# Appraising in Market Swings PTI Conference 2022

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- ► Identifying Trends in Market Place (Residential & Commercial Sales Ratio Analysis) & Analyze Market Data (Commercial Income Data)
- Mass Reappraise (Calibrate Models)
- Refine/Value Review
  - ► At the account level
  - ► Neighborhood/Market Area Level

- **▶** Develop and Utilize Online Sales Ratio Tools
- **Develop Mass Appraise (Calibrate) Models Using Online Mass Appraisal Mass Update** functionalities
- ► For Commercial properties use 3<sup>rd</sup> Party Market data to assist in Income Model Development
  - ► Develop Comp Codes by Property Types/Market Areas (Office, Retail, Industrial, Multi-Family, Other)
- **▶** Use Sales Ratios for Final Performance Test

- Identify Trends in Market Place
  - Residential (Neighborhood Sales Ratio Analysis)
  - ► Commercial (Sales Ratios Analysis/Market Income Data Analysis)
    - Office
    - ► Retail
    - ▶ Industrial
    - ► Multi-family
    - **▶** Other
- ► Reappraise/Calibrate Models using Mass Appraisal Techniques
  - By Market Area
  - By Property Type
- Refine/Value Review
  - Market Areas/Property Types
  - Individual Account Review
  - Performance Test (Sales Ratios)

# **Appraising in Market Swings Identifying Trends in Market Place**

- PERFORMANCE TESTS
- Sales Ratio Studies
- ▶ The primary analytical tool used by the appraisers to measure and improve performance is the ratio study. DCAD ensures that the appraised values that it produces meet the standards of accuracy in several ways. Overall sales ratios can be generated by building class, by neighborhood, by city, and by ISD to allow the appraiser to review general market trends within their area of responsibility, and provide an indication of market appreciation over a specified period of time. These sales ratio statistics are available under the MARS Reappraisal Analysis module and typically cover a 18 month time frame.

# **Appraising in Market Swings Identifying Trends in Residential Market Place**

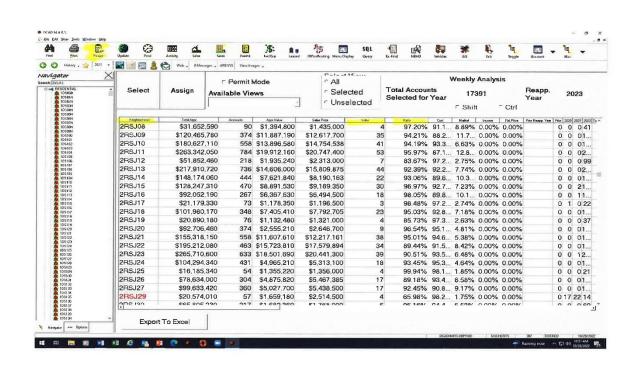
DCAD Residential Reappraisal Analysis Module

- Residential Sales Ratio
  - **▶** By Neighborhood/By Building Class

#### **Identifying Trends in Residential Market Place**

DCAD Residential Reappraisal Analysis Module

**Neighborhood Ratios Online** 



#### Sales Ratio Report

As Of: 3/18/2022

Tax Year: 2022 Values - Final

Sale Price - Actual

APPRAISAL

Neighborhood: 0663AFR								
Property ID	Situs Address	CLASS	Eff Yr	Area	Total M	kt Value	Imp1 Desc	Sale Type
Quick Ref ID	Legal Description	SPTB	Act Yr	Class	Impv Value	Land Value	Imp2 Desc	Sale Date
Abstract / Sub	TU Group	COND	% COM	Good	Lnd Acres	Land Ratio	Imp3 Desc	Sale Price
Map ID	Appraiser / NBHD		ECO	FUN	Imp Adj	Land Adj	Val/Sft Price/Sft	Ratio %
R318543	FOX RIDGE L 205	A1	2015	RV6	\$221,817	\$25,084		04/09/2021
S290760		Α			0.12	10.16		\$247,000
487	CLB,GLB,HSP,SCP,WHP				128.00	100.00	\$126.55 \$126.60	99.96
	CCG / 0883AFR							
R290760-00000-03630-000	10303 AVE W LUBBOCK, TX 79423	RV6	2020	2,007	\$27	3,529	Residential	R - Outside Sou
R329933	FOX RIDGE L 363	A1	2020	RV6	\$240,535	\$32,994		03/19/2021
S290760		Α			0.16	12.06		\$272,990
487	CLB,GLB,HSP,SCP,WHP				128.00	100.00	\$136.29 \$136.02	100.20
	CCG / 0663AFR							
R290760-00000-02900-000	10118 VERNON DR LUBBOCK, TX 79423	RV6	2017	1,822	\$25	0,636	Residential	R - Outside Sou
R326146	FOX RIDGE L 290	A1	2017	RV6	\$218,206	\$32,430		07/08/2021
S290760		Α			0.16	12.94		\$250,000
487	CLB,GLB,HSP,SCP,WHP				128.00	100.00	\$137.56 \$137.21	100.25
	CCG / 0663AFR							
R290760-00000-04700-000	2310 104TH ST LUBBOCK, TX 79423	RV6	2019	2,043	\$26	5,228	Residential	R - Outside Sou
R334031	FOX RIDGE L 470	A1	2019	RV6	\$236,793	\$28,435		02/17/2021
S290760		Α			0.14	10.72		\$263,000
407	01.01.01.01.000.0000.19910				400.00	400.00	#400 00 #400 70	400.05

