

# MARKET VALUATION OF ENERGY EFFICIENCY AND GREEN CERTIFICATION OF PACIFIC NORTHWEST HOMES



*Robbi Currey, Principal  
Shamrock Appraisals*



# Project Scope

**TASK 1: IDENTIFYING MARKET TRENDS**

**TASK 2: ANALYZE CONTRIBUTORY VALUES**

**TASK 3: RESILIENCY OF PREMIUMS**

**TASK 4: CASE STUDIES ON EPS**

Update of 2009 GBVI study

Using results from 2009 case study



# HOMES INCLUDED IN THE STUDY

New Homes Sold between 2010 – 2014



**ENERGY STAR**

Idaho, Oregon, & Washington



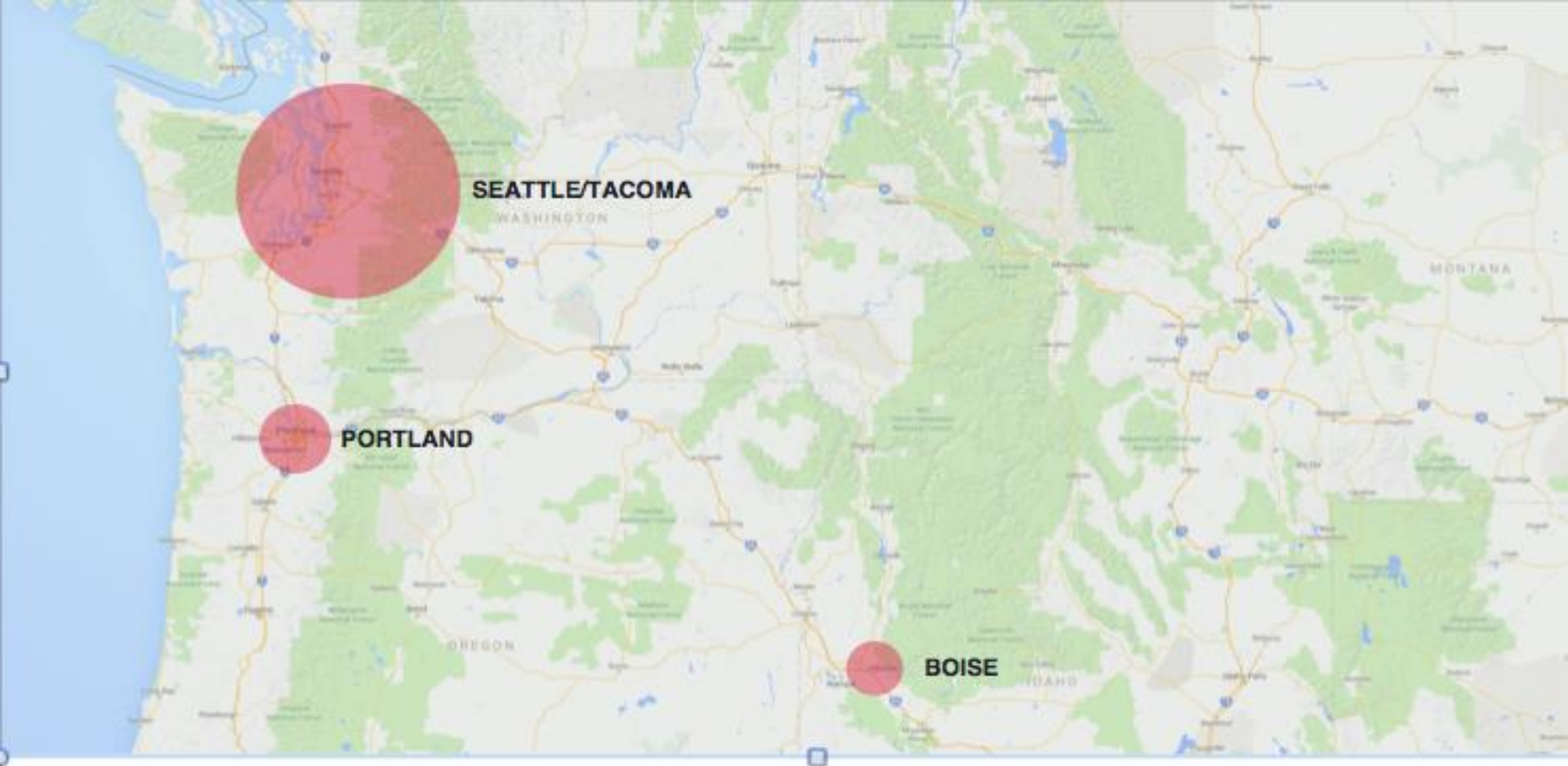
**BUILT GREEN**

Washington



**EARTH ADVANTAGE**

Oregon



**AREAS INCLUDED IN THE STUDY**

# STUDY REVIEW PANEL

Danny K. Wiley SRA - Past member of Appraisal Standards Board

Stephen O'Connor – University of Washington

Sandra Adomatis SRA- Appraisal Institute

Michael Brunson MAA - Past President at National Association of Appraisers

Gerald Mildner - Portland State University



# METHODOLOGY OVERVIEW

- Paired sales analysis method
  - standard practice in field appraisals (but not in appraisal valuation studies)
- Statistical model (and power study) was developed with Martin Brown for the 2014-2015 Energy Trust of Oregon valuation study
- Unique and accurate in its verification process and time of sale analysis
- *Designed to obtain buy-in from local real estate appraisers*
  - Appraisers are (rightly, it turns out) skeptical of regional or national results that are applied generally rather than to specific market areas



# METHODOLOGY OVERVIEW

- Statistical power analysis recommended 26 subject properties as minimum number (power standard of 0.8) = 26 subjects give us an 80% chance of detecting a medium-sized certification premium, if that premium does in fact exist.
- The team elected to use multiple comparable sales for *every* subject property





# METHODOLOGY

To make each comparable a more precise “control” for the subject property, we adjusted the sales price of the comparable according to the following rules:

- Square footage differences between the subject and comparable were valued at \$50-\$60 per square foot.
- Bathroom count differences between the subject and the comparable were valued at \$4000 per half-bath and \$8000 per full bath.
