REAL-WORLD ADJUSTMENTS

WALITT SOLUTIONS

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DATA-BASED
ADJUSTMENTS

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Have you ever said...?

- "It's a rule of thumb."
- "Standard adjustment used by appraisers."
- "Based on personal experience."
- "Applied a conservative 5% adjustment."
- ...

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Scrutiny is at an all-time high

- Multiple recognized methods
- Data-based analytics & statements
- Retention of research

5

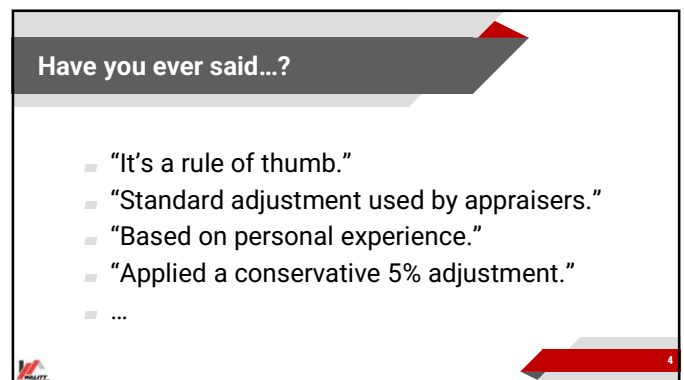
Expectations

- IAEG
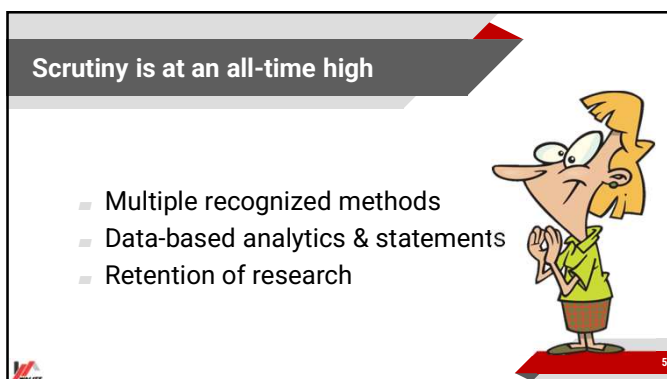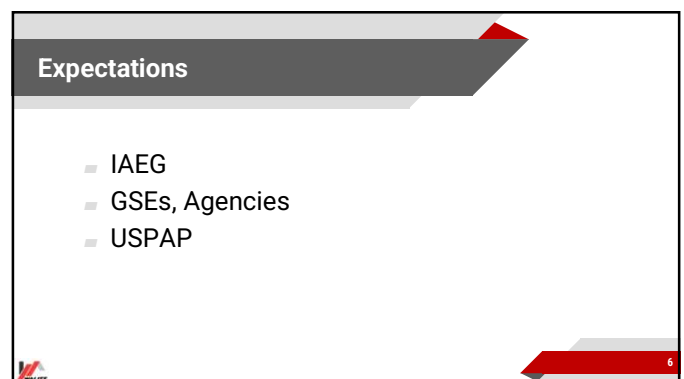- GSEs, Agencies
- USPAP

6

USING EXCEL
TRENDS, PAIRS, RESALES

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RESEARCH DATABASE

- Land values
- Sales verifications
- Paired groups
- Paired sales
- Construction costs
- Regression models
- *...what else...?*

Keep a running database of comps you discover.

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PAIRED GROUPS
Quality of Construction

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PAIRING GROUPS OF SALES

Matching exact features for paired sales can be difficult or impossible

Pairing groups of sales is an extension of the paired sales method

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SET YOUR PROPERTY POOL

Set your goal and input search parameters.

Data	Criteria
Property Type:	IN Single Family
Property Status:	IN Sold
# Bedrooms:	Between 3 and 3
Area:	IN 'SE Grand Junction'
Total Acres:	Less than or equal to .25
Year Built:	Between 1990 and 2010
Total Apx SqFt:	Between 1600 and 2000
Garage Capacity:	Between 2 and 2
Construction:	NOT LIKE Modular AND NOT LIKE Manufactured
Selling Date:	BETWEEN 08/01/2015 AND 8/11/2016

EXAMPLE GOAL:

FIND % ADJUSTMENT FOR QUALITY

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CREATE TWO GROUPS

- Review the details of each sale
- Remove inappropriate sales
- Group by your target goal (i.e. quality, garages, basement, GLA etc.)

