Department of Revenue Property Tax Division

Annual Revaluation Project Report

Valuation Area Delineation & Coding





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VALUATION AREA DELINEATION AND CODING

As part of the Department of Revenue's commitment to assist the assessment community, Washington State created the Annual Revaluation Project. The mission of this project is; to provide guidance and assistance to help cyclical counties successfully prepare for and convert to annual revaluation. In addition, for those counties that are currently operating under an annual revaluation plan, this project will provide support and encourage them to strengthen their practices and methods.

As part of our project, our team has conducted interviews in several counties. Some counties have indicated that they are looking for tools to use in the identification of valuation areas (sometimes called neighborhoods, districts, sub-areas, etc., neighborhood and valuation area are used interchangeably here) and how to code these areas for modeling and analysis. Text book data on these topics as they apply to mass appraisal practices is minimal. Therefore we gathered information from Washington counties regarding their practice and application of valuation area delineation and coding.

What follows are descriptions of how several counties delineated and coded their valuation areas and what advice they had to give to aid counties in this endeavor (italicized comments are direct quotes from the county). The objective is to provide ideas to enhance the ability for counties to effectively accomplish this task. During our interview process we realized nearly every county approached delineation and coding differently, there is no 'single' right way. We are listing several different ways from small to large counties in Eastern and Western Washington, so counties can choose, modify, and combine methods that they can adopt for their county. Explanations of acronyms are located at the end of the article.

We would like to thank the participating counties for their willingness to share the information with the rest of the assessment community.

Delineating Valuation Areas

Well defined valuation areas are expected to enhance the use of mass appraisal models as well as provide better utilization of staff resources. This allows for comparing areas and developing ratings which are utilized for modeling purposes. It enables the conducting of more efficient and useful ratio studies and other statistical analysis, which aids the assessor in ascertaining whether there is appraisal uniformity by area across the county. For example, Clark County produces a neighborhood profile which it uses to aid BOE and taxpayers in the appeals process. See attached profile – <u>1 Val Area-Clark nbhd profile/Clark NH PROFILE.xls</u>

A valuation area is defined by natural, man-made, or political boundaries. The different ways counties have delineated valuation areas include: MLS areas, inspection areas, market areas, zoning, use code, tax code area, homogenous economic areas, school districts, city boundaries, geographic boundaries, and section/township/range. So far most counties identify valuation areas differently. Some counties have separate valuation area layers for residential and commercial property, while others use the same valuation area for both. Some counties have market areas further divided by

neighborhoods which are further divided by sub-areas. Ideally valuation areas will be defined based on properties sharing similar economic influences.

Prior to delineation, an analysis should be conducted that considers – environmental (physical), economic, governmental, and social forces, supply and demand forces, life cycle stage (growth, stable, declining, or revitalization), and highest and best use. For neighborhood analysis, the appraiser should "analyze and discuss the relevant forces influencing the subject property". "In mass appraisal applications, the information can be useful for comparing or combining neighborhoods or for developing neighborhood ratings, which are introduced as adjustments in mass appraisal models." Real Property Assessment Year Two, 1998, UBC Real Estate Division, Ch 12, Pg 25.

According to the IAAO – "The boundaries of a neighborhood must be delineated for the purpose of analysis. Identification of the boundaries begins by considering the subject's surroundings and then moving outward from the subject. Influences that could affect the subject's value because of its location need to be identified. Once the assessor has extended the geographical search to the point that there are no longer any factors influencing the subject and surrounding properties, a boundary or a neighborhood can be drawn." They state "there are four forces, or sets of factors, to be considered in neighborhood analysis: environmental (physical), economic, governmental, and social. There are a number of factors in each of the four categories and many of these factors frequently change. The assessor's office should maintain a database on the factors affecting value within the jurisdiction and the various neighborhoods located in the jurisdiction." IAAO, Property Assessment Valuation, 2nd edition, p54–55.

Examples of How Counties Delineated Areas

Following are some of the ways counties indicated they delineated their valuation areas. They are not necessarily right or wrong, but the way that works for the specific county. What works in one county may not work for another county. We strived to provide enough variety so that any county wanting information in this area can refer to a similar county.

