



Data Analysis and Queries





Objectives

- Bring an awareness of the need to query the CAMA system
- Property listing errors
- Data entry errors
- Assessment errors
- Higher level sales analysis
- 2015 Alabama Appraisal Manual implementation



Code of Alabama 40-2-11(2)

- “To equalize, value, and assess or cause to be equalized, valued, and assessed any property subject to taxation”
- Your appraisals are only as good as your data
- In order to equalize must know what is in the CAMA system



Awareness of the Need

- Mundane work
 - Updates
 - Annual review
 - Sales analysis
 - Reappraisal
- Brief encounters with querying
- A revelation



Querying Basics

- Identify the problem
- Select table or tables
- Join tables as needed on related field
- Select fields
- Select filters
- Run
- Compare
- Export



Querying Basics

- Trial and error
 - Try only one parcel
 - Print PRC
 - Try to retrieve the info you want
- Only include the tables you need
- Start broad and narrow as needed
- Until more comfortable, Excel is your friend
 - Cast a broad net and send to excel
 - Array by the field you are investigating



Property Listing Errors

- Listing errors happen
 - Mistakes
 - Lack of training
 - Loss of focus
 - Chasing Value
 - Selective – Inconsistency among similar types
 - Systemic – Consistency among similar types



Examples of Property Listing Errors

- Mistakes – Lack of training





Convenience Store (Code 590) – Class C





Mistakenly Listed as Service Station

DEPRECIATION ADJUSTMENT		Calculated Based on the Alabama Appraisal Manual, 2015 Edition							
EFF. AGE / NORMAL	97%								
OBSERVED PHY.									
FUNCTIONAL									
ECONOMIC									
TOTAL DEPR.	97%								
BUILDING SUMMARY									
STORY HEIGHT	+1								
BASE AREA	4,697								
UPPER FLR. AREA	0								
UPPER FLR. ADJ.	0								
APPENDAGES	9								
TOTAL ADJ. AREA	4,706								
BUILDING CALCULATIONS									
BLDG. CLASS	C0								
CONST. UNITS	103								
BASE RATE	75.26								
ADJ. RATE	77.52								
TAA	4,706								
SUBTOTAL	364,809								
EXT. FEAT.	123,901								
BASE COST	488,710								
INDEX	1.00								
REPL. COST	488,710								
COND. %	97%								
VALUE	474,049	APPENDAGES				APPENDAGES			
MKT ADJUSTMENT	1	SYMBOL	DEC.	AREA	ADJ. AREA	SYMBOL	DEC.	AREA	ADJ. AREA
FINAL VALUE	474,000	CAN. 2	0.2	46	9				

Improvement value \$474,000



Correctly Listed as Convenience Store

DEPRECIATION ADJUSTMENT		Calculated Based on the Alabama Appraisal Manual, 2015 Edition							
EFF. AGE / NORMAL	97%								
OBSERVED PHY.									
FUNCTIONAL									
ECONOMIC									
TOTAL DEPR.	97%								
BUILDING SUMMARY									
STORY HEIGHT	+1								
BASE AREA	4,697								
UPPER FLR. AREA	0								
UPPER FLR. ADJ.	0								
APPENDAGES	9								
TOTAL ADJ. AREA	4,706								
BUILDING CALCULATIONS		APPENDAGES				APPENDAGES			
BLDG. CLASS	C0	SYMBOL	DEC.	AREA	ADJ. AREA	SYMBOL	DEC.	AREA	ADJ. AREA
CONST. UNITS	111	CAN. 2	0.2	46	9				
BASE RATE	87.32								
ADJ. RATE	96.93								
TAA	4,706								
SUBTOTAL	456,153								
EXT. FEAT.	120,613								
BASE COST	576,766								
INDEX	1.00								
REPL. COST	576,766								
COND. %	97%								
VALUE	559,463								
MKT ADJUSTMENT	1								
FINAL VALUE	559,500								

Improvement value \$559,500



What a Difference a Code Makes

Service Station - 553	
C0	Class
103	Const. Units
\$75.26	Base Rate
\$77.52	Adj. Rate
4,706	TAA
\$364,809	Subtotal
\$123,901	Ext. Feat.
\$488,710	Base Cost
1.00	Index
\$488,710	RCN
97%	Cond
\$474,000	Final Value