Calculate the average unit measurement (i.e. sales price or $/sf) of each of the two groups.

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COMPARE THE GROUPS

GROUP 1	GROUP 2
Quality A	Quality B
$233,750	$204,500
$123.35 per sq.ft.	$109.01 per sq.ft.

QUALITY ADJUSTMENT ESTIMATE
12.50% - 14.3% | 11.63% - 13.15%

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PAIRED GROUPS
Garage

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ARE YOU PAIRING SALES

Type	Closing Date	Area	Sq. Ft.	Acres	Year Built	Garage Type	G. Cap	Style	BR	BA	Price
Single Family	12/18/2019	NE Grand Junction	1836	0.37	1981	Attached Garage	2	Ranch	3	2	$267,500
Single Family	6/28/2019	NE Grand Junction	1839	0.18	2000	Attached Garage	2	2 Story	3	3	$270,000
Single Family	1/10/2020	NE Grand Junction	1800	0.22	1997	Attached Garage	2	Ranch	3	2	$275,900
Single Family	4/1							/Ba	4	2	$278,000
Single Family	10/24		1877		00				3	2	$280,000
Single Family	5/10/2019	NE Grand Junction	1844	0.19	1996	Attached Garage	2	Ranch	4	2	$281,05
Single Family	3/20/2019	NE Grand Junction	1807	0.23	2006	Attached Garage	2	2 Story	4	2	$282,000
Single Family	8/26/2019	NE Grand Junction	1816	0.24	1998	Attached Garage	2	Ranch	3	2	$284,500
Single Family	7/23/2020	NE Grand Junction	1826	0.21	1978	Attached Garage	2	2 Story	3	3	$285,000
Single Family	4/21/2019	Grand Junction City	1808	0.29	2004	Attached Garage	3	Ranch	3	2	$287,000
Single Family	3/13/2020	NE Grand Junction	1826	0.1	2007	Attached Garage	2	2 Story	4	3	$288,000
Single Family	3/28/2019	NE Grand Junction	1826	0.2	2012	Attached Garage	2	Ranch	4	2	$290,000
Single Family	6/19/2020	NE Grand Junction	1844	0.19	1996	Attached Garage	2	Ranch	2	2	$290,000
Single Family	3/16/2020	NE Grand Junction	1856	0.16	2017	Attached Garage	3	Ranch	4	2	$292,500
Single Family	2/28/2019	NE Grand Junction	1856	0.22	2006	Attached Garage	3	Ranch	3	3	$293,000
Single Family	1/13/2020	NE Grand Junction	1835	0.26	1982	Attached Garage	2	Ranch	3	2	$295,000
Single Family	10/16/2020	SE Grand Junction	1816	0.15	2006	Attached Garage	2	2 Story	4	3	$295,000
Single Family	5/28/2020	NE Grand Junction	1811	0.12	2019	Attached Garage	2	2 Story	4	2	$297,000
Single Family	8/15/2019	NE Grand Junction	1811	0.12	2019	Attached Garage	2	2 Story	4	2	$297,100
Single Family	7/11/2019	NE Grand Junction	1860	0.16	2006	Attached Garage	3	Ranch	3	2	$299,000
Single Family	4/5/2019	Grand Junction City	1825	0.21	2006	Attached Garage	3	Ranch	4	2	$299,500

Narrow your database

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ARE YOU PAIRING SALES

Closing Date	City	Area	Subdivision	Year Built	Sq. Ft	Acres	BR	BA	Sold Price	Gar. Cap
1/28/2021	Grand Junction	SE Grand Junction	Chatfield 2	2005	1646	0.19	3	3	$295,000	2
11/13/2020	Grand Junction	SE Grand Junction	Chatfield 2	2005	1625	0.18	3	2	$301,250	2
11/12/2020	Grand Junction	SE Grand Junction	Chatfield 3	2005	1580	0.15	3	2	$314,900	2
								MEDIAN	$301,250	
11/9/2020	Grand Junction	SE Grand Junction	Chatfield 2	2005	1594	0.16	3	2	$320,000	3
						MEDIAN DIFFERENCE			$18,750	
						VALUE RANGE			$5,100 - $25,000	