- Bedroom count differences between the subject and comparable properties were valued at \$4000 per bedroom.



# METHODOLOGY

Team selected subject properties that were as “typical” as possible:

- Manually reviewed and excluded following property types:
  - Homes with unique qualities relative to location and/or view
  - Homes with basements
  - Locations where multiple properties occurred on the same street (unless the sale dates were significantly different)
    - This was to avoid the over-weighting of one subdivision to the market



# METHODOLOGY

Some issues that impacted the number of subject properties for analysis:

- A significant number of distressed properties were either bank-owned (REO) or short sales
  - Typically wide variation in discounts
  - Subject properties were omitted due to this negative influence
  - Many comparable sales were not available for the same reasons



# METHODOLOGY

Some issues impacting selection of subject and comparable properties:

- There are fewer non-certified comparable sales to compare to the certified subject properties, especially in more urban locations closer to the city cores.
- In many cases for “infill” subject properties, all or nearly all available otherwise comparable sales are certified homes, and thus not available for isolation of the value of this element.



# WHY WE DID IT THIS WAY: ADVANTAGES

**Data integrity:** painstakingly verify accuracy of subject properties used in the analysis

- Reviewed MLS listings for accurate entries (NWMLS, RMLS, Intermountain MLS)
- Verified that subject properties were valid
- Removed invalid subject properties
- Scrubbed those remaining subject properties for “anomalous conditions”



# WHY WE DID IT THIS WAY: ADVANTAGES

**Time of sale adjustments:** more accurate than all other studies we're aware of

- Studies using large regressions take quarterly market increases or decreases and apply them.
- Time adjustments developed from neighborhoods or MLS area are how appraisers actually work.
- Searching for and finding a set of comparable sales for a particular subject property is also how residential appraisers work every day.



# METHODOLOGICAL APPROACH

**In summary:** A hugely expanded analysis using accepted residential appraisal techniques that has not been attempted before on this scale.