Clallam – "Residential: Each Reval Area is considered a primary neighborhood. Boundaries are determined by geological features, government boundary lines, or by Range, Township, and Section lines.

All waterfront and low/medium/high bank marine view properties, and properties in the near vicinity of a shoreline where marine view and marine influence are major marketing factors are designated as neighborhoods by shoreline type and location.

Most other neighborhoods are large plats, PUD's (planned unit developments), or areas that have owner associations of some kind. Plats and PUD's are coded when properties in them share basically the same amenities, costs (association and maintenance fees, etc.), and when similar market influences are apparent. Other areas are coded when the properties in them are subject to the same CC&R's or other agreements, and they show a unique or different market than surrounding properties.

Commercial: These are separated into five general market areas by city or town. Then they are further defined by location - in or by town-site or rural development areas, arterials, highways, UGA's, water frontage, and "big box" districts."

Clark – by economic grouping, often driven by school district boundaries.

Cowlitz – "They were established more than 20 years ago when we switched from a cyclical county to an annual county. The Chief Appraiser at the time apparently made the delineations using economic factors, as well as property use/type, and amenities. We have made adjustments over time and new areas are developed as new market areas reveal themselves through our sales analysis."

Franklin – "To set up the neighborhood areas, you have to know your market. I have been appraising in the tri-Cities for 18 years (8 with Franklin County). We set our neighborhood areas using our knowledge of the market area. We group competing properties located in an area with similar market influences (school, older portions of town, agricultural areas, riverfront, new subdivisions, proximity to jobs and shopping). After appraising Pasco several times, the staff, assessor and I know where the different neighborhoods are. We have discussed these issues during the proceeding revaluation cycles leading up to the transition to annual revaluation.

An example of our 100 inspection area:

Boundaries: Columbia River to the South, Road 48 to the West, Airport (Port ground) to the North and 14th Avenue to the East.

Neighborhoods: East of Hwy 395=Columbia River South, Hwy 395 West, I-182 North and 14th Ave to East. West of Hwy 395= Columbia River South, Road 48 West, Airport North and Hwy 395 East. Sun Willows = Residential Planned Unit Development surrounded by Sun Willows Golf Course. River Influence = Residential Properties fronting or with a view of the Columbia River."

King – "You may want to look at the area reports on our website. King County has about 88 residential areas, 20+ commercial and 15 commercial specialty areas. All of these have sub areas and neighborhoods delineated within them. It's all about defining market areas, whether it is investment office buildings or residential neighborhoods. Our appraisal units determine the market areas."

Kitsap – Kitsap has a neighborhood layer for commercial and a separate neighborhood layer for residential. This works well for them, since they don't have a lot of commercial properties. They have a third layer of commercial property with land valued as residential. Some of Kitsap's neighborhoods are dependent on UGA's – if the UGA changes then their neighborhoods change. Before Kitsap had GIS they didn't change their neighborhoods as often. GIS allowed them to better review where their neighborhood delineation should be. All of Kitsap's waterfront property is in its own neighborhood. All of Kitsap's condominiums are in their own neighborhood.

Kittitas – "In urban areas, we delineate market areas based on homogeneity of use and structures. In urban residential areas, we delineate market areas based on homogeneity of residence age and style. In many instances this coincides with plat groupings of similar age. In urban commercial areas, we group by freeway interchange, core downtown and non-core areas. In rural residential areas we delineate contiguous market areas with similar views, topography, school district, irrigation, and distance from services. In recreational areas we tend to group by plat or related plat groups, since sales studies show market delineation based on factors unique to each plat or plat group, and TerraScan only offers two fields for adjustments. In addition, TerraScan correlates building permits to neighborhoods (and the appraiser for that neighborhood),

so we have additional neighborhoods due to multiple appraisers in larger neighborhoods."

Klickitat – "*We have four reval areas and with about ten neighborhoods in each.*" Their neighborhoods are delineated by; timber less than 50 acres, timber more than 50 acres, small farm, large farm, rural residential, and residential. Neighborhoods are changed through time any time they see a trend change. They are separating timber and ag neighborhoods from residential neighborhoods.