- Find homogenous areas
- Similar features (age, lot size, BR, BA, basement)
- Solve for the differing feature

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EVALUATE MEANINGFUL DATA

Closing Date	City	Area	Subdivision	Year Built	Sq. Ft	Acres	BR	BA	Sold Price	Gar. Cap
1/28/2021	Grand Junction	SE Grand Junction	Chatfield 2	2005	1646	0.19	3	3	$295,000	2
11/13/2020	Grand Junction	SE Grand Junction	Chatfield 2	2005	1625	0.18	3	2	$301,250	2
11/12/2020	Grand Junction	SE Grand Junction	Chatfield 3	2005	1580	0.15	3	2	$314,900	2
								MEDIAN	$301,250	
11/9/2020	Grand Junction	SE Grand Junction	Chatfield 2	2005	1594	0.16	3	2	$320,000	3
						MEDIAN DIFFERENCE			$18,750	
						VALUE RANGE			$5,100 - $25,000	

- Too small a selection of grouped data to use the median?
- Examine each sale to analyze differences.

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SAVE YOUR RESULTS

DOCUMENT	DATE	FEATURE 1	FEATURE 2	AREA 1	SUBDIVISION	METHOD	NOTES	CONCLUSION
20210429	4/29/2021	GARAGE		SE GJ	CHATFIELD	PAIRD	# 3-car med = $340,000; # 2-car med - $295,000. Specifically similar sq. ft. MLS #, #, #, # compared to MLS #, #, indicating range $5,000 to $25,000.	Pairing specific sales from those groups supports a garage bay adjustment of $5,000 adjustment between 2- and 3-car garages with properties averaging 1,600-1,700 sq ft. constructed in 2005

Pairing specific sales from those groups supports a garage bay adjustment of $5,000 adjustment between 2- and 3-car garages with properties averaging 1,600-1,700 sq ft. constructed in 2005.

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PAIRED SALES
Garage, Sq.Ft., Quality

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PAIRED SALE PROCESS

To derive market-based adjustments from paired sales, we must...

1 Identify reasonably similar sales from the market.

2 Ignore the variables (i.e. features or characteristics) that are similar.

3 Equalize by isolating one variable, by applying to one of the sales known adjustments for other differing features.

4 Solve for the isolated feature.

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PAIRED SALES

Most easily-understood and recognized concepts

If one characteristic, between at least two property sales, is isolated, then the difference in prices between those two sales equals the value associated with that characteristic.

- Comps in the report
- Sales not used as comps

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EXAMPLE – QUALITY, GARAGE, SQ.FT.

In this example, all the adjustments we need can be derived by pairing the sales shown as comps below.

	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Room counts	3-2	3-2	3-2	3-2	3-2
Quality	Avg	Avg	Avg	Avg	Avg
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

Isolate one variable at a time.

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Room counts	3-2	3-2	3-2	3-2	3-2
Quality	Avg	Avg	Avg	Avg	Avg
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

All of the sales have the same room counts and the same quality as each other.

Thus, we can remove those from this paired sales study.

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

Comps #1 and #2 have nearly the same GLA and other characteristics, but their garages vary.

Let's focus on these two comps.

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		1	2	
Sold Price		$120,000	$110,000	
GLA		1300 sf	1340 sf	
Condition		Avg	Avg	
Garage		2 car	1 car	
Age		27 yr	19 yr	

Comp #2 is slightly larger and slightly newer, but is generally the same as comp #1 - other than the garage.

Therefore, a second garage bay might be worth:

$120,000 - $110,000 = $10,000

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

What other adjustments can we extract?

2nd Garage Bay
$10,000

Remember, sometimes we pair sales we're not using in the grid, to support or derive additional conclusions.

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

Comps #1 and #4 are similar, other than their GLA.

Let's focus on these two comps.

2nd Garage Bay
$10,000

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		1		4
Sold Price		$120,000		$140,000
GLA		1300 sf		1800 sf
Condition		Avg		Avg
Garage		2 car		2 car
Age		27 yr		25 yr

Comps #1 and #4 sold with a $20,000 difference, with the only apparent difference being 500 sq.ft. GLA.