Convenience Store - 590	
C0	Class
111	Const. Units
\$87.32	Base Rate
\$96.93	Adj. Rate
4,706	TAA
\$456,153	Subtotal
\$120,613	Ext. Feat.
\$576,766	Base Cost
1.00	Index
\$576,766	RCN
97%	Cond
\$559,500	Final Value

**Incorrectly listing as a service station (code 553)
results in \$85,500 value loss.**



Examples of Property Listing Errors

- Chasing Value (Selective)

Construction Units Prior to Discovery and Correction

Category	SubCategory	Code	Percent	Units
FOUNDATION	SLAB	S01	100	0
EXTERIOR WALLS	METAL, SANDWICH PANEL	W40	100	50
ROOF TYPE	STEEL FRAME CONCRETE	T13	100	26
ROOF MATERIAL	RUBBER MEMBRANE	M17	100	5
FLOORS	CONCRETE ON GRADE W/DRAINS	F27	100	10
INTERIOR FINISH	PAINTED	I02	100	5
PLUMBING	NONE	P01	1	0
ADJUSTMENTS	FRAMING : OPEN STEEL	A01		18
ADJUSTMENTS	FRAMING : REINFORCED CONCRETE	A02		25
ADJUSTMENTS	FRAMING : FIRE PROOF STEEL	A03		35
ADJUSTMENTS	HEIGHT ADJ. - 40 FT / 1 STORY	A04		117
ADJUSTMENTS	STALLS	A06		12
ADJUSTMENTS	MIG. FROM A11	A98		335
Total				638

Construction Units After Discovery and Correction

Category	SubCategory	Code	Percent	Units
FOUNDATION	SLAB	S01	100	0
EXTERIOR WALLS	METAL, SANDWICH PANEL	W40	100	50
ROOF TYPE	STEEL FRAME CONCRETE	T13	100	26
ROOF MATERIAL	RUBBER MEMBRANE	M17	100	5
FLOORS	CONCRETE ON GRADE W/DRAINS	F27	100	10
INTERIOR FINISH	PAINTED	I02	100	5
PLUMBING	NONE	P01	1	0
ADJUSTMENTS	HEIGHT ADJ. - 34 FT / 1 STORY	A04		92
Total				188



Examples of Property Listing Errors

- Chasing Value (Selective)

Single Family Construction Units Before Discovery				
Category	SubCategory	Code	Percent	Units
FOUNDATION	CONTINUOUS WALL	S03	100	0
EXTERIOR WALLS	BRICK ON WOOD	W12	100	38
ROOF TYPE	HIP-GABLE	T02	100	8
ROOF MATERIAL	ASPHALT SHINGLES	M04	100	4
FLOORS	PARQUET	F10	25	5
FLOORS	CARPET & UNDERLAY	F14	75	9
INTERIOR FINISH	DRYWALL (SHEETROCK)	I07	100	30
PLUMBING	AVERAGE	P03	1	8
ADJUSTMENTS		A07		40
		Total		142



Examples of Property Listing Errors

- Chasing Value (Systemic)





Common Data Entry Errors

- Commercial buildings classed “S” or “F”
- Zero values for
 - Base rate
 - Adjusted rate
 - Base area
 - Land value



Common Data Entry Errors

- No quantity selected
 - Base Area
 - Fireplaces
 - Bathrooms
 - Heating & cooling



Common Data Entry Errors

- Quantity of **one** selected
 - Heating & cooling
 - Bank Vaults
 - Overhead doors
 - Walk-in coolers
 - Office add-on finish
 - Etc.
- 10 fireplaces on D0 class house



Miscellaneous Things to Look For

- Site valued improvements
- Old BOE override values
- Partial value improvements with year built not this year or last
- Miscellaneous improvements listed as major improvements
- Miscellaneous improvements with 9999 codes
- 111 buildings with adjustments



Miscellaneous Things to Look For

- Apartment equivalent adjustments on non 113
- No plumbing on modern 111
- Average plumbing with tile
- No plumbing units on buildings that require units
- Plumbing units on buildings that do not require them (200, 300, 600, 637)



Miscellaneous Things to Look For

- Land valuation inconsistencies
 - Influence factors
 - Unit pricing
 - Site values