**Reappraise Calibrate Models Using Mass Appraisal Techniques** 

#### Residential Neighborhood/Building Class/DCAD

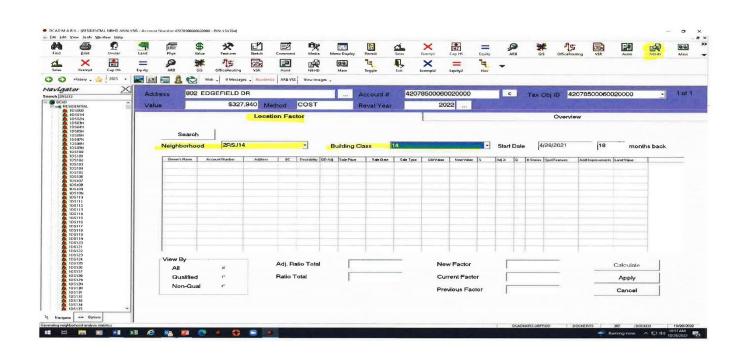
#### **Neighborhood Analysis Module**

- **Search** by Neighborhood by Building Class
- ► <u>Calculate</u> Location Factor by Neighborhood by Building Class
- ► **Apply** Calculation to all Properties within same Neighborhood Building Class
  - ▶ Removes any account currently on Sales Approach back to Cost Approach
  - Removes any Cost Approach Overrides
  - Applies new location factor to all accounts within same Neighborhood/Building Class insuring model uniformly applied to all accounts
  - Insuring accurate an Market Value and Equal and Uniform Value

**Reappraise Calibrate Models Using Mass Appraisal Techniques** 

**Residential Neighborhood/Building Class** 

**Neighborhood Analysis Module** 



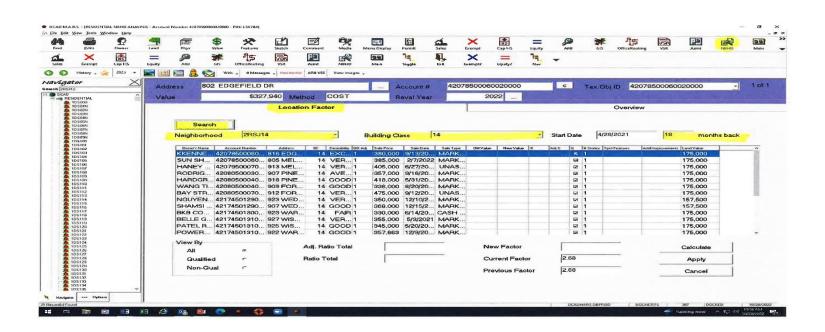
	Α	В	С	D	Е	F	G	Н	1	J	K	L	М	N	0	Р	Q	R
1	Control#	NeighborhoodCode	NeighborhoodDesc	FinalLand	FinalBuilding	FinalTotal	Price	SalesRatio	eg_NbhdRli	HocTaxYe	QuickRefIC	stOffEffYest	tOffActYe	stOffSegCl	stOffSegT	yleTypeCo	ferValidity	ımentTyp
2	0016A1-41	0016A1-4	0016A1-4 - Residential Class 1 th	2,000.00	43,762.00	45,762.00	84,900.00	53.9	160	2022	R77866		1953	BF2	MA	N	VALIDV	WD
	0016A1-42	0016A1-4	0016A1-4 - Residential Class 1 th	3,000.00	77,129.00	80,129.00	105,000.00		160		R27593		1953	RF3	MA	В	VALIDV	
	0016A1-43	0016A1-4	0016A1-4 - Residential Class 1 th	4,860.00	122,888.00	127,748.00	145,000.00		160		R67744			BF4	MA	В	VALIDV	
	0016A1-44	0016A1-4	0016A1-4 - Residential Class 1 th	3,000.00	49,871.00	52,871.00	60,000.00		160		R47956			BF2	MA	В	VALIDV	
	0016A1-45	0016A1-4	0016A1-4 - Residential Class 1th	3,000.00	62,991.00	65,991.00	74,000.00	89.17	160		R70700		1935		MA	В	VALIDV	
	0016A1-46	0016A1-4	0016A1-4 - Residential Class 1th	5,561.00	144,426.00	149,987.00	166,000.00	90.35	160		R98032			BV4	MA	В	VALIDV	
	0016A1-47	0016A1-4	0016A1-4 - Residential Class 1th	1,110.00	92,415.00	93,525.00	102,000.00	91.69	160		R133898			RF3	MA	В	VALIDV	
9	0016A1-48	0016A1-4	0016A1-4 - Residential Class 1th	3,000.00	74,140.00	77,140.00	81,000.00	95.23	160		R52261			RF2	MA	В	VALIDV	
_	0016A1-49	0016A1-4	0016A1-4 - Residential Class 1th	2,727.00	46,777.00	49,504.00	42,000.00	117.86	160		R338933	2001	1959		MA	В	VALIDV	
	0016A1-410	0016A1-4	0016A1-4 - Residential Class 1th	3,273.00	90,868.00	94,141.00	68,000.00	138.44	160		R53723	2001		RF3	MA	B	VALIDV	
	0016A1-411	0016A1-4	0016A1-4 - Residential Class 1th	4,916.00	76,525.00	81,441.00	52,000.00		160		R77314		2000		STG	B	VALIDV	
	0016A5-81	0016A5-8	0016A5-8 - Residential Class 5-	7,152.00	164,018.00	171,170.00	207,500.00		154		R89293			RV5	MA	B	VALIDV	
		0016A5-8		50,000.00	289,455.00	339,455.00	410,000.00								MA	B		
	0016A5-82		0016A5-8 - Residential Class 5-	12,000.00	174,772.00	186,772.00	215,000.00		154		R48121			RV7			VALIDV	
	0016A5-83	0016A5-8	0016A5-8 - Residential Class 5-	7,055.00	210,597.00	217,652.00	250,000.00	86.87	154		R47003			RV6	MA	R	VALIDV	
	0016A5-84	0016A5-8	0016A5-8 - Residential Class 5-	8,400.00	139,885.00	148,285.00	169,900.00	87.06	154		R86931			RV6	MA	R	VALIDV	
	0016A5-85	0016A5-8	0016A5-8 - Residential Class 5-	15,000.00	330,587.00	345,587.00	380,000.00	87.27	154		R86569			RV5	MA	R	VALIDV	
	0016A5-86	0016A5-8	0016A5-8 - Residential Class 5-	10,417.00	222,953.00	233,370.00	250,000.00	90.94	154		R310406	2008	2014		BN1	R	VALIDV	
19	0016A5-87	0016A5-8	0016A5-8 - Residential Class 5-	12.000.00	283,922.00	295,922.00	310,000.00	93.34	154	2022	R86876		2000	RV6	MA50	N	VALIDV	WD
20	0016A5-88	0016A5-8	0016A5-8 - Residential Class 5-	12,000.00	200,022.00	200,022.00	310,000.00	95.45	154	2022	R44068		1993	RV7	MA	R	VALIDV	WD