Therefore, price per sq. ft. of GLA is worth: $20,000 / 500 = $40 per sq. ft. GLA.

2nd Garage Bay
$10,000

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

Whenever possible, have more than one paired sale supporting an adjustment rate conclusion.

Comps #2 and #4 are similar but differ in terms of **two** characteristics.

2nd Garage Bay
$10,000

$/SF GLA=$40

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		2		4
Sold Price		$110,000		$140,000
GLA		1340 sf		1800 sf
Condition		Avg		Avg
Garage		1 car +10,000		2 car
Age		19 yr		25 yr
		= $120,000		

Since we've derived the garage adjustment, let's apply it to comp #2

Then we can pair them to test our per-sq.ft. GLA adjustment rate.

2nd Garage Bay
$10,000

$/SF GLA=$40

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		2	4
Sold Price		$110,000	$140,000
GLA		1340 sf	1800 sf
Condition		Avg	Avg
Garage		1 car +10,000	2 car
Age		19 yr	25 yr
		= $120,000	

Remember the theory behind paired sales…

If **one** characteristic, between at least two property sales, **is isolated**, then the difference in prices between those two sales equals the value associated with that characteristic.

2nd Garage Bay $10,000

$/SF GLA=$40

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		2	4
Sold Price		$110,000	$140,000
GLA		1340 sf	1800 sf
Condition		Avg	Avg
Garage		1 car +10,000	2 car
Age		19 yr	25 yr
		= $120,000	
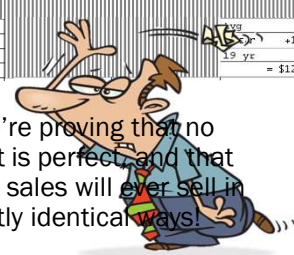
By applying the $10,000 garage adjustment, we've isolated one characteristic – the GLA.

There is now a $20,000 difference in sales price, indicating that a per-sq.ft. rate:

$20,000 / (1800 sf - 1340 sf) = $43.50

2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50

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2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50

ARE WE WRONG?

No, we're proving that no market is perfect and that no two sales will ever sell in perfectly identical ways!

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Room counts	3-2	3-2	3-2	3-2	3-2
Quality	Avg	Avg	Avg	Avg	Avg
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

REMEMBER THIS

At this point, we're just pairing sales and noting our findings for future application.

We're not adjusting comps for the report yet!

2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50

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		2	3
Sold Price		$110,000	$155,000
GLA		1340 sf	2030 sf
Condition		Avg	Gd
Garage		1 car	1 car
Age		19 yr	15 yr

We need to find out the contributory value associated with "good" condition compared to "average" condition.

We can isolate the condition variable, equalizing comps #2 and #3 in terms of their GLA difference.

2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50

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		2	3
Sold Price		$110,000	$155,000
GLA		1340 sf +27,600	2030 sf
Condition		Avg	Gd
Garage		1 car	1 car
Age		19 yr	15 yr
		= 137,600	

Let's use the $40 per sf. rate because it was derived from properties that were more similar to each other than the $43.50.

Therefore: $155,000 - $137,600 = $17,400 for Good vs. Average condition

2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50
Gd vs Avg=17,400

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		3	4
Sold Price		$155,000	$140,000
GLA		2030 sf	1800 sf +9,200
Condition		Gd	Avg
Garage		1 car	2 car -10,000
Age		15 yr	25 yr
			= 139,200

Let's solve for condition again. We can isolate the condition variable in comps #3 and 4, by making reasonable adjustments to Comp #4.

Therefore: $155,000 - $139,200 = $15,800 for Good vs Average condition

2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50
Gd vs Avg=17,400
Gd vs Avg=15,800

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf	1340 sf	2030 sf	1800 sf
Condition	Avg	Avg	Avg	Gd	Avg
Garage	1 car	2 car	1 car	1 car	2 car
Age	25 yr	27 yr	19 yr	15 yr	25 yr

Did you notice we haven't had "perfect" or "ideal" matches to pair together?

We needed to first "equalize" the sales, using reasonable market-based adjustment rates, before finally solving for the one isolated characteristic.

That's okay! You'll rarely find exact matches!