*Pro: More accurate, detailed, granular, local knowledge*

*Con: Initially labor intensive, limits potential pool of subject properties*

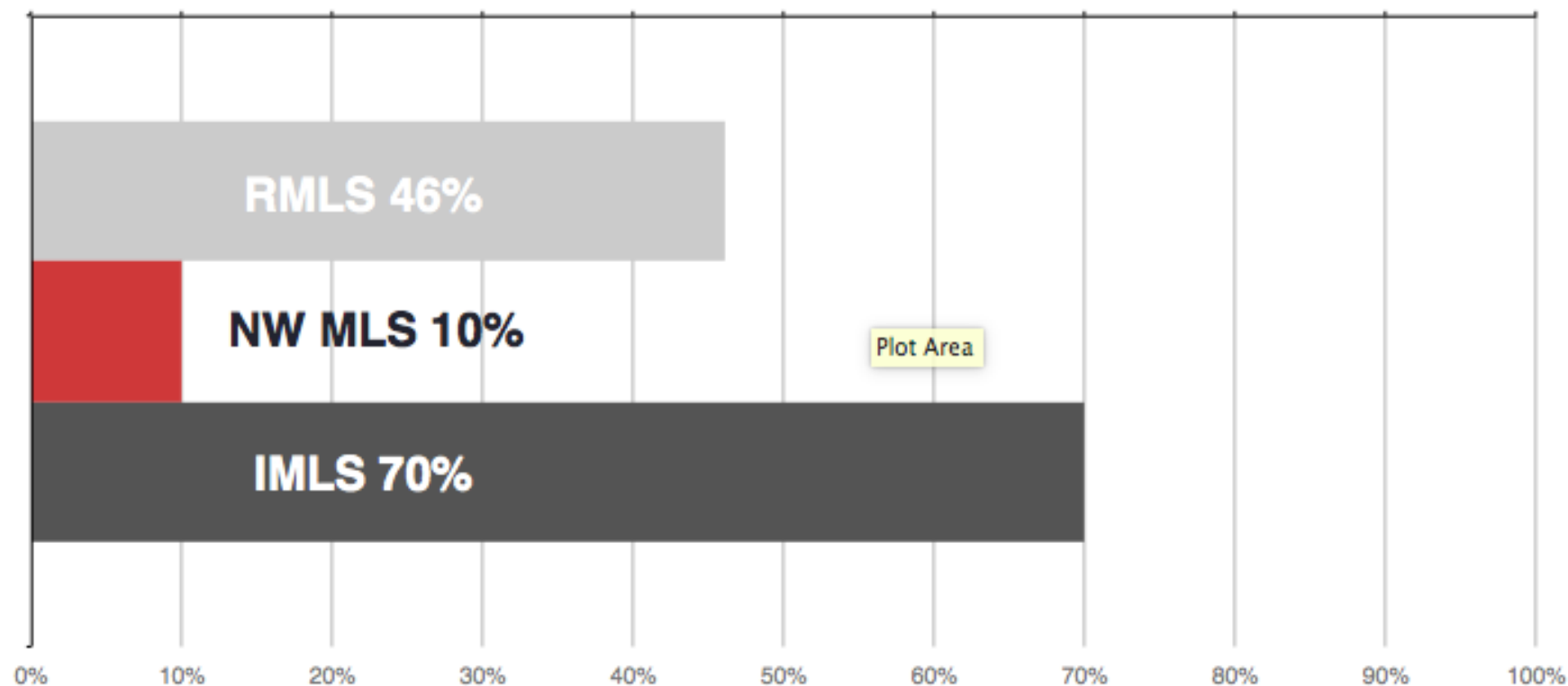




# FINDINGS



## ACCURACY OF NW LISTINGS – ENERGY STAR HOMES



## THE MARKET VALUATION OF ENERGY EFFICIENT/GREEN CERTIFIED NW HOMES

Geographic Area	Certification	Mean Premium (\$)	Mean Premium (%)	Statistically Significant Result
<b>State of Washington</b>				
Western WA - All Areas	ENERGY STAR	\$16,138	4.8%	YES
King County - All Areas	ENERGY STAR	\$25,276	6.3%	YES
King County - Suburban west side	ENERGY STAR	\$23,447	8.0%	YES
King County - Suburban east side	ENERGY STAR	\$27,175	4.5%	YES
Kitsap County	ENERGY STAR	\$16,821	7.4%	YES
Snohomish County	ENERGY STAR	\$4,752	1.4%	NO
Thurston County	ENERGY STAR	\$2,813	1.4%	NO
King County - All Areas	BUILT GREEN	\$19,192	4.7%	YES
King Co. - Suburban west & east	BUILT GREEN	\$12,652	2.8%	NO
King County - Suburban east side	BUILT GREEN	\$6,322	1.3%	NO
King County - Seattle Only	BUILT GREEN	\$28,327	7.6%	YES
<b>State of Oregon</b>				
Portland	ENERGY STAR	\$2	0.2%	NO
Portland	EARTH ADVANTAGE	\$3,240	1.2%	NO
<b>State of Idaho</b>				
Ada County	ENERGY STAR	\$11,206	4.5%	YES

# RESULTS – PUGET SOUND

Several areas in western Washington showed a significant positive market reaction to ENERGY STAR and Built Green certifications.

- ENERGY STAR in west side of King County: 8% premium
- ENERGY STAR in Kitsap County: 7.4% premium
- Built Green in Seattle: 7.6% premium



# RESULTS – PUGET SOUND

Other areas showed a marginal premium depending on the certification type.

- ENERGY STAR eastside of King County, WA: 4.5% premium,
- Built Green in the western and eastern suburban areas of King County, WA: 2.8% premium.

Also: ENERGY STAR homes in Ada County, Idaho (in and around Boise) showed a similar premium of 4.5%



# RESULTS – PUGET SOUND

Several WA areas showed no or little indication of a sales price premium associated with third party certifications.