**Reappraise Calibrate Models Using Mass Appraisal Techniques** 

**Residential Neighborhood/Building Class** 

**Neighborhood Analysis Module** 

**Search** by Neighborhood by Building Class

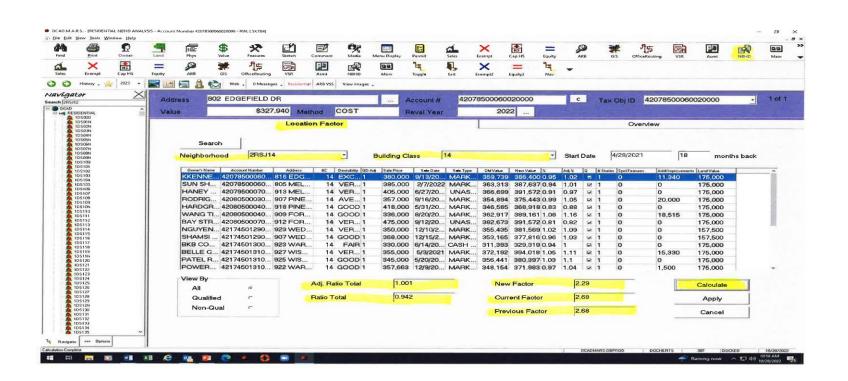


**Reappraise Calibrate Models Using Mass Appraisal Techniques** 

Residential Neighborhood/Building Class

**Neighborhood Analysis Module** 

► Calculate by Neighborhood by Building Class

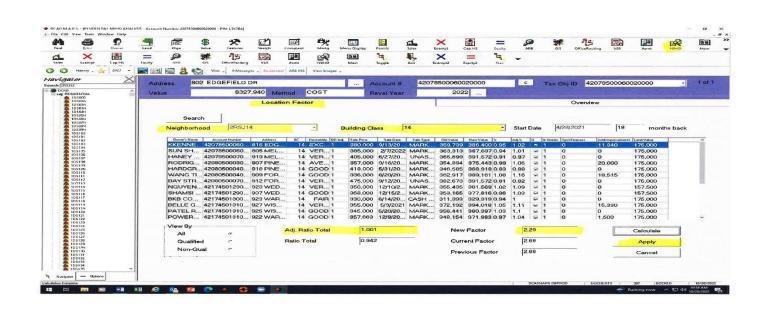


**Reappraise Calibrate Models Using Mass Appraisal Techniques** 

Residential Neighborhood/Building Class

Neighborhood Analysis Module

► **Apply** by Neighborhood by Building Class



#### **Reappraise Calibrate Models Using Mass Appraisal Techniques**

#### Residential Neighborhood/Building Class

#### Neighborhood Analysis Module

- ► **Apply** by Neighborhood by Building Class
  - ▶ All accounts within same Neighborhood Same Building Class have new Location Factor updated