2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50
Gd vs Avg=17,400
Gd vs Avg=15,800

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	Subject	1	2	3	4
Sold Price		$120,000	$110,000	$155,000	$140,000
GLA	1800 sf	1300 sf +20,000	1340 sf +18,400	2030 sf -9,200	1800 sf
Condition	Avg	Avg	Avg	Gd -16,000	Avg
Garage	1 car	2 car -10,000	1 car	1 car	2 car -10,000
Age	25 yr	27 yr	19 yr	15 yr	25 yr
		=$130,000	=$128,400	=$129,800	=$130,000

We've derived enough adjustments to now adjust the comps relative to the subject and calculate adjusted values for the report!

Take a look and run your own numbers.

2nd Garage Bay $10,000

$/SF GLA=$40
$/SF GLA=$43.50
Gd vs Avg=17,400
Gd vs Avg=15,800

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PAIRED SALES
Location

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EXAMPLE - LOCATION
Now we'll look at an example related to solving for a locational externality.

We'll have to address:
- No exact matches to include as comps.
- Date-of-sale adjustments.
- Locational adjustments related to
  - Negative externality, and
  - Location.

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- Sales are not really comparable.

- Some characteristics are not bracketed.

MOST COMMON *OUTCOMES* IN THE SCA

- Comps exceed distance guidelines
- Comps exceed timeframe guidelines.
- Large adjustments.

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EXAMPLE #2

The subject is located along the interstate.

The property to the east (right) is an active listing.

There are no recent sales found along the interstate.

It may make sense to include the listing as an additional comp in the report.

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15 months ago, there was a sale along the interstate.

Paired against similar dwellings that sold around the same time, but off of the interstate, reveals a 12% lower value (for location).

However, this property is also adjacent to two commercial properties which adds traffic on the road.

Thus, the subject's loss of value is considered lesser than this sale's loss of value.

Interstate adjustment indicated: less than 12% of sales price.

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Two similar houses sold, one on the exterior along a busy crossroad, and the other on the interior of a subdivision.
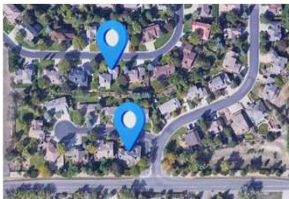
Pairing them indicates a loss of value associated with location at a rate of 5% of the price.

Their features differ from the subject's, so they won't be comps in the report. But nevertheless, we can cite and use the 5% as a basis of locational value differences.

Busy road/exterior adjustment indicated: 5% of sales price.

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This house recently sold at a busy intersection.

Due to its site size, age, and GLA, as well as being a recent sale with a negative externality, it will be a comp. But it sold in a different area of town.

Comparing sales of properties in different areas, the subject's area of town shows 4 - 7% higher values.

Location-of-Town adjustment indicated: 4% -7% of sales price.

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- The 15-month old interstate sale indicated that the subject's interstate location decreases value by less than 12%.
- The comparison of the interior- and exterior- properties indicated that an exterior location decreases value by 5%.

We will need to adjust any comps in our sales grid that don't have adverse locational externalities.

Using the above data, would it be reasonable to use a negative adjustment between 5% - 10%?

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The recent sale at the intersection, if included as a comp, would **not** need an adverse location adjustment, since it is located at a busy intersection.

Nevertheless, we **would** need to adjust it for its location in a different part of town, at a rate of approximately 4% - 7%.

To derive an area or area-of-town adjustment:

- Pair individual sales from around the area
- Compare median prices of similar pools of sales from each area

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Slide 49 — WITH ANY ADJUSTMENT, ASK YOURSELF:

- Is it reasonable and logical?
- Is it market-based?
- Have I summarized my logic and reasoning?

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Slide 50 — PAIRED RESALES

Condition, Market Condition

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Slide 51 — ARE YOU STUDYING RESALES?