- ENERGY STAR in Thurston County (1.4%)
- ENERGY STAR in Snohomish County (1.4%)
- Built Green in suburban King County (1.3%)



# RESULTS – ADA COUNTY

202 ENERGY STAR homes within the study GLA range had higher average list prices (+2.2%) and higher median list prices (+2.0%)

- ENERGY STAR in Ada County average sale price premium (+4.5%) and median sales price premiums (+2.7%)
- ENERGY STAR in Ada County on the market for 6 days longer
- ENERGY STAR in Ada County sold to list price ratios higher



# RESULTS - PORTLAND

- ENERGY STAR (-0.2%)
- Earth Advantage (1.2%) in Portland, Oregon
- A “sister” analysis of combined Earth Advantage and ENERGY STAR certifications in Portland, Oregon showed contributory values of 4.1%.



# FINDINGS: RESILIENCY OF PREMIUMS

- In at least one geographic location – a subdivision in Renton, Washington called Shamrock Heights – the contributory value of third party certification was found to carry over through the resale of those properties several years later.
- Compared sales premiums found in prior case study to 2010-2014 sales prices of those same homes when they were re-sold.





# FINDINGS

**Table 6: Summary Findings at Shamrock Heights**

<b>Year Resold</b>	<b>Number of Resales</b>	<b>Median Premium (\$/sq. ft.)</b>	<b>Median Difference – Sale Price to Original List Price (%)</b>
2010	2	4.40	+ 17
2011	2	6.77	-2
2012	2	15.16	+2.8
2013	3	21.58	+2.6
<b>TOTALS</b>	<b>9</b>	<b>11.9</b>	<b>+5.1</b>

# EPS CASE STUDIES

## APPENDIX F PAGES 67-90

*Table 1: Prevalence of verified Energy Performance Scores in Washington, on NWMLS*

Area	Number of Homes that received EPS	Number of EPS listings on NWMLS
Seattle	1968	7
Whatcom County (Bellingham)	540	2
Thurston County (Olympia)	646	0
Kitsap County	851	0



**FOLLOW UP QUESTIONS**  
**[ROBBI@SHAMROCKAPPRAISALS.COM](mailto:ROBBI@SHAMROCKAPPRAISALS.COM)**  
**360-561-8623**