	DJUSTME	N I WORF	SHEET															
11/9/2022 13:45																		
NBHD DESC.	0	0017A – Res-r	ansom Canyo	n														
# SALES		3	32															
APPRAISER		CHRIST	IE VILES															
COMMENTS		CHA	NGE															
MEDIAN		94.	12%															
	* PROPERTIES	514	ales to NBHI	6.23%														
	NBHD ADJ	0017A 166%																
	ADJ	100%																
Adj Val	<b>LAND Val</b> \$ 7,539	Imp Val \$ 254,131	<b>Sale Price</b> \$ 277,750	<b>S/P-LV</b> \$ 270,211														
Adj val	* r,535		* 200,000															
Unadj Imp Val	<b>\$</b> 153,091		PRD	102.68														
New Median Ratio New NBHD Adj	100.18% 177%		COD % Change	15.17 6.4%														
•																		
NBHD DESC.	NBHD	LAND Val	Imp Val	Total Value	Sale Price	Ratio	Nbhd Ac AdHe	осТахҮе	Quick R	Eff Yr	Yr Blt	Class	Туре	Sale Ty	r Valid Co	Deed Ty	Deed Ty	Sale Dat
100474 0	22474	****	6040 700	<b></b>	£250.000	50 500/	455	2022			4070	D145					Warrant	20.1.1
1 0017A - Res-ransom Canyon	0017A	\$14,518	\$210,788	\$225,306	\$360,000	62.59%	166	2022	R125573	0	1978	KV6	MA	R	VALIDV	WD	y Deed Warrant	20-Jul-
2 0017A - Res-ransom Canyon	0017A	\$31,264	\$269,249	\$300,513	\$450,000	66.78%	166	2022	R125177	0	2014	RV6	SHP1	R	VALIDV	WD	y Deed	24-Sep-
		****	****	****	****												Warrant	
0017A - Res-ransom Canyon	0017A	\$78,648	\$407,961	\$486,609	\$645,000	75.44%	166	2022	R121476	0	2004	RV8	MA75	R	VALIDV	WD	y Deed Warrant	17-Dec-
0017A - Res-ransom Canyon	0017A	\$86,512	\$416,883	\$503,395	\$650,000	77.45%	166	2022	R128947	0	1985	RV8	MA	R	VALIDV	WD	y Deed	23-Apr-
			4														Warrant	
0017A - Res-ransom Canyon	0017A	\$14,314	\$348,655	\$362,969	\$447,500	81.11%	166	2022	R122686	0	1967	RV7	MA	R	VALIDV	WD	y Deed Deed Of	02-Aug-
0017A - Res-ransom Canyon	0017A	\$16,758	\$227,953	\$244,711	\$300,000	81.57%	166	2022	R125093	0	1969	RV6	MA	R	VALIDV	DD	Any Kind	20-Jul-
																	Warrant	
7 0017A - Res-ransom Canyon	0017A	\$20,222	\$385,927	\$406,149	\$495,995	81.89%	166	2022	R43914	1999	2006	RV7	CAR	R	VALIDV	WD	y Deed Warrant	28-Sep-
	0017A	\$8,624	\$188,244	\$196,868	\$235,000	83.77%	166	2022	R37850	О	1984	RV6	MA	R	VALIDV	WD	y Deed	03-Dec-
0017A - Res-ransom Canyon																	Warrant	
0017A - Res-ransom Canyon	00174	\$31 574	\$248 606	\$280.180	\$324 500		166	_	R128321	0	1974		МА		VALIDV		v Deed	12-4119-

#### **Reappraise Calibrate Models Using Mass Appraisal Techniques**

#### **Residential Neighborhood/Building Class**

#### Neighborhood Analysis Module

- ► **Apply** by Neighborhood by Building Class
  - All accounts within same Neighborhood Same Building Class have new Location Factor updated
  - ▶ All accounts converted to Cost Approach if on Sales Approach
  - ▶ All accounts have any Cost Approach Overrides removed
  - New Cost Approach is recalculated using new Location Factor for all accounts insuring equal and uniform valuations

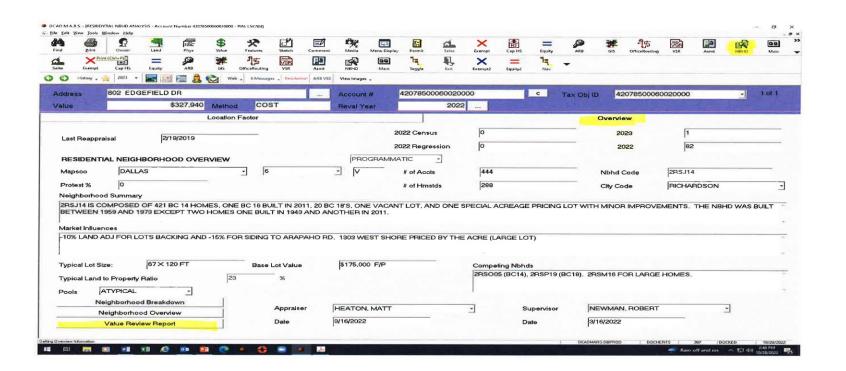
Refine/Value Review Residential Neighborhoods