Resale Indentification Report

List Date	List Price	Closing Date	Sold Price	Year Built	Address	Unit #	Year Remodeled	Sale Type	MLS Nur
28	27	6	68	12		2	30	19	16
List Date	List Price	Sold Date	Sold Price	UserSelectedOpti	UserSelectedOption2	UserSelectedOpti	UserSelectedOpti UserSelectedOpti	UserSel
10/23/2018	179,000	3/15/2019	183,000	2008		D-6	0	N/A	2018590
6/28/2018	185,000	4/30/2020	185,000	1971		0	0	N/A	2018370
9/6/2018	189,500	6/5/2019	187,000	1923		0	0	N/A	2018637
3/25/2019	188,000	5/31/2019	188,000	1976		0	0	N/A	2019145
8/24/2020	185,000	11/20/2020	189,500	1908		0	0	N/A	2020424
7/15/2020	219,900	1/22/2021	190,000	1951		0	0	N/A	2020347
5/9/2019	219,900	7/5/2019	200,000	1955		0	2007	N/A	2019263
3/20/2019	200,000	5/10/2019	200,000	1977		0	0	N/A	2019255
6/29/2018	234,900	8/2/2019	234,900	1940		0	0	N/A	2018372
11/28/2018	240,000	4/12/2019	235,000	1926		0	0	N/A	2018641
5/31/2019	269,000	6/28/2019	258,500	1953		0	0	N/A	2019299
5/13/2020	259,000	6/24/2020	259,000	1978		0	0	N/A	2020224
1/21/2019	265,000	2/22/2019	265,000	1946		0	0	N/A	2019024
8/15/2019	267,500	12/9/2019	265,500	1960		0	2019	N/A	2019467
4/5/2019	275,000	5/24/2019	267,500	1978		0	0	N/A	2019168
11/6/2019	267,500	12/18/2019	267,500	1981		0	0	N/A	2019621

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Slide 52 — IDENTIFY RESALES

- Identify resales using excel or other tools
- Market conditions
- Physical condition
- Excel to identify resales

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Slide 53 — REGRESSION

Various Characteristics

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Slide 54 — WARNING!

Keep this in mind:

- This course is **not a statistics class**. So, you are encouraged to take other courses that focus solely on regression.
- In this course, we will look at an **overview of regression** analysis and how we can apply the results to our appraisal work.
- We will **not focus on how to operate particular software** products.

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REGRESSION ANLAYSIS

helps tell us...

Based on this pool of sales:

- *which characteristics contribute to price*

- *how much do they contribute?*

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REGRESSION MODEL EXAMPLE

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Slide 57

REGRESSION ANALYSIS

- **Predict** sale price of a property
- **Identify** which variables impact price
- **Derive** supported adjustments

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EXAMPLE – VARIOUS CHARACTERISTICS
Pool of data exported from my MLS system

SEARCH CRITERIA
- 24-months of past sales
- South Fruitvale area
- Residential single-family, stick-built

VARIABLES TO STUDY
- GLA
- Garage
- Age
- Distress Sale

"Wide" search criteria so regression model can estimate how value changes as the variables change

Regression needs data variation data to work

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Based on the sales pool, regression predicts the sales price (*dependent variable*) by assigning the most-likely multiplier/rate (*coefficient*) for each of the selected property characteristics (*independent variables*) and adding the base value (*intercept*).

Independent Variables	Variable	Link	Recognized Points	Type	Dummy Value	Coeffecient
1 GLA	Total Apx SqFt		413	Value	#	64.77
2 Garage	Garage Capacity		413	Value	#	11,529.89
3 Age	Age		413	Value	#	(776.53)
4 Distress	Sale Type		0	Dummy	UD#REO#Short Sal	(31,366.76)
R Squared	0.750		Intercept			60,164.03

In this example, the model correctly predicts the actual sales prices of the 413 sales with an R-squared rate of 75%, which is a measure of the "fit" of the model.

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Independent Variables	Variable	Link	Recognized Points	Type	Dummy Value	Coeffecient
1 GLA	Total Apx SqFt		413	Value	#	64.77
2 Garage	Garage Capacity		413	Value	#	11,529.89
3 Age	Age		413	Value	#	(776.53)
4 Distress	Sale Type		0	Dummy	UD#REO#Short Sal	(31,366.76)
R Squared	0.750		Intercept			60,164.03

Sale Price = 60,164.03+ 1,400(64.77) + 2(11,529.89) + 10(-776.53) + 0(-31,366.76)