Assessment Errors to Check Into

- Commercial properties in class III
- Current use on class II land
- Homestead exemption applied to multiple parcels
- Owner with more than one homestead in the county



Higher Quality Sales Analysis

- Minimum standard 98% - 102% median & less than 20 COD
- Valuation zone boundaries
- Median sale price per square foot vs. Median appraised value per square foot
- Appraised value comparison by parcel; one year to the next
- Ratio testing on vacant parcels, on improved, then together



Ratio Testing: Neighborhood

Sale No	Sale Type	Sale Price	Land Appraised	Building Appraised	Total Appraised	Sale Ratio
1	Land	\$42,500	\$45,000	\$0	\$45,000	105.88%
2	Improved	\$330,000	\$55,000	\$262,000	\$317,000	96.06%
3	Improved	\$301,000	\$55,000	\$245,000	\$300,000	99.67%
4	Improved	\$260,000	\$45,000	\$219,900	\$264,900	101.88%
5	Land	\$40,000	\$45,000	\$0	\$45,000	112.50%
6	Improved	\$288,000	\$45,000	\$231,000	\$276,000	95.83%
7	Improved	\$257,500	\$45,000	\$216,770	\$261,770	101.66%
8	Land	\$48,000	\$55,000	\$0	\$55,000	114.58%
9	Land	\$48,000	\$55,000	\$0	\$55,000	114.58%
10	Improved	\$284,000	\$45,000	\$218,000	\$263,000	92.61%
11	Improved	\$279,900	\$45,000	\$232,000	\$277,000	98.96%
12	Improved	\$253,000	\$45,000	\$224,000	\$269,000	106.32%
13	Land	\$39,500	\$45,000	\$0	\$45,000	113.92%
14	Improved	\$298,000	\$55,000	\$248,000	\$303,000	101.68%
15	Land	\$40,000	\$45,000	\$0	\$45,000	112.50%
16	Improved	\$275,000	\$55,000	\$240,000	\$295,000	107.27%
17	Improved	\$305,000	\$55,000	\$254,000	\$309,000	101.31%

Overall Ratio 101.88%

Median	101.88%
Average	104.54%
AAD	5.87%
COD	5.76



Ratio Testing: Improved

Sale No	Sale Type	Sale Price	Land Appraised	Building Appraised	Total Appraised	Sale Ratio
2	Improved	\$330,000	\$55,000	\$262,000	\$317,000	96.06%
3	Improved	\$301,000	\$55,000	\$245,000	\$300,000	99.67%
4	Improved	\$260,000	\$45,000	\$219,900	\$264,900	101.88%
6	Improved	\$288,000	\$45,000	\$231,000	\$276,000	95.83%
7	Improved	\$257,500	\$45,000	\$216,770	\$261,770	101.66%
10	Improved	\$284,000	\$45,000	\$218,000	\$263,000	92.61%
11	Improved	\$279,900	\$45,000	\$232,000	\$277,000	98.96%
12	Improved	\$253,000	\$45,000	\$224,000	\$269,000	106.32%
14	Improved	\$298,000	\$55,000	\$248,000	\$303,000	101.68%
16	Improved	\$275,000	\$55,000	\$240,000	\$295,000	107.27%
17	Improved	\$305,000	\$55,000	\$254,000	\$309,000	101.31%

Median 101.31%

Average 100.30%

AAD 3.24%

COD 3.20



Ratio Testing: Land

Sale No	Sale Type	Sale Price	Land Appraised	Building Appraised	Total Appraised	Sale Ratio	Influence Factor	New Value	New Ratio
1	Land	\$42,500	\$45,000	\$0	\$45,000	105.88%	-11%	\$40,050	94.24%
5	Land	\$40,000	\$45,000	\$0	\$45,000	112.50%	-11%	\$40,050	100.13%
8	Land	\$48,000	\$55,000	\$0	\$55,000	114.58%	-11%	\$48,950	101.98%
9	Land	\$48,000	\$55,000	\$0	\$55,000	114.58%	-11%	\$48,950	101.98%
13	Land	\$39,500	\$45,000	\$0	\$45,000	113.92%	-11%	\$40,050	101.39%
15	Land	\$40,000	\$45,000	\$0	\$45,000	112.50%	-11%	\$40,050	100.13%
Median						113.21%			100.76%
Average						112.33%			99.97%
AAD						2.03%			1.81%
COD						1.80			1.80