Neighborhood Value Review Report

▶ Neighborhood Value Review Report is produced when neighborhood reappraisal is completed

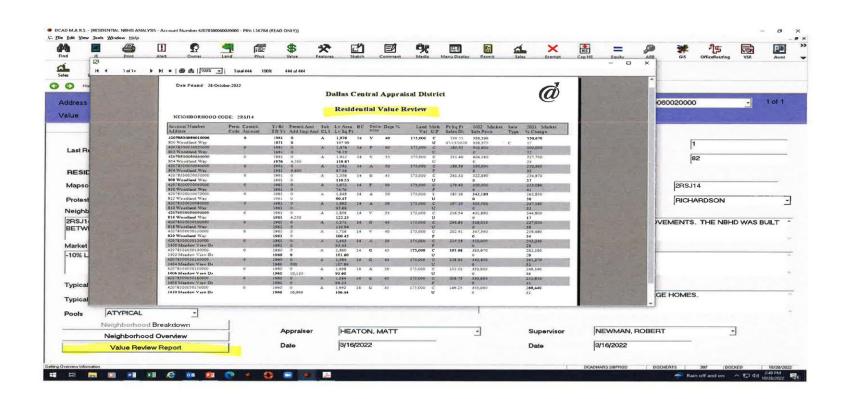
#### Refine/Value Review Residential Neighborhoods

#### **Neighborhood Value Review Report**



#### Refine/Value Review Residential Neighborhoods

#### Neighborhood Value Review Report



Refine/Value Review Residential Neighborhoods

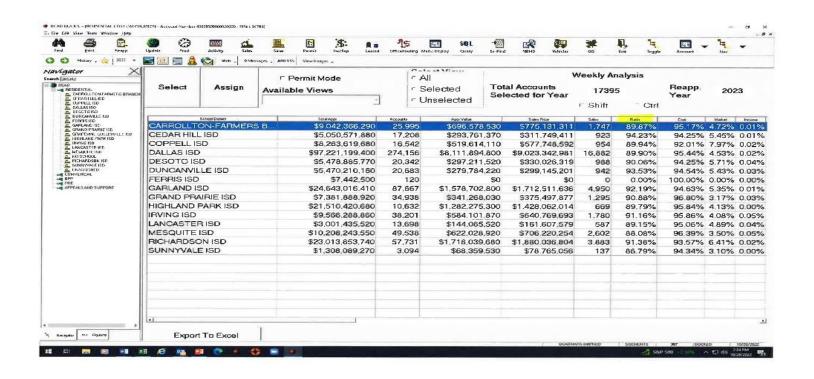
**Neighborhood Value Review Report** 

- Appraiser reviews and gives to Supervisor for final sign off
- Neighborhood Value Review report has all accounts in Neighborhood with current market value, last years market value, % change, last known sale price/sale date, land value, any current year permit data, living area, appraised price per square foot, etc.

#### **DCAD Residential Ratio Reports**

- Neighborhood
- Neighborhood by Building Class
- ► Independent School Districts ISD
- City
- Building Class (All)
- Land