Lewis – "We broke the county into four reval cycles and then looked for the neighborhood that was most alike in those cycles. We looked at quality of homes and how the homes sold. There are some neighborhoods that have neighborhoods within them as there are subdivisions that sell differently than the rest of the area. We have refined the codes and taken some away and added some in if they didn't fit the norm. Our county is a little weird in that zoning didn't take place until five years ago. You can have a mcmansion next to a mobile next to a farm next to industrial property. So, sometimes neighborhoods are labeled rural." Valuation area boundaries were established based on a variety of factors including; economics, sales, quality, historic districts, physical boundaries, and views.

Lincoln – They established valuation areas based on school districts.

Pierce – "Originally, the residential boundaries were defined using school districts, waterfront, man made or natural barriers (rivers/major highways) and large developments, etc. Parcel count was also a factor in this process. Since implementation of our new CAMA we have continued to define our boundaries when developing land models."

Snohomish – They redefined commercial areas, the original commercial areas were subsets of residential areas, now they are true commercial economic units. "We started off as a four year revaluation county. Each quarter of the county was made up of school districts. Neighborhoods were defined in this environment. Economic market areas were the driving factor with division lines as best as possible determined by major arterials or other natural boundaries. Some of the neighborhoods crossed school district / revaluation district boundaries which made sense economically but turned out to be impossible to manage because your statistics on a neighborhood were skewed so we went back and divided neighborhoods that were in two revaluation years into two neighborhoods."

Walla Walla – Valuation area delineation was based on inspection cycle boundaries and quality of neighborhood.

Yakima – "In Yakima County we have established HVA's as regions and neighborhoods. The regions are the geographical separations such as mountain ranges or rivers. Also taken into consideration were the confines of the Yakama Nation reservation land. The regions are for ease of identification of specific geographical separations within the county."

"We initially defined our neighborhoods by MLS designation and have further refined them from that initial designation." "Residential neighborhoods follow the MLS area boundaries in most cases. Smaller divisions called sub-neighborhoods are designated when those areas have some market driven amenity not normally found within the same area. For example, the homes surrounding Apple Tree Golf Course sell above market than similar homes located within the same neighborhood." "All areas are reviewed annually in attempts to better define market areas."

Developing Valuation Area Codes

Coding is influenced by software type and query abilities associated with the software. For instance with neighborhood codes, some counties have two digit codes and others seven digit codes. Systems with query limitations generally necessitate longer neighborhood codes. Refer to counties using the same CAMA system or your vendor for additional coding information. A county preparing for new software or planning to implement new codes with existing software should also research codes used by neighboring counties. Generally, smaller counties have limited numbers of sales. Contact with neighboring counties, particularly those with the same software, may indicate that you have similar markets and you may consider sharing sales data. Sharing of data is easier when there is some common use of codes and data labels. One caveat to sharing of data between counties – comparisons of properties crossing county lines is only recommended when there are standards and uniformity in classification of property characteristics between the two (or more) counties sharing sales data. If there is lack of similarity in how property characteristics are captured then independent confirmation of the sales is highly recommended.

Valuation areas (neighborhoods) need to be coded for the efficient application of mass appraisal models. When property characteristics are converted to a numerical code, mathematical calculations can be performed. "*Neighborhood codes identify homogenous areas and provide geographic control for valuation*." IAAO, *Mass Appraisal of Real Property*, p38. A valuation area code or neighborhood code is a number used to label each parcel within a specific valuation area (neighborhood). Some counties have recommended that this number or code signify nothing, other than, each parcel is a member of that specific population of properties. Other counties may incorporate coding of county specific characteristics into the valuation area (neighborhood) code. Establishing valuation area codes allows for stratifying the assessment roll by valuation area. This can be compared to the assignment of land use codes as required by WAC 458-53-030. These codes, which the roll can be stratified by, are tied to the primary use of the land. They are two digit codes, which some counties have extended and added digits to indicate additional county specific elements of the property.