-11% Land Factor Applied



Ratio Testing: Reconciled

Sale No	Sale Type	Sale Price	Land Appraised	Building Appraised	Total Appraised	Sale Ratio	Land Influence Factor	New Land Value	New Total Value	New Ratio
1	Land	\$42,500	\$45,000	\$0	\$45,000	105.88%	-11.00%	\$40,050	\$40,050	94.24%
2	Improved	\$330,000	\$55,000	\$262,000	\$317,000	96.06%	-11.00%	\$48,950	\$310,950	94.23%
3	Improved	\$301,000	\$55,000	\$245,000	\$300,000	99.67%	-11.00%	\$48,950	\$293,950	97.66%
4	Improved	\$260,000	\$45,000	\$219,900	\$264,900	101.88%	-11.00%	\$40,050	\$259,950	99.98%
5	Land	\$40,000	\$45,000	\$0	\$45,000	112.50%	-11.00%	\$40,050	\$40,050	100.13%
6	Improved	\$288,000	\$45,000	\$231,000	\$276,000	95.83%	-11.00%	\$40,050	\$271,050	94.11%
7	Improved	\$257,500	\$45,000	\$216,770	\$261,770	101.66%	-11.00%	\$40,050	\$256,820	99.74%
8	Land	\$48,000	\$55,000	\$0	\$55,000	114.58%	-11.00%	\$48,950	\$48,950	101.98%
9	Land	\$48,000	\$55,000	\$0	\$55,000	114.58%	-11.00%	\$48,950	\$48,950	101.98%
10	Improved	\$284,000	\$45,000	\$218,000	\$263,000	92.61%	-11.00%	\$40,050	\$258,050	90.86%
11	Improved	\$279,900	\$45,000	\$232,000	\$277,000	98.96%	-11.00%	\$40,050	\$272,050	97.20%
12	Improved	\$253,000	\$45,000	\$224,000	\$269,000	106.32%	-11.00%	\$40,050	\$264,050	104.37%
13	Land	\$39,500	\$45,000	\$0	\$45,000	113.92%	-11.00%	\$40,050	\$40,050	101.39%
14	Improved	\$298,000	\$55,000	\$248,000	\$303,000	101.68%	-11.00%	\$48,950	\$296,950	99.65%
15	Land	\$40,000	\$45,000	\$0	\$45,000	112.50%	-11.00%	\$40,050	\$40,050	100.13%
16	Improved	\$275,000	\$55,000	\$240,000	\$295,000	107.27%	-11.00%	\$48,950	\$288,950	105.07%
17	Improved	\$305,000	\$55,000	\$254,000	\$309,000	101.31%	-11.00%	\$48,950	\$302,950	99.33%

-11% Land Factor Applied

Median	101.88%	99.74%
Average	104.54%	98.94%
AAD	5.87%	2.81%
COD	5.76	2.82



2015 Manual

- First major overhaul since 1995
- Cost curve shift
 - Fast Food & Convenience Stores
 - Duplex
 - Other Commercial High Partition
- Concept of make average really mean average
- Implemented on reappraisal schedule



2015 Manual Implementation

- Query county data to get a “snapshot” of what everything looks like
- Convert to the 2015 Manual
- Compare values from one year to the next to catch conversion errors
- Run queries to check for items with zero unit value
 - Would indicate no value is assigned to that code



2015 Manual Implementation

- Know what codes you have active
- Some codes will require a best-fit judgement call;
 - Miscellaneous structure living area
- Run an analysis on commercial classing to determine need of review
- Do not count on your vendor to catch errors



2015 Manual

- Corrections to make now
 - Seawalls
 - Floodlights as extra features
 - Lube pits as misc. imp
 - Dryer hookups (PL_0041) all to dryer vent (PL_0014)
 - Brass floor drains (PL_0016) to floor drain (PL_0015)
 - Commercial classing changes
 - Normalize conditions



Conclusion

- Querying and data analysis should be an integral part of your process
- We owe it to the taxpayer to have quality data in our systems, and it is up to us to ensure that we do.