#### **DCAD Residential Ratio Reports**



#### **DCAD Residential Ratio Reports**

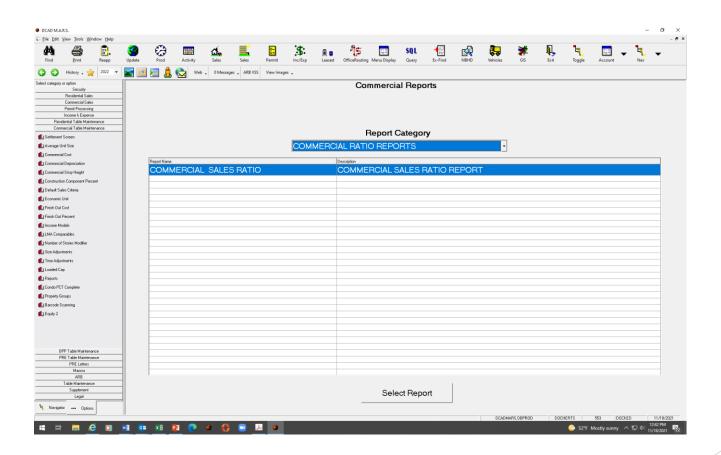
School District	Total Appr	Accounts	Appr Value	Sales Price	Sales	Ratio	Cost	Market	Income
CARROLLTON-FARMERS BRANCH ISD	9,047,695,360	25,948	697,213,930	690,880,022	1,749	100.92%	99.92%	0.08%	0.01%
CEDAR HILL ISD	5,090,198,230	17,162	289,940,010	288,922,363	954	100.35%	99.99%	0.0%	0.01%
COPPELL ISD	8,378,265,920	16,512	493,941,280	491,158,761	919	100.57%	99.92%	0.06%	0.02%
DALLAS ISD	98,210,149,730	273,762	8,446,911,120	8,370,408,433	16,839	100.91%	99.87%	0.11%	0.02%
DESOTO ISD	5,536,484,200	20,221	280,266,050	278,864,786	930	100.50%	99.96%	0.0%	0.04%
DUNCANVILLE ISD	5,530,817,850	20,686	254,493,060	253,872,052	883	100.2%	99.97%	0.0%	0.03%
GARLAND ISD	24,812,624,990	87,115	1,500,506,140	1,479,053,080	4,780	101.17%	99.96%	0.03%	0.01%
GRAND PRAIRIE ISD	7,416,443,670	34,841	333,982,670	329,271,672	1,238	101.43%	99.95%	0.02%	0.03%
HIGHLAND PARK ISD	21,796,325,890	10,631	1,554,237,500	1,566,799,802	782	99.2%	99.97%	0.03%	0.0%
IRVING ISD	9,637,800,950	37,880	599,998,710	597,884,714	1,743	100.35%	99.91%	0.04%	0.05%
LANCASTER ISD	3,016,266,410	13,590	128,683,620	128,050,039	524	100.49%	99.96%	0.0%	0.04%
MESQUITE ISD	10,272,679,990	49,319	584,161,470	572,826,034	2,364	101.98%	99.94%	0.01%	0.05%
RICHARDSON ISD	23,274,133,400	57,680	1,653,471,420	1,633,109,042	3,722	101.25%	99.74%	0.24%	0.02%
SUNNYVALE ISD	1 316 381 420	3.010	81 886 230	82 284 801	156	99 52%	99 73%	0.27%	0.0%

Taxing Unit: SLB				
	Assessment Ratio	SalesPrice	Adjusted Sale Price	Value
Low Value	60.78%	\$24,000.00	\$24,000.00	\$20,120.00
High Value	138.83%	\$1,625,000.00	\$1,625,000.00	\$1,325,808.00
Median	99.86%	\$172,900.00	\$172,900.00	\$174,069.00
Mean	99.44%	\$195,187.81	\$195,187.81	\$192,603.07
Weighted Mean	98.68%			
Standard Deviation	12.65	112,658.42	112,658.42	109,395.19
Coefficient of Dispersion	9.13			
Coefficient of Variation	12.72			

Taxing Unit: SND				
	Assessment Ratio	SalesPrice	Adjusted Sale Price	Value

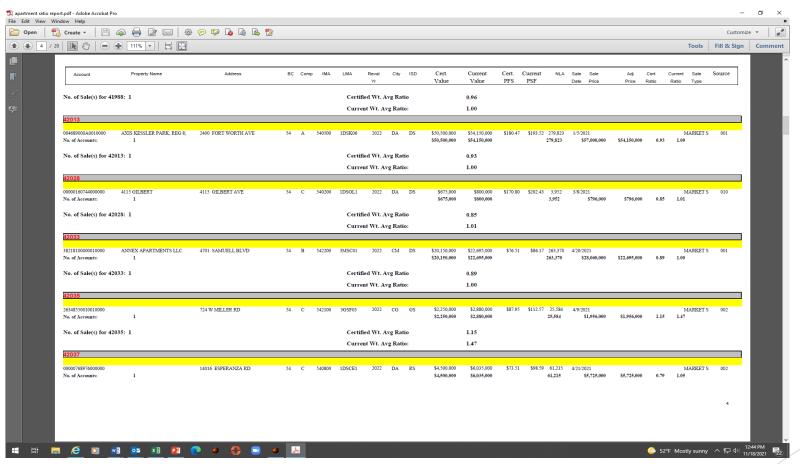
#### **Identifying Trends in Commercial Market Place**

#### **DCAD Commercial Ratio Reports**



#### **Identifying Trends in Commercial Market Place**

#### **Improve Market Area Ratio Reports**



#### Identifying Trends in Commercial Market Place Improve Market Area

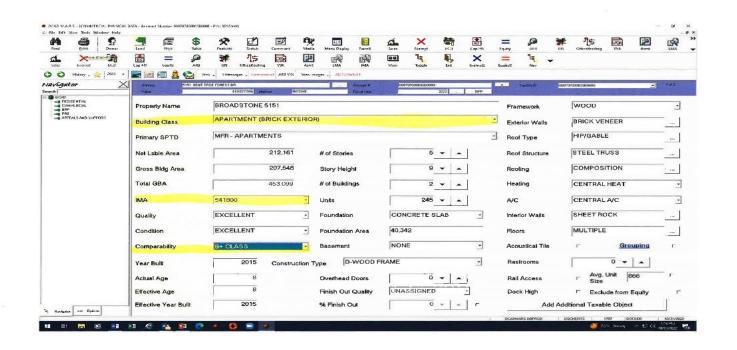
- By Improved Market Areas (IMA)
  - ▶ By Property Type (Retail, Office, Industrial, Multi-Family, etc)
  - ▶ By Comp Code (A+, A, A-, B+, B, B-, C+, C, C-)

