Scenario #4
- Change Subjective Data — Scenario #5
- Change Non-Subjective Data — Scenario #6






Scenario #6
Changing Inaccurate Non-Subjective Data

Sale → **Inaccurate Data**

A sale produced a high ratio and it was discovered through verification of secondary data sources that the square footage was incorrect. After an onsite inspection and measurement of the subject property, the square footage was found to be smaller than what was stated on the field card.

Action → **The square footage was changed and the value was adjusted on the field card**

Scenario #6
Changing Inaccurate Non-Subjective Data

IAAO

"A subtle, possible inadvertent, variety of sales chasing occurs when the recorded property characteristics of sold properties are differently changed relative to unsold properties. Then the application of a uniform valuation model to all properties results in the recently sold properties being more accurately appraised than the unsold ones."

DOR

"Allows assessor to make non-subjective changes to value (i.e. missing square footage, construction, fireplace, or bathroom) to properties that have recently sold."

Sale

Accurate Data

Inaccurate Data

- Change Data — Scenario#1
- No Change — Scenario #2
- Change Non-Subjective Data — Scenario #3
- Change Subjective Data — Scenario #4
- Change Subjective Data — Scenario #5
- Change Non-Subjective Data — Scenario #6






Conclusions

I.A.A.O.

According to the IAAO definition, scenarios 1, 3, 4, 5, and 6 would be considered sales chasing.

MN D.O.R.

According to the Minnesota Department of Revenue definition, scenarios 1 and 4 would be considered sales chasing.

Simple Checklist

- Changes to non-subjective value items and property characteristics can be made based upon secondary data sources such as the MLS. It is recommended that an onsite inspection be performed when making any changes to significant non-subjective value items. It is also recommended that an attempt always be made to verify items being changed through all known secondary data sources.

- Changes to subjective value items can be made as long as the same criteria is applied. The change must be consistent with what was done for that same item within that same neighborhood. A review of the subject's neighborhood and field cards from similar properties along with an onsite inspection should always be performed.

- ALWAYS attempt to verify before making ANY changes
- When in doubt, DO NOT make the changes
- DOCUMENT all verification sources
- DO NOT be inconsistent with subjective data changes

Agenda

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Michael Thompson – Sales Chasing Tests and PRB Overview

2

Sales Chasing Tests

There are a number of methods available to test for sales chasing, examples include:

- Two-study technique (split-study)
- Comparison of average value units
- Mann-Whitney
- Comparison of average value changes
- Etc.

Sales Chasing Tests

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- Two-study technique (split-study)
- Comparison of average value units
- Mann-Whitney
- Comparison of average value changes
  - Subjective variable changes
- Etc.

Sales Chasing Tests

- **Two-study technique (split-study)**
- Comparison of average value units
- Mann-Whitney
- Comparison of average value changes
- Etc.

The two-study technique is a relatively simple test that can be run from any CAMA system that allows for sales ratio analysis.

The analyst simply identifies the date by which appraisers were no longer able to alter property characteristics in the valuation system for a given assessment. Then two ratio studies are performed, one before sales were finalized, and one after.

Results should always be reviewed for changes in market conditions and/or random sampling error.

Sales Chasing Tests

- **Two-study technique (split-study)**

Example:

- CAMA "lock" or "new year created" date is March 1, 2012
- Run two 3-month studies
  - **Sample one**: 12/1/2011 through 2/28/2012 (compared to 1/2/2012 value)
  - **Sample two:** 3/1/2012 through 5/31/2012 (compared to 1/2/2012 value)
    - Note: If "substantial" changes in market conditions have occurred the sales should be adjusted

	Sample 1	Sample 2
Sale Count	111	284
Mean Ratio	100.99	100.71
Median Ratio	101.05	99.45
PRD	101.24	101.32
COD	7.02	8.11

Sales Chasing Tests

- **Two-study technique (split-study)**

Example:

- CAMA "lock" or "new year created" date is March 1, 2004
- Run two 3-month studies
  - **Sample one**: 12/1/2003 through 2/28/2004 (compared to 1/2/2004 value)
  - **Sample two:** 3/1/2004 through 5/31/2004 (compared to 1/2/2004 value)
    - Note: If "substantial" changes in market conditions have occurred the sales should be adjusted

	Sample 1	Sample 2
Sale Count	92	154
Mean Ratio	84.06	76.73
Median Ratio	82.69	77.57
PRD	95.3	95.51
COD	13.99	13.45

Sales Chasing Tests

- **Two-study technique (split-study)**

- **Pros**
  - Quick and easy
  - Usually available in any system

- **Cons**
  - Data for testing usually is only available after the fact
  - Susceptible to market condition changes if market is changing substantially

Sales Chasing Tests

- Two-study technique (split-study)
- Comparison of average value units
- Mann-Whitney
- **Comparison of average value changes**
- Etc.