Examples of County Valuation Area Codes

Below are examples of how some counties developed their valuation area codes. Some counties attached their code document; the links to these are at the end of the county's code description. Since coding can be dependent on the CAMA system, I included the system they were on at the time of the interview.

Benton – System is Proval Manatron – They have a 6 digit neighborhood code which includes; area, quality of neighborhood, location, sub quality, and land detail.

Clallam – System is CompuTech – "Our coding is too varied and complicated. We often use our "smart" parcel numbers exclusively to define HVA's. Some areas are coded only

by Field Book numbers from our routing system. Three specific HVA's are coded using the last digit of our "Property Class Code". Others are coded using an actual four-digit Neighborhood Code field." See attached code sheet – <u>2 Val Area-Clallam nbhd</u> codes\Clallam Codes.xls. They also provided their property class codes – <u>3 Val Area-Clallam Class Codes\Clallam property class code list.doc</u>.

Clark – System is an In-house product – Their code is 2 or 3 digits and just represents a number (it does not include identification of some other characteristic). See attached code sheet – <u>4 Val Area-Clark codes\Clark Co Neighborhood codes 08-08.xls</u>.

Cowlitz – System is ECS Tyler Eagle – "Our Neighborhood codes are either 2 or 3 digits (all numeric). The Neighborhood numbers do not have a geographic code built in like our parcel numbers do. The Neighborhood number is just an identifying number and the number itself has no "code" embedded. We are in the process of revising our Neighborhood codes, so our list is in flux right now. We also maintain a list of "comparable" Neighborhood codes. This list represents "like" Neighborhoods throughout the county. When we may not have sufficient sales in one neighborhood to justify an adjustment, we look at these comparable Neighborhoods and we are sometimes able to look at the sales in one similar neighborhood and then make adjustments to all of the comparable neighborhoods based on those sales."

Ferry – System is TerraScan – "*The appraiser has been updating our neighborhood* codes to reflect types of land parcels. He has finished with one reval area. He has created his own codes to follow the way he has appraised land for over 10 years now in Ferry County." See attached code sheet – <u>5 Val Area-Ferry codes\Ferry Neighborhood</u> Codes.pdf.

Franklin – System is TerraScan – "Under our prior cyclical revaluation, we had four inspection areas (1000, 2000, 3000 & 4000). We had the last digit to identify the appraiser's specific area (1001 = Inspection area 1, Appraiser 1). Additionally, the appraiser could request individual neighborhoods (1011 = Insp. Area 1, Appraiser 1, Riverfront). There were limitations in the current software that all of the digits in the neighborhood code had to be numeric. I am hopeful that the new version of software will not be character specific (1RF = Inspection area 1, Riverfront; 1SW = Inspection Area 1, Sun Willows (which is a PUD Golf Course Community). Additionally, in the agricultural areas, the neighborhood code drives our land for market and current use. One additional comment concerning our prior appraisal system, the appraiser was assigned a geographic area (1001) and would appraise all property types located in that area (Res, Comm. or Farm). We are currently transitioning to appraisers working on a specific property type (residential, commercial or agricultural).

During the revaluation process we just completed, I did not create new neighborhood codes (each code requires a table). We did create new inspection areas (6 instead of 4). We used the map and looked at property types, neighborhoods and parcel counts to determine those boundaries. The new areas are 100-600. To complete our analysis in those areas I created individual "indexes" (data sets) in our software and applied mass calibrations. This worked well but we will be setting up new neighborhood codes when we complete new construction, BOE and new construction BOE cases."

Kitsap – System is Proval Manatron – They have a seven digit code. Digit 1 identifies residential or commercial. Digits 2–4 are the school district. Digit 5 is the inspection

cycle. Digits 6 and 7 make it unique (like condo, waterfront, and land type). See attached code sheet – <u>6 Val Area-Kitsap codes/Kitsap Neighborhood Codes.doc</u>.