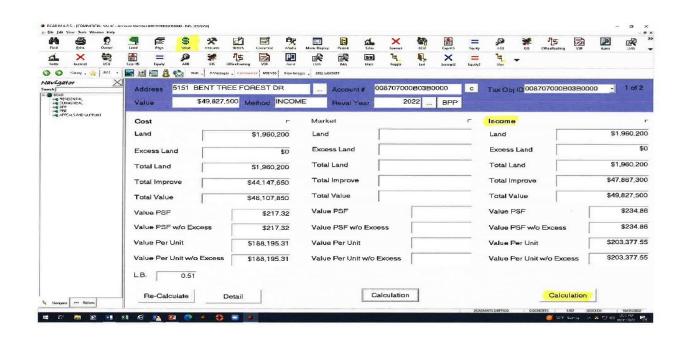
# **Appraising in Market Swings**Identifying Trends in Commercial Market Place Analyze Improve Market Area Market Data

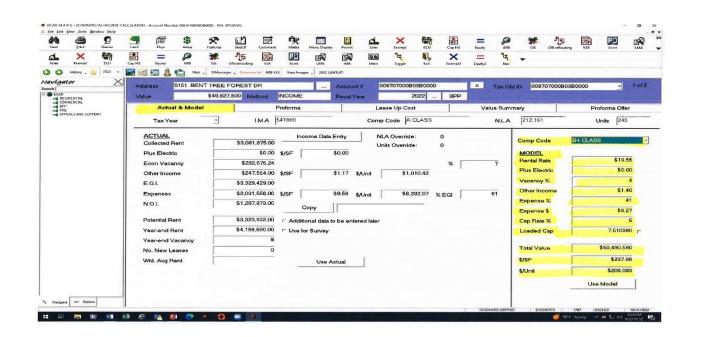
- DCAD has Supervisor overseeing each Property Type (Office, Retail, Industrial, Multi-Family, etc)
- Property Type Supervisor analyzes 3<sup>rd</sup> party (COSTAR, TREPP, ALN, Real page, RERC, Hotel Fact book, PKF Trends Hotels, Valuation Insight and Perspectives, etc) market data
- ► Emphasis on 2<sup>nd</sup> quarter/3<sup>rd</sup> quarter data as opposed to year end I&E's
- Create Income Pro Forma Models
- By Improved Market Areas (IMA)
  - ▶ By Property Type (Retail, Office, Industrial, Multi-Family, etc)
  - ▶ By Comp Code (A+, A, A-, B+, B, B-, C+, C, C-)

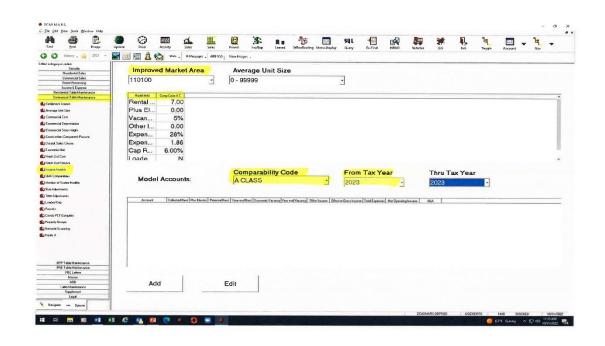
### Reappraise Calibrate Models Using Mass Appraisal Techniques

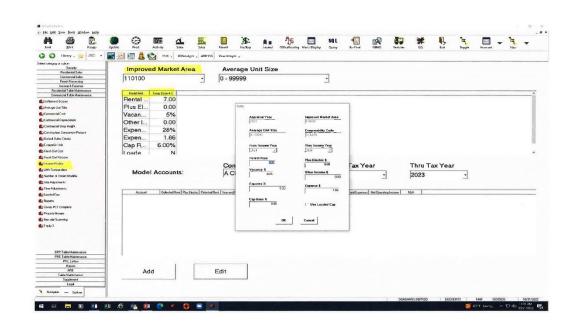
- Income Component Adjustments
  - Rental Rate
  - ► Vacancy & Collection Loss
  - Expenses
  - Cap Rate
- ▶ By Improved Market Areas by Comp Codes (A+, A, A-, B+, B, B-, C+, C, C-)
  - Retail
  - Multi-Family
  - Industrial
  - Office
  - Other