Procedure document - Testing in an excel spreadsheet

Sales Chasing Tests

- Two-study technique (split-study)
- Comparison of average value units
- Mann-Whitney
- **Comparison of average value changes**
- Etc.

"…sold properties may be disproportionately concentrated in growth areas where values have increased more rapidly than elsewhere. For this reason, it can be prudent to allow an acceptable window or tolerance zone, say, 3 percent or 5 percent, before concluding that any observed differences are meaningful."

-IAAO. *Fundamentals of Mass Appraisal.* 2011. Print.

Although the IAAO offers a 3 or 5 percent suggested tolerance zone, these zones could be significantly different based on the properties and area. For instance, if you were reviewing one specific neighborhood and the properties were all very similar, the acceptable zone may be less than 3%.

Sales Chasing Tests

- Two-study technique (split-study)
- Comparison of average value units
- Mann-Whitney
- **Comparison of average value changes**
- Etc.

It's also very important to consider that the 3 or 5 percent zone is intended for the average value change percent. When reviewing subjective variable changes you may notice that 8% of sold properties received quality changes, while only 4% of unsold properties received quality changes. Although this is within 4 percentage points, the situation is clearly different than the average percent value change because sold properties were twice as likely to receive quality changes, indicating that they were clearly being reappraised differently.

Sales Chasing Tests

Selective reappraisal of properties creates significant issues for assessors by resulting in misleading ratio study statistics. The longer the practice continues the more difficult it becomes to correct without a complete reappraisal.

As assessors we should all be conducting selective reappraisal testing in house. We should welcome the opportunity to review and correct undesired actions by staff, outdated policies, or long standing procedures which have never been reviewed or challenged.

Coefficient of Price Related Bias (PRB)

PRB vs. PRD

Coefficient of Price Related Bias (PRB)

- **Currently the only measure of vertical equity typically being utilized is the familiar Price Related Differential (PRD)**
  - **Acceptable range is 0.98 to 1.03**
  - **Under 1.0 is considered progressive indicating high-value properties are over-appraised**
  - **Over 1.0 is considered regressive indicating that high-value properties are under-appraised**

Coefficient of Price Related Bias (PRB)

- **Pros of the PRD**
  - **Easy to calculate**
  - **Provides an indication of bias**

- **Cons of the PRD**
  - **Only provides an indication of bias**
  - **Small sample sizes are susceptible to sampling error**
  - **Heavily influenced by outlier ratios**
  - **Upward bias**

Coefficient of Price Related Bias (PRB)

- **PRB Quantifies the relationship between property values and ratios**
  - **Asks the question – "What happens to ratios when property value is doubled?" (or halved)**
- **A PRB of 0.025 indicates that ratios increase by 2.5% whenever values double (Progressive)**
- **A PRB of -0.055 indicates that ratios decrease by 5.5% whenever values double (Regressive)**

Coefficient of Price Related Bias (PRB)

- **PRB Quantifies the relationship between property values and ratios**
  - **A bias may be noted if the PRB is less than -3%**
  - **A bias may be noted if the PRB is more than 3%**
    - **Significant at the 95% confidence level**
  - **Concerning if the PRB is less than -5%**
  - **Concerning if the PRB is more than 5%**
    - **Significant at the 95% confidence level**

Coefficient of Price Related Bias (PRB)

- **Two articles featured in recent IAAO publications**
  - **August 2011**
    - **Robert J. Gloudemans**
    - **Suggests the PRB is a viable for providing a meaningful gauge of vertical equity**
  - **November 2011**
    - **Robert C. Denne**
    - **Compares many different methods and suggests the addition of Inverse Variance Weighting to the PRB in an effort to reduce false positives (PRBivw)**

CONCLUSION

- Special thanks to Al Whitcomb, John Keefe, the City of Coon Rapids, and Brent Reid for their contributions today

- The Sales Ratio Committee is always interested in drawing on the talents of Minnesota assessors for participation in discussions and assisting in the creation of new and innovative tools.

- Please call or email with any sales ratio questions, comments, concerns, or new ideas!
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THANK YOU!