Kittitas – System is TerraScan – "The present system has one six-digit unique identifier per neighborhood. We use the first digit for reval, digits two through four for geographic areas, and digits five and six for zoning since TerraScan does not have any other field to track zoning. We further break down the geographic area codes, using the first digit (digit 2 of 6) as a regional code and the remaining two as local neighborhoods. We use the first zone digit (digit 5 of 6) as a zoning category (residential, industrial, etc) and the second digit for local zoning descriptions."

Lewis – System is Sigma – Lewis County property records are each assigned a neighborhood code incorporated into a 4-digit coding system. Basically the first digit is the inspection area, the second is the neighborhood, the third and fourth are a combination of type and quality. Each parcel is first identified through an assigned code based on its geographic revaluation area. Within each revaluation area, a 4-digit coding system is defined based on parcel/property characteristics. The 4-digit coding system is defined by; geographic/location based on school district, additional location refinement in Centralia, type/use, size, grade (good, average, fair, etc.), riverfront, and other influences. Mobile home parks have their own neighborhood code. There are separate neighborhood codes for commercial properties. See attached code sheet – <u>7 Val Area-Lewis codes\Lewis Neighborhood Codes.pdf</u>.

Okanogan – System is TerraScan – "Our neighborhood codes currently define reevaluation area, taxing code area, and neighborhood."

Pierce – System is Colorado Customware – "The following is a sample of our current Residential HVA: 081204. These codes are purely locational. First two digits do identify the Appraisal Area."

Skamania – System is TerraScan – "*We create codes representing a neighborhood which we can query to analyze sales data and to create models for valuing property*" The code has two or three digits. The first digit is the reval area and the second and third digits are the neighborhood code. See the attached code sheet – <u>8 Valuation Area</u> -<u>Skamania nbhd code sheet\Skamania Neighborhood Codes.pdf</u>.

Snohomish – System is Proval Manatron – They have a standardized coding scheme from neighborhood to neighborhood so they can compare across neighborhoods. When "we went to annual revaluation, the county was divided into four regions, each assigned to a crew. Each of the four regions was divided into six inspection areas. The neighborhoods were numbered to reflect the crew assignment and the inspection cycle. Neighborhood 2106000 is Region 2, Year 1 of the six year inspection cycle. Then we allowed for 99 neighborhoods in each region. Further refinement is possible to 3 digits. We could have 999 sub neighborhoods in 99 neighborhoods in each region/inspection area combination. When we got started with this we didn't know for sure how many we would actually use and the data field was 7 characters long so we opted to define them all." "Region 5 is commercial. Region 6 is golf courses." See attached code sheet – <u>9</u> Valuation Area - Snohomish nbhd code sheet\Snoho-Neighborhood code table.doc.

Walla Walla – System is TerraScan "*Attached is a list of the way I formed the numbers*". The neighborhood code includes the property type, neighborhood quality, neighborhood

sub quality, use type, and locational influence. See attached code sheet – <u>10 Valuation</u> <u>Area - Walla Walla nbhd code sheet\Walla Walla Neighborhood Code 2008.xls</u>.

Yakima – System is Sigma – "The first number of the neighborhood code is the Region it is in. The next numbers are the city or area number. The "S" on the end of the neighborhood is the suburban designation. Mobile Home neighborhoods indicate the type of park it is in A - D. The N (north of Union Gap) and S (South of Union Gap) are mobile homes that are not in a park." See attached code sheet, pages 6 & 7 – <u>11</u> Valuation Area - Yakima nbhd code sheet\Yakima Homog Val Area - Coding_ 2007.pdf.

Advice for Valuation Area Coding and Delineation

We asked counties what advice they had to give for neighborhood delineation and coding, here are some responses.

Clallam – "We have too many ways to code HVA's, which is complicated and difficult to describe and explain. Create one field only for identifying neighborhoods with enough space in it to adequately describe each area. Our four-character field requires the use of cryptic initials rather than just spelling them out."

Clark – "Use a simple number system for neighborhood codes, don't attempt to make the numbers more meaningful by having them represent specific characteristics of a neighborhood. Complicated numbering systems tend to be too specific. Neighborhoods should be groupings of properties that move similarly in the market."