SUBJECT	MODEL	STEPS IN THE FORMULA
	60,164.03	Start with the base value
1,400 x	64.77	Add the value for each SF of GLA
2 x	11,529.89	Add the value for each garage bay
10 x	-776.53	Subtract the value for each year of age
0 x	-31,366.76	Subtract if a distress
$166,141		**Predicted sales price**

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Slide 61

Variable	Type	Generated Coeffecients	Pvalue	User Coeffecient	Input Value		
Intercept		60,164.03	0.00%	60,164.03	1		
GLA	Value	64.77	0.00%	64.77	1400	Forecast	$ 166,141
Garage	Value	11,529.89	0.00%	11,529.89	2		
Age	Value	(776.53)	0.00%	(776.53)	10		
Distress	Dummy	(31,366.76)	0.00%	(31,366.76)	0		

Coefficients are the ones from the model

Input characteristics of a property to predict its price or test the model

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Independent Variables	Variable	Link	Recognized Points	Type	Dummy Value	Coeffecient
1 GLA	Total Apx SqFt	413	Value	#		64.77
2 Garage	Garage Capacity	413	Value	#		11,529.89
3 Age	Age	413	Value	#		(776.53)
4 Distress	Sale Type	0	Dummy	UD#REO#Short Sal		(31,366.76)
R Squared	0.750		Intercept			60,164.03

We can conclude:

- In this market, properties that sell as distress sales, sell approximately $30,000 less than non-distress sales.

We could convert that to a percentage.

Do you think regression could help derive a market-basis for a reasonable adjustment to comps?

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Slide 63

REGRESSION

Appraisers evaluate the regression model.

Model returns a $30,000 coefficient for a distress sale.

- Is the coefficient 100% attributed to the distress stigma?
- Could the coefficient be reflecting physical condition?

Verify transaction details before making any adjustments.

Variables (i.e. property characteristics) may be inter-related.
Regression analysis only reports data, it does not use human judgement or apply outside analysis.

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REGRESSION

Appraisers evaluate the regression model.

Model returns a GLA rate of $64.77. **The appraiser is not required to use the regression rates.**

- What if quality wasn't included as a variable?
- Is it possible that larger houses in that market tend to have better quality materials and are otherwise "higher-end"?

Is that $64.77 partly attributed to size differences and partly to material differences?

Appraisers must remain in control of their process.

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REGRESSION – MARKET CONDITIONS

Using a variable to represent the number of days since the sale, the model can assign the statistically likely impact:

"In this market, subtract $55.76 for each day that has passed since the sale."

This could help support market trend conclusions and adjustments for older "dated" comps.

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Slide 66

- Regression modeling

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GRAPHS & TOOLS
Market Conditions

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TIME-SERIES TRENDS

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TIME-SERIES TRENDS

Special thanks to Lane Duplechin for this example!

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YEAR-OVER-YEAR ANALYSIS

Market Trends			
	July-20	July-21	Change
	8/1/2019 7/31/2020	8/1/2020 7/31/2021	
Year over Year Data (based on Sold Date)			
Median Sold Price	$200,000	$213,000	6.5%
Average Sold Price	$199,284	$213,054	6.9%
Average Price per Sq Ft	$133	$140	4.9%
Closed Sales	71	80	12.7%
Days on Market (CDOM)	56	27	-50.6%
Average Sq Ft	1,496	1,526	2.0%

Special thanks to Lane Duplechin for this example!

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QUARTER-TO-QUARTER ANALYSIS

Special thanks to Brad Steinman for this example!

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TREND IN SALE PRICE

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TREND IN SALE PRICE / SQUARE FOOT

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TREND IN DAYS ON MARKET

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ARE YOU TRENDING DATA?

Step 1: Create your database

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- Scatter plotting in Excel

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FORMULA TO CALCULATE CHANGE

$$\frac{\text{Ending Value} - \text{Starting Value}}{\text{Start Value}} = \text{Percent Change}$$

$$\frac{\$251,000 - \$220,000}{\$220,000} = .141$$

Extracting percent-change is necessary for time/date (market-condition) adjustments.

14.1 Percent Change ÷ 24 Months = .588 Change per Month

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Graphs and charts aid the appraiser – but also the client.

Analysis tools are available or you can create your own.

KEEP IN MIND

Charts and graphs are not analysis; they are only supportive data.