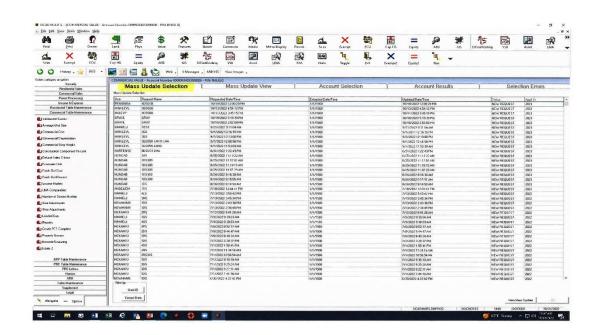












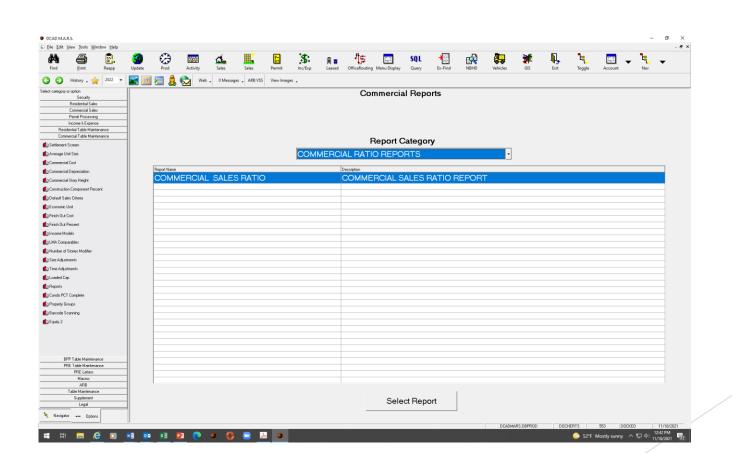
#### **Refine/Value Review**

#### **Review Ratio Reports**

- By Improved Market Area (IMA)
- By Property Type (Office, Retail, Industrial, Multi-Family, Other)
  - ▶ By Independent School District (ISD)
  - By City
  - By Building Class

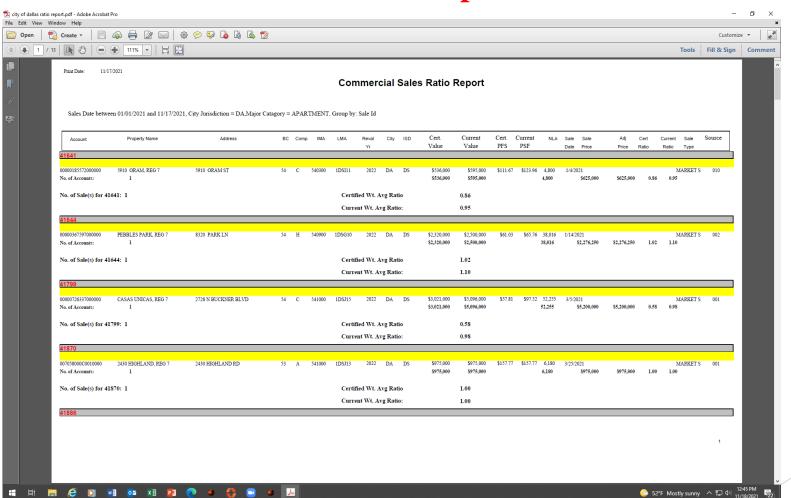
Refine/Value Review Review Ratio Reports

**DCAD Commercial Ratio Reports** 



#### **Refine/Value Review**

#### **Review Ratio Reports**



# **Appraising in Market Swings Summary**

- **▶** Develop and Utilize Online Sales Ratio Tools
- **Develop Mass Appraise (Calibrate) Models Using Online Mass Appraisal Mass Update functionalities**
- ► For Commercial properties use 3<sup>rd</sup> Party Market data to assist in Model Development
  - ▶ Develop Comp Codes by Property Types/Market Areas (Office, Retail, Industrial, Multi-Family, Other)
- Use Sales Ratios for final Performance Test
- ► Final Test Appraisal Review Board (ARB) Process

- ► ARB (Challenges to proposed Market Value)
  - **▶** For Residential properties use Sales Approach
  - ► For Commercial request Income & Expense Statement/Rent Roll to compare to Model
  - ► Access 3<sup>rd</sup> Party Commercial Data (Costar & TREPP) when needed in Rebuttal Phase of ARB Hearing (41.67 (d))
  - ► Texas Property Tax Code Section 41.67 (d) "This subsection does not apply to information offered to rebut evidence or argument presented at the hearing by the protesting party or the party's designated agent."

### **Appraising in Market Swings Conclusions**

- Develop and Utilize Online Sales Ratio Tools
- Develop Mass Appraise (Calibrate) Models Using Online Mass Appraisal Mass Update functionalities
- ► For Commercial properties use 3<sup>rd</sup> Party Market data to assist in Income Model Development
  - **Develop Comp Codes by Property Types/Market Areas (Office, Retail, Industrial, Multi-Family, Other)**
- **▶** Use Sales Ratios for Final Performance Test
- ► Access 3<sup>rd</sup> Party Commercial Data (Costar & TREPP) when needed in Rebuttal Phase of ARB Hearing (41.67 (d))
- ► Texas Property Tax Code Section 41.67 (d) "This subsection does not apply to information offered to rebut evidence or argument presented at the hearing by the protesting party or the party's designated agent."

# Appraising in Market Swings PTI Conference 2022

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