Franklin – Keep it simple. Start small with a valuation area count. They have 8–10 valuation areas. Create data subsets. Try not to change too much data.

Kitsap – They believe that it would be simpler for smaller counties to have a single layer for commercial and residential properties. Keep valuation areas within inspection area, jurisdictions, zoning, and UGA. Keep enough parcels in each area for analysis.

Pierce – "Using natural and man made boundaries, cities, and school districts worked for us until we could do more in-depth studies of the market to help further define the boundaries. We started with a much larger number of neighborhoods and would advise any jurisdiction to limit the numbers due to the annual analysis and maintenance that comes with a large number of neighborhoods. Codes should help identify location and possibly some characteristic of the property/neighborhood. I.e. waterfront, quality, etc."

Snohomish – "You need to define inspection areas. Neighborhoods are good ways to do this as long as you can keep economic areas together and keep similar numbers of parcels in your inspection year. You may have to do sub neighborhoods to accomplish this. If regions are assigned to work groups or individual appraisers you might want to designate that too. If you already had work groups or did appraiser assignments they probably already work in economic areas (mostly) so this is a good starting point for numbering. Your numbering scheme may be dictated by the computer software. You can't do a 7 digit nhbd code if the field is only 3 digits long. If you have GIS it's a great tool for studying your data before creating your neighborhoods - mapped ratios can help, mapped home qualities can help, mapped land types can help. I should talk a bit about our land types - we have lots to choose from and they are used as de facto

neighborhoods within the neighborhood. For example we may believe that a region appreciates / depreciates pretty closely together but some lots are 'better' or 'worse' than the average so we may do an 'older' area, and 'typical area' and a 'better area' in a neighborhood by assigning land types. Much easier to work this way in ProVal than create a separate neighborhood for each of the little small influence areas."

Thurston – "Neighborhoods should be set up for the purpose of valuing property. So my first advice would be to avoid designing neighborhoods based entirely on work load assignments. They should include groupings of properties that are similarly affected by physical, economic, government, and social conditions. This implies that the properties in a neighborhood should have a fairly high degree of homogeneity in terms of property type, price range, lot size, building size, quality grade, and effective age. It is also important to delineate neighborhoods that are large enough to produce a sufficient number of annual sales for analysis purposes. We find that most of our residential neighborhoods contain from 200 to 1000 parcels."

Yakima – "I recommend that they keep it simple. The MLS in our area has well defined boundaries based on property types and population demographics. This is as good a starting point as any. Try to keep the number of neighborhoods to a minimum. The neighborhood boundaries can always be revised in the future to accommodate changes in the market, annexations, etc." "Of concern is that 1) if there are geographic areas that limit or augment value because of their location, you are taking that into account and 2) if you have homogeneous areas that you can combine for sales analysis that you do so." They recommend a small number of neighborhoods.

<u>Summary</u>

The recommendation for delineating valuation areas focuses on grouping properties with similar economic influences. This involves knowledge of your market, which is typically attained through a detailed market analysis. Temporary boundaries can be established until an in-depth market study can be conducted. Division lines are determined by natural, manmade, or political boundaries. Valuation area boundaries should not cross inspection area boundaries. Limit the number of valuation areas, keeping in mind there needs to be a large enough sampling within each area to allow for statistical analysis. All areas should be reviewed annually. Boundaries can be revised to accommodate new developments, changes with the market, or new areas revealed through sales analysis. GIS is a beneficial tool in identifying where boundaries should be. For valuation area codes, which are influenced by software type and query abilities, we recommend using as simple of a numbering system as possible that satisfies the ability to adequately compare similar properties. If you can query for a specific characteristic such as property type or quality separately, it's best not to build that into your valuation area code.

<u>Acronyms</u>

CAMA – Computer Assisted Mass Appraisal

- CC&R's Conditions, Covenants, & Restrictions
- GIS Geographic Information System
- HVA Homogenous Valuation Area
- IAAO International Association of Assessing Officers
- MLS Multiple Listing Service
- UBC University of British Columbia
- UGA Urban Growth Area