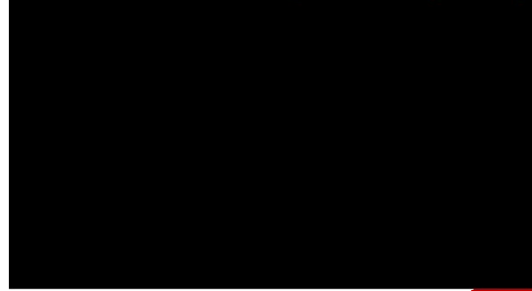You are responsible for the analysis, conclusions and summary in the report.

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Scatter Graph: Sales Price/Time

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Scatter Graph: Price per Sq. Ft.

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Google — freddie mac house price index

| www.freddiemac.com/research/indices/house-price-index.page

Freddie Mac House Price Index (FMHPI℠)

Explore House Price Trends

Review national housing statistics and compare to additional states or metros as of June, 2021

● United States

COMPARE A STATE OR METRO ›

House Price Index

240.1 ∧ 5.60% 1 Quarter
∧ 19.04% 1 Year
(Dec 2000 = 100)

Historical Comparison

∧ **96.8%**
Above Jan 2008 to current minimum

∧ **45.3%**
Above pre-2008 peak

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FEDERAL HOUSING FINANCE AGENCY

Google — FHFA Housing Index Calculator

https://www.fhfa.gov/DataTools/Tools/Pages/HPI-Calculator.aspx

FHFA HPI CALCULATOR

State	∨
Available MSAs (Optional)	∨
Purchase Quarter	∨
Valuation Quarter	∨
Purchase Price	Purchase Price

Clear   Calculate

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SUMMARIZE IN THE REPORT

▬ Appraisal methods and techniques employed including information analyzed and the supportive reasoning

   ▹ Adjustments

   ▹ Market conditions

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SUMMARIZE ADJUSTMENTS

▬ **SUPPORT & RATIONALE** for large and significant adjustments

▬ **SUPPORT** for market condition (aka, date/time-of-sale) adjustments in declining or increasing markets

▬ **NOT ACCEPTABLE:**

   ▹ "Experience" without factual support

   ▹ Laundry list of possible, likely, or typical methods that might have been used

   ▹ Contradictions (e.g., increasing market but no adjustments)

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MARKET CONDITIONS
HUD Handbook 4000.1

- Analyze at least 12 to 24 months.
- No standard industry definition for "declining market."
- Signs of a declining market include **declining prices**, **extended marketing times** and **oversupply**.
- Include a summary commentary and necessary support.

Can you determine if this a
continuing trend, or is it changing?

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MARKET CONDITIONS
APB Valuation Advisory 3: Residential Appraising in a Declining Market

136	**Recognizing the characteristics of a declining market** – Most appraisers can identify the
137	indicators of a declining market. However, many have trouble interpreting the indicators and
138	then deciding when the indicators lead to a conclusive identification of a declining market.
139	Some characteristics of a declining market are as follows:
140	• Oversupply of competing properties (i.e., demand and supply are out of balance).
141	• Extended marketing times for active, pending and closed sales.
142	• Prior listings of the subject that reflect list prices notably higher than the current
143	contract, sale price or value.
144	• Prior sales of the subject and/or comparables that reflect higher prices than current
145	prices.
146	• Decrease in sale prices as a percent of list prices.
147	• Increase in REO listings in neighborhood.
148	In most cases, one of these characteristics alone is not an indication of a declining market,
149	but the presence of several indicators may be a strong indication that the market is in decline.

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MARKET CONDITIONS
APB Valuation Advisory 3: Residential Appraising in a Declining Market

- Lists indicators that may be a sign of a declining market.
- One indicator alone is not a signal of a declining market.
- A simple statement of "declining," "increasing," or "stable" is not enough; the appraiser must explain the conditions that lead to the conclusion.

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MARKET CONDITIONS - RECAP

There are no set definitions for "Stable," "Increasing," or "Decreasing" trends.

- Review and report the behavior of the indicators
- In the context of the market, discuss whether those trends are considered positive or negative
- In the context of the data reviewed, reconcile and report your overall market-trend conclusions

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THANK YOU

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WALITT SOLUTIONS

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